

General catalogue



More than 50 years of experience
in the design and manufacture
of high quality electromechanical components.



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Quality makes



our products great

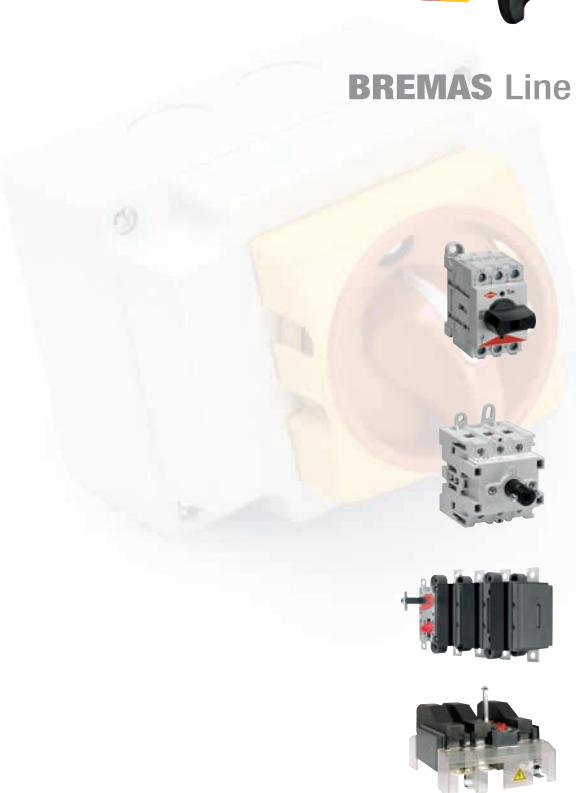


With over 50 years of experience we are specialist in the manufacturing of cam switches, disconnect switches, position and safety switches, power tools switches, relay sockets and push buttons.

We design and build extremely reliable and efficient products: our company is managed in full accordance with UNI EN ISO 9001 and all our products are verified in our laboratory under the most stringent standards to guarantee performance, durability and safety.

We have a state of the art R&D department committed to develop new, better products. We have gained a wide experience in designing custom products for different industrial sectors: our technicians constantly interact with customers to develop solutions which can offer significant added value.





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BREMAS Line

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BREMAS Line



ERSCE Line



ERSCE Line



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Cam Switches

CR series

CA series

CQ series

Cam switches

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Range

The range of Bremas Cam Switches includes 3 top performance series in line with the highest market standards.

Their characteristics make them the ideal choice for any industrial application.

■ CR Series

- Rated current: from 12A up to 50A
- Rated insulation voltage: 690V
- Terminal protection degree: IP20

**■ CA Series**

- Rated current: from 12A up to 630A
- Rated insulation voltage: 690V
- Terminal protection degree: IP00

**■ CQ Series**

- Rated current: from 12A up to 32A
- Rated insulation voltage: 690V
- Terminal protection degree: IP20
- Simplified wiring



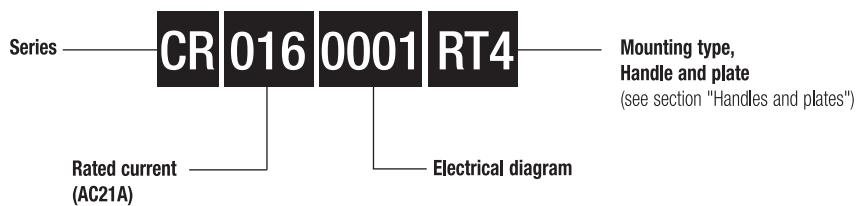
■ CR Series

- Terminal protection degree: IP20
- Class V2 self-extinguishing housing
- Metal shaft
- Metal rods
- Captive plus-minus terminal screws
- Rear mounting and Base mounting



Size	Rated current I _e (A)	Rated insulation voltage U _i (V)	Type
S1	12	690	CR012
	16	690	CR016
	20	690	CR020
	25	690	CR026
S2	25	690	CR025
	32	690	CR032
	40	690	CR040
	50	690	CR051

Code structure



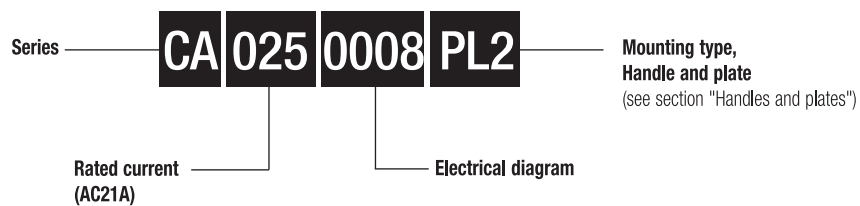
■ CA Series

- Terminal protection degree: IP00
- Class V2 self-extinguishing housing
- Metal shaft
- Metal rods
- Terminal with self raising plate and captive screws
- Rear mounting and Base mounting



Size	Rated current I _e (A)	Rated insulation voltage U _i (V)	Type
S1	12	690	CA012
	16	690	CA016
	20	690	CA020
	25	690	CA026
S2	25	690	CA025
	32	690	CA032
	40	690	CA040
	50	690	CA051
S3	50	690	CA050
S4	75	690	CA063
S5	115	690	CA100
S6	200	690	CA200
	400	690	CA400
	630	690	CA630

Code structure



Technical data IEC 947-3 EN 60947-3

Rated insulation voltage	Ui	V
Rated operating voltage	Ue	V
Rated impulse withstand voltage	Uimp	kV
Rated thermal current for open switch	Ith	A
Rated thermal current for enclosed switch	Ithe	A
Rated operation frequency		Hz
Power dissipation for each pole		W
Rated operating current		
AC-21A Switching resistive loads, including moderate overloads	Ie	A
AC-22A Switching of mixed resistive and inductive loads, including moderate overloads	Ie	A
AC-20A Connecting and disconnecting under no loads conditions		
Rated operating power		
AC-23A Switching of motor loads or other highly inductive loads 3 phase - 3 pole	230V	Kw (A)
	400V	Kw (A)
	500V	Kw (A)
	690V	Kw (A)
AC-23A Switching of motor loads or other highly inductive loads 1 phase - 2 pole	110V	Kw (A)
	230V	Kw (A)
AC-3 Squirrel cage motors: starting, switching off motors during running 3 phase - 3 pole	230V	Kw (A)
	400V	Kw (A)
	500V	Kw (A)
	690V	Kw (A)
AC-3 Squirrel cage motors: starting, switching off motors during running 1 phase - 2 pole	110V	Kw (A)
	230V	Kw (A)
	400V	Kw (A)
AC-4 Squirrel cage motors: Direct-on-line starting, reversing, plugging and inching 3 phase - 3 pole	230V	Kw (A)
	400V	Kw (A)
AC-15 Control of a.c electromagnetic loads	230V	A
	400V	A
Rated breaking capability in AC-23A (cos $\varphi=0,45$)	230V	A
	400V	A
Short circuit protection		
Rated short time withstand current	Icw	A
Rated short-circuit make capacity	Icm	A
Rated conditional short-circuit current	-	kA
With fuses class gG	500V	A

Technical data UL/CSA

Rated operating voltage	Ue	UL/CSA V
General use current	Ie	UL/CSA A
Short circuit rating @600Vac		Arms
Fuse size (Class RK5, 600Vac, 200kA A.I.C.)		A
Rated operating power		
1 phase - 2 pole	120V	Hp (A)
	240V	Hp (A)
3 phase - 3 pole	200V	Hp (A)
	240V	Hp (A)
	480V	Hp (A)
	600V	Hp (A)

Mechanical characteristics

Mechanical life		Cycles x 10 ⁶
		Cycles/hr
Connection according to IEC 9471-1 and EN 50947-1		
Connecting capability	With flexible wires	Min-Max mm ²
		Min-Max AWG
	With solid wires	Min-Max mm ²
Connection terminal screw dimensions		Type
Screw tightening torque		Nm
Protection degree IEC 529 EN 60529		
Terminals	IP	
Ambient conditions		
Operating ambient temperature	°C	
Storage ambient temperature	°C	
Withstand to constant humid according to IEC 60068		
Withstand to cyclic humid according to IEC 60068		

SIZE													
1				2				3	4	5	6	7	8
CA/CR 012	CA/CR 016	CA/CR 020	CA/CR 026	CA/CR 025	CA/CR 032	CA/CR 040	CA/CR 051	CA 050	CA 063	CA 100	CA200	CA400	CA630
690	690	690	690	690	690	690	690	690	690	690	690	690	690
690	690	690	690	690	690	690	690	690	690	690	690	690	690
6	6	6	6	6	6	6	6	6	6	6	6	6	6
16	20	25	32	32	40	50	63	63	80	115	200	400	630
16	20	25	25	32	40	50	63	63	80	100	160	-	-
50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50	50
0,27	0,5	0,4	0,5	1	1	1,3	1,5	1,6	2,5	4,7	7	15	30
12	16	20	25	25	32	40	50	50	75	115/110 ⁵	160 ⁵	-	-
12	16	16	20	20	25	32	40	40	63 ⁵	110	160	-	-
-	-	-	-	-	-	-	-	-	-	-	-	400	630
3 (9)	4 (14)	5,5 (17)	7,5 (24)	7,5 (24)	8,5 (27)	10 (32)	11 (35)	15 (48)	18,5 (58)	30 (95)	40 (125)	-	-
4 (9)	7,5 (14)	9 (16)	11 (20)	11 (20)	15 (27)	18,5 (30)	22 (40)	25 (45)	30 (54)	45 (85)	59 (106)	-	-
-	-	9 (13)	11 (15)	11 (15)	15 (22)	18,5 (27)	22 (32)	33 (48)	22 (32)	30 (40)	75 (108)	-	-
-	-	9 (9)	11 (11)	11 (11)	15 (16)	18,5 (19)	20 (20)	22 (23)	-	-	-	-	-
0,75 (8,5)	1,1 (12)	1,1 (5)	2,2 (25)	2,2 (25)	2,2 (25)	3 (34)	3 (36)	3,7 (42)	5,5 (63)	9 (102)	11 (125)	-	-
1,5 (8,5)	2,2 (14)	3 (17)	3,7 (20)	3,7 (20)	3,7 (20)	5,5 (30)	6,5 (36)	7,5 (40)	10 (32)	15 (82)	22 (120)	-	-
2,2 (7)	3,7 (12)	4 (13)	4,5 (16)	5,5 (17)	5,5 (17)	7,5 (24)	10 (35)	11 (35)	15 (47)	22 (70)	30 (95)	-	-
3,5 (7)	5,5 (10)	7,5 (14)	8 (16)	9,5 (16)	10 (17)	15 (27)	17,5 (32)	18 (33)	22 (40)	37 (67)	45 (82)	-	-
-	-	7,5 (11)	8 (12,5)	9,5 (12,5)	10 (14)	15 (22)	17,5 (27)	22 (32)	22 (32)	30 (40)	59 (85)	-	-
-	-	7,5 (8)	8,5 (10)	8,5 (10)	10 (10)	16 (16)	18,5 (21)	20 (20)	-	-	-	-	-
0,37 (4)	0,75 (9)	1,1 (13)	1,5 (17)	1,5 (17)	1,5 (17)	2,2 (25)	2,6 (32)	3,7 (42)	4 (45)	7,5 (85)	9 (102)	-	-
1,1 (6)	1,5 (8)	2,2 (12)	3 (17)	3 (17)	3 (17)	4,5 (25)	5,5 (30)	7,5 (40)	7,5 (40)	11 (60)	15 (82)	-	-
-	-	3,7 (12)	-	-	-	-	-	-	-	-	-	-	-
-	-	1,5 (4,5)	1,7	2,2 (17)	2,2 (17)	3 (10)	3,2 (11)	3,7 (12)	5,5 (17)	7,5 (85)	-	-	-
-	-	2,2 (2,6)	2	3 (5,5)	3 (5,5)	5,5 (10)	6 (11)	6 (11)	7,5 (14)	11 (20)	-	-	-
4	6	7	8	8	8	10	-	-	-	-	-	-	-
3	4	5	6	6	6	8	-	-	-	-	-	-	-
72	112	136	192	192	216	256	330	384	464	760	1000	-	-
72	112	128	160	160	216	240	330	360	432	680	848	-	-
150	240	240	240	400	400	500	500	600	800	1500	2000	-	-
-	-	1500	1500	2000	2000	2000	2000	2000	2500	3000	3000	-	-
4	4	5	5	10	10	10	10	15	15	15	15	-	-
16	20	20	25	35	35	50	50	50	63	125	200	-	-

600/-	600/-	600/300	600/-	600/600	600/600	600/600	600/-	600/600	600/600	600/600	600/-	600/- ⁴	600/- ⁴
12	16	20/16	25/-	25/25	35/25	40/32	50/-	60/40	85/63	125/100	240/-	400/- ^{3H}	630/- ^{3H}
5000	5000	5000	5000	5000	5000	5000	5000	-	-	-	-	-	-
60	25 (30)	60	25	60	60	60	60	-	-	-	-	-	-
0,5 (9,8)	1 (16)	1,5 (20)/-	2 (24)/-	2 (24)/-	2 (24)/-	3 (34)/2,5	3 (34)/-	5 (56)/-	7,5 (80)/-	10 (100)/5	-	-	-
1,5 (10)	2 (12)	3 (17)/-	3 (17)/-	3 (17)/6	5 (28)/-	7,5 (40)/4,5	7,5 (40)/-	10 (50)/-	10 (50)/-	15 (68)/12	-	-	-
1,5 (6,9)	2 (7,8)	5 (16,7)/-	5 (17,5)/-	5 (17,5)/-	7,5 (25,3)/-	10 (32,2)/-	10 (32,2)/-	15 (48,3)/-	20 (62,1)/-	20 (62,1)/-	-	-	-
2 (6,8)	3 (9,6)	7,5 (22)/-	7,5 (22)/-	7,5 (22)/-	10 (28)/-	15 (42)/9,5	15 (42)/-	20 (54)/-	20 (54)/-	25 (68)/24	-	-	-
3 (4,8)	7,5 (11)	10 (14)/-	10 (14)	10 (14)/-	15 (21)/-	20 (27)/20	20 (27)/-	30 (40)/-	30 (40)/-	40 (52)/50	-	-	-
5 (6,1)	7,5 (9)	10 (11)/-	10 (11)	10 (11)/15	15 (17)/17	20 (22)/25	25 (27)/-	30 (32)/32,5	40 (41)/50	50 (52)/65	-	-	-

2	2	2	1,5	1,5	1,5	1,5	1,5	1,5	1	0,3	0,1	-	-
120	120	120	120	120	120	120	120	120	120	120	120	-	-
2x1,5-4	2x1,5-4	2x1,5-4	2x1,5-4	2x2,5-10	2x2,5-10	2x2,5-10	2x2,5-10	2x2,5-6	6-16	10-25	50-70 ¹	Terminals designed for cable lugs or copper bars suitable for bolts	
16-10	16-10	16-10	16-10	14-8	14-8	14-8	14-8	14-8	10-6	10-3	1/0-2/0		
2x1,5-6	2x1,5-6	2x1,5-6	2x1,5-6	2x2,5-16	2x2,5-16	2x2,5-16	2x2,5-16	2x4-10	10-25	10-25	16-35		
M3,5	M3,5	M3,5	M3,5	M4	M4	M4	M4	M5	2xM5	M8	M10	M12x20	M16x25
1	1	1	1	1,7	1,7	1,7	1,7	2,8	2,8	2,8	23	40	98
00/20	00/20	00/20	00/20	00/20	00/20	00/20	00/20	00	00	00	00	00	00

-25 ÷ +55

-30 ÷ +70

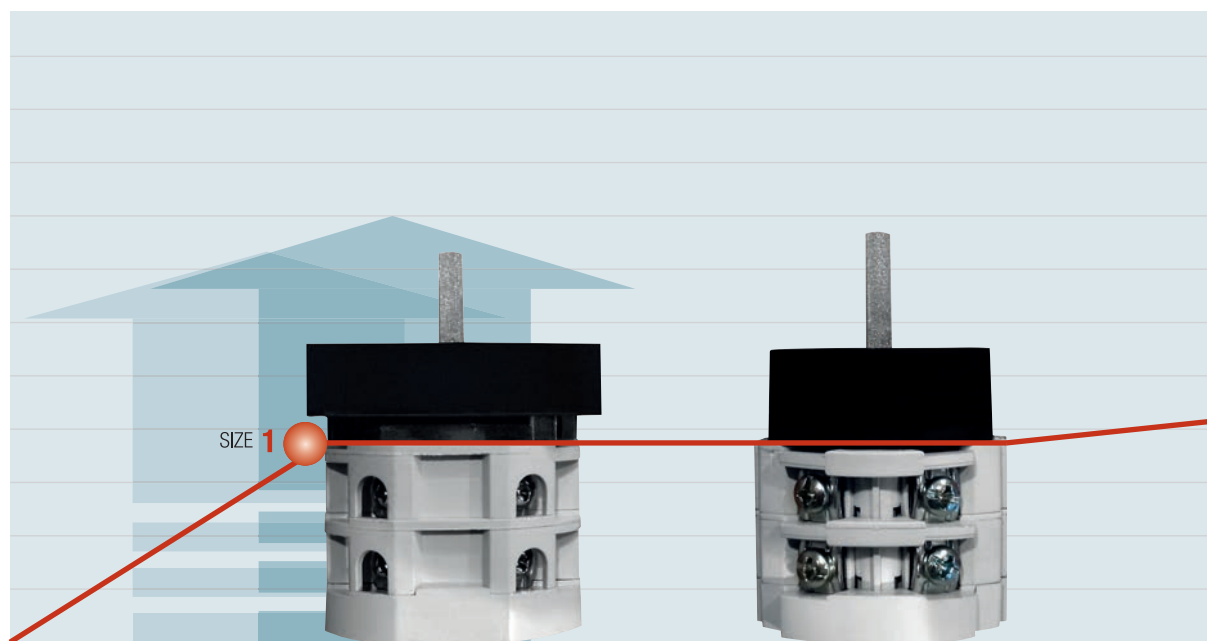
2-78 part

2-30 part

 New

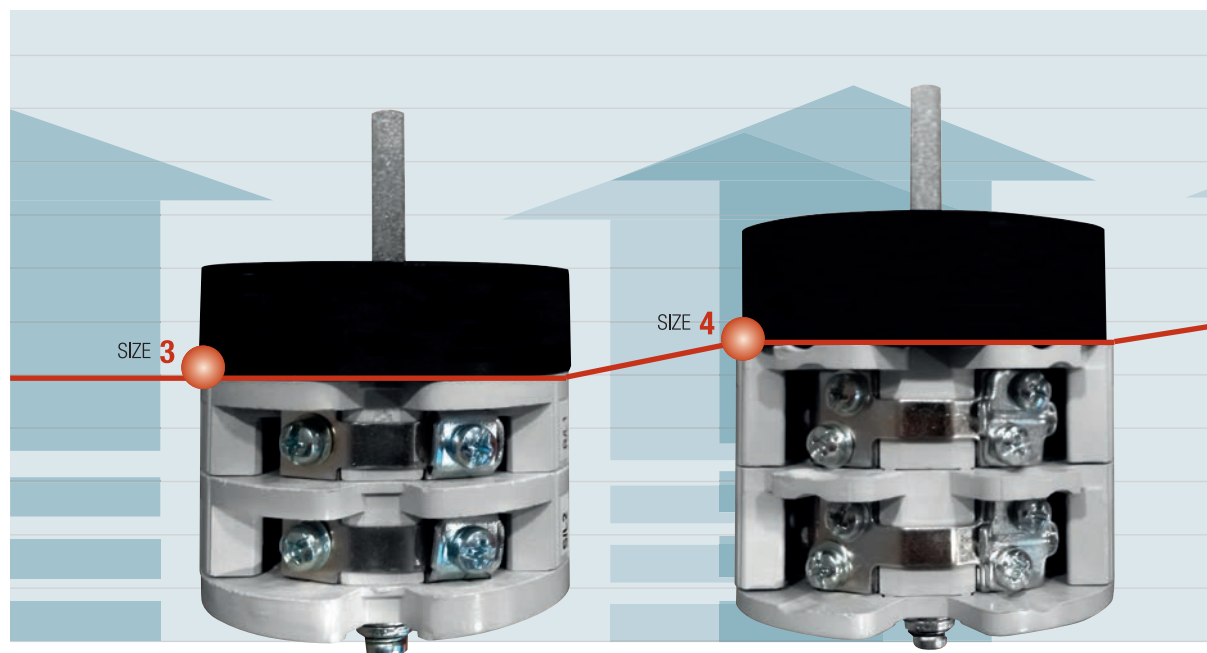
Notes: ¹ = Terminals for M10 bolts ² = CSA at 300V ³ = for use similar to the category AC20 ⁴ = UR approval ⁵ = at 500V

■ CR/CA 012...630 dimensions



■ CR 012/026

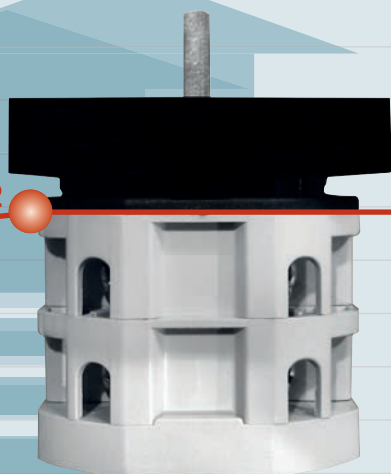
■ CA 012/026



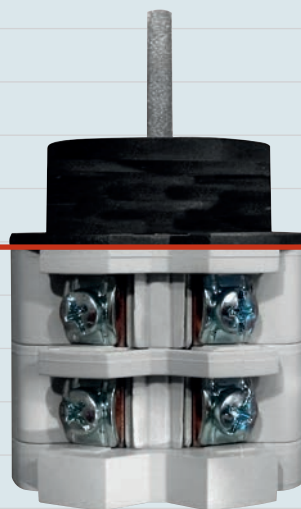
■ CA 050

■ CA 063

SIZE 2

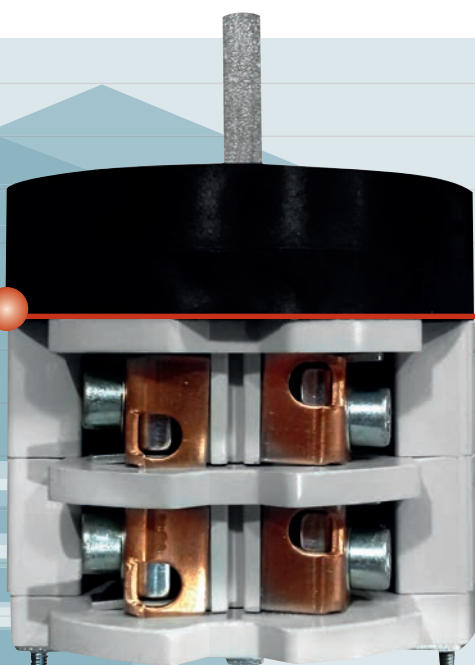


■ CR 025/051



■ CA 025/051

SIZE 5



■ CA 100

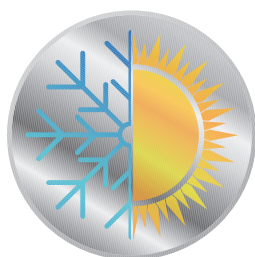
SIZE 6



■ CA 200-400-630













Ambient conditions

- Designed to withstand very severe conditions of use
- Operating ambient temperature $-25^{\circ}\text{C} \div +55^{\circ}\text{C}$
- Storage ambient temperature $-30^{\circ}\text{C} \div +70^{\circ}\text{C}$
- Withstand to constant humid
- Withstand to cyclic humid
- According to IEC 60068



Bremas is able to meet any application requirement through the use of special materials, such as stainless steel, metal alloys and plastics even in environments which demands for specific construction requirements (eg. UV resistance, higher self-extinguishing degree, higher mechanical strength etc.).

International standards and approvals

Country	USA / Canada	Canada	China	Germany	Switzerland	Denmark	Norway	Sweden	Finland	Austria	Great Britain	IEC International electrical Commission	Technischer Überwachungs-Verein	Istituto italiano del Marchio di Qualità
Authority	UL investigated according to CSA	CSA International	China Compulsory Certificate	Verband Deutscher Elektrotechniker	Schweizerischer Elektrotechnischer Verein	Danmarks Elektriske Materielkontroll	Norges Elektriske Materielkontroll	Svenska Elektriske Materielkontroll-anstalten	Sähkötar-kastuskeskus	Österreichischer Verband für Elektrotechnik	British Standards Institution	IEC International electrical Commission	Technischer Überwachungs-Verein	Istituto italiano del Marchio di Qualità
Mark of standard	 (1) C _{US}	 (1) C	 (2)	 (3)							BS (3) EN 60947	IEC (4) 60947		
CA012	•			*	+	+	+	+	+	+	+	+		
CA016	•			*	+	+	+	+	+	+	+	+		
CA020	•			*	+	+	+	+	+	+	+	+	•	• ⁽¹⁾
CA026	•			*	+	+	+	+	+	+	+	+	•	
CA025	•			*	+	+	+	+	+	+	+	+		
CA032	•			*	+	+	+	+	+	+	+	+		
CA040	•			*	+	+	+	+	+	+	+	+		• ⁽¹⁾
CA051	•			*	+	+	+	+	+	+	+	+		
CA050	•				+	+	+	+	+	+	+	+		
CA063	•		•		+	+	+	+	+	+	+	+		
CA100	•		•		+	+	+	+	+	+	+	+		
CA200		•			+	+	+	+	+	+	+	+		
CA400		•			+	+	+	+	+	+	+	+		
CA630		•			+	+	+	+	+	+	+	+		
CQ012	•		•		+	+	+	+	+	+	+	+		
CQ016	•		•		+	+	+	+	+	+	+	+		
CQ025					+	+	+	+	+	+	+	+		
CQ032					+	+	+	+	+	+	+	+		
CR012	•				+	+	+	+	+	+	+	+		
CR016	•				+	+	+	+	+	+	+	+		
CR020	•				+	+	+	+	+	+	+	+	•	• ⁽¹⁾
CR026	•				+	+	+	+	+	+	+	+	•	
CR025	•				+	+	+	+	+	+	+	+		
CR032	•				+	+	+	+	+	+	+	+		
CR040	•				+	+	+	+	+	+	+	+		• ⁽¹⁾
CR051	•			*	+	+	+	+	+	+	+	+		

• Approved

+ conforms to requirements

* Pending

⁽¹⁾ on request, available in certified version EN 61058

Note:

1) UL Approval File E101686

2) CSA Approval File 039540-0-000

3) It is not required to bear a symbol but switches must conform to requirements.

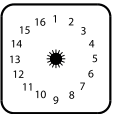
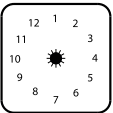

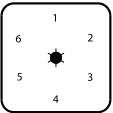
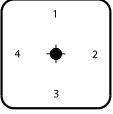
4) IEC does not operate an approval diagram

Cam switches for industry CR-CA 012...051



Switching angles

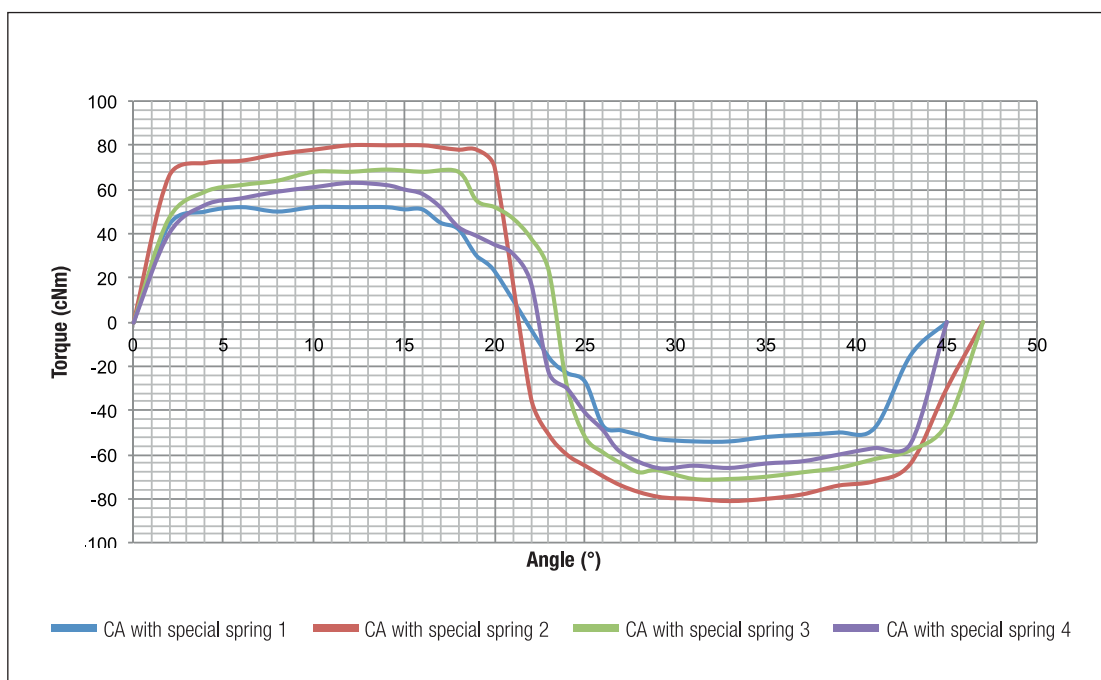
The range of Bremas solution include more than 10.000 electrical diagrams, characterized by different switching angles, number of positions as well as specific customer requirements:

Switching angles	Number of positions	
22,5°	16	
30°	12	
45°	8	
60°	6	
90°	4	

Latching Torque

The Bremas switching system allows the best performances in every application. Its modular design allows to develop customized solution with different latching torques. Any special requirement can be fulfilled by using different combinations of components such as:

- Springs with different resistances
- Cursors
- Latching mechanism
- Cams
- Shafts



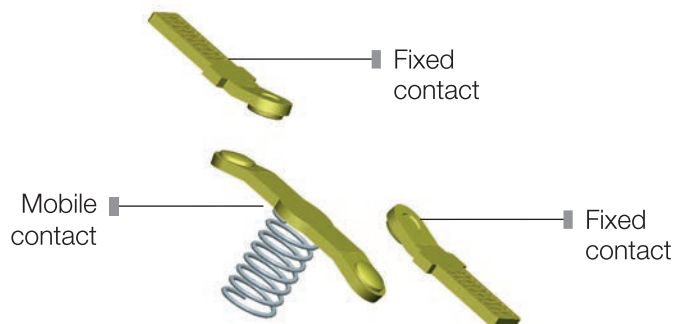
Comparison of latching torques between some switches with special springs.

Contacts

- Copper contacts
- Silver alloy pads
- Double break with positive opening
- Long electrical life (over 1.000.000 electrical cycles)
- Gold contacts for low voltage signals control
- Sliding and self-cleaning contacts for occasional maneuvers

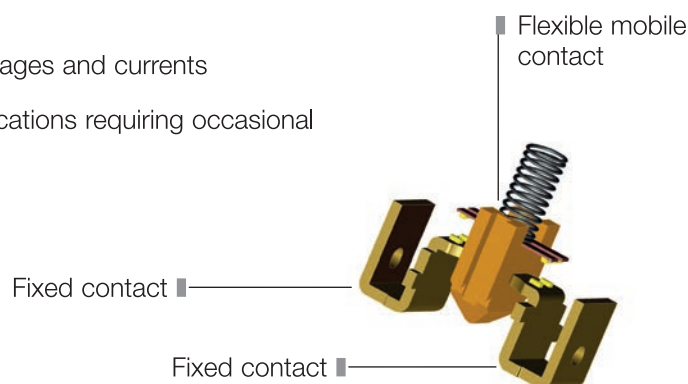
■ Standard contact system (optional gold contacts)

- Consists of fixed contacts, connected to the terminals, and mobile contacts controlled by springs, cursors and cams
- In the standard configuration, there are a spring and a cursor for each mobile contact
- For special configurations, can be used more springs and cursors for each mobile contact



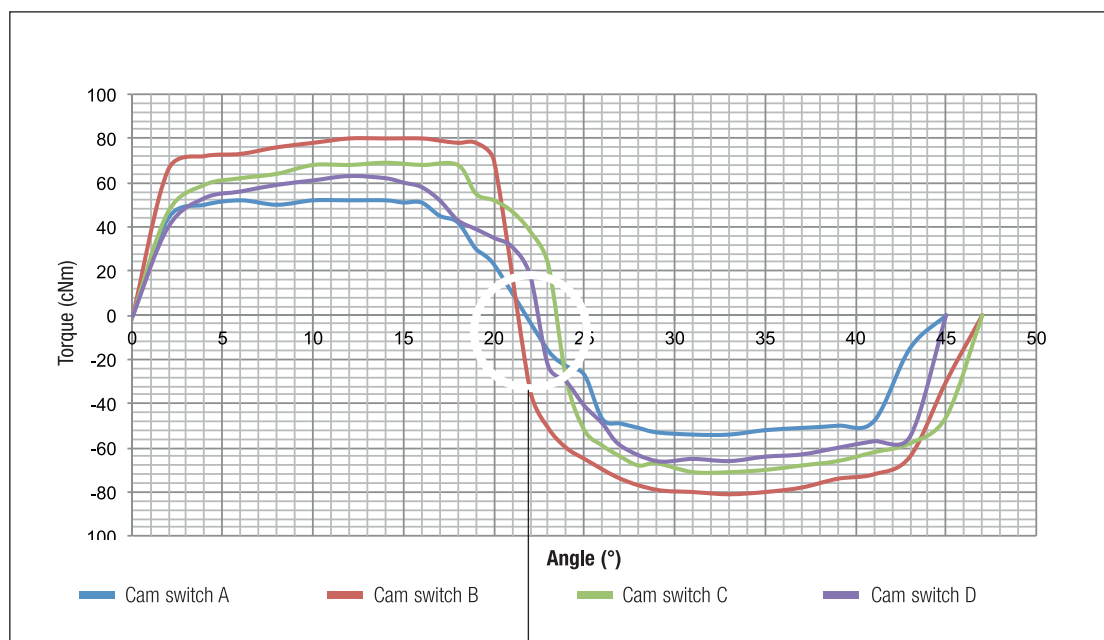
■ Sliding and self-cleaning contacts system (optional gold contacts)

- Consists of fixed contacts, connected to the terminals, and mobile contacts controlled by springs, cursors and cams
- High reliability even at low voltages and currents
- Specifically designed for applications requiring occasional maneuvers

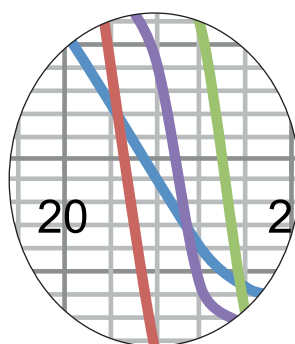


Precision of the latching and the contacts closure

- High precision in the latch: $\pm 3^\circ$
- High precision in the closure of the contacts: $\pm 4^\circ$



Comparison between the latch of some cam switches with switching angle 45° .



Latching precision $\pm 3^\circ$

Terminals for cables connection

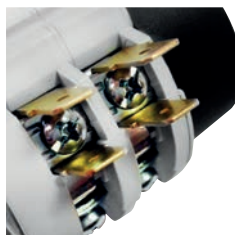
■ Different types of terminals for cables connection:



■ Screw connection
Standard Solution



■ Single faston at 90°



■ Double faston at 90°



■ Alternating faston



■ Single faston at 135°

■ Additional features of the terminals for cables connection:



■ **CR series**
Captive plus-minus terminal screws



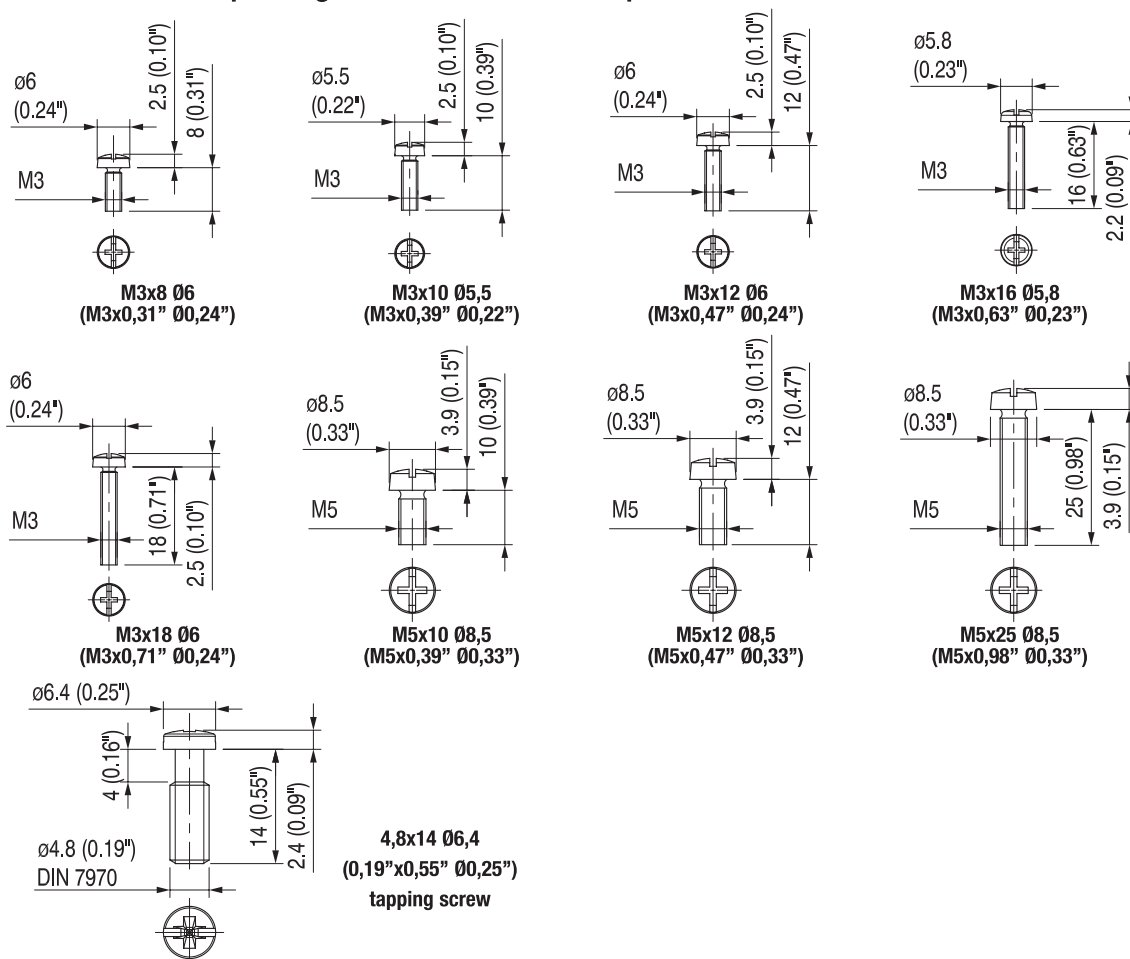
■ **CA series**
Terminal with self raising plate and captive screws

Fixing screws

All Bremas switches are equipped with fixing screws and, upon request, with knobs and/or plates. Different types and sizes of fixing screws can be supplied on request.

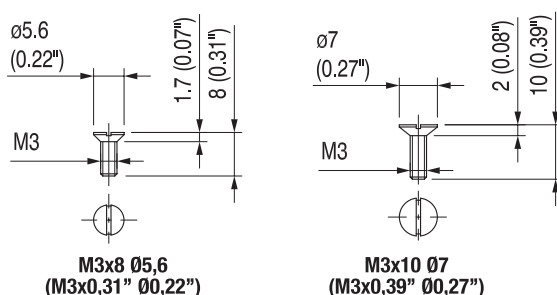
■ Cylinder head (convex):

- Cross head (for Philips and slot screwdrivers)
- Can be used depending on the thickness of the panel where the cam switch will be fixed



■ Countersunk head:

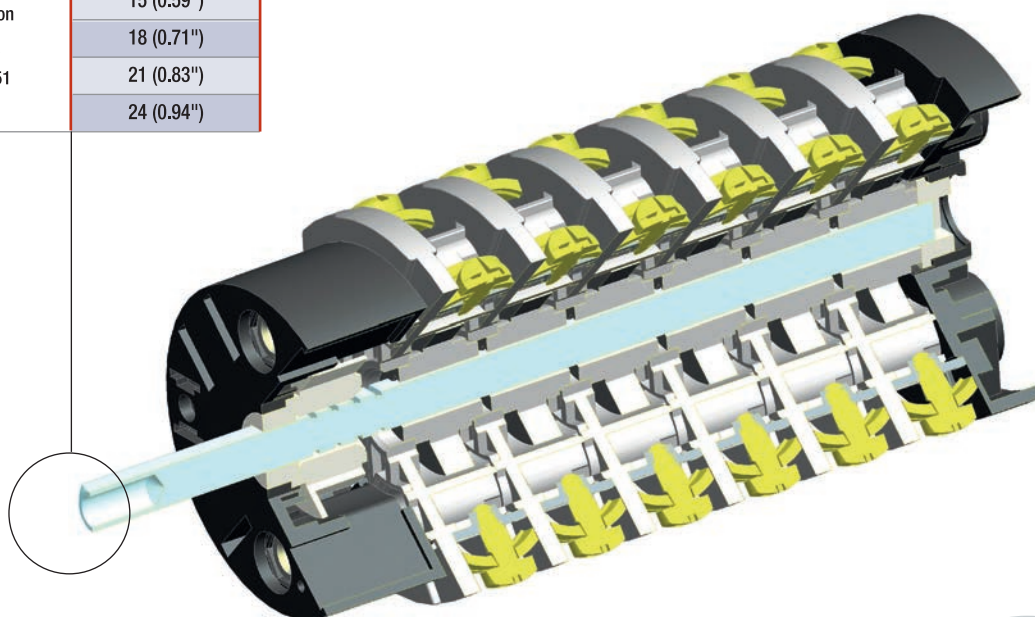
- Single slot (for slot screwdrivers)
- Can be used when is necessary that the screw head does not protrude from the panel where the cam switch will be fixed



Metal control shafts

- Steel made with galvanic treatment;
- Passing through all the contact elements of the switch;
- High quality construction and high resistance to bending and torsion;
- They ensure the simultaneous perfect closing and opening of the contacts;
- Section of the control shaft determined by the size and by the power of the switch.

	mm (in)
Standard	15 (0.59")
protrusion	18 (0.71")
CR/CA	21 (0.83")
012...051	24 (0.94")

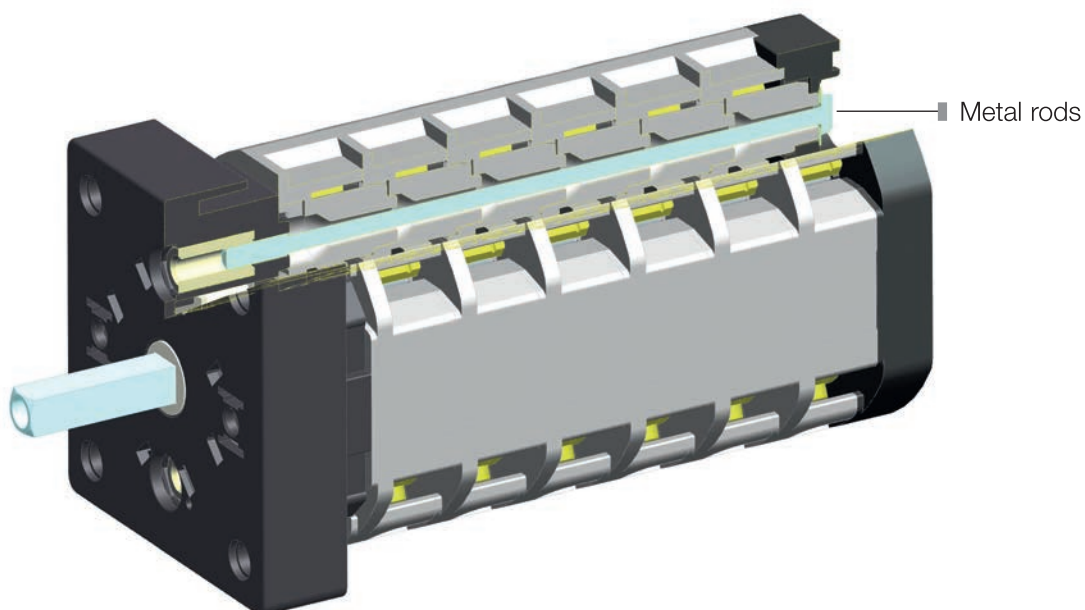


Size	Type	Section of the control shaft
S1/S2	CR/CA 012/051	Q5*
S3/S4	CA 050/063	Q7
S5/S6	CA 100/630	Q10

*Q6 on request

Metal rods

- Steel made with galvanic treatment;
- Passing through all the contacts elements of the switch;
- Ensure the solid construction of the cam switch;
- They ensure the simultaneous perfect closing and opening of the contacts;
- Guarantee a high mechanical resistance to the torsion and, consequently, avoid short circuits between the various phases during the transition from one position to another of the switch (especially when there are many contact elements);
- Special rods achievable for specific customer requirements.



Plastic material

- Body of the cam switch made with self-extinguishing plastic, which guarantees safety even in emergency conditions;
- High precision components made of special plastic materials;
- UL approval with characteristics required for:
 - Flammability class
 - HWI (Hot Wire Ignition)
 - HAI (High-Amp Arc Ignition)
 - CTI (Comparative Tracking Index)

The choice of the plastic material type used for the construction of the Bremas cam switches depends on the application and on customer needs.

■ Self-extinguishing class

	V0	V2
Total time of flaming combustion for each group of samples.	< 50 s	< 250 s
Residual combustion time plus persistence time of the incandescence for each sample, after the second application of the flame.	< 30 s	< 60 s
Residual combustion time for each of the samples after the removal of the flame.	< 10 s	< 30s
Ignition of cotton wool by incandescent drops (drip).	NO	NO
Complete burning of the sample.	NO	NO

Stainless steel solutions

Specific applications require products with particular characteristics in terms of **mechanical** and **weathering strength**.

Bremas cam switches can be made with Stainless Steel components:

- Control shaft
- Rods
- Terminal plates
- Shaft brake disk of the control shaft
- Nuts
- Terminal screws for cable connections
- Product fixing screws
- Knob fixing screws

Other
solutions for
special
applications

■ Quick connection terminals (faston connection)

- Faston at 90°
- 12 positions
- Switching angles at 30°



■ Coaxial cam switches

Obtained by coupling
2 different sizes



■ Key selector switch

Device for mounting on single hole
Ø22mm (0.87") with key



■ With undervoltage release

Security electromagnet that allows, in case of power failure, an automatic return in "0" position of the switch, thus interrupting the circuit power supply.



■ Custom terminals

Protruding to the switch, for rear mounting version



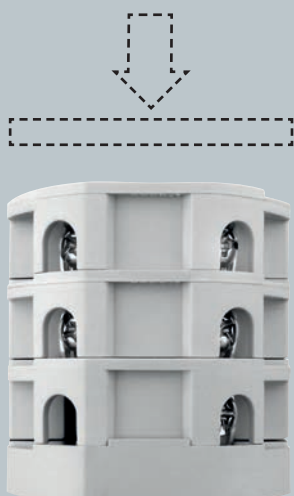
■ Push-to-turn

To turn the knob and operate the switching system it is necessary to push and turn the control knob. Ideal against false maneuvers.

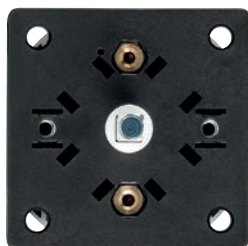


Latching
mechanism
CA/CR
012...051

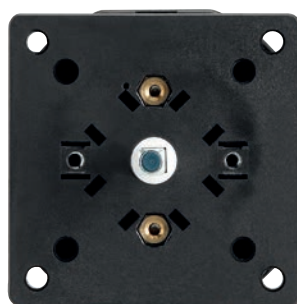
■ Latching mechanism in 3 different interchangeable fixing housing



CR series
(IP20)



square - 48x48 mm
(1.89"x1.89")



square - 60x60 mm
(2.36"x2.36")


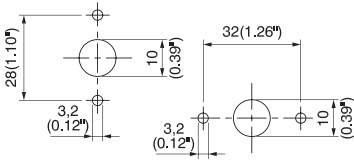
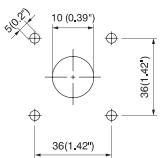

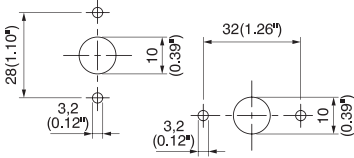
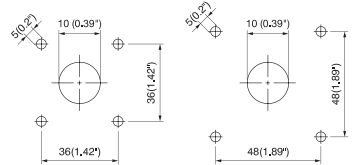

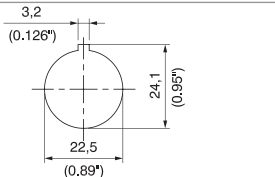

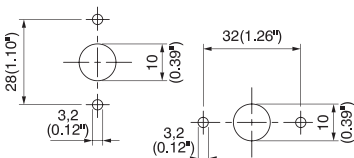





round - Ø 40 mm
(1.57")



CA series
(IP00)

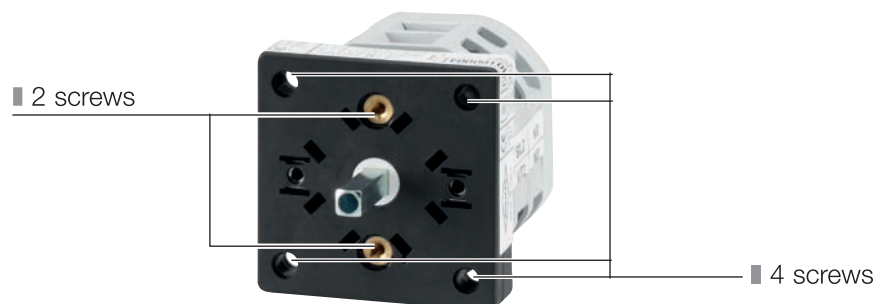
**Latching
mechanism
CA/CR
012...051**

Type	Model	Dimensions	Product	Holes	Drilling template
Fixing housing CR/CA 012...051	Square	48x48 mm (1.89"x1.89")		2 holes, 28mm (1.10") verticals 2 holes 32mm (1.26") horizontals (optional)	
				4 holes, 36x36mm (1.42"x1.42")	
		60x60 mm (2.36"x2.36")		2 holes, 28mm (1.10") verticals 2 holes, 32mm (1.26") horizontals (optional)	
				4 holes, 36x36mm (1.42"x1.42") 4 holes, 48x48mm (1.89"x1.89")	
	Round	Ø22 mm (0.87")		1 holes, Ø22mm (0.87")	
		Ø40 mm (1.57")		2 holes, 28mm (1.10") verticals 2 holes, 32mm (1.26") horizontals (optional)	
Fixing adapter	T	Ø40 mm (1.57")		2 holes, 30mm (1.18") verticals 2 holes, 32mm (1.26") verticals 2 holes, 30mm (1.18") horizontals 2 holes, 32mm (1.26") horizontals	
	Q1	48x48 mm (1.89"x1.89")		2 holes, 34mm (1.34") verticals 2 holes, 40mm (1.57") verticals 2 holes, 34mm (1.34") horizontals 2 holes, 40mm (1.57") horizontals 2 holes, 20x35mm (0.79"x1.38") diagonals	
	Q2			2 holes, 32mm (1.26") verticals 2 holes, 40mm (1.57") verticals 2 holes, 32mm (1.26") horizontals 2 holes, 40mm (1.57") horizontals 2 holes, 12,2x30mm (0.48"x1.18") diagonals	

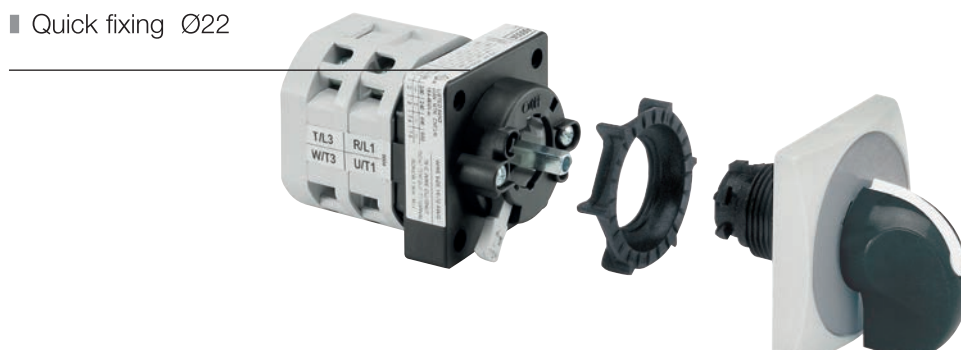
The fixing adapter in the table are useful in case of particular fixing requirements; they enclose the most known and used types of fixing on the market.

Fixing types

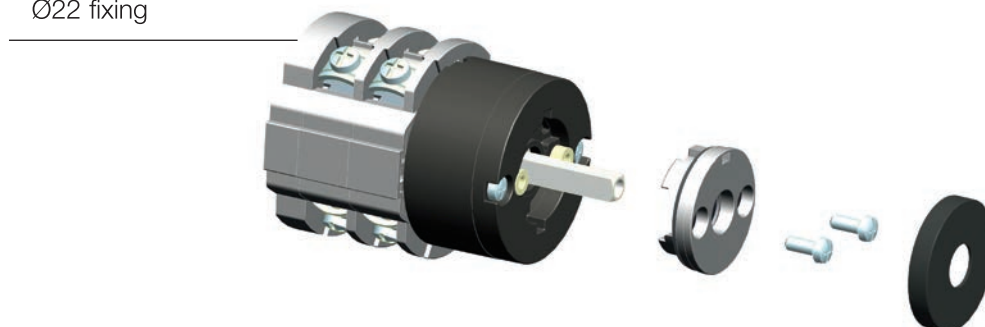
■ Rear mounting:



■ Quick fixing Ø22



■ Reduced dimension Ø22 fixing



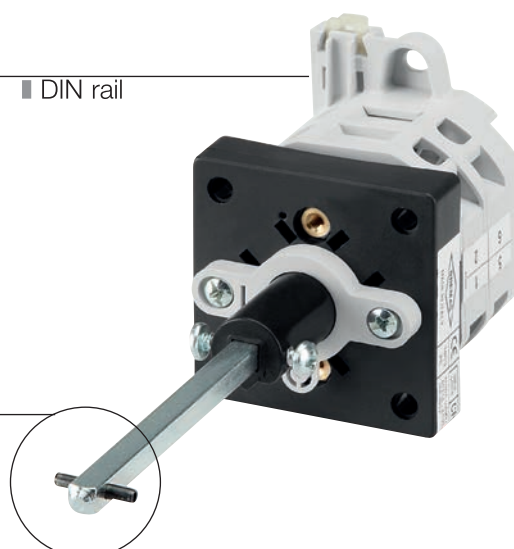
■ Base mounting:

Body

■ 2 Screws ■ DIN rail

Plates and handles

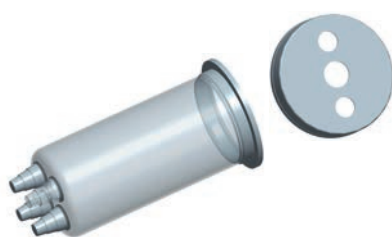
■ 2 screws
■ 4 screws
■ Quick fixing Ø22



**CR/CA
012...051
protections**

- Protections in PVC
- Different diameters for an easy connection even in case of multiple cables and bigger sections

CA/CR 012...026



Ø 48mm (1.89")

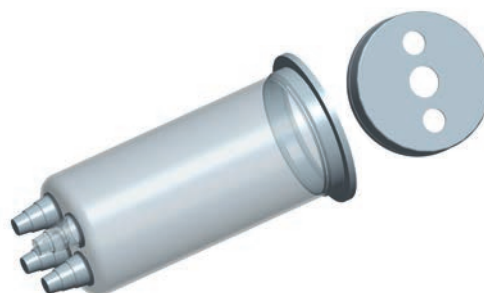


Ø 53mm (2.09")



Ø 56mm (2.20")

CA/CR 025...051



Ø 58mm (2.28")



Ø 70,5mm (2.78")

Standard solutions

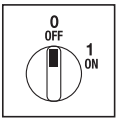

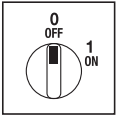

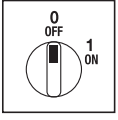
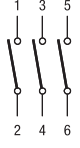
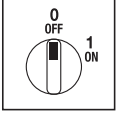
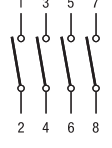
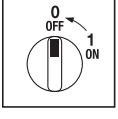
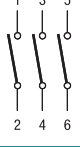
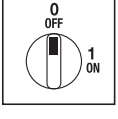
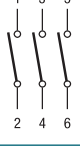
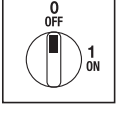
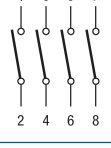
In addition to solutions made to customer specifications, Bremas offers a complete range of standard products.

Standard products are designed and developed in line with the most common requirements from the market.



Circuit diagrams

cam switches

Switches																													
plate	diagram	function	circuit diagram	contact/element description	element no.																								
	0001	ON-OFF switch 1 pole		<table border="1"> <tr><td></td><td>0</td><td></td><td></td><td>CR</td><td></td></tr> <tr><td></td><td>1</td><td>X</td><td></td><td>CA</td><td>60°</td></tr> <tr><td>Contact</td><td></td><td>1</td><td>3</td><td>CQ</td><td></td></tr> <tr><td>Element</td><td></td><td>1</td><td></td><td>Angle</td><td></td></tr> </table>		0			CR			1	X		CA	60°	Contact		1	3	CQ		Element		1		Angle		1
	0			CR																									
	1	X		CA	60°																								
Contact		1	3	CQ																									
Element		1		Angle																									
	0002	ON-OFF switch 2 pole		<table border="1"> <tr><td></td><td>0</td><td></td><td></td><td>CR</td><td></td></tr> <tr><td></td><td>1</td><td>X</td><td>X</td><td>CA</td><td>60°</td></tr> <tr><td>Contact</td><td></td><td>1</td><td>3</td><td>CQ</td><td></td></tr> <tr><td>Element</td><td></td><td>1</td><td></td><td>Angle</td><td></td></tr> </table>		0			CR			1	X	X	CA	60°	Contact		1	3	CQ		Element		1		Angle		1
	0			CR																									
	1	X	X	CA	60°																								
Contact		1	3	CQ																									
Element		1		Angle																									
	0003	ON-OFF switch 3 pole		<table border="1"> <tr><td></td><td>0</td><td></td><td></td><td>CR</td><td></td></tr> <tr><td></td><td>1</td><td>X</td><td>X</td><td>CA</td><td>60°</td></tr> <tr><td>Contact</td><td></td><td>1</td><td>3</td><td>5</td><td>CQ</td></tr> <tr><td>Element</td><td></td><td>1</td><td>2</td><td>Angle</td><td></td></tr> </table>		0			CR			1	X	X	CA	60°	Contact		1	3	5	CQ	Element		1	2	Angle		2
	0			CR																									
	1	X	X	CA	60°																								
Contact		1	3	5	CQ																								
Element		1	2	Angle																									
	0004	ON-OFF switch 4 pole		<table border="1"> <tr><td></td><td>0</td><td></td><td></td><td>CR</td><td></td></tr> <tr><td></td><td>1</td><td>X</td><td>X</td><td>CA</td><td>60°</td></tr> <tr><td>Contact</td><td></td><td>1</td><td>3</td><td>5</td><td>CQ</td></tr> <tr><td>Element</td><td></td><td>1</td><td>2</td><td>Angle</td><td></td></tr> </table>		0			CR			1	X	X	CA	60°	Contact		1	3	5	CQ	Element		1	2	Angle		2
	0			CR																									
	1	X	X	CA	60°																								
Contact		1	3	5	CQ																								
Element		1	2	Angle																									
	0035	ON-OFF switch 3 pole with spring return to "OFF"		<table border="1"> <tr><td></td><td>0</td><td></td><td></td><td>CR</td><td></td></tr> <tr><td></td><td>1</td><td>X</td><td>X</td><td>CA</td><td>45°</td></tr> <tr><td>Contact</td><td></td><td>1</td><td>3</td><td>5</td><td>CQ</td></tr> <tr><td>Element</td><td></td><td>1</td><td>2</td><td>Angle</td><td></td></tr> </table>		0			CR			1	X	X	CA	45°	Contact		1	3	5	CQ	Element		1	2	Angle		2
	0			CR																									
	1	X	X	CA	45°																								
Contact		1	3	5	CQ																								
Element		1	2	Angle																									
	00G3	ON-OFF switch 3 pole with padlockable handle		<table border="1"> <tr><td></td><td>0</td><td></td><td></td><td>CR</td><td></td></tr> <tr><td></td><td>1</td><td>X</td><td>X</td><td>CA</td><td>90°</td></tr> <tr><td>Contact</td><td></td><td>1</td><td>3</td><td>5</td><td>CQ</td></tr> <tr><td>Element</td><td></td><td>1</td><td>2</td><td>Angle</td><td></td></tr> </table>		0			CR			1	X	X	CA	90°	Contact		1	3	5	CQ	Element		1	2	Angle		2
	0			CR																									
	1	X	X	CA	90°																								
Contact		1	3	5	CQ																								
Element		1	2	Angle																									
	00G4	ON-OFF switch 4 pole with padlockable handle		<table border="1"> <tr><td></td><td>0</td><td></td><td></td><td>CR</td><td></td></tr> <tr><td></td><td>1</td><td>X</td><td>X</td><td>CA</td><td>90°</td></tr> <tr><td>Contact</td><td></td><td>1</td><td>3</td><td>5</td><td>CQ</td></tr> <tr><td>Element</td><td></td><td>1</td><td>2</td><td>Angle</td><td></td></tr> </table>		0			CR			1	X	X	CA	90°	Contact		1	3	5	CQ	Element		1	2	Angle		2
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Contact		1	3	5	CQ																								
Element		1	2	Angle																									

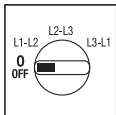
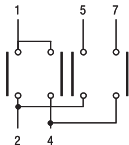
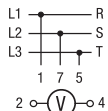
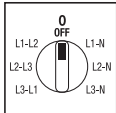
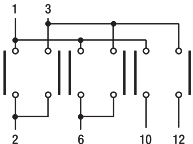
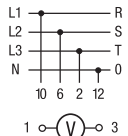
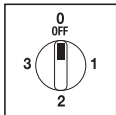
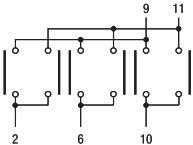
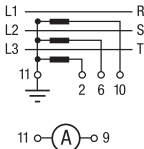
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plate	diagram	function	circuit diagram	contact/element description	element no.																																																																								
	0005	Change-over switch 1 pole		<table><tr><td></td><td>2</td><td></td><td>×</td><td></td><td>CR</td><td rowspan="3">60°</td></tr><tr><td></td><td>0</td><td></td><td></td><td></td><td>CA</td></tr><tr><td></td><td>1</td><td></td><td>×</td><td></td><td>CQ</td></tr><tr><td colspan="2">Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td rowspan="2">Angle</td></tr><tr><td colspan="2">Element</td><td colspan="5">1</td></tr></table>		2		×		CR	60°		0				CA		1		×		CQ	Contact		1	2	3	4	Angle	Element		1					1																																							
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	0006	Change-over switch 2 pole		<table><tr><td></td><td>2</td><td></td><td>×</td><td></td><td>×</td><td>CR</td><td rowspan="3">60°</td></tr><tr><td></td><td>0</td><td></td><td></td><td></td><td></td><td>CA</td></tr><tr><td></td><td>1</td><td></td><td>×</td><td></td><td>×</td><td>CQ</td></tr><tr><td colspan="2">Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td rowspan="2">Angle</td></tr><tr><td colspan="2">Element</td><td colspan="4">1</td><td colspan="5">2</td></tr></table>		2		×		×	CR	60°		0					CA		1		×		×	CQ	Contact		1	2	3	4	5	6	7	8	Angle	Element		1				2					2																												
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	0007	Change-over switch 3 pole		<table><tr><td></td><td>2</td><td></td><td>×</td><td></td><td>×</td><td></td><td>×</td><td>CR</td><td rowspan="3">60°</td></tr><tr><td></td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td>CA</td></tr><tr><td></td><td>1</td><td></td><td>×</td><td></td><td>×</td><td></td><td>×</td><td>CQ</td></tr><tr><td colspan="2">Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td rowspan="2">Angle</td></tr><tr><td colspan="2">Element</td><td colspan="4">1</td><td colspan="4">2</td><td colspan="5">3</td></tr></table>		2		×		×		×	CR	60°		0							CA		1		×		×		×	CQ	Contact		1	2	3	4	5	6	7	8	9	10	11	12	Angle	Element		1				2				3					3														
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	0039	Change-over switch 4 pole		<table><tr><td></td><td>2</td><td></td><td>×</td><td></td><td>×</td><td></td><td>×</td><td></td><td>×</td><td>CR</td><td rowspan="3">60°</td></tr><tr><td></td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CA</td></tr><tr><td></td><td>1</td><td></td><td>×</td><td></td><td>×</td><td></td><td>×</td><td></td><td>×</td><td>CQ</td></tr><tr><td colspan="2">Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td rowspan="2">Angle</td></tr><tr><td colspan="2">Element</td><td colspan="4">1</td><td colspan="4">2</td><td colspan="4">3</td><td colspan="5">4</td></tr></table>		2		×		×		×		×	CR	60°		0									CA		1		×		×		×		×	CQ	Contact		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Angle	Element		1				2				3				4					4
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Motor control switches 3 phase

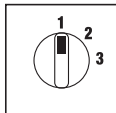
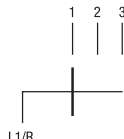
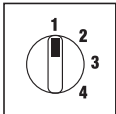
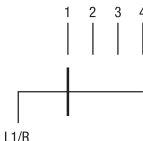
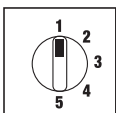
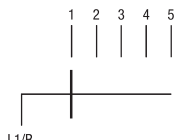
Motor control switches 3 phase					<div><div>L1</div><div>L2</div><div>L3</div><div>R</div><div>S</div><div>T</div></div>	element no.																																																																										
plate	diagram	function	circuit diagram	contact/element description																																																																												
	0008	Reversing switch 3 pole		<table><tr><td>2</td><td></td><td>XX</td><td>XX</td><td>XX</td><td>CR</td><td rowspan="3">60°</td></tr><tr><td>0</td><td></td><td></td><td></td><td></td><td>CA</td></tr><tr><td>1</td><td></td><td></td><td></td><td></td><td>CQ</td></tr><tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>Angle</td></tr><tr><td>Element</td><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	2		XX	XX	XX	CR	60°	0					CA	1					CQ	Contact	1	2	3	4	5	6	7	8	9	10	11	12	Angle	Element	1	2	3												3																											
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	0036	Reversing switch 3 pole with spring return to "off"		<table><tr><td>2</td><td></td><td>XX</td><td>XX</td><td></td><td>CR</td><td rowspan="3">45°</td></tr><tr><td>0</td><td></td><td></td><td></td><td></td><td>CA</td></tr><tr><td>1</td><td></td><td></td><td></td><td></td><td>CQ</td></tr><tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>Angle</td></tr><tr><td>Element</td><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	2		XX	XX		CR	45°	0					CA	1					CQ	Contact	1	2	3	4	5	6	7	8	9	10	11	12	Angle	Element	1	2	3												3																											
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	0009	Changing switch Dahlander pole		<table><tr><td>2</td><td>XX</td><td></td><td>XX</td><td>XX</td><td></td><td>CR</td><td rowspan="3">60°</td></tr><tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td>CA</td></tr><tr><td>1</td><td></td><td></td><td></td><td></td><td></td><td>CQ</td></tr><tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>Angle</td></tr><tr><td>Element</td><td>1</td><td>2</td><td>3</td><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	2	XX		XX	XX		CR	60°	0						CA	1						CQ	Contact	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Angle	Element	1	2	3	4															4																
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	0010	STAR-DELTA Starter		<table><tr><td>Δ</td><td>XX</td><td>XX</td><td>XX</td><td></td><td>CR</td><td rowspan="3">60°</td></tr><tr><td>Y</td><td></td><td></td><td></td><td></td><td>CA</td></tr><tr><td>0</td><td></td><td></td><td></td><td></td><td>CQ</td></tr><tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>Angle</td></tr><tr><td>Element</td><td>1</td><td>2</td><td>3</td><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	Δ	XX	XX	XX		CR	60°	Y					CA	0					CQ	Contact	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Angle	Element	1	2	3	4															4																			
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	0011	Reversing switch Pole changing		<table><tr><td>2</td><td>XX</td><td></td><td>XX</td><td>XX</td><td></td><td>CR</td><td rowspan="3">45°</td></tr><tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td>CA</td></tr><tr><td>1</td><td></td><td></td><td></td><td></td><td></td><td>CQ</td></tr><tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>Angle</td></tr><tr><td>Element</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	2	XX		XX	XX		CR	45°	0						CA	1						CQ	Contact	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Angle	Element	1	2	3	4	5	6																					6
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Motor control switches single phase

Motor control switches single phase					<div><div>L1</div><div>L2</div><div>R</div><div>S</div></div>	element no.																																									
plate	diagram	function	circuit diagram	contact/element description																																											
	0031	Switch single-phase motor + aux phase		<table><tr><td>Avv</td><td>1</td><td>0</td><td>XX</td><td>XX</td><td>XX</td><td>CR</td><td>CA</td><td>CQ</td><td>45°</td></tr><tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>Angle</td></tr><tr><td>Element</td><td>1</td><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	Avv	1	0	XX	XX	XX	CR	CA	CQ	45°	Contact	1	2	3	4	5	6	7	8	Angle	Element	1	2									2											
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	0032	Reversing Switch single-phase motor + aux phase		<table><tr><td>Avv</td><td>1</td><td>0</td><td>1</td><td>Avv</td><td>XX</td><td>XX</td><td>XX</td><td>XX</td><td>CR</td><td>CA</td><td>CQ</td><td>45°</td></tr><tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>Angle</td></tr><tr><td>Element</td><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	Avv	1	0	1	Avv	XX	XX	XX	XX	CR	CA	CQ	45°	Contact	1	2	3	4	5	6	7	8	9	10	11	12	Angle	Element	1	2	3												3
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	0034	Reversing Switch single-phase motor + centrif.		<table><tr><td>2</td><td>0</td><td>1</td><td>XX</td><td>XX</td><td>XX</td><td>XX</td><td>CR</td><td>CA</td><td>CQ</td><td>45°</td></tr><tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>Angle</td></tr><tr><td>Element</td><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	2	0	1	XX	XX	XX	XX	CR	CA	CQ	45°	Contact	1	2	3	4	5	6	7	8	9	10	11	12	Angle	Element	1	2	3												3		
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Voltmeter & Ammeter switches																																																																																																								
plate	diagram	function	circuit diagram	contact/element description	element no.																																																																																																			
	0016	Voltmeter switch 3 concatenated voltages		<table border="1"><tr><td>L3-L1</td><td></td><td>X</td><td>X</td><td></td><td></td><td>CR</td></tr><tr><td>L2-L3</td><td></td><td></td><td></td><td>X</td><td>X</td><td>CA 45°</td></tr><tr><td>L1-L2</td><td>X</td><td></td><td></td><td></td><td>X</td><td>CQ</td></tr><tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>Angle</td></tr><tr><td>Element</td><td>1</td><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	L3-L1		X	X			CR	L2-L3				X	X	CA 45°	L1-L2	X				X	CQ	0							Contact	1	2	3	4	5	6	7	8	Angle	Element	1	2									2																																																		
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	0018	Voltmeter switch 3 concatenated voltages and 3 phase voltages		<table border="1"><tr><td>L3-N</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CR</td></tr><tr><td>L2-N</td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td>CA 45°</td></tr><tr><td>L1-N</td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td>X</td><td></td><td>CQ</td></tr><tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>L1-L2</td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td>X</td><td></td><td></td></tr><tr><td>L2-L3</td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>L3-L1</td><td></td><td>X</td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td></tr><tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>Angle</td></tr><tr><td>Element</td><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	L3-N	X								CR	L2-N			X						CA 45°	L1-N					X	X	X		CQ	0										L1-L2					X	X	X			L2-L3			X	X						L3-L1		X				X				Contact	1	2	3	4	5	6	7	8	9	10	11	12	Angle	Element	1	2	3												3
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	0022	Ammeter switch 1 pole 3 current transformers		<table border="1"><tr><td>3</td><td>X</td><td>X</td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td>CR</td></tr><tr><td>2</td><td>X</td><td>X</td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td>CA 90°</td></tr><tr><td>1</td><td></td><td></td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td></td><td>CQ</td></tr><tr><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>Angle</td></tr><tr><td>Element</td><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	3	X	X	X	X					CR	2	X	X	X	X					CA 90°	1			X	X	X	X	X		CQ	0	X	X	X	X						Contact	1	2	3	4	5	6	7	8	9	10	11	12	Angle	Element	1	2	3												3																														
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	MZ13	Multi step switch with OFF 1 pole 3 steps		<table border="1"> <tbody> <tr><td>3</td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CR</td></tr> <tr><td>2</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CA 45°</td></tr> <tr><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CQ</td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Angle</td></tr> <tr><td>Element</td><td>1</td><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	3					X													CR	2	X																	CA 45°	1								X										CQ	0																			Contact	1	2	3	4	5	6	7	8										Angle	Element	1	2																	2																			
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	MZ14	Multi step switch with OFF 1 pole 4 steps		<table border="1"> <tbody> <tr><td>4</td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CR</td></tr> <tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CA 45°</td></tr> <tr><td>2</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CQ</td></tr> <tr><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Angle</td></tr> <tr><td>Element</td><td>1</td><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	4					X													CR	3																		CA 45°	2	X																	CQ	1								X											0																			Contact	1	2	3	4	5	6	7	8										Angle	Element	1	2																	2
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	MZ23	Multi step switch with OFF 2 pole 3 steps		<table border="1"> <tbody> <tr><td>3</td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CR</td></tr> <tr><td>2</td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CA 45°</td></tr> <tr><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CQ</td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td></td><td></td><td></td><td></td><td></td><td>Angle</td></tr> <tr><td>Element</td><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	3	X	X																CR	2					X	X												CA 45°	1								X	X									CQ	0																			Contact	1	2	3	4	5	6	7	8	9	10	11	12						Angle	Element	1	2	3																3																			
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	MZ24	Multi step switch with OFF 2 pole 4 steps		<table border="1"> <tbody> <tr><td>4</td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CR</td></tr> <tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CA 45°</td></tr> <tr><td>2</td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CQ</td></tr> <tr><td>1</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td></td><td>Angle</td></tr> <tr><td>Element</td><td>1</td><td>2</td><td>3</td><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	4					X	X												CR	3																		CA 45°	2					X													CQ	1	X																		0																			Contact	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Angle	Element	1	2	3	4															4
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	MZ33	Multi step switch with OFF 3 pole 3 steps		<table border="1"> <tbody> <tr><td>3</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CR</td></tr> <tr><td>2</td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CA 45°</td></tr> <tr><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td>CQ</td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>Element</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	3	X																	CR	2					X	X												CA 45°	1								X					X	X				CQ	0																			Contact	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Element	1	2	3	4	5																5															
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Multi-step change-over switches																																																																														
plate	diagram	function	circuit diagram	contact/element description	element no.																																																																									
	M013	Multi step switch without OFF 1 pole 3 steps		<table><tr><td></td><td>3</td><td></td><td></td><td></td><td>CR</td><td rowspan="3">45°</td></tr><tr><td></td><td>2</td><td>X</td><td></td><td></td><td>CA</td></tr><tr><td></td><td>1</td><td></td><td>X</td><td></td><td>CQ</td></tr><tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>Angle</td></tr><tr><td>Element</td><td>1</td><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>		3				CR	45°		2	X			CA		1		X		CQ	Contact	1	2	3	4	5	6	7	8	Angle	Element	1	2								2																																		
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	M015	Multi step switch without OFF 1 pole 5 steps		<table><tr><td></td><td>5</td><td></td><td></td><td></td><td></td><td>X</td><td>CR</td><td rowspan="3">45°</td></tr><tr><td></td><td>4</td><td></td><td></td><td>X</td><td></td><td></td><td>CA</td></tr><tr><td></td><td>3</td><td>X</td><td></td><td></td><td></td><td></td><td>CQ</td></tr><tr><td></td><td>2</td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>1</td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td></tr><tr><td>Contact</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>Angle</td></tr><tr><td>Element</td><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>		5					X	CR	45°		4			X			CA		3	X					CQ		2			X							1				X					Contact	1	2	3	4	5	6	7	8	9	10	11	12	Angle	Element	1	2	3											3
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Cam switches

CR
series

Rear mounting

2-screw fixing: 28mm (1.10") Vertical



RT4



RT6



GT4





GT6



Rear mounting

Ø 22mm (0,87") single hole fixing



ON-OFF switch 1 pole

 0001	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR0120001RT4	1	CR0120001RT6	1	CR0120001GT4	1	CR0120001GT6	1
			16A	CR0160001RT4	1	CR0160001RT6	1	CR0160001GT4	1	CR0160001GT6	1
			20A	CR0200001RT4	1	CR0200001RT6	1	CR0200001GT4	1	CR0200001GT6	1
			25A	CR0260001RT4	1	CR0260001RT6	1				
		S2	25A	CR0250001RT4	1	CR0250001RT6	1	CR0250001GT4	1	CR0250001GT6	1
			32A								
			40A								
			50A								

ON-OFF switch 2 pole

 0002	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR0120002RT4	1	CR0120002RT6	1	CR0120002GT4	1	CR0120002GT6	1
			16A	CR0160002RT4	1	CR0160002RT6	1	CR0160002GT4	1	CR0160002GT6	1
			20A	CR0200002RT4	1	CR0200002RT6	1	CR0200002GT4	1	CR0200002GT6	1
			25A	CR0260002RT4	1						
		S2	25A	CR0250002RT4	1	CR0250002RT6	1	CR0250002GT4	1	CR0250002GT6	1
			32A	CR0320002RT4	1	CR0320002RT6	1	CR0320002GT4	1	CR0320002GT6	1
			40A	CR0400002RT4	1	CR0400002RT6	1	CR0400002GT4	1	CR0400002GT6	1
			50A			CR0510002RT6	1				

ON-OFF switch 3 pole

 0003	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR0120003RT4	1	CR0120003RT6	1	CR0120003GT4	1	CR0120003GT6	1
			16A	CR0160003RT4	1	CR0160003RT6	1	CR0160003GT4	1	CR0160003GT6	1
			20A	CR0200003RT4	1	CR0200003RT6	1	CR0200003GT4	1	CR0200003GT6	1
			25A	CR0260003RT4	1						
		S2	25A	CR0250003RT4	1	CR0250003RT6	1	CR0250003GT4	1	CR0250003GT6	1
			32A	CR0320003RT4	1	CR0320003RT6	1	CR0320003GT4	1	CR0320003GT6	1
			40A	CR0400003RT4	1	CR0400003RT6	1	CR0400003GT4	1	CR0400003GT6	1
			50A			CR0510003RT6	1				

Rear mounting

2-screw fixing: 28mm (1.10") Vertical



RT4



RT6



GT4


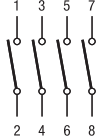


GT6



Rear mounting

Ø 22mm (0,87") single hole fixing



ON-OFF switch 4 pole

 0004	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR0120004RT4	1	CR0120004RT6	1	CR0120004GT4	1	CR0120004GT6	1
			16A	CR0160004RT4	1	CR0160004RT6	1	CR0160004GT4	1	CR0160004GT6	1
			20A	CR0200004RT4	1	CR0200004RT6	1	CR0200004GT4	1	CR0200004GT6	1
			25A	CR0260004RT4	1						
		S2	25A	CR0250004RT4	1	CR0250004RT6	1	CR0250004GT4	1	CR0250004GT6	1
			32A	CR0320004RT4	1	CR0320004RT6	1	CR0320004GT4	1	CR0320004GT6	1
			40A	CR0400004RT4	1	CR0400004RT6	1	CR0400004GT4	1	CR0400004GT6	1
			50A			CR0510004RT6	1				

ON-OFF switch 3 pole with spring return to "OFF"

 0035	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR0120035RT4	1	CR0120035RT6	1	CR0120035GT4	1	CR0120035GT6	1
			16A	CR0160035RT4	1	CR0160035RT6	1	CR0160035GT4	1	CR0160035GT6	1
			20A								
			25A								
		S2	25A								
			32A								
			40A								
			50A								

Change-over switch 1 pole

 0005	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR0120005RT4	1	CR0120005RT6	1	CR0120005GT4	1	CR0120005GT6	1
			16A	CR0160005RT4	1	CR0160005RT6	1	CR0160005GT4	1	CR0160005GT6	1
			20A	CR0200005RT4	1	CR0200005RT6	1	CR0200005GT4	1	CR0200005GT6	1
			25A	CR0260005RT4	1						
		S2	25A	CR0250005RT4	1	CR0250005RT6	1	CR0250005GT4	1	CR0250005GT6	1
			32A								
			40A								
			50A								

Rear mounting

2-screw fixing: 28mm (1.10") Vertical



RT4



RT6



GT4



GT6


Rear mounting

Ø 22mm (0,87") single hole fixing


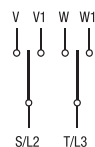
Change-over switch 2 pole

<div><div><div>0</div><div>OFF</div><div>1</div><div>2</div></div><div>0006</div></div>	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
	<div><div><div>U</div><div>U1</div><div>V</div><div>V1</div></div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>R/L1S/L2</div></div>	S1	12A	CR0120006RT4	1	CR0120006RT6	1	CR0120006GT4	1	CR0120006GT6	1
			16A	CR0160006RT4	1	CR0160006RT6	1	CR0160006GT4	1	CR0160006GT6	1
			20A	CR0200006RT4	1	CR0200006RT6	1	CR0200006GT4	1	CR0200006GT6	1
			25A	CR0260006RT4	1						
		S2	25A	CR0250006RT4	1	CR0250006RT6	1	CR0250006GT4	1	CR0250006GT6	1
			32A	CR0320006RT4	1	CR0320006RT6	1	CR0320006GT4	1	CR0320006GT6	1
			40A	CR0400006RT4	1	CR0400006RT6	1	CR0400006GT4	1	CR0400006GT6	1
			50A			CR0510006RT6	1				

Change-over switch 3 pole

<div><div>0 OFF</div><div><div>1</div><div>2</div></div><div>0007</div></div>	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
	 <div>U U1 V V1 W W1 R/L1 S/L2 T/L3</div>	S1	12A	CR0120007RT4	1	CR0120007RT6	1	CR0120007GT4	1	CR0120007GT6	1
			16A	CR0160007RT4	1	CR0160007RT6	1	CR0160007GT4	1	CR0160007GT6	1
			20A	CR0200007RT4	1	CR0200007RT6	1	CR0200007GT4	1	CR0200007GT6	1
			25A	CR0260007RT4	1						
		S2	25A	CR0250007RT4	1	CR0250007RT6	1	CR0250007GT4	1	CR0250007GT6	1
			32A	CR0320007RT4	1	CR0320007RT6	1	CR0320007GT4	1	CR0320007GT6	1
			40A	CR0400007RT4	1	CR0400007RT6	1	CR0400007GT4	1	CR0400007GT6	1
			50A			CR0510007RT6	1				

Change-over switch 4 pole

 0039	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR0120039RT4	1	CR0120039RT6	1	CR0120039GT4	1	CR0120039GT6	1
			16A	CR0160039RT4	1	CR0160039RT6	1	CR0160039GT4	1	CR0160039GT6	1
			20A	CR0200039RT4	1	CR0200039RT6	1	CR0200039GT4	1	CR0200039GT6	1
			25A	CR0260039RT4	1						
		S2	25A	CR0250039RT4	1	CR0250039RT6	1	CR0250039GT4	1	CR0250039GT6	1
			32A	CR0320039RT4	1	CR0320039RT6	1	CR0320039GT4	1	CR0320039GT6	1
			40A	CR0400039RT4	1	CR0400039RT6	1	CR0400039GT4	1	CR0400039GT6	1
			50A			CR0510039RT6	1				

Rear mounting

2-screw fixing: 28mm (1.10") Vertical



RT4



RT6



GT4

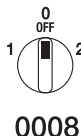
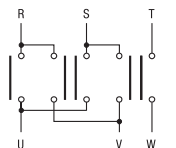


GT6

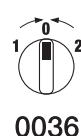
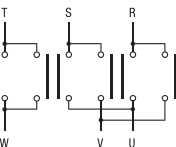
Rear mounting

Ø 22mm (0,87") single hole fixing

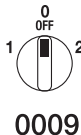
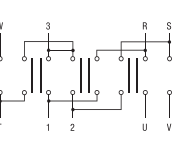
■ Reversing switch 3 pole

 0008	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR0120008RT4	1	CR0120008RT6	1	CR0120008GT4	1	CR0120008GT6	1
			16A	CR0160008RT4	1	CR0160008RT6	1	CR0160008GT4	1	CR0160008GT6	1
			20A	CR0200008RT4	1	CR0200008RT6	1	CR0200008GT4	1	CR0200008GT6	1
			25A	CR0260008RT4	1						
		S2	25A	CR0250008RT4	1	CR0250008RT6	1	CR0250008GT4	1	CR0250008GT6	1
			32A	CR0320008RT4	1	CR0320008RT6	1	CR0320008GT4	1	CR0320008GT6	1
			40A	CR0400008RT4	1	CR0400008RT6	1	CR0400008GT4	1	CR0400008GT6	1
			50A			CR0510008RT6	1				

■ Reversing switch 3 pole with spring return to "off"

 0036	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR0120036RT4	1	CR0120036RT6	1	CR0120036GT4	1	CR0120036GT6	1
			16A	CR0160036RT4	1	CR0160036RT6	1	CR0160036GT4	1	CR0160036GT6	1
			20A	CR0200036RT4	1	CR0200036RT6	1	CR0200036GT4	1	CR0200036GT6	1
			25A	CR0260036RT4	1						
		S2	25A	CR0250036RT4	1	CR0250036RT6	1	CR0250036GT4	1	CR0250036GT6	1
			32A								
			40A								
			50A								

■ Changing switch Dahlander pole

 0009	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR0120009RT4	1	CR0120009RT6	1	CR0120009GT4	1	CR0120009GT6	1
			16A	CR0160009RT4	1	CR0160009RT6	1	CR0160009GT4	1	CR0160009GT6	1
			20A	CR0200009RT4	1	CR0200009RT6	1	CR0200009GT4	1	CR0200009GT6	1
			25A	CR0260009RT4	1						
		S2	25A	CR0250009RT4	1	CR0250009RT6	1	CR0250009GT4	1	CR0250009GT6	1
			32A	CR0320009RT4	1	CR0320009RT6	1	CR0320009GT4	1	CR0320009GT6	1
			40A	CR0400009RT4	1	CR0400009RT6	1	CR0400009GT4	1	CR0400009GT6	1
			50A			CR0510009RT6	1				

Rear mounting

2-screw fixing: 28mm (1.10") Vertical



RT4



RT6



GT4


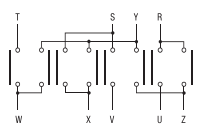


GT6


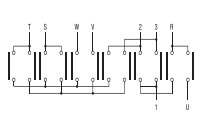
Rear mounting

Ø 22mm (0,87") single hole fixing


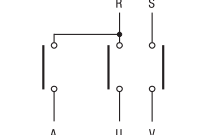
STAR-DELTA Starter

	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 0010		S1	12A	CR0120010RT4	1	CR0120010RT6	1	CR0120010GT4	1	CR0120010GT6	1
			16A	CR0160010RT4	1	CR0160010RT6	1	CR0160010GT4	1	CR0160010GT6	1
			20A	CR0200010RT4	1	CR0200010RT6	1	CR0200010GT4	1	CR0200010GT6	1
			25A	CR0260010RT4	1						
		S2	25A	CR0250010RT4	1	CR0250010RT6	1	CR0250010GT4	1	CR0250010GT6	1
			32A	CR0320010RT4	1	CR0320010RT6	1	CR0320010GT4	1	CR0320010GT6	1
			40A	CR0400010RT4	1	CR0400010RT6	1	CR0400010GT4	1	CR0400010GT6	1
			50A			CR0510010RT6	1				

Reversing switch pole changing

	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 0011		S1	12A	CR0120011RT4	1	CR0120011RT6	1	CR0120011GT4	1	CR0120011GT6	1
			16A	CR0160011RT4	1	CR0160011RT6	1	CR0160011GT4	1	CR0160011GT6	1
			20A	CR0200011RT4	1	CR0200011RT6	1	CR0200011GT4	1	CR0200011GT6	1
			25A	CR0260011RT4	1						
		S2	25A	CR0250011RT4	1	CR0250011RT6	1	CR0250011GT4	1	CR0250011GT6	1
			32A								
			40A								
			50A								

Switch single phase motor + aux phase

	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 0031		S1	12A	CR0120031RT4	1	CR0120031RT6	1	CR0120031GT4	1	CR0120031GT6	1
			16A	CR0160031RT4	1	CR0160031RT6	1	CR0160031GT4	1	CR0160031GT6	1
			20A	CR0200031RT4	1	CR0200031RT6	1	CR0200031GT4	1	CR0200031GT6	1
			25A	CR0260031RT4	1						
		S2	25A	CR0250031RT4	1	CR0250031RT6	1	CR0250031GT4	1	CR0250031GT6	1
			32A								
			40A								
			50A								

Rear mounting

2-screw fixing: 28mm (1.10") Vertical



RT4



RT6



GT4

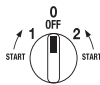
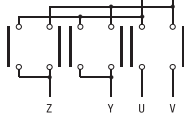


GT6

Rear mounting

Ø 22mm (0,87") single hole fixing

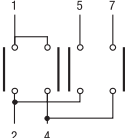
Reversing switch single-phase motor + aux phase

 0032	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR0120032RT4	1	CR0120032RT6	1	CR0120032GT4	1	CR0120032GT6	1
			16A	CR0160032RT4	1	CR0160032RT6	1	CR0160032GT4	1	CR0160032GT6	1
			20A								
			25A	CR0260032RT4	1						
		S2	25A	CR0250032RT4	1	CR0250032RT6	1	CR0250032GT4	1	CR0250032GT6	1
			32A								
			40A								
			50A								

Reversing switch single-phase motor + centrif.

<div><div>0 OFF</div><div>1<div></div>2</div><div>0034</div></div>	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR0120034RT4	1	CR0120034RT6	1	CR0120034GT4	1	CR0120034GT6	1
			16A	CR0160034RT4	1	CR0160034RT6	1	CR0160034GT4	1	CR0160034GT6	1
			20A	CR0200034RT4	1	CR0200034RT6	1	CR0200034GT4	1	CR0200034GT6	1
			25A	CR0260034RT4	1						
	S2	25A	CR0250034RT4	1	CR0250034RT6	1	CR0250034GT4	1	CR0250034GT6	1	
		32A									
		40A									
		50A									

Voltmeter switch 3 concatenated voltages

<div><div><div>L1-L2</div><div>L2-L3</div><div>L3-L1</div></div><div><div>0</div><div>OFF</div></div></div> <div>0016</div>	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack		
		S1	12A	CR0120016RT4	1	CR0120016RT6	1	CR0120016GT4	1	CR0120016GT6	1
			16A								
			20A								
			25A								
			25A								
	S2	32A									
		40A									
		50A									

Rear mounting

2-screw fixing: 28mm (1.10") Vertical



RT4



RT6



GT4

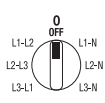


GT6

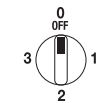
Rear mounting

Ø 22mm (0,87") single hole fixing

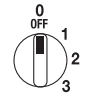
Voltmeter switch 3 concatenated voltages and 3 phase voltages

Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 <p>0018</p>	S1	12A	CR0120018RT4	1	CR0120018RT6	1	CR0120018GT4	1	CR0120018GT6	1
		16A								
		20A								
		25A								
	S2	25A								
		32A								
		40A								
		50A								

Ammeter switch 1 pole 3 current transformers

Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 <p>0022</p>	S1	12A	CR0120022RT4	1	CR0120022RT6	1	CR0120022GT4	1	CR0120022GT6	1
		16A								
		20A								
		25A								
	S2	25A								
		32A								
		40A								
		50A								

Multi step switch with off 1 pole 3 steps

Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 <p>MZ13</p>	S1	12A	CR012MZ13RT4	1	CR012MZ13RT6	1	CR012MZ13GT4	1	CR012MZ13GT6	1
		16A	CR016MZ13RT4	1	CR016MZ13RT6	1	CR016MZ13GT4	1	CR016MZ13GT6	1
		20A	CR020MZ13RT4	1	CR020MZ13RT6	1	CR020MZ13GT4	1	CR020MZ13GT6	1
		25A	CR026MZ13RT4	1						
		25A	CR025MZ13RT4	1	CR025MZ13RT6	1	CR025MZ13GT4	1	CR025MZ13GT6	1
	S2	32A								
		40A								
		50A								

Rear mounting

2-screw fixing: 28mm (1.10") Vertical



RT4



RT6



GT4

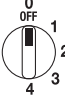
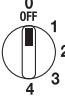
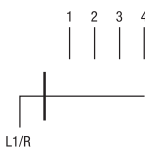


GT6

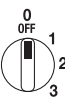
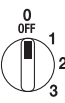
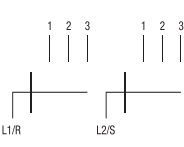
Rear mounting

Ø 22mm (0,87") single hole fixing



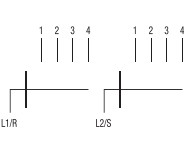
■ Multi step switch with off 1 pole 4 steps

 MZ14	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 MZ14		S1	12A	CR012MZ14RT4	1	CR012MZ14RT6	1	CR012MZ14GT4	1	CR012MZ14GT6	1
			16A	CR016MZ14RT4	1	CR016MZ14RT6	1	CR016MZ14GT4	1	CR016MZ14GT6	1
			20A								
			25A								
		S2	25A								
			32A								
			40A								
			50A								

■ Multi step switch with off 2 pole 3 steps

 MZ23	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 MZ23		S1	12A	CR012MZ23RT4	1	CR012MZ23RT6	1	CR012MZ23GT4	1	CR012MZ23GT6	1
			16A	CR016MZ23RT4	1	CR016MZ23RT6	1	CR016MZ23GT4	1	CR016MZ23GT6	1
			20A	CR020MZ23RT4	1	CR020MZ23RT6	1	CR020MZ23GT4	1	CR020MZ23GT6	1
			25A	CR026MZ23RT4	1						
		S2	25A	CR025MZ23RT4	1	CR025MZ23RT6	1	CR025MZ23GT4	1	CR025MZ23GT6	1
			32A								
			40A								
			50A								

■ Multi step switch with off 2 pole 4 steps

 MZ24	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 MZ24		S1	12A	CR012MZ24RT4	1	CR012MZ24RT6	1	CR012MZ24GT4	1	CR012MZ24GT6	1
			16A	CR016MZ24RT4	1	CR016MZ24RT6	1	CR016MZ24GT4	1	CR016MZ24GT6	1
			20A								
			25A								
		S2	25A								
			32A								
			40A								
			50A								

Rear mounting

2-screw fixing: 28mm (1.10") Vertical



RT4



RT6



GT4



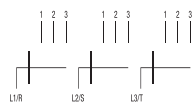


GT6



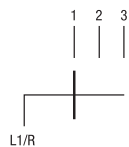
Rear mounting

Ø 22mm (0,87") single hole fixing

Multi step switch with off 3 pole 3 steps

 MZ33	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 MZ33		S1	12A	CR012MZ33RT4	1	CR012MZ33RT6	1	CR012MZ33GT4	1	CR012MZ33GT6	1
			16A	CR016MZ33RT4	1	CR016MZ33RT6	1	CR016MZ33GT4	1	CR016MZ33GT6	1
			20A								
			25A								
		S2	25A								
			32A								
			40A								
			50A								

Multi step switch without off 1 pole 3 steps

 M013	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 M013		S1	12A	CR012M013RT4	1	CR012M013RT6	1	CR012M013GT4	1	CR012M013GT6	1
			16A	CR016M013RT4	1	CR016M013RT6	1	CR016M013GT4	1	CR016M013GT6	1
			20A								
			25A								
		S2	25A								
			32A								
			40A								
			50A								

Rear mounting

2-screw fixing: 28mm (1.10") Vertical



RT4



RT6



GT4


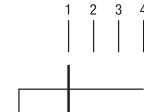


GT6



Rear mounting

Ø 22mm (0,87") single hole fixing

Multi step switch without off 1 pole 4 steps

<div> M014</div>	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
	 L1/R	S1	12A	CR012M014RT4	1	CR012M014RT6	1	CR012M014GT4	1	CR012M014GT6	1
			16A	CR016M014RT4	1	CR016M014RT6	1	CR016M014GT4	1	CR016M014GT6	1
			20A								
			25A								
		S2	25A								
			32A								
			40A								
			50A								

Multi step switch without off 1 pole 5 steps

<div> M015</div>	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack		
		S1	12A	CR012M015RT4	1	CR012M015RT6	1	CR012M015GT4	1	CR012M015GT6	1
			16A	CR016M015RT4	1	CR016M015RT6	1	CR016M015GT4	1	CR016M015GT6	1
			20A								
			25A								
		S2	25A								
			32A								
			40A								
			50A								

Rear mounting

2-screw fixing: 28mm (1.10") Vertical



RL6



RK6

Base mounting*

2-screw fixing: 28mm (1.10") V. / 32mm (1.26") H.





BL6


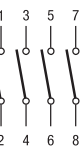


BK6

ON-OFF switch 3 pole with padlockable handle

 00G3	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR01200G3RL6	1	CR01200G3RK6	1	CR01200G3BL6	1	CR01200G3BK6	1
			16A	CR01600G3RL6	1	CR01600G3RK6	1	CR01600G3BL6	1	CR01600G3BK6	1
			20A	CR02000G3RL6	1	CR02000G3RK6	1	CR02000G3BL6	1	CR02000G3BK6	1
			25A	CR02600G3RL6	1	CR02600G3RK6	1	CR02600G3BL6	1	CR02600G3BK6	1
		S2	25A	CR02500G3RL6	1	CR02500G3RK6	1	CR02500G3BL6	1	CR02500G3BK6	1
			32A	CR03200G3RL6	1	CR03200G3RK6	1	CR03200G3BL6	1	CR03200G3BK6	1
			40A	CR04000G3RL6	1	CR04000G3RK6	1	CR04000G3BL6	1	CR04000G3BK6	1
			50A	CR05100G3RL6	1	CR05100G3RK6	1	CR05100G3BL6	1	CR05100G3BK6	1

ON-OFF switch 4 pole with padlockable handle

 00G4	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR01200G4RL6	1	CR01200G4RK6	1	CR01200G4BL6	1	CR01200G4BK6	1
			16A	CR01600G4RL6	1	CR01600G4RK6	1	CR01600G4BL6	1	CR01600G4BK6	1
			20A	CR02000G4RL6	1	CR02000G4RK6	1	CR02000G4BL6	1	CR02000G4BK6	1
			25A	CR02600G4RL6	1	CR02600G4RK6	1	CR02600G4BL6	1	CR02600G4BK6	1
		S2	25A	CR02500G4RL6	1	CR02500G4RK6	1	CR02500G4BL6	1	CR02500G4BK6	1
			32A	CR03200G4RL6	1	CR03200G4RK6	1	CR03200G4BL6	1	CR03200G4BK6	1
			40A	CR04000G4RL6	1	CR04000G4RK6	1	CR04000G4BL6	1	CR04000G4BK6	1
			50A	CR05100G4RL6	1	CR05100G4RK6	1	CR05100G4BL6	1	CR05100G4BK6	1

* Base mounting switches are supplied with standard 175mm (6.89") shaft

Rear mounting

Ø 22mm (0,87") single hole fixing



GL6



GK6





HL6


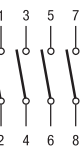


HK6

ON-OFF switch 3 pole with padlockable handle

 00G3		Size	I_e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
			12A	CR01200G3GL6	1	CR01200G3GK6	1	CR01200G3HL6	1	CR01200G3HK6	1
			16A	CR01600G3GL6	1	CR01600G3GK6	1	CR01600G3HL6	1	CR01600G3HK6	1
			20A	CR02000G3GL6	1	CR02000G3GK6	1	CR02000G3HL6	1	CR02000G3HK6	1
			25A	CR02600G3GL6	1	CR02600G3GK6	1	CR02600G3HL6	1	CR02600G3HK6	1
		S2	25A	CR02500G3GL6	1	CR02500G3GK6	1	CR02500G3HL6	1	CR02500G3HK6	1
			32A	CR03200G3GL6	1	CR03200G3GK6	1	CR03200G3HL6	1	CR03200G3HK6	1
			40A	CR04000G3GL6	1	CR04000G3GK6	1	CR04000G3HL6	1	CR04000G3HK6	1
			50A								

ON-OFF switch 4 pole with padlockable handle

 00G4		Size	I_e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
			12A	CR01200G4GL6	1	CR01200G4GK6	1	CR01200G4HL6	1	CR01200G4HK6	1
			16A	CR01600G4GL6	1	CR01600G4GK6	1	CR01600G4HL6	1	CR01600G4HK6	1
			20A	CR02000G4GL6	1	CR02000G4GK6	1	CR02000G4HL6	1	CR02000G4HK6	1
			25A	CR02600G4GL6	1	CR02600G4GK6	1	CR02600G4HL6	1	CR02600G4HK6	1
		S2	25A	CR02500G4GL6	1	CR02500G4GK6	1	CR02500G4HL6	1	CR02500G4HK6	1
			32A	CR03200G4GL6	1	CR03200G4GK6	1	CR03200G4HL6	1	CR03200G4HK6	1
			40A	CR04000G4GL6	1	CR04000G4GK6	1	CR04000G4HL6	1	CR04000G4HK6	1
			50A								

* Base mounting switches are supplied with standard 175mm (6.89") shaft

Rear mounting

4-screw fixing: □ 36mm (□1.42") / □ 48mm (□1.89")



RV4



RV6



GV4





GV6



Rear mounting

Ø 22mm (0,87") single hole fixing



■ ON-OFF switch 1 pole

	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 0001		S1	12A	CR0120001RV4	1			CR0120001GV4	1		
			16A	CR0160001RV4	1			CR0160001GV4	1		
			20A	CR0200001RV4	1			CR0200001GV4	1		
			25A	CR0260001RV4	1			CR0260001GV4	1		
		S2	25A			CR0250001RV6	1			CR0250001GV6	1
			32A								
			40A								
			50A								

■ ON-OFF switch 2 pole

	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 0002		S1	12A	CR0120002RV4	1			CR0120002GV4	1		
			16A	CR0160002RV4	1			CR0160002GV4	1		
			20A	CR0200002RV4	1			CR0200002GV4	1		
			25A	CR0260002RV4	1			CR0260002GV4	1		
		S2	25A			CR0250002RV6	1			CR0250002GV6	1
			32A			CR0320002RV6	1			CR0320002GV6	1
			40A			CR0400002RV6	1			CR0400002GV6	1
			50A								

■ ON-OFF switch 3 pole

	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 0003		S1	12A	CR0120003RV4	1			CR0120003GV4	1		
			16A	CR0160003RV4	1			CR0160003GV4	1		
			20A	CR0200003RV4	1			CR0200003GV4	1		
			25A	CR0260003RV4	1			CR0260003GV4	1		
		S2	25A			CR0250003RV6	1			CR0250003GV6	1
			32A			CR0320003RV6	1			CR0320003GV6	1
			40A			CR0400003RV6	1			CR0400003GV6	1
			50A								

Rear mounting

4-screw fixing: □ 36mm (□1.42") / □ 48mm (□1.89")



RV4



RV6



GV4


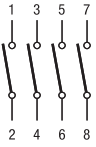


GV6



Rear mounting

Ø 22mm (0,87") single hole fixing



■ ON-OFF switch 4 pole

 0004	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR0120004RV4	1			CR0120004GV4	1		
			16A	CR0160004RV4	1			CR0160004GV4	1		
			20A	CR0200004RV4	1			CR0200004GV4	1		
			25A	CR0260004RV4	1						
		S2	25A			CR0250004RV6	1			CR0250004GV6	1
			32A			CR0320004RV6	1			CR0320004GV6	1
			40A			CR0400004RV6	1			CR0400004GV6	1
			50A								

■ ON-OFF switch 3 pole with spring return to "OFF"

 0035	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR0120035RV4	1			CR0120035GV4	1		
			16A	CR0160035RV4	1			CR0160035GV4	1		
			20A								
			25A								
		S2	25A								
			32A								
			40A								
			50A								

■ Change-over switch 1 pole

 0005	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CR0120005RV4	1			CR0120005GV4	1		
			16A	CR0160005RV4	1			CR0160005GV4	1		
			20A	CR0200005RV4	1			CR0200005GV4	1		
			25A	CR0260005RV4	1						
		S2	25A			CR0250005RV6	1			CR0250005GV6	1
			32A								
			40A								
			50A								

Rear mounting

4-screw fixing: □ 36mm (□1.42") / □ 48mm (□1.89")



RV4



RV6



GV4


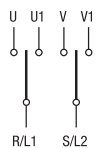


GV6


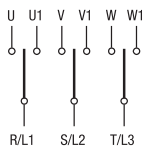
Rear mounting

Ø 22mm (0.87") single hole fixing


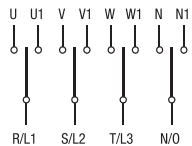
Change-over switch 2 pole

 0006	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 R/L1 S/L2		S1	12A	CR0120006RV4	1			CR0120006GV4	1		
			16A	CR0160006RV4	1			CR0160006GV4	1		
			20A	CR0200006RV4	1			CR0200006GV4	1		
			25A	CR0260006RV4	1						
		S2	25A			CR0250006RV6	1			CR0250006GV6	1
			32A			CR0320006RV6	1			CR0320006GV6	1
			40A			CR0400006RV6	1			CR0400006GV6	1
			50A								

Change-over switch 3 pole

 0007	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 R/L1 S/L2 T/L3		S1	12A	CR0120007RV4	1			CR0120007GV4	1		
			16A	CR0160007RV4	1			CR0160007GV4	1		
			20A	CR0200007RV4	1			CR0200007GV4	1		
			25A	CR0260007RV4	1						
		S2	25A			CR0250007RV6	1			CR0250007GV6	1
			32A			CR0320007RV6	1			CR0320007GV6	1
			40A			CR0400007RV6	1			CR0400007GV6	1
			50A								

Change-over switch 4 pole

 0039	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 R/L1 S/L2 T/L3 N/O		S1	12A	CR0120039RV4	1			CR0120039GV4	1		
			16A	CR0160039RV4	1			CR0160039GV4	1		
			20A	CR0200039RV4	1			CR0200039GV4	1		
			25A	CR0260039RV4	1						
		S2	25A			CR0250039RV6	1			CR0250039GV6	1
			32A			CR0320039RV6	1			CR0320039GV6	1
			40A			CR0400039RV6	1			CR0400039GV6	1
			50A								

Rear mounting
4-screw fixing: □ 36mm (□1.42") / □ 48mm (□1.89")



RV4



RV6



GV4



GV6

Rear mounting
Ø 22mm (0.87") single hole fixing

Reversing switch 3 pole

	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
<p>0008</p>		S1	12A	CR0120008RV4	1			CR0120008GV4	1		
			16A	CR0160008RV4	1			CR0160008GV4	1		
			20A	CR0200008RV4	1			CR0200008GV4	1		
			25A	CR0260008RV4	1						
		S2	25A			CR0250008RV6	1			CR0250008GV6	1
			32A			CR0320008RV6	1			CR0320008GV6	1
			40A			CR0400008RV6	1			CR0400008GV6	1
			50A								

Reversing switch 3 pole with spring return to "off"

	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
<p>0036</p>		S1	12A	CR0120036RV4	1			CR0120036GV4	1		
			16A	CR0160036RV4	1			CR0160036GV4	1		
			20A	CR0200036RV4	1			CR0200036GV4	1		
			25A	CR0260036RV4	1						
		S2	25A			CR0250036RV6	1			CR0250036GV6	1
			32A								
			40A								
			50A								

Changing switch Dahlander pole

	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
<p>0009</p>		S1	12A	CR0120009RV4	1			CR0120009GV4	1		
			16A	CR0160009RV4	1			CR0160009GV4	1		
			20A	CR0200009RV4	1			CR0200009GV4	1		
			25A	CR0260009RV4	1						
		S2	25A			CR0250009RV6	1			CR0250009GV6	1
			32A			CR0320009RV6	1			CR0320009GV6	1
			40A			CR0400009RV6	1			CR0400009GV6	1
			50A								

Rear mounting

4-screw fixing: □ 36mm (□1.42") / □ 48mm (□1.89")



RV4



RV6



GV4



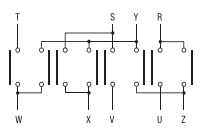


GV6



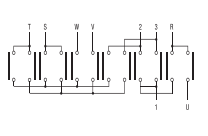
Rear mounting

Ø 22mm (0,87") single hole fixing



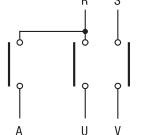
STAR-DELTA Starter

 0010	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 0010		S1	12A	CR0120010RV4	1			CR0120010GV4	1		
			16A	CR0160010RV4	1			CR0160010GV4	1		
			20A	CR0200010RV4	1			CR0200010GV4	1		
			25A	CR0260010RV4	1						
		S2	25A			CR0250010RV6	1			CR0250010GV6	1
			32A			CR0320010RV6	1			CR0320010GV6	1
			40A			CR0400010RV6	1			CR0400010GV6	1
			50A								

Reversing switch pole changing

 0011	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 0011		S1	12A	CR0120011RV4	1			CR0120011GV4	1		
			16A	CR0160011RV4	1			CR0160011GV4	1		
			20A	CR0200011RV4	1			CR0200011GV4	1		
			25A	CR0260011RV4	1						
		S2	25A			CR0250011RV6	1			CR0250011GV6	1
			32A								
			40A								
			50A								

Switch single phase motor + aux phase

 0031	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 0031		S1	12A	CR0120031RV4	1			CR0120031GV4	1		
			16A	CR0160031RV4	1			CR0160031GV4	1		
			20A	CR0200031RV4	1			CR0200031GV4	1		
			25A	CR0260031RV4	1						
		S2	25A			CR0250031RV6	1			CR0250031GV6	1
			32A								
			40A								
			50A								

Rear mounting
4-screw fixing: □ 36mm (□1.42") / □ 48mm (□1.89")



RV4



RV6



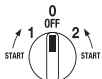
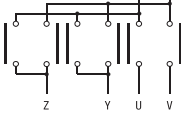
GV4




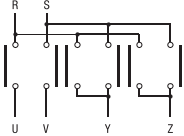
GV6

Rear mounting
Ø 22mm (0.87") single hole fixing

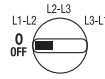
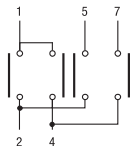
■ Reversing switch single-phase motor + aux phase

 RT6-GT6 0032		Size	I_e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
			12A	CR0120032RV4	1			CR0120032GV4	1		
			16A	CR0160032RV4	1			CR0160032GV4	1		
			20A								
			25A	CR0260032RV4	1						
		S2	25A			CR0250032RV6	1			CR0250032GV6	1
			32A								
			40A								
			50A								

■ Reversing switch single-phase motor + centrif.

 0034		Size	I_e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
			12A	CR0120034RV4	1			CR0120034GV4	1		
			16A	CR0160034RV4	1			CR0160034GV4	1		
			20A	CR0200034RV4	1			CR0200034GV4	1		
			25A	CR0260034RV4	1						
		S2	25A			CR0250034RV6	1			CR0250034GV6	1
			32A								
			40A								
			50A								

■ Voltmeter switch 3 concatenated voltages

 0016		Size	I_e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
			12A	CR0120016RV4	1			CR0120016GV4	1		i
			16A								
			20A								
			25A								
		S2	25A								
			32A								
			40A								
			50A								

Rear mounting

4-screw fixing: □ 36mm (□1.42") / □ 48mm (□1.89")



RV4



RV6



GV4

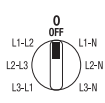


GV6

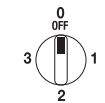
Rear mounting

Ø 22mm (0.87") single hole fixing

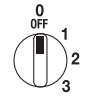
Voltmeter switch 3 concatenated voltages and 3 phase voltages

Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 0018	S1	12A	CR0120018RV4	1			CR0120018GV4	1		
		16A								
		20A								
		25A								
	S2	25A								
		32A								
		40A								
		50A								

Ammeter switch 1 pole 3 current transformers

Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 0022	S1	12A	CR0120022RV4	1			CR0120022GV4	1		
		16A								
		20A								
		25A								
	S2	25A								
		32A								
		40A								
		50A								

Multi step switch with off 1 pole 3 steps

Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
 MZ13	S1	12A	CR012MZ13RV4	1			CR012MZ13GV4	1		
		16A	CR016MZ13RV4	1			CR016MZ13GV4	1		
		20A	CR020MZ13RV4	1			CR020MZ13GV4	1		
		25A	CR026MZ13RV4	1						
	S2	25A			CR025MZ13RV6	1			CR025MZ13GV6	1
		32A								
		40A								
		50A								

Rear mounting

4-screw fixing: □ 36mm (□1.42") / □ 48mm (□1.89")



RV4



RV6



GV4



GV6

Rear mounting

Ø 22mm (0.87") single hole fixing

Multi step switch with off 1 pole 4 steps

	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
<p>MZ14</p>		S1	12A	CR012MZ14RV4	1			CR012MZ14GV4	1		
			16A	CR016MZ14RV4	1			CR016MZ14GV4	1		
			20A								
			25A								
		S2	25A								
			32A								
			40A								
			50A								

Multi step switch with off 2 pole 3 steps


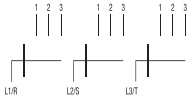
	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
<p>MZ23</p>		S1	12A	CR012MZ23RV4	1			CR012MZ23GV4	1		
			16A	CR016MZ23RV4	1			CR016MZ23GV4	1		
			20A	CR020MZ23RV4	1			CR020MZ23GV4	1		
			25A	CR026MZ23RV4	1						
		S2	25A			CR025MZ23RV6	1			CR025MZ23GV6	1
			32A								
			40A								
			50A								

Multi step switch with off 2 pole 4 steps


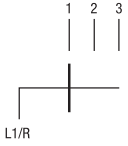
	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
<p>MZ24</p>		S1	12A	CR012MZ24RV4	1			CR012MZ24GV4	1		
			16A	CR016MZ24RV4	1			CR016MZ24GV4	1		
			20A								
			25A								
		S2	25A								
			32A								
			40A								
			50A								



■ Multi step switch with off 3 pole 3 steps

 MZ33		Size	I_e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
			12A	CR012MZ33RV4	1			CR012MZ33GV4	1		
			16A	CR016MZ33RV4	1			CR016MZ33GV4	1		
			20A								
			25A								
			25A								
			32A								
S2		Size	40A								
			50A								

■ Multi step switch without off 1 pole 3 steps

 M013		Size	I_e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
			12A	CR012M013RV4	1			CR012M013GV4	1		
			16A	CR016M013RV4	1			CR016M013GV4	1		
			20A								
			25A								
			25A								
			32A								
S2		Size	40A								
			50A								

Rear mounting
4-screw fixing: □ 36mm (□1.42") / □ 48mm (□1.89")



RV4



RV6




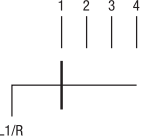
GV4




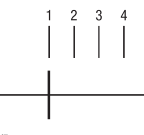
GV6

Rear mounting
Ø 22mm (0,87") single hole fixing

■ Multi step switch without off 1 pole 4 steps


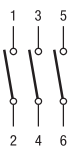
 M014		Size	I_e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
			12A	CR012M014RV4	1			CR012M014GV4	1		
			16A	CR016M014RV4	1			CR016M014GV4	1		
			20A								
			25A								
			25A								
			32A								
			40A								
			50A								

■ Multi step switch without off 1 pole 5 steps


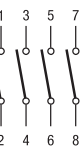
 M015		Size	I_e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
			12A	CR012M015RV4	1			CR012M015GV4	1		
			16A	CR016M015RV4	1			CR016M015GV4	1		
			20A								
			25A								
			25A								
			32A								
			40A								
			50A								



■ ON-OFF switch 3 pole with padlockable handle

 00G3		Size	I_e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
			12A	CR01200G3RL6S	1	CR01200G3RK6S	1	CR01200G3BL6S	1	CR01200G3BK6S	1
			16A	CR01600G3RL6S	1	CR01600G3RK6S	1	CR01600G3BL6S	1	CR01600G3BK6S	1
			20A	CR02000G3RL6S	1	CR02000G3RK6S	1	CR02000G3BL6S	1	CR02000G3BK6S	1
			25A	CR02600G3RL6S	1	CR02600G3RK6S	1	CR02600G3BL6S	1	CR02600G3BK6S	1
		S2	25A	CR02500G3RL6S	1	CR02500G3RK6S	1	CR02500G3BL6S	1	CR02500G3BK6S	1
			32A	CR03200G3RL6S	1	CR03200G3RK6S	1	CR03200G3BL6S	1	CR03200G3BK6S	1
			40A	CR04000G3RL6S	1	CR04000G3RK6S	1	CR04000G3BL6S	1	CR04000G3BK6S	1
			50A								

■ ON-OFF switch 4 pole with padlockable handle

 00G4		Size	I_e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
			12A	CR01200G4RL6S	1	CR01200G4RK6S	1	CR01200G4BL6S	1	CR01200G4BK6S	1
			16A	CR01600G4RL6S	1	CR01600G4RK6S	1	CR01600G4BL6S	1	CR01600G4BK6S	1
			20A	CR02000G4RL6S	1	CR02000G4RK6S	1	CR02000G4BL6S	1	CR02000G4BK6S	1
			25A	CR02600G4RL6S	1	CR02600G4RK6S	1	CR02600G4BL6S	1	CR02600G4BK6S	1
		S2	25A	CR02500G4RL6S	1	CR02500G4RK6S	1	CR02500G4BL6S	1	CR02500G4BK6S	1
			32A	CR03200G4RL6S	1	CR03200G4RK6S	1	CR03200G4BL6S	1	CR03200G4BK6S	1
			40A	CR04000G4RL6S	1	CR04000G4RK6S	1	CR04000G4BL6S	1	CR04000G4BK6S	1
			50A								

* Fixing 36mm by 4 screws

** Fixing 48mm by 4 screws and fixing adapter (included in the package)

Optional shafts



Part no.	Description	Pack
PALBL300	Albero L=300mm Q5	5
PALBL500	Albero L=500mm Q5	5
PALBL055	Albero L=55mm Q5	5
PALBL075	Albero L=75mm Q5	5
PALBL095	Albero L=95mm Q5	5
PALBL115	Albero L=115mm Q5	5
PALBL135	Albero L=135mm Q5	5
PALBL155	Albero L=155mm Q5	5
PALBL175	Albero L=175mm Q5	5

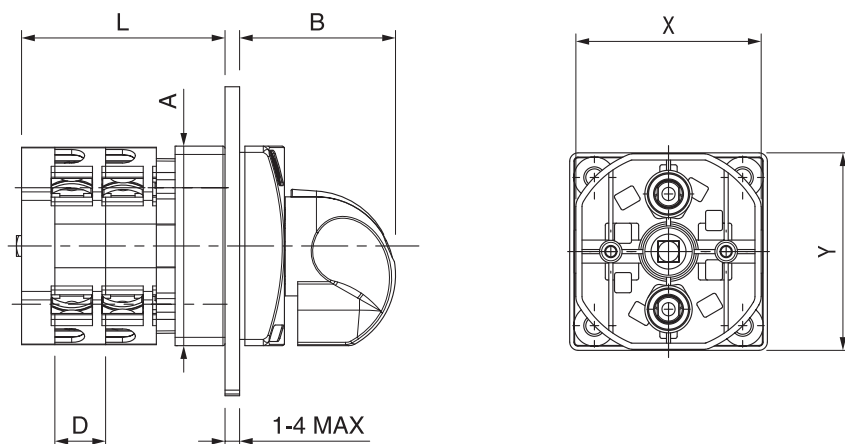
Flexible PVC protections IP40

IP40 PVC protections against dust and dirt are available on request.



■ Rear mounting

(RT - RY - RL6 - RK6 - RR0) - Measures in mm (in)

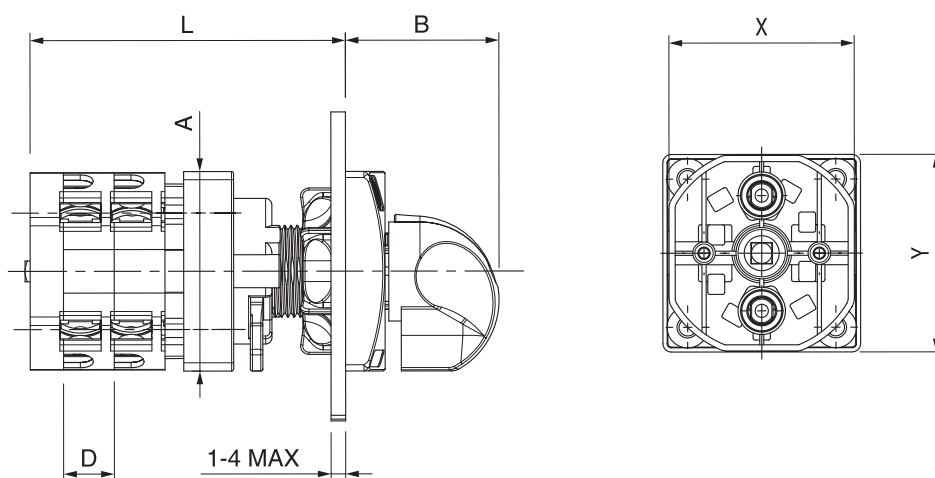


Series	X	Y	A	D		no. of stages					
						1	2	3	4	5	6
CA 012-016-020-026	45 (1.77")	47,5 (1.87")	□ 48 (□1.89")	12,2 (0.48")	L	36,7 (1.44")	49 (1.93")	61,1 (2.41")	73,3 (2.89")	85,5 (3.37")	97,7 (3.85")
CR 025-032-040-051	53 (2.09")	62 (2.44")	□ 60 (□2.36")	16,2 (0.64")	L	42,7 (1.68")	58,9 (2.32")	75,1 (2.96")	91,3 (3.59")	107,5 (4.23")	123,7 (4.87")

Handle	B
RV4-RW4	31 (1,22")
RV6-RW6	36 (1,42")
RT4-RY4	37 (1.46")
RT6-RY6	39 (1.54")
RL6-RK6	39 (1.54")
RR0	34 (1.34")

■ Rear mounting

(GT - GY - GL6 - GK6 - GR0) - Measures in mm (in)



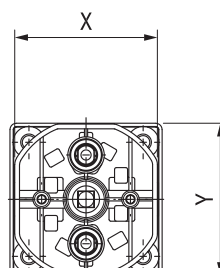
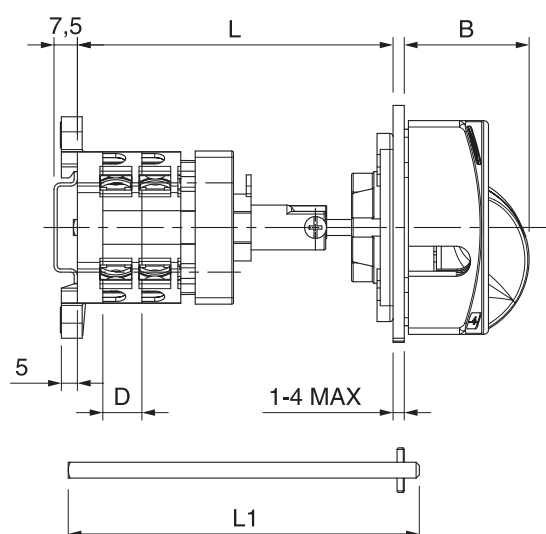
Series	X	Y	A	D		no. of stages					
						1	2	3	4	5	6
CA 012-016-020-026	45 (1.77")	47,5 (1.87")	□ 48 (□1.89")	12,2 (0.48")	L	63,5 (2.50")	76 (2.99")	88,2 (3.47")	100,5 (3.96")	112,6 (4.43")	124,8 (4.91")
CR 025-032-040-051	53 (2.09")	62 (2.44")	□ 60 (□2.36")	16,2 (0.64")	L	69,8 (2.75")	86 (3.39")	102 (4.02")	118,5 (4.67")	135 (5.31")	151 (5.94")

Handle	B
GV4-GW4	31 (1,22")
GV6-GW6	36 (1,42")
GT4-GY4	37 (1.46")
GT6-GY6	39 (1.54")
GL6-GK6	39 (1.54")
GR0	38 (1.50")

■ Base mounting

Switching angle 90°, padlockable (max 3 padlocks)

(BT - BY - BL6 - BK6) - Measures in mm (in)



Handle	B
BL6-BK6	39 (1.54")
BT4L-BY4L	40 (1.57")
BT6L-BY6L	40 (1.57")

	no. of stages				2	
	X	Y	D	L1	Lmin	Lmax
CA 012-016-020-026	45	47,5	12,2	175 (6.89") *	99 (3.90")	243 (9.57")
				300 (11.81")	99 (3.90")	368 (14.49")
				500 (19.69")	99 (3.90")	568 (22.36")
CR 025-032-040-051	53	62	16,2	175 (6.89") *	109 (4.29")	253 (9.96")
				300 (11.81")	109 (4.29")	378 (14.88")
				500 (19.69")	109 (4.29")	578 (22.76")

Overall length (min-max)** for different shaft lengths (L1)

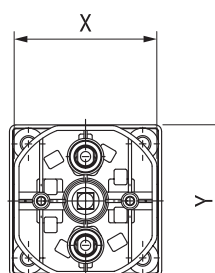
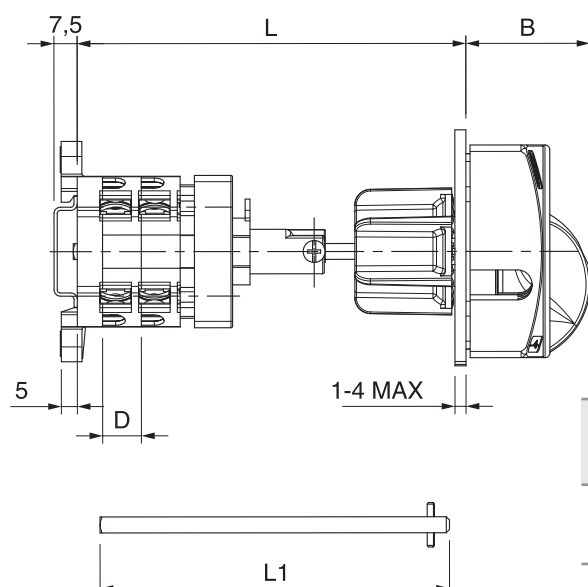
* Standard shaft, bundled

** Minimum length is obtainable by cutting the shaft

■ Base mounting

Switching angle 90°, padlockable (max 3 padlocks)

(HT - HY - HL6 - HK6) - Measures in mm (in)



Handle	B
HL6-HK6	39 (1.54")
GT4L-GY4L	40 (1.57")
GT6L-GY6L	40 (1.57")

	no. of stages				2	
	X	Y	D	L1	Lmin	Lmax
CA 012-016-020-026	45	47,5	12,2	175 (6.89") *	111 (4.37")	255 (10.04")
				300 (11.81")	111 (4.37")	380 (14.96")
				500 (19.69")	111 (4.37")	580 (22.83")
CR 025-032-040-051	53	62	16,2	175 (6.89") *	121 (4.76")	265 (10.43")
				300 (11.81")	121 (4.76")	390 (15.35")
				500 (19.69")	121 (4.76")	590 (23.23")

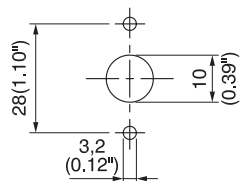
Overall length (min-max)** for different shaft lengths (L1)

* Standard shaft, bundled

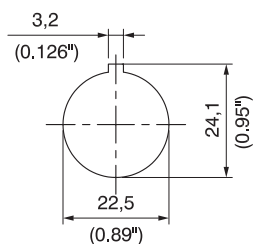
** Minimum length is obtainable by cutting the shaft

■ Rear mounting

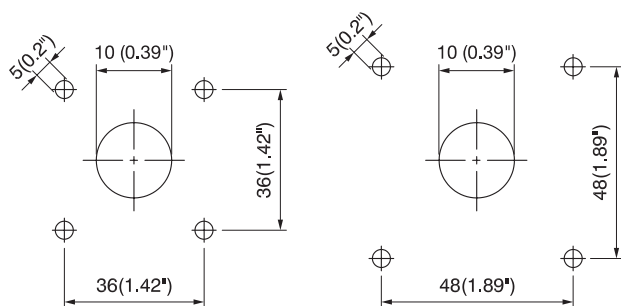
(RT - RY - RL6 - RK6 - RR0) - Measures in mm (in)



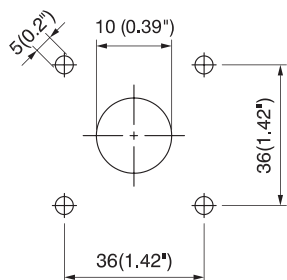
(GT - GY - GV - GW - GL - GK - GR0)



(RV6/RV6-T - RW6/RW6-T - RL6S - RK6S)



(RV4/RV4-T - RW4/RW4-T)



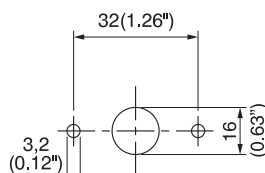
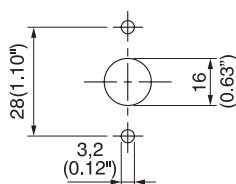
■ Base mounting

(BT - BY - BV - BW - BL - BK) - Measures in mm (in)

Escutcheon plate mounting options:

1) 2 holes with vertical distance 28mm (1.10")

2) 2 holes with horizontal distance 32mm (1.26")



Switch mounting options:

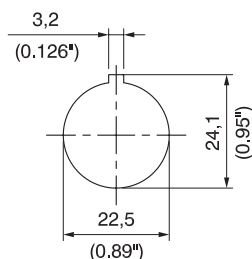
1) 2 holes with distance 58mm (2.28") - 72mm (2.83")

2) snap mount on DIN 46277/3 rail



(HT - HY - HV - HW - HL - HK)

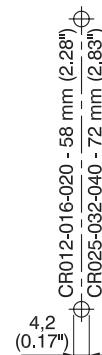
Escutcheon plate



Switch mounting options:

1) 2 holes with distance 58mm (2.28") - 72mm (2.83")

2) snap mount on DIN 46277/3 rail



[illegible]



Cam switches

CA
series

Rear mounting

2-screw fixing: 28mm (1.10") Vertical





PL1





PL2



ON-OFF switch 1 pole

 0001	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120001PL1	1	CA0120001PL2	1
			16A			CA0160001PL2	1
			20A			CA0200001PL2	1
			25A			CA0260001PL2	1
		S2	25A			CA0250001PL2	1
			32A				
			40A				
			50A				


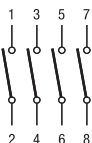
ON-OFF switch 2 pole

 0002	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120002PL1	1	CA0120002PL2	1
			16A	CA0160002PL1	1	CA0160002PL2	1
			20A	CA0200002PL1	1	CA0200002PL2	1
			25A			CA0260002PL2	1
		S2	25A			CA0250002PL2	1
			32A			CA0320002PL2	1
			40A			CA0400002PL2	1
			50A			CA0510002PL2	1

ON-OFF switch 3 pole

 0003	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120003PL1	1	CA0120003PL2	1
			16A	CA0160003PL1	1	CA0160003PL2	1
			20A	CA0200003PL1	1	CA0200003PL2	1
			25A			CA0260003PL2	1
		S2	25A	CA0250003PL1	1	CA0250003PL2	1
			32A			CA0320003PL2	1
			40A			CA0400003PL2	1
			50A			CA0510003PL2	1

ON-OFF switch 4 pole

 0004	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120004PL1	1	CA0120004PL2	1
			16A	CA0160004PL1	1	CA0160004PL2	1
			20A			CA0200004PL2	1
			25A			CA0260004PL2	1
		S2	25A			CA0250004PL2	1
			32A			CA0320004PL2	1
			40A			CA0400004PL2	1
			50A			CA0510004PL2	1

 standard article

Rear mounting

2-screw fixing: 28mm (1.10") Vertical





PL1


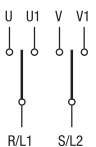


PL2


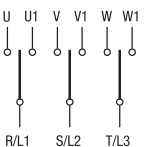
■ Change-over switch 1 pole

 0005	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120005PL1	1	CA0120005PL2	1
			16A			CA0160005PL2	1
			20A			CA0200005PL2	1
			25A			CA0260005PL2	1
		S2	25A			CA0250005PL2	1
			32A				
			40A				
			50A				


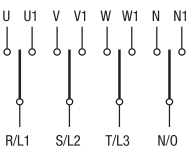
■ Change-over switch 2 pole

 0006	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120006PL1	1	CA0120006PL2	1
			16A	CA0160006PL1	1	CA0160006PL2	1
			20A	CA0200006PL1	1	CA0200006PL2	1
			25A			CA0260006PL2	1
		S2	25A			CA0250006PL2	1
			32A			CA0320006PL2	1
			40A			CA0400006PL2	1
			50A			CA0510006PL2	1

■ Change-over switch 3 pole

 0007	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120007PL1	1	CA0120007PL2	1
			16A	CA0160007PL1	1	CA0160007PL2	1
			20A			CA0200007PL2	1
			25A			CA0260007PL2	1
		S2	25A			CA0250007PL2	1
			32A			CA0320007PL2	1
			40A			CA0400007PL2	1
			50A			CA0510007PL2	1

■ Change-over switch 4 pole

 0039	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120039PL1	1	CA0120039PL2	1
			16A	CA0160039PL1	1	CA0160039PL2	1
			20A			CA0200039PL2	1
			25A			CA0260039PL2	1
		S2	25A			CA0250039PL2	1
			32A			CA0320039PL2	1
			40A			CA0400039PL2	1
			50A			CA0510039PL2	1

 standard article

Rear mounting

2-screw fixing: 28mm (1.10") Vertical


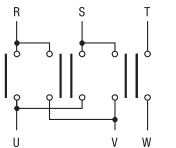


PL1


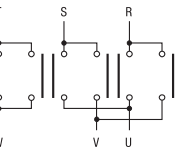


PL2


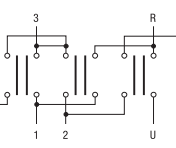
Reversing switch 3 pole

 0008	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120008PL1	1	CA0120008PL2	1
			16A	CA0160008PL1	1	CA0160008PL2	1
			20A			CA0200008PL2	1
			25A			CA0260008PL2	1
		S2	25A			CA0250008PL2	1
			32A			CA0320008PL2	1
			40A			CA0400008PL2	1
			50A			CA0510008PL2	1


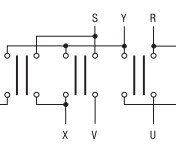
Reversing switch 3 pole with spring return to "OFF"

 0036	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120036PL1	1	CA0120036PL2	1
			16A			CA0160036PL2	1
			20A			CA0200036PL2	1
			25A				
		S2	25A				
			32A				
			40A				
			50A				

Changing switch Dahlander pole

 0009	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120009PL1	1	CA0120009PL2	1
			16A	CA0160009PL1	1	CA0160009PL2	1
			20A			CA0200009PL2	1
			25A			CA0260009PL2	1
		S2	25A			CA0250009PL2	1
			32A			CA0320009PL2	1
			40A			CA0400009PL2	1
			50A			CA0510009PL2	1

STAR-DELTA Starter

 0010	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120010PL1	1	CA0120010PL2	1
			16A	CA0160010PL1	1	CA0160010PL2	1
			20A			CA0200010PL2	1
			25A			CA0260010PL2	1
		S2	25A			CA0250010PL2	1
			32A			CA0320010PL2	1
			40A			CA0400010PL2	1
			50A			CA0510010PL2	1

Rear mounting

2-screw fixing: 28mm (1.10") Vertical

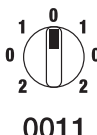
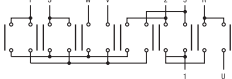


PL1


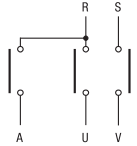


PL2


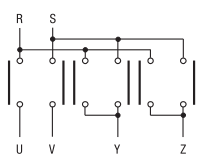
■ Reversing switch pole changing

 0011	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120011PL1	1	CA0120011PL2	1
			16A	CA0160011PL1	1	CA0160011PL2	1
			20A			CA0200011PL2	1
			25A			CA0260011PL2	1
		S2	25A			CA0250011PL2	1
			32A				
			40A				
			50A				


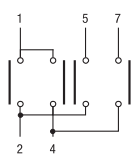
■ Switch single phase motor + aux phase

 0031	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120031PL1	1	CA0120031PL2	1
			16A			CA0160031PL2	1
			20A			CA0200031PL2	1
			25A			CA0260031PL2	1
		S2	25A			CA0250031PL2	1
			32A				
			40A				
			50A				

■ Reversing switch single-phase motor + centrif.

 0034	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120034PL1	1	CA0120034PL2	1
			16A	CA0160034PL1	1	CA0160034PL2	1
			20A			CA0200034PL2	1
			25A			CA0260034PL2	1
		S2	25A			CA0250034PL2	1
			32A				
			40A				
			50A				

■ Voltmeter switch 3 concatenated voltages

 0016	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120016PL1	1	CA0120016PL2	1
			16A			CA0160016PL2	1
			20A				
			25A				
		S2	25A				
			32A				
			40A				
			50A				

 standard article

Rear mounting

2-screw fixing: 28mm (1.10") Vertical

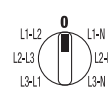
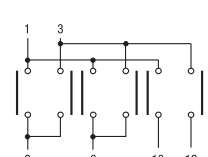


PL1

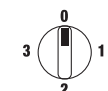
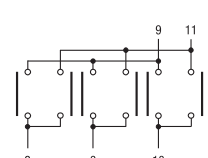


PL2

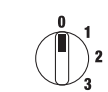
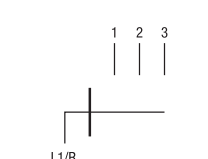
Voltmeter switch 3 concatenated voltages and 3 phase voltages

 0018	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120018PL1	1	CA0120018PL2	1
			16A			CA0160018PL2	1
			20A				
			25A				
		S2	25A				
			32A				
			40A				
			50A				

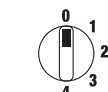
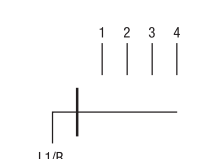
Ammeter switch 1 pole 3 current transformers

 0022	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA0120022PL1	1	CA0120022PL2	1
			16A			CA0160022PL2	1
			20A				
			25A				
		S2	25A				
			32A				
			40A				
			50A				

Multi step switch with off 1 pole 3 steps

 MZ13	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA012MZ13PL1	1	CA012MZ13PL2	1
			16A	CA016MZ13PL1	1	CA016MZ13PL2	1
			20A			CA020MZ13PL2	1
			25A				
		S2	25A				
			32A				
			40A				
			50A				

Multi step switch with off 1 pole 4 steps

 MZ14	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CA012MZ14PL1	1	CA012MZ14PL2	1
			16A	CA016MZ14PL1	1	CA016MZ14PL2	1
			20A				
			25A				
		S2	25A				
			32A				
			40A				
			50A				

Rear mounting

2-screw fixing: 28mm (1.10") Vertical



PL1



PL2

Multi step switch with off 2 pole 3 steps

Circuit diagram	Size	I _e	Part no. Pack		Part no. Pack	
			Part no.	Pack	Part no.	Pack
<p>MZ23</p>	S1	12A	CS012MZ23PL1	1	CS012MZ23PL2	1
		16A			CS016MZ23PL2	1
		20A				
		25A				
		25A				
	S2	32A				
		40A				
		50A				

Rear mounting

2-screw fixing: 28mm (1.10") Vertical



RL6



RK6

Base mounting*

2-screw fixing: 28mm (1.10") V. / 32mm (1.26") H.



BL6



BK6

ON-OFF switch 3 pole with padlockable handle

Circuit diagram	Size	I _e	Part no. Pack		Part no. Pack		Part no. Pack		Part no. Pack	
			Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
<p>00G3</p>	S1	12A	CA01200G3RL6	1	CA01200G3RK6	1	CA01200G3BL6	1	CA01200G3BK6	1
		16A	CA01600G3RL6	1	CA01600G3RK6	1	CA01600G3BL6	1	CA01600G3BK6	1
		20A	CA02000G3RL6	1	CA02000G3RK6	1	CA02000G3BL6	1	CA02000G3BK6	1
		25A	CA02600G3RL6	1	CA02600G3RK6	1	CA02600G3BL6	1	CA02600G3BK6	1
		25A	CA02500G3RL6	1	CA02500G3RK6	1	CA02500G3BL6	1	CA02500G3BK6	1
	S2	32A	CA03200G3RL6	1	CA03200G3RK6	1	CA03200G3BL6	1	CA03200G3BK6	1
		40A	CA04000G3RL6	1	CA04000G3RK6	1	CA04000G3BL6	1	CA04000G3BK6	1
		50A	CA05100G3RL6	1	CA05100G3RK6	1	CA05100G3BL6	1	CA05100G3BK6	1

* Base mounting switches are supplied with standard 175mm (6.89") shaft

Rear mounting

2-screw fixing: 28mm (1.10") Vertical



RL6



RK6

Base mounting*

2-screw fixing: 28mm (1.10") V. / 32mm (1.26") H.


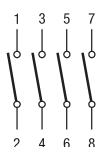


BL6



BK6

ON-OFF switch 4 pole with padlockable handle








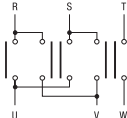
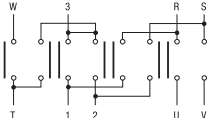
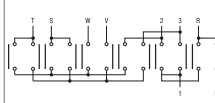
 00G4	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S1	12A	CA01200G4RL6	1	CA01200G4RK6	1	CA01200G4BL6	1	CA01200G4BK6	1
			16A	CA01600G4RL6	1	CA01600G4RK6	1	CA01600G4BL6	1	CA01600G4BK6	1
			20A	CA02000G4RL6	1	CA02000G4RK6	1	CA02000G4BL6	1	CA02000G4BK6	1
			25A	CA02600G4RL6	1	CA02600G4RK6	1	CA02600G4BL6	1	CA02600G4BK6	1
		S2	25A	CA02500G4RL6	1	CA02500G4RK6	1	CA02500G4BL6	1	CA02500G4BK6	1
			32A	CA03200G4RL6	1	CA03200G4RK6	1	CA03200G4BL6	1	CA03200G4BK6	1
			40A	CA04000G4RL6	1	CA04000G4RK6	1	CA04000G4BL6	1	CA04000G4BK6	1
			50A	CA05100G4RL6	1	CA05100G4RK6	1	CA05100G4BL6	1	CA05100G4BK6	1

* Base mounting switches are supplied with standard 175mm (6.89") shaft

Rear mounting



R03

		 0002	 0003	 0008	 0009	 0011			
Circuit diagram									
Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	S	Pack
S1	12A	CA0120002R03	1			CA0120008R03	1	CA0120009R03	1
	16A	CA0160002R03	1	CA0160003R03	1	CA0160008R03	1	CA0160009R03	1
	20A	CA0200002R03	1	CA0200003R03	1	CA0200008R03	1	CA0200009R03	1
	25A	CA0260002R03	1	CA0260003R03	1				
S2	25A	CA0250002R03	1	CA0250003R03	1				
	32A								
	40A								
	50A								

 standard article

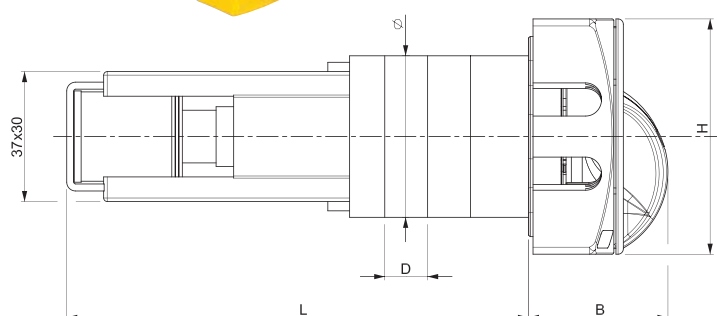
Switches with electromagnet



Device with safety electromagnet. It allows the spring return of the switch to "OFF" position in case of supply failure.

	B	H
PL2	32 (1,26")	75x75 (2,95"x2,95")
RT6	39 (1,53")	67x67 (2,64"x2,64")
RL6	39 (1,53")	67x67 (2,64"x2,64")

dimensions in mm (in)



dimensions in mm (in)

Stages no.		2
CA 016 D = 12,2 (0,48") ø = 40x46 (1,57"x1,81")	L	126 (4,96")
CA 025 D = 16,2 (0,64") ø = 58 (2,28")	L	140,5 (5,53")



RL6



PL2

Rear mounting

Circuit diagram

0035

Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
S1	16A	CA0160035E3RL6	1	CA0160035E3PL2	1	CA0160035E4PL2	1	CA0160035E5PL2	1
S2	25A	CA0250035E3RL6	1						
	* rat. voltage	110V		110V		220V		380V	



RT6

Rear mounting

Circuit diagram

0035

Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack
S1	16A	CA0160035E3RT6	1	CA0160035E4RT6	1	CA0160035E5RT6	1
S2	25A	CA0250035E3RT6	1	CA0250035E4RT6	1	CA0250035E5RT6	1
	* rat. voltage	110V		220V		380V	

* Rated voltage

 standard article

Protections

PVC protections against dust and dirt are available on request.



■ Terminal protection for diagrams 00G3,00G4



Part no.	Description	Pack
PROTLE6747	Terminals protection CA012 ÷ 020 2 stages	5
PROTLE6748	Terminals protection CA025 ÷ 040 2 stages	5

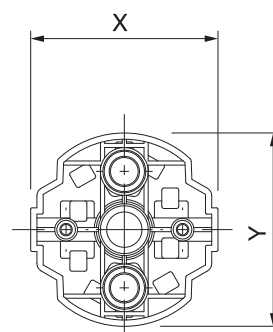
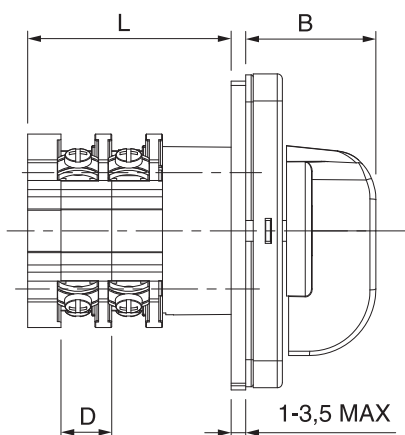
■ Optional shafts



Part no.	Description	Pack
PALBL300	Shaft L=300mm 05	5
PALBL500	Shaft L=500mm 05	5
PALBL055	Shaft L=55mm 05	R
PALBL075	Shaft L=75mm 05	R
PALBL095	Shaft L=95mm 05	R
PALBL115	Shaft L=115mm 05	R
PALBL135	Shaft L=135mm 05	R
PALBL155	Shaft L=155mm 05	R
PALBL175	Shaft L=175mm 05	5

■ Rear mounting - PL Handle

Measures in mm (in)



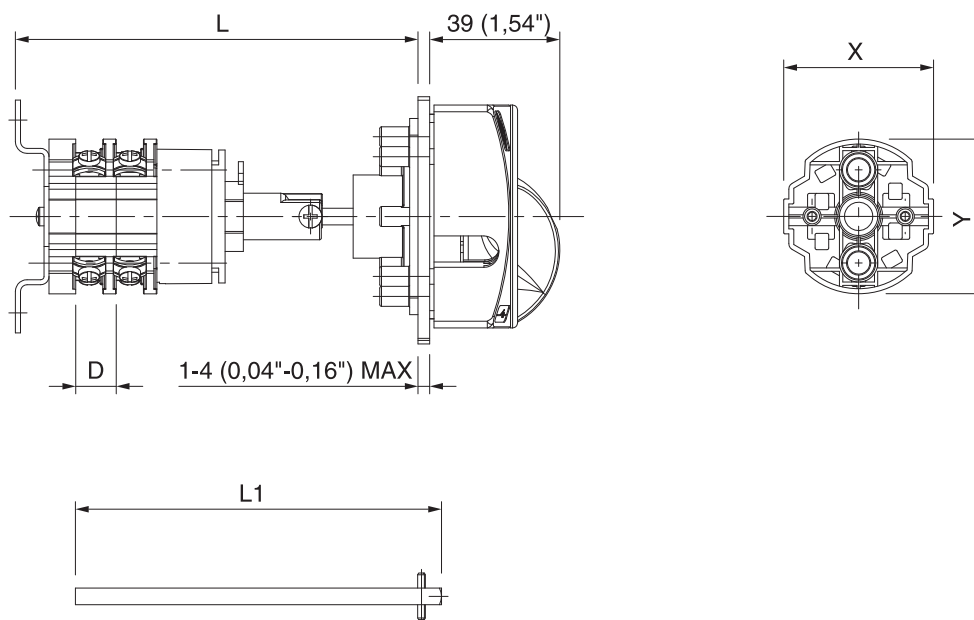
Series	X	Y	D		no. of stages					
					1	2	3	4	5	6
CA 012-016-020-026	45 (1,77")	ø 46,5 ø (1,83")	12,2 (0,48")	L	36,7 (1,44")	49 (1,93")	61,1 (2,41")	73,3 (2,89")	85,5 (3,37")	97,7 (3,85")
Ca 025-032-040-051	-	ø 58,5 ø (2,30")	16,2 (0,64")	L	42,8 (1,69")	59 (2,32")	75 (2,95")	91,5 (3,60")	108 (4,25")	124 (4,88")

Handle	B
PL1	30 (1,18")
PL2	32 (1,26")

■ Base mounting - Handles BL6/BK6

(switching angle 90°, padlockable with max 3 padlocks)

Measures in mm (in)



Overall length (min-max)** for different shaft lengths (L1):

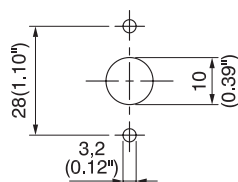
Series	no. of stages				2	
	X	Y	D	L1	L	
					Lmin	Lmax
CA 012-016-020-026	45	ø 46,5	12,2	175 (6.89")*	114 (4,49")	258 (10,16")
				300 (11.81")	114 (4,49")	383 (15,08")
	(1.77")	ø (1.83")	(0.48")	500 (19.69")	114 (4,49")	583 (22,95")
Ca 025-032-040-051	-	ø 58,5	16,2	175 (6.89")*	117 (4,61")	261 (10,28")
				300 (11.81")	117 (4,61")	386 (15,20")
	-	ø (2.30")	(0.64")	500 (19.69")	117 (4,61")	586 (23,07")

* Standard shaft, bundled

** Minimum length is obtainable by cutting the shaft

■ Drilling templates - Rear mounting

(RT - RL - RK - PL1 - PL2) - Measures in mm (in)



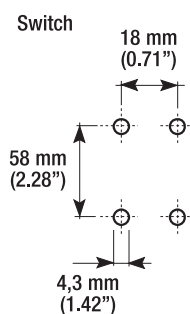
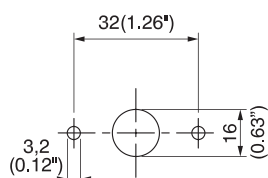
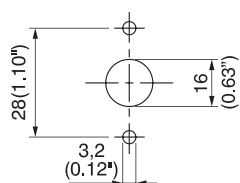
■ Drilling templates - Base mounting

(BL6 - BK6) - Measures in mm (in)

Escutcheon plate mounting options:

1) 2 holes with vertical distance 28mm (1.10")

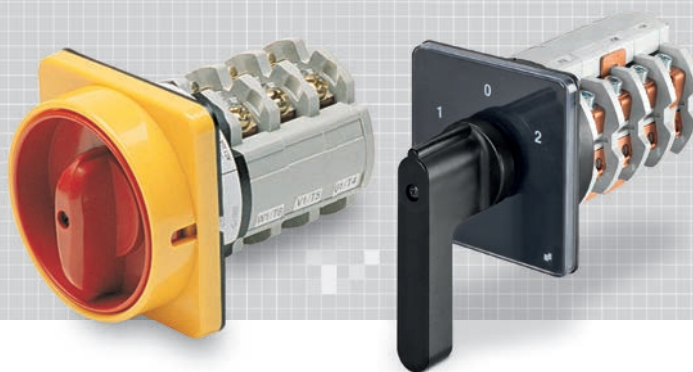
2) 2 holes with horizontal distance 32mm (1.26")



Switch mounting options:

1) 4 holes with distance 58x18mm (2.28x0.71")

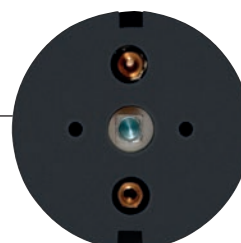
Cam switches CA 050...630 series



**Latching
mechanism
CA 050...630**

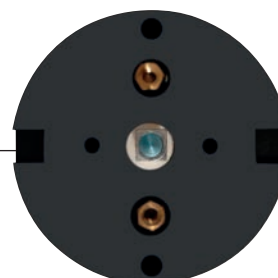
■ **CA 050**

Round Ø 74 mm (2.91")



■ **CA 063**

Round Ø 84 mm (3.31")


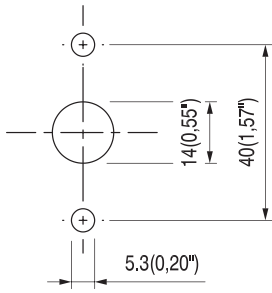

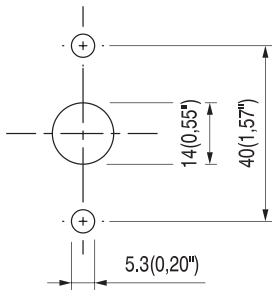

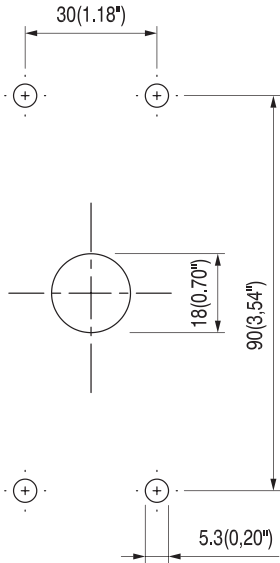


■ **CA 100-200-400-630**

Round Ø 110 mm (4.33")



**Latching
mechanism
CA 050...630**

Type	Dimensions	Product	Holes	Drilling template
Round	Ø 74mm (2.91")		2 holes, 40mm (1.57") verticals	
	Ø 84mm (3.31")		2 holes, 40mm (1.57") verticals	
	Ø 110mm (4.33")		4 holes, 30x90mm (1.18"x3.54")	

CA 50-630A

Standard plates and knobs



Rear mount
with screw fixing



PL3 ⁽¹⁾

Transparent plate 105x105mm (4.13x4.13"), black knob, IP40



PL4 ⁽²⁾

Transparent plate 130x130mm (5.12x5.12"), black knob, IP40



3L3 ⁽¹⁾

Yellow plate 105x105mm (4.13x4.13"), red padlockable knob (max 3 padlocks), IP40



3L4 ⁽²⁾

Yellow plate 130x130mm (5.12x5.12"), red padlockable knob (max 3 padlocks), IP40



Base mount
with screw fixing



LE3 ⁽³⁾

Yellow plate 105x105mm (4.13x4.13"), red padlockable knob (max 3 padlocks), door interlock in "ON" position, IP54, terminals cover

LE4 ⁽⁴⁾

Yellow plate 130x130mm (5.12x5.12"), red padlockable knob (max 3 padlocks), door interlock in "ON" position, IP54, terminals cover

Optional plates and knobs



Rear mount
with screw fixing



PL9 ⁽²⁾

Transparent plate 130x130mm (5.12x5.12"), black lever length 115 mm (4.53"), IP40



PL5 ⁽²⁾

Transparent plate 130x130mm (5.12x5.12"), black handwheel, IP40



3N3 ⁽¹⁾

Grey plate 105x105mm (4.13x4.13"), black padlockable knob (max 3 padlocks), IP40



Base mount
with screw fixing



LN3 ⁽³⁾

Grey plate 105x105mm (4.13x4.13"), black padlockable knob (max 3 padlocks), door interlock in "ON" position, IP54, terminals cover

LN4 ⁽⁴⁾

Grey plate 130x130mm (5.12x5.12"), black padlockable knob (max 3 padlocks), door interlock in "ON" position, IP54, terminals cover

Possible fixing options in rear mount depend on the combination of the plate with the rear mount cam-switch body

(1) suitable for 2-screw fixing with 2 holes at 40mm (1.57") vertical distance

(2) suitable for 4-screw fixing with holes at 30 x 90mm (1.18" x 3.54") distance

(3) suitable for 4-screw fixing with □ 65 ÷ 85mm (□ 2.56" ÷ 3.35") holes layout

(4) suitable for 4-screw fixing with □ 94 ÷ 110mm (□ 3.70" ÷ 4.33") holes layout

Rear mounting



PL3



PL4




PL9




PL5


■ ON-OFF switch 2 pole

 0002	Circuit diagram	Size	I_e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S3	50A	CA0500002PL3	1						
		S4	63A	CA0630002PL3	1						
		S5	100A								
		S6	200A								
			400A								
			630A								

■ ON-OFF switch 3 pole

 0003	Circuit diagram	Taglia	I_e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S3	50A	CA0500003PL3	1						
		S4	63A	CA0630003PL3	1						
		S5	100A			CA1000003PL4	1	CA1000003PL9	1		
		S6	200A			CA2000003PL4	1	CA2000003PL9	1		
			400A			CA4000003PL4	1	CA4000003PL9	1		
			630A							CA6300003PL5	1

■ ON-OFF switch 4 pole

 0004	Circuit diagram	Taglia	I_e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S3	50A	CA0500004PL3	1						
		S4	63A	CA0630004PL3	1						
		S5	100A			CA1000004PL4	1	CA1000004PL9	1		
		S6	200A			CA2000004PL4	1	CA2000004PL9	1		
			400A								
			630A								

Rear mounting



PL3



PL4


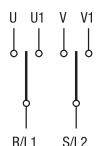


PL9


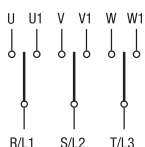


PL5


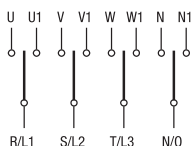
Change-over switch 2 pole

 0006	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S3	50A	CA0500006PL3	1						
		S4	63A	CA0630006PL3	1						
		S5	100A			CA1000006PL4	1	CA1000006PL9	1		
		S6	200A			CA2000006PL4	1	CA2000006PL9	1		
			400A					CA4000006PL9	1	CA4000006PL5	1
			630A					CA6300006PL9	1	CA6300006PL5	1

Change-over switch 3 pole

 0007	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S3	50A	CA0500007PL3	1						
		S4	63A	CA0630007PL3	1						
		S5	100A			CA1000007PL4	1	CA1000007PL9	1		
		S6	200A			CA2000007PL4	1	CA2000007PL9	1		
			400A					CA4000007PL9	1	CA4000007PL5	1
			630A							CA6300007PL5	1

Change-over switch 4 pole

 0039	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S3	50A	CA0500039PL3	1						
		S4	63A	CA0630039PL3	1						
		S5	100A			CA1000039PL4	1	CA1000039PL9	1		
		S6	200A			CA2000039PL4	1	CA2000039PL9	1		
			400A							CA4000039PL5	1
			630A							CA6300039PL5	1

Rear mounting



PL3



PL4


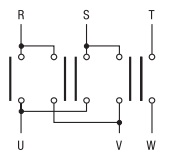


PL9


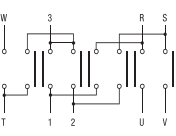


PL5


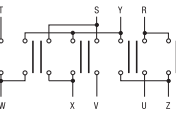
Reversing switch 3 pole

 0008	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S3	50A	CA0500008PL3	1						
		S4	63A	CA0630008PL3	1						
		S5	100A			CA1000008PL4	1	CA1000008PL9	1		
		S6	200A			CA2000008PL4	1	CA2000008PL9	1		
			400A					CA4000008PL9	1	CA4000008PL5	1
			630A							CA6300008PL5	1

Changing switch Dahlander pole

 0009	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S3	50A	CA0500009PL3	1						
		S4	63A	CA0630009PL3	1						
		S5	100A								
		S6	200A								
			400A								
			630A								

STAR-DELTA Starter

 0010	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S3	50A	CA0500010PL3	1						
		S4	63A	CA0630010PL3	1						
		S5	100A			CA1000010PL4	1	CA1000010PL9	1		
		S6	200A			CA2000010PL4	1	CA2000010PL9	1		
			400A								
			630A								

Rear mounting



3L3





3N3


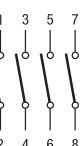


3L4

ON-OFF switch 3 pole with padlockable handle

 00G3	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S3	50A	CA05000G33L3	1	CA05000G33N3	1		
		S4	63A	CA06300G33L3	1	CA06300G33N3	1		
		S5	100A					CA10000G33L4	1
		S6	200A					CA20000G33L4	1

ON-OFF switch 4 pole with padlockable handle

 00G4	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S3	50A	CA05000G43L3	1	CA05000G43N3	1		
		S4	63A	CA06300G43L3	1				
		S5	100A					CA10000G43L4	1
		S6	200A					CA20000G43L4	1

Base mounting



LE3





LN3





LE4

ON-OFF switch 3 pole with padlockable handle

 00G3	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S3	50A	CA05000G3LE3	1	CA05000G3LN3	1		
		S4	63A	CA06300G3LE3	1	CA06300G3LN3	1		
		S5	100A					CA10000G3LE4	1
		S6	200A					CA20000G3LE4	1

ON-OFF switch 4 pole with padlockable handle

 00G4	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack	Part no.	Pack
		S3	50A	CA05000G4LE3	1	CA05000G4LN3	1		
		S4	63A	CA06300G4LE3	1	CA06300G4LN3	1		
		S5	100A					CA10000G4LE4	1
		S6	200A					CA20000G4LE4	1

 standard article

■ Plates and knobs

	Part no.	Description	Legend included		Pack
			Type	Degrees	
	FINPL3Q7	Rear mounting with screws, transparent plate 105x105mm (4.13x4.13\"/>	0 - 1 1 - 0 - 2	60° 60°	5
	FINPL4Q10	Rear mounting with screws, transparent plate 105x105mm (5.12x5.12\"/>	0 - 1 1 - 0 - 2	60° 60°	5
	FIN3L3Q7	Rear mounting with screws, yellow plate 105x105mm (4.13x4.13\"/>	0 - 1	90°	5
	M9G034N5	black knob square section 10mm (0.39\"/>	-	-	5

■ Flexible PVC protections IP40

	Part no.	Description	Dimensions in mm (in)		Pack
			L	Ø	
	PROT2271003	CA050 up to 5 stages CA063 up to 4 stages	155 (6.10)	84 (3.31)	2

■ Terminal covers for diagrams 00G3,00G4

	Part no.	Description	Pack
	PROTLEG3229001	terminals cover CA050	2
	PROTLEG3229002	terminals cover CA063	2
	PROTLEG3942	terminals cover CA100-200	2

■ Shaft extensions with coupling

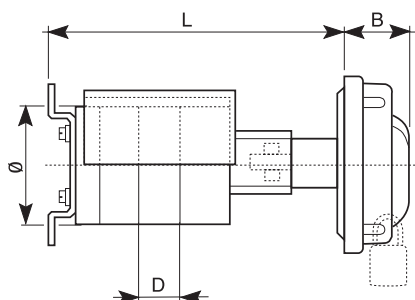
	Part no.	Description	Pack
	PALBL185	CA050-063, L.185mm (7.28\"/>	10
	PALBL180Q10	CA100-063, L.185mm (7.28\"/>	10

standard article

■ Base mounting - Handles LE/LN

(switching angle 90°, padlockable with max 3 padlocks)

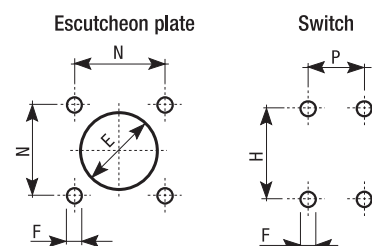
Measures in mm (in)



	B	
	(mm)	(in)
LE3-LN3	44	1.73
LE4-LN4	62	2.44

Stages no		2
CA 050		
D = 18	L (mm)	135 - 139
0.71	L (in)	5.31 - 5.47
Ø = 74		
2.91		
CA 063		
D = 25	L (mm)	151 - 155
0.98	L (in)	5.94 - 6.10
Ø = 84		
3.31		

Stages no		2
CA 100		
D = 30	L (mm)	182 - 186
1.18	L (in)	7.16 - 7.32
Ø = 110		
4.33		
CA 200		
D = 39	L (mm)	200 - 204
1.54	L (in)	7.87 - 8.03
Ø = 110		
4.33		

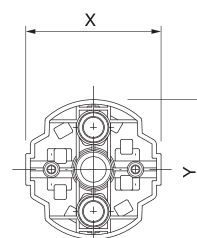
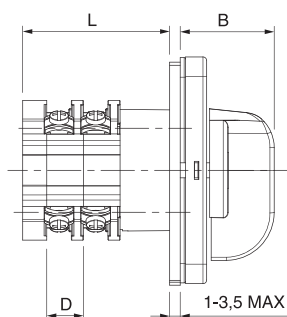


Dimensions

handle	N	E	F	H	P
LE3/LN3	65÷85 2.56÷3.35	40 1.57	5,3 0.21	84 3.30	26 1.02
LE4/LN4	94÷110 3.70÷4.33	50 1.97	5,3 0.21	94÷110 3.70÷4.33	94÷110 3.70÷4.33

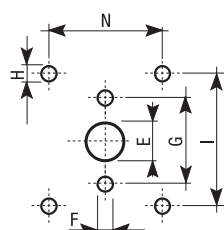
■ Rear mounting - Handles PL 3L/3N

Measures in mm (in)



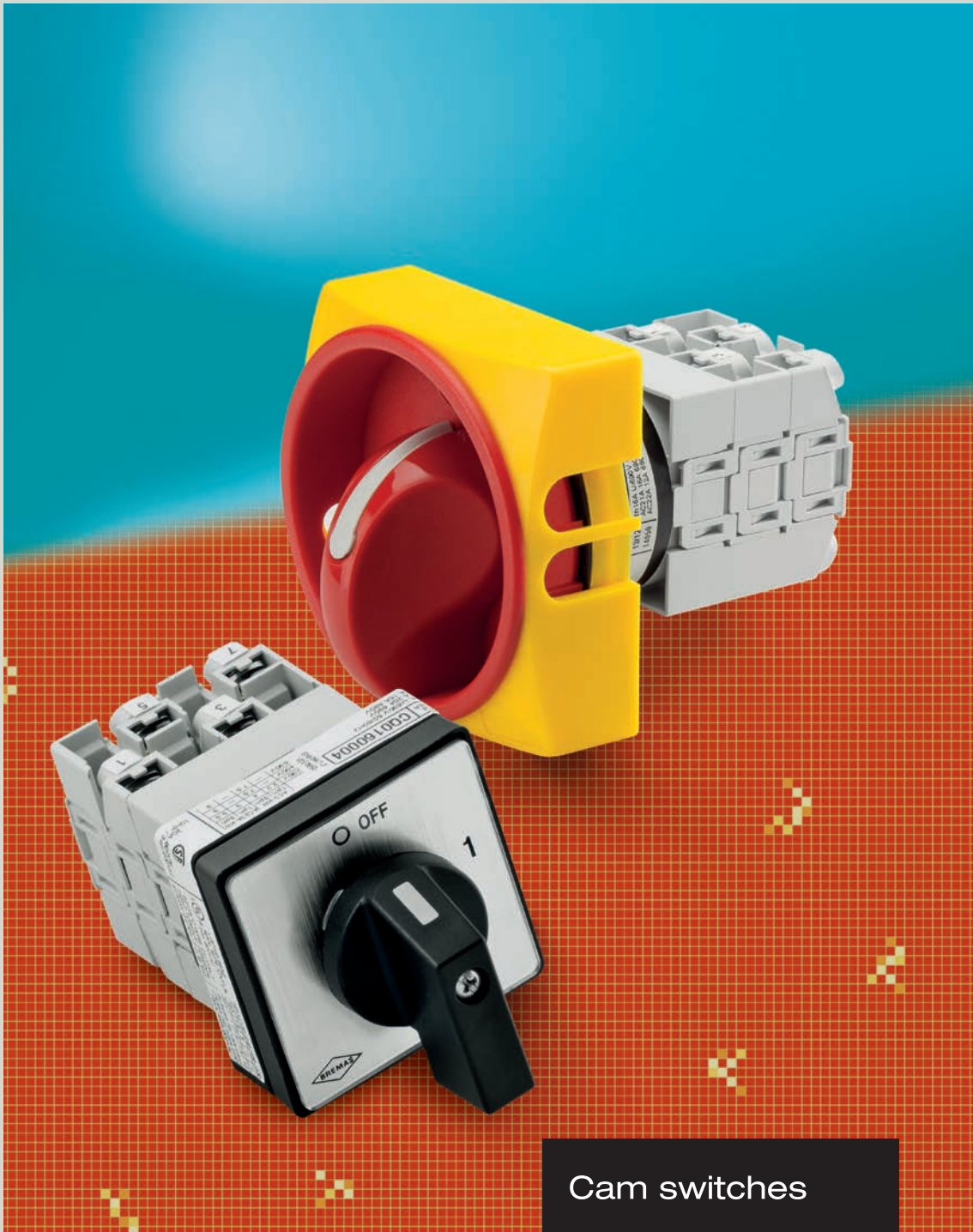
Series	X	Y	D		no. of stages					
					1	2	3	4	5	6
CA 050	-	Ø 74 (2,91")	18 (0,71")	L	52,5 (2,07")	70,5 (2,78")	88,5 (3,48")	106,5 (4,19")	125 (4,92")	142,5 (5,61")
CA 063	-	Ø 84 (3,31")	25 (0,98")	L	60,5 (2,38")	85,5 (3,37")	110,5 (4,35")	135,5 (5,33")	160,5 (6,32")	185,5 (7,30")
CA 100	-	Ø 110 (4,33")	30 (1,18")	L	80,8 (3,18")	110,8 (4,36")	140,8 (5,54")	170,8 (6,72")	200,8 (7,91")	230,8 (9,09")
CA 200	-	Ø 110 (4,33")	39 (1,54")	L	90 (3,54")	129 (5,08")	168 (6,61")	207 (8,15")	246 (9,69")	285 (11,22")

Handle	B
PL3	44 (1,73")
PL4	62 (2,44")
PL5	63 (2,48")
PL9	73 (2,87")
3N3-3L3	44 (1,73")
RL6-RK6	39 (1,54")



Dimensions

cod.	E	F	G	H	I	N
PL3	14 0.55	5,3 0.21	40 1.57			
PL4	18 0.71			5,3 0.21	90 3.54	30 1.18
PL5	18 0.71			5,3 0.21	90 3.54	30 1.18
3L3/3N3	14 0.55	5,3 0.21	40 1.57			
3L4/3N4	18 0.71			5,3 0.21	90 3.54	30 1.18



Cam switches

CQ
series

Technical data IEC 947-3 EN 60947-3

Rated insulation voltage
Rated operating voltage
Rated impulse withstand voltage
Rated thermal current for open switch
Rated thermal current for enclosed switch
Rated operation frequency
Power dissipation for each pole
Rated operating current I_e
AC-21A Switching resistive loads, including moderate overloads
AC-22A Switching of mixed resistive and inductive loads, including moderate overloads
AC-20A Connecting and disconnecting under no load conditions
Rated operating power
AC-23A Switching of motor loads or other highly inductive loads 3 phase - 3 pole
AC-3 Squirrel cage motors: starting, switching off motors during running 3 phase - 3 pole
AC-4 Squirrel cage motors: starting, plugging, inching
AC-15 Control of a.c. electromagnetic loads ≥ 72 VA
Rated breaking capability in category in AC-23A ($\cos \varphi = 0,45$)
Short circuit protection
Rated short time withstand current (1s)
Rated short-circuit make capacity
Rated conditional short-circuit current
With fuses class gG

Technical data UL/CSA

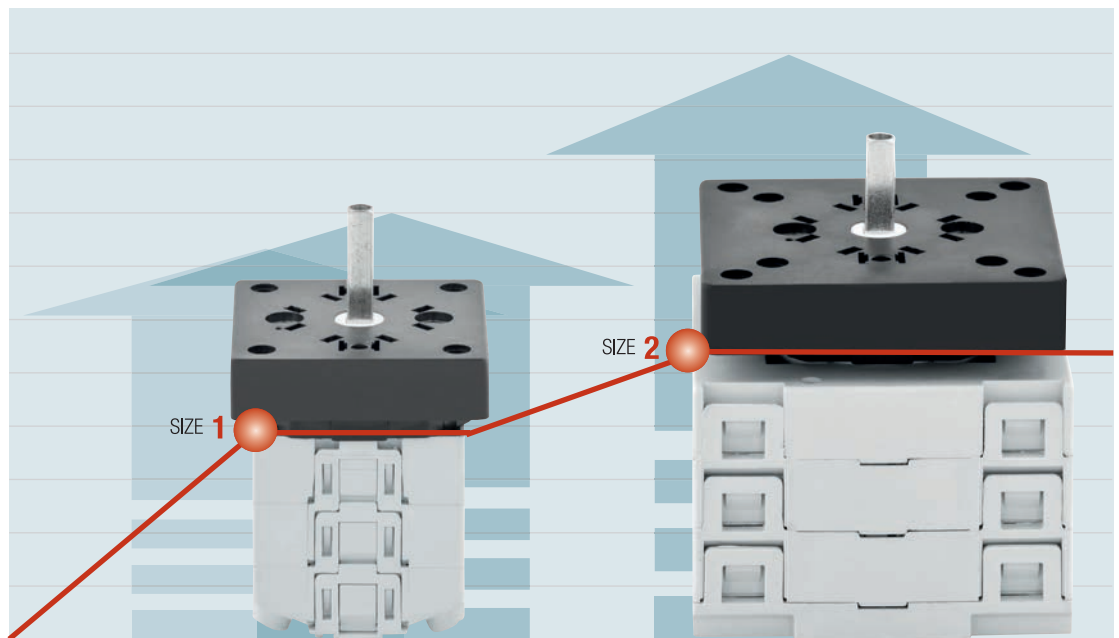
Rated insulation voltage
Rated operating voltage
General Use Current
Rated operating power
1 phase - 2 pole
3 phase - 3 pole

Mechanical characteristics

Mechanical life
Connections according to IEC 9471-1 and EN 60947-1
Connecting capability
Connecting capability with flexible wires
Connecting capability with solid wires
Connection terminal screw dimensions
Screw tightening torque
Protection degree IEC 529 EN 60529
Terminals
Ambient conditions
Operating ambient temperature
Storage ambient temperature
Withstand to constant humid according to IEC 60068
Withstand to cyclic humid according to IEC 60068

		CQ012	CQ016	CQ025	CQ032
Ui	V	690	690	690	690
Ue	V	690	690	690	690
Uimp	kV	6	6	4	4
Ith	A	16	20	32	40
Ithe	A	16	20	25	32
	Hz	50	50	50	50
	W	0,4	0,6	0,85	1,3
Ie	A	16	20	32	40
Ie	A	12	16	25	32
-	-	-	-	-	-
230V	Kw (A)	4 (13)	5,5 (17)	9 (28)	11 (35)
400V	Kw (A)	7,5 (14)	9 (16)	15 (27)	18,5 (33)
500V	Kw (A)	7,5 (11)	9 (13)	15 (22)	18 (27)
690V	Kw (A)	7,5 (8)	9 (9)	15 (16)	18,5 (19)
230V	Kw (A)	2,8 (9)	4 (13)	6,5 (20)	8,5 (26)
400V	Kw (A)	5,5 (10)	7,5 (14)	11 (21)	15 (27)
500V	Kw (A)	5,5 (8)	7,5 (11)	11 (16)	14 (20)
690V	Kw (A)	5,5 (6)	7,5 (8)	11(12)	14 (15)
230V	Kw (A)	1,1 (3)	1,5 (4)	3,7 (12)	4 (12)
400V	Kw (A)	1,75 (3)	2,2 (4)	4 (7)	5,5 (10)
230V	A	5	6	8	10
400V	A	3	4	6	8
230V	A	112	128	240	280
400V	A	112	128	216	264
Icw	A	200	240	500	640
Icm	A	1000	1000	2000	2000
-	kA	5	5	10	10
500V	A	20	20	50	50
Ui	UL/CSA V	600	600	-	-
Ue	UL/CSA V	600	600	-	-
Ie	UL/CSA A	16	20	-	-
120V	UL/CSA Hp	0,5/0,5	1,5 /0,5	-	-
240V	UL/CSA Hp	1,5/1,5	3/1,5	-	-
200V	UL/CSA Hp	2/2	5/3	-	-
240V	UL/CSA Hp	3/3	7,5/5	-	-
480V	UL/CSA Hp	5/5	7,5/7,5	-	-
600V	UL/CSA Hp	7,5/7,5	10/10	-	-
-	cycles x 10 ⁶	2	2	2	1,5
-	cycles/hour	120	120	120	120
Min-Max	mm ²	2x1,5-2,5	2x1,5-2,5	2x2,5-6	2x2,5-6
Min-Max	AWG	16-12	16-12	14-10	14-10
Min-Max	mm ²	2x1,5-4	2x1,5-4	2x2,5-10	2x2,5-10
-	Type	M3,5	M3,5	M5	M5
-	Nm	1,0	1,0	2,8	2,8
IP		20			
°C		-25 ÷ +55			
°C		-30 ÷ +70			
		sec. IEC60068 2-78 part			
		sec. IEC60068 2-30 part			

■ **CQ 012...032**

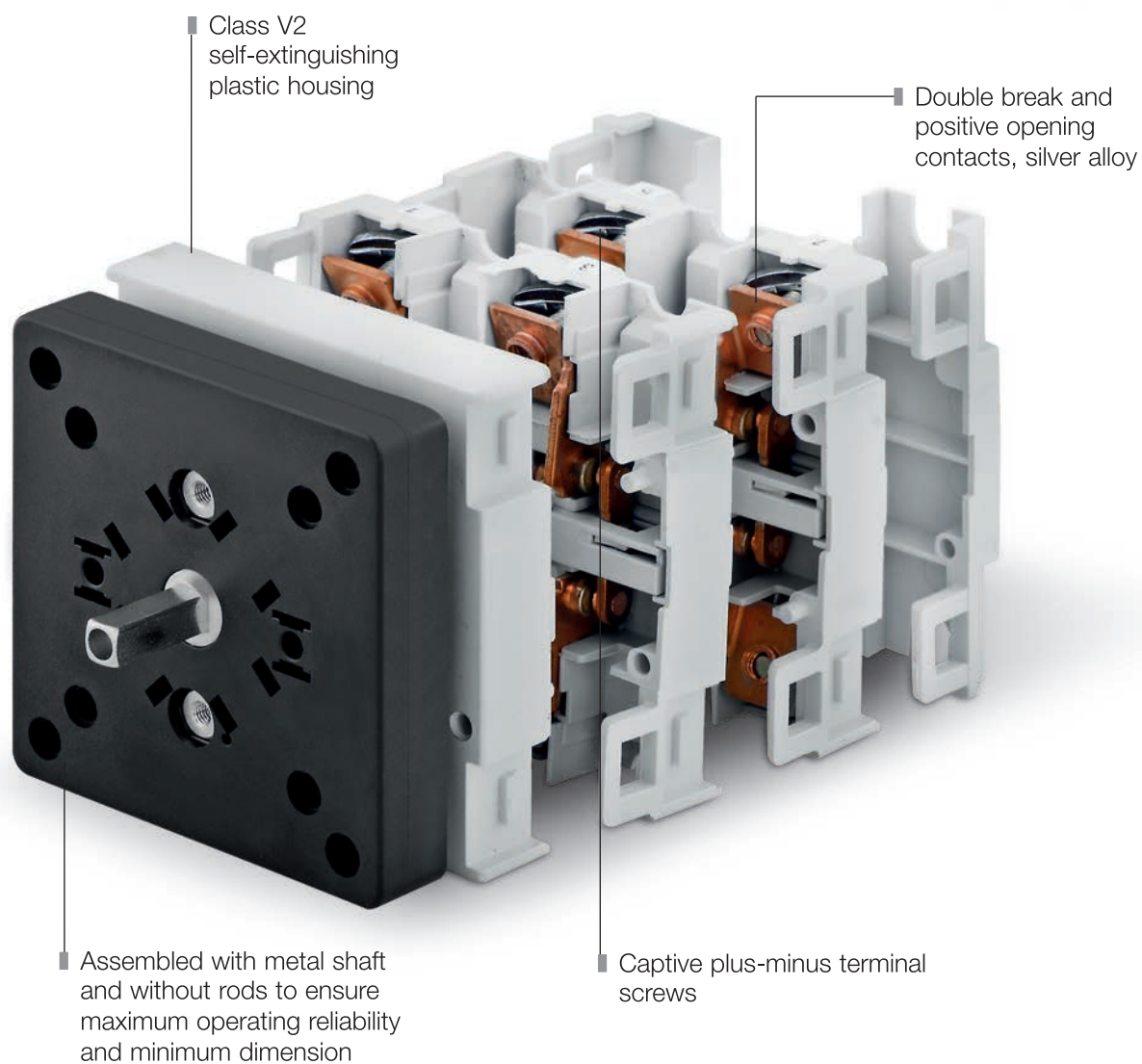


■ CQ 012-016

■ CQ 025-032

CQ series

- Terminal protection degree: IP20
- Class V2 self-extinguishing housing
- Metal shaft
- Captive plus-minus terminal screws
- Rear mounting and Base mounting
- Simplified wiring



Overview

The range of cam switches **CQ series** includes ratings from 12 to 32A with insulation voltage of 690V. According to the latest industrial application standards, CQ series offers IP 20 terminals protection degree and up to IP66 handle protection degree.

Available with different mounting systems: rear panel with screws, base mounting with screws or snap mounting on DIN rail (EN 50022) with escutcheon plate for 45mm standard knock-out.

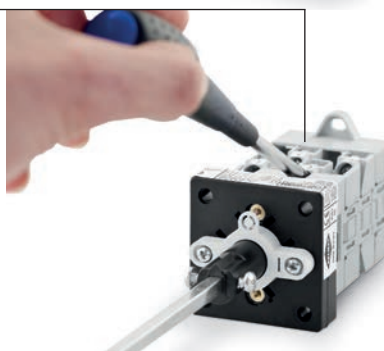
Available diagrams for every application: ON-OFF switches, line switches, cam switches for motor control, ammeter and voltmeter switches.

Easy made wiring

■ Rear access to terminals screws for rear mounting versions



■ Front access to terminals screws for base mounting versions



■ Escutcheon plate for 45mm (1.77") standard knock-out

45mm (1.77") plate for fixing in standard panel/distribution boards slots.

Available diagrams for ON-OFF switches, line switches, ammeter and voltmeter switches.

Rear mounting

4-screw fixing: □ 36mm (1.42")

4-screw fixing: □ 36mm (1.42") / □ 48mm (1.89")




RV4




RV6


■ ON-OFF switch 2 pole

 0002	Circuit diagram	Size	I_e	Part no.	Pack	Part no.	Pack
			12A	CQ0120002RV4	1		
			16A	CQ0160002RV4	1	CQ0160002RV6	1
			25A			CQ0250002RV6	1
			32A				


■ ON-OFF switch 3 pole

 0003	Circuit diagram	Size	I_e	Part no.	Pack	Part no.	Pack
			12A	CQ0120003RV4	1	CQ0120003RV6	1
			16A	CQ0160003RV4	1	CQ0160003RV6	1
			25A			CQ0250003RV6	1
			32A			CQ0320003RV6	1

■ ON-OFF switch 4 pole

 0004	Circuit diagram	Size	I_e	Part no.	Pack	Part no.	Pack
			12A	CQ0120004RV4	1	CQ0120004RV6	1
			16A	CQ0160004RV4	1	CQ0160004RV6	1
			25A			CQ0250004RV6	1
			32A			CQ0320004RV6	1

■ Change-over switch 1 pole

 0005	Circuit diagram	Size	I_e	Part no.	Pack	Part no.	Pack
			12A	CQ0120005RV4	1	CQ0120005RV6	1
			16A				
			25A				
			32A				

Rear mounting

4-screw fixing: □ 36mm (1.42")

4-screw fixing: □ 36mm (1.42") / □ 48mm (1.89")

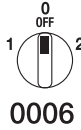


RV4

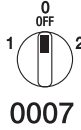


RV6

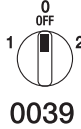
Change-over switch 2 pole

	Circuit diagram	Size	I_e	Part no.	Pack	Part no.	Pack
			12A	CQ0120006RV4	1		
			16A	CQ0160006RV4	1	CQ0160006RV6	1
			25A			CQ0250006RV6	1
		S2	32A			CQ0320006RV6	1

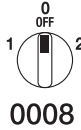
Change-over switch 3 pole

	Circuit diagram	Size	I_e	Part no.	Pack	Part no.	Pack
			12A	CQ0120007RV4	1	CQ0120007RV6	1
			16A	CQ0160007RV4	1	CQ0160007RV6	1
			25A			CQ0250007RV6	1
		S2	32A			CQ0320007RV6	1

Change-over switch 4 pole

	Circuit diagram	Size	I_e	Part no.	Pack	Part no.	Pack
			12A	CQ0120039RV4	1		
			16A	CQ0160039RV4	1	CQ0160039RV6	1
			25A			CQ0250039RV6	1
		S2	32A			CQ0320039RV6	1

Reversing switch 3 pole

	Circuit diagram	Size	I_e	Part no.	Pack	Part no.	Pack
			12A	CQ0120008RV4	1	CQ0120008RV6	1
			16A	CQ0160008RV4	1	CQ0160008RV6	1
			25A			CQ0250008RV6	1
		S2	32A			CQ0320008RV6	1

Rear mounting

4-screw fixing: □ 36mm (1.42")

4-screw fixing: □ 36mm (1.42") / □ 48mm (1.89")

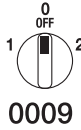


RV4




RV6


■ Changing switch Dahlander pole

 0009	Circuit diagram	Size	I_e	Part no.	Pack	Part no.	Pack
			12A	CQ0120009RV4	1	CQ0120009RV6	1
			16A	CQ0160009RV4	1	CQ0160009RV6	1
			25A			CQ0250009RV6	1
		S2	32A			CQ0320009RV6	1


■ STAR-DELTA Starter

 0010	Circuit diagram	Size	I_e	Part no.	Pack	Part no.	Pack
			12A				
			16A	CQ0160010RV4	1	CQ0160010RV6	1
			25A			CQ0250010RV6	1
		S2	32A			CQ0320010RV6	1

■ Reversing switch pole changing

 0011	Circuit diagram	Size	I_e	Part no.	Pack	Part no.	Pack
			12A				
			16A	CQ0160011RV4	1		
			25A				
		S2	32A				

■ Voltmeter switch 3 concatenated voltages

 0016	Circuit diagram	Size	I_e	Part no.	Pack	Part no.	Pack
			12A	CQ0120016RV4	1	CQ0120016RV6	1
			16A				
			25A				
		S2	32A				

Rear mounting

4-screw fixing: □ 36mm (1.42")

4-screw fixing: □ 36mm (1.42") / □ 48mm (1.89")

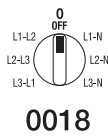


RV4

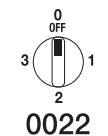


RV6

Voltmeter switch 3 concatenated voltages and 3 phase voltages

	Circuit diagram	Size	I_e	Part no.	Pack	Part no.	Pack
			12A	CQ0120018RV4	1	CQ0120018RV6	1
			16A				
			25A				
		S2	32A				

Ammeter switch 1 pole 3 current transformers

	Circuit diagram	Size	I_e	Part no.	Pack	Part no.	Pack
			12A	CQ0120022RV4	1	CQ0120022RV6	1
			16A				
			25A				
		S2	32A				

Rear mounting

4-screw fixing: 36mm (1.42")** / 48mm (1.89")***





Base mounting*



4-screw fixing: 36mm (1.42")** / 48mm (1.89")***



■ ON-OFF switch 3 pole with padlockable handle

 00G3	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CQ01200G3RL6S	1	CQ01200G3BL6S	1
			16A	CQ01600G3RL6S	1	CQ01600G3BL6S	1
		S2	25A	CQ02500G3RL6S	1	CQ02500G3BL6S	1
			32A	CQ03200G3RL6S	1	CQ03200G3BL6S	1

■ ON-OFF switch 4 pole with padlockable handle

 00G4	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CQ01200G4RL6S	1	CQ01200G4BL6S	1
			16A	CQ01600G4RL6S	1	CQ01600G4BL6S	1
		S2	25A	CQ02500G4RL6S	1	CQ02500G4BL6S	1
			32A	CQ03200G4RL6S	1	CQ03200G4BL6S	1

* Base mounting switches are supplied with standard 175mm (6.89") shaft

** Fixing 36mm by 4 screws

*** Fixing 48mm by 4 screws and fixing adapter (included in the package)

Rear mounting

4-screw fixing: 36mm (1.42")** / 48mm (1.89")***



RK6S




Base mounting*

4-screw fixing: 36mm (1.42")** / 48mm (1.89")***






BK6S

■ ON-OFF switch 3 pole with padlockable handle

 00G3	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CQ01200G3RK6S	1	CQ01200G3BK6S	1
			16A	CQ01600G3RK6S	1	CQ01600G3BK6S	1
		S2	25A	CQ02500G3RK6S	1	CQ02500G3BK6S	1
			32A	CQ03200G3RK6S	1	CQ03200G3BK6S	1

■ ON-OFF switch 4 pole with padlockable handle


 00G4	Circuit diagram	Size	I _e	Part no.	Pack	Part no.	Pack
		S1	12A	CQ01200G4RK6S	1	CQ01200G4BK6S	1
			16A	CQ01600G4RK6S	1	CQ01600G4BK6S	1
		S2	25A	CQ02500G4RK6S	1	CQ02500G4BK6S	1
			32A	CQ03200G4RK6S	1	CQ03200G4BK6S	1

* Base mounting switches are supplied with standard 175mm (6.89") shaft

** Fixing 36mm by 4 screws

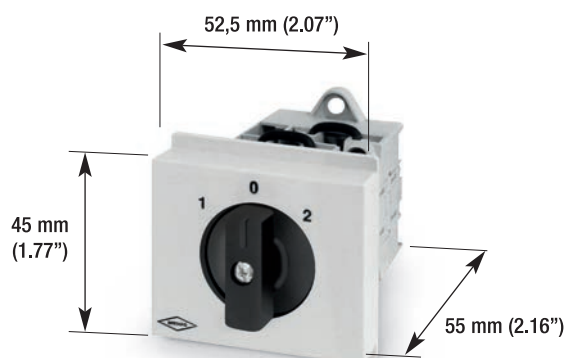
*** Fixing 48mm by 4 screws and fixing adapter (included in the package)

Optional shafts

	Part no.	Description	Pack
	PALBL300	Shaft L=300mm 05	5
	PALBL500	Shaft L=500mm 05	5
	PALBL055	Shaft L=55mm 05	5
	PALBL075	Shaft L=75mm 05	5
	PALBL095	Shaft L=95mm 05	5
	PALBL115	Shaft L=115mm 05	5
	PALBL135	Shaft L=135mm 05	5
	PALBL155	Shaft L=155mm 05	5
	PALBL175	Shaft L=175mm 05	5

Construction data

DDN is the solution proposed by Bremas for mounting the switch in panel/distribution boards standard slots, with 45mm (1.77") plate.
The main mounting system is snap mount on DIN rail, otherwise it's possible to fix the switch with screws with 48mm (1.89") interaxis between the holes.
Available diagrams for ON-OFF switches, line switches, ammeter and voltmeter switches.
Grey escutcheon plate, black knob, IP40.



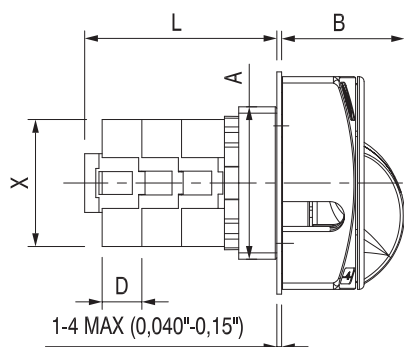
■ DDN version

	Rated nominal current			
	12A		16A	
Circuit diagram	Part no.	Pack	Part no.	Pack
DN07	CQ012DN07DDN	1	CQ016DN07DDN	1
DN08	CQ012DN08DDN	1	CQ016DN08DDN	1
DN09	CQ012DN09DDN	1	CQ016DN09DDN	1
DN10	CQ012DN10DDN	1	CQ016DN10DDN	1
DN16	CQ012DN16DDN	1		
DN18	CQ012DN18DDN	1		
DN22	CQ012DN22DDN	1		

GENERAL CATALOGUE

■ Rear mounting (RT - RY - RL6 - RK6 - RR0 - RV - RW - RR)

Measures in mm (in)



Handle	B	
	mm	in
RT4-RY4	37	1,45
RT6-RY6	39	1,53
RL6-RK6	39	1,53
RV4-RW4	30	1,18
RV6-RW6	36	1,42
RR0	34	1,34

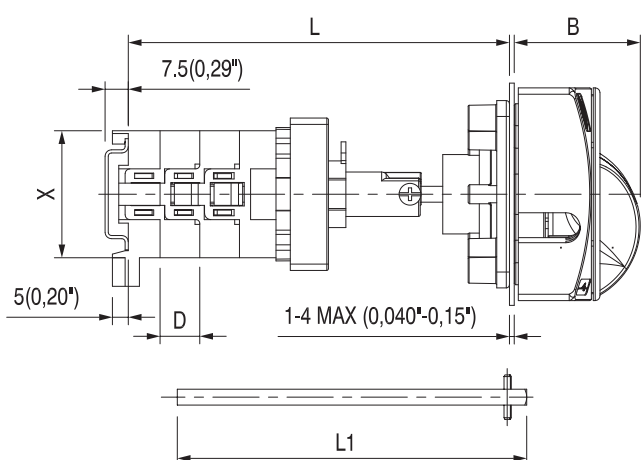
Switch dimensions

Series	X	A	D		N° Stages					
					1	2	3	4	5	6
CQ 012-016	40x40 1,57"x1,57"	□ 48 □ 1,89"	12,5 0,49"	L (mm)	48	60,5	73	85,5	98	110,5
				L(in)	1,89	2,38	2,87	3,36	3,85	4,35
CQ 025-032	63x62 2,48"x 2,44"	□ 60 □ 2,36"	12,5 0,49"	L (mm)	49,5	62	74,5	87	99,5	112
				L(in)	1,94	2,44	2,93	3,42	3,92	4,40

■ Base mounting - (BL - BK - BT - BY)

Switching angle 90°, padlockable (max 3 padlocks)

Measures in mm (in)



Handle	B	
	mm	in
BL6-BK6	39	1,53
BT4L-BY4L	40	1,57
BT6L-BY6L	40	1,57

Switch dimensions

Series	X	D	L1	N° Stages: 2	
				Lmin **	Lmax
CQ 012-016	40x40 1,57"x1,57"	12,5 0,49"	175 (6,89")*	115 (4,52")	259 (10,20")
			300 (11,81")	115 (4,52")	384 (15,12")
			500 (19,69")	115 (4,52")	584 (23,00")
CQ 025-032	63x62 2,48"x 2,44"	12,5 0,49"	175 (6,89")*	117 (4,60")	261 (10,27")
			300 (11,81")	117 (4,60")	386 (15,20")
			500 (19,69")	117 (4,60")	586 (23,07")

Overall length (min-max)** for different shaft lengths (L1)

* Standard shaft, bundled

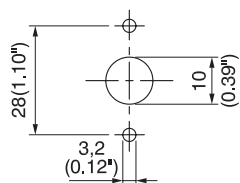
** Minimum length is obtainable by cutting the shaft

CQ Series - Dimensions - Drilling templates

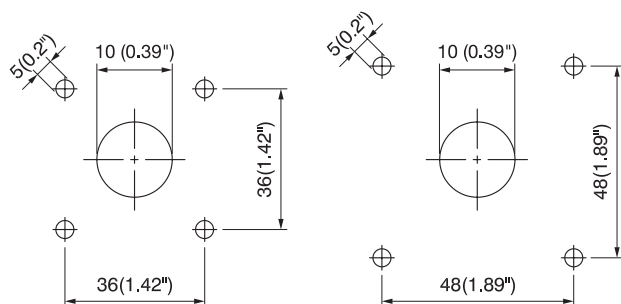
cam switches

■ Rear mounting

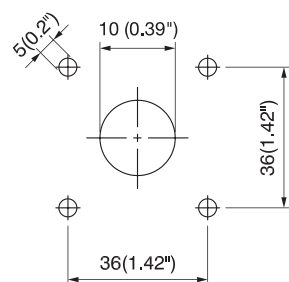
(RT - RY - RL6 - RK6 - RR0) - Measures in mm (in)



(RV6/RV6-T - RW6/RW6-T)



(RV4/RV4-T - RW4/RW4-T)

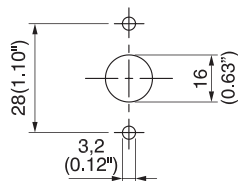


■ Base mounting

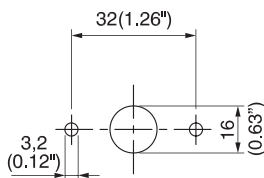
(BL - BK - BT - BY) - Measures in mm (in)

Escutcheon plate mounting options:

1) 2 holes with vertical distance 28mm (1.10")



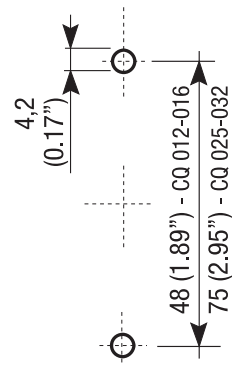
2) 2 holes with horizontal distance 32mm (1.26")



Switch mounting options:

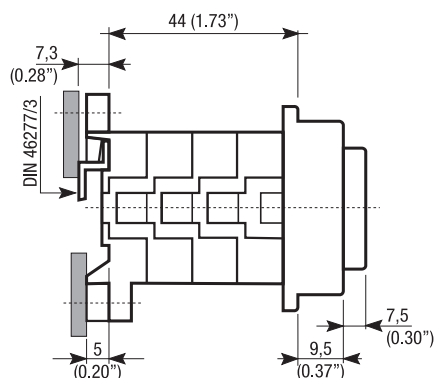
1) 2 holes with distance 58mm (2.28") - 72mm (2.83")

2) snap mount on DIN 46277/3 rail



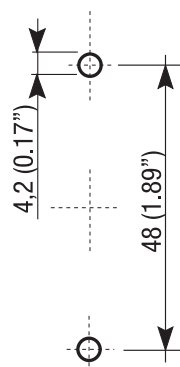
■ Base mounting - DDN

Measures in mm (in)



■ Drilling templates - DDN

Measures in mm (in)





Handles
and plates

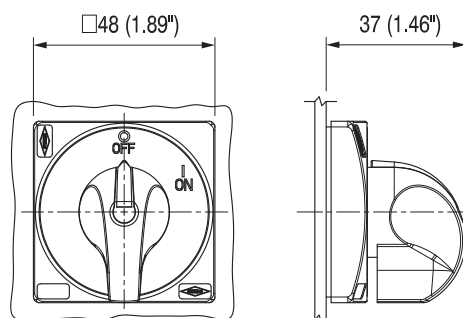
Screws fixing

Not lockable - 28mm (1,10") vertical fixing with 2 screws M3x12 Ø6 (M3x0,47" Ø0,24")



RT4

Grey plate 48x48mm (1,89"x1,89"), black knob



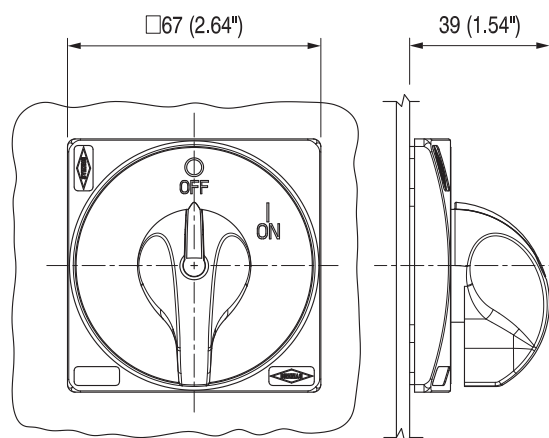
RY4

Yellow plate 48x48mm (1,89"x1,89"), red knob



RT6

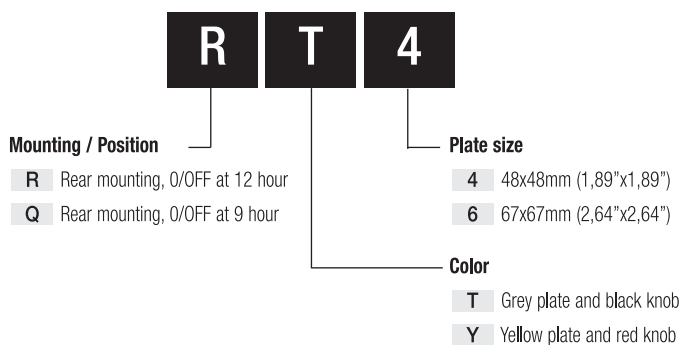
Grey plate 67x67mm (2,64"x2,64"), black knob



RY6

Yellow plate 67x67mm (2,64"x2,64"), red knob

Product code structure



measures in mm (in)

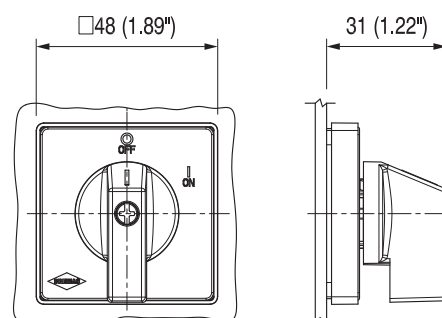
Screws fixing

Not lockable - 36x36mm (1,42"x1,42") fixing with 4 tapping screws 4,8x14 Ø6,4 (0,19"x0,55" Ø0,25")



RV4

Grey plate 48x48mm (1,89"x1,89"), black knob



RW4

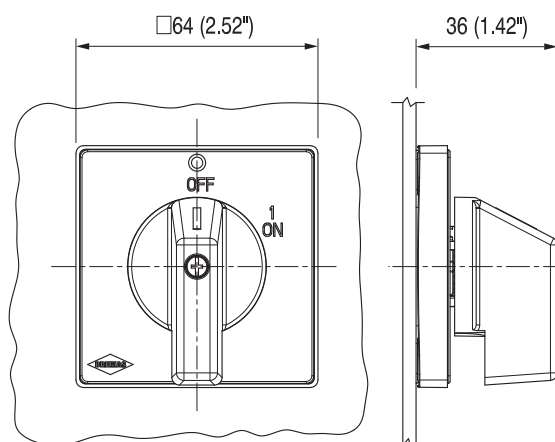
Yellow plate 48x48mm (1,89"x1,89"), red knob

Not lockable - 36x36mm/48x48 (1,42"x1,42"/1,89"x1,89") fixing with 4 tapping screws 4,8x14 Ø6,4 (0,19"x0,55" Ø0,25")



RV6

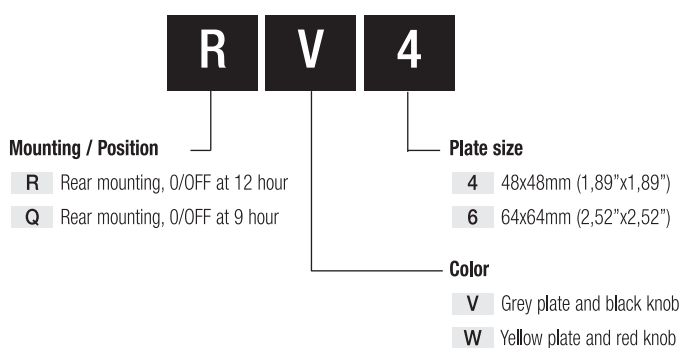
Grey plate 64x64mm (2,52"x2,52"), black knob



RW6

Yellow plate 64x64mm (2,52"x2,52"), red knob

Product code structure



measures in mm (in)

**With label holder,
screws fixing**

Not lockable - 36x36mm (1,42"x1,42") fixing with 4 tapping screws 4,8x14 Ø6,4 (0,19"x0,55" Ø0,25")



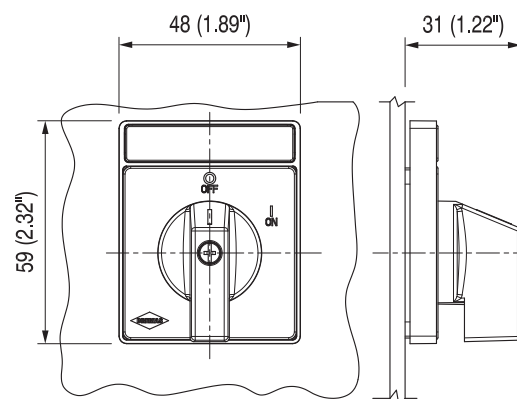
RV4-T

Grey plate 48x59mm
(1,89"x2,32")
with label holder,
black knob



RW4-T

Yellow plate 48x59mm
(1,89"x2,32")
with label holder,
red knob



Not lockable - 36x36mm/48x48 (1,42"x1,42"/1,89"x1,89") fixing
with 4 tapping screws 4,8x14 Ø6,4 (0,19"x0,55" Ø0,25")



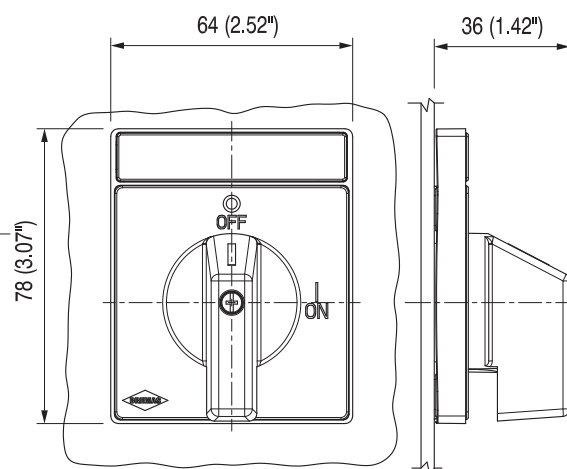
RV6-T

Grey plate 64x78mm
(2,52"x3,07")
with label holder,
black knob



RW6-T

Yellow plate 64x78mm
(2,52"x3,07")
with label holder,
red knob



**Product code
structure**

R V 4 -T			
Mounting / Position		Label holder	
R Rear mounting, 0/OFF at 12 hour		R*4-T 48x59mm (1,89"x2,32")	
Q Rear mounting, 0/OFF at 9 hour		R*6-T 64x78mm (2,52"x3,07")	
Color		Plate size	
V Grey plate and black knob		4 48x48mm (1,89"x1,89")	
W Yellow plate and red knob		6 64x64mm (2,52"x2,52")	

measures in mm (in)

Screws fixing

Padlockable handle - 28mm (1,10") vertical fixing with 2 screws M3x12 Ø6 (M3x0,47" Ø0,24")



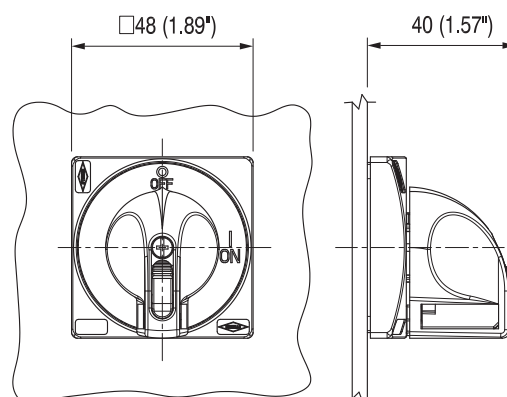
RT4L

Grey plate 48x48mm (1,89"x1,89"), black knob



RY4L

Yellow plate 48x48mm (1,89"x1,89"), red knob



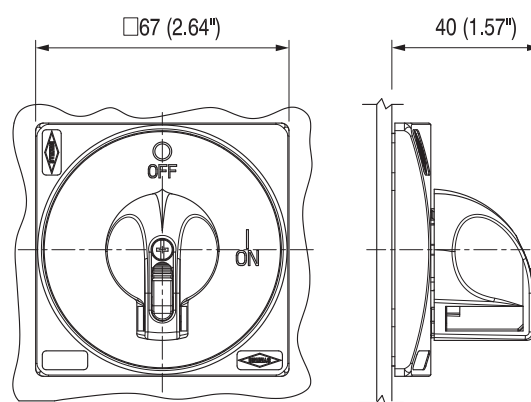
RT6L

Grey plate 67x67mm (2,64"x2,64"), black knob

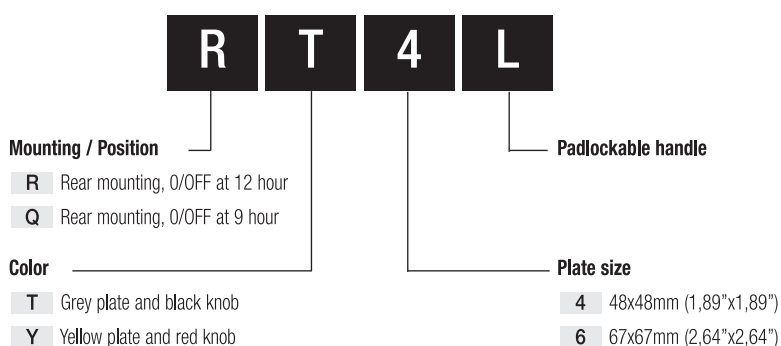


RY6L

Yellow plate 67x67mm (2,64"x2,64"), red knob



Product code structure



measures in mm (in)

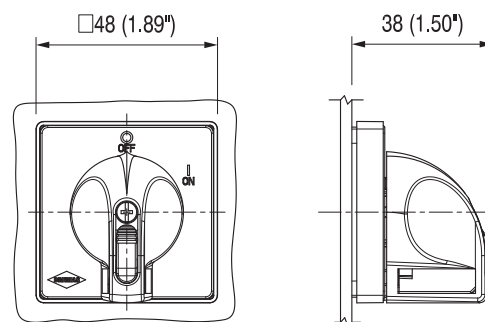
Screws fixing

Padlockable handle - 36x36mm (1,42"x1,42") fixing
with 4 tapping screws 4,8x14 Ø6,4 (0,19"x0,55" Ø0,25")



RV4L

Grey plate 48x48mm
(1,89"x1,89"),
black knob



RW4L

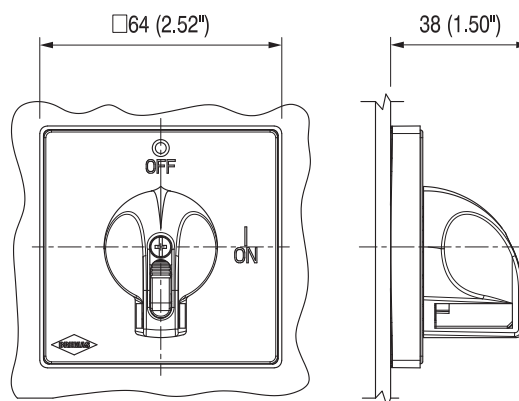
Yellow plate 48x48mm
(1,89"x1,89"),
red knob

Padlockable handle - 36x36mm/48x48 (1,42"x1,42"/1,89"x1,89") fixing
with 4 tapping screws 4,8x14 Ø6,4 (0,19"x0,55" Ø0,25")



RV6L

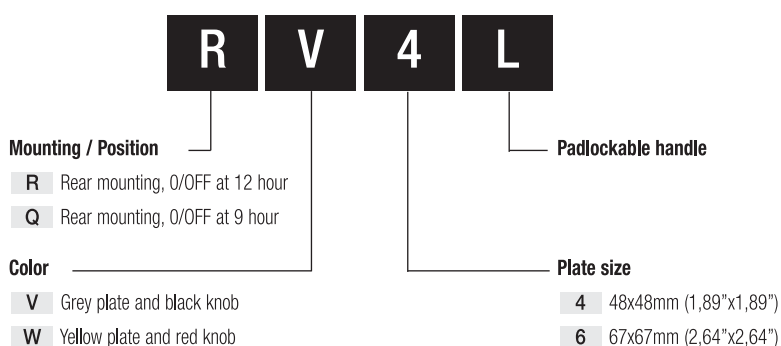
Grey plate 64x64mm
(2,52"x2,52"),
black knob



RW6L

Yellow plate 64x64mm
(2,52"x2,52"),
red knob

Product code structure



measures in mm (in)

Screws fixing

Padlockable plate - 28mm (1,10") vertical fixing with 2 screws M3x12 Ø6 (M3x0,47" Ø0,24")



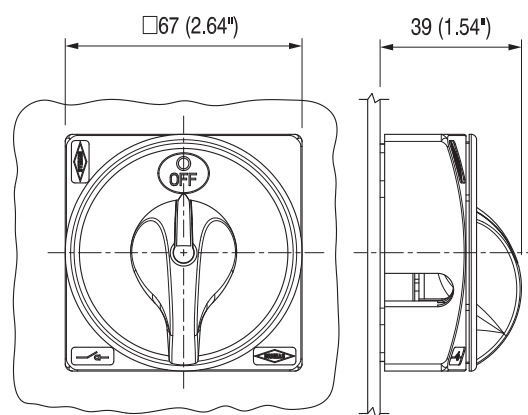
RK6

Grey plate 67x67mm
(2,64"x2,64"),
black knob



RL6

Yellow plate 67x67mm
(2,64"x2,64"),
red knob



Padlockable plate - 36x36mm/48x48 (1,42"x1,42"/1,89"x1,89")* fixing
with 4 tapping screws 4,8x14 Ø6,4 (0,19"x0,55" Ø0,25")



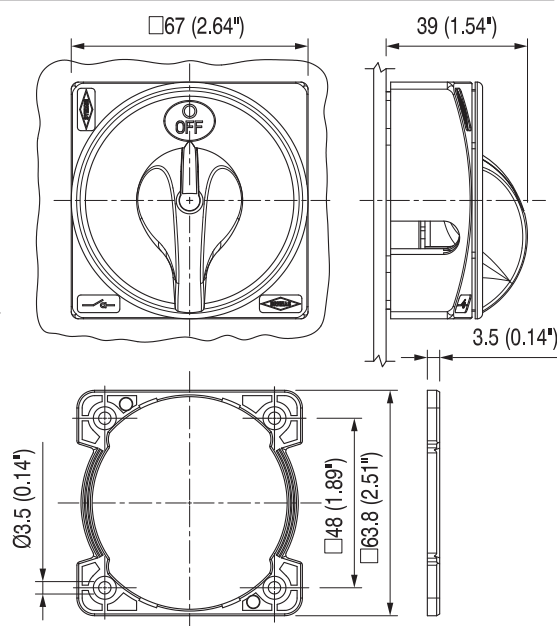
RK6S

Grey plate 67x67mm
(2,64"x2,64"),
black knob



RL6S

Yellow plate 67x67mm
(2,64"x2,64"),
red knob



* 48x48mm (1,89"x1,89") fixing with 4 screws and fixing adapter (included in the package)

Product code structure

R K 6 S

Mounting / Position

- R** Rear mounting, 0/OFF at 12 hour
- Q** Rear mounting, 0/OFF at 9 hour

Color

- K** Grey plate and black knob, padlockable plate
- L** Yellow plate and red knob, padlockable plate

Screws

- S** 4 screws

Plate size

- 6** 67x67mm (2,64"x2,64")

measures in mm (in)

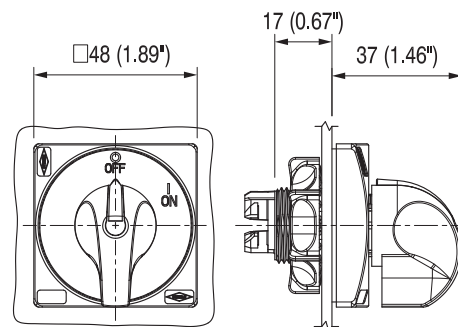
Quick fixing Ø22mm (0,87")

Not lockable - Quick fixing Ø22mm (0,87mm), without screws



GT4

Grey plate 48x48mm
(1,89"x1,89"),
black knob



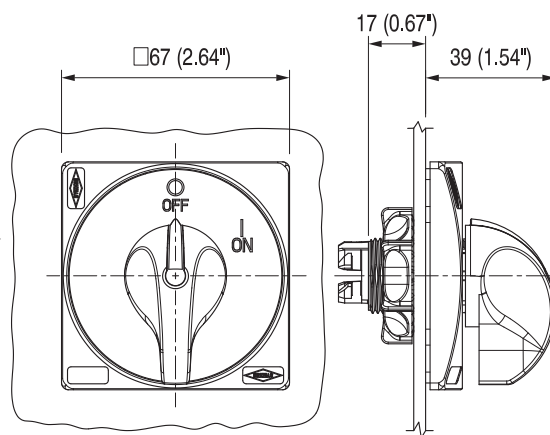
GY4

Yellow plate 48x48mm
(1,89"x1,89"),
red knob



GT6

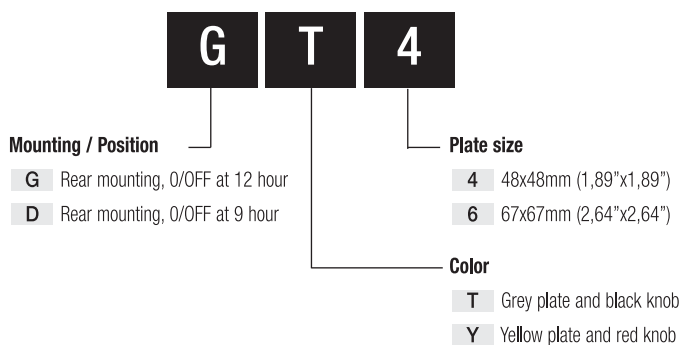
Grey plate 67x67mm
(2,64"x2,64"),
black knob



GY6

Yellow plate 67x67mm
(2,64"x2,64"),
red knob

Product code structure



measures in mm (in)

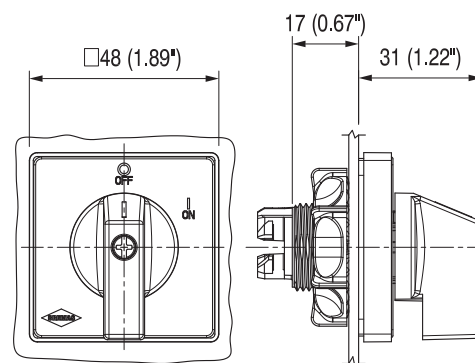
**Quick fixing
Ø22mm
(0,87")**

Not lockable - Quick fixing Ø22mm (0,87"), without screws



GV4

Grey plate 48x48mm
(1,89"x1,89"),
black knob



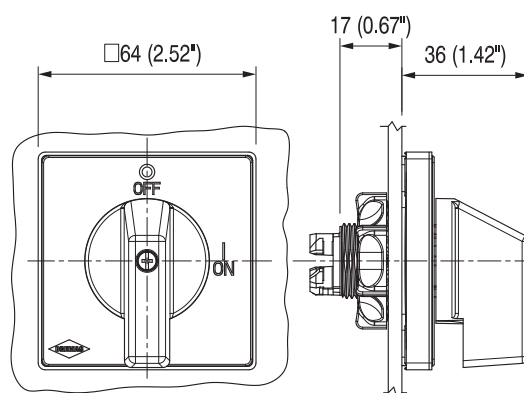
GW4

Yellow plate 48x48mm
(1,89"x1,89"),
red knob



GV6

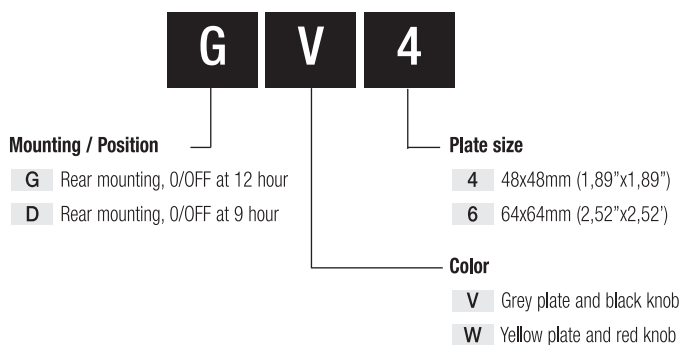
Grey plate 64x64mm
(2,52"x2,52"),
manopola nera



GW6

Yellow plate 64x64mm
(2,52"x2,52"),
black knob

**Product code
structure**



measures in mm (in)

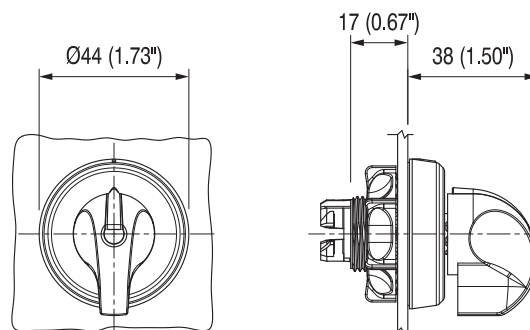
**Quick fixing
Ø22mm
(0,87")**

Not lockable - Quick fixing Ø22mm (0,87"), without screws



GRO

**Black knob
Ø44mm (1,73")**



measures in mm (in)

**Quick fixing
Ø22mm
(0,87")**

Padlockable handle - Quick fixing Ø22mm (0,87"), without screws



GT4L

Grey plate 48x48mm
(1,89"x1,89"),
black knob



GY4L

Yellow plate 48x48mm
(1,89"x1,89"),
red knob



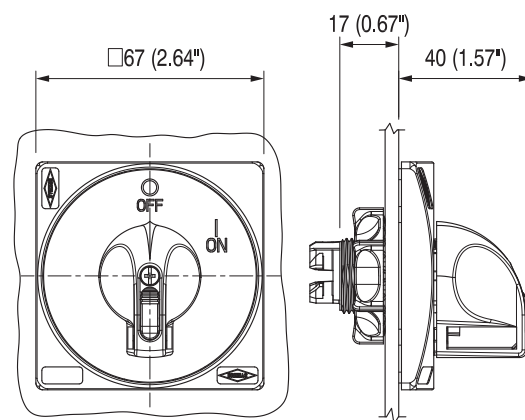
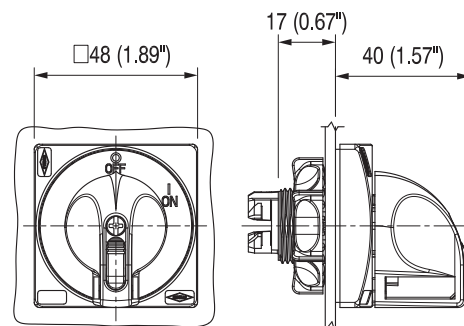
GT6L

Grey plate 67x67mm
(2,64"x2,64"),
black knob

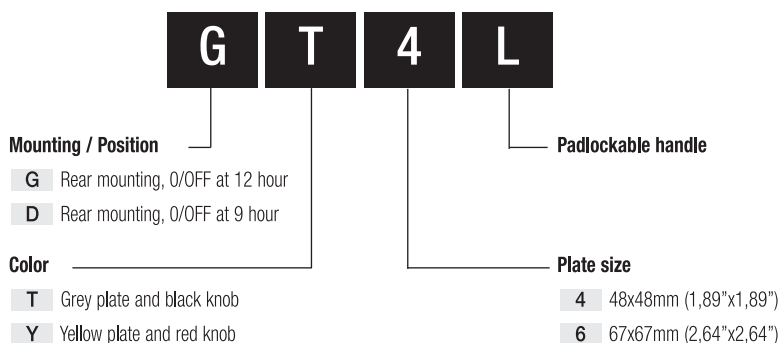


GY6L

Yellow plate 67x67mm
(2,64"x2,64"),
red knob



**Product code
structure**



measures in mm (in)

**Quick fixing
Ø22mm
(0,87")**

Padlockable handle - Quick fixing Ø22mm (0,87"), without screws



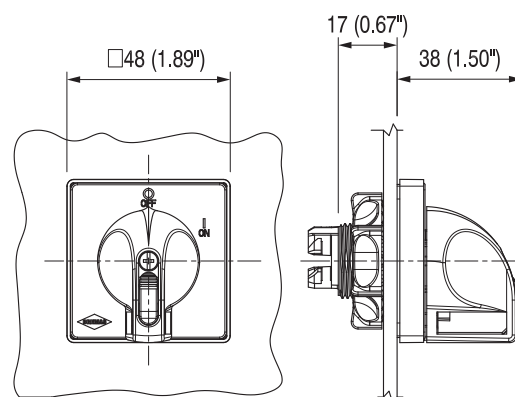
GV4L

Grey plate 48x48mm
(1,89"x1,89"),
black knob



GW4L

Yellow plate 48x48mm
(1,89"x1,89"),
red knob



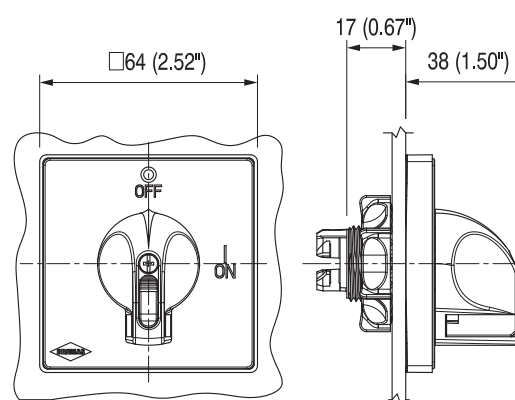
GV6L

Grey plate 64x64mm
(2,52"x2,52"),
black knob

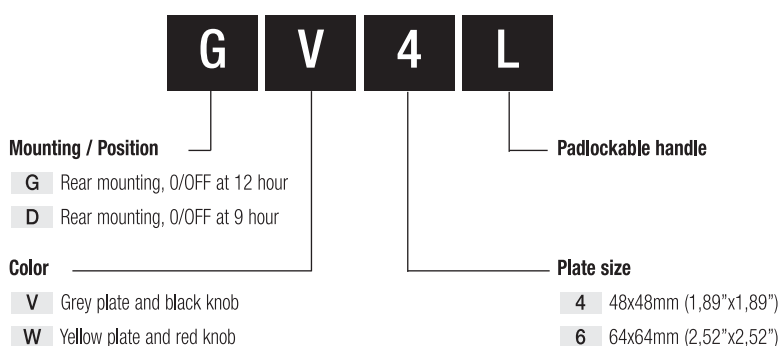


GW6L

Yellow plate 64x64mm
(2,52"x2,52"),
red knob



Product code structure



measures in mm (in)

IP66

**Quick fixing
Ø22mm
(0,87")**

Padlockable plate - Quick fixing Ø22mm (0,87"), without screws



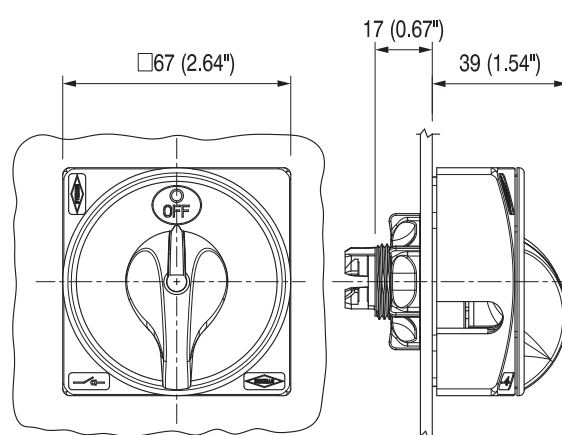
GK6

Grey plate 67x67mm
(2,64"x2,64"),
black knob

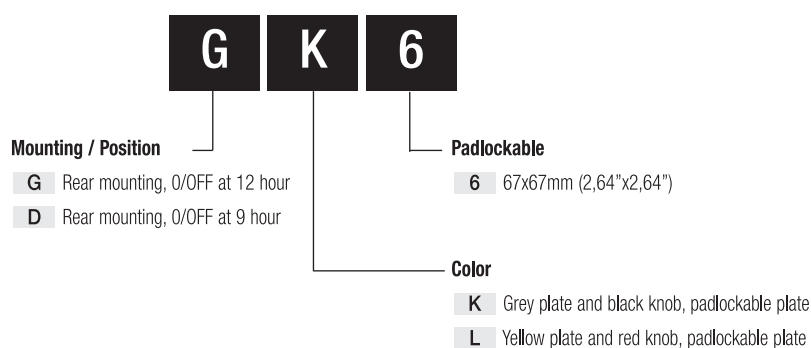


GL6

Yellow plate 67x67mm
(2,64"x2,64"),
red knob



**Product code
structure**



measures in mm (in)

Screws fixing

Padlockable plates - 28mm (1,10") vertical/32mm (1,26") horizontal fixing with 2 tapping screws 3x13 Ø5 (0,12"x0,51" Ø0,20)



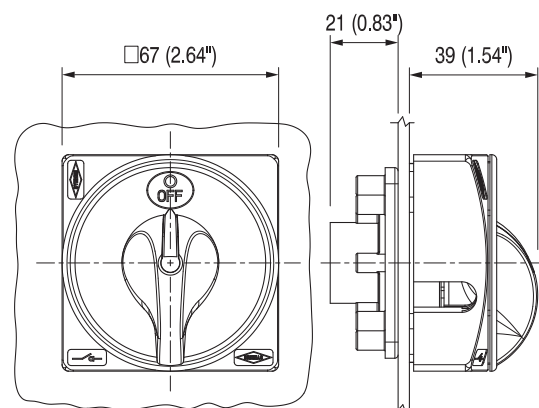
BK6

Grey plate 67x67mm (2,64"x2,64"), black knob



BL6

Yellow plate 67x67mm (2,64"x2,64"), red knob



Padlockable plates - 36x36mm/48x48 (1,42"x1,42"/1,89"x1,89")* fixing with 4 tapping screws 4,8x14 Ø6,4 (0,19"x0,55" Ø0,25")



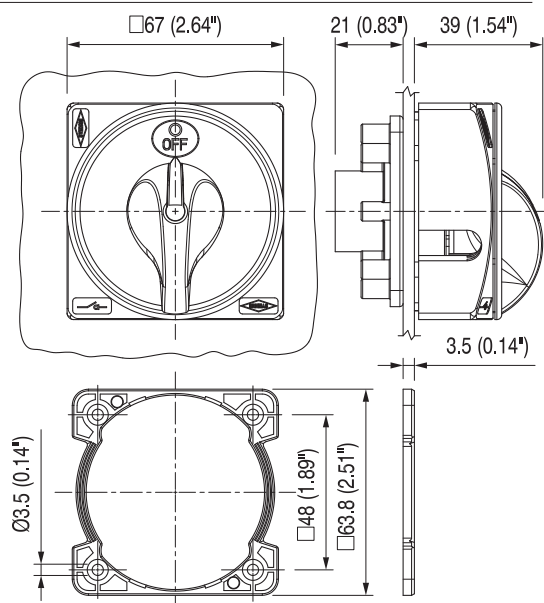
BK6S

Grey plate 67x67mm (2,64"x2,64"), black knob



BL6S

Yellow plate 67x67mm (2,64"x2,64"), red knob



* 48x48mm (1,89"x1,89") fixing with 4 screws and fixing adapter (included in the package)

Product code structure

B K 6 S			
Mounting / Position		Screws	
B	Base mounting, 0/OFF at 12 hour	S	4 screws
A	Base mounting, 0/OFF at 9 hour		
Color		Plate size	
K	Grey plate and black knob, padlockable plate	6	67x67mm (2,64"x2,64")
L	Yellow plate and red knob, padlockable plate		

measures in mm (in)

IP66

Screws fixing

Padlockable handle - 28mm (1,10") vertical/32mm (1,26") horizontal fixing with 2 tapping screws 3x13 Ø5 (0,12"x0,51" Ø0,20)



BT4L

Grey plate 48x48mm (1,89"x1,89"), black knob



BY4L

Yellow plate 48x48mm (1,89"x1,89"), red knob



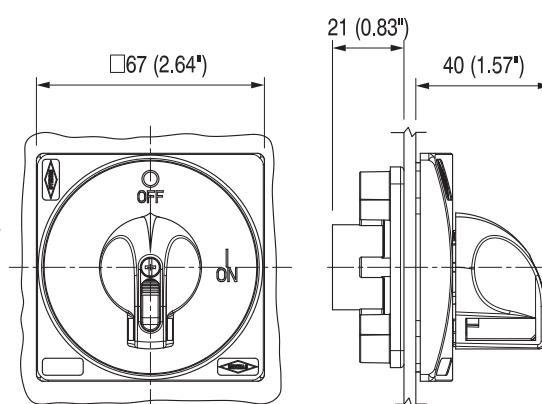
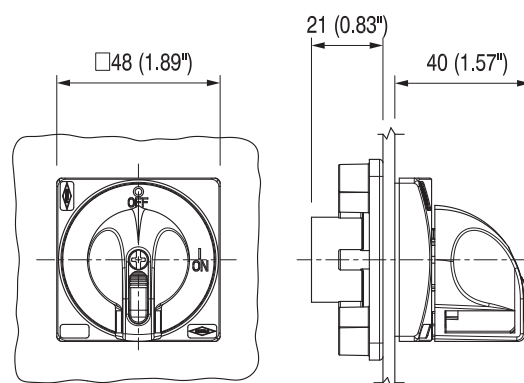
BT6L

Grey plate 67x67mm (2,64"x2,64"), black knob

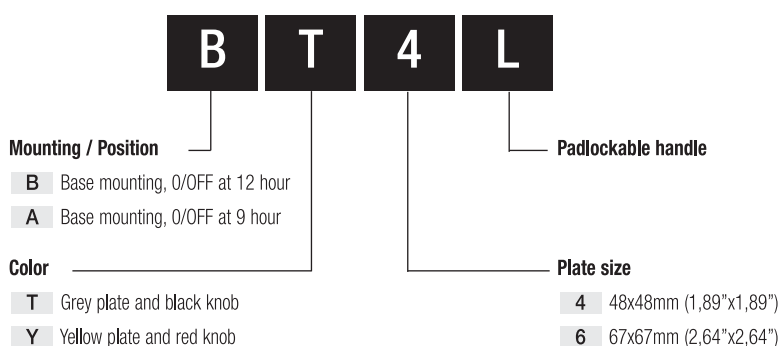


BY6L

Yellow plate 67x67mm (2,64"x2,64"), red knob



Product code structure



measures in mm (in)

Screws fixing

Padlockable handle - 36x36mm (1,42"x1,42") fixing
with 4 tapping screws 4,8x14 Ø6,4 (0,19"x0,55" Ø0,25")



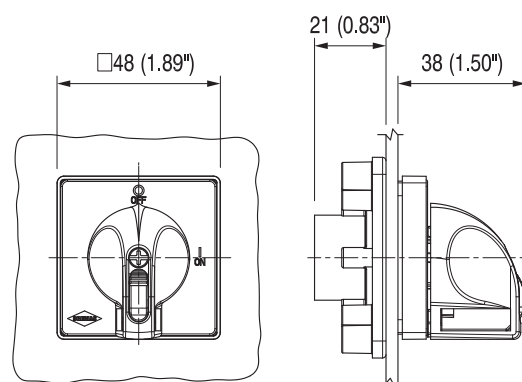
BV4L

Grey plate 48x48mm
(1,89"x1,89"),
black knob



BW4L

Yellow plate 48x48mm
(1,89"x1,89"),
red knob



Padlockable handle - 36x36mm/48x48mm (1,42"x1,42"/1,89"x1,89") fixing
with 4 tapping screws 4,8x14 Ø6,4 (0,19"x0,55" Ø0,25")



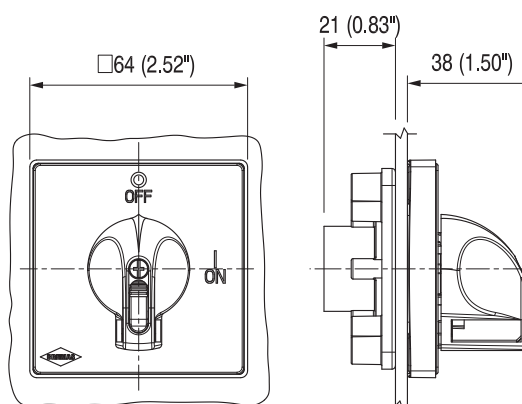
BV6L

Grey plate 64x64mm
(2,52"x2,52"),
black knob

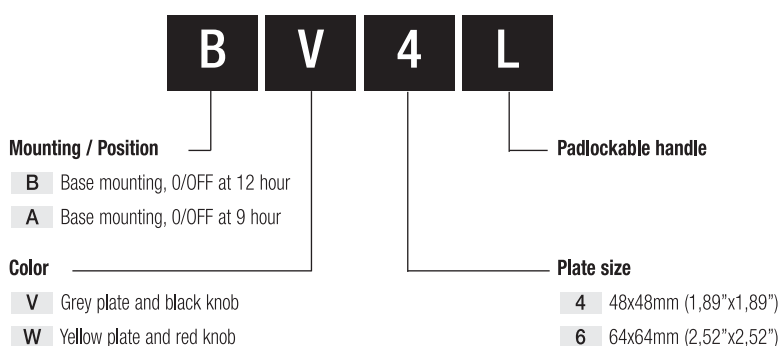


BW6L

Yellow plate 64x64mm
(2,52"x2,52"),
red knob



Product code structure



measures in mm (in)

IP66

**Quick fixing
Ø22mm
(0,87")**

Padlockable plates - Quick fixing Ø22mm (0,87"), without screws



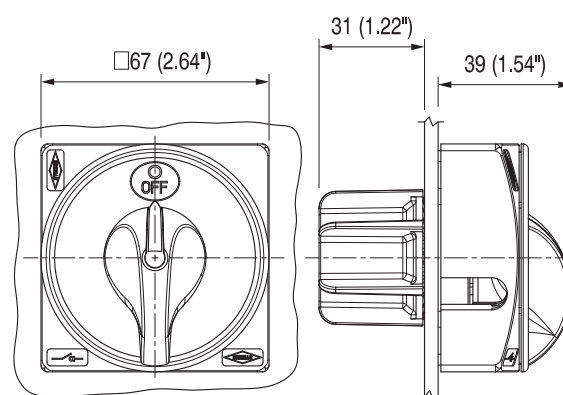
HK6

Grey plate 67x67mm
(2,64"x2,64"),
black knob

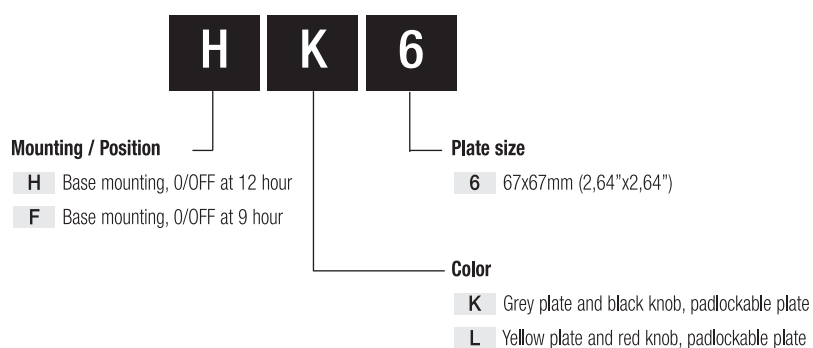


HL6

Yellow plate 67x67mm
(2,64"x2,64"),
red knob



**Product code
structure**



measures in mm (in)

**Quick fixing
Ø22mm
(0,87")**

Not lockable - Quick fixing Ø22mm (0,87"), without screws



HT4

Grey plate 48x48mm
(1,89"x1,89"),
black knob



HY4

Yellow plate 48x48mm
(1,89"x1,89"),
red knob



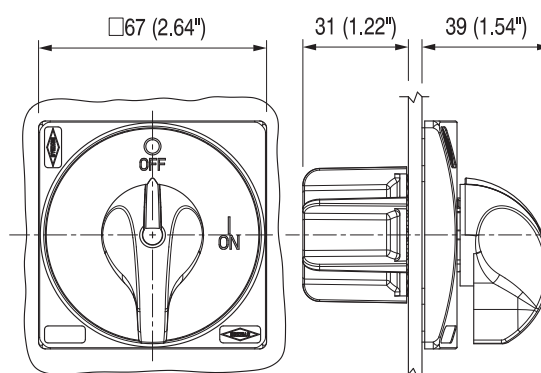
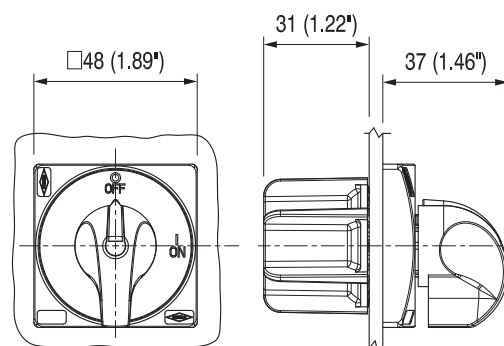
HT6

Grey plate 67x67mm
(2,64"x2,64"),
black knob

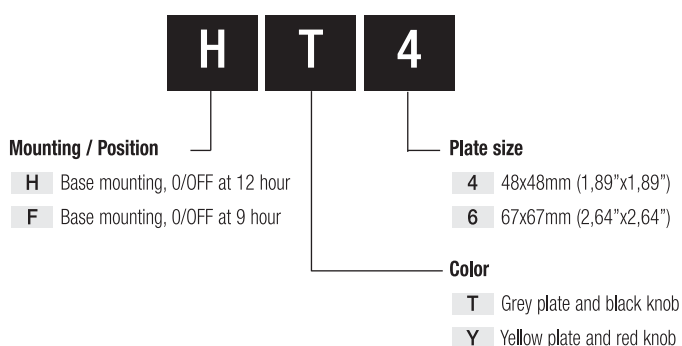


HY6

Yellow plate 67x67mm
(2,64"x2,64"),
red knob



Product code structure



measures in mm (in)

IP66

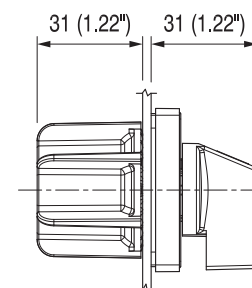
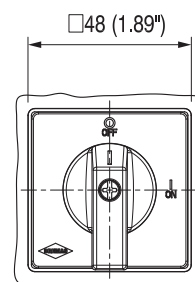
**Quick fixing
Ø22mm
(0,87")**

Not lockable - Quick fixing Ø22mm (0,87"), without screws



HV4

Grey plate 48x48mm
(1,89"x1,89"),
black knob



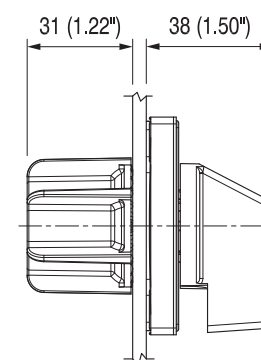
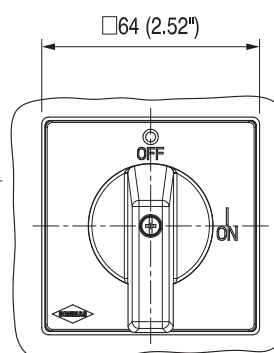
HW4

Yellow plate 48x48mm
(1,89"x1,89"),
red knob



HV6

Grey plate 64x64mm
(2,52"x2,52"),
black knob



HW6

Yellow plate 64x64mm
(2,52"x2,52"),
red knob

Product code structure

H V 4

Mounting / Position

- H** Base mounting, 0/OFF at 12 hour
- F** Base mounting, 0/OFF at 9 hour

Plate size

- 4** 48x48mm (1,89"x1,89")
- 6** 64x64mm (2,52"x2,52")

Color

- V** Grey plate and black knob
- W** Yellow plate and red knob

measures in mm (in)

**Quick fixing
Ø22mm
(0,87")**

Padlockable handle - Quick fixing Ø22mm (0,87"), without screws



HT4L

Grey plate 48x48mm
(1,89"x1,89"),
black knob



HY4L

Yellow plate 48x48mm
(1,89"x1,89"),
red knob



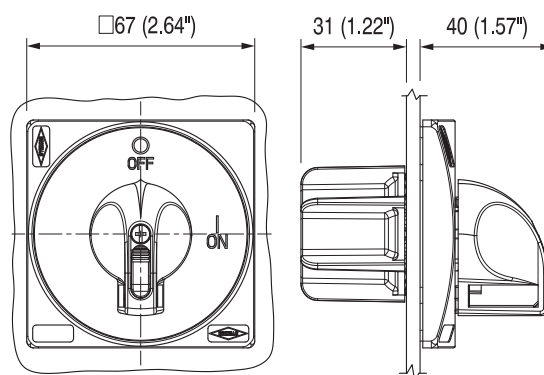
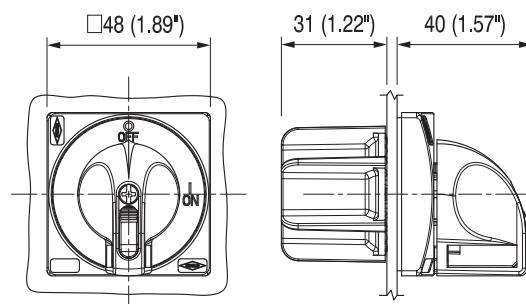
HT6L

Grey plate 67x67mm
(2,64"x2,64"),
black knob



HY6L

Yellow plate 67x67mm
(2,64"x2,64"),
red knob



**Product code
structure**

H T 4 L

Mounting / Position

- H** Base mounting, 0/OFF at 12 hour
- F** Base mounting, 0/OFF at 9 hour

Color

- T** Grey plate and black knob
- Y** Yellow plate and red knob

Padlockable handle

Plate size

- 4** 48x48mm (1,89"x1,89")
- 6** 67x67mm (2,64"x2,64")

measures in mm (in)

IP66

Quick fixing
Ø22mm
(0,87")

Padlockable handle - Quick fixing Ø22mm (0,87"), without screws



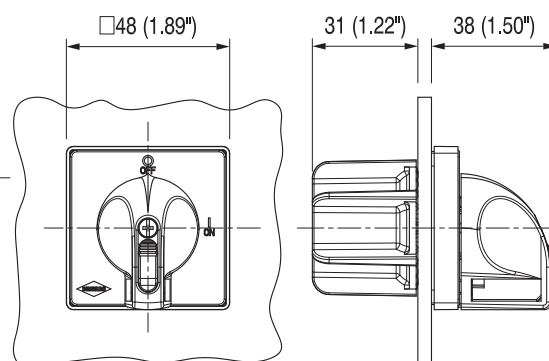
HV4L

Grey plate 48x48mm
(1,89"x1,89"),
black knob



HW4L

Yellow plate 48x48mm
(1,89"x1,89"),
red knob



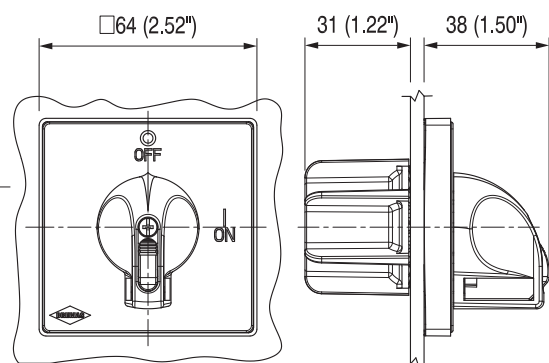
HV6L

Grey plate 64x64mm
(2,52"x2,52"),
black knob

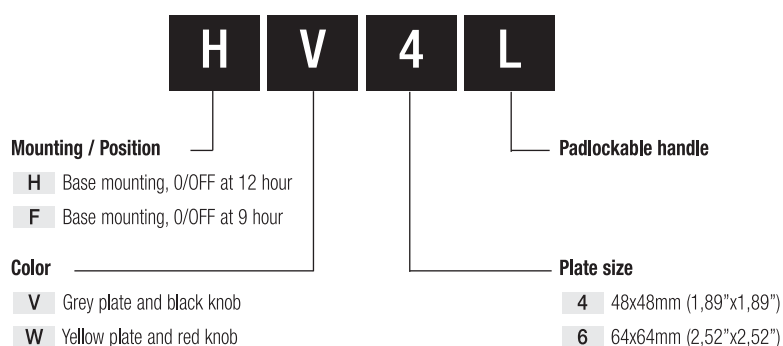


HW6L

Yellow plate 64x64mm
(2,52"x2,52"),
red knob



Product code
structure



measures in mm (in)

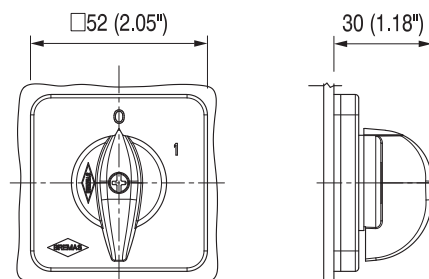
Screws fixing

Not lockable - 28mm (1,10") vertical fixing with 2 screws M3x10 Ø5,5 (M3x0,39" Ø0,22")



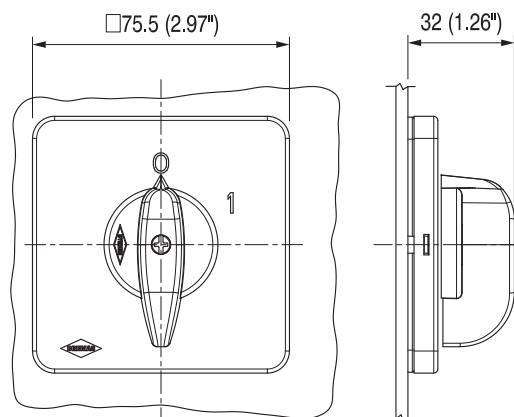
PL1

Transparent plate
52x52mm
(2,05"x2,05"),
black knob

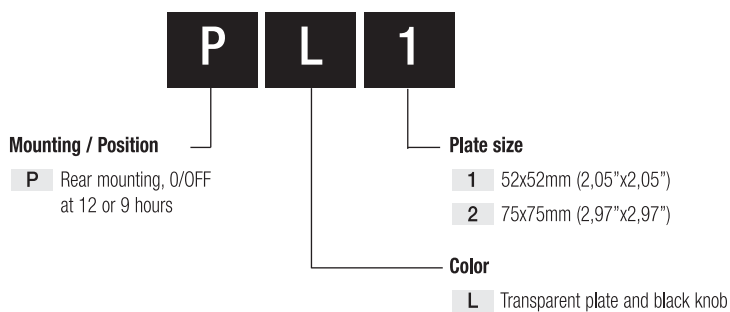


PL2

Transparent plate
75x75mm
(2,97"x2,97"),
black knob



Product code structure



measures in mm (in)

IP40

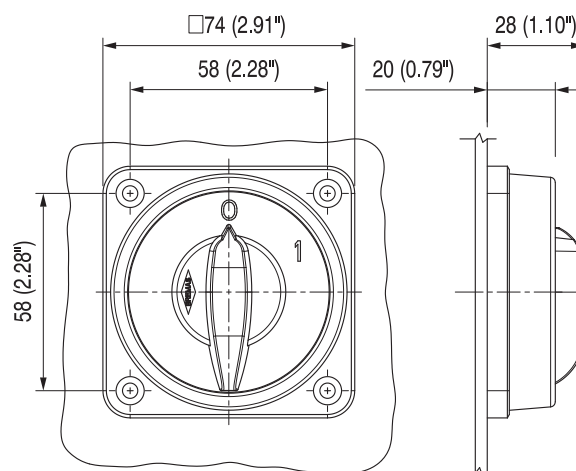
Flush mounting with screws

Not lockable - 28mm (1,10") vertical fixing with 2 screws M3x8 Ø5,5 (M3x0,31" Ø0,22)
Panel fixing 58x58mm (2,28"x2,28") with 4 screws



IPA

Grey plate
74x74mm
(2,91"x2,91"),
black knob

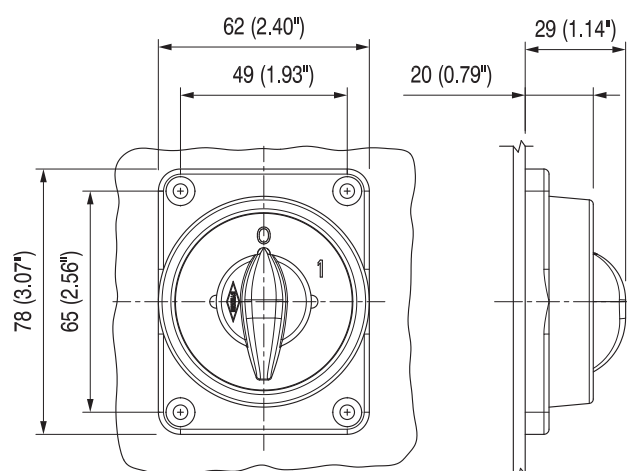


Not lockable - 28mm (1,10") vertical fixing with 2 screws M3x8 Ø5,5 (M3x0,31" Ø0,22)
Panel fixing 65x49mm (2,56"x1,93") with 4 screws

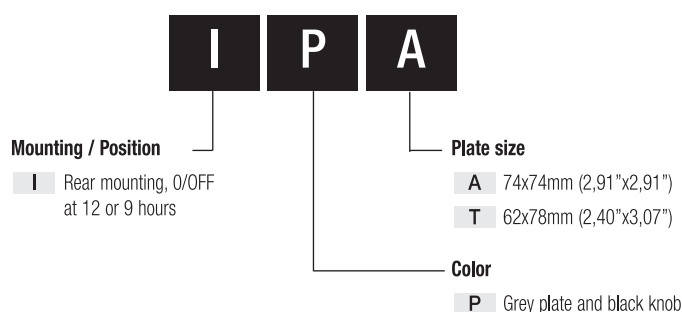


IPT

Grey plate
62x78mm
(2,40"x3,07"),
black knob



Product code structure



measures in mm (in)

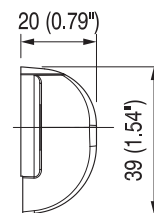
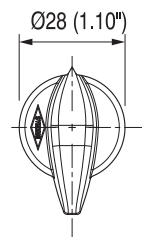
Spring fixing

Not lockable



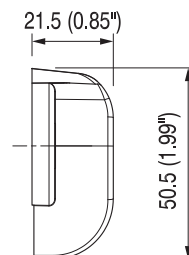
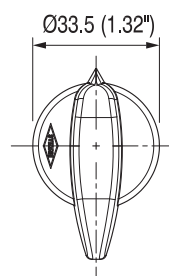
M04

Black knob
L=39mm \varnothing 28mm
(1,54" \varnothing 1,10")



M05

Black knob
L=50,5mm \varnothing 33,5mm
(1,99" \varnothing 1,32")



Knobs can be realized with different colors on request



measures in mm (in)

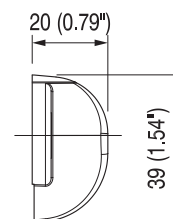
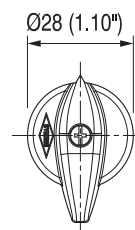
**Screw
fixing**

Not lockable



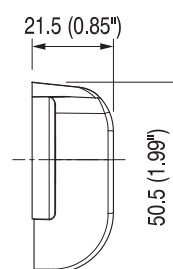
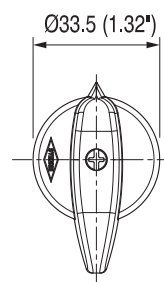
M4

Black knob
L=39mm \varnothing 28mm
(1,54" \varnothing 1,10")



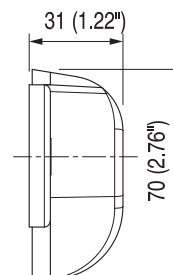
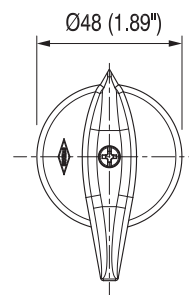
M5

Black knob
L=50,5mm \varnothing 33,5mm
(1,99" \varnothing 1,32")



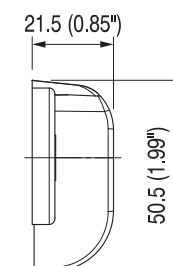
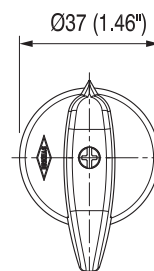
M6

Black knob
L=70mm \varnothing 48mm
(2,76" \varnothing 1,89")



MPERN*

Black knob
L=50,5mm \varnothing 37mm
(1,99" \varnothing 1,46")



*The peculiarity of the MPERN knob allows to cover the fixing screws of the switch at 28mm distance

Knobs can be realized with different colors on request



measures in mm (in)

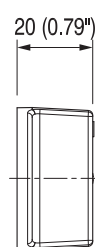
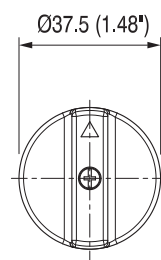
Screw fixing

Not lockable



RNO

Black knob
ø37,5mm (1,48")



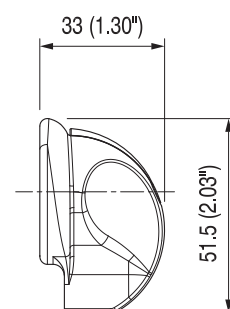
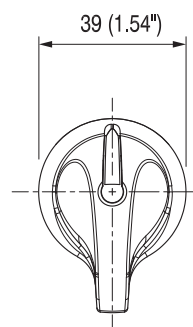
RNF

Red knob
ø37,5mm (1,48")



RRO

Black knob
L=51,5mm ø39mm
(2,03" ø1,54")



RROR

Red knob
L=51,5mm ø39mm
(2,03" ø1,54")

Knobs can be realized with different colors on request



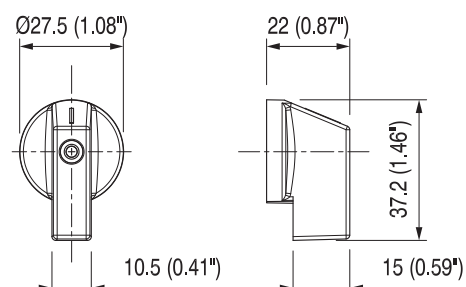
measures in mm (in)

**Screw
fixing**

Not lockable

**MV4**

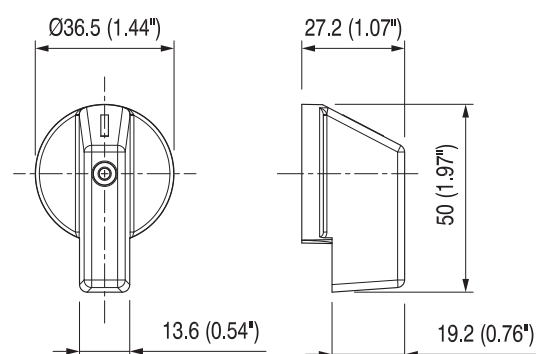
Black knob
L=37,2mm \varnothing 27,5mm
(1,46" \varnothing 1,08")

**MW4**

Red knob
L=37,2mm \varnothing 27,5mm
(1,46" \varnothing 1,08")

**MV6**

Black knob
L=50mm \varnothing 36,5mm
(1,97" \varnothing 1,44")

**MW6**


















Red knob
L=50mm \varnothing 36,5mm
(1,97" \varnothing 1,44")

Knobs can be realized with different colors on request






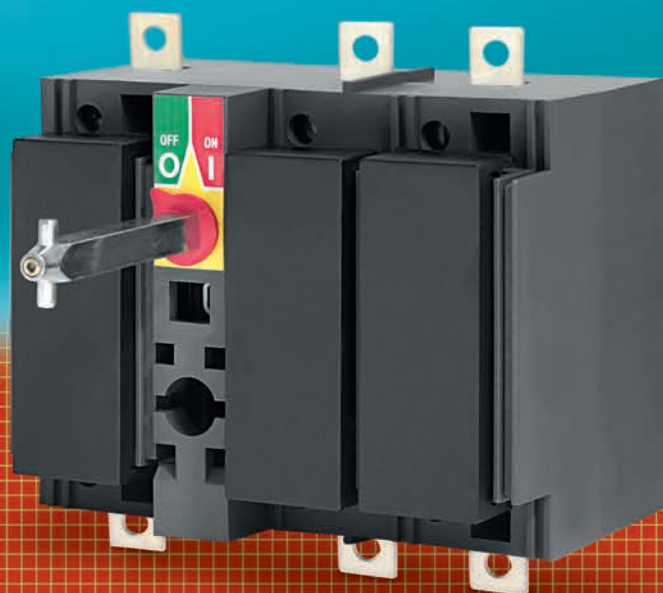
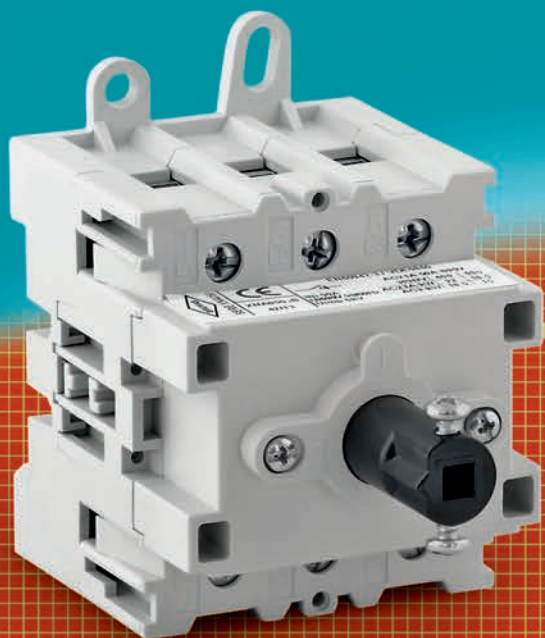
measures in mm (in)

Plates and handles

	Description	Fixing type	Part. no.	Pack	Legend included	
					Type	Degrees
	Grey plate 48x48mm, black knob, 0/OFF at 12 hour	Rear mounting with 2 screws	FINRT4Q5	5	0-1 / 1-0-2	60°
	Grey plate 67x67mm, black knob, 0/OFF at 12 hour	Rear mounting with 2 screws	FINRT6Q5	5	0-1 / 1-0-2	60°
	Yellow plate 48x48mm, red knob, 0/OFF at 12 hour	Rear mounting with 2 screws	FINRY4Q5	5	0-1 / 1-0-2	60°
	Yellow plate 67x67mm, red knob, 0/OFF at 12 hour	Rear mounting with 2 screws	FINRY6Q5	5	0-1 / 1-0-2	60°
	Grey plate 48x48, black knob, 0/OFF at 12 hour	Rear mounting with 4 screws	FINRV4Q5	5	0-1 / 1-0-2	60°
	Grey plate 64x64, black knob, 0/OFF at 12 hour	Rear mounting with 4 screws	FINRV6Q5	5	0-1 / 1-0-2	60°
	Grey plate 48x48mm, black padlockable knob, 0/OFF at 9 hour	Rear mounting with 2 screws	FINQT4LQ5	5	0-1	90°
	Yellow plate 48x48mm, red padlockable knob, 0/OFF at 9 hour	Rear mounting with 2 screws	FINQY4LQ5	5	0-1	90°
	Grey plate 67x67mm, black knob, padlockable, 0/OFF at 12 hour	Rear mounting with 2 screws	FINRK6Q5	5	0-1	90°
	Grey plate 67x67, black knob, padlockable, 0/OFF at 9 hour	Rear mounting with 2 screws	FINRRK6Q5	5	0-1	90°
	Yellow plate 67x67mm, red knob, padlockable, 0/OFF at 12 hour	Rear mounting with 2 screws	FINRL6Q5	5	0-1	90°
	Yellow plate 67x67, red knob, padlockable, 0/OFF at 9 hour	Rear mounting with 2 screws	FINRRL6Q5	5	0-1	90°
	Grey plate 48x48mm, black knob, 0/OFF at 12 hour	Rear mounting ø22 mm	FINGT4Q5	5	0-1 / 1-0-2	60°
	Grey plate 67x67mm, black knob, 0/OFF at 12 hour	Rear mounting ø22 mm	FINGT6Q5	5	0-1 / 1-0-2	60°
	Grey plate 48x48mm, black knob, padlockable, 0/OFF at 9 hour	Rear mounting ø22 mm	FINDT4LQ5	5	0-1	90°
	Yellow plate 48x48mm, red knob, padlockable, 0/OFF at 9 hour	Rear mounting ø22 mm	FINDY4LQ5	5	0-1	90°
	Grey plate 67x67mm, black knob, padlockable, 0/OFF at 9 hour	Rear mounting ø22 mm	FINDK6Q5	5	0-1	90°
	Yellow plate, 67x67mm, red knob, padlockable, 0/OFF at 9 hour	Rear mounting ø22 mm	FINDL6Q5	5	0-1	90°
	Yellow plate 67x67mm, red knob, padlockable, 0/OFF at 12 hour	Rear mounting ø22 mm	FINGL6Q5	5	0-1	90°
	Grey plate 67x67mm, black knob, padlockable, 0/OFF at 9 hour	Base mounting with 2 screws	FINAK6Q5	5	0-1	90°
	Grey plate 67x67mm, black knob, padlockable, 0/OFF at 12 hour	Base mounting with 2 screws	FINBK6Q5	5	0-1	90°
	Yellow plate, 67x67mm, red knob, padlockable, 0/OFF at 9 hour	Base mounting with 2 screws	FINAL6Q5	5	0-1	90°
	Yellow plate 67x67mm, red knob, padlockable, 0/OFF at 12 hour	Base mounting with 2 screws	FINBL6Q5	5	0-1	90°
	Yellow plate 67x67mm, red knob, padlockable, 0/OFF at 12 hour	Base mounting ø22 mm	FINHL6Q5	5	0-1	90°
	Yellow plate 67x67mm, red knob, padlockable, 0/OFF at 9 hour	Base mounting ø22 mm	FINFL6Q5	5	0-1	90°
	Grey plate, 67x67mm, black knob, padlockable, 0/OFF at 9 hour	Base mounting ø22 mm	FINFK6Q5	5	0-1	90°
	Transparent plate 52x52mm, black knob	Rear mounting with 2 screws	FINPL1Q5	5	0-1 / 1-0-2	60°
	Transparent plate 75x75mm, black knob	Rear mounting with 2 screws	FINPL2Q5	5	1-0-2	60°

Knobs

	Extractible black knob, square section 5 mm, 50,5x33,5mm	Spring fixing	M05G028N10	10		
	Black knob, square section 5 mm, 70x48mm	Spring fixing	M06G085N10	10		
	Black knob, square section 5 mm, 39x28mm	Screw fixing	M4G083N10	10		
	Black knob, square section 5 mm, 50,5x33,5mm	Screw fixing	M5G025N10	10		
	Black knob, square section 7 mm, 70x48mm	Screw fixing	M6G086N10	10		
	Black round knob, square section 5 mm, ø37,5mm	Screw fixing	MRN0N10	10		
	Black round plate ø 60mm, black knob	Screw fixing	FINRR0Q5	5		



Disconnect switches

DS 20-32-40A series

DS 50-63-80-100A series

TS series

TSC/TSD series



DS series

TS series

TSC/TSD series

■ Disconnect switches

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■ Handles and plates*

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*Handles and plates for DS 20...100A series

Overview

Bremas disconnect switches range includes **DS 20-32-40A, DS 50-63-80-100A, TS and TSC/TSD series** with current ratings from 16A to 2500A.



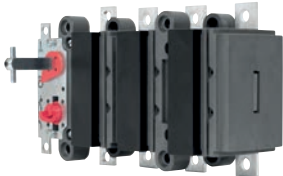
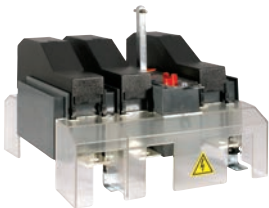
The double break contacts have positive opening to guarantee high electrical efficiency and safety.

The terminals of the DS 20-32-40A and DS 50-63-80-100A series have IP20 protection degree and are provided with captive screws in open position to reduce the wiring time.

The new DS series have contact block designed to simplify the wiring: rear access to terminal connections for rear mounting versions and front access for base mounting versions.

TS and TSC/TSD series have bolt connections (screw terminals are available for TS rated 125°).

Terminal covers and additional accessories are optionally available.

	DS	20A 32A 40A	<ul style="list-style-type: none"> • Ui/Ue 800V • 3P- 3P+N • Screw cage terminals with captive screws • Max 10/16 mm² (flex/solid wire) • Max AWG 8 • Rear mount with screws or Ø22mm (0,87") singl-hole and nut • Base mounting with screws or on DIN rail
		50A 63A 80A 100A	<ul style="list-style-type: none"> • Ui/Ue 690V • 3P- 3P+N • Screw cage terminals with captive screws • Max 35/50 mm² (flex/solid wire) • Max AWG 1 • Rear mount with screws or Ø22mm (0,87") singl-hole and nut • Base mount with screws or on DIN rail
	TS	125A 160A 200A 250A	<ul style="list-style-type: none"> • Ui/Ue 1000V/690V • 690V AC 23A IEC 60947-3 • 600V DC 23A IEC 60947-3 • 3 - 4 pole • Bolt connection for ring lugs (also screw terminals for the 125A only) • Base mount
		400A 630A 800A 1000A	On request <ul style="list-style-type: none"> • Current ratings up to 2500A • 6 and 8 pole • Rear mount
	TSC TSD	250A 400A 630A 800A 1000A 1250A 1600A	<ul style="list-style-type: none"> • Ui/Ue 1000V/600V • 500V AC 23A • 690 AC 22A IEC 60947-3 • 600V DC 22A IEC 60947-3 • 3 - 4 pole • Bolt connection for ring lugs • Base mount On request 6 and 8 pole

DS Disconnect switches range

Bremas disconnect switches range is designed for safety operations even under load. **DS disconnect switches** series ensure high performance in small spaces and are suitable both for switching resistive loads and inductive loads or motors. In only two sizes are available current rating from 20A to 100A.

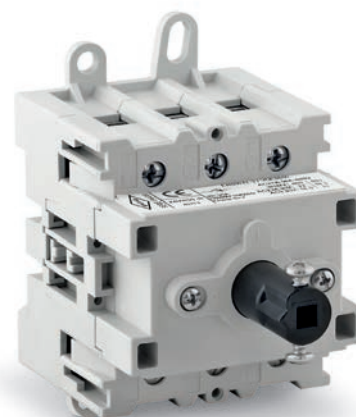
■ 20-32-40A

- Rated current: 20A - 32A - 40A
- Rated insulation voltage 800V
- Protection degree IP20
- Rear mounting or Base mounting
- Padlockable handles and knobs

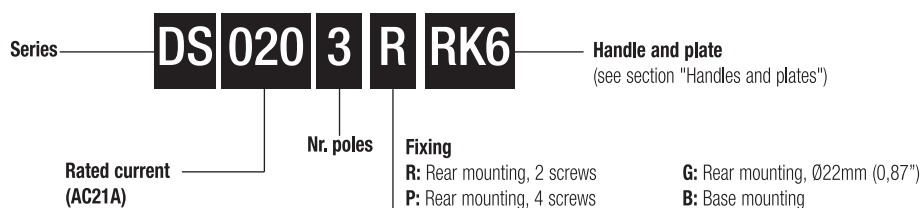


■ 50-63-80-100A

- Rated current: 50A - 63A - 80A - 100A
- Rated insulation voltage 690V
- Protection degree IP20
- Rear mounting or Base mounting
- Padlockable handles and knobs



Code structure

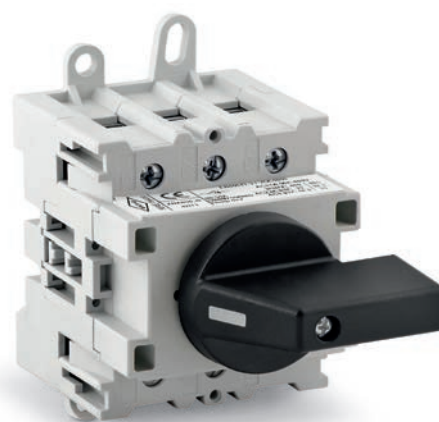


Range

The DS disconnect switches series are characterized by high performance and are suitable for installation in distribution circuits and power engines, in distribution boards or directly on the machine, with alternate current rating from 20 up to 100A.



20-32-40A



50-63-80-100A

Dimensions

The **DS series** has the most compact dimensions on the market that provide installation in reduced spaces also thanks to the many handles with IP66 protection degree.



20-32-40A



50-63-80-100A

Fixing types

It is possible to choose between different fixing types according to the needs:

■ Rear mounting

- 2 holes with vertical interaxis 28mm (1.10")
- 4 holes with interaxis 36mm / 48mm (1.42"/1.89")
- Single hole \varnothing 22 mm (0.87") holes with fixing nut

■ Base mounting with control shaft

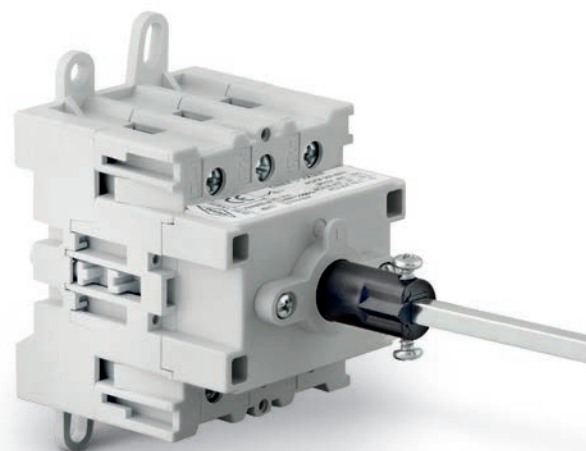
- Snap mount on DIN rail
- 2 screws
- Plate fixed on panel with 2 or 4 screws or with single hole \varnothing 22mm (0.87") with fixing nut

■ Base mounting direct operation (with handle)

■ Base mounting for panel board - DDN



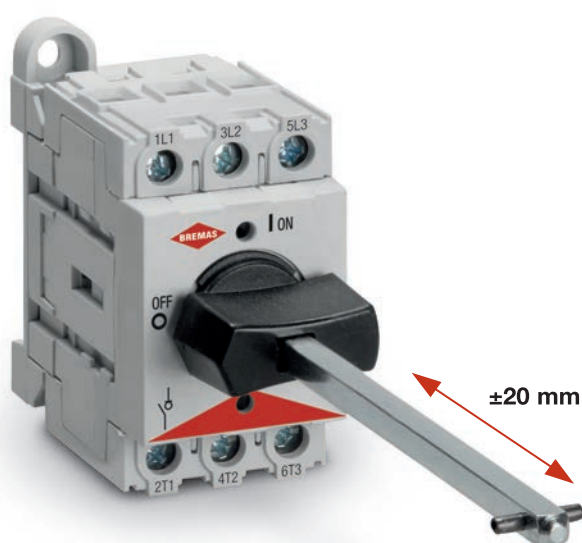
DDN version



Base mounting version

Adjustable depth for the control shaft

The base mounting version of the **DS** includes an ergonomic handle for direct command of the switch; the handle also incorporates a housing for the shaft with a fixing screw. The height of the shaft can be adjusted within an excursion of 20mm, therefore the need of cutting the shaft can be reduced. Base mounting switches are provided with 175mm. shaft.



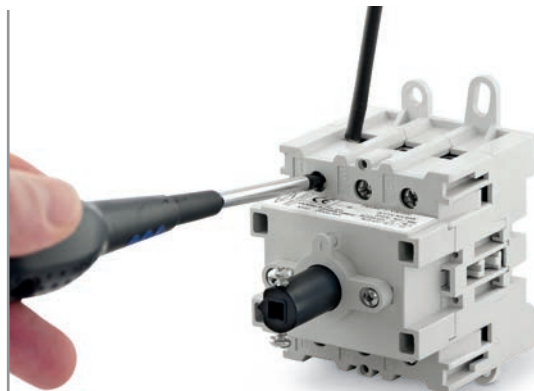
Easy to wire

The terminals access depending on the fixing option:

- Rear mounting: rear access to terminals.
- Base mounting: front access to terminals.



Rear mounting version



Base mounting version

And also:

- The clamps are provided in open position and equipped with captive plus-minus screws.
- Protection against direct contacts assured even when the panel is opened.

Equipment

The DS disconnect switches series can be equipped with 2 additional poles and/or 2 auxiliary contact (max 1 per side).



Plates and knobs for every application

A complete IP66 range

All the most common plates and knobs are available, for base and rear mounting, with or without padlocking. For all these plates and knobs the IP66 degree of protection is guaranteed, allowing the installation even in difficult environments.



Safety for the operator

The base mounting plates and knobs are provided with door interlock mechanism in "I/ON" position to avoid door opening when the board is connected to the supply.



This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.











Disconnect switches

DS 20-32-40A
series

DS 50-63-80-100A
series

International Standards and approvals

Country	USA / Canada	Canada	Germany	Switzerland	Denmark	Norway	Sweden	Finland	Austria	Great Britain	IEC International electrical Commission
Authority	UL investigated according to CSA	CSA International	Verband Deutscher Elektrotechniker	Schweizerischer Elektrotechnischer Verein	Danmarks Elektriske Materielkontrol	Norges Elektriske Materielkontrol	Svenska Elektriske Materielkontroll-anstalten	Sähkötar-kastuskeskus	Österreichischer Verband für Elektrotechnik	British Standards Institution	
Mark of standard			⁽¹⁾ VDE 0660							⁽¹⁾ BS EN 60947	⁽²⁾ IEC 60947
DS020	•	+	+	+	+	+	+	+	+	+	+
DS032	•	+	+	+	+	+	+	+	+	+	+
DS040	•	+	+	+	+	+	+	+	+	+	+
DS050	•	+	+	+	+	+	+	+	+	+	+
DS063	•	+	+	+	+	+	+	+	+	+	+
DS080	•	+	+	+	+	+	+	+	+	+	+
DS100	•	+	+	+	+	+	+	+	+	+	+

- Approved
- + Conforms to requirements

UL Approval File E101686

Notes:

- 1) It is not required to bear a symbol but switches must conform to requirements.
- 2) IEC does not operate an approval scheme

Technical specifications

disconnect switches

Technical data IEC 947-3 EN 60947-3

			DS020	DS032	DS040	DS050	DS063	DS080	DS100
Rated operating voltage	Ui	V	800	800	800	690	690	690	690
Rated insulation voltage	Ue	V	800	800	800	690	690	690	690
Rated impulse withstand voltage	Uimp	kV	8	8	8	6	6	6	6
Rated thermal current for open switch	Ith	A	25	32	40	50	63	80	100
Rated thermal current for enclosed switch	Ithe	A	25	32	40	50	63	80	80
Rated operation frequency		Hz	50/60	50/60	50/60	50	50	50	50
Power dissipation for each pole		W	0,6	1,3	2,5	4,6	3,7	5,8	7,5

Rated operating current Ie

AC-21A Switching resistive loads, including moderate overloads	690V	Ie	A	20	32	40	50	63	80	100
AC-22A Switching of mixed resistive and inductive loads, including moderate overloads	690V	Ie	A	20	32	40	50	63	80	100

Rated operating power

AC-23A Switching of motor loads or other highly inductive loads	400V	Kw (A)	9 (18)	11 (22)	15 (28)	22 (40)	25 (47)	30 (55)	35 (63)
	690V	Kw (A)	9 (13)	11 (16)	15 (18)	18,5 (19)	18,5 (19)	25 (25)	30 (31)
AC-3 Squirrel cage motors: starting, switching off motors during running	400V	Kw (A)	5,5 (10)	7,5 (14)	11 (21)	18,5 (33)	18,5 (33)	25 (44)	30 (54)
	690V	Kw (A)	5,5 (6)	7,5 (8)	11 (12)	15 (16)	15 (16)	19 (20)	22 (23)
Rated breaking capability in category AC-23A (cos $\varphi=0,45$)	400V	A	144	176	228	320	376	440	504
	690V	A	104	128	144	-	-	-	-

Short circuit protection

Rated short time withstand current (1s)	Icw	A	300	400	500	1500	1500	1500	1500
Rated short-circuit make capacity	Icm	A	750	750	750	2000	2000	2500	2500
Rated conditional short-circuit current		kA	10	10	10	15	15	15	15
With fuses class gG	500V	A	20	32	40	63	63	100	100

Technical data UL/CSA (sec. UL508)

General use voltage	Ue	V	600	600	600	600	600	600	600
General use current	600Vac	Ie	A	20	30	40	80	80	100
Rated operating power									
1 phase - 2 pole	120V	Hp/FLA	1 / -	1,5 / -	-/-	3/34	3/34	5/56	5/56
	240V	Hp/FLA	2 / -	3 / -	-/-	3/17	5/28	7,5/40	10/50
3 phase - 3 pole	200V	Hp/FLA	- / -	- / -	-/-	7,5/25,3	10/32	15/48	20/62
	240V	Hp/FLA	5 / 15,2	7,5 / 22	-/-	15/42	20/54	20/54	25/68
	480V	Hp/FLA	10 / 14	15 / 21	-/-	20/27	25/34	40/52	50/65
	600V	Hp/FLA	15 / 17	20 / 22	10-11	30/32	30/32	50/52	50/52
Line protection fuses		A	20	30	40	225	225	225	225
(DS size 1: Class RK5, 600Vac, 200kA A.I.C.), (DS size 2: Class J, 600Vac)									
Short Circuit Rating@600Vac		kA	5	5	10	10	10	10	10

Mechanical characteristics

Mechanical life (120 cycles/hour)	MIL.Man					2	2	2	2
Connecting capability with flexible wires	Min-Max	mm ²	1,5 - 10	1,5 - 10	1,5 - 10	6-35	6-35	6-35	6-35
Connecting capability with solid wires	Min-Max	mm ²	1,5 - 16	1,5 - 16	1,5 - 16	10-50	10-50	10-50	10-50
Connecting capability with flexible wires	Min-Max	AWG	16/08	16/08	16/08	10/01	10/01	10/01	10/01
Connecting capability with solid wires	Min-Max	AWG	16/06	16/06	16/06	08/01	08/01	08/01	08/01
Terminal screw		M4	M4	M4	M4	M5	M5	M5	M5
Screw tightening torque		Nm	1,7	1,7	1,7	2,8	2,8	2,8	2,8
		lb.in	12	12	12	24	24	24	24

Protection degree IEC 529 EN 60529

Terminals		IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
Handles		IP66	IP66	IP66	IP66	IP66	IP66	IP66	IP66

Ambient conditions

Operational ambient temperature	°C	-25 ÷ +55
Storage ambient temperature	°C	-25 ÷ +55
Withstand to constant humid according to IEC 60068		sec. IEC 60068-2-78
Withstand to cycling humid according to IEC 60069		sec. IEC 60068-2-30

Auxiliary contacts

DSC040NOx			XC012AB XC012CB						
Rated insulation voltage	Ui	V	800	800	800	690	690	12	12
Rated thermal current for open switch	Ith	A	10	10	10	12	12	12	12
AC-15 Control of a.c electromagnetic loads	240V	A	3	3	3	6	6	6	6







Rear-mount switches



Base mount switches



■ IP66 handles with screw fixing

Padlockable handles		poles	Ie AC21	Two-screw fixing	Pack	Four-screw fixing 36x36 or 48x48*	Pack	Two-screw fixing	Pack
	Grey plate 67x67mm padlockable, black knob	3	20A	DS0203RRK6	1	DS0203PQK6S	1	DS0203BAK6	1
			32A	DS0323RRK6	1	DS0323PQK6S	1	DS0323BAK6	1
			40A	DS0403RRK6	1	DS0403PQK6S	1	DS0403BAK6	1
		3+N	20A	DS0204RRK6	1	DS0204PQK6S	1	DS0204BAK6	1
			32A	DS0324RRK6	1	DS0324PQK6S	1	DS0324BAK6	1
			40A	DS0404RRK6	1	DS0404PQK6S	1	DS0404BAK6	1
	Yellow plate 67x67mm padlockable, red knob	3	20A	DS0203RRL6	1	DS0203PQL6S	1	DS0203BAL6	1
			32A	DS0323RRL6	1	DS0323PQL6S	1	DS0323BAL6	1
			40A	DS0403RRL6	1	DS0403PQL6S	1	DS0403BAL6	1
		3+N	20A	DS0204RRL6	1	DS0204PQL6S	1	DS0204BAL6	1
			32A	DS0324RRL6	1	DS0324PQL6S	1	DS0324BAL6	1
			40A	DS0404RRL6	1	DS0404PQL6S	1	DS0404BAL6	1
	Grey plate 67x67 mm, black knob padlockable	3	20A	DS0203RQT6L	1	-	-	DS0203BAT6L	1
			32A	DS0323RQT6L	1	-	-	DS0323BAT6L	1
			40A	DS0403RQT6L	1	-	-	DS0403BAT6L	1
		3+N	20A	DS0204RQT6L	1	-	-	DS0204BAT6L	1
			32A	DS0324RQT6L	1	-	-	DS0324BAT6L	1
			40A	DS0404RQT6L	1	-	-	DS0404BAT6L	1
	Yellow plate 67x67 mm, red knob padlockable	3	20A	DS0203RQY6L	1	-	-	DS0203BAY6L	1
			32A	DS0323RQY6L	1	-	-	DS0323BAY6L	1
			40A	DS0403RQY6L	1	-	-	DS0403BAY6L	1
		3+N	20A	DS0204RQY6L	1	-	-	DS0204BAY6L	1
			32A	DS0324RQY6L	1	-	-	DS0324BAY6L	1
			40A	DS0404RQY6L	1	-	-	DS0404BAY6L	1
	Grey plate 48x48 mm, black knob padlockable Only for two-screw fixing	3	20A	DS0203RQT4L	1	-	-	DS0203BAT4L	1
			32A	DS0323RQT4L	1	-	-	DS0323BAT4L	1
			40A	DS0403RQT4L	1	-	-	DS0403BAT4L	1
		3+N	20A	DS0204RQT4L	1	-	-	DS0204BAT4L	1
			32A	DS0324RQT4L	1	-	-	DS0324BAT4L	1
			40A	DS0404RQT4L	1	-	-	DS0404BAT4L	1
	Yellow plate 48x48 mm, red knob padlockable Only for two-screw fixing	3	20A	DS0203RQY4L	1	-	-	DS0203BAY4L	1
			32A	DS0323RQY4L	1	-	-	DS0323BAY4L	1
			40A	DS0403RQY4L	1	-	-	DS0403BAY4L	1
		3+N	20A	DS0204RQY4L	1	-	-	DS0204BAY4L	1
			32A	DS0324RQY4L	1	-	-	DS0324BAY4L	1
			40A	DS0404RQY4L	1	-	-	DS0404BAY4L	1

Two-screw fixing, distance between holes: 28mm (1.10") Vertical or 32mm (1.26") Horizontal

Four-screw fixing, distance between holes: 48x48mm (1.89"x1.89")

* Fixing 48x48 (1.89"x1.89") with adapter flange (included in the package)

 standard article

Rear-mount
switchesBase mount
switches

■ IP66 handles with screw fixing

Non padlockable handles		poles	Ie AC21	Two-screw fixing	Pack	Four-screw fixing 36x36 or 48x48*	Pack	Four-screw fixing 36x36 or 48x48	Pack
	Grey plate 64x64 mm, black knob	3	20A	-	-	DS0203PQV6	1	DS0203BAV6	1
			32A	-	-	DS0323PQV6	1	DS0323BAV6	1
			40A	-	-	DS0403PQV6	1	DS0403BAV6	1
		3+N	20A	-	-	DS0204PQV6	1	DS0204BAV6	1
			32A	-	-	DS0324PQV6	1	DS0324BAV6	1
			40A	-	-	DS0404PQV6	1	DS0404BAV6	1
	Grey plate 48x48 mm, black knob Four-screw fixing at 36x36mm only	3	20A	-	-	DS0203PQV4	1	DS0203BAV4	1
			32A	-	-	DS0323PQV4	1	DS0323BAV4	1
			40A	-	-	DS0403PQV4	1	DS0403BAV4	1
		3+N	20A	-	-	DS0204PQV4	1	DS0204BAV4	1
			32A	-	-	DS0324PQV4	1	DS0324BAV4	1
			40A	-	-	DS0404PQV4	1	DS0404BAV4	1
	Yellow plate 64x64 mm, red knob	3	20A	-	-	DS0203PQW6	1	DS0203BAW6	1
			32A	-	-	DS0323PQW6	1	DS0323BAW6	1
			40A	-	-	DS0403PQW6	1	DS0403BAW6	1
		3+N	20A	-	-	DS0204PQW6	1	DS0204BAW6	1
			32A	-	-	DS0324PQW6	1	DS0324BAW6	1
			40A	-	-	DS0404PQW6	1	DS0404BAW6	1
	Yellow plate 48x48 mm, red knob Four-screw fixing at 36x36mm only	3	20A	-	-	DS0203PQW4	1	DS0203BAW4	1
			32A	-	-	DS0323PQW4	1	DS0323BAW4	1
			40A	-	-	DS0403PQW4	1	DS0403BAW4	1
		3+N	20A	-	-	DS0204PQW4	1	DS0204BAW4	1
			32A	-	-	DS0324PQW4	1	DS0324BAW4	1
			40A	-	-	DS0404PQW4	1	DS0404BAW4	1

Padlockable handles		poles	Ie AC21	Two-screw fixing	Pack	Four-screw fixing 36x36 or 48x48*	Pack	Four-screw fixing 36x36 or 48x48*	Pack
	Grey plate 67x67mm padlockable, black knob	3	20A	-	-	-	-	DS0203BAK6S	1
			32A	-	-	-	-	DS0323BAK6S	1
			40A	-	-	-	-	DS0403BAK6S	1
		3+N	20A	-	-	-	-	DS0204BAK6S	1
			32A	-	-	-	-	DS0324BAK6S	1
			40A	-	-	-	-	DS0404BAK6S	1
	Yellow plate 67x67mm padlockable, red knob	3	20A	-	-	-	-	DS0203BAL6S	1
			32A	-	-	-	-	DS0323BAL6S	1
			40A	-	-	-	-	DS0403BAL6S	1
		3+N	20A	-	-	-	-	DS0204BAL6S	1
			32A	-	-	-	-	DS0324BAL6S	1
			40A	-	-	-	-	DS0404BAL6S	1

Two-screw fixing, distance between holes: 28mm (1.10") Vertical or 32mm (1.26") Horizontal

Four-screw fixing, distance between holes: 48x48mm (1.89"x1.89")

* Fixing 48x48 (1.89"x1.89") with adapter flange (included in the package)

standard article





Rear-mount switches



Base mount switches



■ IP66 handles with screw fixing

Non padlockable handles		poles	Ie AC21	Two-screw fixing	Pack	Four-screw fixing 36x36 or 48x48	Pack	Two-screw fixing	Pack
	Grey plate 67x67 mm, black knob	3	20A	DS0203RQT6	1	-	-	DS0203BAT6	1
			32A	DS0323RQT6	1	-	-	DS0323BAT6	1
			40A	DS0403RQT6	1	-	-	DS0403BAT6	1
		3+N	20A	DS0204RQT6	1	-	-	DS0204BAT6	1
			32A	DS0324RQT6	1	-	-	DS0324BAT6	1
			40A	DS0404RQT6	1	-	-	DS0404BAT6	1
	Yellow plate 67x67 mm, red knob	3	20A	DS0203RQY6	1	-	-	DS0203BAY6	1
			32A	DS0323RQY6	1	-	-	DS0323BAY6	1
			40A	DS0403RQY6	1	-	-	DS0403BAY6	1
		3+N	20A	DS0204RQY6	1	-	-	DS0204BAY6	1
			32A	DS0324RQY6	1	-	-	DS0324BAY6	1
			40A	DS0404RQY6	1	-	-	DS0404BAY6	1
	Grey plate 48x48 mm, black knob Only for two-screw fixing	3	20A	DS0203RQT4	1	-	-	DS0203BAT4	1
			32A	DS0323RQT4	1	-	-	DS0323BAT4	1
			40A	DS0403RQT4	1	-	-	DS0403BAT4	1
		3+N	20A	DS0204RQT4	1	-	-	DS0204BAT4	1
			32A	DS0324RQT4	1	-	-	DS0324BAT4	1
			40A	DS0404RQT4	1	-	-	DS0404BAT4	1
	Yellow plate 48x48 mm, red knob Only for two-screw fixing	3	20A	DS0203RQY4	1	-	-	DS0203BAY4	1
			32A	DS0323RQY4	1	-	-	DS0323BAY4	1
			40A	DS0403RQY4	1	-	-	DS0403BAY4	1
		3+N	20A	DS0204RQY4	1	-	-	DS0204BAY4	1
			32A	DS0324RQY4	1	-	-	DS0324BAY4	1
			40A	DS0404RQY4	1	-	-	DS0404BAY4	1

Two-screw fixing, distance between holes: 28mm (1.10") Vertical or 32mm (1.26") Horizontal

Rear mount switches



Base mount switches



■ IP66 handles with Ø22mm (0,87") single-hole and nut fixing

Padlockable handles		poles	Ie AC21	Ø22mm (0,87") single-hole and nut fixing	Pack	Ø22mm (0,87") single-hole and nut fixing	Pack
	Grey plate 67x67mm padlockable, black knob	3	20A	DS0203GDK6	1	DS0203BFK6	1
			32A	DS0323GDK6	1	DS0323BFK6	1
			40A	DS0403GDK6	1	DS0403BFK6	1
		3+N	20A	DS0204GDK6	1	DS0204BFK6	1
			32A	DS0324GDK6	1	DS0324BFK6	1
			40A	DS0404GDK6	1	DS0404BFK6	1
	Yellow plate 67x67mm padlockable, red knob	3	20A	DS0203GDL6	1	DS0203BFL6	1
			32A	DS0323GDL6	1	DS0323BFL6	1
			40A	DS0403GDL6	1	DS0403BFL6	1
		3+N	20A	DS0204GDL6	1	DS0204BFL6	1
			32A	DS0324GDL6	1	DS0324BFL6	1
			40A	DS0404GDL6	1	DS0404BFL6	1
	Grey plate 67x67 mm, black knob padlockable	3	20A	DS0203GDT6L	1	DS0203BFT6L	1
			32A	DS0323GDT6L	1	DS0323BFT6L	1
			40A	DS0403GDT6L	1	DS0403BFT6L	1
		3+N	20A	DS0204GDT6L	1	DS0204BFT6L	1
			32A	DS0324GDT6L	1	DS0324BFT6L	1
			40A	DS0404GDT6L	1	DS0404BFT6L	1
	Yellow plate 67x67 mm, red knob padlockable	3	20A	DS0203GDY6L	1	DS0203BFY6L	1
			32A	DS0323GDY6L	1	DS0323BFY6L	1
			40A	DS0403GDY6L	1	DS0403BFY6L	1
		3+N	20A	DS0204GDY6L	1	DS0204BFY6L	1
			32A	DS0324GDY6L	1	DS0324BFY6L	1
			40A	DS0404GDY6L	1	DS0404BFY6L	1
	Grey plate 48x48 mm, black knob padlockable	3	20A	DS0203GDT4L	1	DS0203BFT4L	1
			32A	DS0323GDT4L	1	DS0323BFT4L	1
			40A	DS0403GDT4L	1	DS0403BFT4L	1
		3+N	20A	DS0204GDT4L	1	DS0204BFT4L	1
			32A	DS0324GDT4L	1	DS0324BFT4L	1
			40A	DS0404GDT4L	1	DS0404BFT4L	1
	Yellow plate 48x48 mm, red knob padlockable	3	20A	DS0203GDY4L	1	DS0203BFY4L	1
			32A	DS0323GDY4L	1	DS0323BFY4L	1
			40A	DS0403GDY4L	1	DS0403BFY4L	1
		3+N	20A	DS0204GDY4L	1	DS0204BFY4L	1
			32A	DS0324GDY4L	1	DS0324BFY4L	1
			40A	DS0404GDY4L	1	DS0404BFY4L	1

standard article





Rear mount switches



Base mount switches



■ IP66 handles with Ø22mm (0,87") single-hole and nut fixing

Non padlockable handles		poles	Ie AC21	Ø22mm (0,87") single-hole and nut fixing	Pack	Ø22mm (0,87") single-hole and nut fixing	Pack
	Grey plate 67x67 mm, black knob	3	20A	DS0203GDT6	1	DS0203BFT6	1
			32A	DS0323GDT6	1	DS0323BFT6	1
			40A	DS0403GDT6	1	DS0403BFT6	1
		3+N	20A	DS0204GDT6	1	DS0204BFT6	1
			32A	DS0324GDT6	1	DS0324BFT6	1
			40A	DS0404GDT6	1	DS0404BFT6	1
	Yellow plate 67x67 mm, red knob	3	20A	DS0203GDY6	1	DS0203BFY6	1
			32A	DS0323GDY6	1	DS0323BFY6	1
			40A	DS0403GDY6	1	DS0403BFY6	1
		3+N	20A	DS0204GDY6	1	DS0204BFY6	1
			32A	DS0324GDY6	1	DS0324BFY6	1
			40A	DS0404GDY6	1	DS0404BFY6	1
	Grey plate 48x48 mm, black knob	3	20A	DS0203GDT4	1	DS0203BFT4	1
			32A	DS0323GDT4	1	DS0323BFT4	1
			40A	DS0403GDT4	1	DS0403BFT4	1
		3+N	20A	DS0204GDT4	1	DS0204BFT4	1
			32A	DS0324GDT4	1	DS0324BFT4	1
			40A	DS0404GDT4	1	DS0404BFT4	1
	Yellow plate 48x48 mm, red knob	3	20A	DS0203GDY4	1	DS0203BFY4	1
			32A	DS0323GDY4	1	DS0323BFY4	1
			40A	DS0403GDY4	1	DS0403BFY4	1
		3+N	20A	DS0204GDY4	1	DS0204BFY4	1
			32A	DS0324GDY4	1	DS0324BFY4	1
			40A	DS0404GDY4	1	DS0404BFY4	1





Rear mount switches



Base mount switches



■ IP66 handles with Ø22mm (0,87") single-hole and nut fixing

Non padlockable handles		poles	Ie AC21	Ø22mm (0,87") single-hole and nut fixing	Pack	Ø22mm (0,87") single-hole and nut fixing	Pack
	Grey plate 64x64 mm, black knob	3	20A	DS0203GDV6	1	DS0203BFV6	1
			32A	DS0323GDV6	1	DS0323BFV6	1
			40A	DS0403GDV6	1	DS0403BFV6	1
		3+N	20A	DS0204GDV6	1	DS0204BFV6	1
			32A	DS0324GDV6	1	DS0324BFV6	1
			40A	DS0404GDV6	1	DS0404BFV6	1
	Grey plate 48x48 mm, black knob	3	20A	DS0203GDV4	1	DS0203BFV4	1
			32A	DS0323GDV4	1	DS0323BFV4	1
			40A	DS0403GDV4	1	DS0403BFV4	1
		3+N	20A	DS0204GDV4	1	DS0204BFV4	1
			32A	DS0324GDV4	1	DS0324BFV4	1
			40A	DS0404GDV4	1	DS0404BFV4	1
	Yellow plate 64x64 mm, red knob	3	20A	DS0203GDW6	1	DS0203BFW6	1
			32A	DS0323GDW6	1	DS0323BFW6	1
			40A	DS0403GDW6	1	DS0403BFW6	1
		3+N	20A	DS0204GDW6	1	DS0204BFW6	1
			32A	DS0324GDW6	1	DS0324BFW6	1
			40A	DS0404GDW6	1	DS0404BFW6	1
	Yellow plate 48x48 mm, red knob	3	20A	DS0203GDW4	1	DS0203BFW4	1
			32A	DS0323GDW4	1	DS0323BFW4	1
			40A	DS0403GDW4	1	DS0403BFW4	1
		3+N	20A	DS0204GDW4	1	DS0204BFW4	1
			32A	DS0324GDW4	1	DS0324BFW4	1
			40A	DS0404GDW4	1	DS0404BFW4	1

DS 20-32-40A series

Base mounting



Direct operation
Black knob



For standard cabinets
45mm (1.77") slots
Black knob

Rear mounting



2 screw fixing
at 28mm
vertical distance



4 screw fixing
36x36mm (1.42"x1.42")
or 48x48mm (1.89"x1.89")



ø 22mm (ø 0.87")
single hole
and nut fixing

Direct operation

poles	Ie AC21	Code	Pack	Code	Pack	Code	Pack	Code	Pack	Code	Pack
3 pole	20A	DS0203BFCD	1	DS0203BDDN	1	DS0203R	1	DS0203P	1	DS0203G	1
	32A	DS0323BFCD	1	DS0323BDDN	1	DS0323R	1	DS0323P	1	DS0323G	1
	40A	DS0403BFCD	1	DS0403BDDN	1	DS0403R	1	DS0403P	1	DS0403G	1
4 pole	20A	DS0204BFCD	1	DS0204BDDN	1	DS0204R	1	DS0204P	1	DS0204G	1
	32A	DS0324BFCD	1	DS0324BDDN	1	DS0324R	1	DS0324P	1	DS0324G	1
	40A	DS0404BFCD	1	DS0404BDDN	1	DS0404R	1	DS0404P	1	DS0404G	1

Accessories and spare parts


Code Description Pack




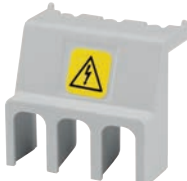
Additional poles

DSC040PAR	DS020/040 4th pole early make/late break (for Neutral) rear mounting	5
DSC040PSR	DS020/040 4th pole rear mounting	5
DSC040PAB	DS020/040 4th pole early make/late break (for Neutral) base mounting	5
DSC040PSB	DS020/040 4th pole base mounting	5
DSC040PENR	DS020/040 4th pole poleEN rear mounting	5
DSC040PENB	DS020/040 4th pole poleEN base mounting	5
DSC040NOR	DS020/040 auxiliary contact NO rear mounting	5
DSC040NOB	DS020/040 auxiliary contact NO base mounting	5
DSC040NCR	DS020/040 auxiliary contact NC rear mounting	5
DSC040NCB	DS020/040 auxiliary contact NC base mounting	5


■ Accessories and spare parts

	Code	Description	Pack
	DS040PAD	DS020/040 Transparent Padlockable plate for DS_FC	5

Padlockable plate for DS_FCD

	Code	Description	Pack
 	DS040PR1	DS020/040 Pair of one-pole terminal covers	5
	DS040PR3	DS020/040 Pair of three-pole terminal covers	5

Terminal covers

	Code	Description	Pack
	PALBL300	Shaft L=300mm Q5	5
	PALBL500	Shaft L=500mm Q5	5
	PALBL055	Shaft L=55mm Q5	5
	PALBL075	Shaft L=75mm Q5	5
	PALBL095	Shaft L=95mm Q5	5
	PALBL115	Shaft L=115mm Q5	5
	PALBL135	Shaft L=135mm Q5	5
	PALBL155	Shaft L=155mm Q5	5
	PALBL175	Shaft L=175mm Q5	5

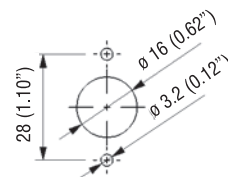
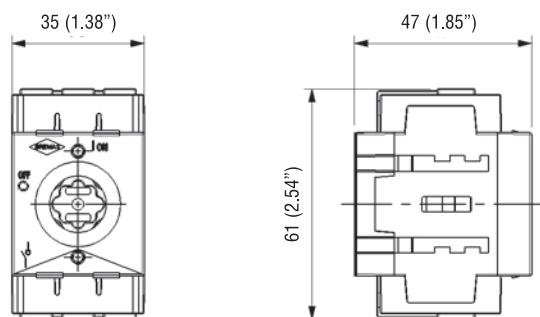
Shafts

■ Rear mounting

Measures in mm (in)

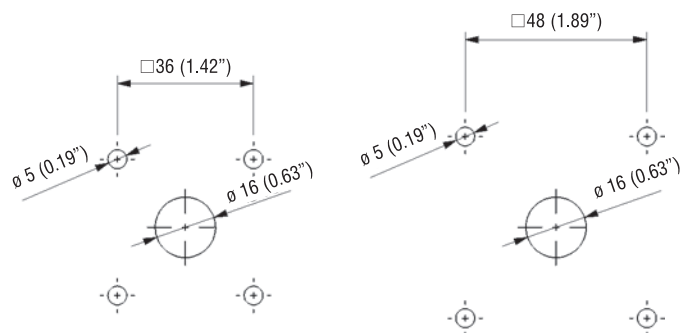
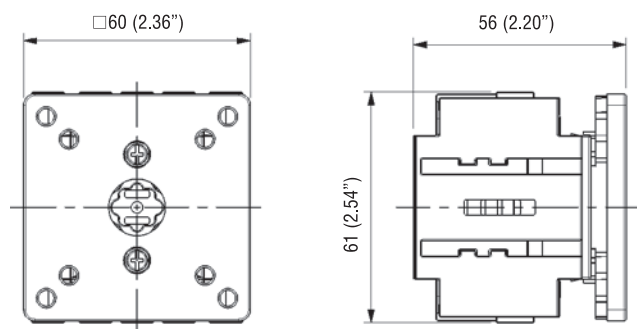
2 holes with screws

Drilling templates



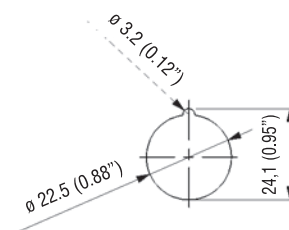
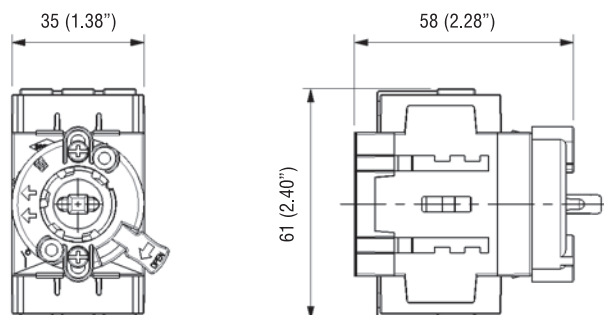
Two-screws fixing

4 holes with screws



Four-screws fixing

Ø 22mm (0,87") single hole with locking nut

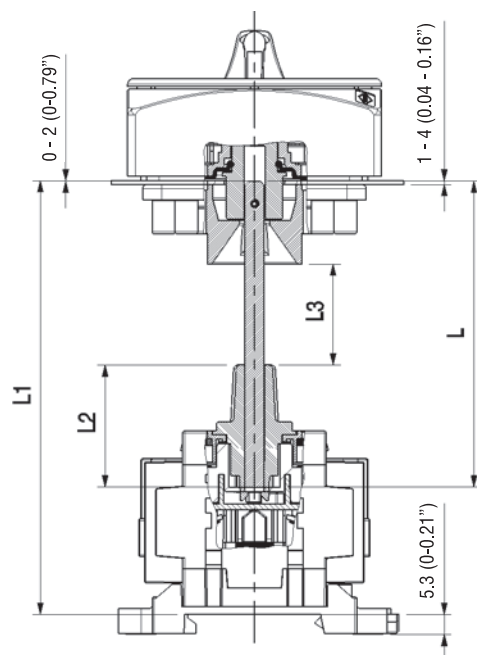


Handles fixing with
Ø 22mm (0,87") single hole
and locking nut

■ Base mounting

Measures in mm (in)

Screw-fixed handles



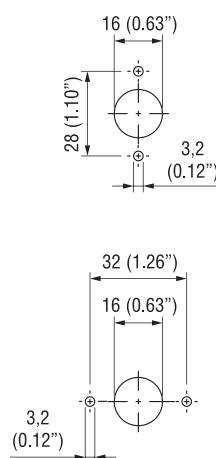
Cutting length of the extension shaft

The base mounting execution is provided with integrated control knob and includes the housing for the shaft and the fixing screw. The depth of insertion of the shaft in the housing has a tolerance of about 20mm, this allows to reduce the need and the precision of the cutting to size (dimension L) of the shaft.

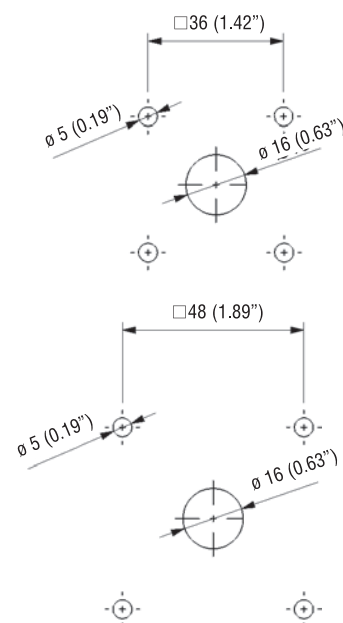
To determine the cut length L of the shaft, consider the following guidelines:

$L3 \geq 1\text{mm}$
 $12\text{mm} \leq L2 \leq 32\text{mm}$

In practice: $L1 - 53\text{mm} \leq L \leq L1 - 33\text{mm}$

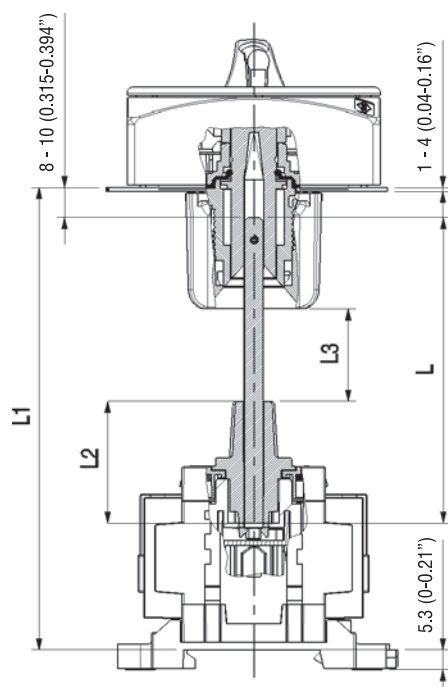


Two-screw handle fixing



Four-screw handle fixing

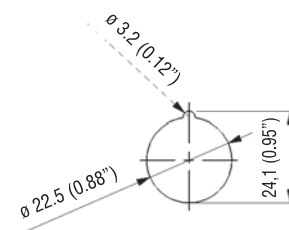
Ø 22mm (0,87") single-hole handle fixing



To determine the cut length L of the shaft, consider the following guidelines:

$L3 \geq 1\text{mm}$
 $12\text{mm} \leq L2 \leq 32\text{mm}$

In practice: $L1 - 61\text{mm} \leq L \leq L1 - 41\text{mm}$



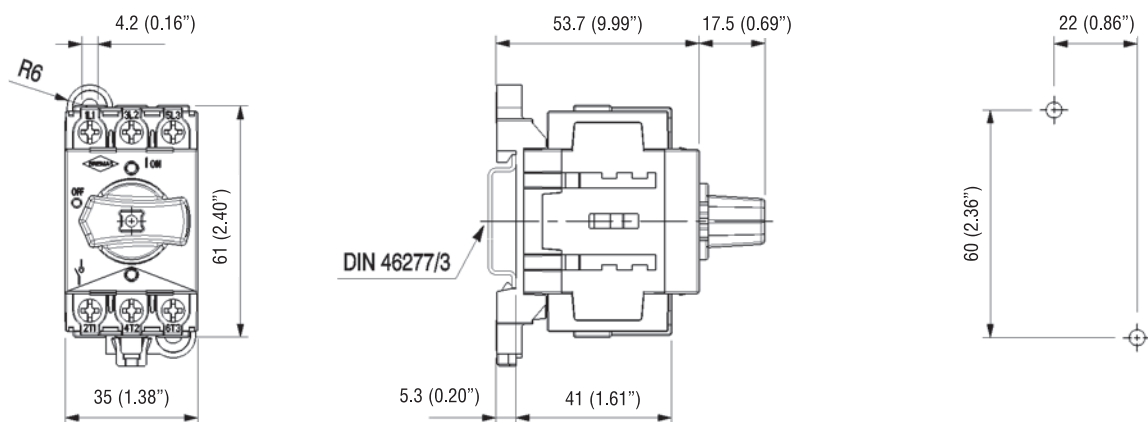
Ø 22mm (0,87")
 single-hole handle fixing

■ Base mounting

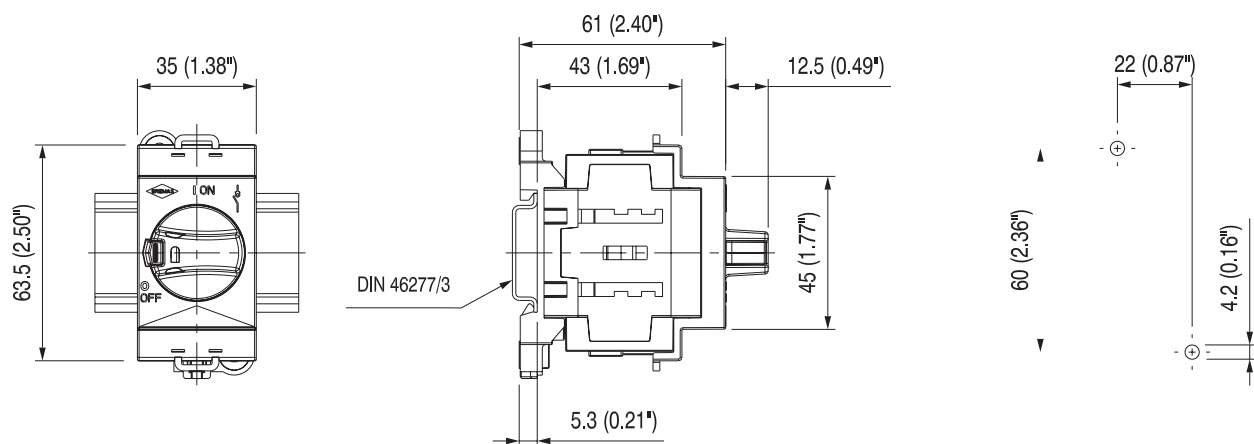
Measures in mm (in)

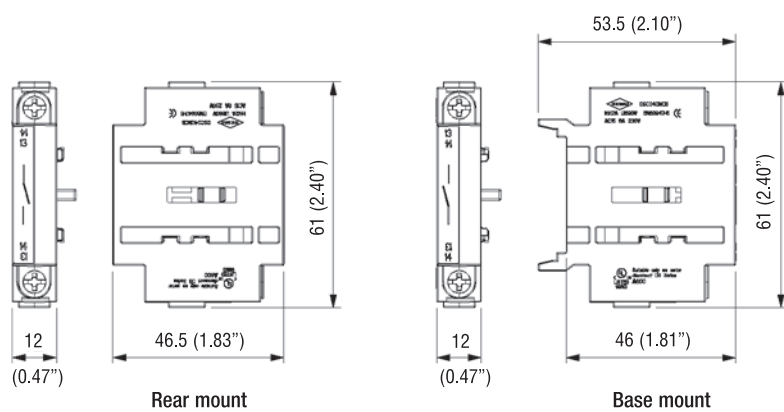
Direct command

Drilling templates - Base mount



DDN version - For panel board

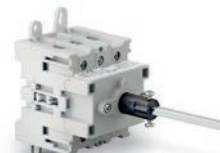


Fourth pole (additional/auxiliary)





Rear-mount switches



Base mount switches



■ IP66 handles with screw fixing

Padlockable handles		poles	Ie AC21	Two-screw fixing	Pack	Four-screw fixing 36x36 o 48x48*	Pack	Two-screw fixing	Pack
	Grey plate 67x67mm padlockable, black knob	3	50A	DS0503RQK6	1	DS0503PQK6S	1	DS0503BAK6	1
			63A	DS0633RQK6	1	DS0633PQK6S	1	DS0633BAK6	1
			80A	DS0803RQK6	1	DS0803PQK6S	1	DS0803BAK6	1
			100A	DS1003RQK6	1	DS1003PQK6S	1	DS1003BAK6	1
		3+N	50A	DS0504RQK6	1	DS0504PQK6S	1	DS0504BAK6	1
			63A	DS0634RQK6	1	DS0634PQK6S	1	DS0634BAK6	1
			80A	DS0804RQK6	1	DS0804PQK6S	1	DS0804BAK6	1
			100A	DS1004RQK6	1	DS1004PQK6S	1	DS1004BAK6	1
	Yellow plate 67x67mm padlockable, red knob	3	50A	DS0503RQL6	1	DS0503PQL6S	1	DS0503BAL6	1
			63A	DS0633RQL6	1	DS0633PQL6S	1	DS0633BAL6	1
			80A	DS0803RQL6	1	DS0803PQL6S	1	DS0803BAL6	1
			100A	DS1003RQL6	1	DS1003PQL6S	1	DS1003BAL6	1
		3+N	50A	DS0504RQL6	1	DS0504PQL6S	1	DS0504BAL6	1
			63A	DS0634RQL6	1	DS0634PQL6S	1	DS0634BAL6	1
			80A	DS0804RQL6	1	DS0804PQL6S	1	DS0804BAL6	1
			100A	DS1004RQL6	1	DS1004PQL6S	1	DS1004BAL6	1
	Grey plate 67x67 mm, black knob padlockable	3	50A	DS0503RQT6L	1	-	-	DS0503BAT6L	1
			63A	DS0633RQT6L	1	-	-	DS0633BAT6L	1
			80A	DS0803RQT6L	1	-	-	DS0803BAT6L	1
			100A	DS1003RQT6L	1	-	-	DS1003BAT6L	1
		3+N	50A	DS0504RQT6L	1	-	-	DS0504BAT6L	1
			63A	DS0634RQT6L	1	-	-	DS0634BAT6L	1
			80A	DS0804RQT6L	1	-	-	DS0804BAT6L	1
			100A	DS1004RQT6L	1	-	-	DS1004BAT6L	1
	Yellow plate 67x67 mm, red knob padlockable	3	50A	DS0503RQY6L	1	-	-	DS0503BAY6L	1
			63A	DS0633RQY6L	1	-	-	DS0633BAY6L	1
			80A	DS0803RQY6L	1	-	-	DS0803BAY6L	1
			100A	DS1003RQY6L	1	-	-	DS1003BAY6L	1
		3+N	50A	DS0504RQY6L	1	-	-	DS0504BAY6L	1
			63A	DS0634RQY6L	1	-	-	DS0634BAY6L	1
			80A	DS0804RQY6L	1	-	-	DS0804BAY6L	1
			100A	DS1004RQY6L	1	-	-	DS1004BAY6L	1

Two-screw fixing, distance between holes: 28mm (1.10") Vertical or 32mm (1.26") Horizontal

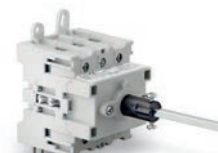
Four-screw fixing, distance between holes: 48x48mm (1.89"x1.89")

* Fixing 48x48 (1,89"x1,89") with adapter flange (included in the package)



Rear-mount switches





Base mount switches



■ IP66 handles with screw fixing

Padlockable handles		poles	Ie AC21	Two-screw fixing	Pack	Four-screw fixing 36x36 or 48x48	Pack	Two-screw fixing	Pack
	Grey plate 48x48 mm, black knob padlockable	3	50A	DS0503RQT4L	1	-	-	DS0503BAT4L	1
			63A	DS0633RQT4L	1	-	-	DS0633BAT4L	1
			80A	DS0803RQT4L	1	-	-	DS0803BAT4L	1
			100A	DS1003RQT4L	1	-	-	DS1003BAT4L	1
		3+N	50A	DS0504RQT4L	1	-	-	DS0504BAT4L	1
			63A	DS0634RQT4L	1	-	-	DS0634BAT4L	1
			80A	DS0804RQT4L	1	-	-	DS0804BAT4L	1
			100A	DS1004RQT4L	1	-	-	DS1004BAT4L	1
	Yellow plate 48x48 mm, red knob padlockable	3	50A	DS0503RQY4L	1	-	-	DS0503BAY4L	1
			63A	DS0633RQY4L	1	-	-	DS0633BAY4L	1
			80A	DS0803RQY4L	1	-	-	DS0803BAY4L	1
			100A	DS1003RQY4L	1	-	-	DS1003BAY4L	1
		3+N	50A	DS0504RQY4L	1	-	-	DS0504BAY4L	1
			63A	DS0634RQY4L	1	-	-	DS0634BAY4L	1
			80A	DS0804RQY4L	1	-	-	DS0804BAY4L	1
			100A	DS1004RQY4L	1	-	-	DS1004BAY4L	1

Padlockable handles		poles	Ie AC21	Two-screw fixing	Pack	Four-screw fixing 36x36 or 48x48	Pack	Four-screw fixing 36x36 or 48x48*	Pack
	Grey plate 67x67 mm black knob padlockable	3	50A	-	-	-	-	DS0503BAK6S	1
			63A	-	-	-	-	DS0633BAK6S	1
			80A	-	-	-	-	DS0803BAK6S	1
			100A	-	-	-	-	DS1003BAK6S	1
		3+N	50A	-	-	-	-	DS0504BAK6S	1
			63A	-	-	-	-	DS0634BAK6S	1
			80A	-	-	-	-	DS0804BAK6S	1
			100A	-	-	-	-	DS1004BAK6S	1
	Yellow plate 67x67 mm red knob padlockable	3	50A	-	-	-	-	DS0503BAL6S	1
			63A	-	-	-	-	DS0633BAL6S	1
			80A	-	-	-	-	DS0803BAL6S	1
			100A	-	-	-	-	DS1003BAL6S	1
		3+N	50A	-	-	-	-	DS0504BAL6S	1
			63A	-	-	-	-	DS0634BAL6S	1
			80A	-	-	-	-	DS0804BAL6S	1
			100A	-	-	-	-	DS1004BAL6S	1

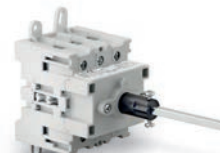
Two-screw fixing, distance between holes: 28mm (1.10") Vertical or 32mm (1.26") Horizontal

* Fixing 48x48 (1,89"x1,89") with adapter flange (included in the package)





Rear-mount
switches



Base mount
switches



■ IP66 handles with screw fixing

Non padlockable handles		poles	Ie AC21	Two-screw fixing	Pack	Four-screw fixing 36x36 o 48x48*	Pack	Two-screw fixing	Pack
	Grey plate 64x64 mm, black knob	3	50A	-	-	DS0503PQV6	1	DS0503BAV6	1
			63A	-	-	DS0633PQV6	1	DS0633BAV6	1
			80A	-	-	DS0803PQV6	1	DS0803BAV6	1
			100A	-	-	DS1003PQV6	1	DS1003BAV6	1
		3+N	50A	-	-	DS0504PQV6	1	DS0504BAV6	1
			63A	-	-	DS0634PQV6	1	DS0634BAV6	1
			80A	-	-	DS0804PQV6	1	DS0804BAV6	1
			100A	-	-	DS1004PQV6	1	DS1004BAV6	1
	Grey plate 48x48 mm, black knob Four-screw fixing at 36x36mm only	3	50A	-	-	DS0503PQV4	1	DS0503BAV4	1
			63A	-	-	DS0633PQV4	1	DS0633BAV4	1
			80A	-	-	DS0803PQV4	1	DS0803BAV4	1
			100A	-	-	DS1003PQV4	1	DS1003BAV4	1
		3+N	50A	-	-	DS0504PQV4	1	DS0504BAV4	1
			63A	-	-	DS0634PQV4	1	DS0634BAV4	1
			80A	-	-	DS0804PQV4	1	DS0804BAV4	1
			100A	-	-	DS1004PQV4	1	DS1004BAV4	1
	Yellow plate 64x64 mm, red knob	3	50A	-	-	DS0503PQW6	1	DS0503BAW6	1
			63A	-	-	DS0633PQW6	1	DS0633BAW6	1
			80A	-	-	DS0803PQW6	1	DS0803BAW6	1
			100A	-	-	DS1003PQW6	1	DS1003BAW6	1
		3+N	50A	-	-	DS0504PQW6	1	DS0504BAW6	1
			63A	-	-	DS0634PQW6	1	DS0634BAW6	1
			80A	-	-	DS0804PQW6	1	DS0804BAW6	1
			100A	-	-	DS1004PQW6	1	DS1004BAW6	1
	Yellow plate 48x48 mm, red knob Four-screw fixing at 36x36mm only	3	50A	-	-	DS0503PQW4	1	DS0503BAW4	1
			63A	-	-	DS0633PQW4	1	DS0633BAW4	1
			80A	-	-	DS0803PQW4	1	DS0803BAW4	1
			100A	-	-	DS1003PQW4	1	DS1003BAW4	1
		3+N	50A	-	-	DS0504PQW4	1	DS0504BAW4	1
			63A	-	-	DS0634PQW4	1	DS0634BAW4	1
			80A	-	-	DS0804PQW4	1	DS0804BAW4	1
			100A	-	-	DS1004PQW4	1	DS1004BAW4	1

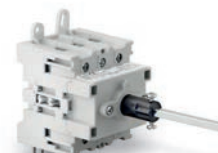
Two-screw fixing, distance between holes: 28mm (1.10") Vertical or 32mm (1.26") Horizontal

Four-screw fixing, distance between holes: 36x36mm (1.42"x1.42") or 48x48mm (1.89"x1.89")

Rear-mount
switches



Base mount
switches



■ IP66 handles with screw fixing

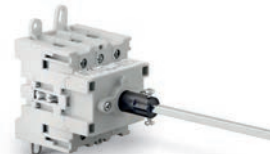
Non padlockable handles		poles	Ie AC21	Two-screw fixing	Pack	Four-screw fixing 36x36 o 48x48	Pack	Two-screw fixing	Pack
	Grey plate 67x67 mm, black knob	3	50A	DS0503RQT6	1	-	-	DS0503BAT6	1
			63A	DS0633RQT6	1	-	-	DS0633BAT6	1
			80A	DS0803RQT6	1	-	-	DS0803BAT6	1
			100A	DS1003RQT6	1	-	-	DS1003BAT6	1
		3+N	50A	DS0504RQT6	1	-	-	DS0504BAT6	1
			63A	DS0634RQT6	1	-	-	DS0634BAT6	1
			80A	DS0804RQT6	1	-	-	DS0804BAT6	1
			100A	DS1004RQT6	1	-	-	DS1004BAT6	1
	Yellow plate 67x67 mm, red knob	3	50A	DS0503RQY6	1	-	-	DS0503BAY6	1
			63A	DS0633RQY6	1	-	-	DS0633BAY6	1
			80A	DS0803RQY6	1	-	-	DS0803BAY6	1
			100A	DS1003RQY6	1	-	-	DS1003BAY6	1
		3+N	50A	DS0504RQY6	1	-	-	DS0504BAY6	1
			63A	DS0634RQY6	1	-	-	DS0634BAY6	1
			80A	DS0804RQY6	1	-	-	DS0804BAY6	1
			100A	DS1004RQY6	1	-	-	DS1004BAY6	1
	Grey plate 48x48 mm, black knob	3	50A	DS0503RQT4	1	-	-	DS0503BAT4	1
			63A	DS0633RQT4	1	-	-	DS0633BAT4	1
			80A	DS0803RQT4	1	-	-	DS0803BAT4	1
			100A	DS1003RQT4	1	-	-	DS1003BAT4	1
		3+N	50A	DS0504RQT4	1	-	-	DS0504BAT4	1
			63A	DS0634RQT4	1	-	-	DS0634BAT4	1
			80A	DS0804RQT4	1	-	-	DS0804BAT4	1
			100A	DS1004RQT4	1	-	-	DS1004BAT4	1
	Yellow plate 48x48 mm, red knob	3	50A	DS0503RQY4	1	-	-	DS0503BAY4	1
			63A	DS0633RQY4	1	-	-	DS0633BAY4	1
			80A	DS0803RQY4	1	-	-	DS0803BAY4	1
			100A	DS1003RQY4	1	-	-	DS1003BAY4	1
		3+N	50A	DS0504RQY4	1	-	-	DS0504BAY4	1
			63A	DS0634RQY4	1	-	-	DS0634BAY4	1
			80A	DS0804RQY4	1	-	-	DS0804BAY4	1
			100A	DS1004RQY4	1	-	-	DS1004BAY4	1

Two-screw fixing, distance between holes: 28mm (1.10") Vertical or 32mm (1.26") Horizontal





Rear-mount switches



Base mount switches



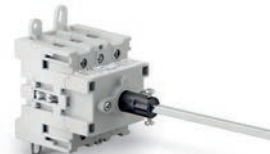
■ IP66 handles with Ø22mm (0,87") single-hole and nut fixing

Padlockable handles		poles	Ie AC21	Ø22mm (0,87") single-hole and nut fixing	Pack	Ø22mm (0,87") single-hole and nut fixing	Pack
	Grey plate 67x67mm padlockable, black knob	3	50A	DS0503GDK6	1	DS0503BFK6	1
			63A	DS0633GDK6	1	DS0633BFK6	1
			80A	DS0803GDK6	1	DS0803BFK6	1
			100A	DS1003GDK6	1	DS1003BFK6	1
		3+N	50A	DS0504GDK6	1	DS0504BFK6	1
			63A	DS0634GDK6	1	DS0634BFK6	1
			80A	DS0804GDK6	1	DS0804BFK6	1
			100A	DS1004GDK6	1	DS1004BFK6	1
	Yellow plate 67x67mm padlockable, red knob	3	50A	DS0503GDL6	1	DS0503BFL6	1
			63A	DS0633GDL6	1	DS0633BFL6	1
			80A	DS0803GDL6	1	DS0803BFL6	1
			100A	DS1003GDL6	1	DS1003BFL6	1
		3+N	50A	DS0504GDL6	1	DS0504BFL6	1
			63A	DS0634GDL6	1	DS0634BFL6	1
			80A	DS0804GDL6	1	DS0804BFL6	1
			100A	DS1004GDL6	1	DS1004BFL6	1
	Grey plate 67x67 mm, black knob padlockable	3	50A	DS0503GDT6L	1	DS0503BFT6L	1
			63A	DS0633GDT6L	1	DS0633BFT6L	1
			80A	DS0803GDT6L	1	DS0803BFT6L	1
			100A	DS1003GDT6L	1	DS1003BFT6L	1
		3+N	50A	DS0504GDT6L	1	DS0504BFT6L	1
			63A	DS0634GDT6L	1	DS0634BFT6L	1
			80A	DS0804GDT6L	1	DS0804BFT6L	1
			100A	DS1004GDT6L	1	DS1004BFT6L	1
	Yellow plate 67x67 mm, red knob padlockable	3	50A	DS0503GDY6L	1	DS0503BFY6L	1
			63A	DS0633GDY6L	1	DS0633BFY6L	1
			80A	DS0803GDY6L	1	DS0803BFY6L	1
			100A	DS1003GDY6L	1	DS1003BFY6L	1
		3+N	50A	DS0504GDY6L	1	DS0504BFY6L	1
			63A	DS0634GDY6L	1	DS0634BFY6L	1
			80A	DS0804GDY6L	1	DS0804BFY6L	1
			100A	DS1004GDY6L	1	DS1004BFY6L	1



Rear-mount
switches



Base mount
switches



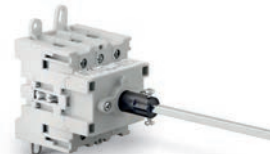
■ IP66 handles with Ø22mm (0,87") single-hole and nut fixing

Padlockable handles		poles	Ie AC21	Ø22mm (0,87") single-hole and nut fixing	Pack	Ø22mm (0,87") single-hole and nut fixing	Pack
	Grey plate 48x48 mm, black knob padlockable	3	50A	DS0503GDT4L	1	DS0503BFT4L	1
			63A	DS0633GDT4L	1	DS0633BFT4L	1
			80A	DS0803GDT4L	1	DS0803BFT4L	1
			100A	DS1003GDT4L	1	DS1003BFT4L	1
		3+N	50A	DS0504GDT4L	1	DS0504BFT4L	1
			63A	DS0634GDT4L	1	DS0634BFT4L	1
			80A	DS0804GDT4L	1	DS0804BFT4L	1
			100A	DS1004GDT4L	1	DS1004BFT4L	1
	Yellow plate 48x48 mm, red knob padlockable	3	50A	DS0503GDY4L	1	DS0503BFY4L	1
			63A	DS0633GDY4L	1	DS0633BFY4L	1
			80A	DS0803GDY4L	1	DS0803BFY4L	1
			100A	DS1003GDY4L	1	DS1003BFY4L	1
		3+N	50A	DS0504GDY4L	1	DS0504BFY4L	1
			63A	DS0634GDY4L	1	DS0634BFY4L	1
			80A	DS0804GDY4L	1	DS0804BFY4L	1
			100A	DS1004GDY4L	1	DS1004BFY4L	1





Rear-mount
switches



Base mount
switches



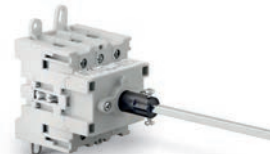
■ IP66 handles with Ø22mm (0,87") single-hole and nut fixing

Non padlockable handles		poles	Ie AC21	Ø22mm (0,87") single-hole and nut fixing	Pack	Ø22mm (0,87") single-hole and nut fixing	Pack
	Grey plate 67x67 mm, black knob	3	50A	DS0503GDT6	1	DS0503BFT6	1
			63A	DS0633GDT6	1	DS0633BFT6	1
			80A	DS0803GDT6	1	DS0803BFT6	1
			100A	DS1003GDT6	1	DS1003BFT6	1
		3+N	50A	DS0504GDT6	1	DS0504BFT6	1
			63A	DS0634GDT6	1	DS0634BFT6	1
			80A	DS0804GDT6	1	DS0804BFT6	1
			100A	DS1004GDT6	1	DS1004BFT6	1
	Yellow plate 67x67 mm, red knob	3	50A	DS0503GDY6	1	DS0503BFY6	1
			63A	DS0633GDY6	1	DS0633BFY6	1
			80A	DS0803GDY6	1	DS0803BFY6	1
			100A	DS1003GDY6	1	DS1003BFY6	1
		3+N	50A	DS0504GDY6	1	DS0504BFY6	1
			63A	DS0634GDY6	1	DS0634BFY6	1
			80A	DS0804GDY6	1	DS0804BFY6	1
			100A	DS1004GDY6	1	DS1004BFY6	1
	Grey plate 48x48 mm, black knob	3	50A	DS0503GDT4	1	DS0503BFT4	1
			63A	DS0633GDT4	1	DS0633BFT4	1
			80A	DS0803GDT4	1	DS0803BFT4	1
			100A	DS1003GDT4	1	DS1003BFT4	1
		3+N	50A	DS0504GDT4	1	DS0504BFT4	1
			63A	DS0634GDT4	1	DS0634BFT4	1
			80A	DS0804GDT4	1	DS0804BFT4	1
			100A	DS1004GDT4	1	DS1004BFT4	1
	Yellow plate 48x48 mm, red knob	3	50A	DS0503GDY4	1	DS0503BFY4	1
			63A	DS0633GDY4	1	DS0633BFY4	1
			80A	DS0803GDY4	1	DS0803BFY4	1
			100A	DS1003GDY4	1	DS1003BFY4	1
		3+N	50A	DS0504GDY4	1	DS0504BFY4	1
			63A	DS0634GDY4	1	DS0634BFY4	1
			80A	DS0804GDY4	1	DS0804BFY4	1
			100A	DS1004GDY4	1	DS1004BFY4	1

Rear-mount
switches



Base mount
switches



■ IP66 handles with Ø22mm (0,87") single-hole and nut fixing

Non padlockable handles		poles	Ie AC21	Ø22mm (0,87") single-hole and nut fixing	Pack	Ø22mm (0,87") single-hole and nut fixing	Pack
	Grey plate 64x64 mm, black knob	3	50A	DS0503GDV6	1	DS0503BFV6	1
			63A	DS0633GDV6	1	DS0633BFV6	1
			80A	DS0803GDV6	1	DS0803BFV6	1
			100A	DS1003GDV6	1	DS1003BFV6	1
		3+N	50A	DS0504GDV6	1	DS0504BFV6	1
			63A	DS0634GDV6	1	DS0634BFV6	1
			80A	DS0804GDV6	1	DS0804BFV6	1
			100A	DS1004GDV6	1	DS1004BFV6	1
	Grey plate 48x48 mm, black knob	3	50A	DS0503GDV4	1	DS0503BFV4	1
			63A	DS0633GDV4	1	DS0633BFV4	1
			80A	DS0803GDV4	1	DS0803BFV4	1
			100A	DS1003GDV4	1	DS1003BFV4	1
		3+N	50A	DS0504GDV4	1	DS0504BFV4	1
			63A	DS0634GDV4	1	DS0634BFV4	1
			80A	DS0804GDV4	1	DS0804BFV4	1
			100A	DS1004GDV4	1	DS1004BFV4	1
	Yellow plate 64x64 mm, red knob	3	50A	DS0503GDW6	1	DS0503BFW6	1
			63A	DS0633GDW6	1	DS0633BFW6	1
			80A	DS0803GDW6	1	DS0803BFW6	1
			100A	DS1003GDW6	1	DS1003BFW6	1
		3+N	50A	DS0504GDW6	1	DS0504BFW6	1
			63A	DS0634GDW6	1	DS0634BFW6	1
			80A	DS0804GDW6	1	DS0804BFW6	1
			100A	DS1004GDW6	1	DS1004BFW6	1
	Yellow plate 48x48 mm, red knob	3	50A	DS0503GDW4	1	DS0503BFW4	1
			63A	DS0633GDW4	1	DS0633BFW4	1
			80A	DS0803GDW4	1	DS0803BFW4	1
			100A	DS1003GDW4	1	DS1003BFW4	1
		3+N	50A	DS0504GDW4	1	DS0504BFW4	1
			63A	DS0634GDW4	1	DS0634BFW4	1
			80A	DS0804GDW4	1	DS0804BFW4	1
			100A	DS1004GDW4	1	DS1004BFW4	1

DS 50-63-80-100A series

Base mounting



Direct operation
Black knob



For standard cabinets
45mm (1.77") slots
Black knob

Rear mounting



2 screw fixing
at 28mm
vertical distance



4 screw fixing
36x36mm (1.42"x1.42")
or 48x48mm (1.89"x1.89")



ø 22mm (ø 0.87")
single hole
and nut fixing

Direct operation

poles	Ie AC21	Code	Pack	Code	Pack	Code	Pack	Code	Pack	Code	Pack
3	50A	DS0503BFCD	1	DS0503BDDN	1	DS0503R	1	DS0503P	1	DS0503G	1
	63A	DS0633BFCD	1	DS0633BDDN	1	DS0633R	1	DS0633P	1	DS0633G	1
	80A	DS0803BFCD	1	DS0803BDDN	1	DS0803R	1	DS0803P	1	DS0803G	1
	100A	DS1003BFCD	1	DS1003BDDN	1	DS1003R	1	DS1003P	1	DS1003G	1
3+N	50A	DS0504BFCD	1	DS0504BDDN	1	DS0504R	1	DS0504P	1	DS0504G	1
	63A	DS0634BFCD	1	DS0634BDDN	1	DS0634R	1	DS0634P	1	DS0634G	1
	80A	DS0804BFCD	1	DS0804BDDN	1	DS0804R	1	DS0804P	1	DS0804G	1
	100A	DS1004BFCD	1	DS1004BDDN	1	DS1004R	1	DS1004P	1	DS1004G	1

Additional poles and auxiliary contacts



Code	Description	Pack
XC012AB	Auxiliary contact NO for DS50-63-80-100 base mounting	5
XC012CB	Auxiliary contact NC for DS50-63-80-100 base mounting	5
XC050PB	DS50 4th pole early make/late break (for Neutral) base mounting	5
XC063PB	DS63 4th pole early make/late break (for Neutral) base mounting	5
XC100PB	DS80/DS100 4th pole early make/late break (for Neutral) base mounting	5
XC100GB	Earth pole for DS50-63-80-100 base mounting	5
XC012AR	Auxiliary contact NO for DS50-63-80-100 rear mounting	5
XC012CR	Auxiliary contact NC for DS50-63-80-100 rear mounting	5
XC050PR	DS50 4th pole early make/late break (for Neutral) rear mounting	5
XC063PR	DS63 4th pole early make/late break (for Neutral) rear mounting	5
XC100PR	DS80/DS100 4th pole early make/late break (for Neutral) rear mounting	5
XC100GR	Earth pole for DS50-63-80-100 rear mounting	5

■ Shafts



Code	Description	Pack
PALBL300	Shaft L=300mm Q5	5
PALBL500	Shaft L=500mm Q5	5
PALBL055	Shaft L=55mm Q5	5
PALBL075	Shaft L=75mm Q5	5
PALBL095	Shaft L=95mm Q5	5
PALBL115	Shaft L=115mm Q5	5
PALBL135	Shaft L=135mm Q5	5
PALBL155	Shaft L=155mm Q5	5
PALBL175	Shaft L=175mm Q5	5

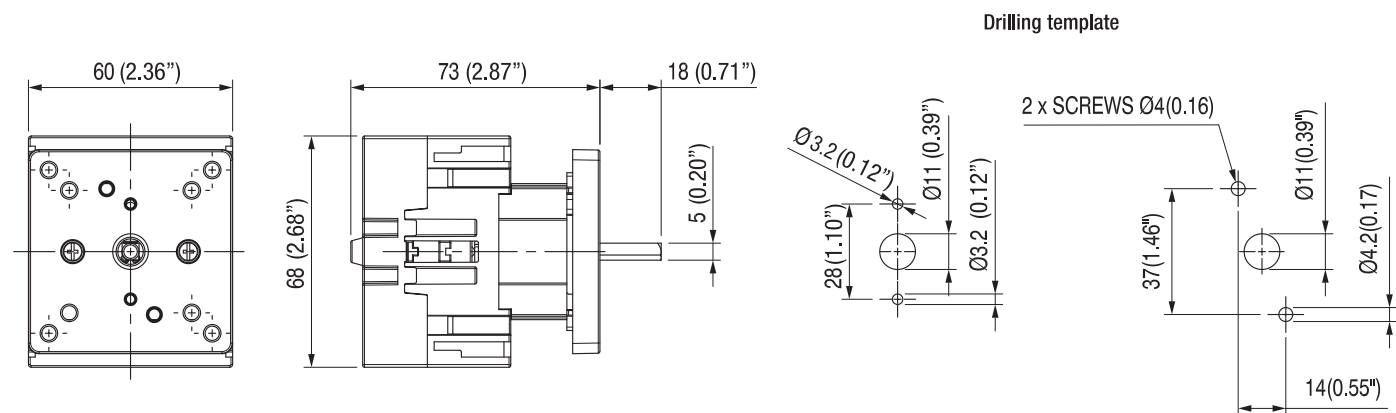
■ Terminal covers



Code	Description	Pack
DS100PR3B	Couple of terminal covers for DS 50-63-80-100A (base mounting)	5
DS100PR1B	Couple of terminal covers for additional pole DS 50-63-80-100A (base mounting)	5
DS100PR3R	Couple of terminal covers for DS 50-63-80-100A (rear mounting)	5
DS100PR1R	Couple of terminal covers for additional pole DS 50-63-80-100A (rear mounting)	5

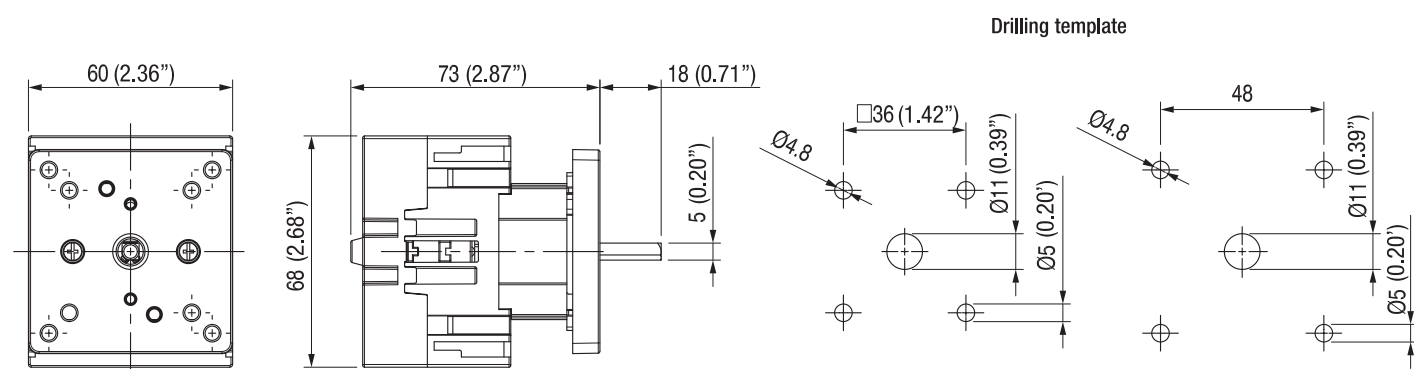
■ Rear mounting - 2 holes with screws

Measures in mm (in)



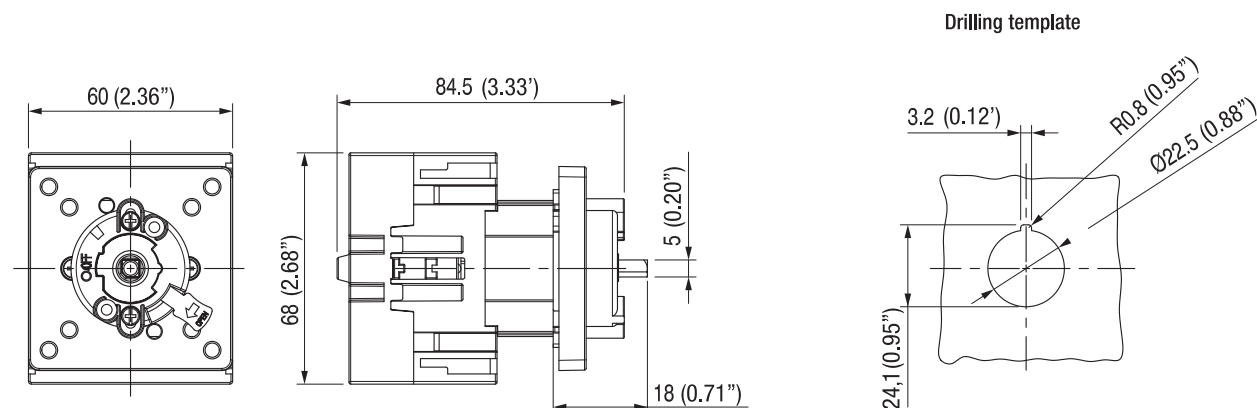
■ Rear mounting - 4 holes with screws

Measures in mm (in)



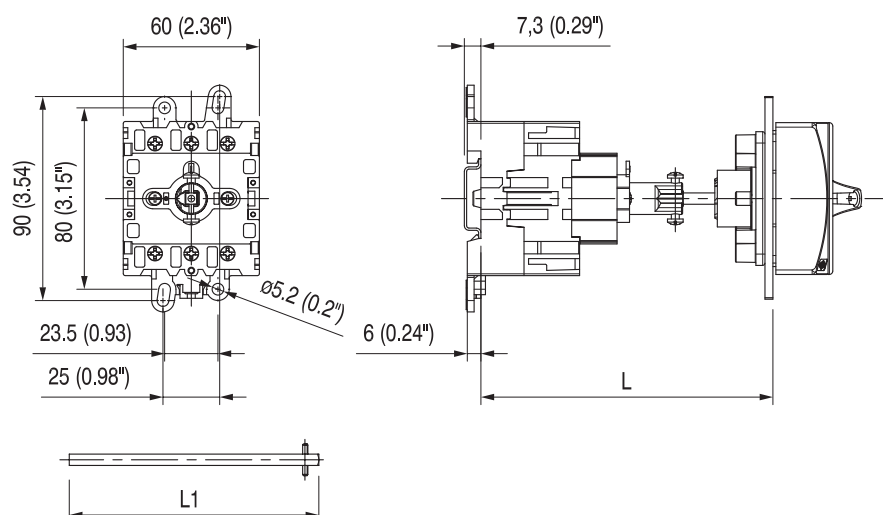
■ Rear mounting - Ø 22mm (0,87") single hole with locking nut

Measures in mm (in)



■ Base mounting

(DS 50-63-80-100A) - Measures in mm (in)

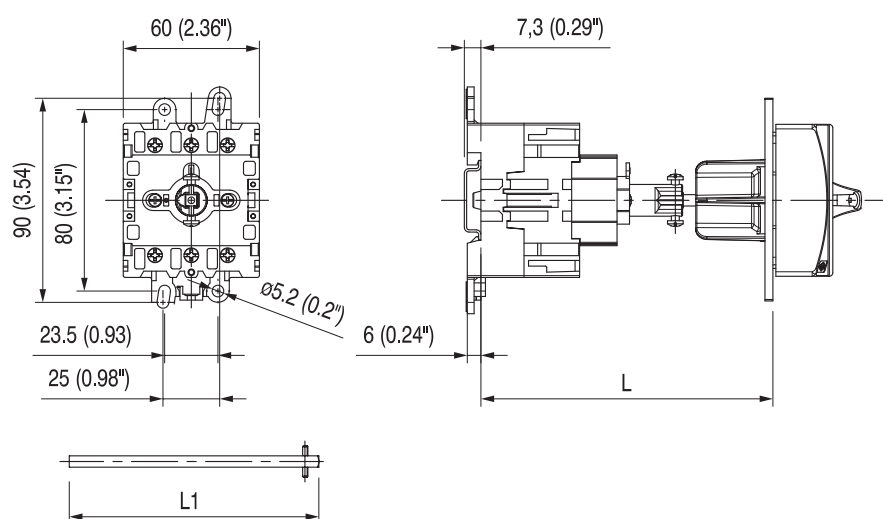


Overall length (min-max)**
for different shaft length (L1):

L1		
175*	L (mm)	114 - 258
6.89*	L (in)	4.49" - 10.15"
300	L (mm)	114 - 383
11.81	L (in)	4.49" - 15.07"
500	L (mm)	114 - 258
19.68	L (in)	4.49" - 22.95"

* Standard shaft, bundled

** Minimum length obtainable by cutting the shaft.



Overall length (min-max)**
for different shaft length (L1):

L1		
175*	L (mm)	125 - 262
6.89*	L (in)	4.92" - 10.31"
300	L (mm)	125 - 387
11.81	L (in)	4.92" - 15.23"
500	L (mm)	125 - 587
19.68	L (in)	4.92" - 23.11"

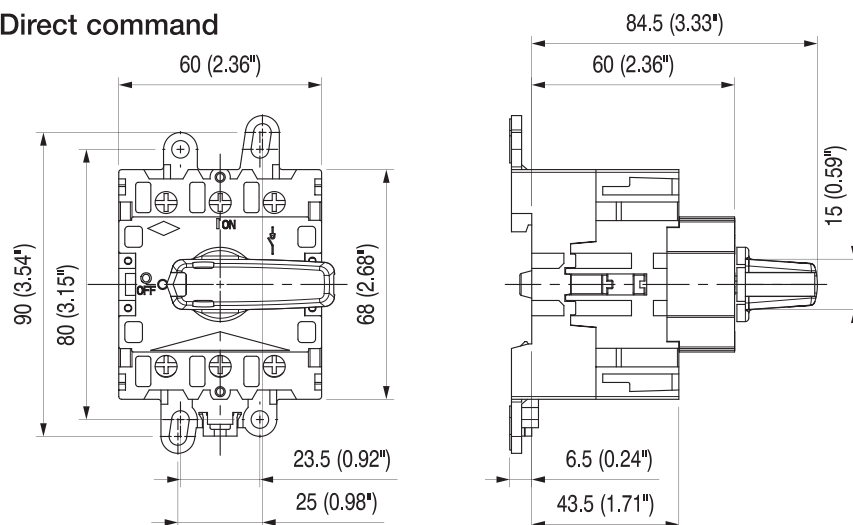
* Standard shaft, bundled

** Minimum length obtainable by cutting the shaft.

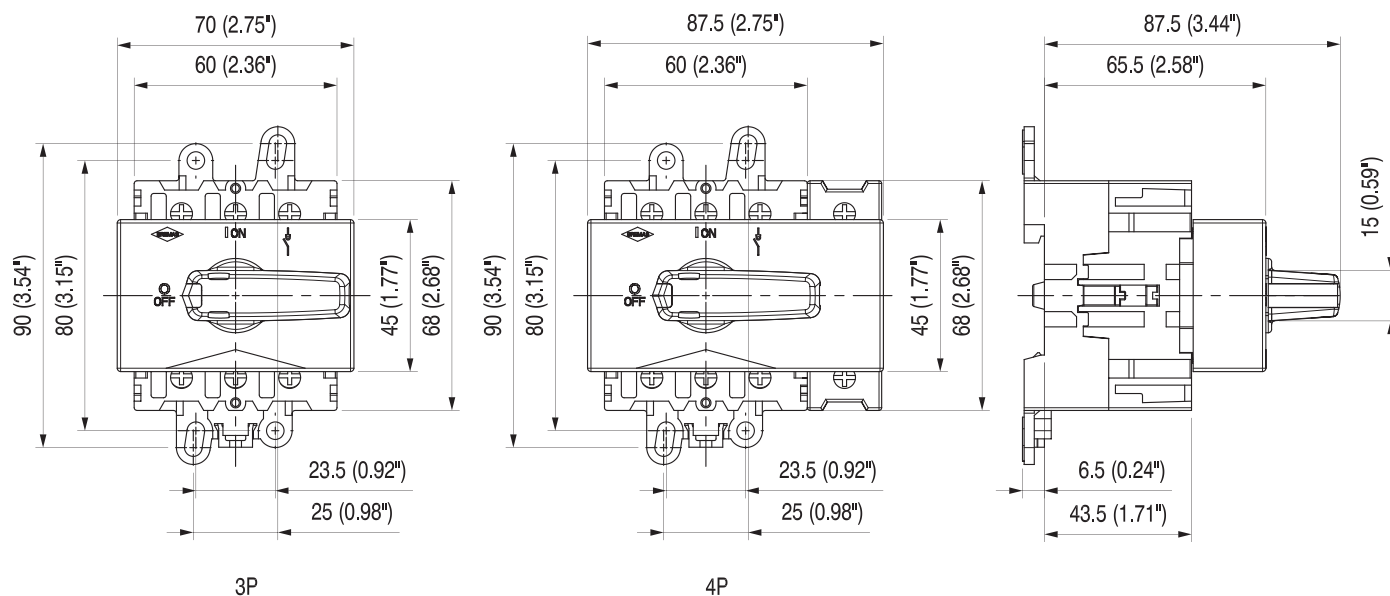
■ Base mounting

Measures in mm (in)

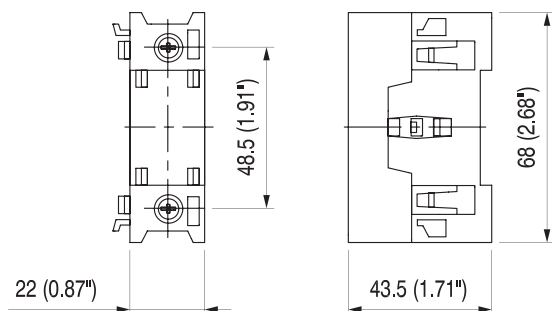
Direct command



DDN version - For panel board



Fourth pole (additional/auxiliary)





Disconnect switches

TS
series

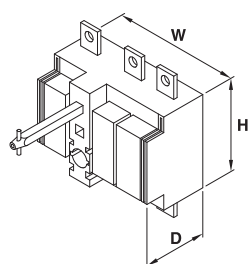
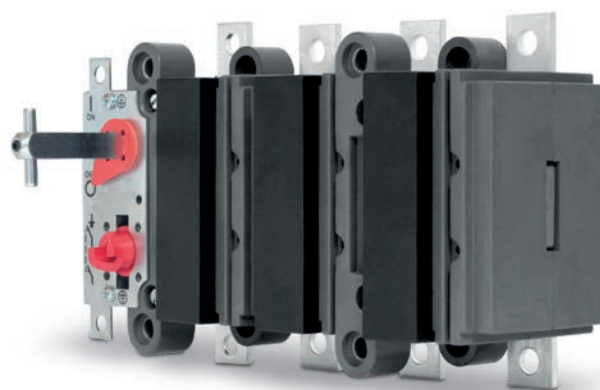
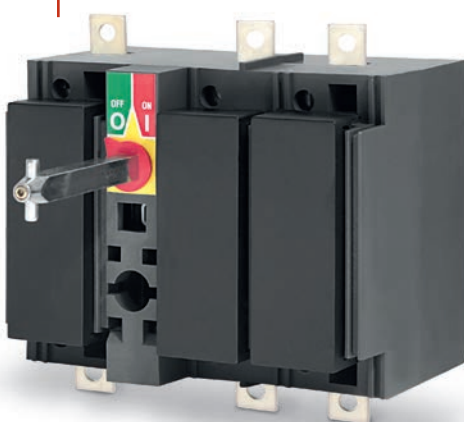
Overview

The switches **series TS** have the following main design features:

- Polyester self-extinguishing and anti-trace insulating housing
- Silver plated electrolytic copper fix and moving contacts
- Double breaking for pole.
- High closing and opening speed, independent from the operator
- Feeder connection is possible either in the upper in on the lower side

■ Size S1 (125A) and
Size S2 (160A; 200A; 250A)

■ Size S3 (400A; 630A) and
Size S4 (800A; 1000A)



Measures * in mm (in)	H	W	D
Size S1	3 pole	129 (5.08")	88
	4 pole	160 (3.30")	(3.46")
Size S2	3 pole	174 (6.85")	105
	4 pole	204 (8.03")	(4.13")

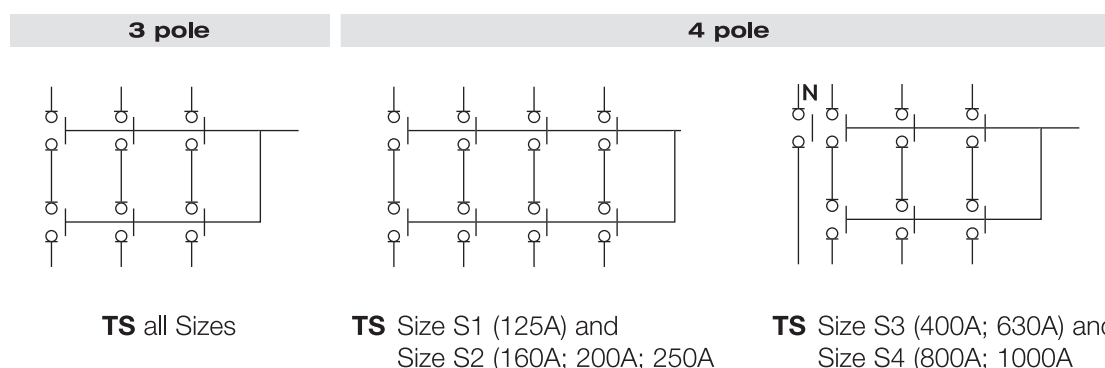
Measures * in mm (in)	H *	W	D
Size S3	3-4 pole	251	125
		(6.34" ÷ 7.36")	(9.88")
Size S4	3-4 pole	325	145
		(9.37")	(12.79")

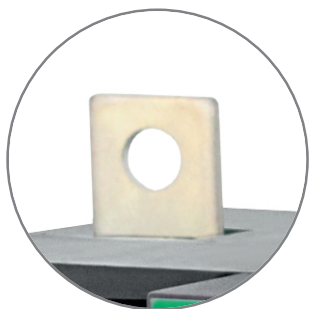
Note: * dimension H depends on the extension of the current bars, which may change with the rating.
Shaft or other installed accessories are not considered.

- The actuator always respects the real position of the contacts. This type of control is called "positive operation". The auxiliary contacts are directly acted from the operating mechanism.
- 4 pole switch-disconnectors are suitable for all-phase breaking (the Neutral contact closes before and opens after the phases)
- **TS** series switch-disconnectors are suitable for polluted ambient and tropical climates according to IEC 68-2 Standards



Two contact
blocks in series
result in
4 breaking
for phase

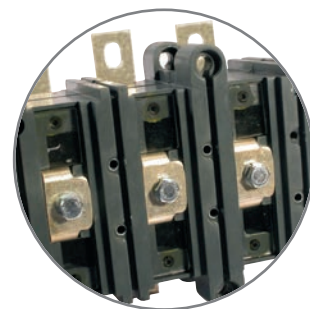




Bolt connection
is standard on
all the TS range



Screw connection
available with 125A
rating (TS_S execution)



Visible isolation
available
(TS_V execution)

A complete range of optional accessories allows the use of TS switch-disconnectors in several installations.

Standard bundle handle with door interlock in closed position and possibility to install a legend with 0-1 positions (IEC Standard) or ON-OFF positions (BS Standard).

Standard handle is IP54 (IP55 using an optional handle washer) and can be locked in open position with max 3 padlocks. Optional handles are available that are padlockable both in open and closed position (door interlock override optional as well).



Handle M801 for TS switches in Size S1 and Size S2.



Handle M1201 for TS switches in Size S3.



Handle M1301 for TS switches in Size S4.

Note: several additional current ratings are available on request up to 2500A.

TS switch-disconnectors are also available on request in 6-8 pole versions, with the same dimensions of the 3-4 pole executions.

Technical data IEC 947-3 EN 60947-3

SIZE

Rated insulation voltage	Ui	V
Rated impulse withstand voltage	Uimp	kV
Rated thermal current for open switch	Ith	A
Rated thermal current for enclosed switches	Ithe	A
Number of poles		
Power dissipation each pole	W	

Rated operating current Ie

AC-22A Switching of mixed resistive loads, including moderate overloads	Ie	690V	A
		1000V	A

Rated operating power

AC-23A Switching of motor loads or other highly inductive loads 3 phase - 3 pole	Ie	415V	Kw (A)
		500V	Kw (A)
		690V	Kw (A)
DC-23A Switching of motor loads or other highly inductive loads	Ie	220V	Kw (A)
		440V	Kw (A)
		600V	Kw (A)
Reactive power ¹		380V	kVAr
Rated short time withstand current (1s)	Icw		kA
Rated short-circuit make capacity	Icm		kA
Mechanical life	operations		no.
Electrical life	operations		no.

Weigth

3 pole with link bar covers	Kg
4 pole with link bar covers (4° leaning pole)	Kg
3 pole with visible isolation	Kg
4 pole with visible isolation (4° leaning pole)	Kg
3 pole	Kg
4 pole	Kg

Note:

¹ = due to the presence of harmonics and to the tolerances of capacitors, nominal values must be reduced by 33%

² = data about the 6 and 8 pole versions are available on request

Normal service, mounting and transportation conditions

- storage and transport ambient temperature -25° C + 55° C
- operative ambient temperature -5° C + 45° C
- relative humidity max 95%
- rated frequency 50-60 Hz
- altitude max 2000 m a.s.l.
- mounting in enclosure:

In case of utilisation at full load and without adequate ventilation, ensure a volume of about 5 time the volume of the switch.



Performances shall be derated up to 40% according to the environmental temperature.

For other operating conditions please contact Brema Ersce.


TS125 S1	TS160 S2	TS200 S2	TS250 S2	TS400 S3	TS630 S3	TS800 S4	TS1000 S4
1000	1000	1000	1000	1000	1000	1000	1000
6	6	6	6	8	8	8	8
125	160	200	250	400	630	800	1000
100	125	160	200	340	550	630	800
3-4 ²	3-4 ²	3-4 ²	3-4 ²	3-4 ²	3-4 ²	3-4 ²	3-4 ²
6	6	7,5	16	20	50	50	55
125	-	-	250	-	-		
	160	200		400	630	800	1000
55 (125)	75 (160)	96 (200)	132 (250)	200 (400)	355 (630)	400 (800)	500 (1000)
75 (125)	100 (125)	120 (200)	150 (220)	280 (400)	425 (630)	560 (800)	670 (1000)
90 (125)	140 (125)	175 (200)	175 (200)	375 (400)	375 (400)	710 (800)	710 (800)
28 (125)	35 (160)	44 (200)	55 (250)	88 (400)	139 (630)	176 (800)	220 (1000)
55 (125)	70 (160)	88 (200)	97 (220)	176 (400)	277 (630)	352 (800)	440 (1000)
75 (125)	96 (125)	96 (160)	150 (210)	240 (400)	378 (630)	480 (800)	600 (1000)
55	70	80	110	250	315	350	400
6	10	10	10	18	20	25	40
15	25	25	25	44	50	63	84
8000	8000	8000	8000	5000	5000	3000	3000
1000	1000	1000	1000	1000	1000	500	500
-	-	-	-	4,7	5,1	9,5	10,6
-	-	-	-	4,9	5,6	10	11,2
-	-	-	-	4,5	-	8,4	9,8
-	-	-	-	4,7	-	8,9	10,4
1,3	2,1	2,1	2,1	-	-	-	-
1,4	2,5	2,5	2,5	-	-	-	-

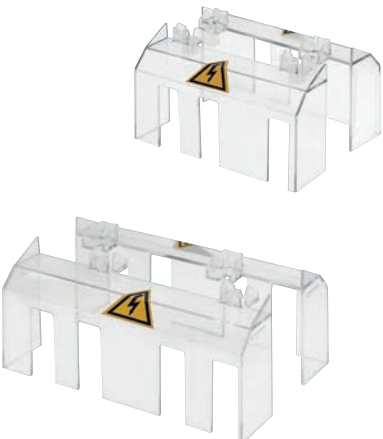



Switch-disconnectors


	Size	Ie AC21	poles	Code	Model	Pack	Code	Model	Pack.
	S1	125	3	VC522100	TS1253M801	1	-	-	1
			4	VC523900	TS1254M801	1	-	-	1
	S2	160	3	VC524700	TS1603M801	1	-	-	1
			4	VC525400	TS1604M801	1	-	-	1
		200	3	VC853800	TS2003M801	1	-	-	1
			4	VC854600	TS2004M801	1	-	-	1
		250	3	VC855400	TS2503M801	1	-	-	1
			4	VC856200	TS2504M801	1	-	-	1
	S3	400	3	VC416600	TS4003M1201	1	VC437200	TS4003VM1201	1
			4	VC417400	TS4004M1201	1	VC438000	TS4004VM1201	1
		630	3	VC418200	TS6303M1201	1	VC439800	TS6303VM1301	1
			4	VC419000	TS6304M1201	1	VC440600	TS6304VM1301	1
	S4	800	3	VC420800	TS8003M1301	1	VC441400	TS8003VM1301	1
			4	VC421600	TS8004M1301	1	VC442200	TS8004VM1301	1
		1000	3	VC422400	TS10003M1301	1	VC443000	TS10003VM1301	1
			4	VC423200	TS10004M1301	1	VC444800	TS10004VM1301	1


Switch-disconnectors with screw terminals

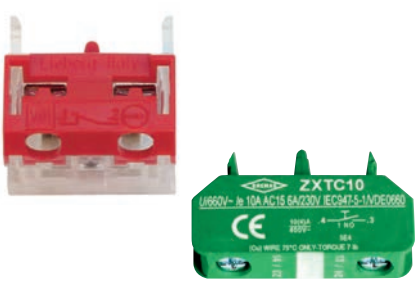
	Size	Ie AC21	poles	Code	Model	Pack
	S1	125	3	VC526200	TS1253SM801	1
			4	VC527000	TS1254SM801	1

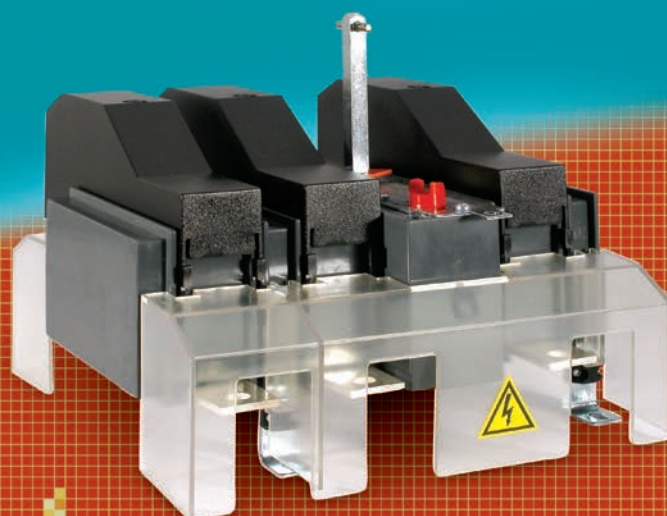
	Code	Model	Description	Pack
	VC822500	S55	protection shield 3 pole o 4 pole add. for TS Size S3	1
	VC824100	S555	protection shield 3 pole o 4 pole add. for TS Size S4	1
	VC723500	S31C	upper terminal cover 3 pole for TF / TS Size S1	1
	VD692100	I31	lower terminal cover 3 pole for TF / TS Size S1	1
	VC724300	S41	upper terminal cover 4 pole for TF / TS Size S1	1
	VD693900	I41	lower terminal cover 4 pole for TF / TS Size S1	1
	VD696200	I32	lower terminal cover 3 pole for TS Size S2	1
	VD697000	I42	lower terminal cover 4 pole for TS Size S2	1
	VD694700	S32	upper terminal cover 3 pole for TS Size S2	1
	VD695400	S42	upper terminal cover 4 pole for TS Size S2	1
	VC804300	S123	upper terminal cover 3 pole and 4 pole add. for TF / TS Size S3	1
	VC805000	I123	lower terminal cover 3 pole and 4 pole add. for TF / TS Size S3	1
	VC806800	S203	upper terminal cover 3 pole and 4 pole add. for TF / TS Size S4	1
	VC807600	I203	lower terminal cover 3 pole and 4 pole add. for TF / TS Size S4	1

	Code	Model	Description	Pack
	VC728400	T8	standard extension shaft L=180mm Q8 for TF / TS Sizes S1-S2	1
	VD700200	T8/1	extension shaft L=280mm Q8 for TF / TS Sizes S1-S2	1
	VC797900	T12	standard extension shaft L=180mm Q12 for TF / TS Sizes S3-S4 and TSC / TSD Size S2	1
	VC798700	T12/1	standard extension shaft L=280mm Q12 for TF / TS Sizes S3-S4 and TSC / TSD Size S2	1

	Code	Model	Description	Pack
	VC733400	M801	long black handle 0-1 standard for TF/ TS Size S1- S2	1
	VC735900	M801DS	long black handle 0-1 with door-interlock override for TF / TS Size S1 - S2	1
	VC742500	M801R	long red handle 0-1 standard for TF / TS Size S1 - S2	1
	VC744100	M801RDS	long red handle 0-1 with door-interlock override for TF / TS Size S1 - S2	1
	VC756500	M1201	short black handle 0-1 standard for TF / TS Size S3	1
	VC757300	M12C01	short black handle 0-1 with key lock for TF / TS Size S3	1
	VC758100	M12DS01	short black handle 0-1 with door-interlock override for TF / TS Size S3	1
	VC768000	M12R01	short red handle 0-1 standard for TF / TS Size S3	1
	VC770600	M12RDS01	short red handle 0-1 with door-interlock override for TF / TS Size S3	1
	VC771400	M1301	long black handle 0-I standard for TF / TS Size S4	1
	VC772200	M13C01	short black handle 0-I with key lock for TF / TS Size S4	1
	VC773000	M13DS01	short black handle 0-I with door-interlock override for TF / TS Size S4	1
	VC783900	M13R01	short red handle 0-I standard for TF / TS Size S4	1
	VC785400	M13RDS01	long red handle 0-I with door-interlock override for TF / TS Size S4	1

	Code	Model	Description	Pack
	VC792000	G12	handle washer IP55 for TF / TS (S3-S4); TSC / TSD (S1-S2)	1
	VC748200	G8	handle washer IP55 for TF (S0-S1-S2); TS (S1-S2)	1

	Code	Model	Description	Pack
	C10B	C10B	auxiliary contact 1NO for TS size S1-S2	5
	C01B	C01B	auxiliary contact 1NC for TS size S1-S2	5
	VC846400	AU1	auxiliary contacts 1NO for TF / TS / TSC / TSD size S3-S4	1
	VC847200	AU2	auxiliary contacts 1NC for TF / TS / TSC / TSD size S3-S4	1
	VC848000	AU3	auxiliary contacts 1NO+1NC for TF / TS / TSC / TSD size S3-S4	1
	VC849800	AU4	auxiliary contacts 1NO+1NO for TF / TS / TSC / TSD size S3-S4	1
	VC851400	AU6	auxiliary contacts 2NO+2NC for TF / TS / TSC / TSD size S3-S4	1
	VC852200	AU7	auxiliary contacts 2NO+2NO for TF / TS / TSC / TSD size S3-S4	1
	VC853000	AU8	auxiliary contacts 2NC+2NC for TF / TS / TSC / TSD size S3-S4	1



Change-over and Deviator Switches

TSC
series

TSD
series

Main features

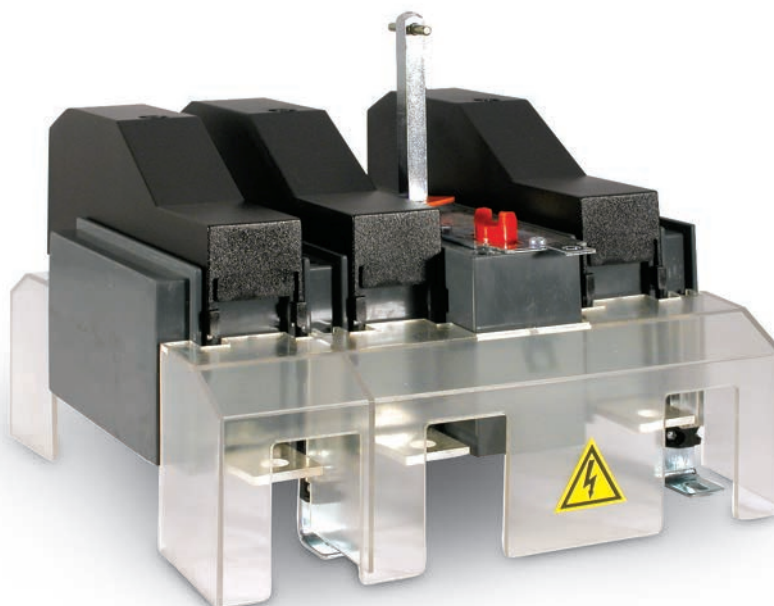
TSC / TSD are respectively change-over switches (II-0-I POSITIONS) and deviator switches (II-I POSITIONS) with manual operation.

Typical applications are:

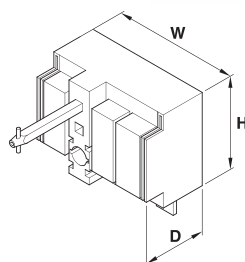
- a) change-over
- b) network inversion
- c) on-load change over of two circuits
- d) safety isolation

Main features and characteristics are:

- Reduced dimensions
- Polyester self-extinguishing and anti-trace insulating housing
- Fix and moving contacts in silver-plated electrolytic copper
- Manual operating device fitted in the insulating case in central position
- High thermal and dynamic performances
- Padlocking facility up to 3 padlocks
- 3 and 4 pole versions
- 4 pole switch-disconnectors suitable for all-phase breaking (the Neutral contact closes before and opens after the phases)



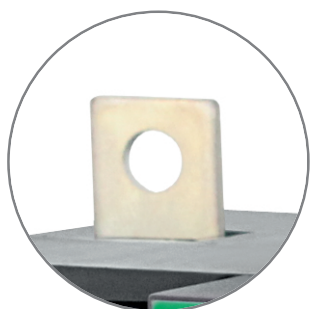
Two contact ■
block in series
result in
4 breaking
per phase



Measures * in mm (in)		H	W	D
Size S1 250A÷630A	3 pole	218	260 (10.24")	121 ÷ 123
	4 pole	(8.58")	307 (12.09")	(4.76" ÷ 4.84")
Size S2 800A÷1600A	3 pole	292	320 (12.60")	137 ÷ 139
	4 pole	(11.5")	392 (15.43")	(5.39" ÷ 5.47")

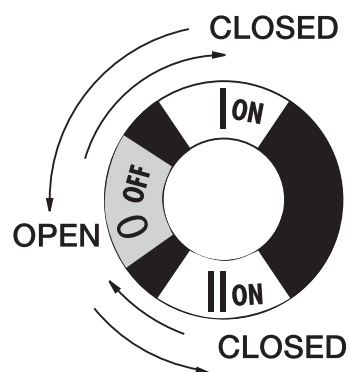
Note: * dimensions H and D depend on the extension and position of the current bars. They may change with the rating.
Shaft or other installed accessories are not considered.

- The actuator always respects the real position of the contacts. This type of control is called "positive operation". The auxiliary contacts are directly acted from the operating mechanism.
- Suitable for polluted ambient and tropical climates according to IEC 68-2 Standards



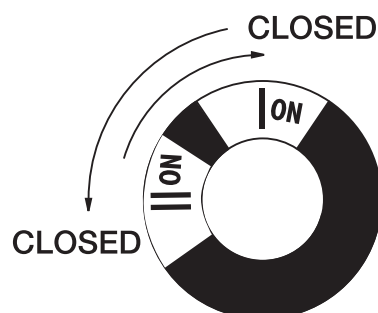
■ **TSC / TSD**
Bolt connection

**TSC
change-over**



■ II-0-I

**TSD
deviator**



■ II-I

A complete range of optional accessories allows the use of TSC / TSD in several installations. Standard bundle handle with door interlock in closed position. Standard handle is IP54 (IP55 using an optional handle washer) and can be locked in open position with max 3 padlocks.



Handle M1203
for TSC in Size S1



Handle size M1205
for TSD in Size S1



Handle size M1303
for TSC in Size S2



Handle size M1305
for TSD in Size S2

Note: 6-8 pole versions are available on request.

Technical data IEC 947-3 EN 60947-3

SIZE

Rated insulation voltage	Ui	V
Rated impulse withstand voltage	Uimp	kV
Rated thermal current for open switch	Ie	A
Number of poles		
Power dissipation each pole	W	
Rated operating current Ie		
AC-21A Switching of resistive loads, including moderate overloads	690V	A
AC-22A Switching of mixed resistive loads, including moderate overloads	690V	A
AC-23A Switching of motor loads or other highly inductive loads 3 phase - 3 pole	415V	A
	690V	A
DC-21A Switching of resistive loads, including moderate overloads	500V	A
DC-22A Switching of mixed resistive loads, including moderate overloads	500V	A
DC-23A Switching of motor loads or other highly inductive loads	400V	A
Reactive power ¹	380V	kVAr
Rated short time withstand current (1s)	Icw	kA
Rated short-circuit make capacity	Icm	kA
Mechanical life (no. of operations)		nr.
Electrical life (no. of operations)		nr.
Switching time I-0-II or II-0-I (for TSC series)		s
Weight		
3 pole with link bar covers		Kg
4 pole with link bar covers (4° leaning pole)		Kg

Note:

¹ = due to the presence of harmonics and to the tolerances of capacitors, nominal values must be reduced by 33%

² = data about the 6 and 8 pole versions are available on request

Normal service, mounting and transportation conditions

- storage and transport ambient temperature -25° C + 55° C
- operative ambient temperature -5° C + 45° C
- relative humidity max 95%
- rated frequency 50-60 Hz
- altitude max 2000 m a.s.l.
- mounting in enclosure:

In case of utilisation at full load and without adequate ventilation, ensure a volume of about 5 time the volume of the switch.
Performances shall be derated up to 40% according to the environmental temperature.

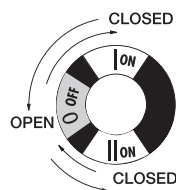
For other operating conditions please contact Bremas.

Reference Standards

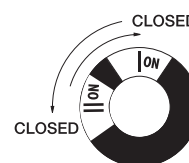
Change-over switches and deviators are designed,
manufactured and tested in compliance with **EN 60947-6-1**.

TSC0250 TSD0250	TSC0400 TSD0400	TSC0630 TSD0630	TSC0800 TSD0800	TSC1000 TSD1000	TSC1250 TSD1250	TSC1600 TSD1600
S1	S1	S1	S2	S2	S2	S2
1000	1000	1000	1000	1000	1000	1000
8	8	8	12	12	12	12
250	400	630	800	1000	1250	1600
3-4 ²	3-4 ²	3-4 ²	3-4 ²	3-4 ²	3-4 ²	3-4 ²
4,7	11	25	22,5	34	53	65
250	400	630	800	1000	1250	1600
250	400	630	800	1000	1250	1600
250	400	630	800	1000	1250	1600
125	160	200	250	315	400	500
250	400	630	800	1000	1250	1600
250	400	630	800	1000	1250	1600
200	250	400	630	800	1000	1000
100	150	250	300	375	450	550
12,5	15	16	30	32	35	35
25	30	32	60	70	73,5	73,5
8000	5000	5000	3000	3000	3000	3000
1000	1000	1000	500	500	500	500
2,5	2,5	2,5	2,5	2,5	2,5	2,5
7	7	7,5	11	15	19	19
7,8	7,8	8,3	17	18,5	20,5	20,5


Change-over switches



Deviator switches



Disconnect switches

	Size	Ie AC21	poles	Code	Model	Pack	Code	Model	Pack
	S1	250	3	VC540300	TSC02503M1203	1	VD555000	TSD02503M1205	1
			4	VC541100	TSC02504M1203	1	VD556800	TSD02504M1205	1
		400	3	VC542900	TSC04003M1203	1	VD559200	TSD04003M1205	1
			4	VC543700	TSC04004M1203	1	VD560000	TSD04004M1205	1
		630	3	VC544500	TSC06303M1203	1	VD563400	TSD06303M1205	1
			4	VC545200	TSC06304M1203	1	VD564200	TSD06304M1205	1
	S2	800	3	VC546000	TSC08003M1303	1	VD567500	TSD08003M1305	1
			4	VC547800	TSC08004M1303	1	VD568300	TSD08004M1305	1
		1000	3	VC548600	TSC10003M1303	1	VD571700	TSD10003M1305	1
			4	VC549400	TSC10004M1303	1	VD572500	TSD10004M1305	1
		1250	3	VC550200	TSC12503M1303	1	VD575800	TSD12503M1305	1
			4	VC551000	TSC12504M1303	1	VD576600	TSD12504M1305	1
		1600	3	VC857000	TSC16003M1303	1	VC858600	TSD16003M1305	1
			4	VC857800	TSC16004M1303	1	VC859400	TSD16004M1305	1

Code	Model	Description	Pack
------	-------	-------------	------



VC844900	K4	link bar cover for TSC / TSD Size S1	1
----------	----	--------------------------------------	---

VC845600	K5	link bar cover for TSC / TSD Size S2	1
----------	----	--------------------------------------	---

VD718400	S09	upper terminal cover 3 pole for TSC / TSD Size S1	1
----------	-----	---	---

VD719200	I09	lower terminal cover 3 pole for TSC / TSD Size S1	1
----------	-----	---	---

VD720000	S09NL	upper terminal cover 4 pole for TSC / TSD Size S1	1
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VD721800	I09NL	lower terminal cover 4 pole for TSC / TSD Size S1	1
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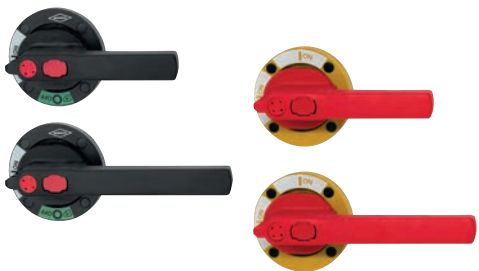
VD722600	S99	upper terminal cover 3 pole for TSC / TSD Size S2	1
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VD723400	I99	lower terminal cover 3 pole for TSC / TSD Size S2	1
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VD724200	S99NL	upper terminal cover 4 pole for TSC / TSD Size S2	1
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VD725900	I99NL	lower terminal cover 4 pole for TSC / TSD Size S2	1
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	Code	Model	Description	Pack
	VC728400	T8	standard extension shaft L=180mm Q8 for TF / TS Sizes S1-S2	1
	VD700200	T8/1	extension shaft L=280mm Q8 for TF / TS Sizes S1-S2	1
	VC794600	T10	standard extension shaft L=180mm Q10 for TSC / TSD Size S1	1
	VC795300	T10/1	standard extension shaft L=280mm Q10 for TSC / TSD Size S1	1
	VC797900	T12	standard extension shaft L=180mm Q12 for TF / TS Sizes S3-S4 and TSC / TSD Size S2	1
	VC798700	T12/1	standard extension shaft L=280mm Q12 for TF / TS Sizes S3-S4 and TSC / TSD Size S2	1

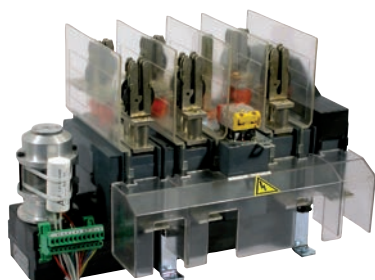
	Code	Model	Description	Pack
	VC762300	M1203	short black handle II-0-I standard for TSC / TSD Size S1-S2	1
	VC763100	M12C03	short black handle II-0-I with key lock for TSC / TSD Size S1-S2	1
	VC764900	M12DS03	short black handle II-0-I with door-interlock override for TSC / TSD Size S1-S2	1
	VC777100	M1303	long black handle II-0-I standard for TSC / TSD Size S2	1
	VC778900	M13C03	short black handle II-0-I with key lock for TSC / TSD Size S2	1
	VC779700	M13DS03	long black handle II-0-I with door-interlock override for TSC / TSD Size S2	1

	Code	Model	Description	Pack
	VC792000	G12	handle washer IP55 for TF / TS (S3-S4); TSC / TSD (S1-S2)	1
	VC748200	G8	handle washer IP55 for TF (S0-S1-S2); TS (S1-S2)	1

	Code	Model	Description	Pack
	VC846400	AU1	auxiliary contacts 1NO for TF / TS / TSC / TSD	1
	VC847200	AU2	auxiliary contacts 1NC for TF / TS / TSC / TSD	1
	VC848000	AU3	auxiliary contacts 1NO+1NC for TF / TS / TSC / TSD	1
	VC849800	AU4	auxiliary contacts 1NO+1NO for TF / TS / TSC / TSD	1
	VC851400	AU6	auxiliary contacts 2NO+2NC for TF / TS / TSC / TSD	1
	VC852200	AU7	auxiliary contacts 2NO+2NO for TF / TS / TSC / TSD	1
	VC853000	AU8	auxiliary contacts 2NC+2NC for TF / TS / TSC / TSD	1

On request

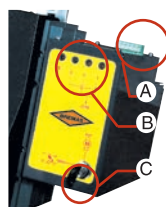
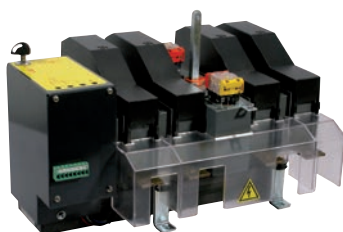
Motor driven change-overs and deviators



Range: 125A ÷ 1600A
 3-4 pole
 Operation directions: II-0-I or II-I
 500V AC 23A 690V AC 22A CEI EN 60947-6-1
 600V DC 22A CEI EN 60947-6-1
 Isolation voltage U_i 1000 V

Electronic control unit

Remotely controls the switch and warnings about possible faults through a local visible signalisation and a remote output.

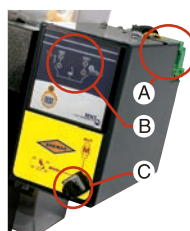
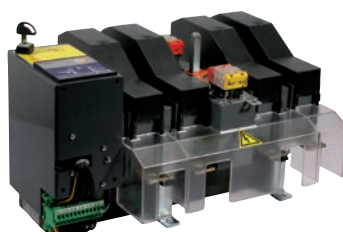


- Abnormal condition signalling LED
- LED to indicate the Main / generator position
- Manual-automatic selector key
- 220V a.c. or 24V d.c. supply voltage

A – Terminal block
 B – Signalling LED
 C – Manual-automatic selector key

Microprocessor unit MNS

This unit continuously monitors the Main line and automatically switches to the auxiliary generator when the line voltage drops low. It also switches back to the line when its voltage rises back to a normal value.



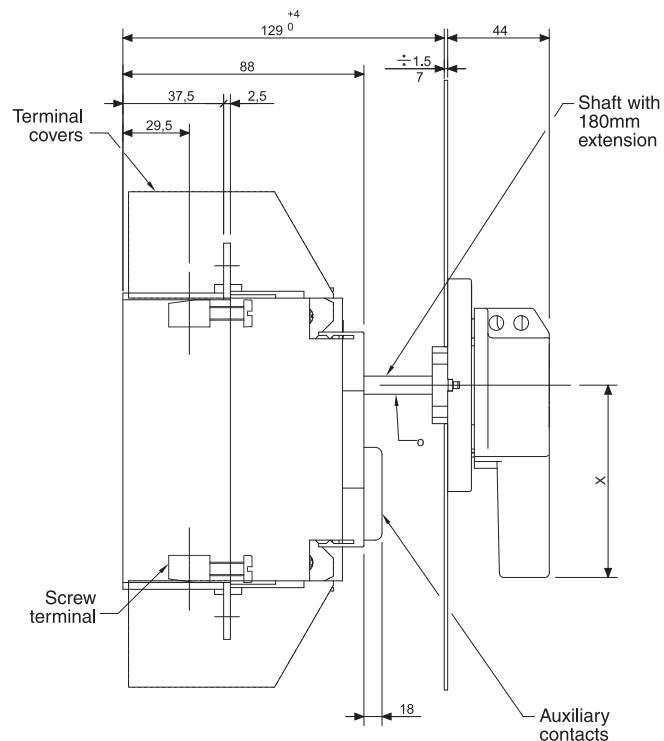
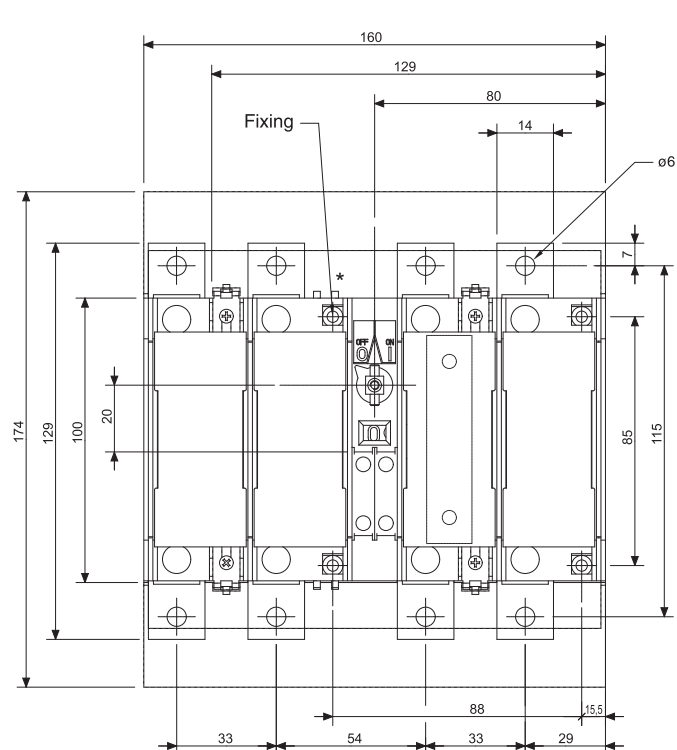
- Abnormal condition signalling LED
- LED to indicate the Main / generator position
- Manual-automatic selector key
- 220V a.c. or 24V d.c. supply voltage

A – Terminal block
 B – Signalling LED
 C – Manual-automatic selector key

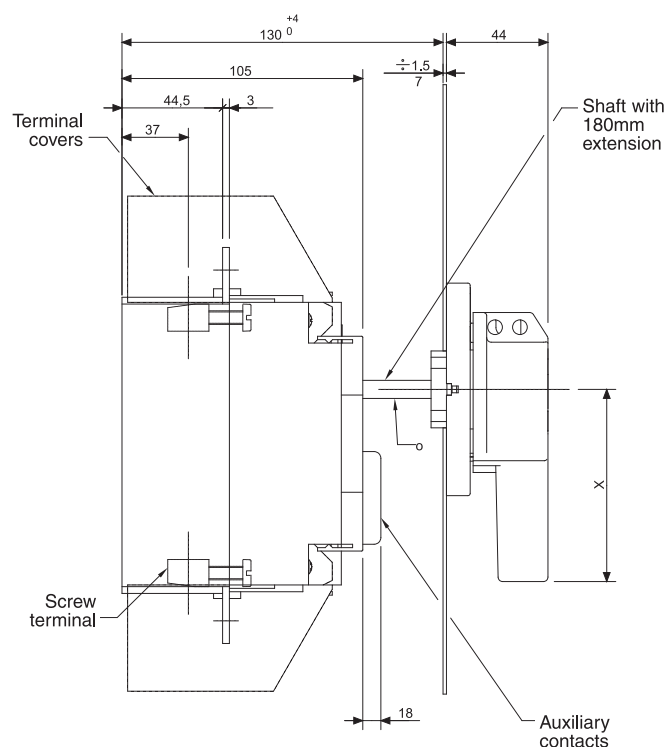
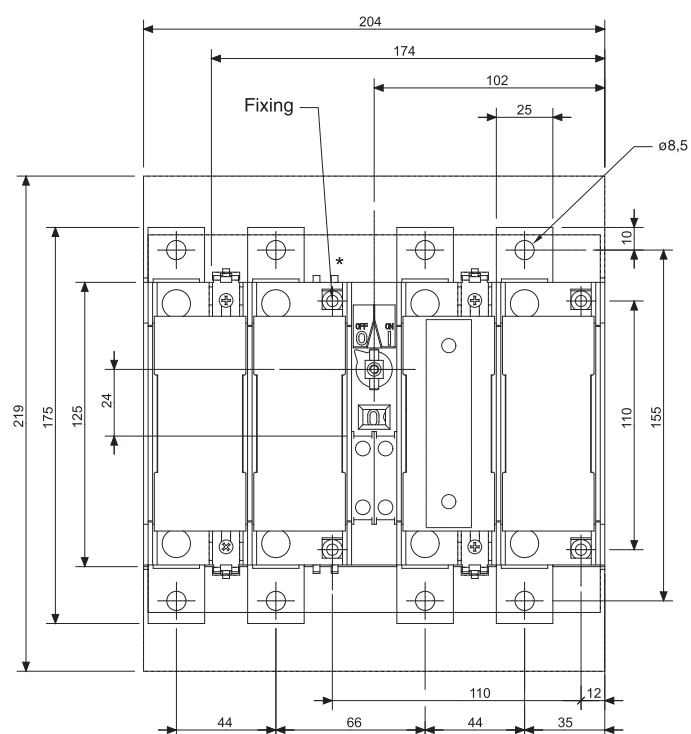
TS, TSC/TSD Series - Dimensions

disconnect switches

TS 125A - Measures in mm
TS Size S1

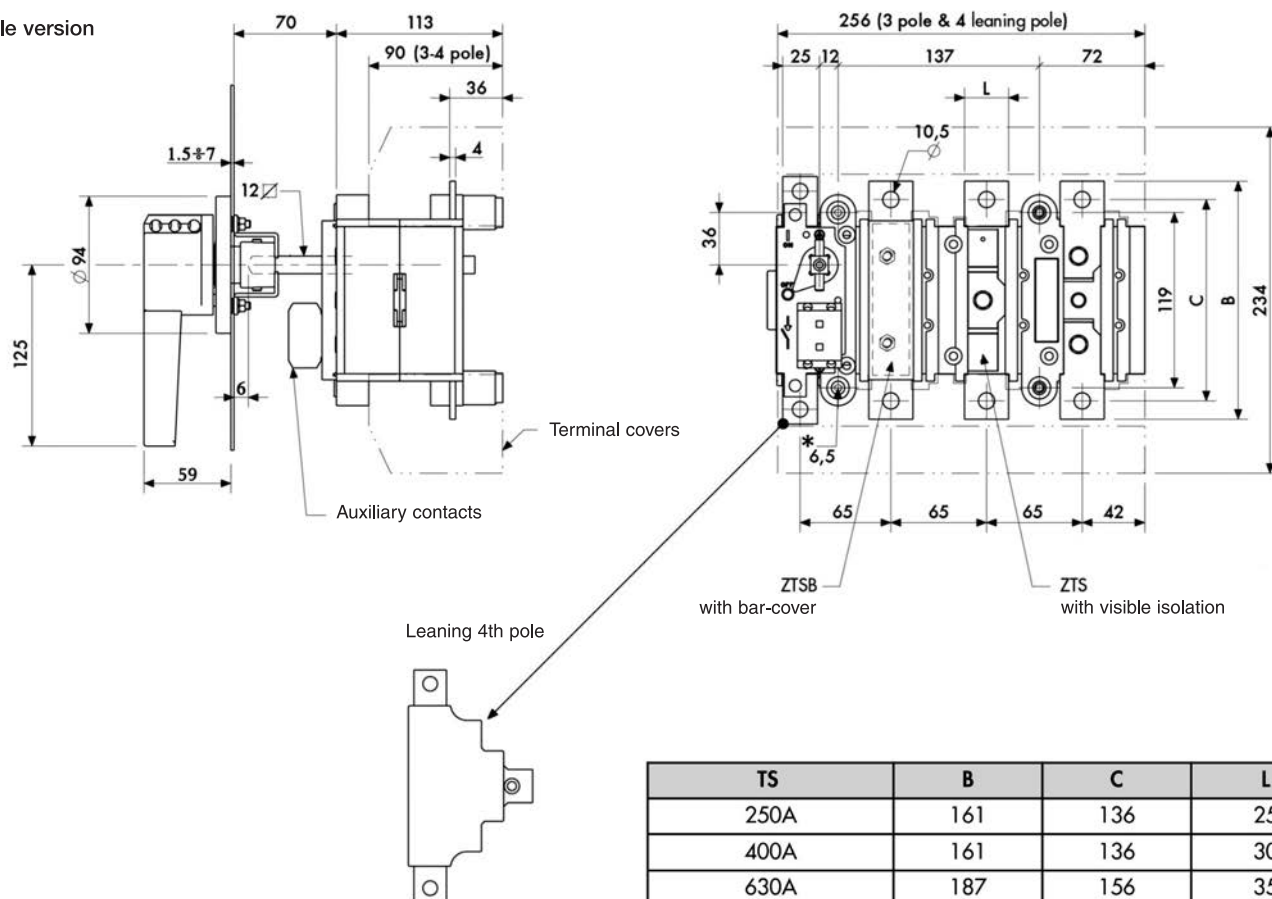


TS 160A÷250A - Measures in mm
TS Size S2



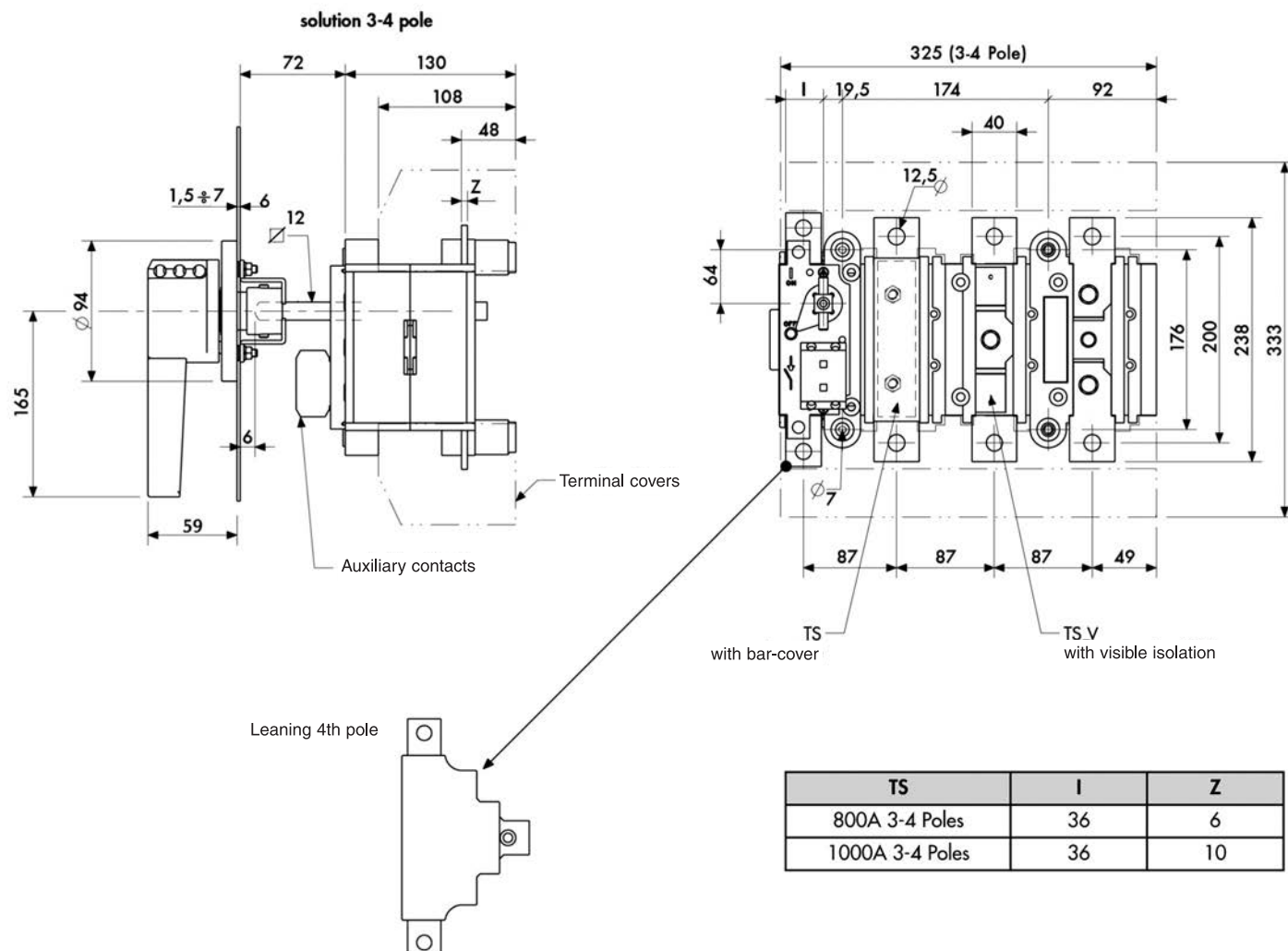
TS 400A÷630A 3-4 pole - Measures in mm TS Size S3

3-4 pole version



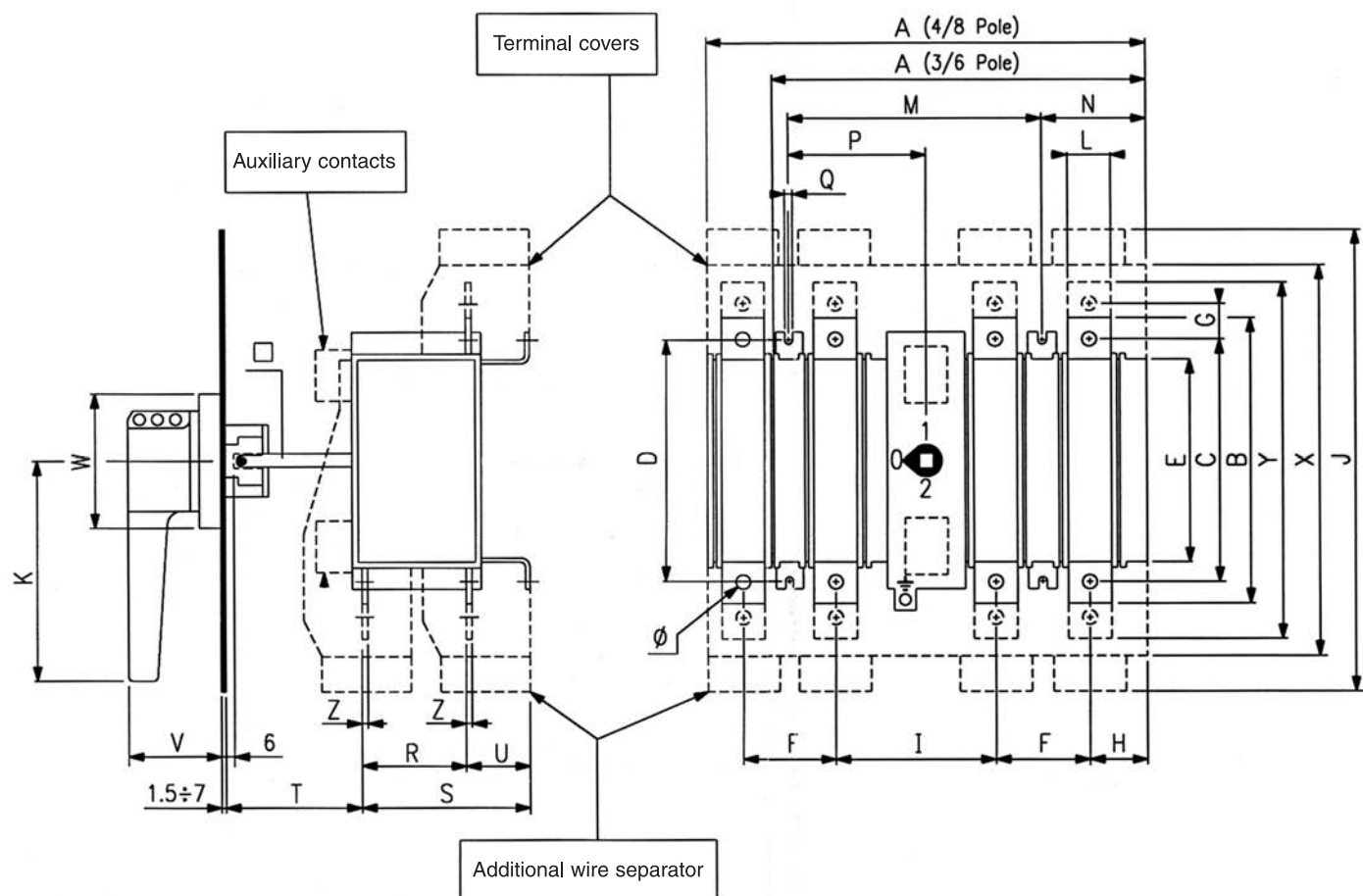
TS	B	C	L
250A	161	136	25
400A	161	136	30
630A	187	156	35

TS 800A÷1000A 3-4 pole - Measures in mm
TS Size S4

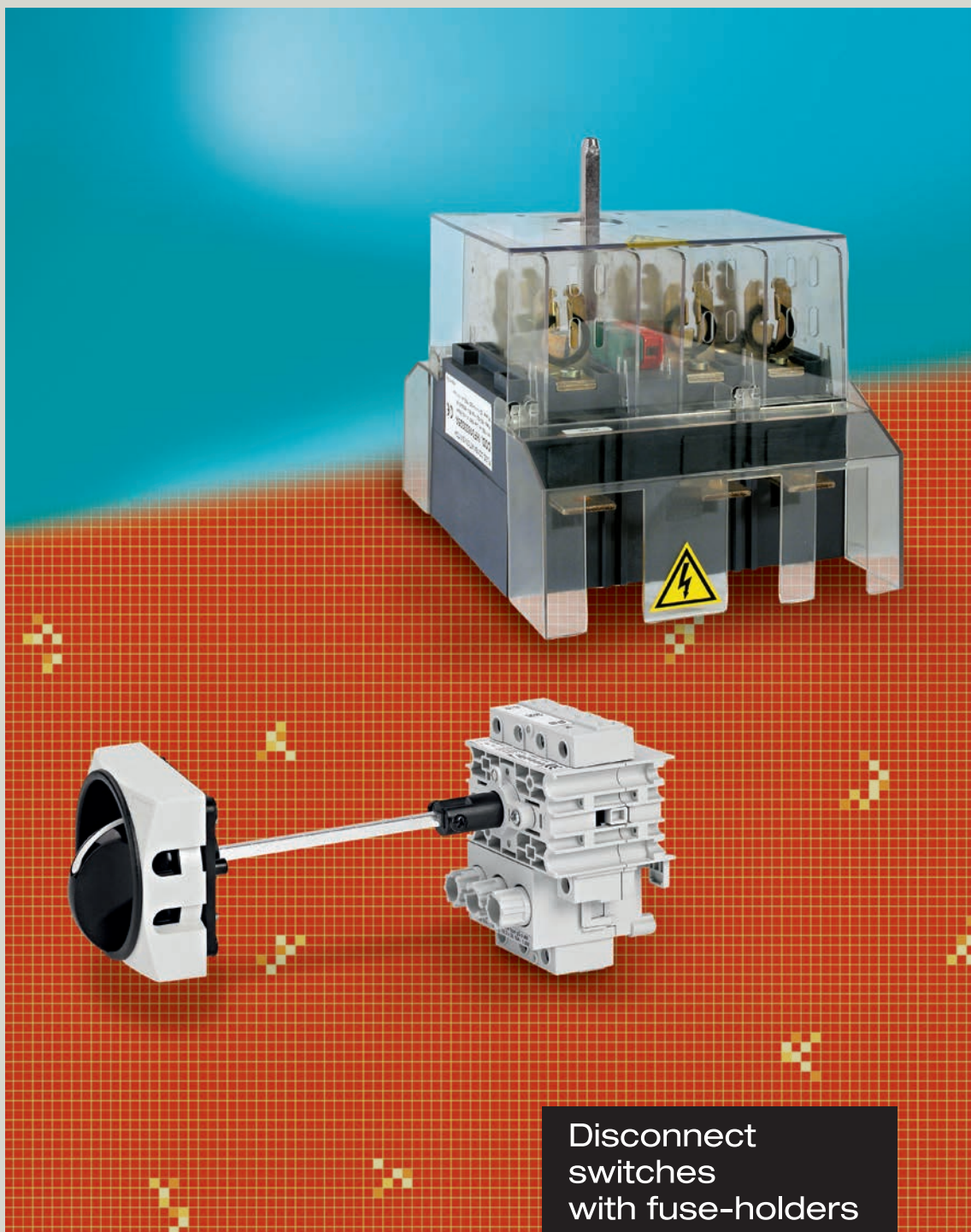


Change-over and deviator switches

TSC / TSD - Measures in mm



	TYPE	A 3 pole	A 4 pole	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	☐	Ø
Size S1	250A													25					77	121							4		
	400A	260	307	218	193	168	142	65	-	39.5	112.3	320	125	30	177	72	96	6.5	78	122	115	43	59	94	274	-	5	10	10.5
	630A													35					79	123						6			
Size S2	800A																		86	137							8		
	1000A	320	392	292	252	230	208	87	-	49	134	435	165	40	221	89	112	6.5			107	48	59	94	384	-	10	12	13
	1250A																		88	139									
	1600A								30																	352	12		



Disconnect
switches
with fuse-holders

XNF
series

TF
series

XNF series TF series

■ Disconnect switches with fuse-holders

General characteristics	199
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■ XNF 16A and 32A series **201**

Overview	202
Standard and approvals	202
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■ TF 63A...630A series **209**

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Technical specifications	212
Order codes	214
Accessories	214
Dimensions	218

■ Handles and plates*

Base mounting handles IP66	124
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* Handles and plates for XNF 16A and 32A series

Overview

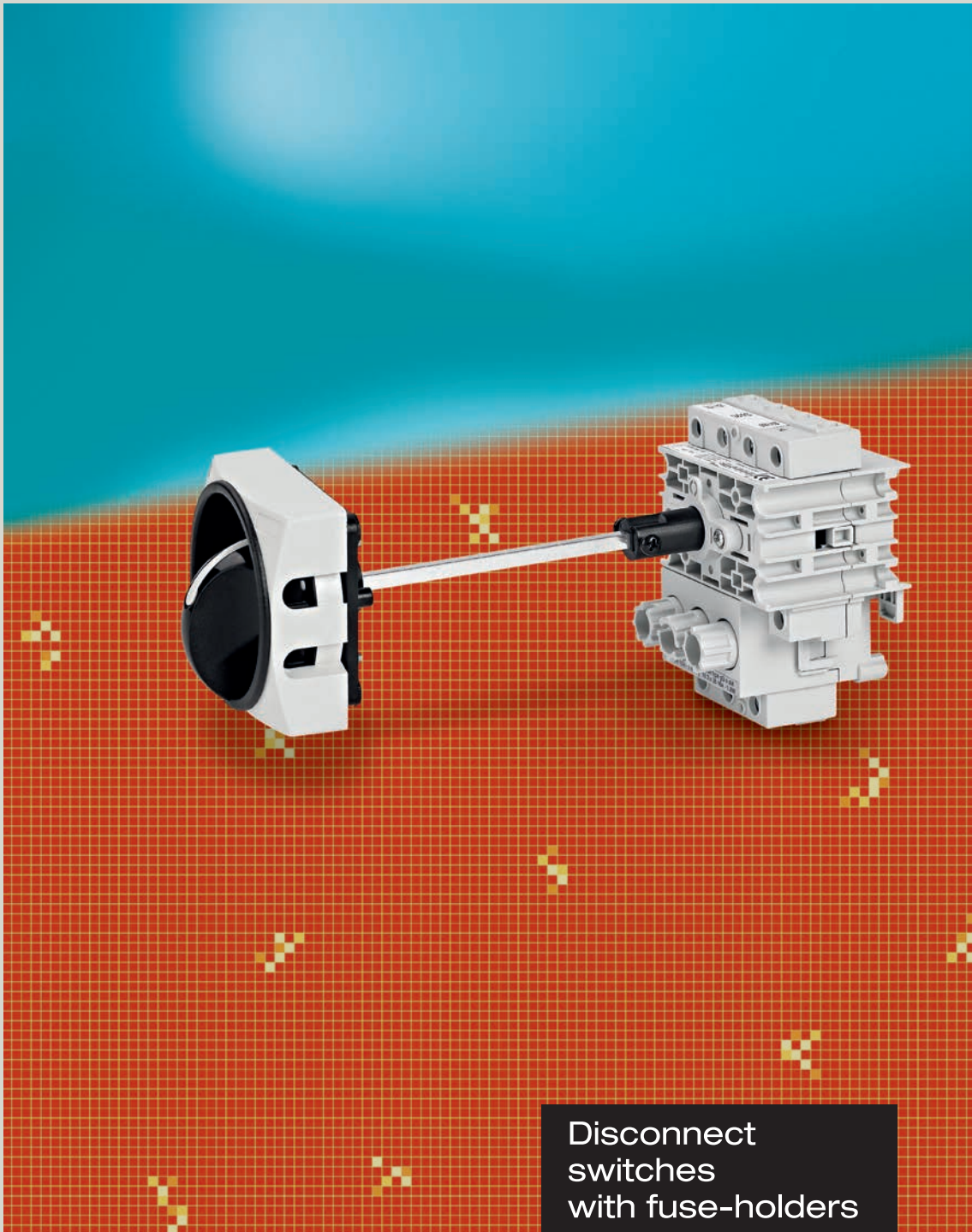
The range of Bremas disconnect switches with fuse holders includes the **XNF and TF series** with current ratings from 16A to 630A.

The double break contacts, have positive opening to guarantee high electrical efficiency and security. The terminals of the XNF series have IP20 protection degree and are provided with captive screws in open position to reduce wiring time.

TF have bolt connection for ring lugs, but a specific version TF_S is available with screw terminals. Terminal covers and additional accessories are optionally available.

	XNF	16A 32A	<ul style="list-style-type: none"> • Ui/Ue 690V • 3 - 4 pole • Max 10/16 mm² (flex/solid wire) • Screw cage terminals with captive screws • Base mount • 1 additional pole and/or 1 auxiliary contact can be added • For cylindrical fuses type gG or aM <ul style="list-style-type: none"> - size 10,3x38 for series XNF16 - size 14x51 for series XNF32
		63A 80A 100A 125A	<ul style="list-style-type: none"> • Ui/Ue 1000V/690V • 690V AC 23A IEC 60947-3 • 600V DC 23A IEC 60947-3 • 3 - 4 pole • Bolt connection for ring lugs or screw terminals • Base mount
	TF	160A 250A 400A 630A	

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



Disconnect
switches
with fuse-holders

XNF
series

Main features

The **XNF series** allows to add the protection of fuses to the operative functionality of a switch disconnecter. The double break contacts, have positive opening to guarantee high electrical efficiency and security. The terminals of the XNF series are provided with captive screws in open position to reduce wiring time. The terminals have IP20 protection degree.



- 1 additional pole and/or 1 auxiliary contact can be added

Fuses are not included

The fuse holders are suitable for cylindrical fuses type gG or aM:

- size 10,3x38mm for series XNF16
- size 14x51mm for series XNF32

Plates and knobs



BL6







Yellow plate 67x67mm (2.64x2.64"), red padlockable knob (max 3 padlocks), door interlock in "ON" position, IP66



BK6

Grey plate 67x67mm (2.64x2.64"), black padlockable knob (max 3 padlocks), door interlock in "ON" position, IP66

International Standards and approvals

Country	Germany	Switzerland	Denmark	Norway	Sweden	Finland	Austria	Great Britain	IEC International electrical Commission
Authority	Verband Deutscher Elektrotechniker	Schweizerischer Elektrotechnischer Verein	Danmarks Elektriske Materielkontrol	Norges Elektriske Materielkontrol	Svenska Elektriske Materielkontroll-anstalten	Sähkötar-kastuskeskus	Österreichischer Verband für Elektrotechnik	British Standards Institution	
Mark of standard	VDE 0660 ⁽¹⁾							BS EN 60947 ⁽¹⁾	IEC 60947 ⁽²⁾
XNF016	+	+	+	+	+	+	+	+	+
XNF032	+	+	+	+	+	+	+	+	+

+ Conforms to requirements

Notes:

- 1) It is not required to bear a symbol but switches must conform to requirements.
- 2) IEC does not operate an approval scheme

Technical data

Technical data			XNF16	XNF32
Main characteristics				
Rated operating voltage	Ue	V	690	690
Rated insulation voltage	Ui	V	690	690
Rated impulse withstand voltage	Uimp	kV	6	6
Rated thermal current for open switch	Ith	A	16	32
Rated thermal current for enclosed switch	Ithe	A	16	32
Rated operation frequency	Hz		50	50
Power dissipation for each pole	W		1,8*	3,5*
Rated operating current Ie				
AC-21A Switching resistive loads, including moderate overloads	690V	A	16	32
AC-22A Switching of mixed resistive and inductive loads, including moderate overloads	690V	A	16	32
Rated operating power				
AC-23A Switching of motor loads or other highly inductive loads	230V	Kw (A)	7,5 (24)	10 (33)
	400V	Kw (A)	13 (24)	18,5 (33)
	500V	Kw (A)	13 (16)	18,5 (32)
	690V	Kw (A)	15 (16)	22 (23)
AC-3 Squirrel cage motors: starting, switching off motors during running	230V	Kw (A)	16 (19)	9 (28)
	400V	Kw (A)	10 (18)	15 (27)
	500V	Kw (A)	10 (14)	15 (27)
	690V	Kw (A)	12 (13)	18,5 (23)
Rated breaking capability in category AC-23A (cos φ= 0.45)	230V	A	192	256
	400V	A	240	330
Short circuit protection				
Rated short time withstand	Icw	A	400	800
Rated conditional short-circuit		kA	10	10
With fuses class gG	500V	A	16	32
Mechanical characteristics				
Mechanical life (120 cycles/hour)	Mil.Man		2	2
Connecting capability with flexible wires	Min-Max	mm²	1,5-10	1,5-10
Connecting capability with solid wires	Min-Max	mm²	1,5-16	1,5-16
Connection terminal screw type			M4	M4
Screw tightening torque		Nm	1,4	1,4
Protection degree IEC 529 EN 60529				
Terminals				IP20
Handle				IP66
Ambient conditions				
Operating ambient temperature		°C	-25 /+ 55	
Storage ambient temperature		°C	-30 /+70	
Withstand to constant humid according to IEC 60068			sec. IEC 60068 2-78	
Withstand to cyclic humid according to IEC 60068			sec. IEC 60068 2-30	
Auxiliary contacts			XC16AN	XC32AN
			XC16CN	XC32CN
Rated insulation voltage	Ui	V	690	
Rated thermal current for open switch	Ith	A	20	40
AC-21A Switching resistive loads, including moderate overloads	690V	A	6	6
AC-15 Control of a.c. elettromagnetic loads	230V	A	20	40
* power dissipated from each fuse				

* power dissipated from each fuse

Base mounting *



BL6



BK6

XNF

Rated nom. current	Pole	Part no.	Pack	Part no.	Pack
16A	3	XNF0163BL6	1	XNF0163BK6	1
	4	XNF0164BL6	1	XNF0164BK6	1
32A	3	XNF0323BL6	1	XNF0323BK6	1
	4	XNF0324BL6	1	XNF0324BK6	1

* Base mounting switches are supplied with standard 175mm (6.89") shaft.

Additional pole and auxiliary contacts for XNF 16-32A



Part no.	Description	Pack
XC16AN	4th pole / NO auxiliary contact for 16A base mounting	5
XC16CN	4th pole / NC auxiliary contact for 16A rear mounting	5
XC32AN	4th pole / NO auxiliary contact for 32A base mounting	5
XC32CN	4th pole / NC auxiliary contact for 32A rear mounting	5
XC32GN	Earth pole for XNF 16-32A rear mounting	5

Optional extension shafts



Shafts

Code	Description	Pack
PALBL300	Shaft L=300mm Q5	5
PALBL500	Shaft L=500mm Q5	5
PALBL055	Shaft L=55mm Q5	5
PALBL075	Shaft L=75mm Q5	5
PALBL095	Shaft L=95mm Q5	5
PALBL115	Shaft L=115mm Q5	5
PALBL135	Shaft L=135mm Q5	5
PALBL155	Shaft L=155mm Q5	5
PALBL175	Shaft L=175mm Q5	5

Terminal covers

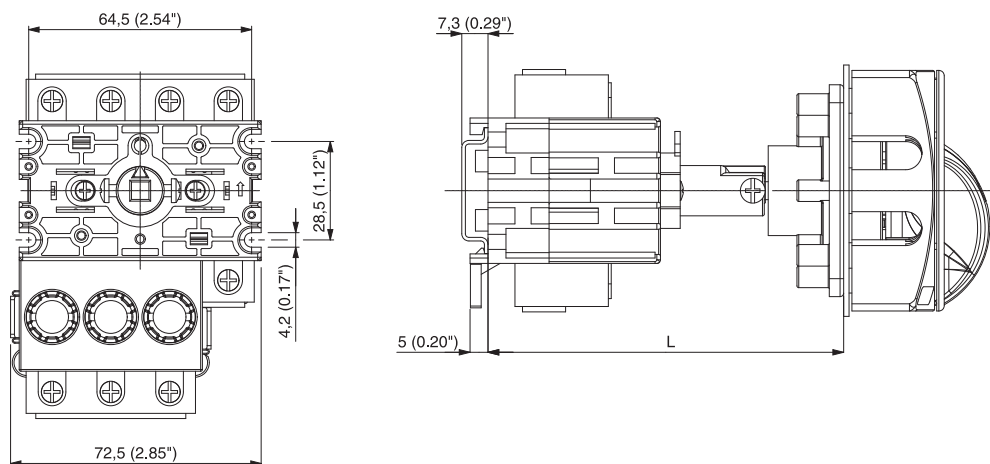


XNF G813

Part no.	Description	Pack.
XNAG813	Couple of terminal covers for XNF 16-40A 3 or 4 pole	5

■ Base mounting

(XNF 16A) - Measures in mm (in)



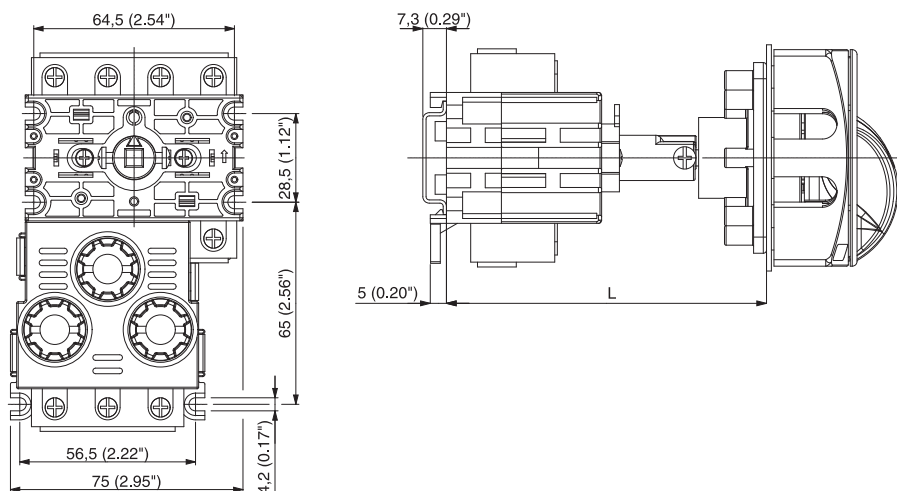
Overall length (min-max)**
for different shaft length (L1):

L1		
175*	L (mm)	99 - 243
6.89*	L (in)	3.90 - 9.57
300	L (mm)	99 - 368
11.81	L (in)	3.90 - 14.49
500	L (mm)	99 - 568
19.68	L (in)	3.90 - 22.36

* Standard shaft, bundled

** Minimum length obtainable
by cutting the shaft.

(XNF 32A)



Overall length (min-max)**
for different shaft length (L1):

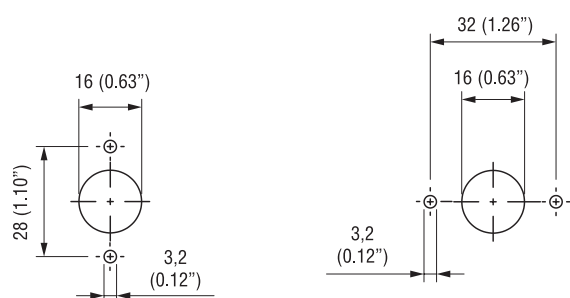
L1		
175*	L (mm)	99 - 243
6.89*	L (in)	3.90 - 9.57
300	L (mm)	99 - 368
11.81	L (in)	3.90 - 14.49
500	L (mm)	99 - 568
19.68	L (in)	3.90 - 22.36

* Standard shaft, bundled

** Minimum length obtainable
by cutting the shaft.

(BL6 - BK6) - Measures in mm (in)

Escutcheon plate



Escutcheon plate mounting options:

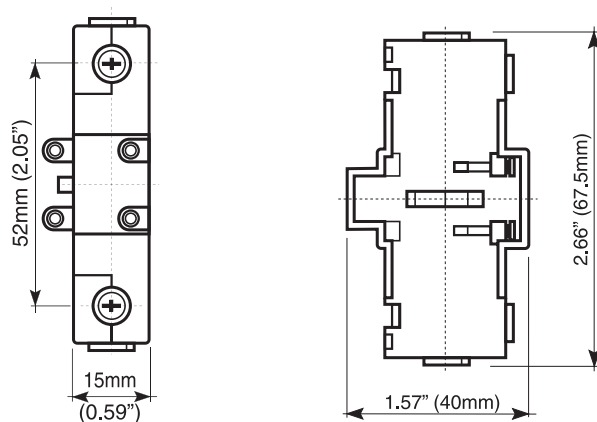
- 1) 2 holes with vertical distance 28mm (1.10")
- 2) 2 holes with horizontal distance 32mm (1.26")
- 3) 4 holes with distance 48 mm (1.89")

Switch mounting options:

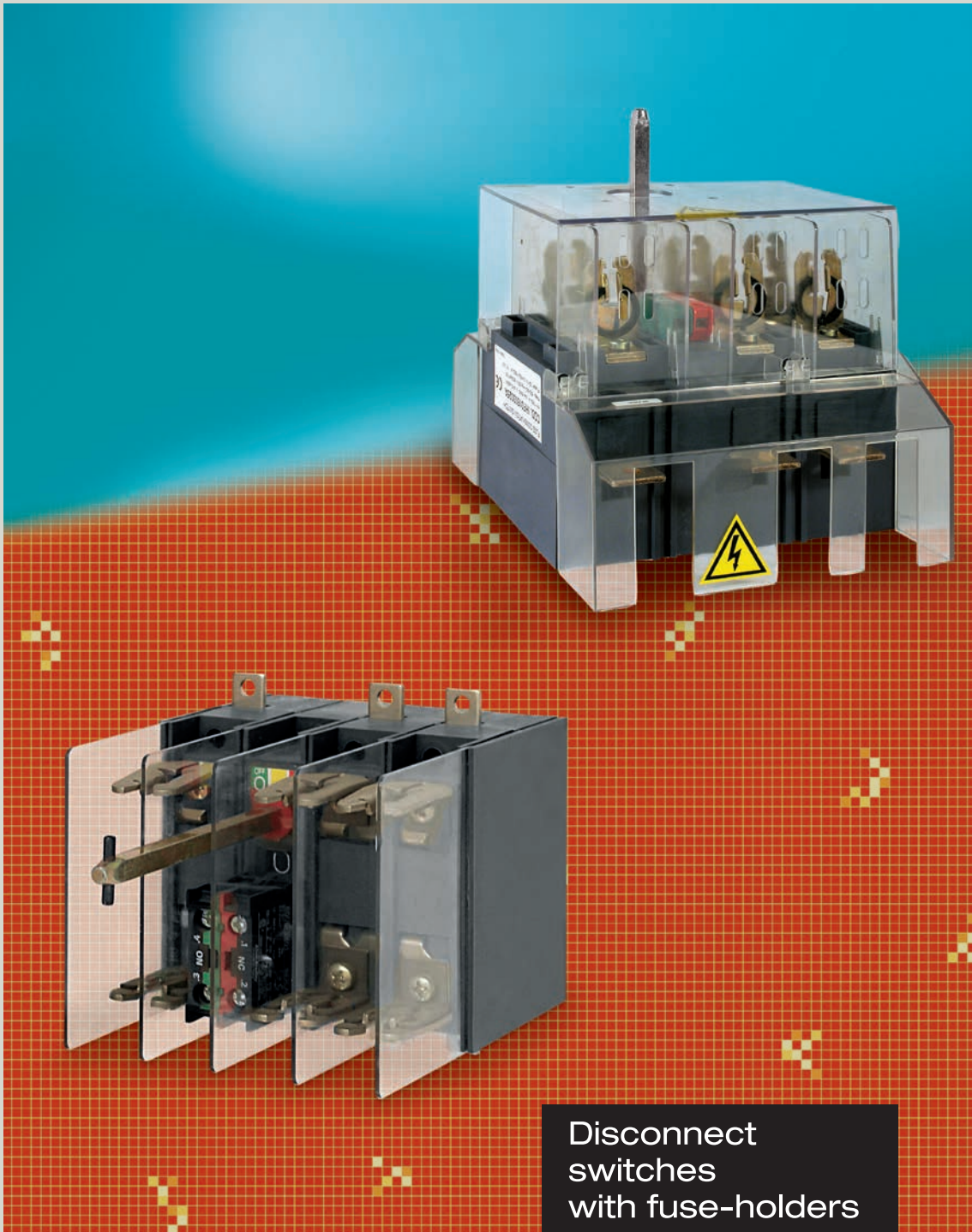
- 1) 4 holes with distance 58x18mm (2.28x0.71")

■ Additional pole and auxiliary contacts for XNF 16-32A

Measures in mm (in)



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Disconnect
switches
with fuse-holders

TF
series

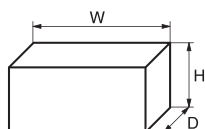
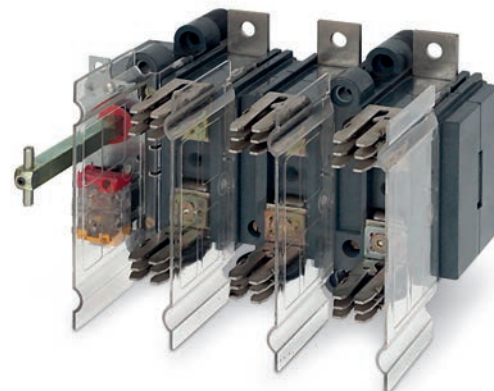
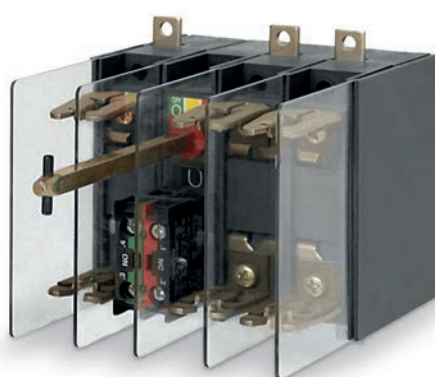
Overview

The switches **series TF** have the following main design features:

- Polyester self-extinguishing and anti-trace insulating housing
- Silver plated electrolytic copper fix and moving contacts
- Double breaking for pole.
- High closing and opening speed, independent from the operator
- Feeder connection is possible either in the upper in on the lower side

Size S0 (63A), Size S1 (80A; 100A)
and Size S2 (125A; 160A)

Size S3 (250; 400A) and
Size S4 (630A)



Measures * in mm (in)		H	W	D
Size S0	3 pole	86	100 (3.94")	103
	4 pole	(3.39")	126 (4.96")	(4.06")
Size S1	3 pole	100	129 (5.08")	136
	4 pole	(3.94")	160 (6.30")	(5.35")
Size S2	3 pole	125	174 (6.85")	157
	4 pole	(4.92")	204 (8.03")	(6.18")

Measures * in mm (in)		H	W	D
Size S3	3 - 4 pole	161 (6.34")	251 (9.88")	197 (7.76")
Size S4	3 - 4 pole	238 (9.37")	325 (12.79")	230 (9.05")

Note: * dimension D is comprehensive of the fuse separators, does not consider the shaft or other installed accessories

Fuses are not included

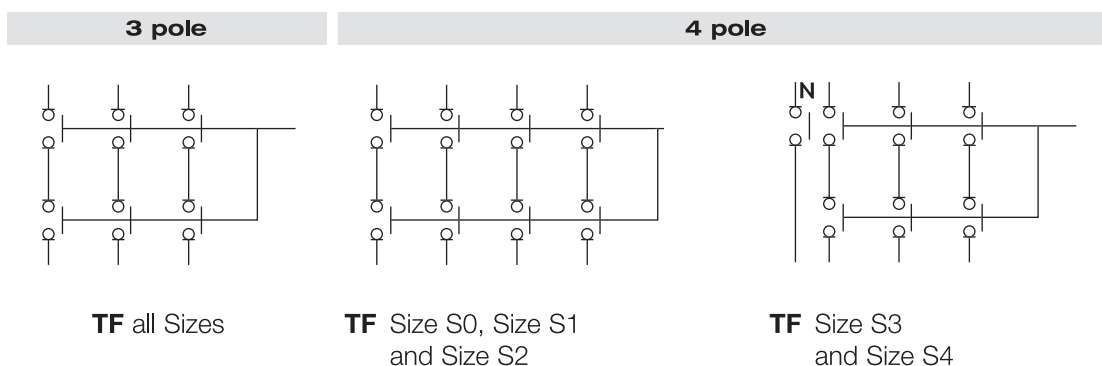
Suitable DIN type fuses* for the different ratings:

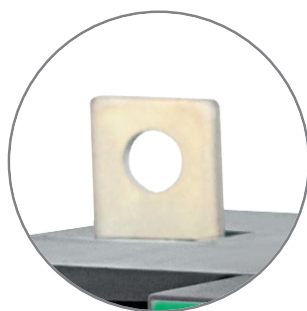
- 63A: DIN/NH00C
- 80A, 100A, 125A, 160A : DIN/NH00
- 250A: size DIN/NH1-2
- 400A: size DIN/NH1-2
- 630A: size DIN/NH3

Versions for BS and NFC type fuses are available on request.



Two contact blocks in series result in 4 breaking for phase





Bolt connection
is standard on
all the TS range



Screw connection
available up to 100A
rating (TS_S execution)

A complete range of optional accessories allows the use of TF switch-disconnectors with fuse-holders in several installations.

Standard bundle handle with door interlock in closed position and possibility to install a legend with 0-1 positions (IEC Standard) or ON-OFF positions (BS Standard).

Standard handle is IP54 (IP55 using an optional handle washer) and can be locked in open position with max 3 padlocks. Optional handles are available that are padlockable both in open and closed position (door interlock override optional as well).



Handle M601 for TS switches in Size S0.



Handle M801 for TS switches in Size S1 and Size S2.



Handle M1201 for TS switches in Size S3.



Handle M1301 for TS switches in Size S4.

Technical data

SIZE

Rated insulation voltage	Ui	V (a.c.)
	Ui	V (d.c.)
Rated impulse withstand voltage	Uimp	kV
Rated thermal current for open switch	Ith	A
Rated thermal current for enclosed switches	Ithe	A
Number of poles		
Power dissipation each pole	W	
Rated operating current Ie		
AC-22A Switching of mixed resistive loads, including moderate overloads	690V	A
	1000V	A
Rated operating power		
AC-23A Switching of motor loads or other highly inductive loads 3 phase - 3 pole	415V	Kw (A)
	500V	Kw (A)
	690V	Kw (A)
DC-23A Switching of motor loads or other highly inductive loads	220V	Kw (A)
	440V	Kw (A)
	600V	Kw (A)
Reactive power ¹	380V	kVAr
Rated short-circuit make capacity	Icw	kA
Mechanical life (no. of operations)		nr.
Electrical life (no. of operations)		nr.
Fuse type	DIN 43620	
Weigth		
3 pole	DIN 43620	Kg
4 pole	DIN 43620	Kg

Note:

¹ = due to the presence of harmonics and to the tollerances of capacitors, nominal values must be reduced by 33%

Normal service, mounting and transportation conditions

- storage and transport ambient temperature -25° C + 55° C
- operative ambient temperature -5° C + 45° C
- relative humidity max 95%
- rated frequency 50-60 Hz
- altitude max 2000 m a.s.l.
- mounting in enclosure:

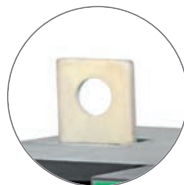
In case of utilisation at full load and without adequate ventilation, ensure a volume of about 5 time the volume of the switch.

Performances shall be derated up to 40% according to the environmental temperature.

For other operating conditions please contact Bremas.

TF063	TF080	TF100	TF125	TF160	TF250	TF400	TF630
S0	S1	S1	S2	S2	S3	S3	S4
1000	1000	1000	1000	1000	1000	1000	1000
600	600	600	1000	1000	1000	1000	1000
6	6	6	8	9	10	11	12
63	80	100	125	160	250	400	630
50	80	80	110	150	200	340	550
3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4
2,2	3,5	5,5	4,8	6,6	12	28	40
63	80	100	-	-	-	-	-
-	-	-	125	160	250	400	630
30 (63)	35 (80)	45 (100)	55 (125)	75 (160)	132 (250)	200 (400)	355 (630)
40 (63)	40 (80)	63 (100)	75 (125)	100 (160)	160 (250)	280 (400)	425 (630)
45 (63)	55 (80)	80 (100)	90 (125)	140 (160)	220 (250)	375 (400)	560 (630)
14(63)	18(80)	22(100)	28(125)	35(160)	55(250)	88(400)	139(630)
28(63)	35(80)	44(100)	55(125)	70(160)	110(250)	176(400)	277(630)
30(50)	48(80)	48(80)	75(125)	96(160)	150(250)	240(400)	378(630)
31	40	50	60	75	125	250	315
100	100	100	100	100	100	100	100
10000	10000	10000	8000	8000	8000	5000	5000
1500	1500	1500	1000	1000	1000	1000	1000
00-C	0	0	00-0	00-0	1-2	1-2	3
0,8	1,4	1,4	2,1	2,1	5	5,2	9,5
0,9	1,5	1,5	2,8	2,8	5,2	5,4	10,2



with bolt connections



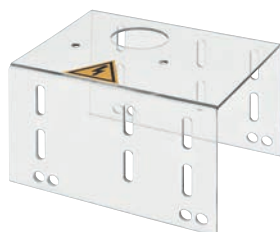
with bolt connections




Disconnect switches with fuse-holders


	Size	Ie AC21	poles	Code	Model	Pack	Code	Model	Pack
	S0	63	3	VC307700	TF0633M6010C	1	VC315000	TF0633SM6010C	1
			4	VC308500	TF0634M6010C	1	VC316800	TF0634SM6010C	1
	S1	80	3	VC309300	TF0803M80102	1	VC317600	TF0803SM80102	1
			4	VC310100	TF0804M80102	1	VC318400	TF0804SM80102	1
		100	3	VC311900	TF1003M80102	1	VC319200	TF1003SM80102	1
			4	VC312700	TF1004M80102	1	VC320000	TF1004SM80102	1
	S2	125	3	VD500600	TF1253M80102	1	-	-	-
			4	VD501400	TF1254M80102	1	-	-	-
		160	3	VD502200	TF1603M80102	1	-	-	-
			4	VD503000	TF1604M80102	1	-	-	-
	S3	250	3	VC357200	TF2503M120102	1	-	-	-
			4	VC358000	TF2504M120102	1	-	-	-
		400	3	VC359800	TF4003M120103	1	-	-	-
			4	VC360600	TF4004M120103	1	-	-	-
	S4	630	3	VC361400	TF6303M120104	1	-	-	-
			4	VC362200	TF6304M120104	1	-	-	-


Code Model Description Pack




VC714400	SD3F	fuse protection shield DIN 3 pole for TF Size S0	1
VC715100	SD4F	fuse protection shield DIN 4 pole for TF Size S0	1
VC718500	SD31	fuse protection shield DIN 3 pole for TF Size S1	1
VD689700	SD41	fuse protection shield DIN 4 pole for TF Size S1	1
VD690500	SD32	fuse protection shield DIN 3 pole for TF Size S2	1
VD691300	SD42	fuse protection shield DIN 4 pole for TF Size S2	1
VC815900	S33	fuse protection shield 3 pole o 4 pole add. for TF Size S3	1
VC816700	S333	fuse protection shield 3 pole o 4 pole add. for TF Size S4	1

	Code	Model	Description	Pack
	VC719300	S03	upper terminal cover 3 pole for TF Size S0	1
	VC720100	S04	upper terminal cover 4 pole for TF Size S0	1
	VC721900	I03	lower terminal cover 3 pole for TF Size S0	1
	VC722700	I04	lower terminal cover 4 pole for TF Size S0	1
	VC723500	S31	upper terminal cover 3 pole for TF / TS Size S1	1
	VD692100	I31	lower terminal cover 3 pole for TF / TS Size S1	1
	VC724300	S41	upper terminal cover 4 pole for TF / TS Size S1	1
	VD693900	I41	lower terminal cover 4 pole for TF / TS Size S1	1
	VD694700	S32	upper terminal cover 3 pole for TF / TS Size S2	1
	VD696200	I32	lower terminal cover 3 pole for TF / TS Size S2	1
	VD695400	S42	upper terminal cover 4 pole for TF / TS Size S2	1
	VD697000	I42	lower terminal cover 4 pole for TF / TS Size S2	1
	VC804300	S123	upper terminal cover 3 pole and 4 pole add. for TF / TS Size S3	1
	VC805000	I123	lower terminal cover 3 pole and 4 pole add. for TF / TS Size S3	1
	VC806800	S203	upper terminal cover 3 pole and 4 pole add. for TF / TS Size S4	1
	VC807600	I203	lower terminal cover 3 pole and 4 pole add. for TF / TS Size S4	1

	Code	Model	Description	Pack
	VC727600	T6	standard extension shaft L=180mm Q6 for TF Size S0	1
	VD699600	T6/1	extension shaft L=280mm Q6 for TF Size S0	1
	VC728400	T8	standard extension shaft L=180mm Q8 for TF / TS Sizes S1-S2	1
	VD700200	T8/1	extension shaft L=280mm Q8 for TF / TS Sizes S1-S2	1
	VC797900	T12	standard extension shaft L=180mm Q12 for TF / TS Sizes S3-S4 and TSC / TSD Size S2	1
	VC798700	T12/1	standard extension shaft L=280mm Q12 for TF / TS Sizes S3-S4 and TSC / TSD Size S2	1

	Code	Model	Description	Pack
	VC730000	M601	short black handle 0-1 standard for TF Size S0	1
	VC732600	M601DS	short black handle 0-I with door-interlock override for TF Size S0	1
	VC741700	M601RDS	short red handle 0-I with door-interlock override for TF Size S0	1
	VC733400	M801	long black handle 0-1 standard for TF/ TS Size S1-S2	1
	VC735900	M801DS	long black handle 0-1 with door-interlock override for TF / TS Size S1-S2	1
	VC739100	M601R	short red handle 0-1 standard for TF Size S0	1
	VC742500	M801R	long red handle 0-1 standard for TF / TS Size S1-S2	1
	VC744100	M801RDS	long red handle 0-1 with door-interlock override for TF / TS Size S1-S2	1
	VC756500	M1201	short black handle 0-1 standard for TF / TS Size S3	1
	VC757300	M12C01	short black handle 0-1 with key lock for TF / TS Size S3	1
	VC758100	M12DS01	short black handle 0-1 with door-interlock override for TF / TS Size S3	1
	VC768000	M12R01	short red handle 0-1 standard for TF / TS Size S3	1
	VC770600	M12RDS01	short red handle 0-1 with door-interlock override for TF / TS Size S3	1
	VC771400	M1301	long black handle 0-I standard for TF / TS Size S4	1
	VC772200	M13C01	short black handle 0-I with key lock for TF / TS Size S4	1
	VC773000	M13DS01	short black handle 0-I with door-interlock override for TF / TS Size S4	1
	VC783900	M13R01	short red handle 0-I standard for TF / TS Size S4	1
	VC785400	M13RDS01	long red handle 0-I with door-interlock override for TF / TS Size S4	1

	Code	Model	Description	Pack
	VC822500	S55	protection shield 3 pole o 4 pole add. for TS / TF Size S3	1
	VC824100	S555	protection shield 3 pole o 4 pole add. for TS / TF Size S4	1

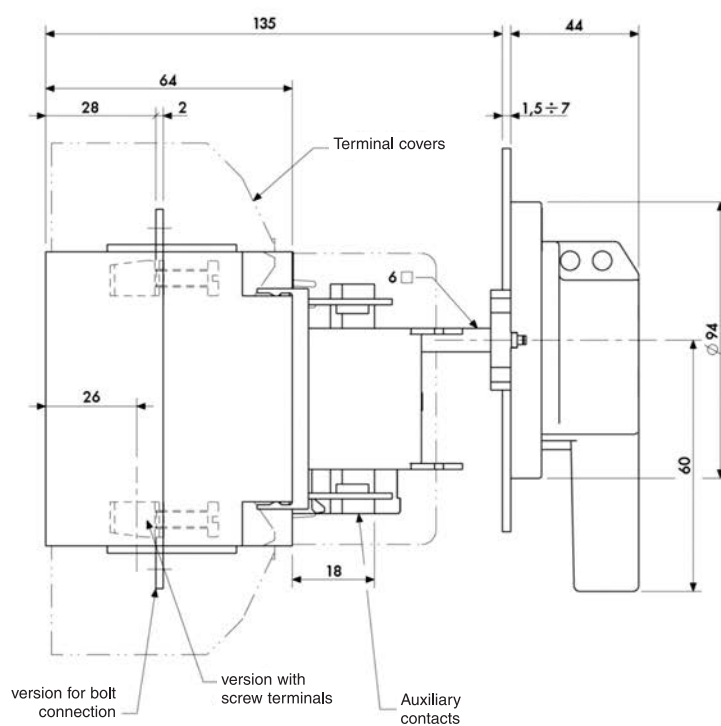


Code	Model	Description	Pack
VC792000	G12	handle washer IP55 for TF / TS (S3-S4); TSC / TSD (S1-S2)	1
VC748200	G8	handle washer IP55 for TF (S0-S1-S2); TS (S1-S2)	1

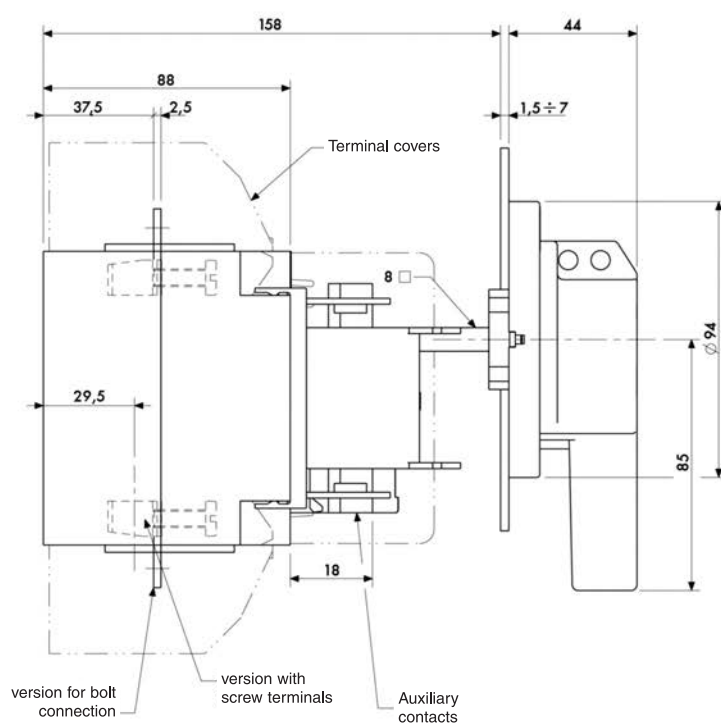


Code	Model	Description	Pack
C10B	C10B	auxiliary contact 1NO for TF size S0-S1-S2	5
C01B	C01B	auxiliary contact 1NC for TF size S0-S1-S2	5
VC846400	AU1	auxiliary contacts 1NO for TF / TS / TSC / TSD size S3-S4	1
VC847200	AU2	auxiliary contacts 1NC for TF / TS / TSC / TSD size S3-S4	1
VC848000	AU3	auxiliary contacts 1NO+1NC for TF / TS / TSC / TSD size S3-S4	1
VC849800	AU4	auxiliary contacts 1NO+1NO for TF / TS / TSC / TSD size S3-S4	1
VC851400	AU6	auxiliary contacts 2NO+2NC for TF / TS / TSC / TSD size S3-S4	1
VC852200	AU7	auxiliary contacts 2NO+2NO for TF / TS / TSC / TSD size S3-S4	1
VC853000	AU8	auxiliary contacts 2NC+2NC for TF / TS / TSC / TSD size S3-S4	1

TF Size S0

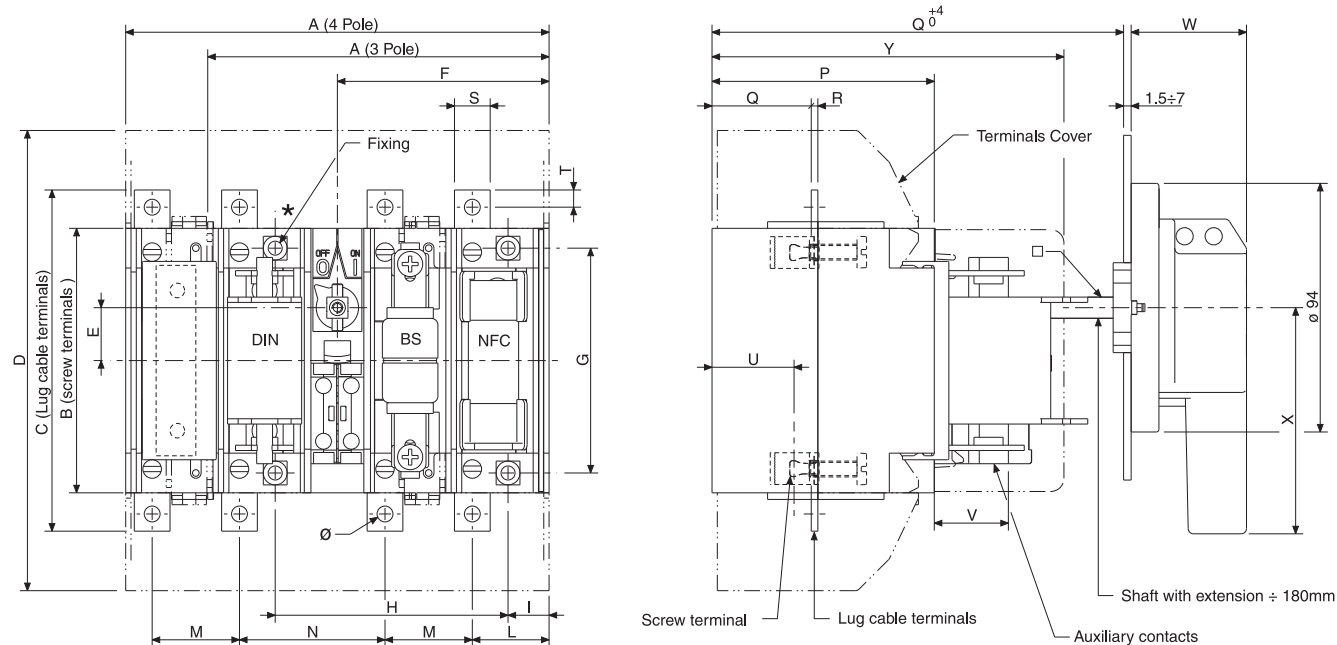


TF Size S1



TF 125A ÷ 160A - Measures in mm

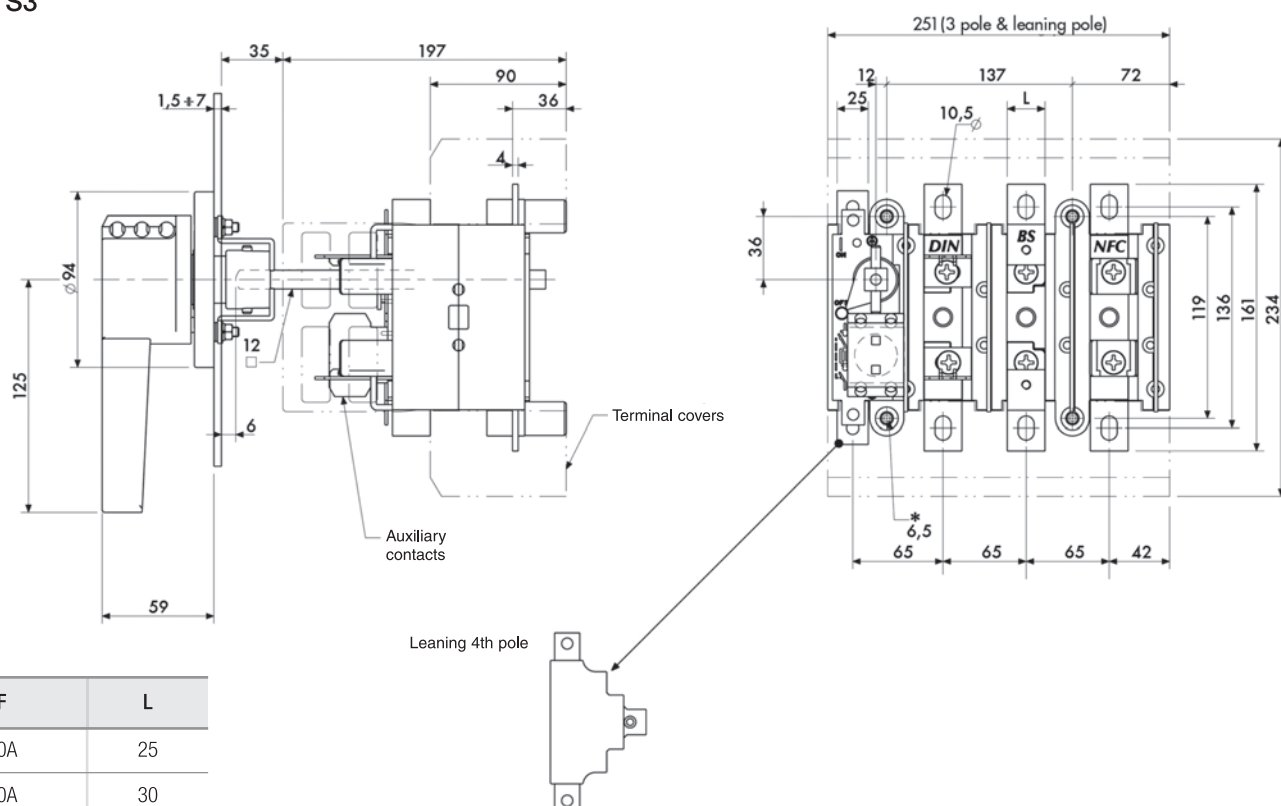
TF Size S2



A 3 pole	A 4 pole	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	*	Ø	□
174	204	125	175	219	24	102	110	110	12	35	44	66	186	105	44.5	3	25	10	37	18	44	85	157	5.5	8.5	8

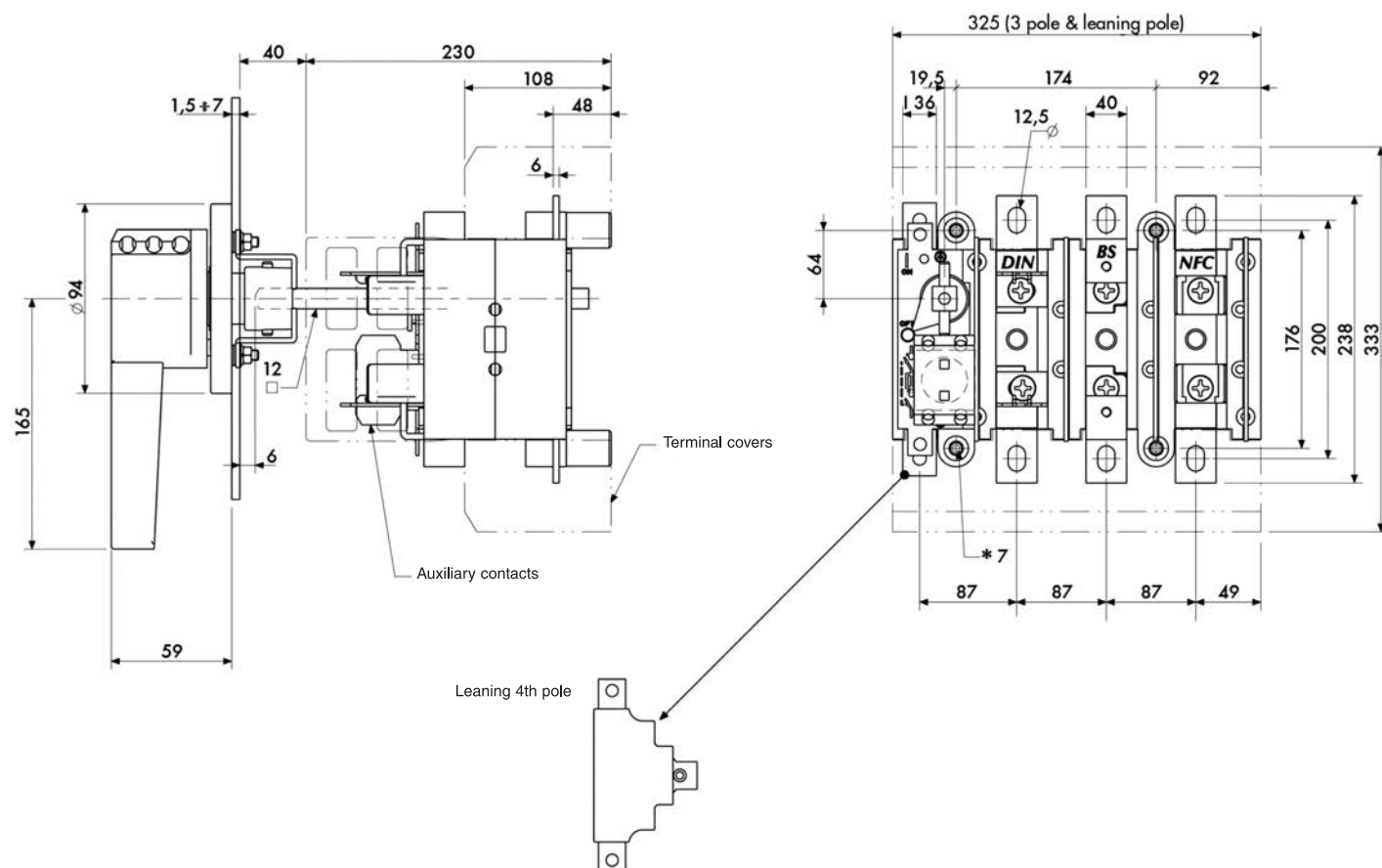
TF 250A ÷ 400A - Measures in mm

TF Size S3



TF	L
250A	25
400A	30

TF 630A - Measures in mm
TF Size S4













Enclosed
solutions

Bremas offers a complete range of enclosed solutions, whose structural details, according to the highest market standards, make these products suitable for the most different applications: motor-control schemes, ON-OFF switches, change-over switches. The enclosures are made of ABS for sizes up to 63A, sizes 100-200A are made of metal-sheet. Versions with front drive or lateral lever drive are available.



- Protection degree up to IP65
- Front or Lateral lever drive
- Double insulated thermoplastic enclosures
- Terminals for 4 wires systems (3 phase+PE)
- Padlockable handle in "OFF" position and Cover interlock in "ON" position for the Front drive operated versions
- Trace and knock-outs to easy the wiring in the installation

Metal sheet enclosures

	Type	Dimensions	Handle type	Additional Characteristics			
	B95	120 x 95 x 78 mm 4.72 x 3.74 x 3.07 in	Front drive, Padlockable handle in "OFF" position	ABS IP65 Double insulated	Cover interlock in "ON" position	Terminals for 4 wires systems (3 phase+PE)	2xM20 knock-outs on two sides, 2xPg16 on one side and on the base of the enclosure
	B110	125 x 110 x 78 mm 4.92 x 4.33 x 3.07 in	Front drive, Padlockable handle in "OFF" position	ABS IP65 Double insulated	Cover interlock in "ON" position	Terminals for 4 wires systems (3 phase+PE)	2xM20 knock-outs on two sides, 2xPg16/M20 on the lower and upper sides of the enclosure
	B140	140x165x80,5 mm 5.51 x 6.50 x 3.17 in	Front drive, Padlockable handle in "OFF" position	ABS IP65 Double insulated	Cover interlock in "ON" position	Terminals for 4 wires systems (3 phase+PE)	2xPg 16 /21 traces on each side of the enclosure
	S31	120 x 95 x 78 mm 4.72 x 3.74 x 3.07 in	Lateral lever drive	ABS IP65 Double insulated	-	Terminals for 4 wires systems (3 phase+PE)	2xM20 knock-outs on two sides, 2xPg16 on one side and on the base of the enclosure
	S40	152 x 113 x 104 mm 5.98 x 4.45 x 4.09 in	Lateral lever drive	ABS, IP40	-	-	3 holes Ø 19 mm (0.75") with rubber grommet
	S90	190 x 135 x 115 mm 7.48 x 5.31 x 4.53 in	Lateral lever drive	ABS, IP40	-	-	6 holes Ø 19 mm (0.75") with rubber grommet
	S10	300 x 300 x 150 mm 11.81 x 11.81 x 5.90 in	Lateral lever drive	Metal-sheet IP54	-	-	-
	S20	400 x 300 x 200 mm 15.75 x 11.81 x 7.87 in	Lateral lever drive	Metal-sheet IP54	-	-	-



B95

120 x 95 x 78 mm
4.72 x 3.74 x 3.07 in






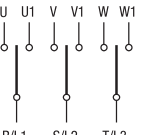

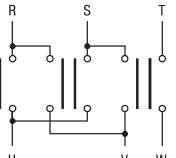
Plate type



RL6

Yellow plate 67x67mm (2.64x2.64"),
red padlockable knob (max 3 padlocks)

■ IP65, ABS enclosures with front drive, padlockable handle

	Circuit diagram	Function	I _e	Part no.	Pack
 00G3		ON-OFF switch 3 pole with padlockable handle	12A	CA01200G3B95RL6	1
			16A	CA01600G3B95RL6	1
			20A	CA02000G3B95RL6	1
			25A	CA02500G3B95RL6	1
			32A	CA03200G3B95RL6	1
 00G4		ON-OFF switch 4 pole with padlockable handle	12A	-	-
			16A	CA01600G4B95RL6	1
			20A	CA02000G4B95RL6	1
			25A	-	-
			32A	CA03200G4B95RL6	1
 0007		Change-over switch with padlockable handle	12A	CA0120007B95RL6	1
			16A	CA0160007B95RL6	1
			20A	CA0200007B95RL6	1
			25A	-	-
			32A	-	-
 0008		Reversing switch with padlockable handle	12A	CA0120008B95RL6	1
			16A	CA0160008B95RL6	1
			20A	CA0200008B95RL6	1
			25A	-	-
			32A	-	-



B110

125 x 110 x 78mm (4.92 x 4.33 x 3.07 in)



AL6


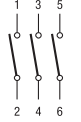

Yellow plate 67x67mm (2.64 x 2.64"),
red padlockable knob
(max 3 padlocks)



AK6

Grey plate 67x67mm (2.64 x 2.64"),
black padlockable knob
(max 3 padlocks)

■ IP65, ABS enclosures with front drive, padlockable handle and cover interlock

	Circuit diagram	Poles	I _e	Part no.	Pack	Part no.	Pack
		3	20A	SB0203B110AL6	1	SB0203B110AK6	1
			32A	SB0323B110AL6	1	SB0323B110AK6	1
			40A	SB0403B110AL6	1	SB0403B110AK6	1
		3+N	20A	SB0204B110AL6	1	SB0204B110AK6	1
			32A	SB0324B110AL6	1	SB0324B110AK6	1
			40A	SB0404B110AL6	1	SB0404B110AK6	1



B140

140 x 165 x 80,5 mm (5.51 x 6.50 x 3.17 in)



AL6


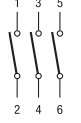
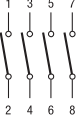
Yellow plate 67x67mm (2.64 x 2.64"),
red padlockable knob
(max 3 padlocks)



AK6

Grey plate 67x67mm (2.64 x 2.64"),
black padlockable knob
(max 3 padlocks)

■ IP65, ABS enclosures with front drive, padlockable handle and cover interlock




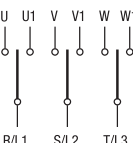

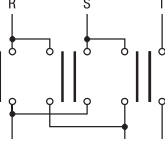

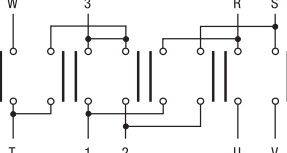
	Circuit diagram	Poles	I _e	Part no.	Pack	Part no.	Pack
		3	50A	SB0503B140AL6	1	SB0503B140AK6	1
			63A	SB0633B140AL6	1	SB0633B140AK6	1
			80A	SB0803B140AL6	1	SB0803B140AK6	1
			100A	SB1003B140AL6	1	SB1003B140AK6	1
		3+N	50A	SB0504B140AL6	1	SB0504B140AK6	1
			63A	SB0634B140AL6	1	SB0634B140AK6	1
			80A	SB0804B140AL6	1	SB0804B140AK6	1
			100A	SB1004B140AL6	1	SB1004B140AK6	1



S31

120 x 95 x 78 mm
4.72 x 3.74 x 3.07 in


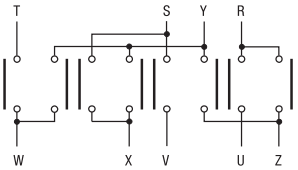

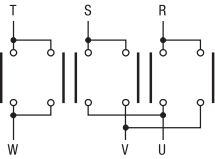

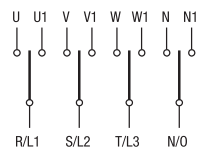
■ IP40, ABS enclosures with lateral lever drive

	Circuit diagram	Function	I _e	Part no.	Pack
 0003		ON-OFF switch 3 pole	12A	CA0120003S31	1
			16A	CA0160003S31	1
			20A	CA0200003S31	1
			25A	CA0250003S31	1
			32A	CA0320003S31	1
			40A	CA0400003S31	1
 0007		Change-over switch 3 pole	12A	CA0120007S31	1
			16A	CA0160007S31	1
			20A	CA0200007S31	1
			25A	CA0250007S31	1
			32A	CA0320007S31	1
 0008		Reversing switch 3 pole	12A	CA0120008S31	1
			16A	CA0160008S31	1
			20A	CA0200008S31	1
			25A	CA0250008S31	1
			32A	CA0320008S31	1
 0009		Changing switch Dahlander pole	12A	CA0120009S31	1
			16A	CA0160009S31	1
			20A	CA0200009S31	1
			25A	CA0250009S31	1
			32A	CA0320009S31	1

**S31**

120 x 95 x 78 mm
4.72 x 3.74 x 3.07 in

■ IP40, ABS enclosures with lateral lever drive

	Circuit diagram	Function	I _e	Part no.	Pack
 0010		STAR-DELTA Starter	12A	CA0120010S31	1
			16A	CA0160010S31	1
			20A	CA0200010S31	1
			25A	CA0250010S31	1
			32A	CA0320010S31	1
 0036		Reversing switch 3 pole with spring return to "off"	16A	CA0160036S31	1
			20A	CA0200036S31	1
			25A	CA0250036S31	1
 0039		Change-over switch 4 pole	12A	CA0120039S31	1
			16A	CA0160039S31	1
			20A	CA0200039S31	1
			25A	CA0250039S31	1
			32A	CA0320039S31	1



S40




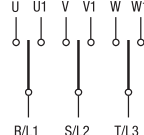

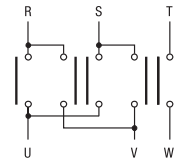

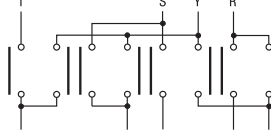

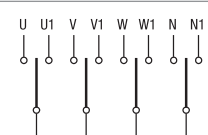
152 x 113 x 104 mm
5.98 x 4.45 x 4.09 in



S90

190 x 135 x 115 mm
7.48 x 5.31 x 4.53 in

■ IP40, ABS enclosures with lateral lever drive

	Circuit diagram	Function	I _e	Part no.	Pack	Part no.	Pack
 0003		ON-OFF switch 3 pole	50A	CA0500003S40	1		
			63A			CA0630003S90	1
 0007		Change-over switch 3 pole	50A	CA0500007S40	1		
			63A			CA0630007S90	1
 0008		Reversing switch 3 pole	50A	CA0500008S40	1		
			63A			CA0630008S90	1
 0010		STAR-DELTA Starter	50A	CA0500010S40	1		
			63A			CA0630010S90	1
 0039		Change-over switch 4 pole	50A	CA0500039S40	1		
			63A			CA0630039S90	1



S10


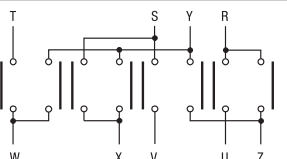

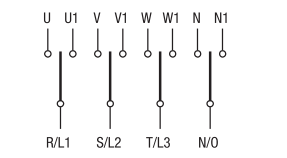
300 x 300 x 150 mm
11.81 x 11.81 x 5.90 in



S20

400 x 300 x 200 mm
15.75 x 11.81 x 7.87 in

■ IP54, Metal-sheet enclosures with lateral lever drive

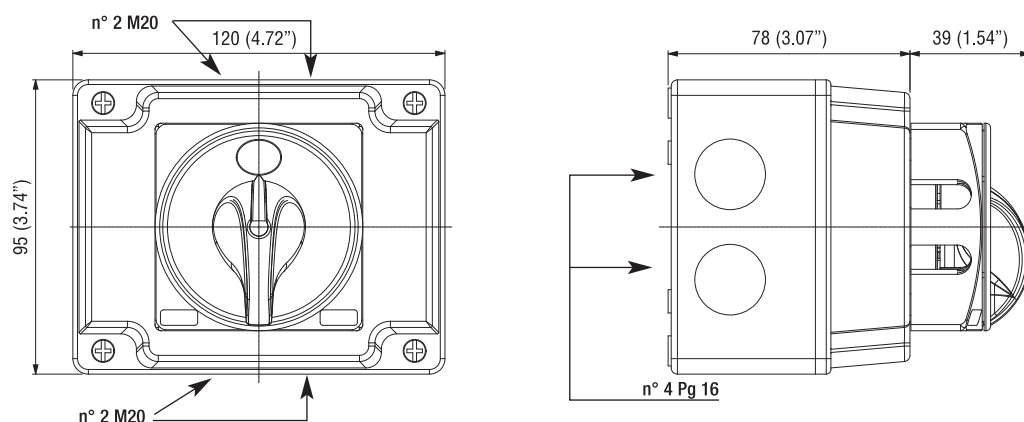
	Circuit diagram	Function	I _e	Part no.	Pack	Part no.	Pack
 0010		STAR-DELTA Starter	100A	CA1000010S10	1		
 0039		Change-over switch 4 pole	100A	CA1000039S10	1		
			200A			CA2000039S20	1

■ Plastic enclosures, with handles

Code	Description		Pack
S31	ABS enclosure, IP40 with lateral lever drive	120 x 95 x 78 mm (4,72 x 3,74 x 3,07 in)	1
B95	ABS enclosure, IP65 with front drive and RL6 padlockable handle	120 x 95 x 78 mm (4,72 x 3,74 x 3,07 in)	1
B110	ABS enclosure, IP65 with front drive and RL6 padlockable handle	125 x 110 x 78 mm (4.92 x 4.33 x 3.07 in)	1
B140	ABS enclosure, IP65 with front drive and RL6 padlockable handle	140 x 165 x 80,5 mm (5.51 x 6.50 x 3.17 in)	1
S40	ABS enclosure, IP40 with lateral lever drive	152 x 113 x 104 mm (5.98 x 4.45 x 4.09 in)	1
S90	ABS enclosure, IP40 with lateral lever drive	190 x 135 x 115 mm (7.48 x 5.31 x 4.53 in)	1

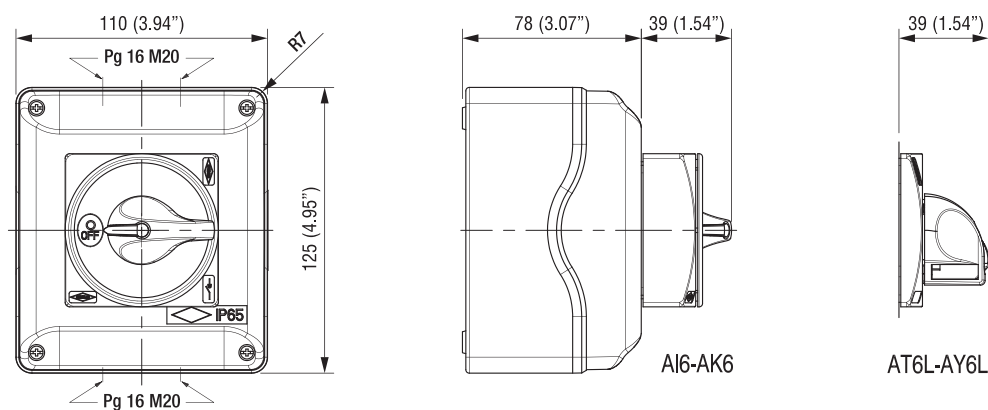
■ B95

Measures in mm (in)



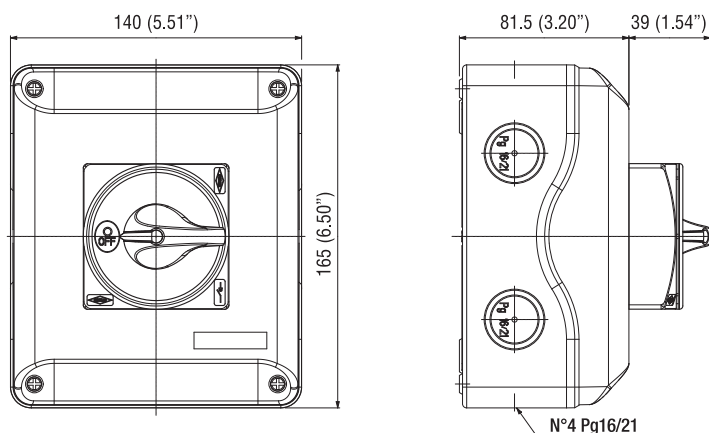
■ B110

Measures in mm (in)



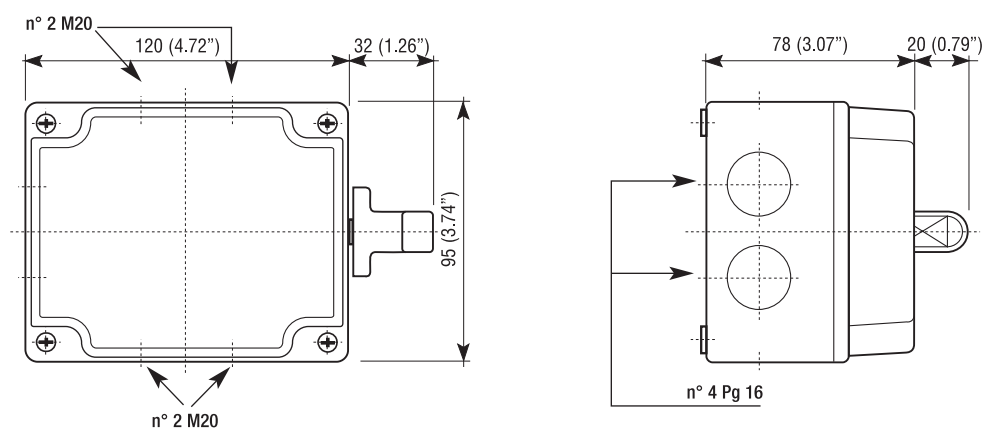
■ B140

Measures in mm (in)



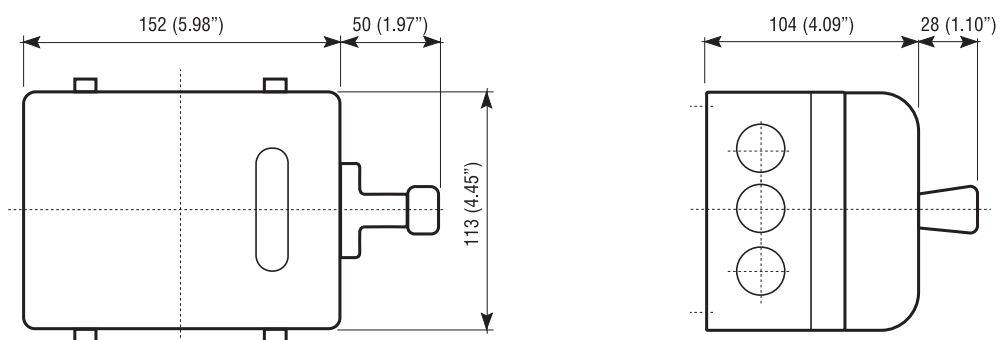
■ S31

Measures in mm (in)



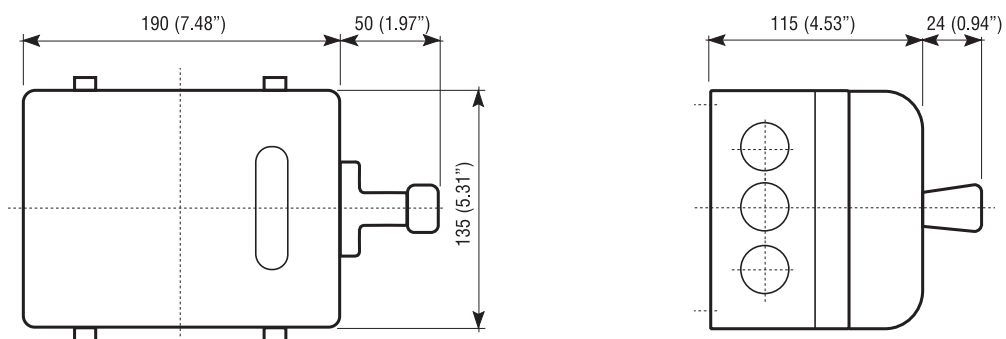
■ S40

Measures in mm (in)



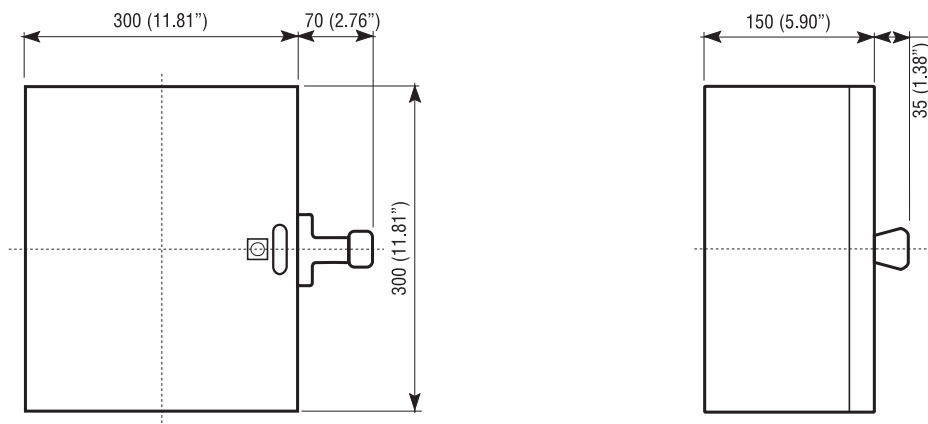
■ S90

Measures in mm (in)



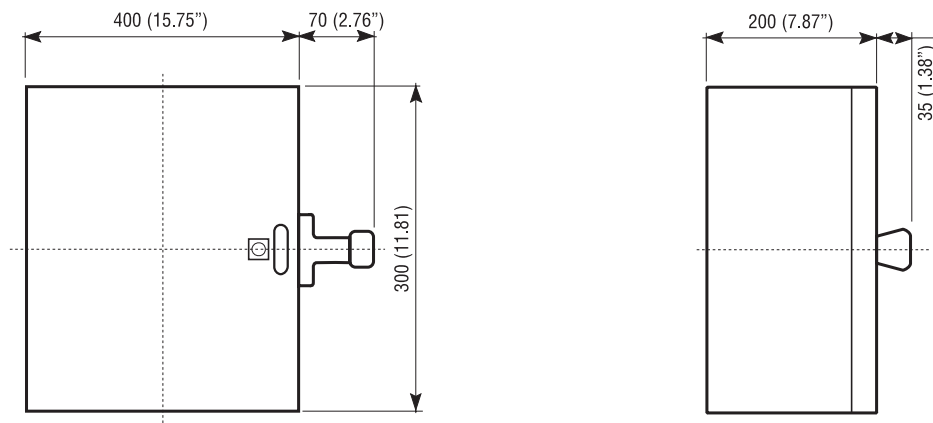
■ S10

Measures in mm (in)



■ S20

Measures in mm (in)



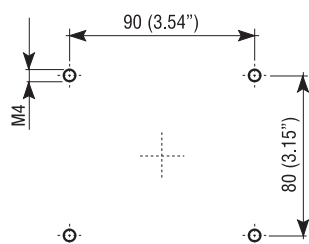
Drilling templates

disconnect switches

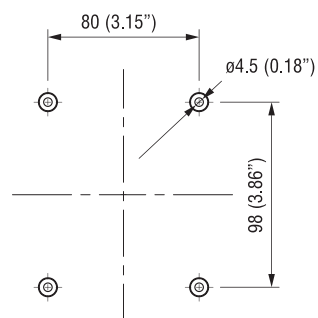
■ Drilling templates

Measures in mm (in)

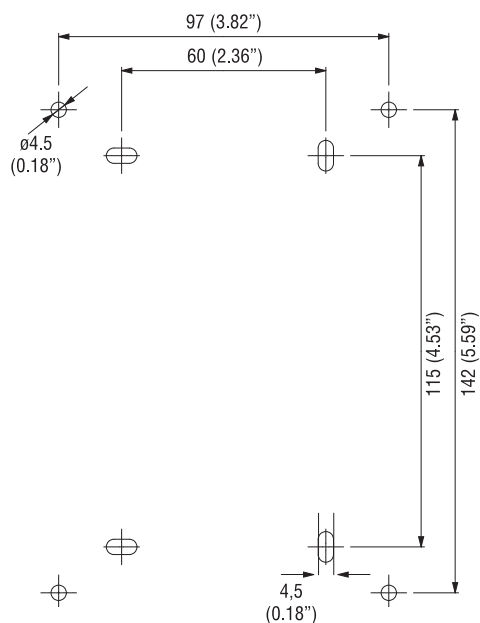
S31 - B95



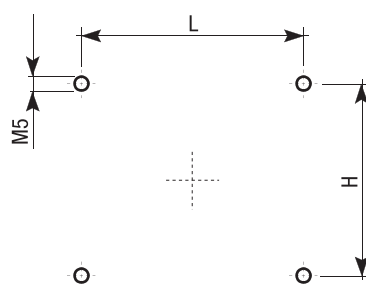
B110



B140



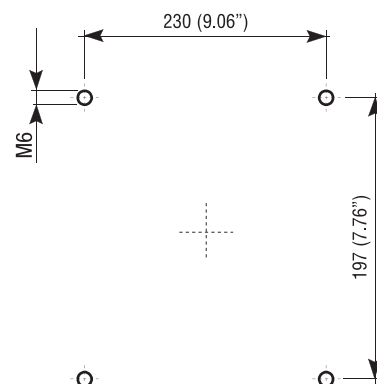
S40 - S90



Measures in mm (in)

Series	H	L
CA040	95 3.74	129 5.08
CA063	111 4.37	4.37 6.54

S10 - S20



This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



Limit and
Safety
switches

Limit switches

For standard or heavy applications

1 CABLE INPUT



Plastic body
Plastic head



Plastic body
Metal head



Metal body
Metal head

E100 series

Prewired

WITH CABLE



Plastic body
Metal head



Metal body
Metal head

WITH M12 CONNECTOR



Plastic body
Metal head



Metal body
Metal head

WITH AMP SUPERSEAL CONNECTOR



Plastic body
Metal head

E700 series

Safety switches

With reset



Plastic body
Metal head



Metal body
Metal head



Plastic body
Metal head

E100 series

E200 series

Pull wire



Plastic body
Metal head



Metal body
Metal head



Plastic body
Metal head

E100 series

E200 series

2 CABLE INPUT



Plastic body
Metal head

— **E200** series —

3 CABLE INPUT



Metal body
Metal head

— **E300** series —

1 CABLE INPUT



Plastic body
Metal head

— **E400** series —



Metal body
Metal head

WITH CABLE



Plastic body
Metal head

— **E600** series —

WITH M12 CONNECTOR



Metal body
Metal head

Microswitches



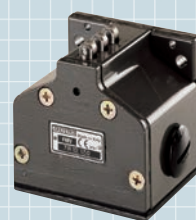
Plunger
actuator

— **M3** series —



Lever
actuator

Multiple position



Roller
actuator

— **FMV** series —

Key actuation



Plastic body
Plastic head

— **E100** series —



Plastic body
Plastic head

— **E200** series —

For hinges



With metal
pin

— **E100** series —



Plastic body
Metal head

— **E400** series —



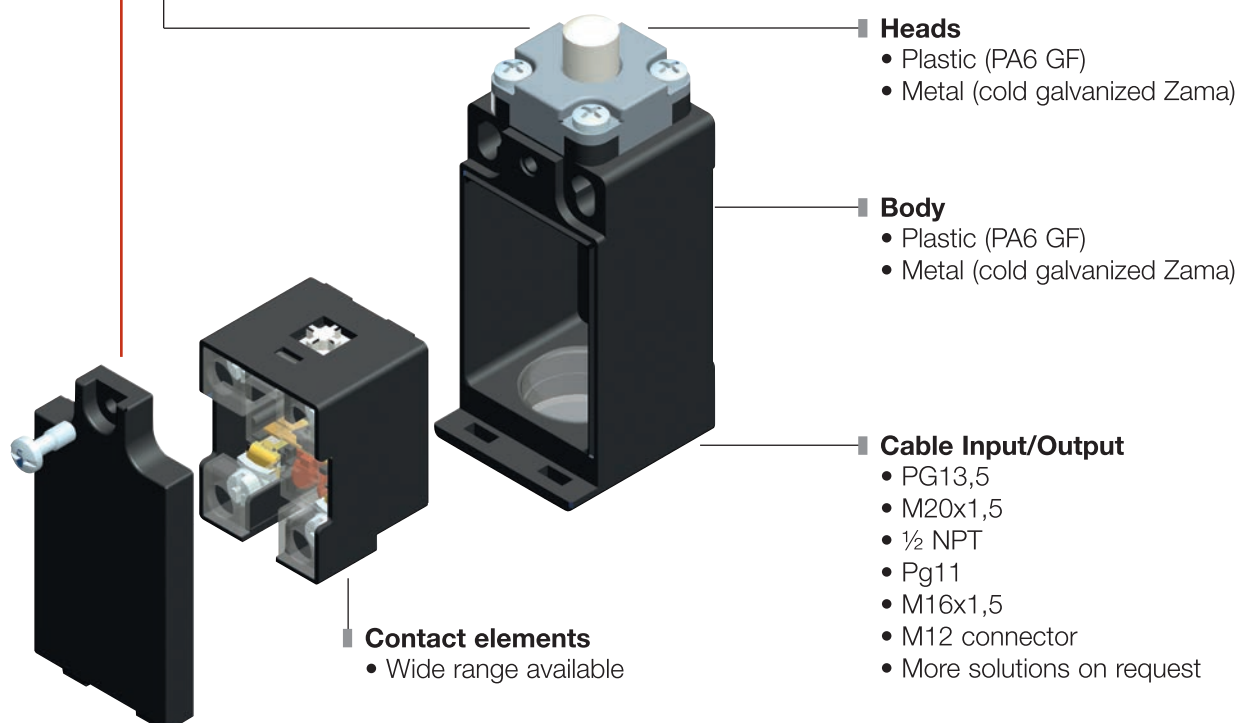
Metal body
Metal head

Solutions for every need

The Bremas position and safety switches are suitable for many different areas of use. Thanks to their solid construction, high reliability and durability over the time, they are usable in light applications but also where the environmental conditions are severe.

■ Actuators

- Steel AVP plungers
- Cold galvanized steel lever
- Plastic (PA6), metal (Stainless steel) or rubber (NRB) rollers
- Glass fiber and aluminum rods, steel for springs



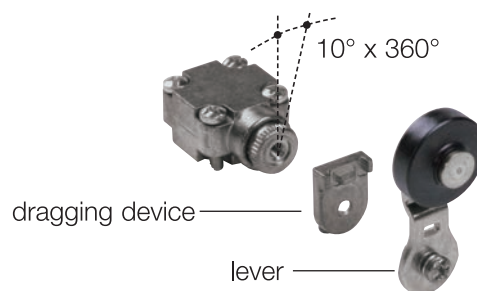
■ Overturning levers

Possibility to fasten the lever on the straight or reverse side, maintaining the positive opening of the NC contact.



■ Adjustable lever

Possibility to adjust the lever every 10°, for 360°, by moving the lever and the dragging device.



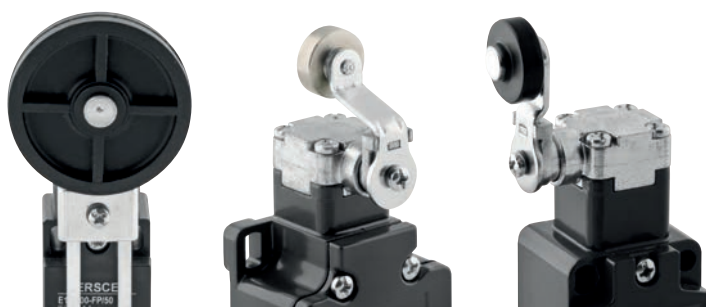
Standard and custom products

Bremas has over 50 years of experience in the production of standard and customized solutions that allow to the uses to have a wide range of products and a large installation versatility.

It is possible to customize:

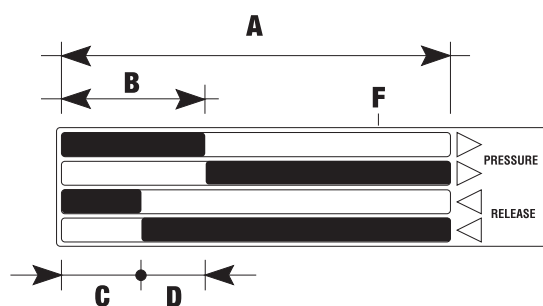
■ Actuators

- Lever
- Rollers
- Rods
- Inclinations
- Switching angles
- Construction sizes
- Materials



■ Contact elements

Customized contact travel for any special application needs.



□ Opened contact
■ Closed contact



A = Max travel, for linear (mm) or angular (degree) movement
B = Travel before the opening of the NC contact
C = Travel before the closing of the NO contact
D = B-C = Difference on the travel (snap action elements)
F = Min. travel for positive opening

■ Cable Inputs/Outputs

In addition to standard solutions Pg 13.5 or 20x1.5 and solutions on request 1/2 NPT, Pg 11, M16x1.5 and M12 connector, can be realized limit switches with different types of cable input/output.



E100 series

E200 series

E300 series

E400 series

E700-E600 series

M3 series

FMV series

■ Limit and Safety switches

■ Limit switches

E100-E200-E300-E400 series

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Accessories for limit switches	327

■ Safety switches

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■ Pre-wired limit switches

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■ Microswitches

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■ Multiple position limit switches

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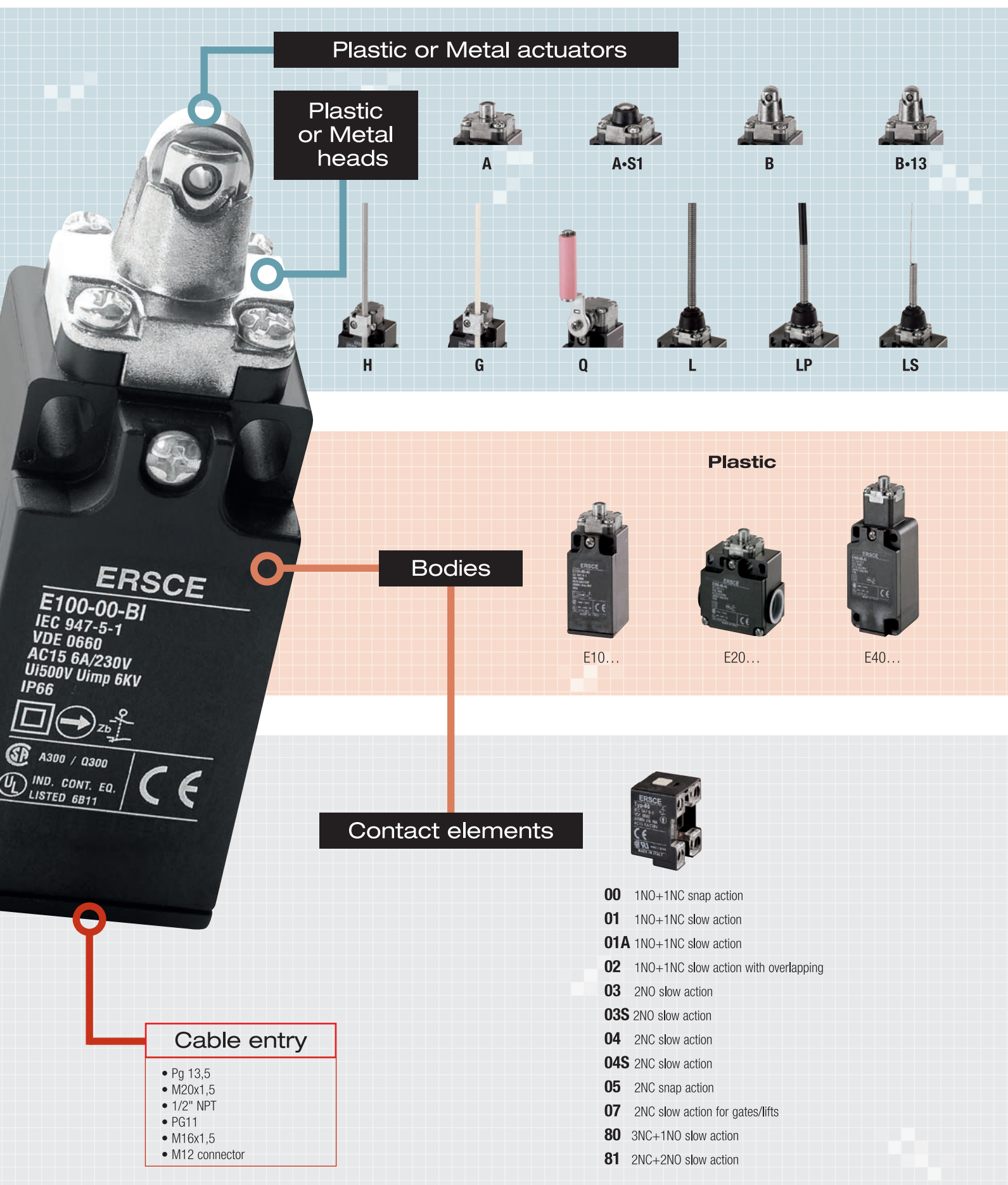
Limit switches

E100
series

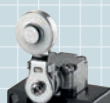
E300
series

E200
series

E400
series



limit and safety switches

**C****C-S1****R****D****D-S1****F-50****FR-50****E****E-RA****E-50****I****I-RA****I-50****F****Metal****E10...****E30...****E40...****Product code structure****E10 0 00 A I S1****Series**

- E10** 1 cable entry
- E20** 2 cable entry
- E30** 3 cable entry
- E40** 1 cable entry

Cable entry

- 0** PG 13,5
- 1** M20x1,5
- 2** 1/2" NPT
- 3** PG 11
- 4** M16x1,5

Contact elements

- 00** 1NO+1NC snap action
- 01** 1NO+1NC slow action
- ...**

Options

- S1** With rubber gasket
- 50** With roller Ø50 mm
- 13** With roller Ø13 mm
- C** For gates/lifts
- 50C** With roller Ø50 mm for gates/lifts

- RA** With steel roller
- P** With cable gland Pg13,5
- Q** With cable gland Pg11
- M12** With M12 connector
- R** With membrane M20x1,5

Construction material

- P** Plastic body / Plastic head
- I** Plastic body / Metal head
- M** Metal body / Metal head

Actuator type

- A** Steel plunger
- B** Steel roller plunger
- ...**

Note: Please verify the effective availability of a product before ordering.



Technical data

				TYPE	E100 / E200 / E300 / E400
Maximum operating frequency				operat./hour ¹	3600
Insulation resistance			500 V DC	MΩ	100
Dielectric strenght			50/60 Hz for 1'	V AC	2500 ²
Rated insulation voltage	Ui	IEC947-5-1		V AC	500
Rated thermal current	Ithe	IEC947-5-1		A	10
Rated operating current	Category AC15 A300	IEC947-5-1/EN60947-5-1	24V	A	10
			125V	A	6
			230 V	A	6
			400 V	A	3
Contact resistance		IEC255-7 cat.3	initial value	mΩ	25
Short circuit protective devices	IEC269 (IEC947-5-1)				
	fuse type gL or gG			A	10
Rated conditionals short circuit current		IEC947-5-1		A	1000
Pollution degree		IEC947-5-1		A	3
Protection degree		EN 60529			IP66
Protection against electric shock			plastic	class	II
			metal	class	I
Vibration resistance		IEC68-2-6	mm		0,35 ± 15% (10 ÷ 55 Hz ± 1 Hz)
Shock resistance		IEC68-2-27	11ms	g	30
Mechanical life				cycles	20.000.000
Electric life	at 250V AC 6A with resistance load cosφ=1			cycles	500.000
	at 250V AC 6A with inductive load cosφ=0,4			cycles	500.000
Distance between contacts	Snap action type			mm	2x1,25
	Low action type			mm	2x2
Terminals	Type				Screw with combined notch and retractable plate (notch Ph. Size 1)
	Screw			M	3,5
	Protection degree				IP20
	Material				Steel class 8,8 / Galvanized
	Max screw tightening torque				120 (12,24)
	Max connecting capacity	rigid cable		mm ²	2x1,5
		flexible cable		mm ²	2x1,5
Terminal numbering					In accordance with EN50013
Air ambient temperature			operational	°C	-35 ÷ +85 (without formation of ice)
Relative umidity			operational		95% max

¹ One operation cycle means two movements, one to close and one to open as required by EN 60947-5.

² Between terminals of the same polarity; between terminals with different polarity; between live mechanical parts and ground; between live mechanical parts and non-current-carrying metal parts.


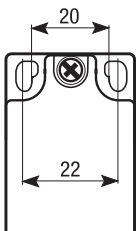

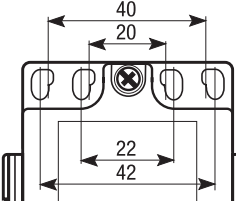

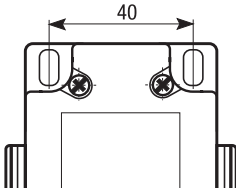

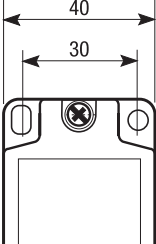
Certifications and Approvals

			IEC EN 60947
E100	•	•	+
E200	•	•	+
E300	•	•	+
E400	•	•	+





- UL approval file E72861
- CSA approval file 026716-0-000
- Approved
- + Conforms to requirements





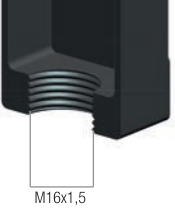

**E100-E200
E300-E400
series**

- Plastic or Metal body
- Plastic or Metal head and actuators
- IP66 protection degree
- Contact elements with positive opening of the NC contact in accordance to IEC EN 60947-5-1 and VDE 0660-200
- Dimensions and travels in accordance to EN 50047 (E100 series) and EN 50041 (E400 series)

Series	Product	Fixing holes
E100		
E200		
E300		
E400		

Cable inputs/outputs

Series	Nr.
E100	1 on the bottom 
E200	2 on the sides 
E300	2 on the sides + 1 on the bottom 
E400	1 on the bottom 

Series		Serie
Pg 13,5		Ex00..
M20x1,5		Ex01..
1/2 NPT		Ex02..
Pg 11		Ex03..
M16x1,5		Ex04..
M12 connector		Ex00.. M12

Actuation heads

Rectilinear actuation

Group A-B



A

Plunger



A/S1

Plunger with rubber gasket



B/B•13

Roller plunger Ø11 or Ø13mm



D

Plastic roller lever, vertical actuation



D•S1

Plastic roller lever with rubber gasket, vertical actuation

Group C-R



C

Plastic roller lever with rubber gasket, side actuation



C•S1

Plastic roller lever, side actuation



R

Reversible and adjustable lever with plastic roller

Angular actuation

Group E-I-F-G-H-Q



E - E•RA

Straight lever with plastic or metal roller



I - I•RA

Bent lever with plastic or metal roller



E•50

Straight lever with Ø50mm rubber roller



I•50

Bent lever with Ø50mm rubber roller



F

Variable length lever with plastic roller



F•50

Variable length lever with Ø50mm rubber roller



FRB•50

Adjustable lever with Ø50mm rubber roller



G/H

Glass fiber Ø6mm, G, or aluminum, H, adjustable round rod



Q

Lever with ceramic roller



IS

Internally bend lever with plastic roller

Multidirectional actuation

Group L



L

Flexible rod



LP

Flexible rod with plastic terminal



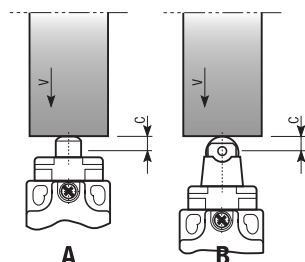
LS

Flexible rod (cat whisker) with metal terminal

Operating features

Plunger, Roller plunger, vertical travel

Actuators: A-B



Drive cam operating parameters

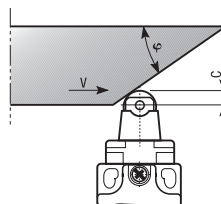
φ	V max (m/s)
Actuators A	0,5
Actuators B	0,5

Drive forces

Minimum command force	9 N
Minimum forced opening force	28 N

Roller plunger, side travel

Actuators: B



Drive cam operating parameters

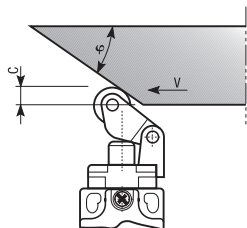
φ	V max (m/s)
30°	0,5
20°	1

Drive forces

Minimum command force	9 N
Minimum forced opening force	28 N

Roller lever, side travel

Actuators: C-R



Drive cam operating parameters

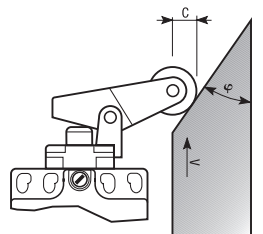
φ	V max (m/s)
30°	0,5
20°	1

Drive forces

Minimum command force	9 N
Minimum forced opening force	26 N

Roller lever, vertical travel

Actuators: D-R



Drive cam operating parameters

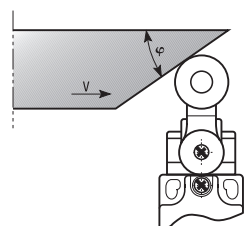
φ	V max (m/s)
30°	0,5
20°	1

Drive forces

Minimum command force	8 N
Minimum forced opening force	26 N

Roller lever

Actuators: E-I-F-FR•50-Q-IS-FR-F•50



Drive cam operating parameters

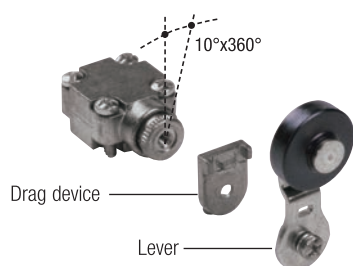
φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60°-90°	0,25

Drive forces (E100-E200-E300)

Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

Drive forces (E400)

Minimum command force	25 Ncm
Minimum forced opening force	45 Ncm

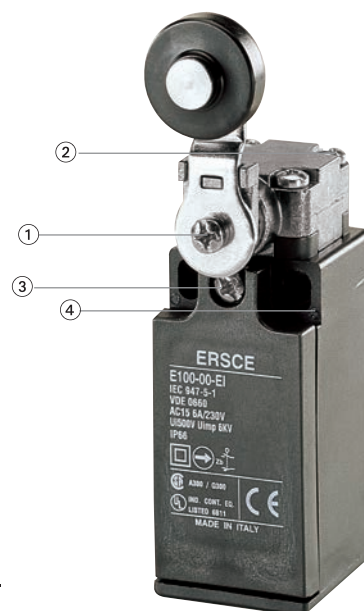


Tightening torque of screw

- ① Tighten the lever holding set screws with a torque of 1.2÷1.5 Nm
- ② Tighten the head with a torque of 0.7÷0.8 Nm (plastic) and 0.8÷1 Nm (metal)
- ③ Tighten the cover with a torque of 0.7÷0.8 Nm (plastic) and 0.8÷1 Nm (metal)
- ④ Tighten the fixing screws of the unit with a torque of 2÷2.5 Nm

Lever drive heads

The lever can be adjusted by shifting the lever and drag device.



Contact elements

Protective screen

Protective natural polycarbonate screen to prevent the entry of materials and access to the test finger (IP20 – EN60529)

Mobile and fixed contacts

Ag/Ni mobile and fixed contacts galvanically separated (acc. IEC 947-5-1, EN 60204, VDE 0660, VDE 0113)



Contact unit	Actuator	Group A-B	Group C-R	Group D	Group E-I-F-G-H-Q	Group L
00 1NO+1NC snap action	1NO+1NC snap action 13 21 14 22					
01 1NO+1NC slow action	1NO+1NC slow action 21 13 22 14					
01A 1NO+1NC slow action	1NO+1NC slow action 21 13 22 14					
02 1NO+1NC slow action overlapping	1NO+1NC slow action overlap. 25 17 26 18					
03 2NO slow action	2NO slow action 13 23 14 24					
03S 2NO slow action	2NO slow action 13 23 14 24					
04 2NC slow action	2NC slow action 11 21 12 22					
04S 2NC slow action	2NC slow action 11 21 12 22					
05 2NC snap action	2NC snap action 11 21 12 22					
07 2NC slow action	2NC slow action 11 21 12 22					
80 3NC+1NO slow action	3NC+1NO slow action 11 21 31 43 12 22 32 44					
81 2NC+2NO slow action	2NC+2NO slow action 11 21 31 41 12 22 32 42					

□ Opened contact

■ Closed contact

➡ Positive opening travel

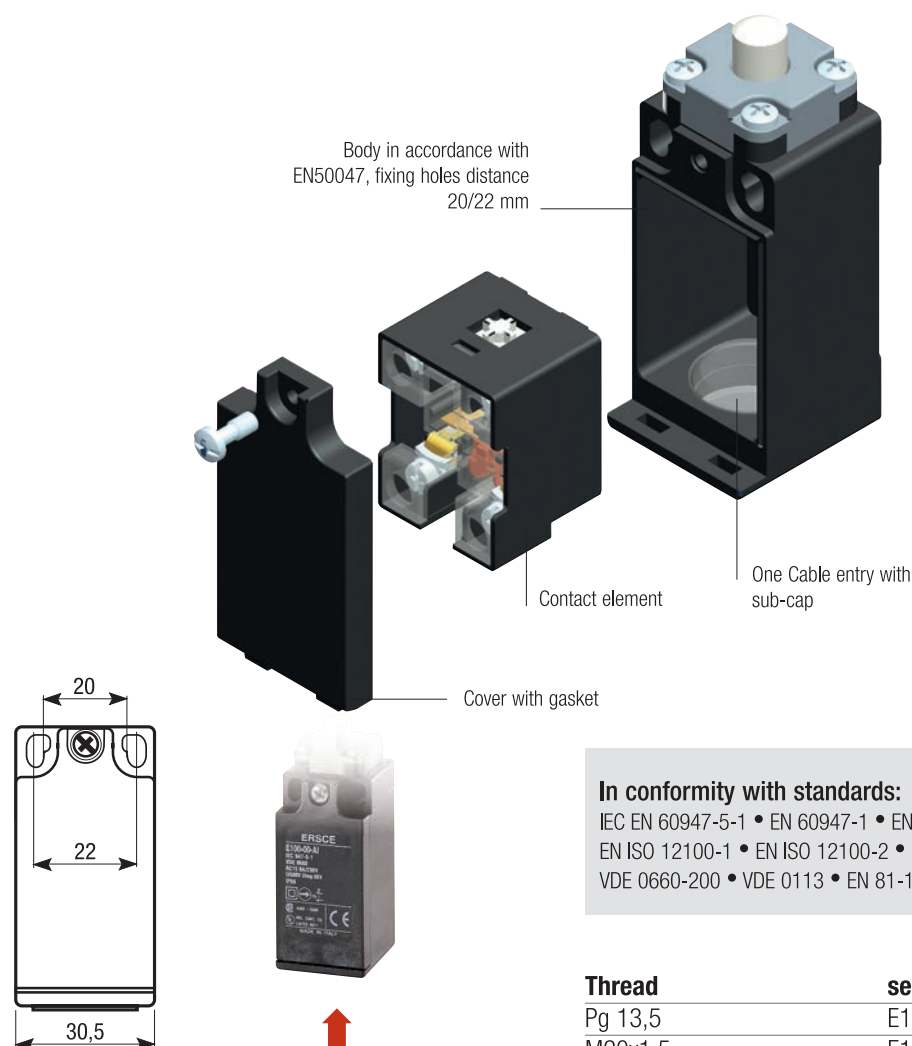
△ Pressure of the switch / Release of the switch

Limit switches E100 series



E100 series

The **E100** series is the most compact of Bremas position switches. Dimensions are in accordance with CENELEC EN50047 that provides two fixing holes with distance 20 or 22mm. There is one hole for Cable entry on the bottom of the switch. Available with thermoplastic or diecast metal alloy body.



Fixing
Body in accordance with CENELEC EN50047, fixing holes distance 20/22 mm

Cable entry
One Cable entry on the bottom of the switch with thread:

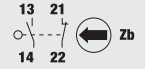
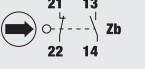
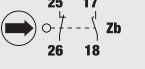
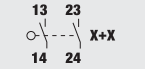
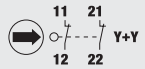
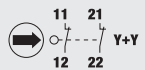
In conformity with standards:

IEC EN 60947-5-1 • EN 60947-1 • EN 50047 • UNI EN 1088
EN ISO 12100-1 • EN ISO 12100-2 • IEC 529 • EN 60529
VDE 0660-200 • VDE 0113 • EN 81-1 • EN 81-2

Thread	series part no.
Pg 13,5	E100...
M20x1,5	E101...
1/2" NPT (on request)	E102...
Pg 11 (on request)	E103...
M16x1,5 (on request)	E104...
M12 connector (on request)	E100...M12



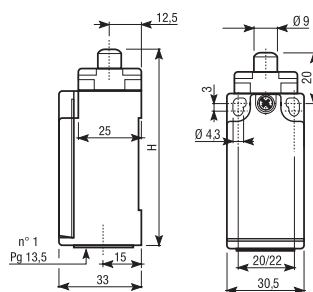
Steel plunger

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs
H	mm

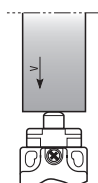
Cable entry						
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Contact travel
E10000AP*	E10000AI*	E10000AM*	E10100AP*	E10100AI*	E10100AM*	
E10001AP*	E10001AI*	E10001AM*	E10101AP*	E10101AI*	E10101AM*	
E10002AP	E10002AI	E10002AM	E10102AP	E10102AI	E10102AM	
E10003AP	E10003AI	E10003AM	E10103AP	E10103AI	E10103AM	
E10004AP	E10004AI	E10004AM	E10104AP	E10104AI	E10104AM	
E10005AP	E10005AI	E10005AM	E10105AP	E10105AI	E10105AM	
0,067	0,095	0,185	0,067	0,095	0,185	
1	1	1	1	1	1	
77,5	77,5	75	77,5	77,5	75	

 standard article

* form conforming to EN50047



Drive cam operating parameters



V max (m/s) 0,5

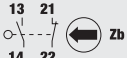
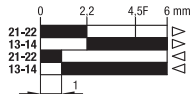
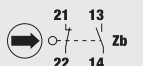
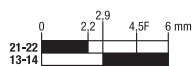
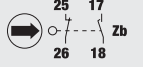
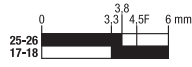
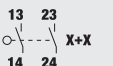
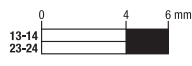
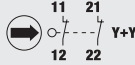
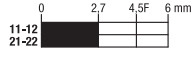
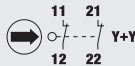
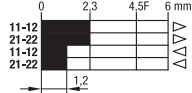
Drive forces

Minimum command force 9 N

Minimum forced opening force 26 N

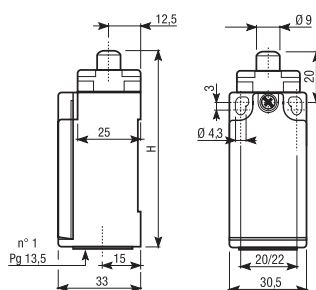


Steel plunger with rubber gasket

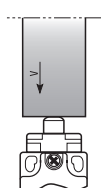
Contact element		Cable entry							
		PG 13,5			M20 x 1,5				
		Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Contact travel	
1NO+1NC snap action		00	E10000APS1*	E10000AIS1*	E10000AMS1*	E10100APS1*	E10100AIS1*	E10100AMS1*	
1NO+1NC slow action		01	E10001APS1*	E10001AIS1*	E10001AMS1*	E10101APS1*	E10101AIS1*	E10101AMS1*	
1NO+1NC lenta sovrapp.		02	E10002APS1	E10002AIS1	E10002AMS1	E10102APS1	E10102AIS1	E10102AMS1	
2NO slow action		03	E10003APS1	E10003AIS1	E10003AMS1	E10103APS1	E10103AIS1	E10103AMS1	
2NC slow action		04	E10004APS1	E10004AIS1	E10004AMS1	E10104APS1	E10104AIS1	E10104AMS1	
2NC snap action		05	E10005APS1	E10005AIS1	E10005AMS1	E10105APS1	E10105AIS1	E10105AMS1	
Weight	kg	0,067	0,095	0,185	0,067	0,095	0,185		
Pack	pcs	1	1	1	1	1	1		
H	mm	77,5	77,5	75	77,5	77,5	75		

 standard article

* form conforming to EN50047



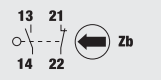
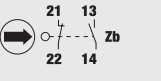
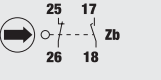
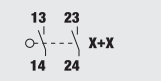
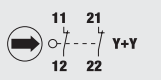
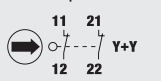
Drive cam operating parameters



V max (m/s)	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	26 N



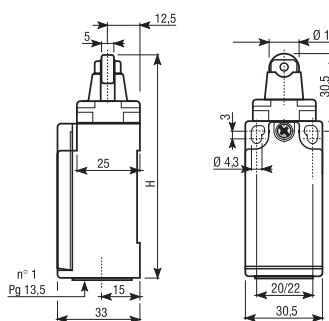
Steel roller plunger

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs
H	mm

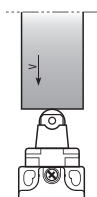
Cable entry						Contact travel
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10000BP*	E10000BI*	E10000BM*	E10100BP*	E10100BI*	E10100BM*	
E10001BP*	E10001BI*	E10001BM*	E10101BP*	E10101BI*	E10101BM*	
E10002BP	E10002BI	E10002BM	E10102BP	E10102BI	E10102BM	
E10003BP	E10003BI	E10003BM	E10103BP	E10103BI	E10103BM	
E10004BP	E10004BI	E10004BM	E10104BP	E10104BI	E10104BM	
E10005BP	E10005BI	E10005BM	E10105BP	E10105BI	E10105BM	
0,07	0,105	0,195	0,07	0,105	0,195	
1	1	1	1	1	1	
88	88	85,5	88	88	85,5	

 standard article

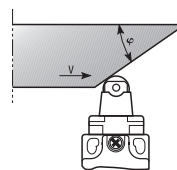
* form conforming to EN50047



Drive cam operating parameters



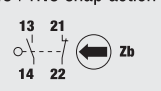
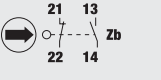
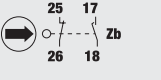
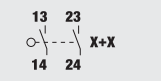
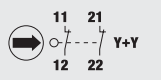
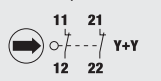
V max (m/s)	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N

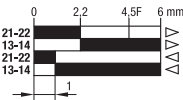
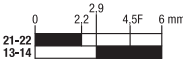
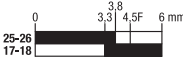
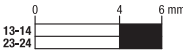
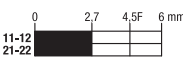
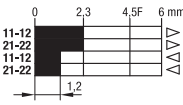


φ	V max (m/s)
20°	1
30°	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N



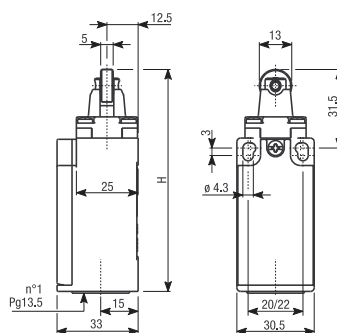
Ø13 mm steel roller plunger

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs
H	mm

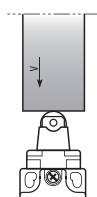
Cable entry						Contact travel
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10000BP13	E10000BI13	E10000BM13	E10100BP13	E10100BI13	E10100BM13	
E10001BP13	E10001BI13	E10001BM13	E10101BP13	E10101BI13	E10101BM13	
E10002BP13	E10002BI13	E10002BM13	E10102BP13	E10102BI13	E10102BM13	
E10003BP13	E10003BI13	E10003BM13	E10103BP13	E10103BI13	E10103BM13	
E10004BP13	E10004BI13	E10004BM13	E10104BP13	E10104BI13	E10104BM13	
E10005BP13	E10005BI13	E10005BM13	E10105BP13	E10105BI13	E10105BM13	
0,07	0,105	0,195	0,07	0,105	0,195	
1	1	1	1	1	1	
89	89	85,5	89	89	86,5	

 standard article

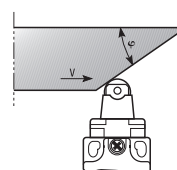
* form conforming to EN50047



Drive cam operating parameters



V max (m/s)	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N

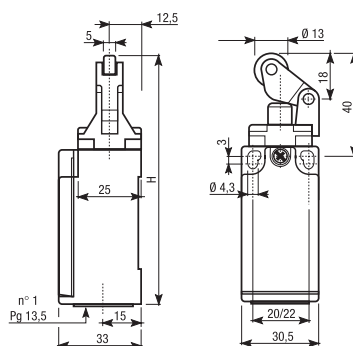


φ	V max (m/s)
20°	1
30°	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N



Cable entry						
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Contact travel
E10000CP*	E10000CI*	E10000CM*	E10100CP*	E10100CI*	E10100CM*	
E10001CP*	E10001CI*	E10001CM*	E10101CP*	E10101CI*	E10101CM*	
E10002CP	E10002CI	E10002CM	E10102CP	E10102CI	E10102CM	
E10003CP	E10003CI	E10003CM	E10103CP	E10103CI	E10103CM	
E10004CP	E10004CI	E10004CM	E10104CP	E10104CI	E10104CM	
E10005CP	E10005CI	E10005CM	E10105CP	E10105CI	E10105CM	
0,071	0,105	0,195	0,071	0,105	0,195	
1	1	1	1	1	1	
97,5	97,5	95	97,5	97,5	95	

* form conforming to EN50047

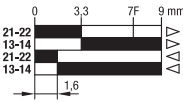

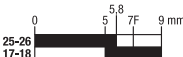
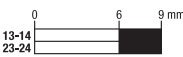
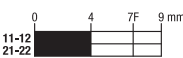



Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N



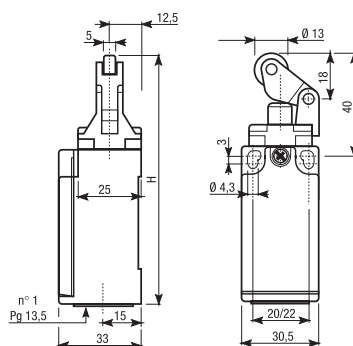
Thermoplastic roller lever with rubber gasket, side actuation

Contact element	
1NO+1NC snap action 13 21 14 22 Zb	00
1NO+1NC slow action 21 13 22 14 Zb	01
1NO+1NC slow overlap. 25 17 26 18 Zb	02
2NO slow action 13 23 14 24 X+X	03
2NC slow action 11 21 12 22 Y+Y	04
2NC snap action 11 21 12 22 Y+Y	05
Weight	kg
Pack	pcs
H	mm

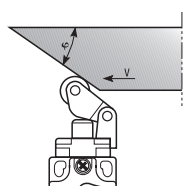
Cable entry						Contact travel
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10000CPS1*	E10000CIS1*	E10000CMS1*	E10100CPS1*	E10100CIS1*	E10100CMS1*	
E10001CPS1*	E10001CIS1*	E10001CMS1*	E10101CPS1*	E10101CIS1*	E10101CMS1*	
E10002CPS1	E10002CIS1	E10002CMS1	E10102CPS1	E10102CIS1	E10102CMS1	
E10003CPS1	E10003CIS1	E10003CMS1	E10103CPS1	E10103CIS1	E10103CMS1	
E10004CPS1	E10004CIS1	E10004CMS1	E10104CPS1	E10104CIS1	E10104CMS1	
E10005CPS1	E10005CIS1	E10005CMS1	E10105CPS1	E10105CIS1	E10105CMS1	
0,071	0,105	0,195	0,071	0,105	0,195	
1	1	1	1	1	1	
97,5	97,5	95	97,5	97,5	95	

standard article

* form conforming to EN50047



Drive cam operating parameters



φ	V max (m/s)
20°	1
30°	0,5

Drive forces	
Minimum command force	9 N
Minimum forced opening force	26 N



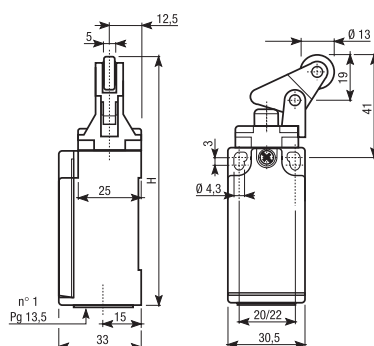
Thermoplastic roller lever, vertical actuation

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs
H	mm

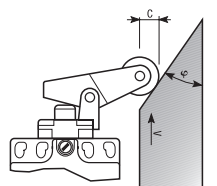
Cable entry						Contact travel
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10000DP	E10000DI	E10000DM	E10100DP	E10100DI	E10100DM	
E10001DP	E10001DI	E10001DM	E10101DP	E10101DI	E10101DM	
E10002DP	E10002DI	E10002DM	E10102DP	E10102DI	E10102DM	
E10003DP	E10003DI	E10003DM	E10103DP	E10103DI	E10103DM	
E10004DP	E10004DI	E10004DM	E10104DP	E10104DI	E10104DM	
E10005DP	E10005DI	E10005DM	E10105DP	E10105DI	E10105DM	
0,072	0,105	0,195	0,072	0,105	0,195	
1	1	1	1	1	1	
98,5	96	96	98,5	96	96	

standard article

* form conforming to EN50047



Drive cam operating parameters



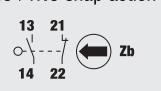
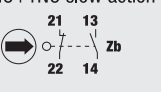
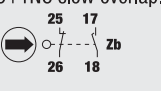
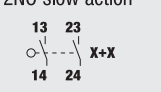
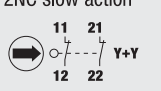
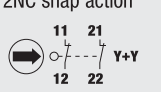
φ	V max (m/s)
20°	1
30°	0,5

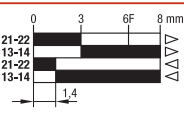
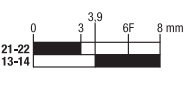
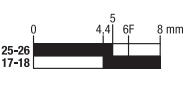
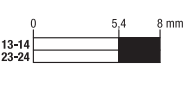
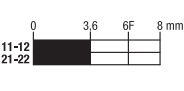
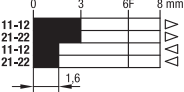
Drive forces

Minimum command force	9 N
Minimum forced opening force	26 N



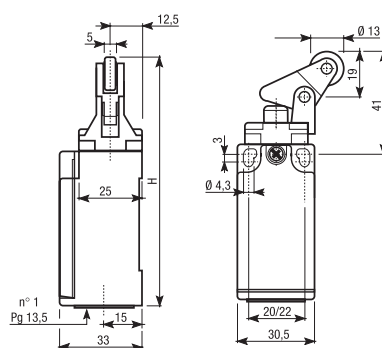
Thermoplastic roller lever with rubber gasket, vertical actuation

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs
H	mm

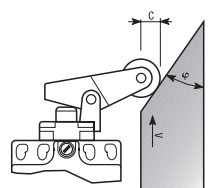
Cable entry						
PG 13,5			M20 x 1,5			Contact travel
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10000DPS1	E10000DIS1	E10000DMS1	E10100DPS1	E10100DIS1	E10100DMS1	
E10001DPS1	E10001DIS1	E10001DMS1	E10101DPS1	E10101DIS1	E10101DMS1	
E10002DPS1	E10002DIS1	E10002DMS1	E10102DPS1	E10102DIS1	E10102DMS1	
E10003DPS1	E10003DIS1	E10003DMS1	E10103DPS1	E10103DIS1	E10103DMS1	
E10004DPS1	E10004DIS1	E10004DMS1	E10104DPS1	E10104DIS1	E10104DMS1	
E10005DPS1	E10005DIS1	E10005DMS1	E10105DPS1	E10105DIS1	E10105DMS1	
0,072	0,105	0,195	0,072	0,105	0,195	
1	1	1	1	1	1	
98,5	96	96	98,5	96	96	

standard article

* form conforming to EN50047



Drive cam operating parameters



φ	V max (m/s)
20°	1
30°	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	26 N



Thermoplastic roller lever

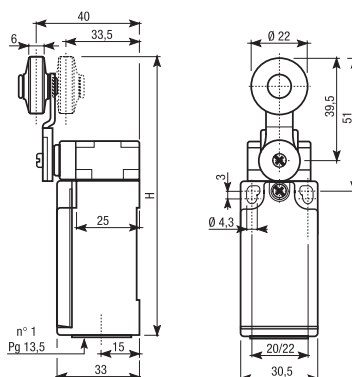
E

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs
H	mm

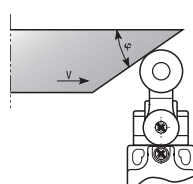
Cable entry						Contact travel
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10000EP*	E10000EI*	E10000EM*	E10100EP*	E10100EI*	E10100EM*	
E10001EP*	E10001EI*	E10001EM*	E10101EP*	E10101EI*	E10101EM*	
E10002EP	E10002EI	E10002EM	E10102EP	E10102EI	E10102EM	
E10003EP	E10003EI	E10003EM	E10103EP	E10103EI	E10103EM	
E10004EP	E10004EI	E10004EM	E10104EP	E10104EI	E10104EM	
E10005EP	E10005EI	E10005EM	E10105EP	E10105EI	E10105EM	
0,081	0,135	0,225	0,081	0,135	0,225	
1	1	1	1	1	1	
108,5	108,5	106	108,5	108,5	106	

standard article

* form conforming to EN50047



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

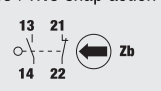
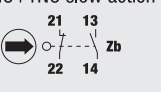
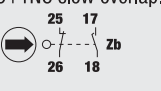
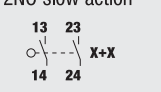
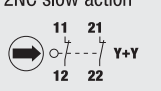
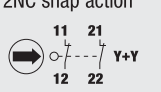
Drive forces

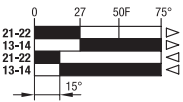
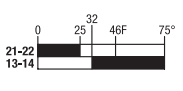
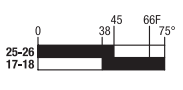
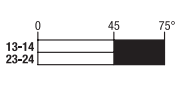
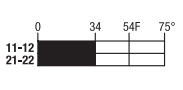
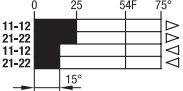
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm



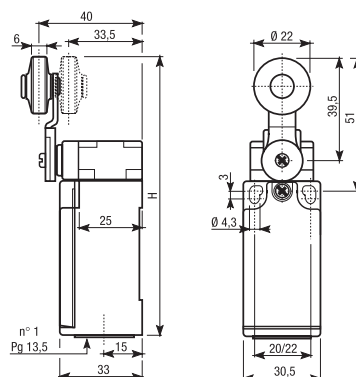
Steel roller lever

E•RA

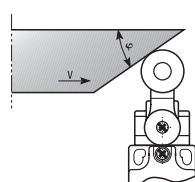
Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs
H	mm

Cable entry						
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Contact travel
E10000EPRA	E10000EIRA	E10000EMRA	E10100EPRA	E10100EIRA	E10100EMRA	
E10001EPRA	E10001EIRA	E10001EMRA	E10101EPRA	E10101EIRA	E10101EMRA	
E10002EPRA	E10002EIRA	E10002EMRA	E10102EPRA	E10102EIRA	E10102EMRA	
E10003EPRA	E10003EIRA	E10003EMRA	E10103EPRA	E10103EIRA	E10103EMRA	
E10004EPRA	E10004EIRA	E10004EMRA	E10104EPRA	E10104EIRA	E10104EMRA	
E10005EPRA	E10005EIRA	E10005EMRA	E10105EPRA	E10105EIRA	E10105EMRA	
0,081	0,135	0,225	0,081	0,135	0,225	
1	1	1	1	1	1	
108,5	108,5	106	108,5	108,5	106	

 standard article



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces


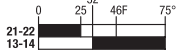
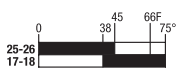
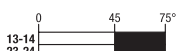
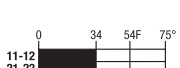
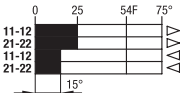
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm



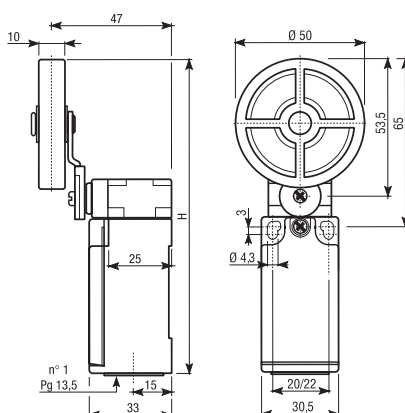
E•50

Ø50 mm rubber roller lever

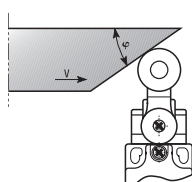
Contact element	
1NO+1NC snap action 00	
1NO+1NC slow action 01	
1NO+1NC slow overlap. 02	
2NO slow action 03	
2NC slow action 04	
2NC snap action 05	
Weight	kg
Pack	pcs
H	mm

Cable entry						Contact travel
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10000EP50	E10000EI50	E10000EM50	E10100EP50	E10100EI50	E10100EM50	
E10001EP50	E10001EI50	E10001EM50	E10101EP50	E10101EI50	E10101EM50	
E10002EP50	E10002EI50	E10002EM50	E10102EP50	E10102EI50	E10102EM50	
E10003EP50	E10003EI50	E10003EM50	E10103EP50	E10103EI50	E10103EM50	
E10004EP50	E10004EI50	E10004EM50	E10104EP50	E10104EI50	E10104EM50	
E10005EP50	E10005EI50	E10005EM50	E10105EP50	E10105EI50	E10105EM50	
0,095	0,15	0,24	0,095	0,15	0,24	
1	1	1	1	1	1	
122,5	122,5	120	122,5	122,5	120	

standard article



Drive cam operating parameters



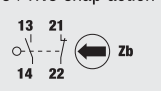
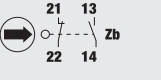
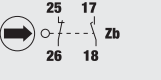
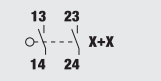
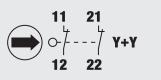
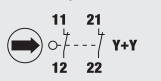
φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces

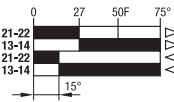
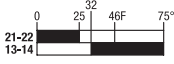
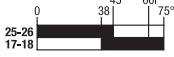
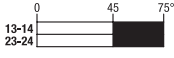
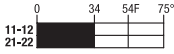
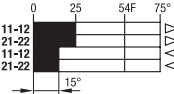
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

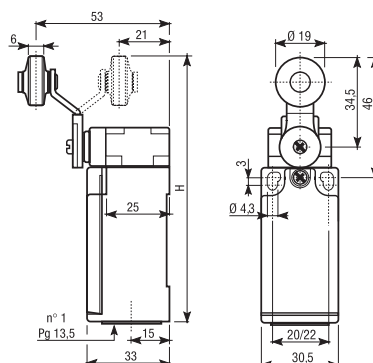


Thermoplastic roller lever

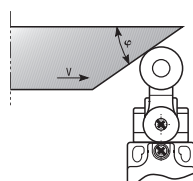
Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs
H	mm

 standard article

Cable entry						Contact travel
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10000IP	E10000II	E10000IM	E10100IP	E10100II	E10100IM	
E10001IP	E10001II	E10001IM	E10101IP	E10101II	E10101IM	
E10002IP	E10002II	E10002IM	E10102IP	E10102II	E10102IM	
E10003IP	E10003II	E10003IM	E10103IP	E10103II	E10103IM	
E10004IP	E10004II	E10004IM	E10104IP	E10104II	E10104IM	
E10005IP	E10005II	E10005IM	E10105IP	E10105II	E10105IM	
0,079	0,13	0,225	0,079	0,13	0,225	
1	1	1	1	1	1	
103,5	103,5	101	103,5	103,5	101	



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces
Minimum command force 15 Ncm
Minimum forced opening force 35 Ncm

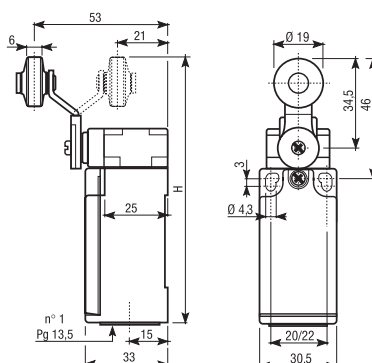


Steel roller lever

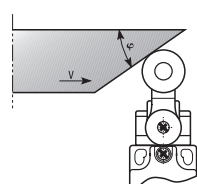
Contact element	
1NO+1NC snap action 13 21 14 22 Zb	00
1NO+1NC slow action 21 13 22 14 Zb	01
1NO+1NC slow overlap. 25 17 26 18 Zb	02
2NO slow action 13 23 14 24 X+X	03
2NC slow action 11 21 12 22 Y+Y	04
2NC snap action 11 21 12 22 Y+Y	05
Weight	kg
Pack	pcs
H	mm

standard article

Cable entry						
PG 13,5			M20 x 1,5			Contact travel
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10000IPRA	E10000IIRA	E10000IMRA	E10100IPRA	E10100IIRA	E10100IMRA	 0 27 50F 75° 21-22 13-14 13-14 15°
E10001IPRA	E10001IIRA	E10001IMRA	E10101IPRA	E10101IIRA	E10101IMRA	 0 25 32 46F 75° 21-22 13-14
E10002IPRA	E10002IIRA	E10002IMRA	E10102IPRA	E10102IIRA	E10102IMRA	 0 38 45 66F 75° 25-26 17-18
E10003IPRA	E10003IIRA	E10003IMRA	E10103IPRA	E10103IIRA	E10103IMRA	 0 45 75° 13-14 23-24
E10004IPRA	E10004IIRA	E10004IMRA	E10104IPRA	E10104IIRA	E10104IMRA	 0 34 54F 75° 11-12 21-22
E10005IPRA	E10005IIRA	E10005IMRA	E10105IPRA	E10105IIRA	E10105IMRA	 0 25 54F 75° 11-12 21-22 11-12 21-22 15°
0,079	0,13	0,225	0,079	0,13	0,225	
1	1	1	1	1	1	
103,5	103,5	101	103,5	103,5	101	



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

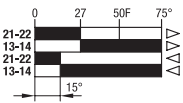
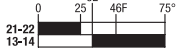
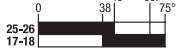
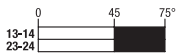
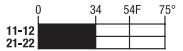
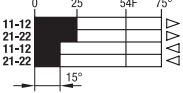
Drive forces

Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

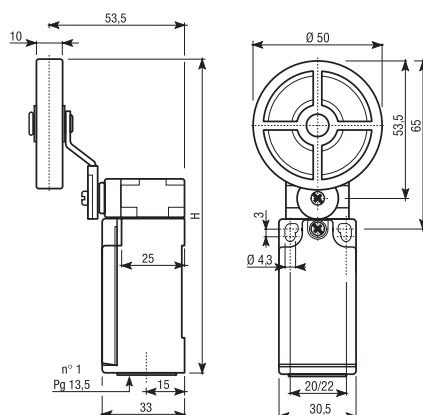


Ø50 mm rubber roller lever

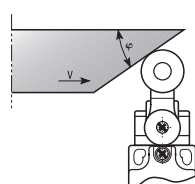
Contact element	
1NO+1NC snap action 13 21 14 22 Zb	00
1NO+1NC slow action 21 13 22 14 Zb	01
1NO+1NC slow overlap. 25 17 26 18 Zb	02
2NO slow action 13 23 14 24 X+X	03
2NC slow action 11 21 12 22 Y+Y	04
2NC snap action 11 21 12 22 Y+Y	05
Weight	kg
Pack	pcs
H	mm

Cable entry						
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Contact travel
E10000IP50	E10000II50	E10000IM50	E10100IP50	E10100II50	E10100IM50	
E10001IP50	E10001II50	E10001IM50	E10101IP50	E10101II50	E10101IM50	
E10002IP50	E10002II50	E10002IM50	E10102IP50	E10102II50	E10102IM50	
E10003IP50	E10003II50	E10003IM50	E10103IP50	E10103II50	E10103IM50	
E10004IP50	E10004II50	E10004IM50	E10104IP50	E10104II50	E10104IM50	
E10005IP50	E10005II50	E10005IM50	E10105IP50	E10105II50	E10105IM50	
0,095	0,145	0,24	0,095	0,145	0,24	
1	1	1	1	1	1	
122,5	122,5	120	122,5	122,5	120	

standard article



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces

Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm



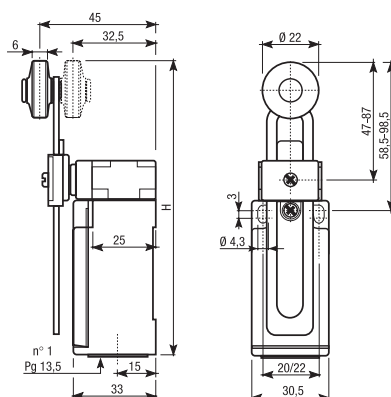
F

Thermoplastic roller variable length lever

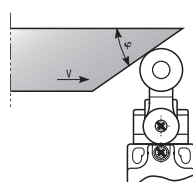
Contact element	
1NO+1NC snap action 00	
1NO+1NC slow action 01	
1NO+1NC slow overlap. 02	
2NO slow action 03	
2NC slow action 04	
2NC snap action 05	
Weight	kg
Pack	pcs
H	mm

Cable entry						Contact travel
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10000FP	E10000FI	E10000FM	E10100FP	E10100FI	E10100FM	
E10001FP	E10001FI	E10001FM	E10101FP	E10101FI	E10101FM	
E10002FP	E10002FI	E10002FM	E10102FP	E10102FI	E10102FM	
E10003FP	E10003FI	E10003FM	E10103FP	E10103FI	E10103FM	
E10004FP	E10004FI	E10004FM	E10104FP	E10104FI	E10104FM	
E10005FP	E10005FI	E10005FM	E10105FP	E10105FI	E10105FM	
0,099	0,15	0,24	0,079	0,13	0,225	
1	1	1	1	1	1	
116 ÷ 156	116 ÷ 156	113,5 ÷ 153,5	116 ÷ 156	116 ÷ 156	113,5 ÷ 153,5	

standard article



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces

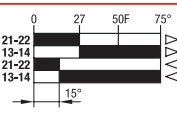
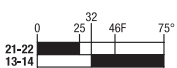
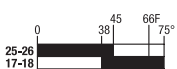
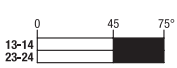
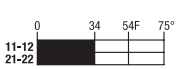
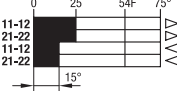
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm



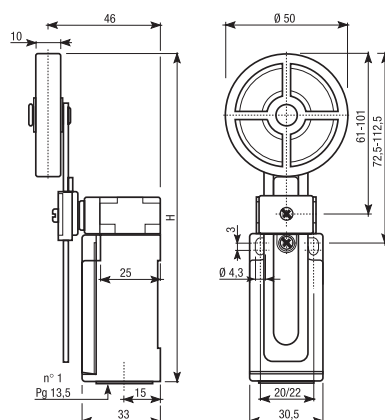
F•50

Ø50 mm rubber roller variable length lever

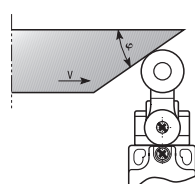
Contact element	
1NO+1NC snap action 13 21 14 22 Zb	00
1NO+1NC slow action 21 13 22 14 Zb	01
1NO+1NC slow overlap. 25 17 26 18 Zb	02
2NO slow action 13 23 14 24 X+X	03
2NC slow action 11 21 12 22 Y+Y	04
2NC snap action 11 21 12 22 Y+Y	05
Weight	kg
Pack	pcs
H	mm

Cable entry						Contact travel
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10000FP50	E10000FI50	E10000FM50	E10100FP50	E10100FI50	E10100FM50	
E10001FP50	E10001FI50	E10001FM50	E10101FP50	E10101FI50	E10101FM50	
E10002FP50	E10002FI50	E10002FM50	E10102FP50	E10102FI50	E10102FM50	
E10003FP50	E10003FI50	E10003FM50	E10103FP50	E10103FI50	E10103FM50	
E10004FP50	E10004FI50	E10004FM50	E10104FP50	E10104FI50	E10104FM50	
E10005FP50	E10005FI50	E10005FM50	E10105FP50	E10105FI50	E10105FM50	
0,114	0,16	0,25	0,114	0,16	0,25	
1	1	1	1	1	1	
130 ÷ 170	130 ÷ 170	127,5 ÷ 167,5	130 ÷ 170	130 ÷ 170	127,5 ÷ 167,5	

 standard article



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

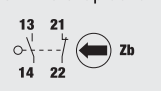
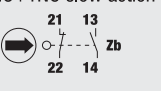
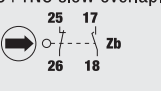
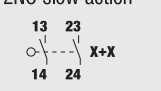
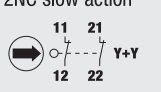
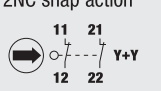
Drive forces

Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

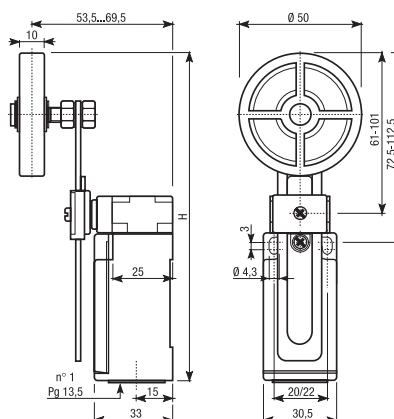
FR•50



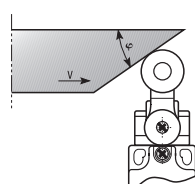
Ø50 mm rubber roller adjustable lever

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs
H	mm

Cable entry						Contact travel
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10000FRP50	E10000FRI50	E10000FRM50	E10100FRP50	E10100FRI50	E10100FRM50	
E10001FRP50	E10001FRI50	E10001FRM50	E10101FRP50	E10101FRI50	E10101FRM50	
E10002FRP50	E10002FRI50	E10002FRM50	E10102FRP50	E10102FRI50	E10102FRM50	
E10003FRP50	E10003FRI50	E10003FRM50	E10103FRP50	E10103FRI50	E10103FRM50	
E10004FRP50	E10004FRI50	E10004FRM50	E10104FRP50	E10104FRI50	E10104FRM50	
E10005FRP50	E10005FRI50	E10005FRM50	E10105FRP50	E10105FRI50	E10105FRM50	
0,124	0,17	0,25	0,124	0,17	0,25	
1	1	1	1	1	1	
130 ÷ 170	130 ÷ 170	127,5 ÷ 167,5	130 ÷ 170	130 ÷ 170	127,5 ÷ 167,5	

 standard article


Drive cam operating parameters




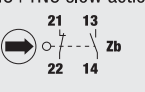
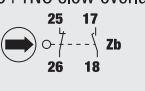
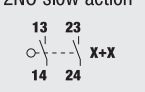
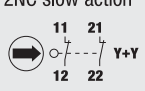
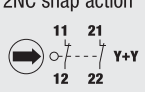
φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

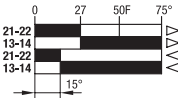
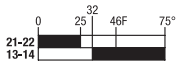
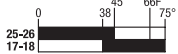
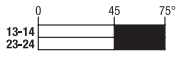
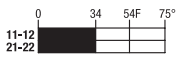
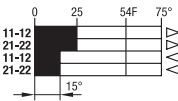
Drive forces

Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

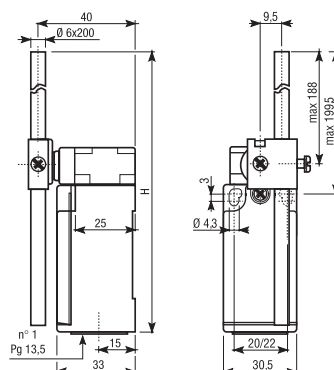


Side rotary adjustable Ø6 mm glass fiber rod

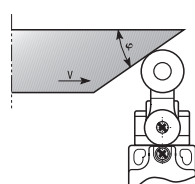
Contact element	
1NO+1NC snap action 	
1NO+1NC slow action 	
1NO+1NC slow overlap. 	
2NO slow action 	
2NC slow action 	
2NC snap action 	
Weight	kg
Pack	pcs
H	mm

Cable entry						
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Contact travel
E10000GP	E10000GI	E10000GM	E10100GP	E10100GI	E10100GM	
E10001GP	E10001GI	E10001GM	E10101GP	E10101GI	E10101GM	
E10002GP	E10002GI	E10002GM	E10102GP	E10102GI	E10102GM	
E10003GP	E10003GI	E10003GM	E10103GP	E10103GI	E10103GM	
E10004GP	E10004GI	E10004GM	E10104GP	E10104GI	E10104GM	
E10005GP	E10005GI	E10005GM	E10105GP	E10105GI	E10105GM	
0,124	0,17	0,27	0,124	0,17	0,27	
1	1	1	1	1	1	
97,5 ÷ 257,5	97,5 ÷ 257,5	95 ÷ 255	97,5 ÷ 257,5	97,5 ÷ 257,5	95 ÷ 255	

 standard article



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

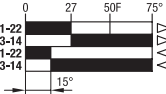
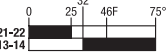

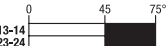

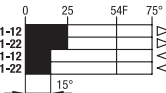
Drive forces

Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

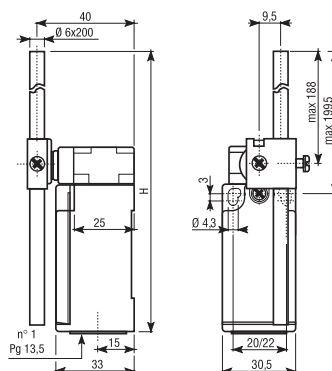


Side rotary adjustable Ø6 mm aluminium rod

Contact element	
1NO+1NC snap action 13 21 14 22	00
1NO+1NC slow action 21 13 22 14	01
1NO+1NC slow overlap. 25 17 26 18	02
2NO slow action 13 23 14 24	03
2NC slow action 11 21 12 22	04
2NC snap action 11 21 12 22	05
Weight	kg
Pack	pcs
H	mm

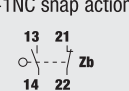
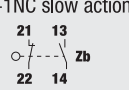
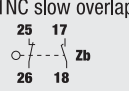
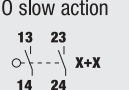
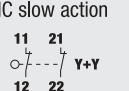
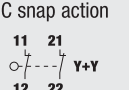
Cable entry						Contact travel
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10000HP	E10000HI	E10000HM	E10100HP	E10100HI	E10100HM	
E10001HP	E10001HI	E10001HM	E10101HP	E10101HI	E10101HM	
E10002HP	E10002HI	E10002HM	E10102HP	E10102HI	E10102HM	
E10003HP	E10003HI	E10003HM	E10103HP	E10103HI	E10103HM	
E10004HP	E10004HI	E10004HM	E10104HP	E10104HI	E10104HM	
E10005HP	E10005HI	E10005HM	E10105HP	E10105HI	E10105HM	
0,124	0,18	0,27	0,124	0,18	0,27	
1	1	1	1	1	1	
97,5 ÷ 257,5	97,5 ÷ 257,5	95 ÷ 255	97,5 ÷ 257,5	97,5 ÷ 257,5	95 ÷ 255	

standard article

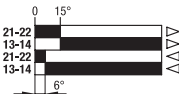
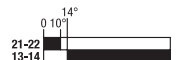
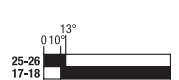
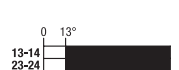

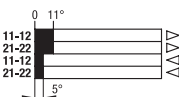




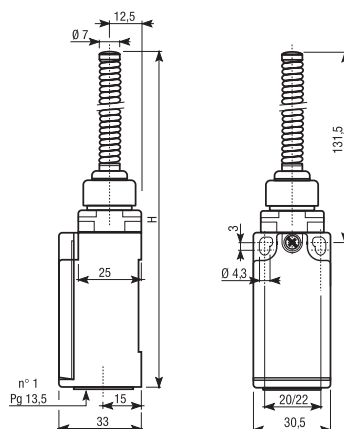
Flexible rod

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05

Weight	kg
Pack	pcs
H	mm

Cable entry						
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Contact travel
E10000LP	E10000LI	E10000LM	E10100LP	E10100LI	E10100LM	
E10001LP	E10001LI	E10001LM	E10101LP	E10101LI	E10101LM	
E10002LP	E10002LI	E10002LM	E10102LP	E10102LI	E10102LM	
E10003LP	E10003LI	E10003LM	E10103LP	E10103LI	E10103LM	
E10004LP	E10004LI	E10004LM	E10104LP	E10104LI	E10104LM	
E10005LP	E10005LI	E10005LM	E10105LP	E10105LI	E10105LM	
0,093	0,145	0,235	0,093	0,145	0,235	
1	1	1	1	1	1	
189	189	186,5	189	189	186,5	

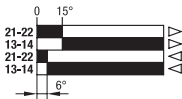
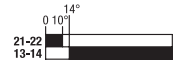
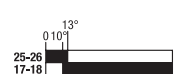
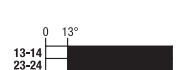

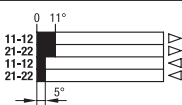
 standard article



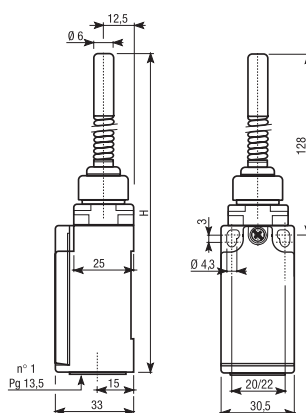


Flexible rod with plastic terminal

Contact element	
1NO+1NC snap action 00	
1NO+1NC slow action 01	
1NO+1NC slow overlap. 02	
2NO slow action 03	
2NC slow action 04	
2NC snap action 05	
Weight	kg
Pack	pcs
H	mm







Cable entry						Contact travel
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10000LPP	E10000LPI	E10000LPM	E10100LPP	E10100LPI	E10100LPM	
E10001LPP	E10001LPI	E10001LPM	E10101LPP	E10101LPI	E10101LPM	
E10002LPP	E10002LPI	E10002LPM	E10102LPP	E10102LPI	E10102LPM	
E10003LPP	E10003LPI	E10003LPM	E10103LPP	E10103LPI	E10103LPM	
E10004LPP	E10004LPI	E10004LPM	E10104LPP	E10104LPI	E10104LPM	
E10005LPP	E10005LPI	E10005LPM	E10105LPP	E10105LPI	E10105LPM	
0,093	0,145	0,235	0,093	0,145	0,235	
1	1	1	1	1	1	
185,5	185,5	183	185,5	185,5	183	

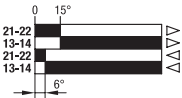
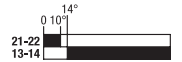
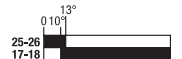
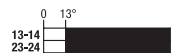
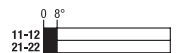
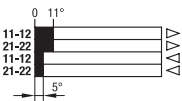
standard article



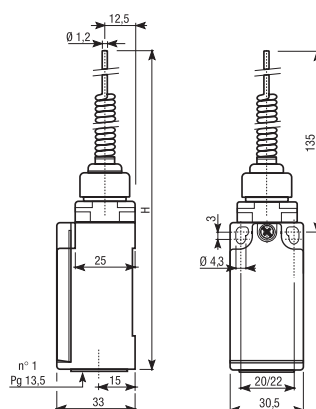


Cat's whisker

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs
H	mm

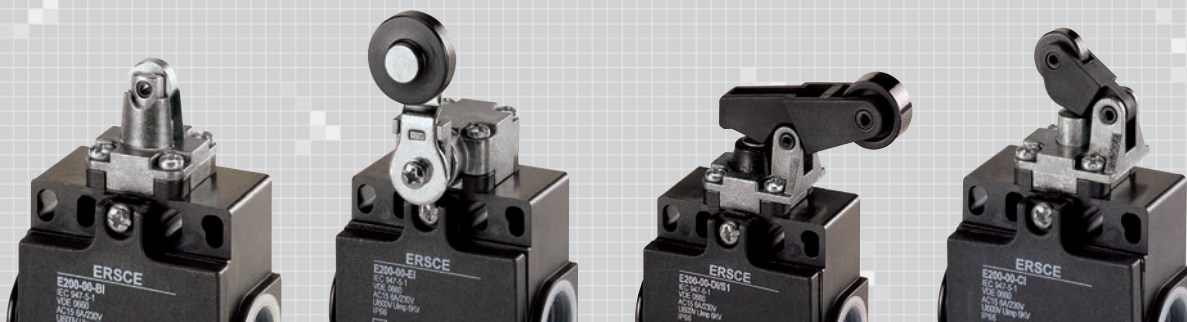
Cable entry						
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Contact travel
E10000LSP	E10000LSI	E10000LSM	E10100LSP	E10100LSI	E10100LSM	
E10001LSP	E10001LSI	E10001LSM	E10101LSP	E10101LSI	E10101LSM	
E10002LSP	E10002LSI	E10002LSM	E10102LSP	E10102LSI	E10102LSM	
E10003LSP	E10003LSI	E10003LSM	E10103LSP	E10103LSI	E10103LSM	
E10004LSP	E10004LSI	E10004LSM	E10104LSP	E10104LSI	E10104LSM	
E10005LSP	E10005LSI	E10005LSM	E10105LSP	E10105LSI	E10105LSM	
0,093	0,145	0,235	0,093	0,145	0,235	
1	1	1	1	1	1	
192,5	192,5	190	192,5	192,5	190	

 standard article



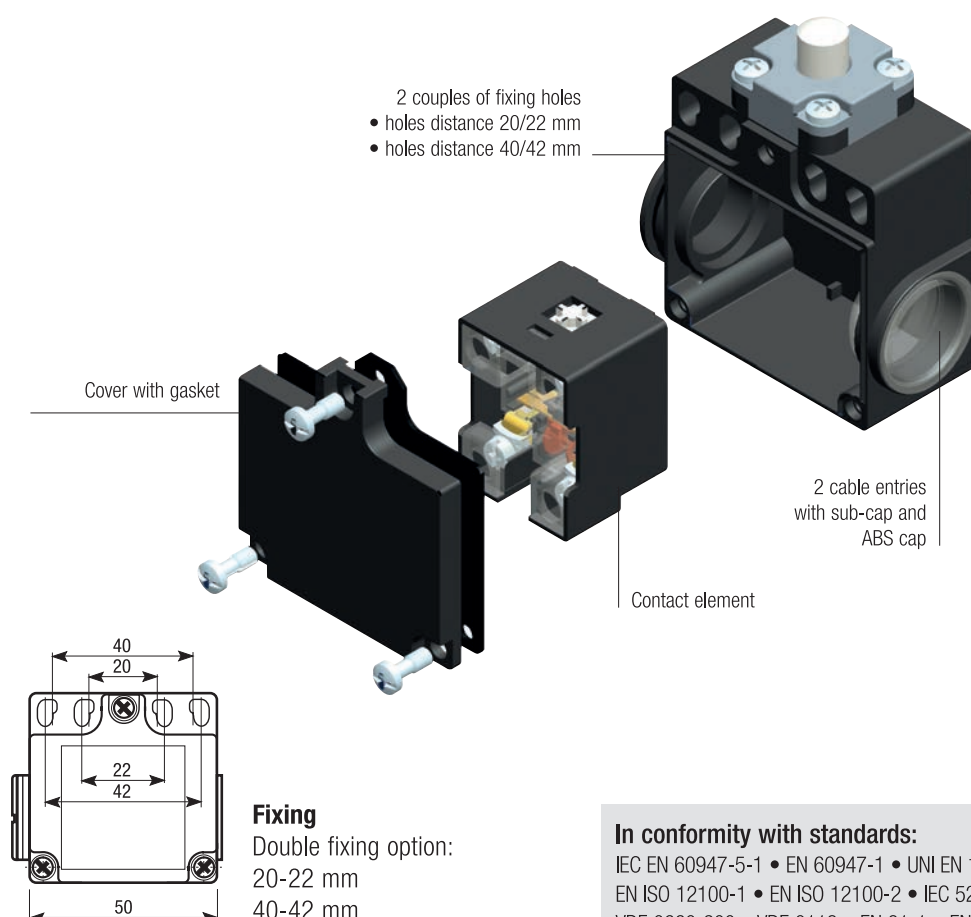


Limit switches E200 series



E200 series

The **E200** series is designed for maximum installation flexibility, it has two different fixing templates to maintain compatibility with both E100 series (fixing holes distance 20-22mm) and E300 series (fixing holes distance 40-42 mm). E200 series provides 2 cable entries on both sides of the switch and is available with metal actuators and thermoplastic body.



Cable entry
2 cable entries
on the sides
of the switch
with thread:



In conformity with standards:

IEC EN 60947-5-1 • EN 60947-1 • UNI EN 1088
EN ISO 12100-1 • EN ISO 12100-2 • IEC 529 • EN 60529
VDE 0660-200 • VDE 0113 • EN 81-1 • EN 81-2

Thread

Pg 13,5
M20x1,5
1/2" NPT (on request)
M12 connector (on request)

Series part no.

E200...
E201...
E202...
E200...M12



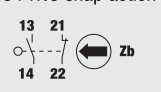
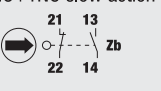
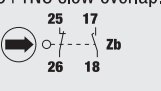
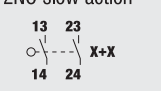
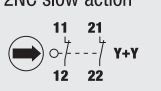
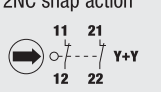
Steel plunger



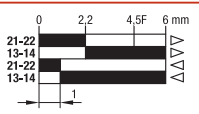
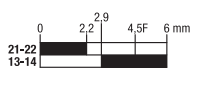
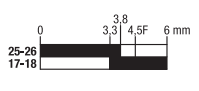
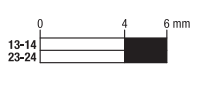
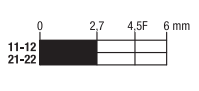
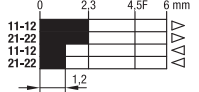
Steel plunger with rubber gasket

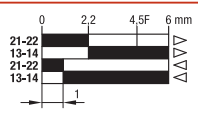
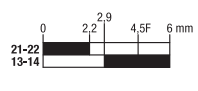
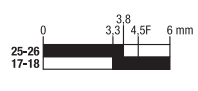
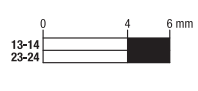
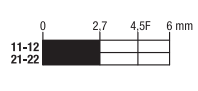
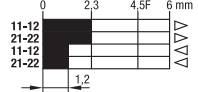
A

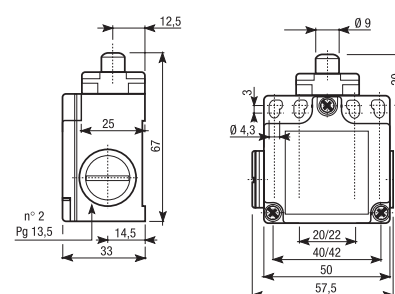
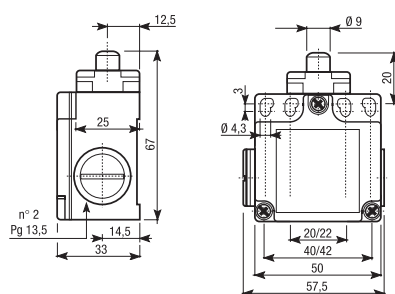
A•S1

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

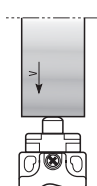
 standard article

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Plastic body	Plastic body	
E20000AI	E20100AI	
E20001AI	E20101AI	
E20002AI	E20102AI	
E20003AI	E20103AI	
E20004AI	E20104AI	
E20005AI	E20105AI	
0,11		
1		

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Plastic body	Plastic body	
E20000AIS1	E20100AIS1	
E20001AIS1	E20101AIS1	
E20002AIS1	E20102AIS1	
E20003AIS1	E20103AIS1	
E20004AIS1	E20104AIS1	
E20005AIS1	E20105AIS1	
0,11		
1		



Drive cam operating parameters



V max (m/s)	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N




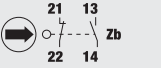
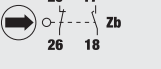
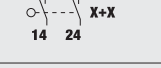
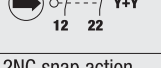

Steel roller plunger

B

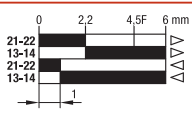
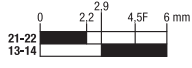

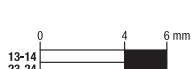

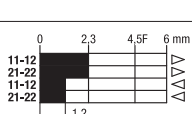


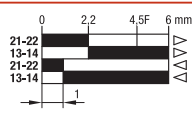
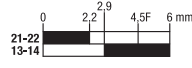
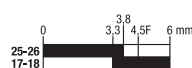
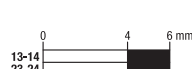

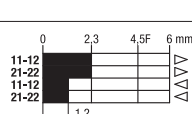
Ø13 mm steel roller plunger

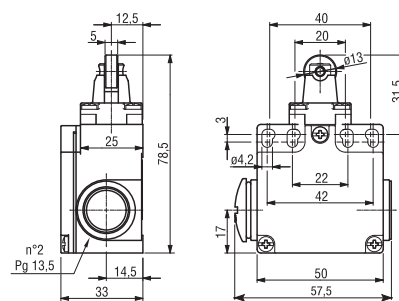
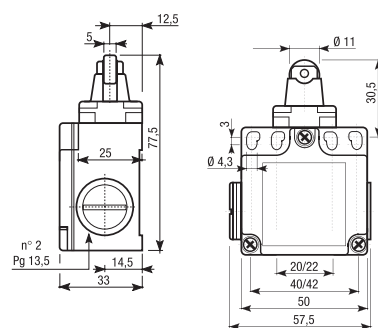
B•13

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

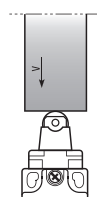
 standard article

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	
E20000BI	E20100BI	
E20001BI	E20101BI	
E20002BI	E20102BI	
E20003BI	E20103BI	
E20004BI	E20104BI	
E20005BI	E20105BI	
0,125		
1		

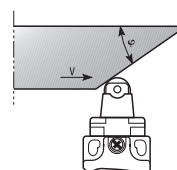
Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	
E20000BI13	E20100BI13	
E20001BI13	E20101BI13	
E20002BI13	E20102BI13	
E20003BI13	E20103BI13	
E20004BI13	E20104BI13	
E20005BI13	E20105BI13	
0,125		
1		



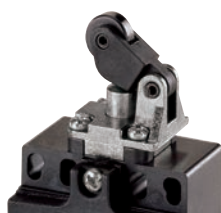
Drive cam operating parameters



V max (m/s)	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N

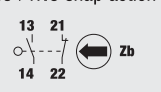
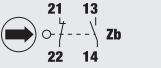
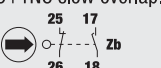
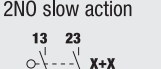
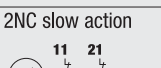



φ	V max (m/s)
20°	1
30°	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N

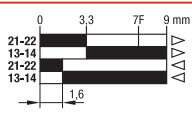
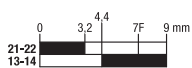
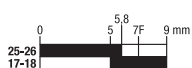
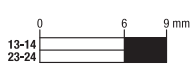
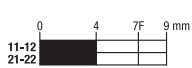
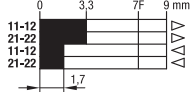


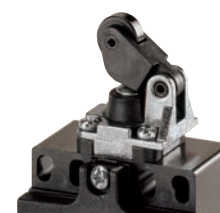
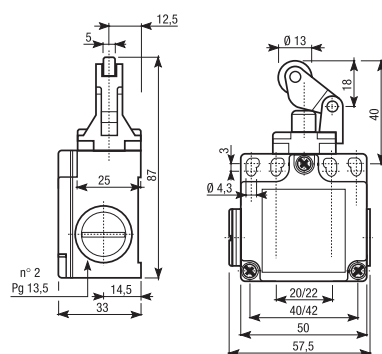
Thermoplastic roller lever,
side actuation

C

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

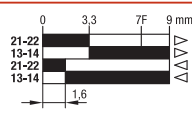
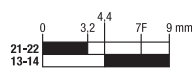
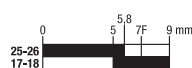
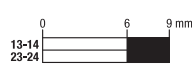
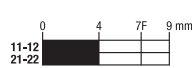
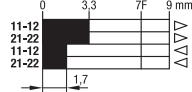
 standard article

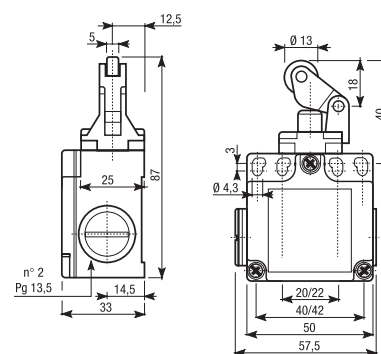
Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Plastic body	Plastic body	
E20000CI	E20100CI	
E20001CI	E20101CI	
E20002CI	E20102CI	
E20003CI	E20103CI	
E20004CI	E20104CI	
E20005CI	E20105CI	
0,13		
1		



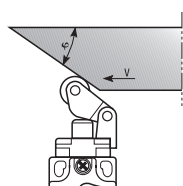
Thermoplastic roller lever with rubber gasket,
side actuation

C•S1

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Plastic body	Plastic body	
E20000CIS1	E20100CIS1	
E20001CIS1	E20101CIS1	
E20002CIS1	E20102CIS1	
E20003CIS1	E20103CIS1	
E20004CIS1	E20104CIS1	
E20005CIS1	E20105CIS1	
0,13		
1		



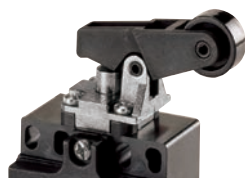
Drive cam operating parameters



φ	V max (m/s)
20°	1
30°	0,5

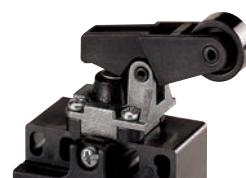
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N

Limit switches - **E200** series



Thermoplastic roller lever,
vertical actuation

D



Thermoplastic roller lever with rubber gasket,
vertical actuation

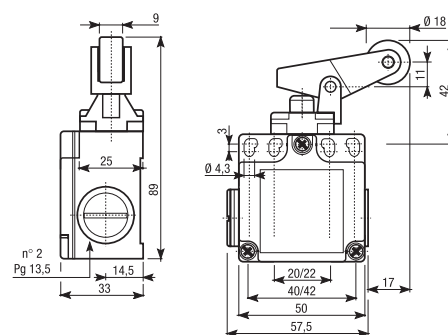
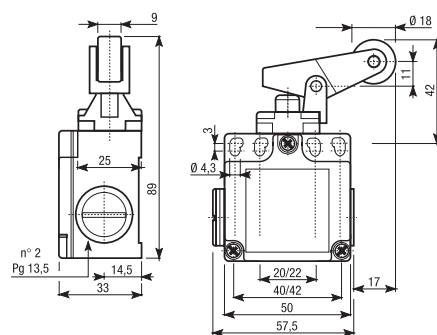
D•S1

Contact element	
<p>1NO+1NC snap action</p>	00
<p>1NO+1NC slow action</p>	01
<p>1NO+1NC slow overlap.</p>	02
<p>2NO slow action</p>	03
<p>2NC slow action</p>	04
<p>2NC snap action</p>	05
Weight	kg
Pack	pcs

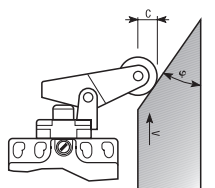
 standard article

Cable entry		
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	Contact travel
E20000DI	E20100DI	
E20001DI	E20101DI	
E20002DI	E20102DI	
E20003DI	E20103DI	
E20004DI	E20104DI	
E20005DI	E20105DI	

Cable entry		
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	Contact travel
E20000DIS1	E20100DIS1	
E20001DIS1	E20101DIS1	
E20002DIS1	E20102DIS1	
E20003DIS1	E20103DIS1	
E20004DIS1	E20104DIS1	
E20005DIS1	E20105DIS1	



Drive cam operating parameters



φ	V max (m/s)
20°	1
30°	0,5

Drive forces	
Minimum command force	9 N
Minimum forced opening force	26 N



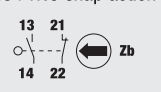
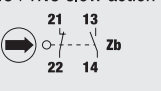
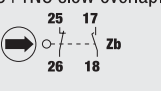
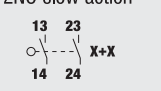
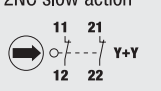
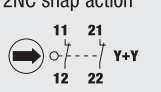
Thermoplastic roller lever

E

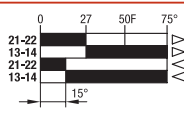
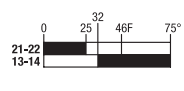
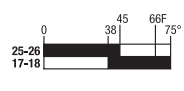
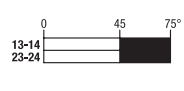
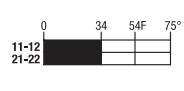
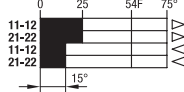


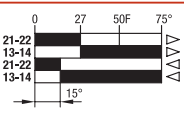
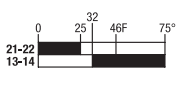
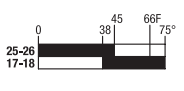
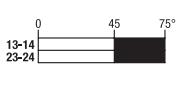
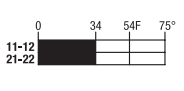
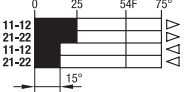
Steel roller lever

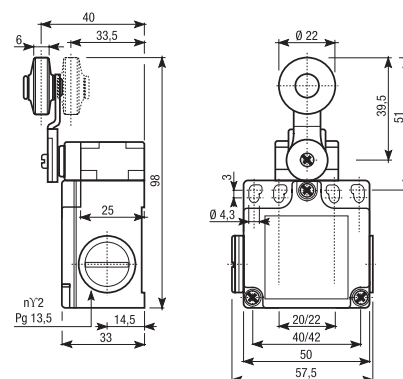
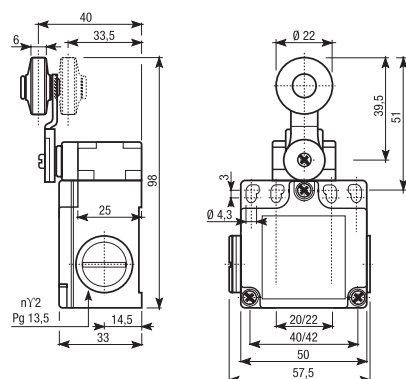
E•RA

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

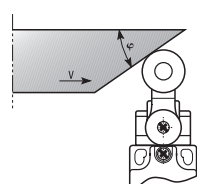
 standard article

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	
E20000EI	E20100EI	
E20001EI	E20101EI	
E20002EI	E20102EI	
E20003EI	E20103EI	
E20004EI	E20104EI	
E20005EI	E20105EI	
0,16		
1		

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	
E20000EIRA	E20100EIRA	
E20001EIRA	E20101EIRA	
E20002EIRA	E20102EIRA	
E20003EIRA	E20103EIRA	
E20004EIRA	E20104EIRA	
E20005EIRA	E20105EIRA	
0,16		
1		



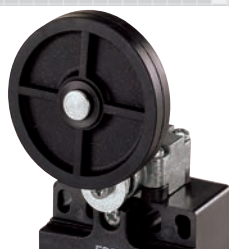
Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces

Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm



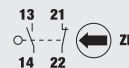
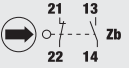
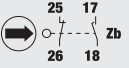
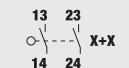


Ø50 mm rubber roller lever

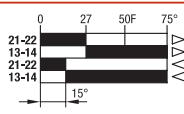
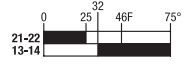

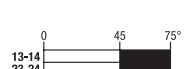

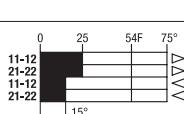
E•50

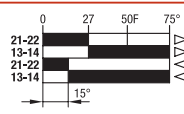
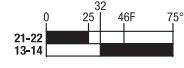
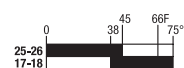
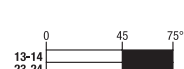

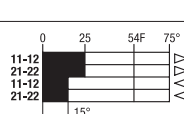


Thermoplastic roller lever

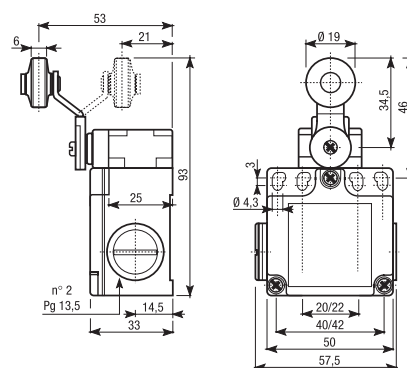
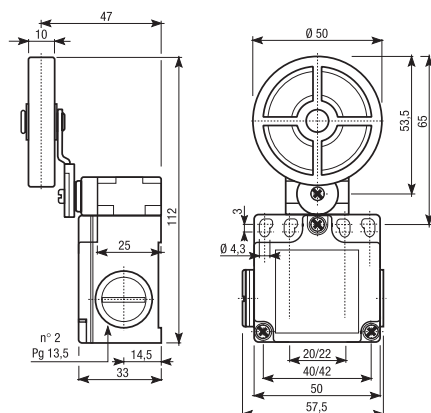
I

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

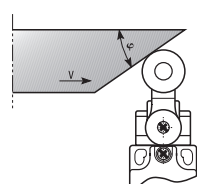
Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Plastic body	Plastic body	
E20000Ei50	E20100Ei50	
E20001Ei50	E20101Ei50	
E20002Ei50	E20102Ei50	
E20003Ei50	E20103Ei50	
E20004Ei50	E20104Ei50	
E20005Ei50	E20105Ei50	
0,175		
1		

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Plastic body	Plastic body	
E20000II	E20100II	
E20001II	E20101II	
E20002II	E20102II	
E20003II	E20103II	
E20004II	E20104II	
E20005II	E20105II	
0,16		
1		

 standard article

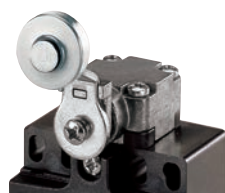


Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm



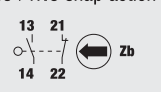
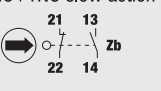
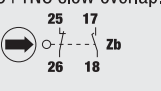
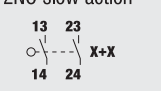
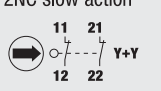
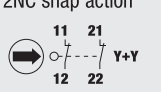
Steel roller lever

I•RA

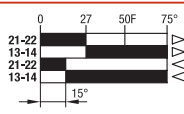
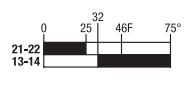
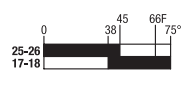
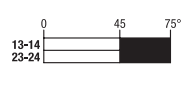
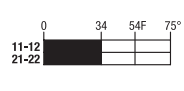
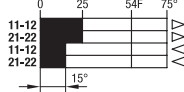


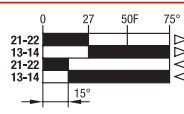
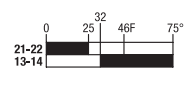
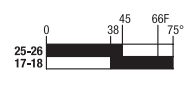
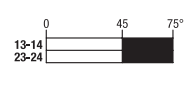
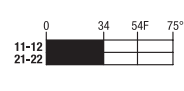
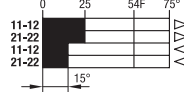
Ø50 mm rubber roller lever

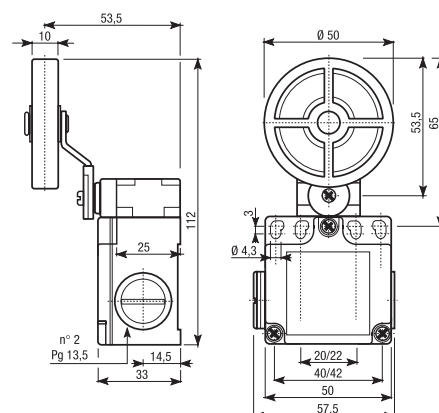
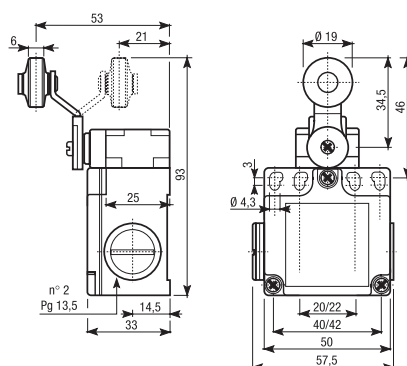
I•50

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

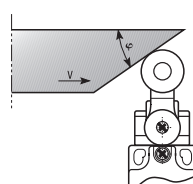
 standard article

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	
E20000IIIRA	E20100IIIRA	
E20001IIIRA	E20101IIIRA	
E20002IIIRA	E20102IIIRA	
E20003IIIRA	E20103IIIRA	
E20004IIIRA	E20104IIIRA	
E20005IIIRA	E20105IIIRA	
0,16		
1		

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	
E20000II50	E20100II50	
E20001II50	E20101II50	
E20002II50	E20102II50	
E20003II50	E20103II50	
E20004II50	E20104II50	
E20005II50	E20105II50	
0,17		
1		



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces

Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

Limit switches - **E200** series



Thermoplastic roller variable length lever



Ø50 mm rubber roller variable
length lever

Contact element		
1NO+1NC snap action 	00	
1NO+1NC slow action 	01	
1NO+1NC slow overlap. 	02	
2NO slow action 	03	
2NC slow action 	04	
2NC snap action 	05	
Weight		kg
Pack		pcs

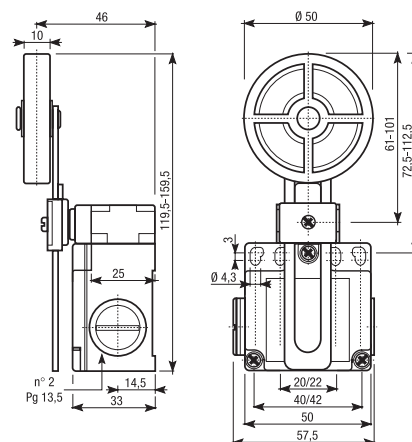
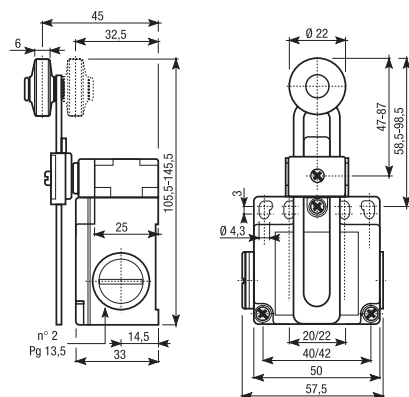
 standard article

Cable entry		
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	Contact travel
E20000FI	E20100FI	
E20001FI	E20101FI	
E20002FI	E20102FI	
E20003FI	E20103FI	
E20004FI	E20104FI	
E20005FI	E20105FI	

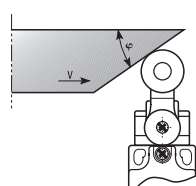
0,175

1

Cable entry		
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	Contact travel
E20000FI50	E20100FI50	<p>0 27 50F 75° 21-22 13-14 21-22 13-14 15°</p>
E20001FI50	E20101FI50	<p>0 25 32 46F 75° 21-22 13-14</p>
E20002FI50	E20102FI50	<p>0 38 45 66F 75° 25-26 17-18</p>
E20003FI50	E20103FI50	<p>0 45 75° 13-14 23-24</p>
E20004FI50	E20104FI50	<p>0 34 54F 75° 11-12 21-22</p>
E20005FI50	E20105FI50	<p>0 25 54F 75° 11-12 21-22 11-12 21-22 15°</p>



Drive cam operating parameters



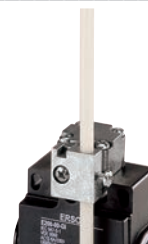
φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces

Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

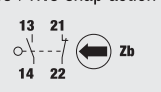
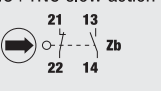
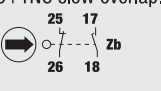
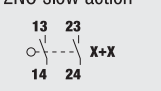
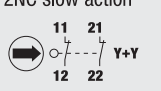
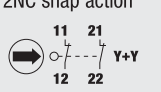


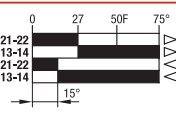
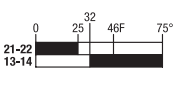
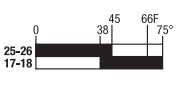
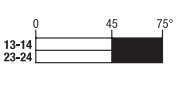
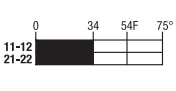
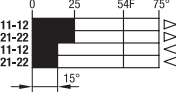
FR•50

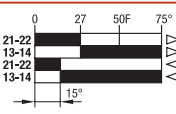
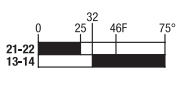
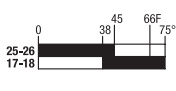
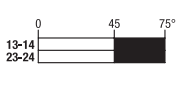
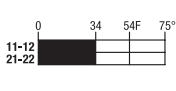
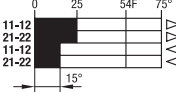
Ø50 mm rubber roller
adjustable lever

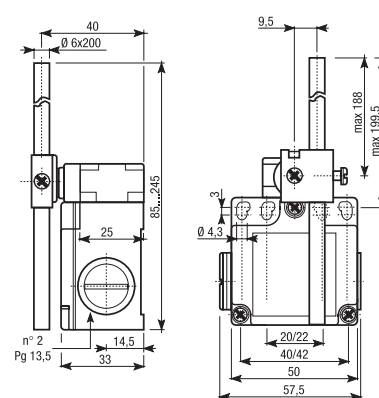
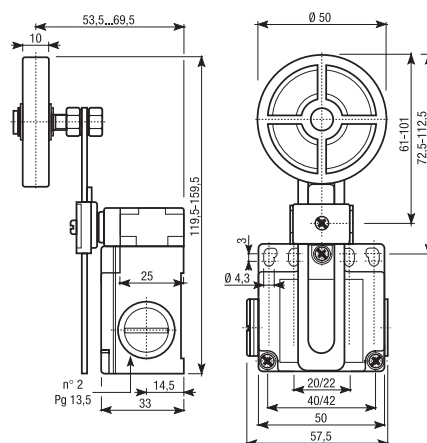
G

Side rotary adjustable
Ø6 mm glass fiber rod

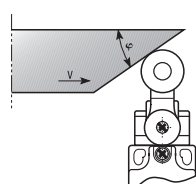
Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	
Plastic body	Plastic body	
E20000FRI50	E20100FRI50	
E20001FRI50	E20101FRI50	
E20002FRI50	E20102FRI50	
E20003FRI50	E20103FRI50	
E20004FRI50	E20104FRI50	
E20005FRI50	E20105FRI50	
0,21		
1		

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	
Plastic body	Plastic body	
E20000GI	E20100GI	
E20001GI	E20101GI	
E20002GI	E20102GI	
E20003GI	E20103GI	
E20004GI	E20104GI	
E20005GI	E20105GI	
0,19		
1		

 standard article


Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces

Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm



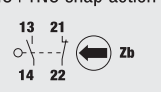
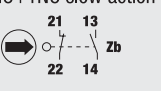
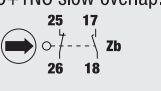
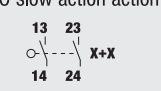
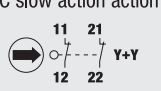

Side rotary adjustable
Ø6 mm aluminium rod

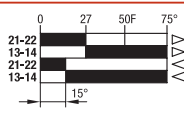
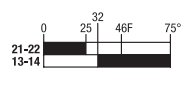
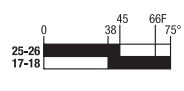
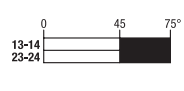
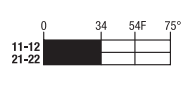
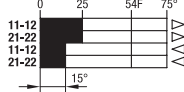
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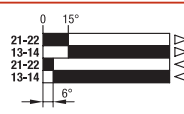
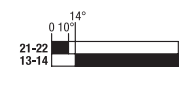
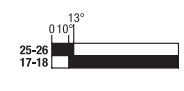
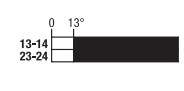
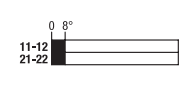
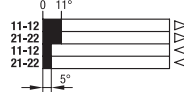


Flexible rod

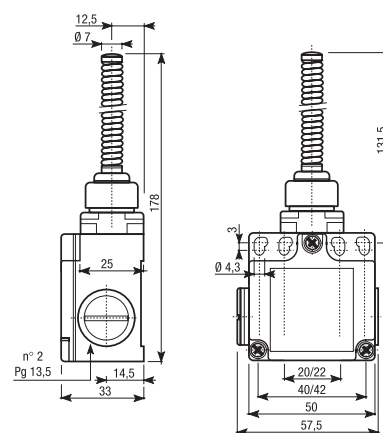
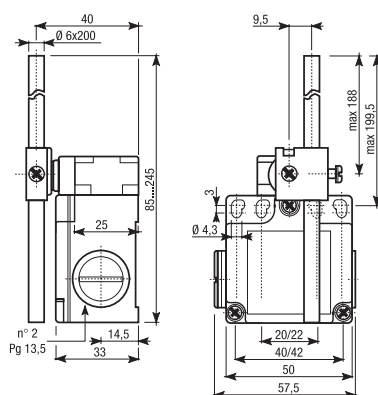
L

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action action 	03
2NC slow action action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	
E20000HI	E20100HI	
E20001HI	E20101HI	
E20002HI	E20102HI	
E20003HI	E20103HI	
E20004HI	E20104HI	
E20005HI	E20105HI	
0,19		
1		

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	
E20000LI	E20100LI	
E20001LI	E20101LI	
E20002LI	E20102LI	
E20003LI	E20103LI	
E20004LI	E20104LI	
E20005LI	E20105LI	
0,16		
1		

 standard article











Flexible rod with plastic terminal

LP

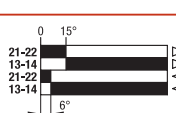
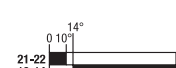
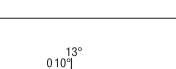


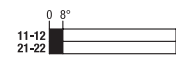


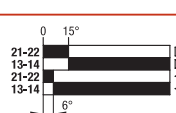
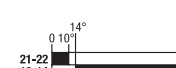
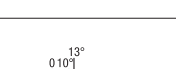


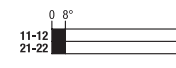
Cat's whisker

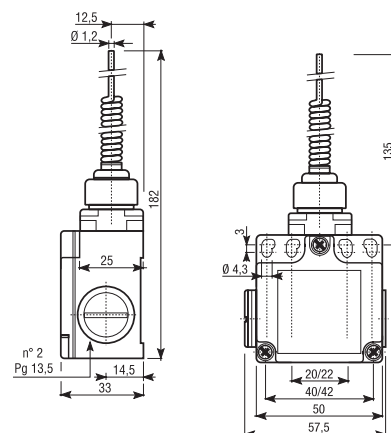
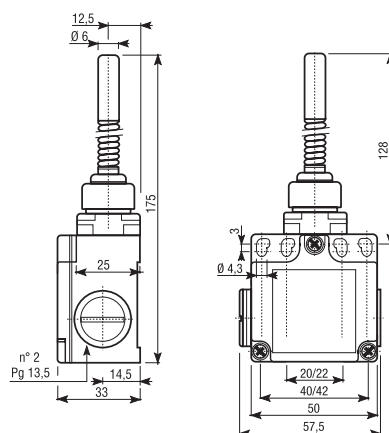
LS

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

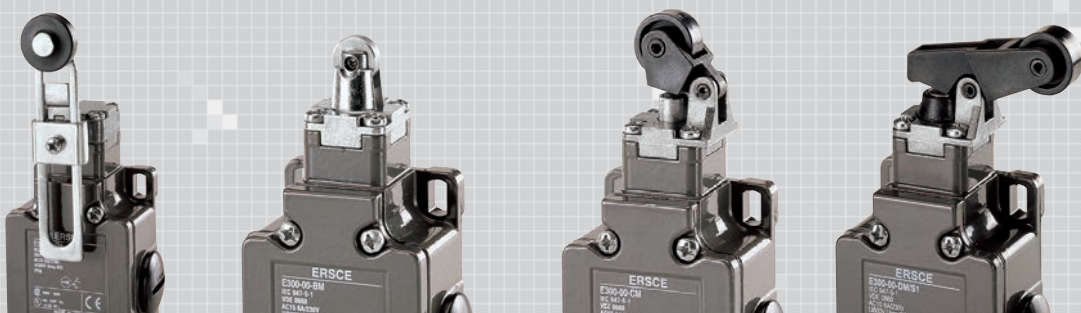
 standard article

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	
E20000LPI	E20100LPI	
E20001LPI	E20101LPI	
E20002LPI	E20102LPI	
E20003LPI	E20103LPI	
E20004LPI	E20104LPI	
E20005LPI	E20105LPI	
0,16		
1		

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	
E20000LSI	E20100LSI	
E20001LSI	E20101LSI	
E20002LSI	E20102LSI	
E20003LSI	E20103LSI	
E20004LSI	E20104LSI	
E20005LSI	E20105LSI	
0,16		
1		

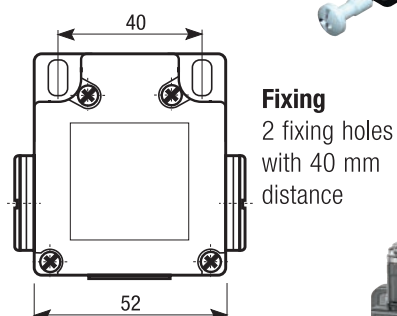
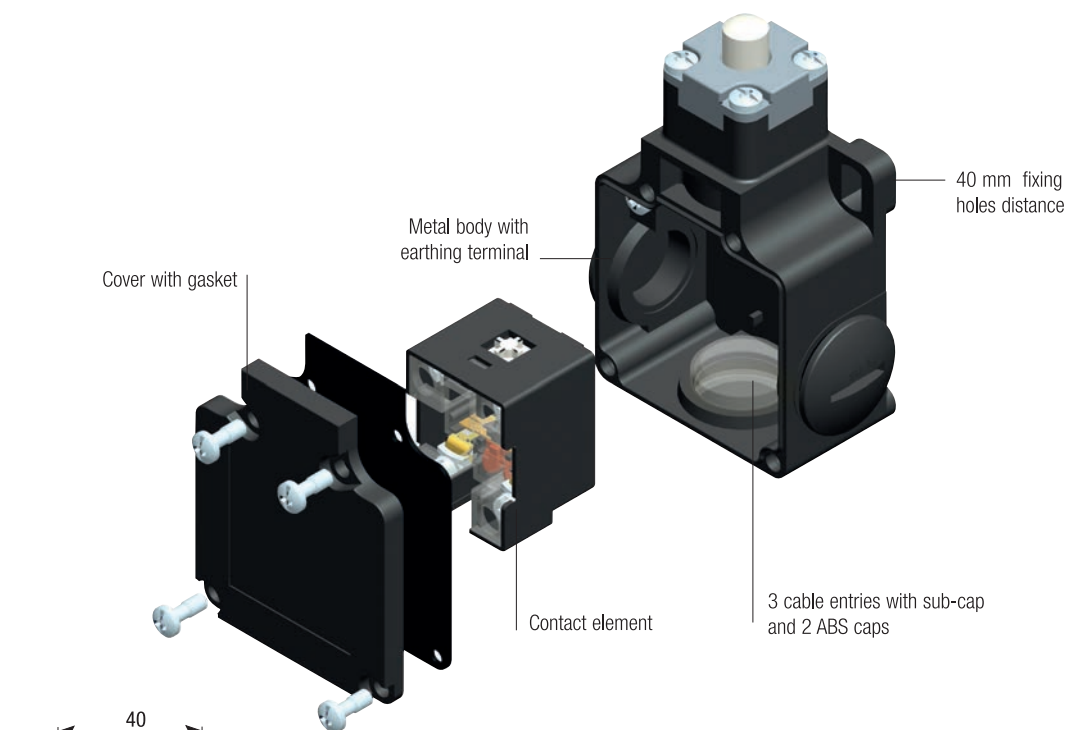


Limit switches E300 series



E300 series

The **E300** series is designed to withstand to the most severe conditions. It has two fixing holes with distance 40mm. Each switch has three cable entries, two on each side and one on the bottom, for maximum wiring flexibility. Available with metal body and actuators.



Fixing
2 fixing holes
with 40 mm
distance

Cable entry
3 cable entries,
2 on the sides and
one the bottom of the
switch with thread:



In conformity with standards:

IEC EN 60947-5-1 • EN 60947-1 • UNI EN 1088
EN ISO 12100-1 • EN ISO 12100-2 • IEC 529 • EN 60529
VDE 0660-200 • VDE 0113 • EN 81-1 • EN 81-2

Thread

Pg 13,5
M20x1,5
1/2" NPT (on request)
M12 connector (on request)

Series part no.

E300...
E301...
E302...
E300...M12



Steel plunger

A



Steel plunger with rubber gasket

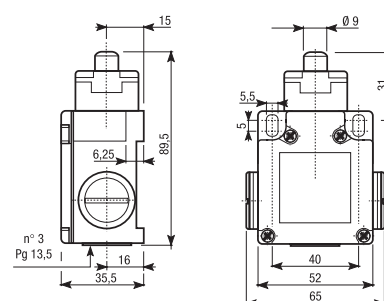
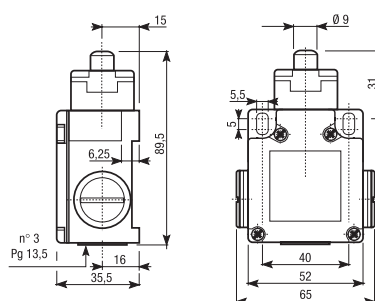
A•S1

Contact element	
1NO+1NC snap action 13 21 14 22 Zb	00
1NO+1NC slow action 21 13 22 14 Zb	01
1NO+1NC slow overlap. 25 17 26 18 Zb	02
2NO slow action 13 23 14 24 X+X	03
2NC slow action 11 21 12 22 Y+Y	04
2NC snap action 11 21 12 22 Y+Y	05
Weight	kg
Pack	pcs

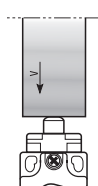
standard article

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	
Metal body	Metal body	
E30000AM	E30100AM	0 2,2 4,5F 6 mm 21-22 13-14 21-22 13-14 1
E30001AM	E30101AM	0 2,2 2,9 4,5F 6 mm 21-22 13-14
E30002AM	E30102AM	0 3,3 3,8 4,5F 6 mm 25-26 17-18
E30003AM	E30103AM	0 4 6 mm 13-14 23-24
E30004AM	E30104AM	0 2,7 4,5F 6 mm 11-12 21-22
E30005AM	E30105AM	0 2,3 4,5F 6 mm 11-12 21-22 11-12 21-22 1,2
0,32		
1		

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	
Metal body	Metal body	
E30000AMS1	E30100AMS1	0 2,2 4,5F 6 mm 21-22 13-14 21-22 13-14 1
E30001AMS1	E30101AMS1	0 2,2 2,9 4,5F 6 mm 21-22 13-14
E30002AMS1	E30102AMS1	0 3,3 3,8 4,5F 6 mm 25-26 17-18
E30003AMS1	E30103AMS1	0 4 6 mm 13-14 23-24
E30004AMS1	E30104AMS1	0 2,7 4,5F 6 mm 11-12 21-22
E30005AMS1	E30105AMS1	0 2,3 4,5F 6 mm 11-12 21-22 11-12 21-22 1,2
0,32		
1		



Drive cam operating parameters

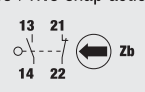
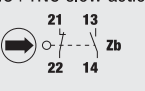
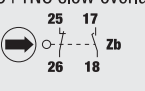
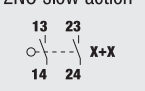
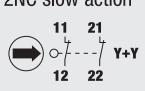
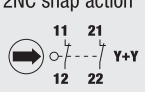


V max (m/s)	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N

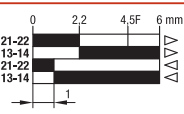
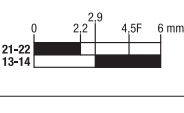
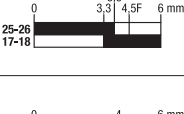
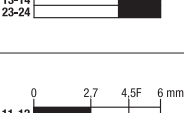


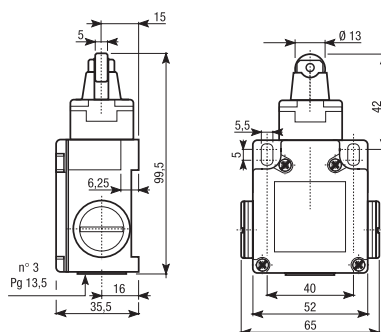
Steel roller plunger

B

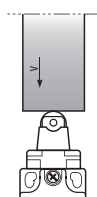
Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

 standard article

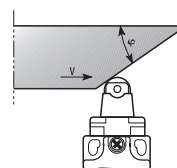
Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	
Metal body	Metal body	
E30000BM	E30100BM	
E30001BM	E30101BM	
E30002BM	E30102BM	
E30003BM	E30103BM	
E30004BM	E30104BM	
E30005BM	E30105BM	
0,32		
1		



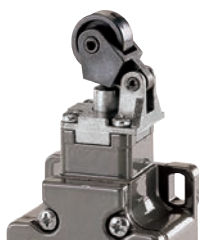
Drive cam operating parameters



V max (m/s)	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N



φ	V max (m/s)
20°	1
30°	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N



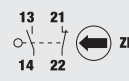
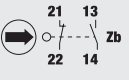
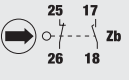
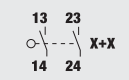
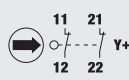
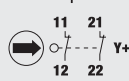
Thermoplastic roller lever,
side actuation

C

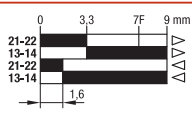
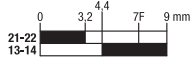
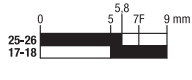
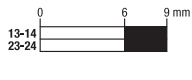
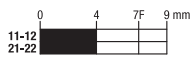



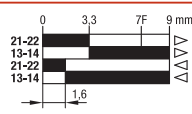
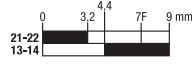
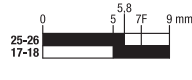
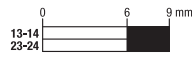
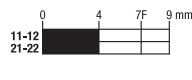

Thermoplastic roller lever with rubber gasket,
side actuation

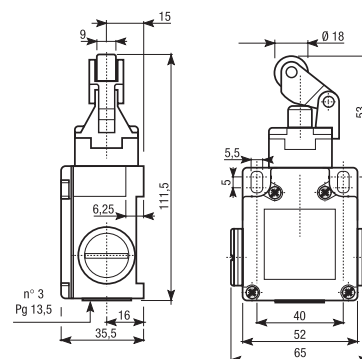
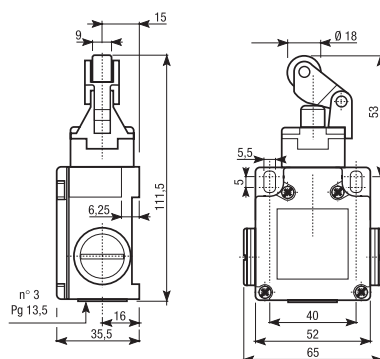
C•S1

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

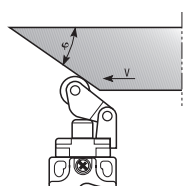
 standard article

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head Metal body	Metal head Metal body	
E30000CM	E30100CM	
E30001CM	E30101CM	
E30002CM	E30102CM	
E30003CM	E30103CM	
E30004CM	E30104CM	
E30005CM	E30105CM	
0,325		
1		

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head Metal body	Metal head Metal body	
E30000CMS1	E30100CMS1	
E30001CMS1	E30101CMS1	
E30002CMS1	E30102CMS1	
E30003CMS1	E30103CMS1	
E30004CMS1	E30104CMS1	
E30005CMS1	E30105CMS1	
0,325		
1		



Drive cam operating parameters



φ	V max (m/s)
20°	1
30°	0,5

Drive forces	
Minimum command force	9 N
Minimum forced opening force	26 N

Limit switches - **E300** series



Thermoplastic roller lever,
vertical actuation

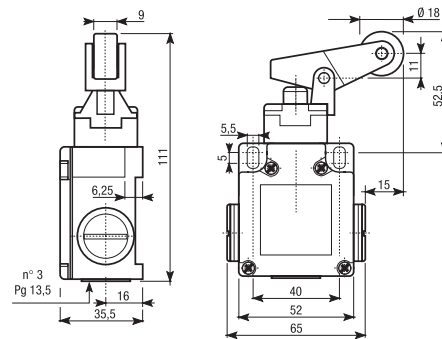
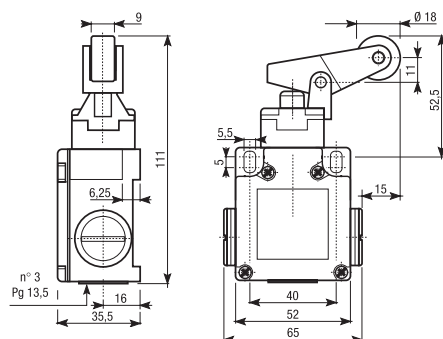


Thermoplastic roller lever with rubber gasket,
vertical actuation

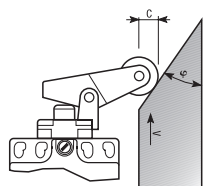
Contact element			Cable entry		
			PG 13,5	M20 x 1,5	
			Metal head Metal body	Metal head Metal body	Contact travel
1NO+1NC snap action		00	E30000DM	E30100DM	
1NO+1NC slow action		01	E30001DM	E30101DM	
1NO+1NC slow overlap.		02	E30002DM	E30102DM	
2NO slow action		03	E30003DM	E30103DM	
2NC slow action		04	E30004DM	E30104DM	
2NC snap action		05	E30005DM	E30105DM	
Weight	kg	0,325			
Pack	pcs	1			

 standard article

Cable entry		
PG 13,5	M20 x 1,5	
Metal head Metal body	Metal head Metal body	Contact travel
E30000DMS1	E30100DMS1	
E30001DMS1	E30101DMS1	
E30002DMS1	E30102DMS1	
E30003DMS1	E30103DMS1	
E30004DMS1	E30104DMS1	
E30005DMS1	E30105DMS1	
0,325		



Drive cam operating parameters



φ	V max (m/s)
20°	1
30°	0,5

Drive forces	
Minimum command force	9 N
Minimum forced opening force	26 N



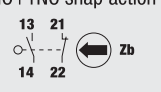
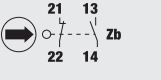
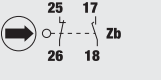
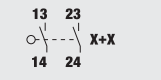
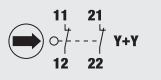
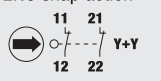
Thermoplastic roller lever

E

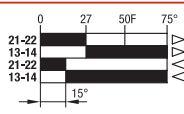
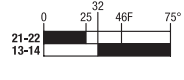
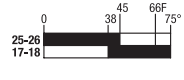
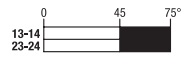
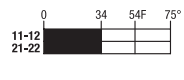



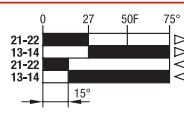
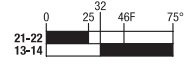
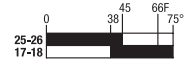
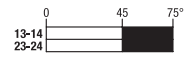
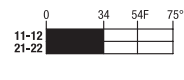

Steel roller lever

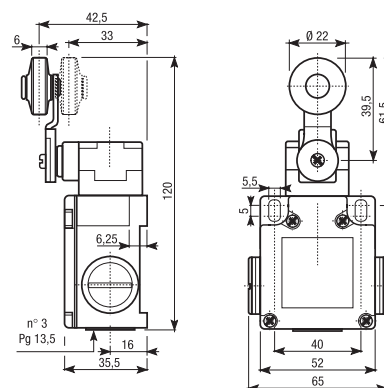
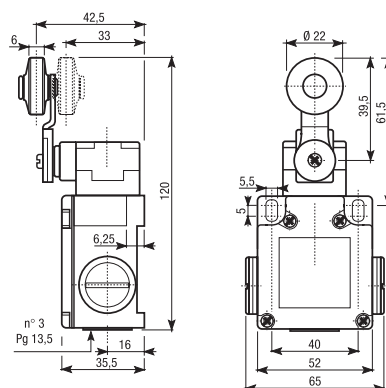
E•RA

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

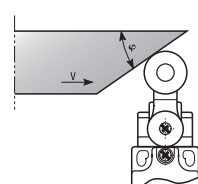
 standard article

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Metal body	Metal body	
E30000EM	E30100EM	
E30001EM	E30101EM	
E30002EM	E30102EM	
E30003EM	E30103EM	
E30004EM	E30104EM	
E30005EM	E30105EM	
0,355		
1		

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Metal body	Metal body	
E30000EMRA	E30100EMRA	
E30001EMRA	E30101EMRA	
E30002EMRA	E30102EMRA	
E30003EMRA	E30103EMRA	
E30004EMRA	E30104EMRA	
E30005EMRA	E30105EMRA	
0,355		
1		



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm



Ø50 mm rubber roller lever

E•50



Thermoplastic roller lever

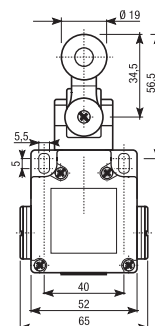
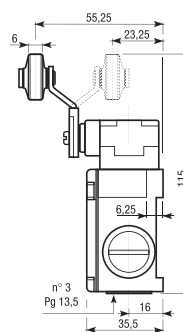
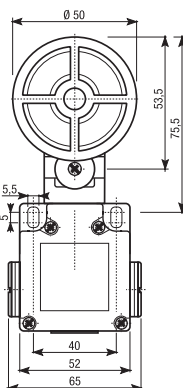
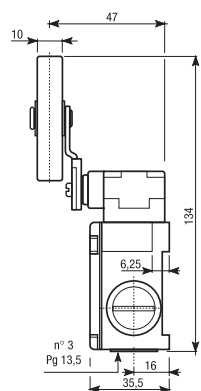
I

Contact element	
1NO+1NC snap action 13 21 14 22 Zb	00
1NO+1NC slow action 21 13 22 14 Zb	01
1NO+1NC slow overlap. 25 17 26 18 Zb	02
2NO slow action 13 23 14 24 X+X	03
2NC slow action 11 21 12 22 Y+Y	04
2NC snap action 11 21 12 22 Y+Y	05
Weight	kg
Pack	pcs

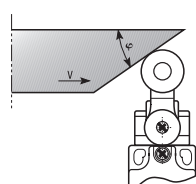
Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Metal body	Metal body	
E30000EM50	E30100EM50	0 27 50F 75° 21-22 13-14 21-22 13-14 15°
E30001EM50	E30101EM50	0 25 32 46F 75° 21-22 13-14
E30002EM50	E30102EM50	0 38 45 66F 75° 25-26 17-18
E30003EM50	E30103EM50	0 45 75° 13-14 23-24
E30004EM50	E30104EM50	0 34 54F 75° 11-12 21-22
E30005EM50	E30105EM50	0 25 54F 75° 11-12 21-22 11-12 21-22 15°
0,365		
1		

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Metal body	Metal body	
E30000IM	E30100IM	0 27 50F 75° 21-22 13-14 21-22 13-14 15°
E30001IM	E30101IM	0 25 32 46F 75° 21-22 13-14
E30002IM	E30102IM	0 38 45 66F 75° 25-26 17-18
E30003IM	E30103IM	0 45 75° 13-14 23-24
E30004IM	E30104IM	0 34 54F 75° 11-12 21-22
E30005IM	E30105IM	0 25 54F 75° 11-12 21-22 11-12 21-22 15°
0,365		
1		

standard article



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm



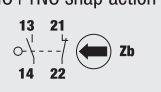
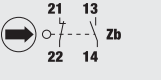
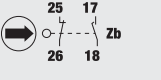
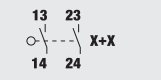
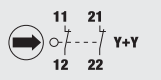
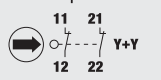
Steel roller lever

I•RA

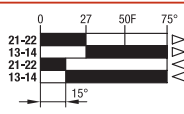
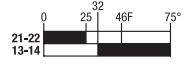
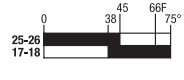
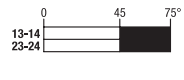
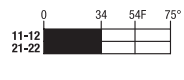



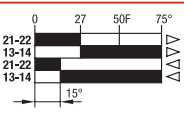
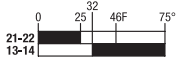
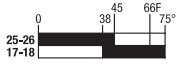
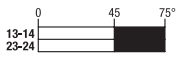
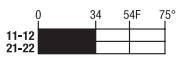

Ø50 mm rubber roller lever

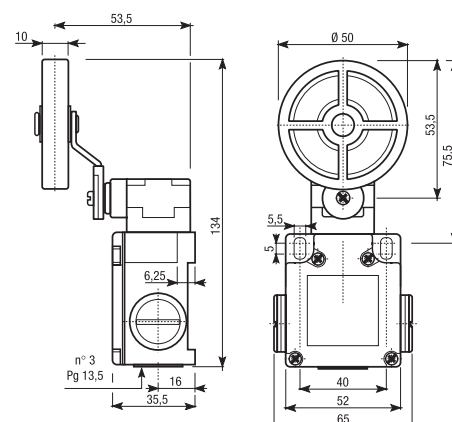
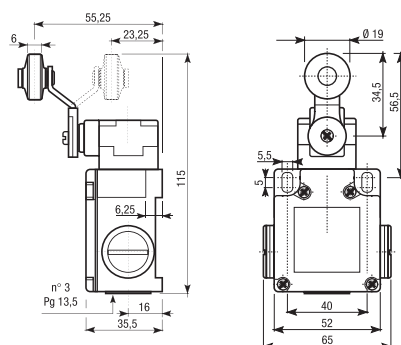
I•50

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

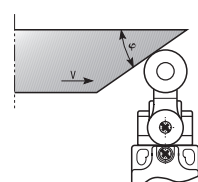
 standard article

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Metal body	Metal body	
E30000IMRA	E30100IMRA	
E30001IMRA	E30101IMRA	
E30002IMRA	E30102IMRA	
E30003IMRA	E30103IMRA	
E30004IMRA	E30104IMRA	
E30005IMRA	E30105IMRA	
0,355		
1		

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Metal body	Metal body	
E30000IM50	E30100IM50	
E30001IM50	E30101IM50	
E30002IM50	E30102IM50	
E30003IM50	E30103IM50	
E30004IM50	E30104IM50	
E30005IM50	E30105IM50	
0,365		
1		



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm



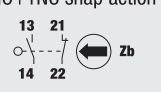
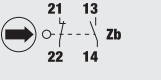
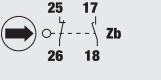
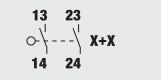
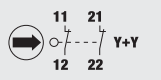
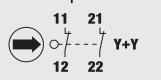
Thermoplastic roller variable length lever

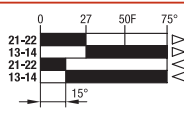
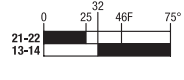
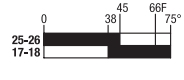
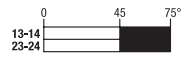
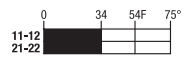

F

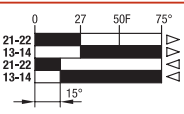
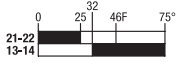
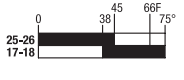
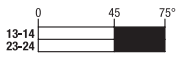
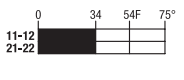



Ø50 mm rubber roller variable length lever

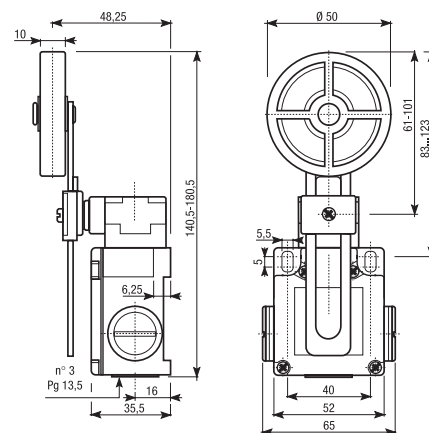
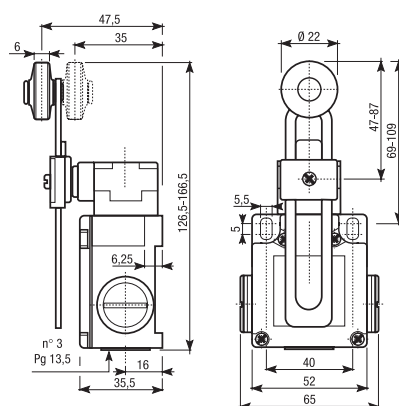
F•50

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

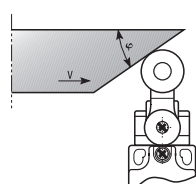
Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Metal body	Metal body	
E30000FM	E30100FM	
E30001FM	E30101FM	
E30002FM	E30102FM	
E30003FM	E30103FM	
E30004FM	E30104FM	
E30005FM	E30105FM	
0,375		
1		

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Metal body	Metal body	
E30000FM50	E30100FM50	
E30001FM50	E30101FM50	
E30002FM50	E30102FM50	
E30003FM50	E30103FM50	
E30004FM50	E30104FM50	
E30005FM50	E30105FM50	
0,385		
1		

 standard article



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces

Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm



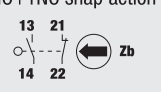
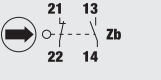
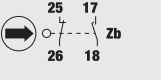
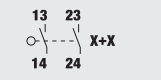
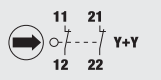
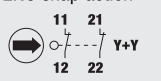
FR•50

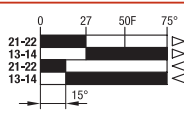
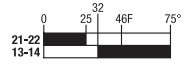
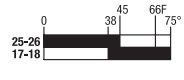
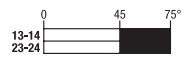
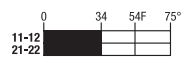

Ø50 mm rubber roller adjustable lever

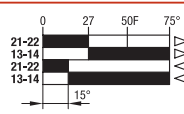
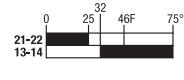
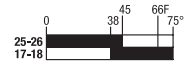
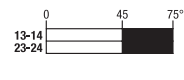
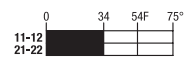
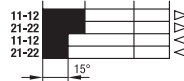


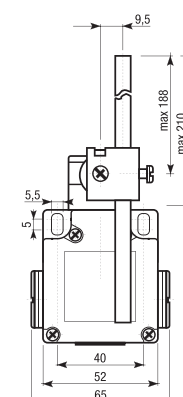
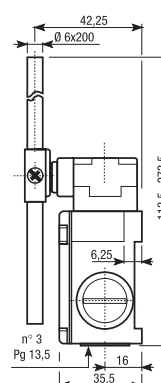
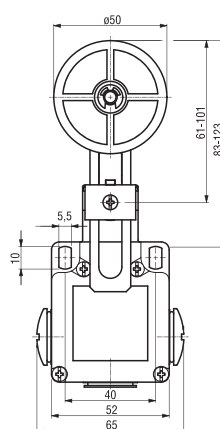
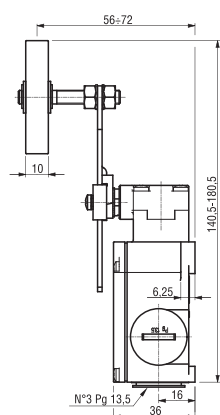
G

Side rotary adjustable Ø6 mm
glass fiber rod

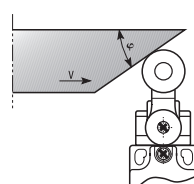
Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Metal body	Metal body	
E30000FRM50	E30100FRM50	
E30001FRM50	E30101FRM50	
E30002FRM50	E30102FRM50	
E30003FRM50	E30103FRM50	
E30004FRM50	E30104FRM50	
E30005FRM50	E30105FRM50	
0,395		
1		

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Metal body	Metal body	
E30000GM	E30100GM	
E30001GM	E30101GM	
E30002GM	E30102GM	
E30003GM	E30103GM	
E30004GM	E30104GM	
E30005GM	E30105GM	
0,385		
1		

 standard article


Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces

Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm



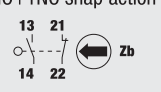
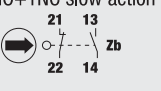
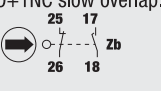
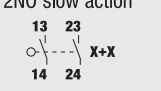
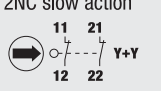
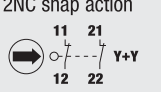
Side rotary adjustable Ø6 mm
aluminium rod

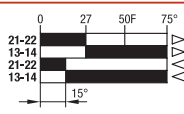
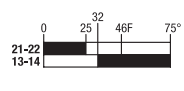
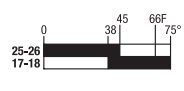
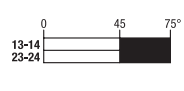
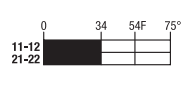
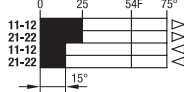
H

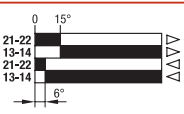
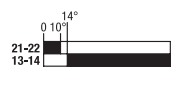
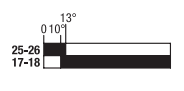
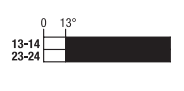
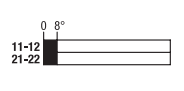
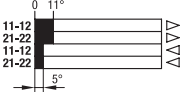


Flexible rod

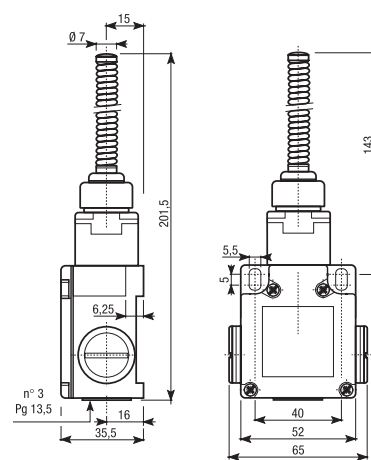
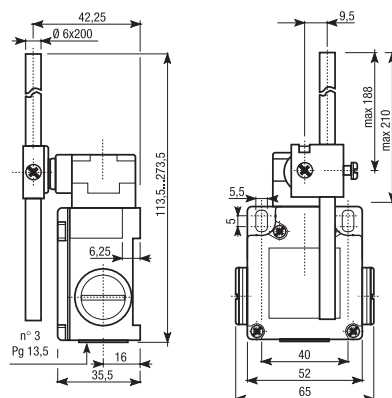
L

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Metal body	Metal body	
E30000HM	E30100HM	
E30001HM	E30101HM	
E30002HM	E30102HM	
E30003HM	E30103HM	
E30004HM	E30104HM	
E30005HM	E30105HM	
0,385		
1		

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	Contact travel
Metal body	Metal body	
E30000LM	E30100LM	
E30001LM	E30101LM	
E30002LM	E30102LM	
E30003LM	E30103LM	
E30004LM	E30104LM	
E30005LM	E30105LM	
0,35		
1		

 standard article





Flexible rod with plastic terminal

LP

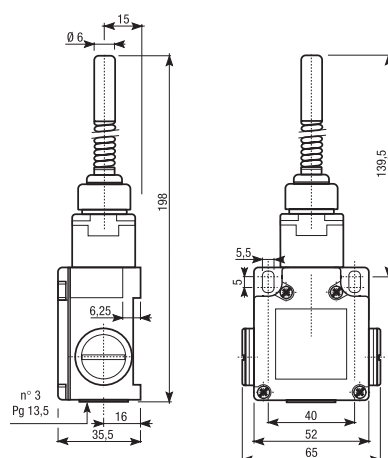


Cat's whisker

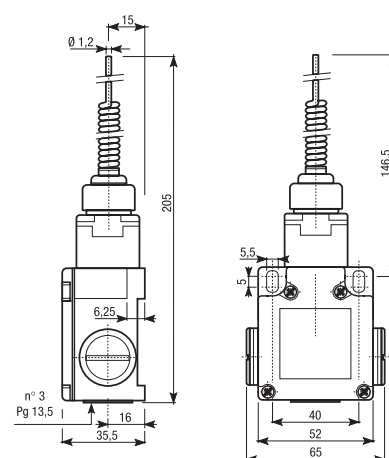
LS

Contact element		Cable entry		Contact travel
		PG 13,5	M20 x 1,5	
Metal head	Metal body	Metal head	Metal body	
1NO+1NC snap action 13 21 14 22 Zb	00	E30000LPM	E30100LPM	
1NO+1NC slow action 21 13 22 14 Zb	01	E30001LPM	E30101LPM	
1NO+1NC slow overlap. 25 17 26 18 Zb	02	E30002LPM	E30102LPM	
2NO slow action 13 23 14 24 X+X	03	E30003LPM	E30103LPM	
2NC slow action 11 21 12 22 Y+Y	04	E30004LPM	E30104LPM	
2NC snap action 11 21 12 22 Y+Y	05	E30005LPM	E30105LPM	
Weight	kg	0,35		
Pack	pcs	1		

standard article



Contact element		Cable entry		Contact travel
		PG 13,5	M20 x 1,5	
Metal head	Metal body	Metal head	Metal body	
1NO+1NC snap action 21-22 13-14 21-22 13-14		E30000LSM	E30100LSM	
1NO+1NC slow action 21-22 13-14		E30001LSM	E30101LSM	
1NO+1NC slow overlap. 25-26 17-18		E30002LSM	E30102LSM	
2NO slow action 13-14 23-24		E30003LSM	E30103LSM	
2NC slow action 11-12 21-22		E30004LSM	E30104LSM	
2NC snap action 11-12 21-22 11-12 21-22		E30005LSM	E30105LSM	
Weight	kg	0,35		
Pack	pcs	1		

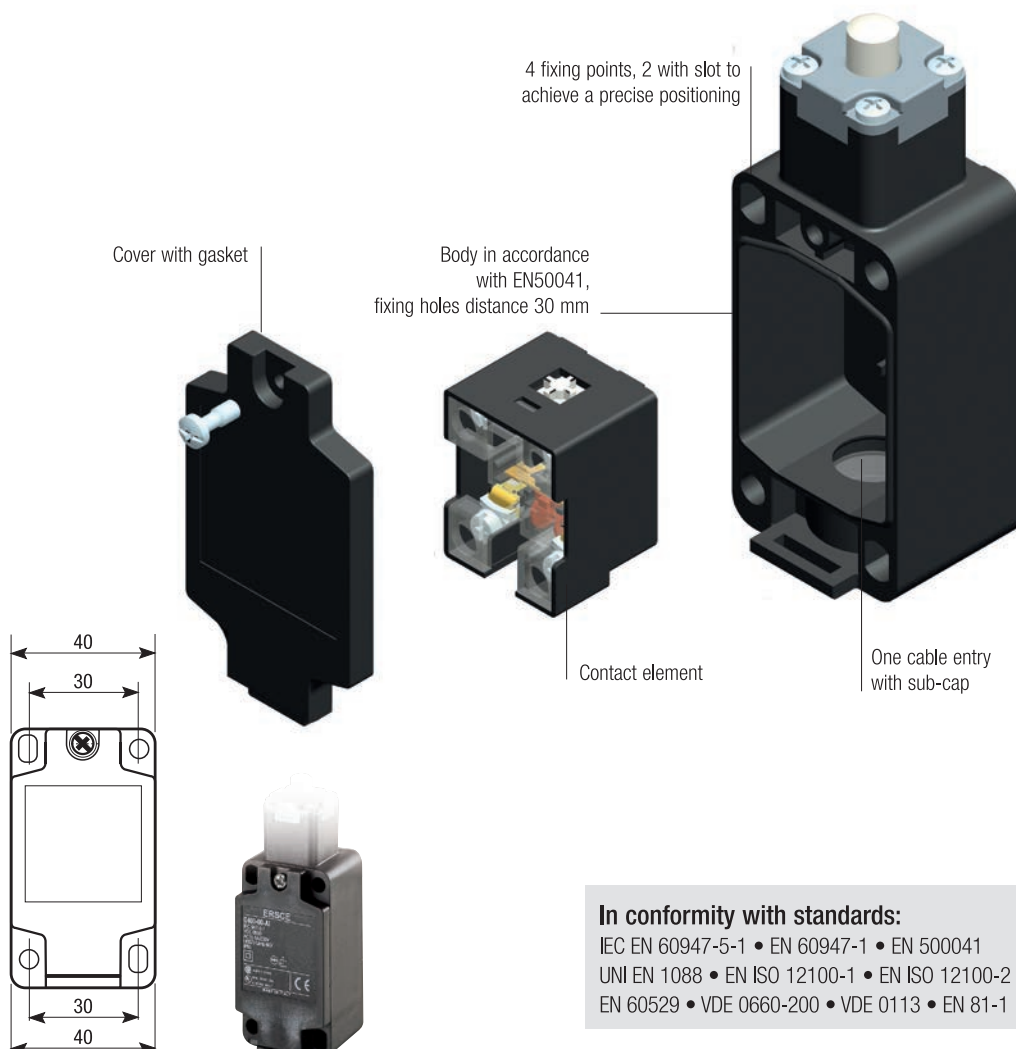


Limit switches E400 series



E400 series

The **E400** series is the most robust of Bremas position switches. Dimensions are in accordance with CENELEC EN 50041, 4 fixing holes with distance 30 mm. It is equipped with one hole for cable entry on the bottom of the switch. Available with metal actuators and thermoplastic or metal body.



Fixing
body in accordance with CENELEC EN50041, with 4 fixing holes with 30 mm horizontal distance.

Cable entry
1 cable entry on the bottom of the switch with thread:

In conformity with standards:

IEC EN 60947-5-1 • EN 60947-1 • EN 500041
UNI EN 1088 • EN ISO 12100-1 • EN ISO 12100-2 • IEC 529
EN 60529 • VDE 0660-200 • VDE 0113 • EN 81-1 • EN 81-2

Thread

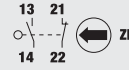
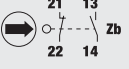
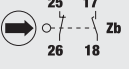
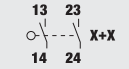

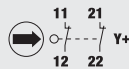
Pg 13,5
M20x1,5
1/2" NPT (on request)
M12 connector (on request)

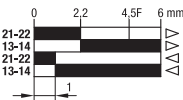

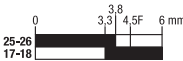
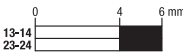
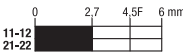
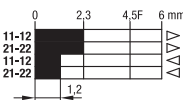
Series part no.

E400...
E401...
E402...
E400...M12



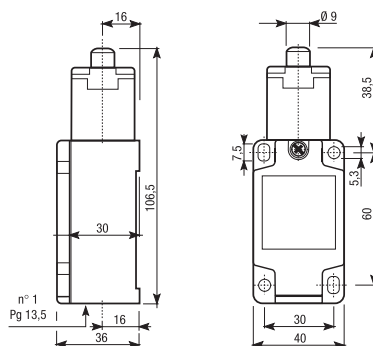
Steel plunger

Contact element	
1NO+1NC azione rapida 	00
1NO+1NC azione lenta 	01
1NO+1NC lenta sovrapp. 	02
2NO azione lenta 	03
2NC azione lenta 	04
2NC azione rapida 	05
Weight	kg
Pack	pcs

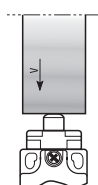
Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000AI*	E40000AM*	E40100AI*	E40100AM*	
E40001AI*	E40001AM*	E40101AI*	E40101AM*	
E40002AI	E40002AM	E40102AI	E40102AM	
E40003AI	E40003AM	E40103AI	E40103AM	
E40004AI	E40004AM	E40104AI	E40104AM	
E40005AI	E40005AM	E40105AI	E40105AM	
0,245	0,36	0,245	0,36	
1	1	1	1	

 standard article

* form conforming to EN 50041



Drive cam operating parameters



V max (m/s) 0,5

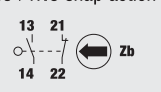
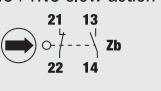
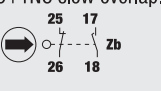
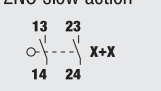
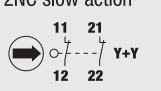
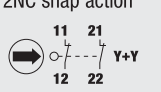
Drive forces

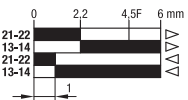
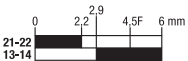
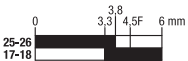
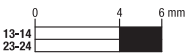

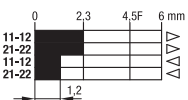
Minimum command force 9 N

Minimum forced opening force 28 N



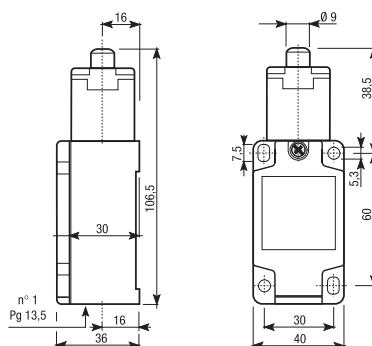
Steel plunger with rubber gasket

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

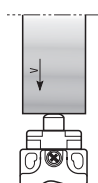
Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000AIS1*	E40000AMS1*	E40100AIS1*	E40100AMS1*	
E40001AIS1*	E40001AMS1*	E40101AIS1*	E40101AMS1*	
E40002AIS1	E40002AMS1	E40102AIS1	E40102AMS1	
E40003AIS1	E40003AMS1	E40103AIS1	E40103AMS1	
E40004AIS1	E40004AMS1	E40104AIS1	E40104AMS1	
E40005AIS1	E40005AMS1	E40105AIS1	E40105AMS1	
0,245	0,36	0,245	0,36	
1	1	1	1	

 standard article

* form conforming to EN 50041



Drive cam operating parameters



V max (m/s)	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N



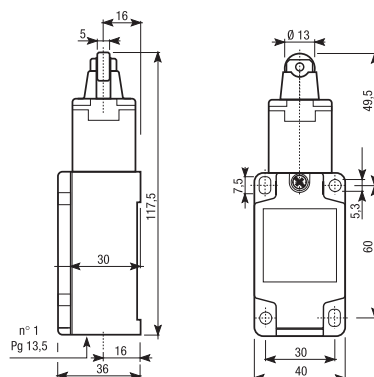
Steel roller plunger

Contact element	
1NO+1NC snap action 13 21 14 22 Zb	00
1NO+1NC slow action 21 13 22 14 Zb	01
1NO+1NC slow overlap. 25 17 26 18 Zb	02
2NO slow action 13 23 14 24 X+X	03
2NC slow action 11 21 12 22 Y+Y	04
2NC snap action 11 21 12 22 Y+Y	05
Weight	kg
Pack	pcs

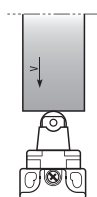
Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000BI*	E40000BM*	E40100BI*	E40100BM*	
E40001BI*	E40001BM*	E40101BI*	E40101BM*	
E40002BI	E40002BM	E40102BI	E40102BM	
E40003BI	E40003BM	E40103BI	E40103BM	
E40004BI	E40004BM	E40104BI	E40104BM	
E40005BI	E40005BM	E40105BI	E40105BM	
0,255	0,37	0,255	0,37	
1	1	1	1	

standard article

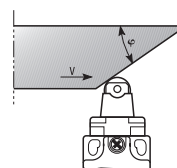
* form conforming to EN 50041



Drive cam operating parameters



V max (m/s)	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N



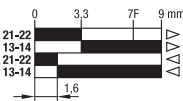
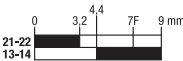
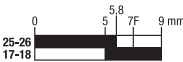
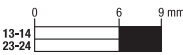

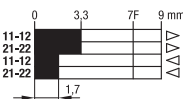
φ	V max (m/s)
20°	1
30°	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N



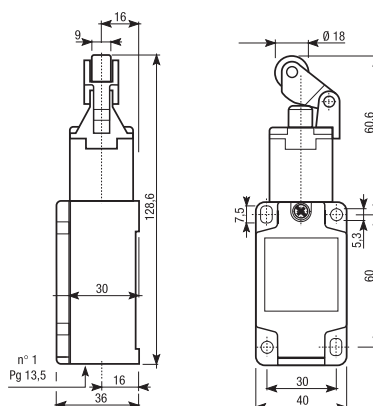
C

Thermoplastic roller lever, side actuation

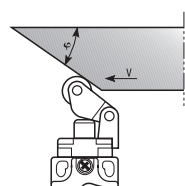
Contact element	
1NO+1NC snap action 13 21 14 22 Zb	00
1NO+1NC slow action 21 13 22 14 Zb	01
1NO+1NC slow overlap. 25 17 26 18 Zb	02
2NO slow action 13 23 14 24 X+X	03
2NC slow action 11 21 12 22 Y+Y	04
2NC snap action 11 21 12 22 Y+Y	05
Weight	kg
Pack	pcs

Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000CI	E40000CM	E40100CI	E40100CM	
E40001CI	E40001CM	E40101CI	E40101CM	
E40002CI	E40002CM	E40102CI	E40102CM	
E40003CI	E40003CM	E40103CI	E40103CM	
E40004CI	E40004CM	E40104CI	E40104CM	
E40005CI	E40005CM	E40105CI	E40105CM	
0,255	0,37	0,255	0,37	
1	1	1	1	

 standard article



Drive cam operating parameters

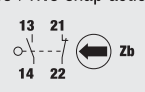
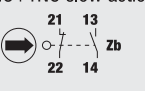
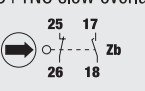
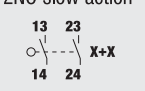
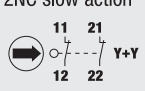
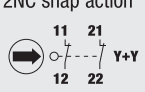


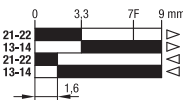
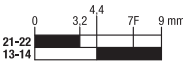
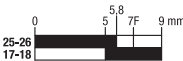
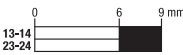

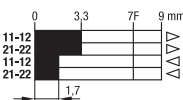
φ	V max (m/s)
20°	1
30°	0,5

Drive forces	
Minimum command force	9 N
Minimum forced opening force	26 N

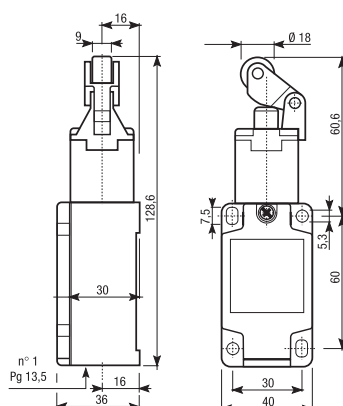


Thermoplastic roller lever with rubber gasket, side actuation

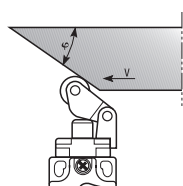
Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000CIS1	E40000CMS1	E40100CIS1	E40100CMS1	
E40001CIS1	E40001CMS1	E40101CIS1	E40101CMS1	
E40002CIS1	E40002CMS1	E40102CIS1	E40102CMS1	
E40003CIS1	E40003CMS1	E40103CIS1	E40103CMS1	
E40004CIS1	E40004CMS1	E40104CIS1	E40104CMS1	
E40005CIS1	E40005CMS1	E40105CIS1	E40105CMS1	
0,255	0,37	0,255	0,37	
1	1	1	1	

 standard article

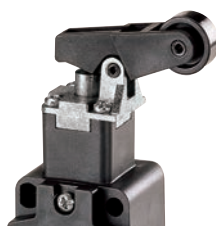


Drive cam operating parameters


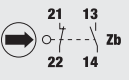
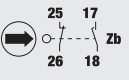
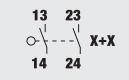
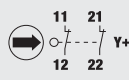
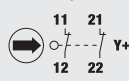


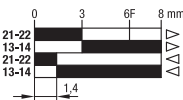
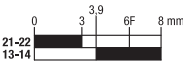
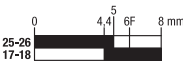
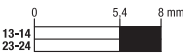
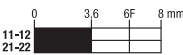
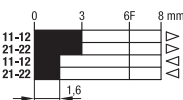
φ	V max (m/s)
20°	1
30°	0,5

Drive forces	
Minimum command force	9 N
Minimum forced opening force	26 N

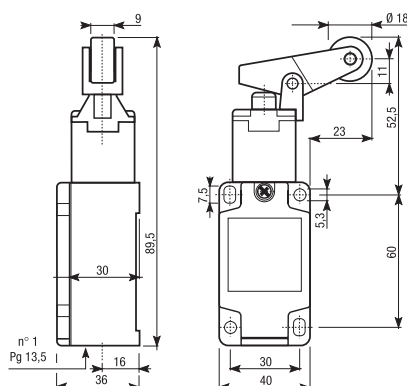


Thermoplastic roller lever, vertical actuation

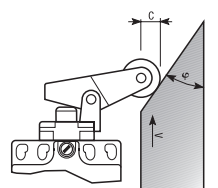
Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000DI	E40000DM	E40100DI	E40100DM	
E40001DI	E40001DM	E40101DI	E40101DM	
E40002DI	E40002DM	E40102DI	E40102DM	
E40003DI	E40003DM	E40103DI	E40103DM	
E40004DI	E40004DM	E40104DI	E40104DM	
E40005DI	E40005DM	E40105DI	E40105DM	
0,255	0,37	0,255	0,37	
1	1	1	1	

 standard article



Drive cam operating parameters



φ	V max (m/s)
20°	1
30°	0,5

Drive forces	
Minimum command force	9 N
Minimum forced opening force	26 N

D•S1

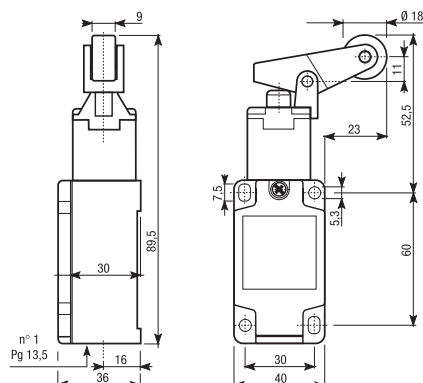


Thermoplastic roller lever with rubber gasket, vertical actuation

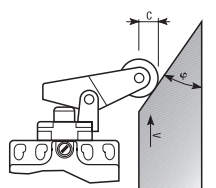
Contact element	
1NO+1NC snap action 00	
1NO+1NC slow action 01	
1NO+1NC slow overlap. 02	
2NO slow action 03	
2NC slow action 04	
2NC snap action 05	
Weight	kg
Pack	pcs

Cable entry				
PG 13,5		M20 x 1,5		Contact travel
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	
E40000DIS1	E40000DMS1	E40100DIS1	E40100DMS1	
E40001DIS1	E40001DMS1	E40101DIS1	E40101DMS1	
E40002DIS1	E40002DMS1	E40102DIS1	E40102DMS1	
E40003DIS1	E40003DMS1	E40103DIS1	E40103DMS1	
E40004DIS1	E40004DMS1	E40104DIS1	E40104DMS1	
E40005DIS1	E40005DMS1	E40105DIS1	E40105DMS1	
0,255	0,37	0,255	0,37	
1	1	1	1	

standard article



Drive cam operating parameters

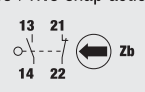
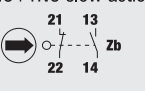
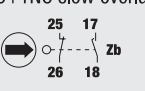
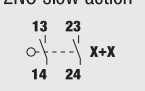
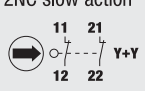
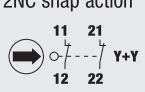


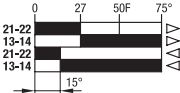
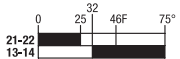
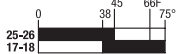

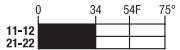
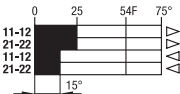
φ	V max (m/s)
20°	1
30°	0,5

Drive forces	
Minimum command force	9 N
Minimum forced opening force	26 N

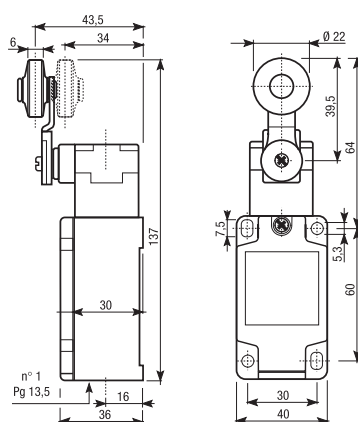


Thermoplastic roller lever

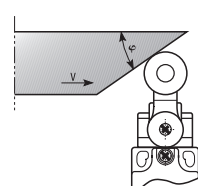
Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000EI	E40000EM	E40100EI	E40100EM	
E40001EI	E40001EM	E40101EI	E40101EM	
E40002EI	E40002EM	E40102EI	E40102EM	
E40003EI	E40003EM	E40103EI	E40103EM	
E40004EI	E40004EM	E40104EI	E40104EM	
E40005EI	E40005EM	E40105EI	E40105EM	
0,285	0,4	0,285	0,4	
1	1	1	1	

 standard article



Drive cam operating parameters



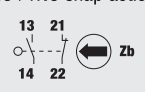
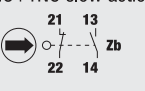
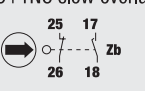
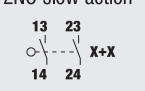
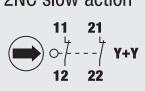
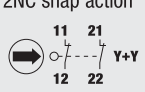
φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

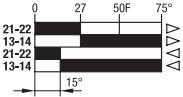
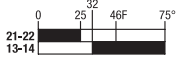



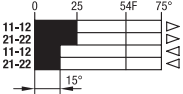
Drive forces	
Minimum command force	25 Ncm
Minimum forced opening force	45 Ncm

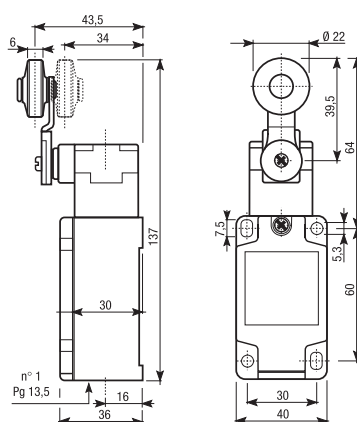


Steel roller lever

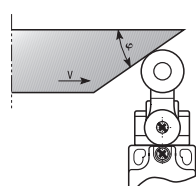
E•RA

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000EIRA	E40000EMRA	E40100EIRA	E40100EMRA	
E40001EIRA	E40001EMRA	E40101EIRA	E40101EMRA	
E40002EIRA	E40002EMRA	E40102EIRA	E40102EMRA	
E40003EIRA	E40003EMRA	E40103EIRA	E40103EMRA	
E40004EIRA	E40004EMRA	E40104EIRA	E40104EMRA	
E40005EIRA	E40005EMRA	E40105EIRA	E40105EMRA	
0,285	0,4	0,285	0,4	
1	1	1	1	

 standard article


Drive cam operating parameters

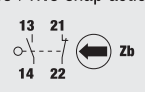
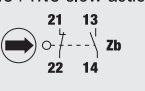
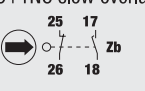
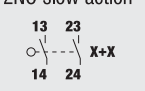
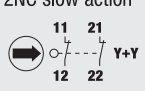
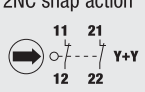


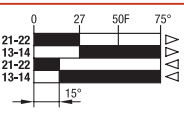
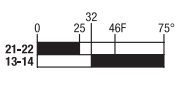
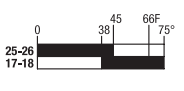
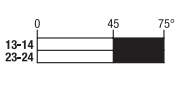
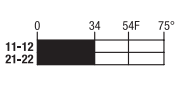
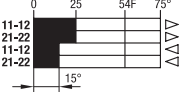
φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	25 Ncm
Minimum forced opening force	45 Ncm

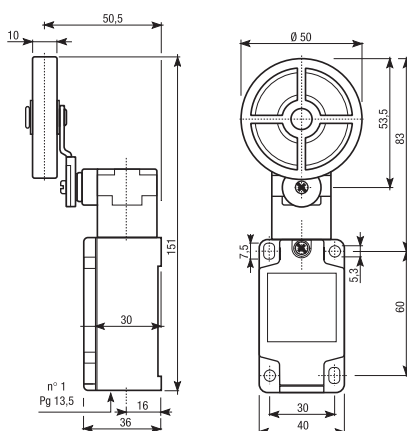


Ø50 mm rubber roller lever

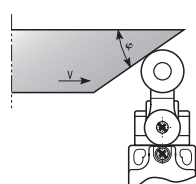
Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

Cable entry				Contact travel
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	
E40000EI50	E40000EM50	E40100EI50	E40100EM50	
E40001EI50	E40001EM50	E40101EI50	E40101EM50	
E40002EI50	E40002EM50	E40102EI50	E40102EM50	
E40003EI50	E40003EM50	E40103EI50	E40103EM50	
E40004EI50	E40004EM50	E40104EI50	E40104EM50	
E40005EI50	E40005EM50	E40105EI50	E40105EM50	
0,295	0,41	0,295	0,41	
1	1	1	1	

 standard article



Drive cam operating parameters

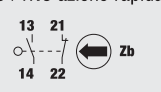
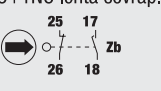


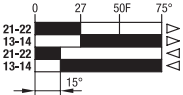
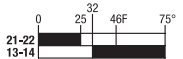
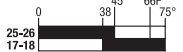
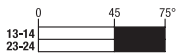

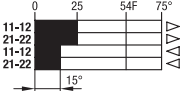
φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	25 Ncm
Minimum forced opening force	45 Ncm



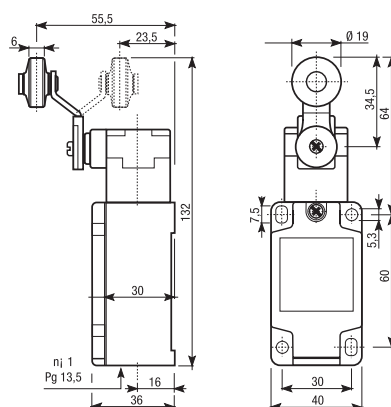
Leva piegata con rotella in plastica

Contact element	
1NO+1NC azione rapida 	00
1NO+1NC azione lenta 	01
1NO+1NC lenta sovrapp. 	02
2NO azione lenta 	03
2NC azione lenta 	04
2NC azione rapida 	05
Weight	kg
Pack	pcs

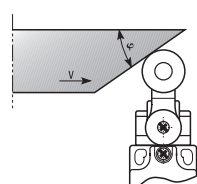
Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000II*	E40000IM*	E40100II*	E40100IM*	
E40001II*	E40001IM*	E40101II*	E40101IM*	
E40002II	E40002IM	E40102II	E40102IM	
E40003II	E40003IM	E40103II	E40103IM	
E40004II	E40004IM	E40104II	E40104IM	
E40005II	E40005IM	E40105II	E40105IM	
0,285	0,4	0,285	0,4	
1	1	1	1	

 standard article

* form conforming to EN 50041



Drive cam operating parameters



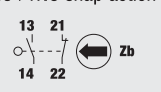
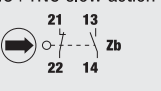
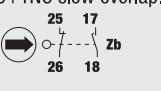
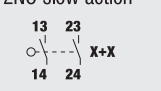
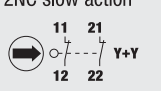
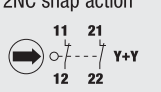
φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

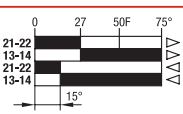
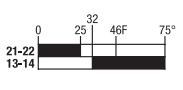
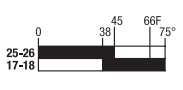
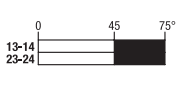
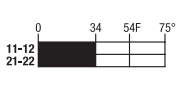
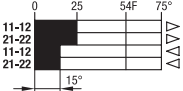
Drive forces	
Minimum command force	25 Ncm
Minimum forced opening force	45 Ncm



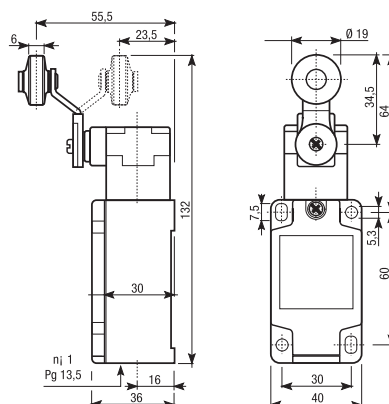
Steel roller lever

I·RA

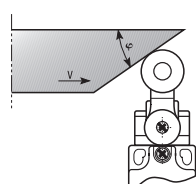
Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000IIRA	E40000IMRA	E40100IIRA	E40100IMRA	
E40001IIRA	E40001IMRA	E40101IIRA	E40101IMRA	
E40002IIRA	E40002IMRA	E40102IIRA	E40102IMRA	
E40003IIRA	E40003IMRA	E40103IIRA	E40103IMRA	
E40004IIRA	E40004IMRA	E40104IIRA	E40104IMRA	
E40005IIRA	E40005IMRA	E40105IIRA	E40105IMRA	
0,285	0,4	0,285	0,4	
1	1	1	1	

 standard article



Drive cam operating parameters



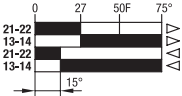
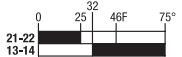
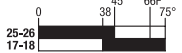
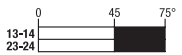

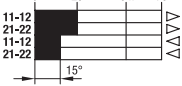
φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	25 Ncm
Minimum forced opening force	45 Ncm

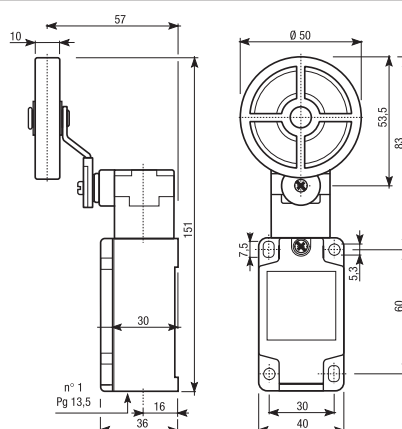


Ø50 mm rubber roller lever

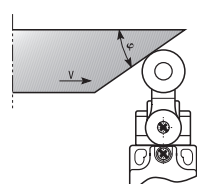
Contact element	
1NO+1NC snap action 00	
1NO+1NC slow action 01	
1NO+1NC slow overlap. 02	
2NO slow action 03	
2NC slow action 04	
2NC snap action 05	
Weight	kg
Pack	pcs

Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000II50	E40000IM50	E40100II50	E40100IM50	
E40001II50	E40001IM50	E40101II50	E40101IM50	
E40002II50	E40002IM50	E40102II50	E40102IM50	
E40003II50	E40003IM50	E40103II50	E40103IM50	
E40004II50	E40004IM50	E40104II50	E40104IM50	
E40005II50	E40005IM50	E40105II50	E40105IM50	
0,295	0,41	0,295	0,41	
1	1	1	1	

standard article



Drive cam operating parameters



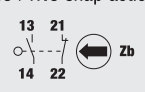
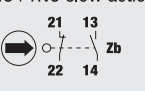
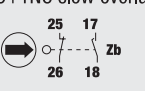
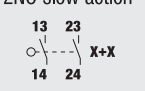
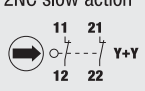
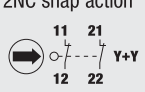
φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

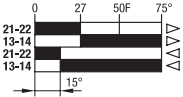
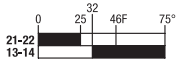
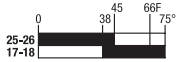
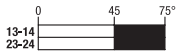
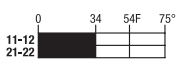
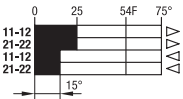
Drive forces	
Minimum command force	25 Ncm
Minimum forced opening force	45 Ncm



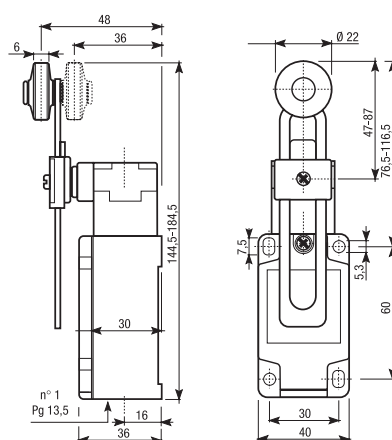
F

Thermoplastic roller variable length lever

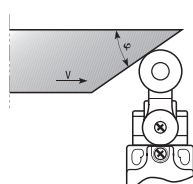
Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000FI	E40000FM	E40100FI	E40100FM	
E40001FI	E40001FM	E40101FI	E40101FM	
E40002FI	E40002FM	E40102FI	E40102FM	
E40003FI	E40003FM	E40103FI	E40103FM	
E40004FI	E40004FM	E40104FI	E40104FM	
E40005FI	E40005FM	E40105FI	E40105FM	
0,305	0,42	0,305	0,42	
1	1	1	1	

 standard article



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	25 Ncm
Minimum forced opening force	45 Ncm

F•50

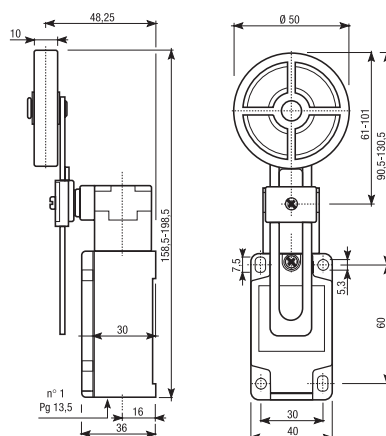


Ø50 mm rubber roller variable length lever

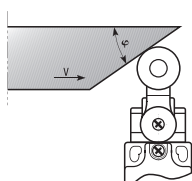
Contact element	
1NO+1NC snap action 00	
1NO+1NC slow action 01	
1NO+1NC slow overlap. 02	
2NO slow action 03	
2NC slow action 04	
2NC snap action 05	
Weight	kg
Pack	pcs

Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000FI50	E40000FM50	E40100FI50	E40100FM50	
E40001FI50	E40001FM50	E40101FI50	E40101FM50	
E40002FI50	E40002FM50	E40102FI50	E40102FM50	
E40003FI50	E40003FM50	E40103FI50	E40103FM50	
E40004FI50	E40004FM50	E40104FI50	E40104FM50	
E40005FI50	E40005FM50	E40105FI50	E40105FM50	
0,315	0,43	0,315	0,43	
1	1	1	1	

standard article



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	25 Ncm
Minimum forced opening force	45 Ncm

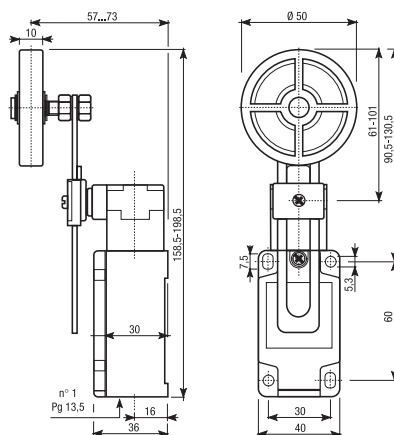


Ø50 mm rubber roller adjustable lever

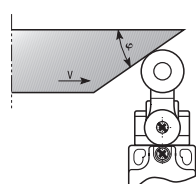
Contact element	
1NO+1NC azione rapida 13 21 14 22 Zb	00
1NO+1NC azione lenta 21 13 22 14 Zb	01
1NO+1NC lenta sovrapp. 25 17 26 18 Zb	02
2NO azione lenta 13 23 14 24 X+X	03
2NC azione lenta 11 21 12 22 Y+Y	04
2NC azione rapida 11 21 12 22 Y+Y	05
Weight	kg
Pack	pcs

Cable entry				Contact travel
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	
E40000FRI50	E40000FRM50	E40100FRI50	E40100FRM50	
E40001FRI50	E40001FRM50	E40101FRI50	E40101FRM50	
E40002FRI50	E40002FRM50	E40102FRI50	E40102FRM50	
E40003FRI50	E40003FRM50	E40103FRI50	E40103FRM50	
E40004FRI50	E40004FRM50	E40104FRI50	E40104FRM50	
E40005FRI50	E40005FRM50	E40105FRI50	E40105FRM50	
0,325	0,44	0,325	0,44	
1	1	1	1	

standard article



Drive cam operating parameters

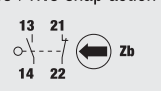
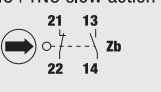
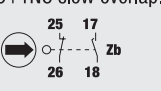
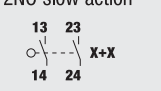
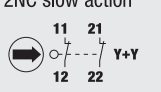
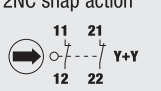


φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	25 Ncm
Minimum forced opening force	45 Ncm



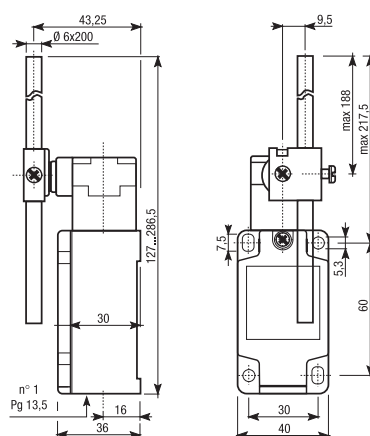
Side rotary adjustable Ø6 mm glass fiber rod

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

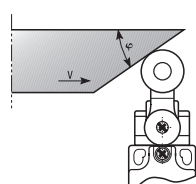
Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000GI*	E40000GM*	E40100GI*	E40100GM*	<p>Diagram showing contact travel for PG 13,5 M20 x 1,5 E40100GM*. The diagram includes a vertical axis with positions 0, 27, 50F, and 75°. A horizontal axis shows a 15° angle. The contact travel is indicated by a black bar from 0 to 27 and a white bar from 27 to 50F. The contact travel is also indicated by a black bar from 0 to 27 and a white bar from 27 to 50F. The contact travel is also indicated by a black bar from 0 to 27 and a white bar from 27 to 50F.</p>
E40001GI*	E40001GM*	E40101GI*	E40101GM*	<p>Diagram showing contact travel for PG 13,5 M20 x 1,5 E40101GM*. The diagram includes a vertical axis with positions 0, 25, 32, 46F, and 75°. A horizontal axis shows a 15° angle. The contact travel is indicated by a black bar from 0 to 25 and a white bar from 25 to 32. The contact travel is also indicated by a black bar from 0 to 25 and a white bar from 25 to 32. The contact travel is also indicated by a black bar from 0 to 25 and a white bar from 25 to 32.</p>
E40002GI	E40002GM	E40102GI	E40102GM	<p>Diagram showing contact travel for PG 13,5 M20 x 1,5 E40102GM. The diagram includes a vertical axis with positions 0, 25, 38, 45, 66F, and 75°. A horizontal axis shows a 15° angle. The contact travel is indicated by a black bar from 0 to 25 and a white bar from 25 to 38. The contact travel is also indicated by a black bar from 0 to 25 and a white bar from 25 to 38. The contact travel is also indicated by a black bar from 0 to 25 and a white bar from 25 to 38.</p>
E40003GI	E40003GM	E40103GI	E40103GM	<p>Diagram showing contact travel for PG 13,5 M20 x 1,5 E40103GM. The diagram includes a vertical axis with positions 0, 45, and 75°. A horizontal axis shows a 15° angle. The contact travel is indicated by a black bar from 0 to 45 and a white bar from 45 to 75. The contact travel is also indicated by a black bar from 0 to 45 and a white bar from 45 to 75. The contact travel is also indicated by a black bar from 0 to 45 and a white bar from 45 to 75.</p>
E40004GI	E40004GM	E40104GI	E40104GM	
E40005GI	E40005GM	E40105GI	E40105GM	<p>Diagram showing contact travel for PG 13,5 M20 x 1,5 E40105GM. The diagram includes a vertical axis with positions 0, 25, 54F, and 75°. A horizontal axis shows a 15° angle. The contact travel is indicated by a black bar from 0 to 25 and a white bar from 25 to 54F. The contact travel is also indicated by a black bar from 0 to 25 and a white bar from 25 to 54F. The contact travel is also indicated by a black bar from 0 to 25 and a white bar from 25 to 54F.</p>
0,21	0,425	0,21	0,425	
1	1	1	1	

 standard article

* form conforming to EN 50041



Drive cam operating parameters



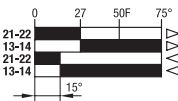
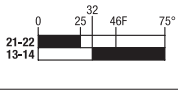

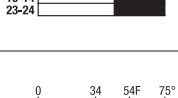
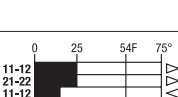
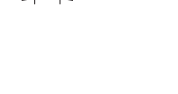
φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	25 Ncm
Minimum forced opening force	45 Ncm

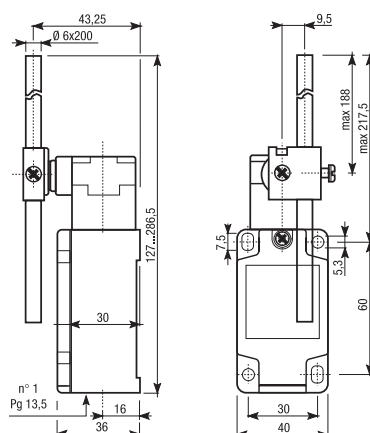


Side rotary adjustable Ø6 mm aluminium rod

Contact element	
1NO+1NC snap action 13 21 14 22 Zb	00
1NO+1NC slow action 21 13 22 14 Zb	01
1NO+1NC slow overlap. 25 17 26 18 Zb	02
2NO slow action 13 23 14 24 X+X	03
2NC slow action 11 21 12 22 Y+Y	04
2NC snap action 11 21 12 22 Y+Y	05
Weight	kg
Pack	pcs







Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000HI*	E40000HM*	E40100HI*	E40100HM*	
E40001HI*	E40001HM*	E40101HI*	E40101HM*	
E40002HI	E40002HM	E40102HI	E40102HM	
E40003HI	E40003HM	E40103HI	E40103HM	
E40004HI	E40004HM	E40104HI	E40104HM	
E40005HI	E40005HM	E40105HI	E40105HM	
0,21	0,425	0,21	0,425	
1	1	1	1	

 standard article



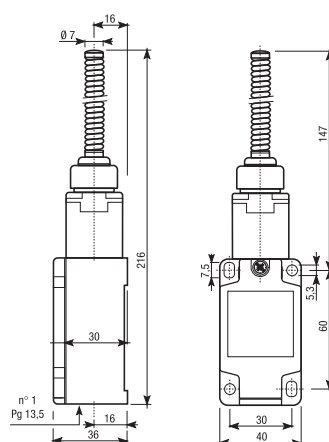


Flexible rod

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs







Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000LI	E40000LM	E40100LI	E40100LM	
E40001LI	E40001LM	E40101LI	E40101LM	
E40002LI	E40002LM	E40102LI	E40102LM	
E40003LI	E40003LM	E40103LI	E40103LM	
E40004LI	E40004LM	E40104LI	E40104LM	
E40005LI	E40005LM	E40105LI	E40105LM	
0,28	0,395	0,28	0,395	
1	1	1	1	

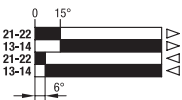
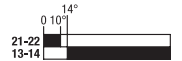
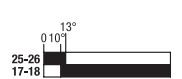
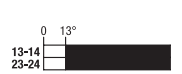
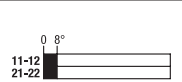
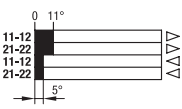
 standard article



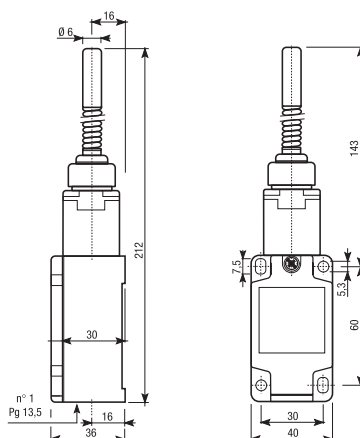


Flexible rod with plastic terminal

Contact element	
1NO+1NC snap action 	00
1NO+1NC slow action 	01
1NO+1NC slow overlap. 	02
2NO slow action 	03
2NC slow action 	04
2NC snap action 	05
Weight	kg
Pack	pcs

Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E40000LPI	E40000LPM	E40100LPI	E40100LPM	
E40001LPI	E40001LPM	E40101LPI	E40101LPM	
E40002LPI	E40002LPM	E40102LPI	E40102LPM	
E40003LPI	E40003LPM	E40103LPI	E40103LPM	
E40004LPI	E40004LPM	E40104LPI	E40104LPM	
E40005LPI	E40005LPM	E40105LPI	E40105LPM	
0,28	0,395	0,28	0,395	
1	1	1	1	

 standard article



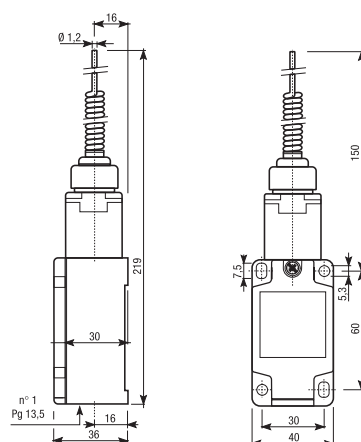


Cat's whisker

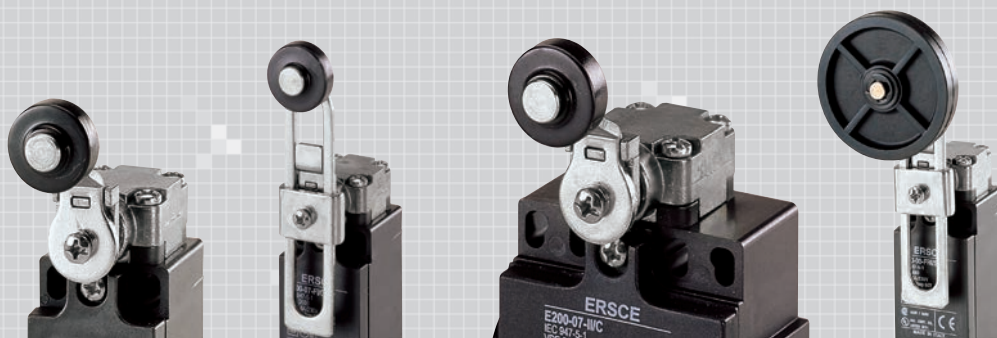
Contact element	
1NO+1NC snap action 00	
1NO+1NC slow action 01	
1NO+1NC slow overlap. 02	
2NO slow action 03	
2NC slow action 04	
2NC snap action 05	
Weight	kg
Pack	pcs

Cable entry				
PG 13,5		M20 x 1,5		Contact travel
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	
E40000LSI	E40000LSM	E40100LSI	E40100LSM	
E40001LSI	E40001LSM	E40101LSI	E40101LSM	
E40002LSI	E40002LSM	E40102LSI	E40102LSM	
E40003LSI	E40003LSM	E40103LSI	E40103LSM	
E40004LSI	E40004LSM	E40104LSI	E40104LSM	
E40005LSI	E40005LSM	E40105LSI	E40105LSM	
0,28	0,395	0,28	0,395	
1	1	1	1	

standard article

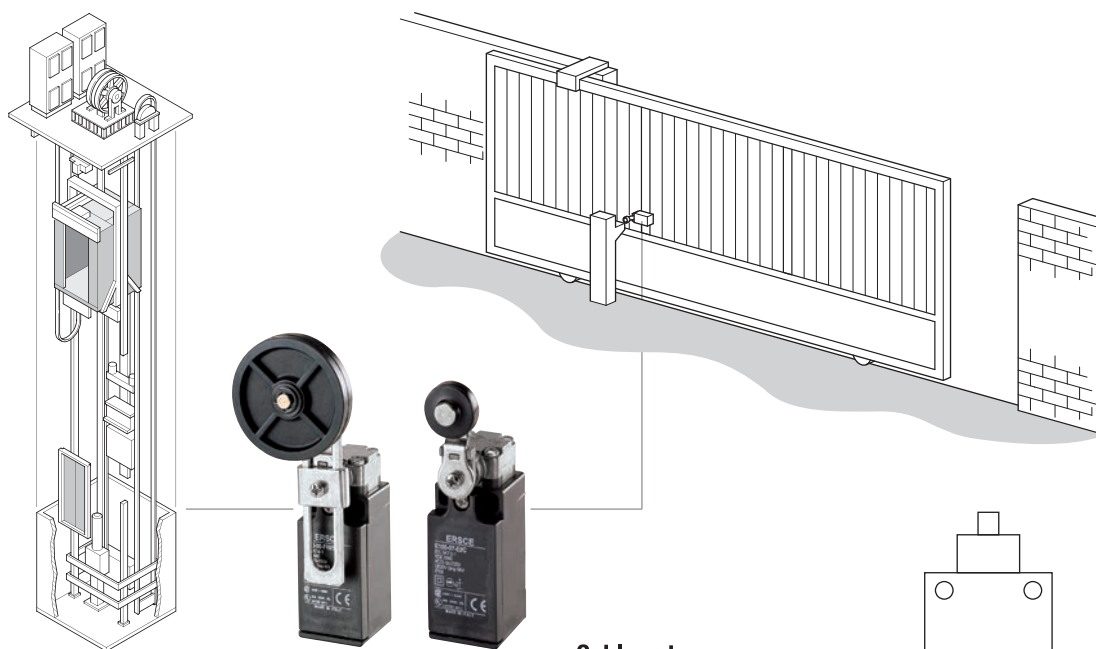


Limit switches for gates and lifts



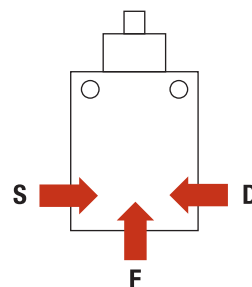
Product for gates and lifts

For gates and lifts applications Brema provides a dedicated contact block, 2NC slow action with asymmetric working, to allow the detection of position and direction of the moving part. It is available for E100 and E200 series with plastic or metal body and actuators.



Cable entry

	F	S	D
E100	•		
E200		•	•



Dedicated contact block

Dedicated contact block 07 for gates/lifts



Fixing

E100	20/22 mm
E200	20/22 and 40/42 mm

In conformity with standards:

IEC EN 60947-5-1 • EN 60947-1 • UNI EN 1088
EN ISO 12100-1 • EN ISO 12100-2 • IEC 529 • EN 60529
VDE 0660-200 • VDE 0113 • EN 81-1 • EN 81-2

Thread

Thread	Series part no.	
Pg 13,5	E100...	E200...
M20x1,5	E101...	E201...
1/2" NPT (on request)	E102...	E202...
Pg 11 (on request)	E103...	
M16x1,5 (on request)	E104...	
M12 connector (on request)	E100...M12	E200...M12




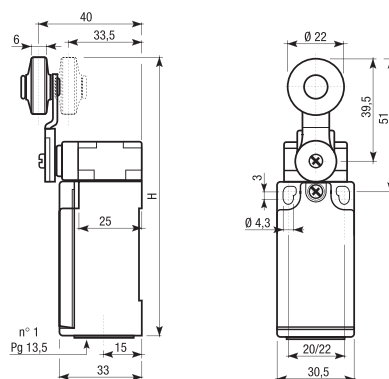
Thermoplastic roller lever

Contact element	
2NC slow action	07

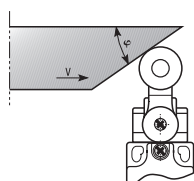
Weight	kg
Pack	pcs
H	mm

standard article

Cable entry						Contact travel
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10007EPC	E10007EIC	E10007EMC	E10107EPC	E10107EIC	E10107EMC	
0,081	0,135	0,225	0,081	0,135	0,225	
1	1	1	1	1	1	
108,5	108,5	106	108,5	108,5	106	



Drive cam operating parameters

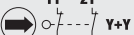


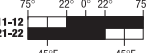
φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

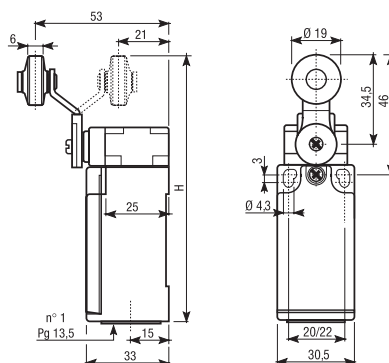


Thermoplastic roller lever

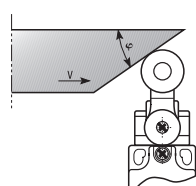
Contact element		07
2NC slow action  Y+Y		
Weight	kg	
Pack	pcs	
H	mm	

Cable entry						
PG 13,5			M20 x 1,5			Contact travel
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10007IPC	E10007IIC	E10007IMC	E10107IPC	E10107IIC	E10107IMC	
0,079	0,13	0,225	0,079	0,13	0,225	
1	1	1	1	1	1	
103,5	103,5	101	103,5	103,5	101	

 standard article



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm




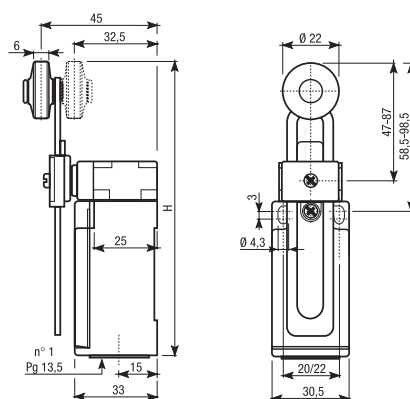
F•C

Thermoplastic roller variable length lever

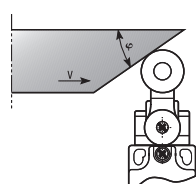
Contact element	
2NC slow action 	07
Weight	kg
Pack	pcs
H	mm

standard article

Cable entry						Contact travel
PG 13,5			M20 x 1,5			
Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
E10007FPC	E10007FIC	E10007FMC	E10107FPC	E10107FIC	E10107FMC	
0,079	0,15	0,24	0,079	0,15	0,24	
1	1	1	1	1	1	
116 ÷ 156	116 ÷ 156	113,5 ÷ 153,5	103,5	103,5	101	



Drive cam operating parameters



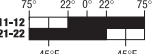

φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

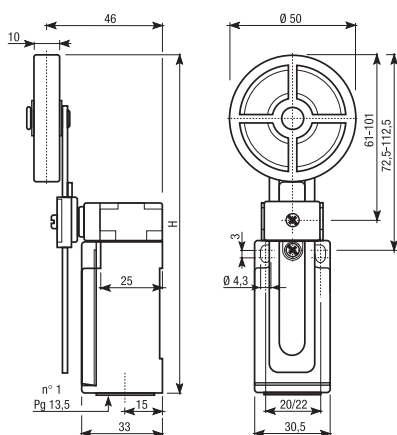


F•50C

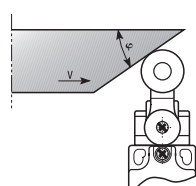
Ø50 mm rubber roller variable length lever

Contact element		Cable entry						Contact travel
		PG 13,5			M20 x 1,5			
2NC slow action		Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	Plastic head Plastic body	Metal head Plastic body	Metal head Metal body	
 11 21 12 22 Y+Y		E10007FP50C	E10007FI50C	E10007FM50C	E10107FP50C	E10107FI50C	E10107FM50C	
Weight	kg	0,114	0,16	0,25	0,114	0,16	0,25	
Pack	pcs	1	1	1	1	1	1	
H	mm	130 ÷ 170	130 ÷ 170	127,5 ÷ 167,5	130 ÷ 170	130 ÷ 170	127,5 ÷ 167,5	

 standard article



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

A detailed close-up of the pulley and clamping mechanism of the ERM 1000. The pulley is a black, circular component with a central hub and four spokes. It is mounted on a metal frame that includes a clamping mechanism with a visible screw and a label that reads "ERM 1000".

Ø50 mm rubber roller adjustable lever

[illegible]

φ	V_{\max} (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

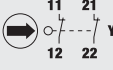
Limit switches for gates and lifts

E100 series

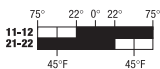


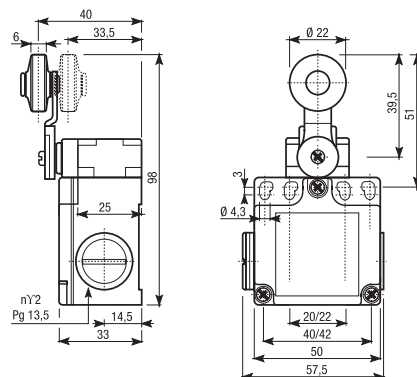
Thermoplastic roller lever

E•C

Contact element	
2NC slow action	
	07
Weight	kg
Pack	pcs

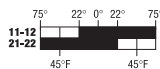
 standard article

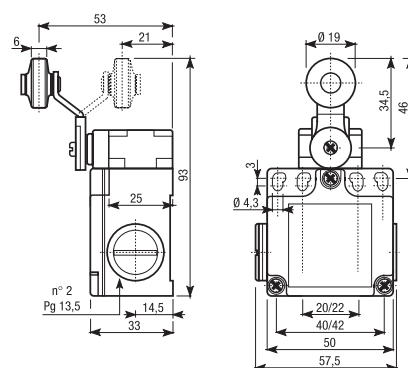
Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	
Plastic body	Plastic body	
E20007EIC	E20107EIC	
0,16		
1		



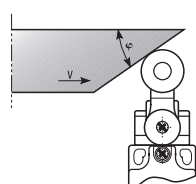
Thermoplastic roller lever

I•C

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	
Plastic body	Plastic body	
E20007IIC	E20107IIC	
0,16		
1		



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

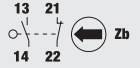
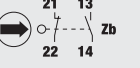
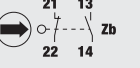
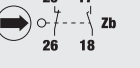
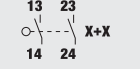
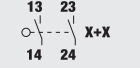
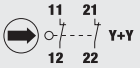
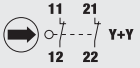
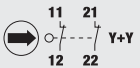
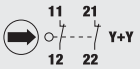
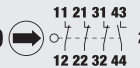
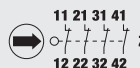
Drive forces	
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm



Available for series: E100
E200
E300
E400

In conformity with standards:
IEC/EN 60947-1
IEC/EN 60947-5-1

Contact element

Contact element		Code	Description	Pack	Weight conf. (kg)
1NO+1NC snap action 	00	ELEM00	snap action 1NO+1NC	5	0,495
1NO+1NC azione lenta 	01	ELEM01	slow action 1NO+1NC	5	0,485
1NO+1NC azione lenta 	01A	ELEM01A	slow action 1NO+1NC	5	0,485
1NO+1NC slow overlap. 	02	ELEM02	slow action overlap 1NO+1NC	5	0,485
2NO azione lenta 	03	ELEM03	slow action 2NO	5	0,485
2NO slow action 	03S	ELEM03S	slow action 2NO	5	0,485
2NC slow action 	04	ELEM04	slow action 2NC	5	0,485
2NC slow action 	04S	ELEM04S	slow action 2NC	5	0,485
1NO+1NC snap action 	05	ELEM05	snap action 2NC	5	0,485
2NC slow action 	07	ELEM07	slow action 2NC	5	0,485
3NC+1NO slow action 	80*	ELEM80	slow action 3NO+1NC	5	0,485
2NC+2NC slow action 	81*	ELEM81	slow action 2NO+2NC	5	0,485

 standard article

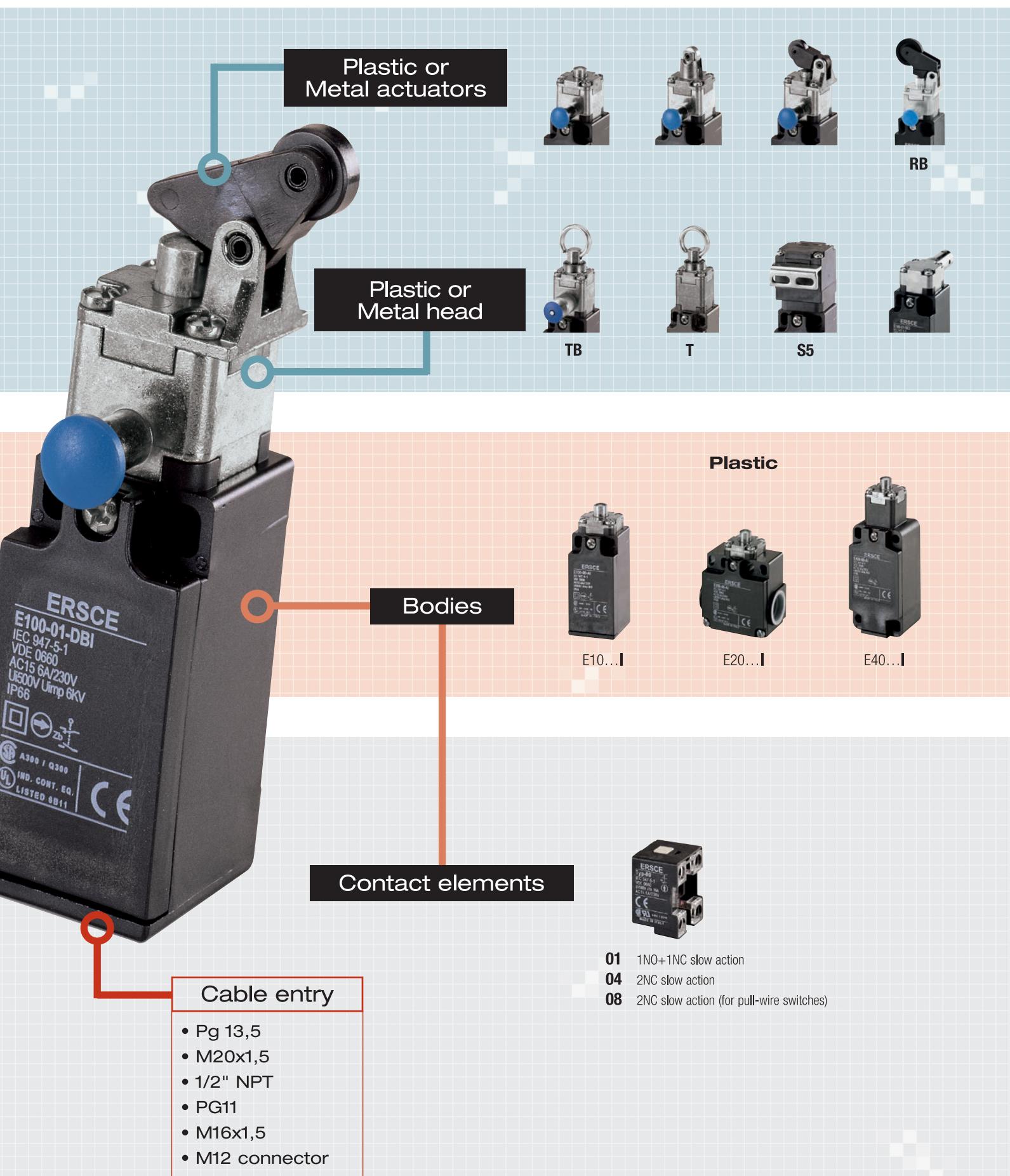
* for E400 series

This image shows a single page of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



Safety
switches

Selection diagram



limit and safety switches



DB



EB



IB



IB•50



FB



FB•50



FBR•50

Metal



E10...M

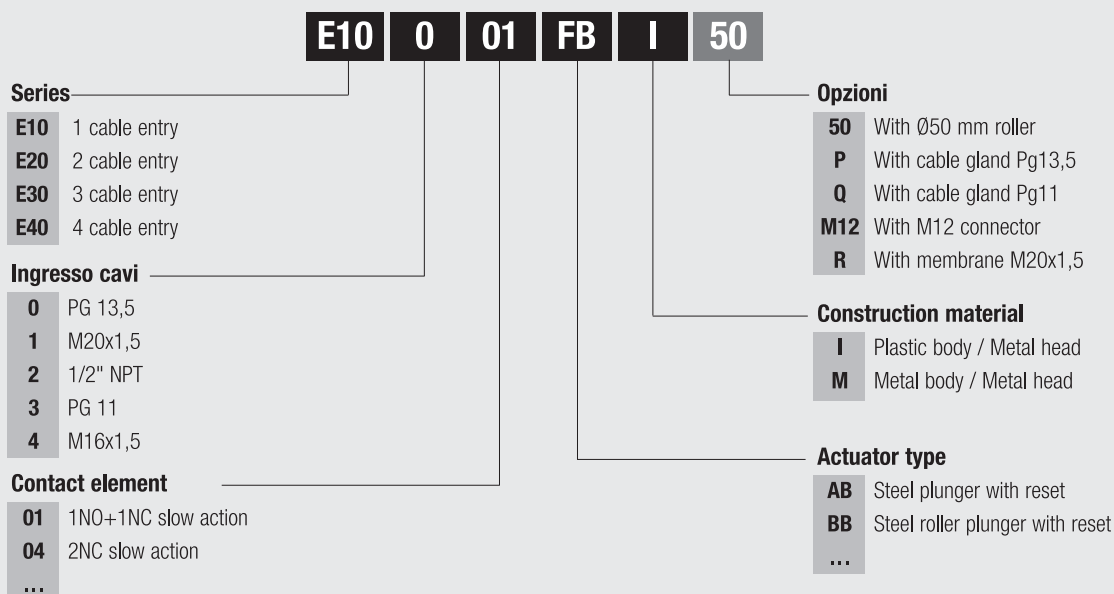


E30...M



E40...M

Product code structure



Note: Please verify the effective availability of a product before ordering.



Technical data

				TYPE	E100 / E200 / E300 / E400
Maximum operating frequency				operat./hour ¹	3600
Insulation resistance			500 V DC	MΩ	100
Dielectric strenght			50/60 Hz for 1'	V AC	2500 ²
Rated insulation voltage	Ui	IEC947-5-1		V AC	500
Rated thermal current	Ithe	IEC947-5-1		A	10
Rated operating current	Category AC15 A300	IEC947-5-1/EN60947-5-1	24V	A	10
			125V	A	6
			230 V	A	6
			400 V	A	3
Contact resistance		IEC255-7 cat.3	initial value	mΩ	25
Short circuit protective devices	IEC269 (IEC947-5-1)				
	fuse type gL or gG			A	10
Rated conditionals short circuit current		IEC947-5-1		A	1000
Pollution degree		IEC947-5-1		A	3
Protection degree		EN 60529			IP66
Protection against electric shock			plastic	class	II
			metal	class	I
Vibration resistance		IEC68-2-6	mm		0,35 ± 15% (10 ÷ 55 Hz ± 1 Hz)
Shock resistance		IEC68-2-27	11ms	g	30
Mechanical life				cycles	20.000.000
Electric life	at 250V AC 6A with resistance load cosφ=1			cycles	500.000
	at 250V AC 6A with inductive load cosφ=0,4			cycles	500.000
				cycles	500.000
Distance between contacts	Snap action type			mm	2x1,25
	Low action type			mm	2x2
Terminals	Type				Screw with combined notch and retractable plate (notch Ph. Size 1)
	Screw				3,5
	Protection degree				IP20
	Material				Steel class 8,8 / Galvanized
	Max screw tightening torque				120 (12,24)
	Max connecting capacity	rigid cable	mm ²		2x1,5
		flexible cable	mm ²		2x1,5
Terminal numbering					In accordance with EN50013
Air ambient temperature			operational	°C	-35 ÷ +85 (without formation of ice)
			operational		95% max

¹ One operation cycle means two movements, one to close and one to open as required by EN 60947-5.

² Between terminals of the same polarity; between terminals with different polarity; between live mechanical parts and ground; between live mechanical parts and non-current-carrying metal parts.


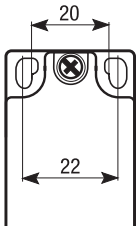

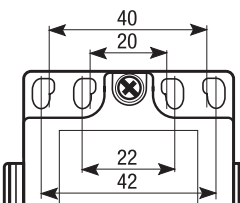

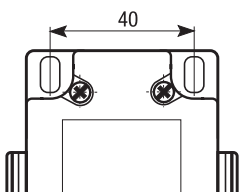

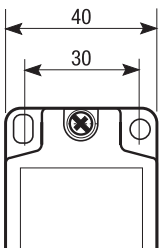
Certifications and Approvals

			IEC EN 60947
E100	•	•	+
E200	•	•	+
E300	•	•	+
E400	•	•	+

- UL approval file E72861
- CSA approval file 026716-0-000
- Approved
- + Conforms to requirements





**E100-E200
E300-E400
series**







- Plastic or Metal body
- Plastic* or Metal head and actuators
- IP66 protection degree
- Contact elements with positive opening of the NC contact in accordance to IEC EN 60947-5-1 and VDE 0660-200

Series	Product	Fixing holes
E100		
E200		
E300		
E400		

* On key actuated switches

Cable inputs/outputs

Series	Nr.
E100	1 on the bottom 
E200	2 on the sides 
E300	2 on the sides + 1 on the bottom 
E400	1 on the bottom 

Type	Series
Pg 13,5 	Ex00..
M20x1,5 	Ex01..
1/2 NPT 	Ex02..
Pg 11 	Ex03..
M16x1,5 	Ex04..
M12 connector 	Ex00.. M12

Actuation heads

Safety switches with reset

Group AB-BB



AB
Plunger



BB
Roller plunger



CB
Plastic roller lever,
side actuation



RB
Reversible
and adjustable lever
with plastic roller



DB
Plastic roller lever,
vertical actuation

Group EB-IB-FB-FRB



EB
Straight lever
with plastic roller



IB
Bent lever
with plastic roller



IB•50
Bent lever
with Ø50mm
rubber roller



FB
Variable length
lever with plastic
roller



FB•50
Variable length
lever with Ø50mm
rubber roller



FRB•50
Adjustable lever
with Ø50mm
rubber roller

Key actuation safety switches

Group S5



S5
5 ways keys
actuation

Pull wire safety switches

Group T



TB
Pull wire
with reset



T
Pull wire
without reset

Hinges operating safety switches

Group SC



SC
Metal pin

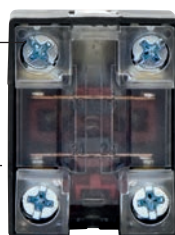
Contact elements


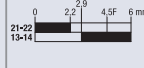


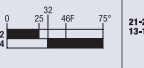
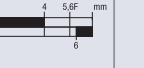


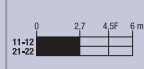
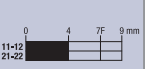
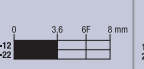
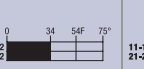
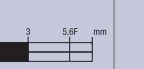



Protective screen

Protective natural polycarbonate screen to prevent the entry of materials and access to the test finger (IP20 – EN60529)

Mobile and fixed contacts

Ag/Ni mobile and fixed contacts galvanically separated (acc. IEC 947-5-1, EN 60204, VDE 0660, VDE 0113)



Contact unit	Actuator	Group AB-BB	Group CB-RB	Group DB	Group EB-IB-FB-FRB	Group S5	Group T	Group SC
01 1NO+1NC slow action	1NO+1NC slow action 							
04 2NC slow action	2NC slow action 							
08 2NC slow action	2NC slow action 							

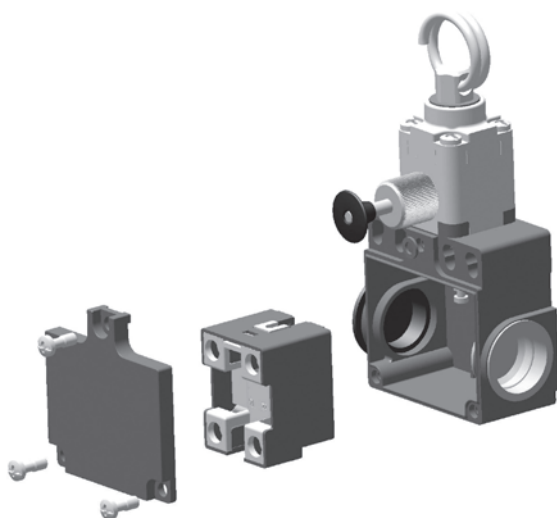
 Opened contact

 Closed contact

 Pressure of the switch / Release of the switch

General characteristics

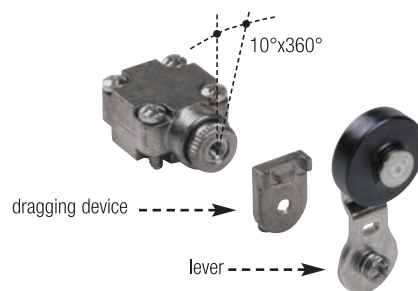
Safety switches are conceived for applications related to the protection of automated installations and are available in 4 different product families: with reset, pull-wire, 5 way key and for hinge actuation.



- thermoplastic or metal body
- IP66
- contact blocks with positive opening of the NC contact according to IEC EN 60947-5-1 e VD 0660-200

Adjustable levers

Possibility to adjust the lever in 10° steps for 360° by moving the lever and the dragging device.

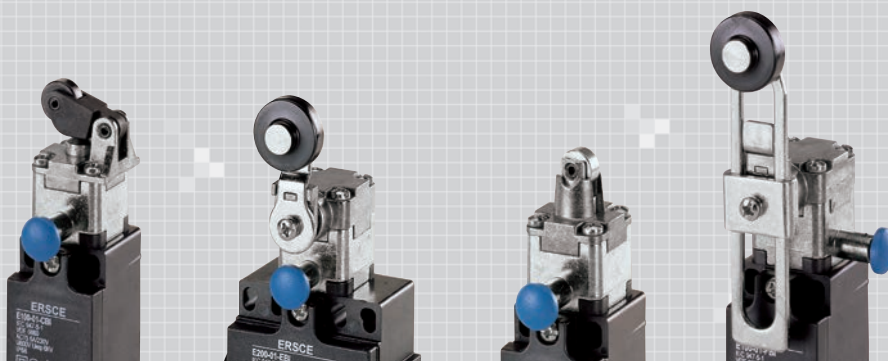


Overturning levers

all the levers can be fastened on switches on straight or reverse side, to obtain two different work plans of the lever.



Safety switches with reset



Safety switches with reset

Switches **with reset** are safety appliances that guarantee the opening of the NC contact upon a single manoeuvre and its retention in that position with the locking head. This means that the activation of the switch will have no effect on the contact element until the reset button is pressed manually (the release or reset take place by pressing the blue reset button). The range is available for the **E100-200** series in both the thermoplastic and metal bodies, with metal head and **IP66** protection degree. Both versions are available with two types of contact blocks, 1NO + 1NC and 2NC, with slow action and positive opening of the NC contact

Applications



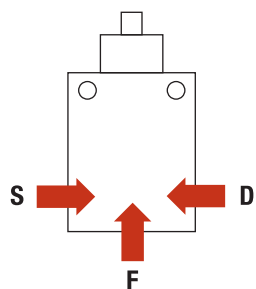
Escalators



Lifts



Lifting machines



Fixing

E100	20/22 mm
E200	20/22 and 40/42 mm

In conformity with standards

IEC EN 60947-5-1 • EN 60947-1 • UNI EN 1088
EN ISO 12100-1 • EN ISO 12100-2 • IEC 529 • EN 60529
VDE 0660-200 • VDE 0113 • EN 81-1 • EN 81-2

Cable entry

	F	S	D
E100	•		
E200		•	•


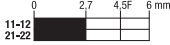
Thread	Series part no.	
Pg 13,5	E100	E200
M20x1,5	E101	E201
1/2" NPT (on request)	E102	E202
Pg 11 (on request)	E103	
M16x1,5 (on request)	E104	
M12 connector (on request)	E100/M12	E200/M12

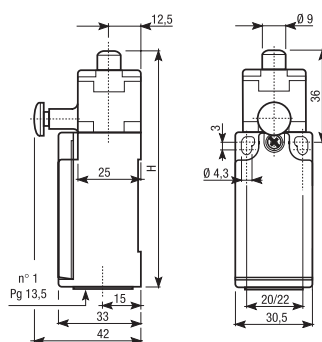


Steel plunger

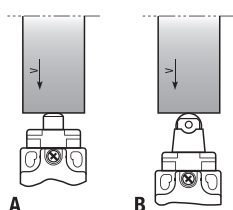
Contact element	
1NO+1NC slow action 01	
2NC slow action 04	
Weight	kg
Pack	pcs
H	mm

standard article

Cable entry				
PG 13,5		M20 x 1,5		Contact travel
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	
E10001ABI	E10001ABM	E10101ABI	E10101ABM	
E10004ABI	E10004ABM	E10104ABI	E10104ABM	
0,16	0,245	0,16	0,245	
1	1	1	1	
93,5	91	93,5	91	



Drive cam operating parameters





	V max (m/s)
Actuator A	0,5
Actuator B	0,5


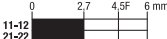
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N

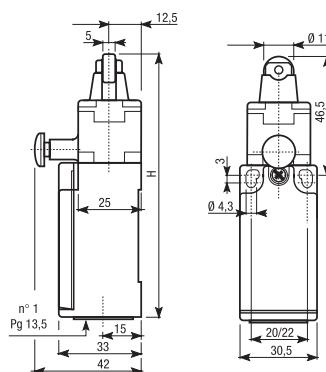


Steel roller plunger

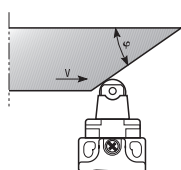
Contact element	
1NO+1NC slow action 	01
2NC slow action 	04
Weight	kg
Pack	pcs
H	mm

 standard article

Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E10001BBI	E10001BBM	E10101BBI	E10101BBM	
E10004BBI	E10004BBM	E10104BBI	E10104BBM	
0,165	0,255	0,165	0,255	
1	1	1	1	
104	101,5	104	101,5	



Drive cam operating parameters

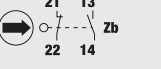
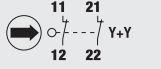


φ	V max (m/s)
20°	1
30°	0,5


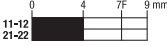
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N

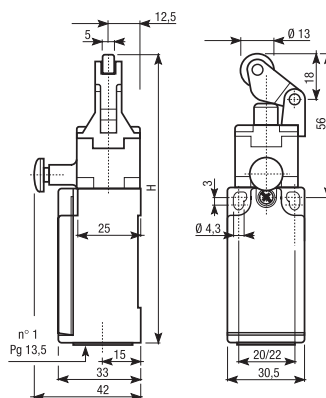


Thermoplastic roller lever, vertical actuation

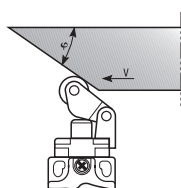
Contact element	
1NO+1NC slow action 	01
2NC slow action 	04
Weight	kg
Pack	pcs
H	mm

 standard article

Cable entry				
PG 13,5		M20 x 1,5		Contact travel
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	
E10001CBI	E10001CBM	E10101CBI	E10101CBM	
E10004CBI	E10004CBM	E10104CBI	E10104CBM	
0,165	0,255	0,165	0,255	
1	1	1	1	
113,5	111	113,5	111	



Drive cam operating parameters



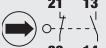
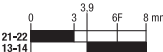
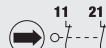
φ	V max (m/s)
20°	1
30°	0,5

Drive forces	
Minimum command force	9 N
Minimum forced opening force	26 N

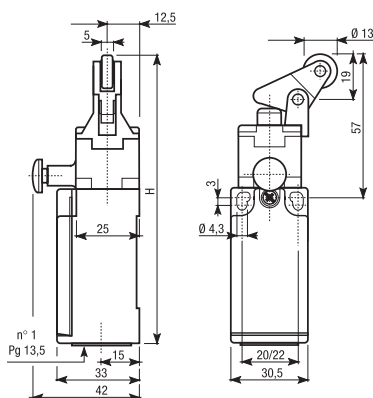


D

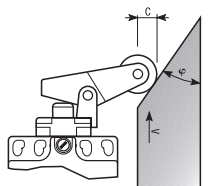
Thermoplastic roller lever, vertical actuation

Contact element		Cable entry				Contact travel
		PG 13,5		M20 x 1,5		
		Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	
1NO+1NC slow action		E10001DBI	E10001DBM	E10101DBI	E10101DBM	
2NC slow action						
Weight	kg	0,165	0,255	0,165	0,255	
Pack	pcs	1	1	1	1	
H	mm	114,5	112	114,5	112	

 standard article



Drive cam operating parameters

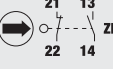
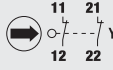


φ	V_{\max} (m/s)
20°	1
30°	0.5

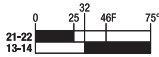
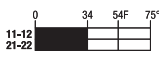
Drive forces	
Minimum command force	9 N
Minimum forced opening force	26 N

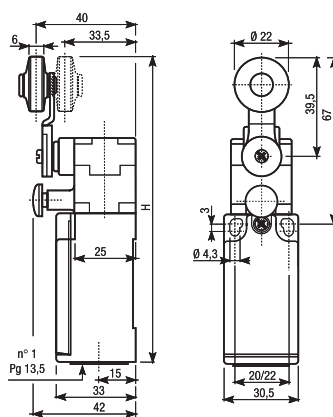


Thermoplastic roller lever

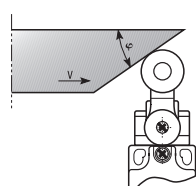
Contact element	
1NO+1NC slow action 	01
2NC slow action 	04
Weight	kg
Pack	pcs
H	mm

 standard article

Cable entry				
PG 13,5		M20 x 1,5		Contact travel
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	
E10001EBI	E10001EBM	E10101EBI	E10101EBM	
E10004EBI	E10004EBM	E10104EBI	E10104EBM	
0,195	0,285	0,195	0,285	
1	1	1	1	
124,5	122	124,5	122	



Drive cam operating parameters





φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces

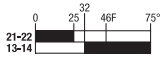
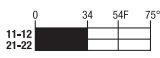
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

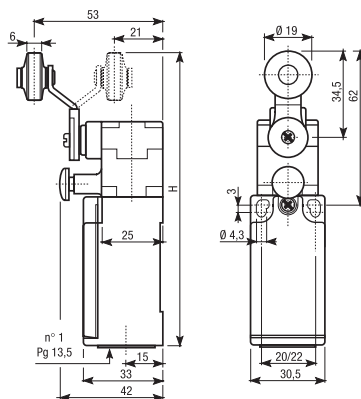


Thermoplastic roller lever

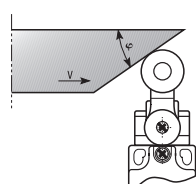
Contact element	
1NO+1NC slow action 	01
2NC slow action 	04
Weight	kg
Pack	pcs
H	mm

 standard article

Cable entry				
PG 13,5		M20 x 1,5		Contact travel
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	
E10001IBI	E10001IBM	E10101IBI	E10101IBM	
E10004IBI	E10004IBM	E10104IBI	E10104IBM	
0,205	0,295	0,205	0,295	
1	1	1	1	
119,5	117	119,5	117	

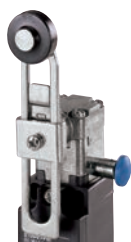


Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

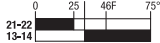
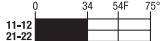
Drive forces	
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

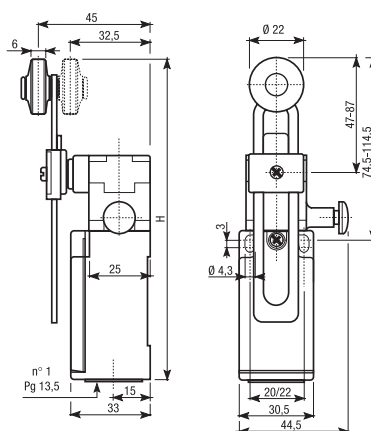


Thermoplastic roller variable length lever

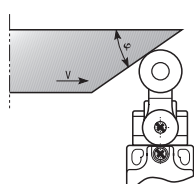
Contact element	
1NO+1NC slow action 	01
2NC slow action 	04
Weight	kg
Pack	pcs
H	mm

standard article

Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E10001FBI	E10001FBM	E10101FBI	E10101FBM	
E10004FBI	E10004FBM	E10104FBI	E10104FBM	
0,22	0,305	0,22	0,305	
1	1	1	1	
132 ÷ 172	129,5 ÷ 169,5	132 ÷ 172	129,5 ÷ 169,5	



Drive cam operating parameters





φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

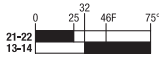
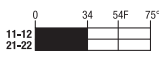
Drive forces	
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

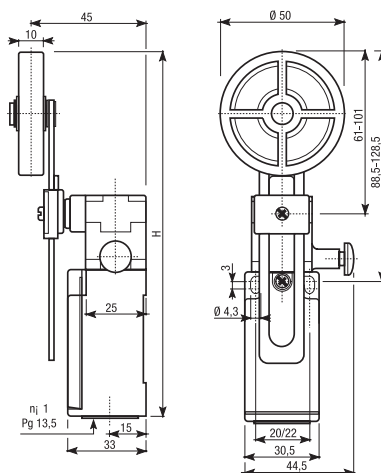


Ø50 mm rubber roller variable length lever

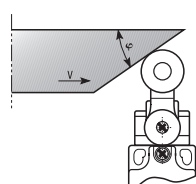
Contact element	
1NO+1NC slow action 	01
2NC slow action 	04
Weight	kg
Pack	pcs
H	mm

 standard article

Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E10001FBI50	E10001FBM50	E10101FBI50	E10101FBM50	
E10004FBI50	E10004FBM50	E10104FBI50	E10104FBM50	
0,24	0,325	0,24	0,325	
1	1	1	1	
146 ÷ 186	143,5 ÷ 183,5	146 ÷ 186	143,5 ÷ 183,5	



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm



Ø50 mm rubber roller adjustable lever

 standard article

	0	34	54F	75
11-12				
21-22				



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces	
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

Safety switches with reset - **E200** series


A

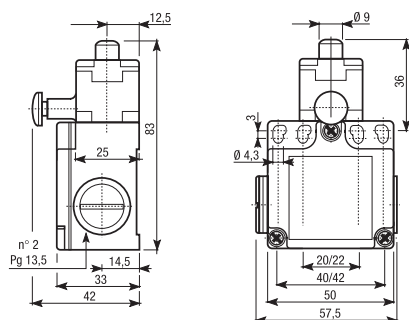


Steel plunger

Contact element	
1NO+1NC scatto lento	01
2NC scatto lento	04
Weight	kg
Pack	pcs

 standard article


Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	
Plastic body	Plastic body	
E20001ABI	E20101ABI	
E20004ABI	E20104ABI	
0,18		
1		

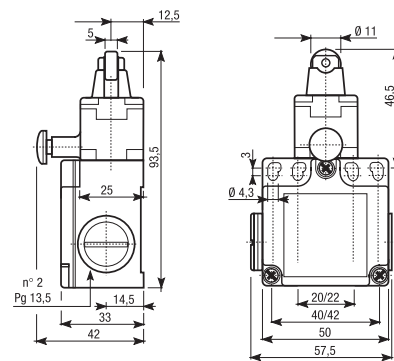


B

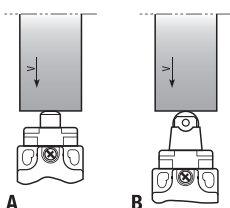


Steel roller plunger

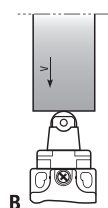
Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head	Metal head	
Plastic body	Plastic body	
E20001BBI	E20101BBI	
E20004BBI	E20104BBI	
0,185		
1		



Drive cam operating parameters

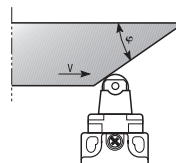


A



B

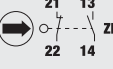
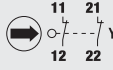
	V max (m/s)
Actuators A	0,5
Actuators B	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N



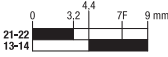
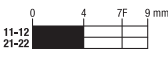
φ	V max (m/s)
20°	1
30°	0,5
Drive forces	
Minimum command force	9 N
Minimum forced opening force	28 N

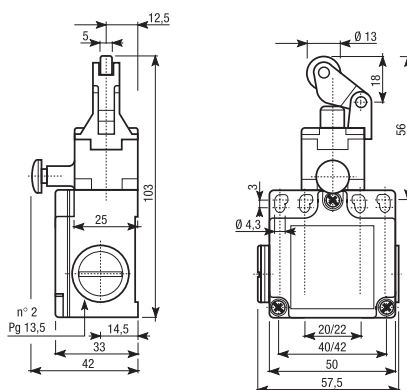


Thermoplastic roller lever, side actuation

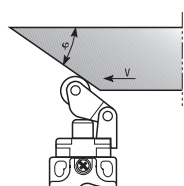
Contact element	
1NO+1NC slow action 	01
2NC slow action 	04
Weight	kg
Pack	pcs

 standard article

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	
E20001CBI	E20101CBI	
E20004CBI	E20104CBI	
0,19		
1		



Drive cam operating parameters





φ	V max (m/s)
20°	1
30°	0,5

Drive forces

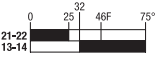
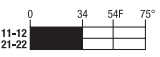
Minimum command force	9 N
Minimum forced opening force	26 N

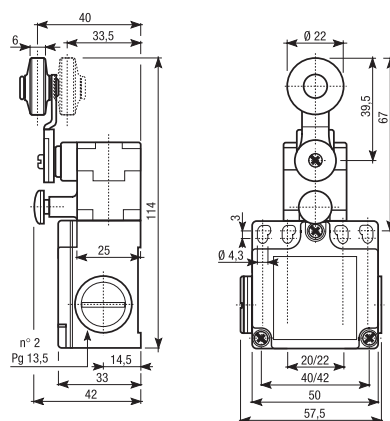


Thermoplastic roller lever

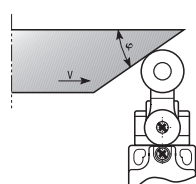
Contact element	
1NO+1NC slow action 	01
2NC slow action 	04
Weight	kg
Pack	pcs

 standard article

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	
E20001EBI	E20101EBI	
E20004EBI	E20104EBI	
0,215		
1		

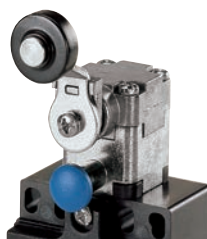


Drive cam operating parameters

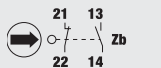
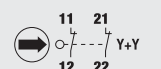


φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

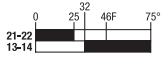
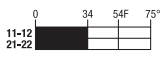
Drive forces	
Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

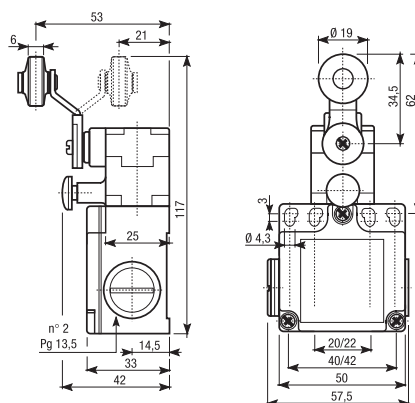


Thermoplastic roller lever

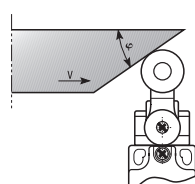
Contact element	
1NO+1NC slow action 	01
2NC slow action 	04
Weight	kg
Pack	pcs

 standard article

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Metal head Plastic body	Metal head Plastic body	
E20001BI	E20101BI	
E20004BI	E20104BI	
0,215		
1		



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Drive forces

Minimum command force	15 Ncm
Minimum forced opening force	35 Ncm

Key actuation safety switches



5 way key actuation safety switches

The **5 way key** actuated safety switches are used on gates, sliding doors and other devices to protect the access to dangerous parts of machines. The key is applied to the moving protection barrier so it has to be removed from the switch on every opening thus operating a positive opening of the NC contact.

This kind of actuator is available on the **E100-E200** series with thermoplastic or metal body and thermoplastic head, with **IP66** protection degree.

Safety for the operator

The command circuit authorizing the start-up of the process is closed only by the complete insertion of the safety key, and the circuit is opened when this is removed. This prevents intentional tampering with the machine by the operator until the safety protection device is opened.

Resistance to vibrations

The device has been designed to permit limited key vibrations in case of mechanical disturbances.

In conformity with standards:

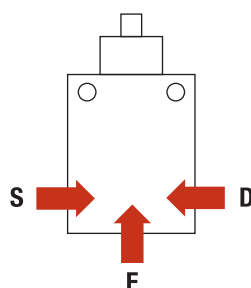
IEC EN 60947-5-1 • EN 60947-1 • UNI EN 1088
EN ISO 12100-1 • EN ISO 12100-2 • IEC 529
EN 60529 • VDE 0660-200 • VDE 0113 • UNI EN 13850

Cable entry

	F	S	D
E100	•		
E200		•	•
E300	•	•	•
E400	•		

Thread

	Series part no.	
Pg 13,5	E100	E200
M20x1,5	E101	E201
1/2" NPT (on request)	E102	E202
Pg 11 (on request)	E103	
M16x1,5 (on request)	E104	
M12 connector (on request)	E100/M12	E200/M12



Fixing

E100	20/22 mm
E200	20/22 and 40/42 mm

Applications:

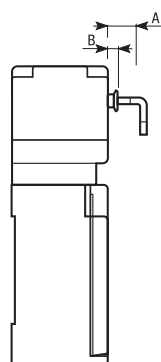


Machines with safety barriers

Instructions for correct installation

Assembly of the driver on a rotating protective device (allow space for the pivot radius).

Key type	Horizontal mouting	Vertical mounting
Z5 Z5-1 Z5-3 Z5-4		
Z52		

**Recommended position for correct operation:**

A (contact switching point) = 4 mm

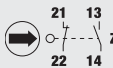
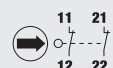
B (actuator limit switch point) = 0 ÷ 1 mm max

The contacts remain closed from point A to point B (4 mm max travel)

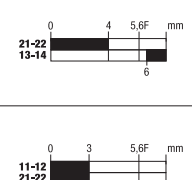
Never use the safety switch as a mechanical travel stop

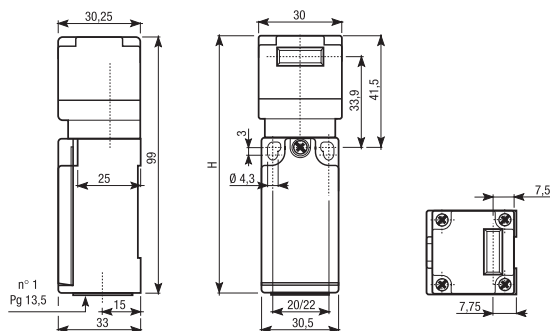


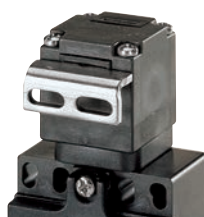
E100 5 way key

Contact element	
1NO+1NC slow action 	01
2NC slow action 	04
Weight	kg
Pack	pcs
H	mm

 standard article

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Plastic head Plastic body	Plastic head Plastic body	
E10001S5I	E10101S5I	
E10004S5I	E10104S5I	
0,115	0,115	
1	1	
99	99	



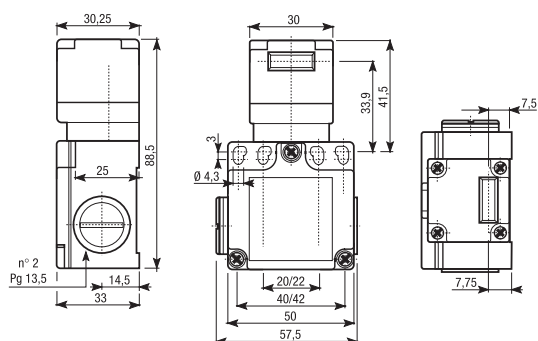


E200 5 way key

Contact element	
1NO+1NC slow action 	01
2NC slow action 	04
Weight	kg
Pack	pcs

standard article

Cable entry		Contact travel
PG 13,5	M20 x 1,5	
Plastic head Plastic body	Plastic head Plastic body	
E20001S5I	E20101S5I	
E20004S5I	E20104S5I	
0,14	0,14	
1	1	



Pull wire safety switches



Pull wire safety switches

Pull wire safety switches are essential for the continuous control of a long line of machines or parts extending over a considerable length. They guarantee the safety of the operator, who is able to control the immediate stop of the machinery from any point in the operating zone when no or few automatic systems to cut off the power supply are present. This kind of actuator is available on the series **E100-E200-E400** with thermoplastic or metal body and metal head, with **IP66** protection degree.

Wire tension indicator

For the exact cable tension, check that the notch on the drive shaft is in line with the head.



Reset button

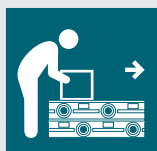
Block reset that guarantees the locking of the NC head in the open position after a single operation.



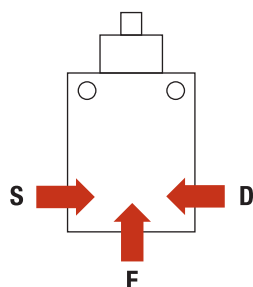
In conformity with standards:

IEC EN 60947-5-1 • EN 60947-1 • UNI EN 1088
EN ISO 12100-1 • EN ISO 12100-2 • IEC 529
EN 60529 • VDE 0660-200 • VDE 0113 • UNI EN 13850

Applications:



Long lines of machines:
conveyor belts,
textile machines,
printing machines,
etc...



Fixing

E100	20/22 mm
E200	20/22 and 40/42 mm
E300	40 mm
E400	30 mm

Cable entry

	F	S	D
E100	•		
E200		•	•
E300	•	•	•
E400	•		

Thread

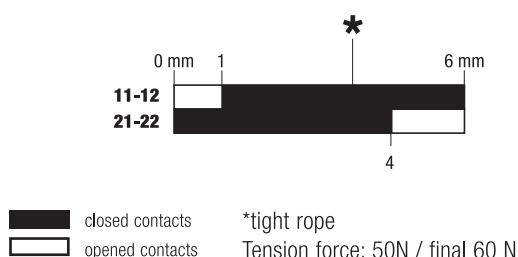
Pg 13,5
M20x1,5
1/2" NPT (on request)
Pg 11 (on request)
M16x1,5 (on request)
M12 connector (on request)

Series part no.

E100	E200	E300	E400...
E101	E201	E301	E401...
E102	E202	E302	E402...
E103			
E104			
E100/M12	E200/M12	E300/M12	E400/M12

Dedicated contact block

Dedicated contact block 08 with longer travel for pull-wire switches: cable vibrations will have no influence on the correct operation of the limit switch.

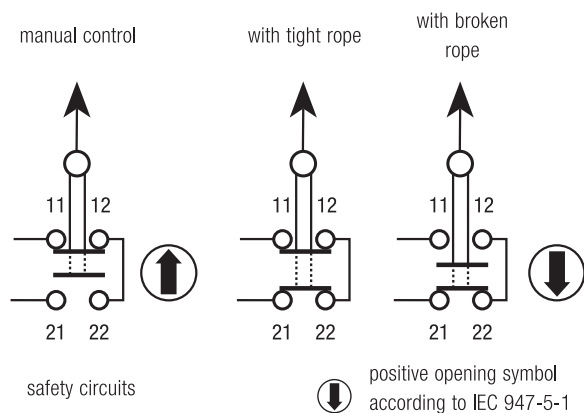


* Installation travel: any cable vibrations will have no influence on the correct operation of the limit switch.

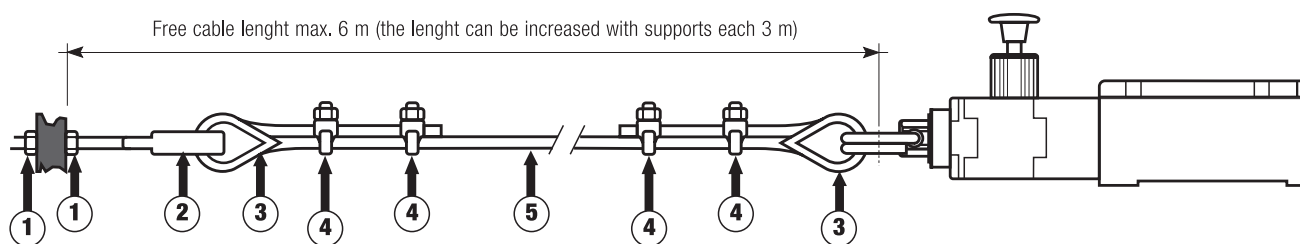
Indications for correct operation

The switch has to be fitted in such a way that the cable is sufficiently taut and closes both contacts.

For the exact cable tension, check that the notch on the drive shaft is in line with the head.

Contacts position during operation for contact block 08

NOTE: the contacts 11-12 and 21-22 have to be connected in series

**Examples of connection**

Free cable length max. 6 m (increase the length with supports each 3 m).

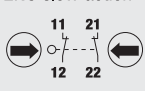
Notes

- ① BM 10 DIN 439 hexagonal nut
- ② part no. 005 - BM 10 DIN 439 ring with thread
- ③ part no. R05 - B - 5 mm DIN 6899 noose
- ④ part no. M05 - 5 mm DIN 1480 clamp
- ⑤ part no. F05 - PVC steel cable, Ø 5 mm

Pull wire safety switches

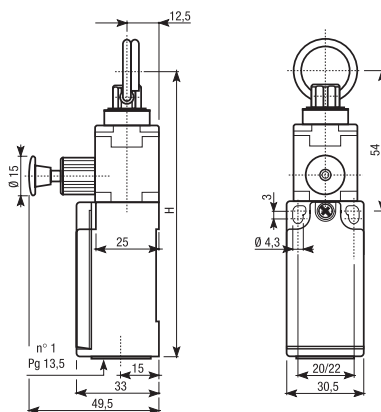


E100

Contact element	
<p>2NC slow action</p>  <p>08</p>	
Weight	kg
Pack	pcs
H	mm

 standard article

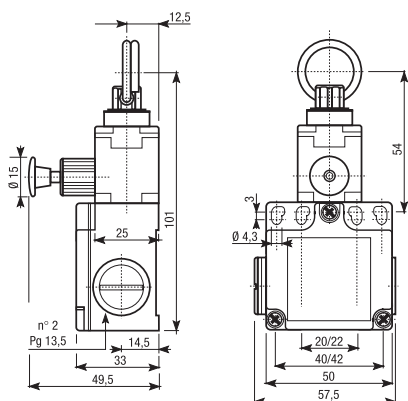
Cable entry				
PG 13,5		M20 x 1,5		<div><div><div>mm 6</div><div>4</div><div>*</div><div>1</div><div>mm 0</div></div><div><div>11-12</div><div>21-22</div></div></div>
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	
E10008TBI	E10008TBM	E10108TBI	E10108TBM	
0,195	0,29	0,195	0,29	
1	1	1	1	
111,5	109	111,5	109	



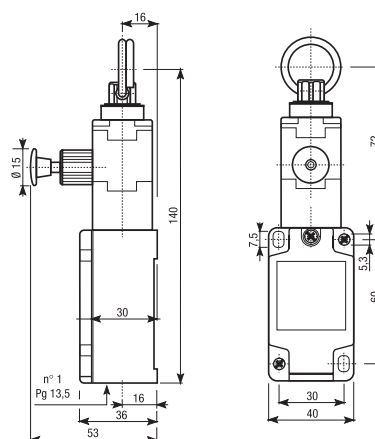
**E200**

Contact element		Cable entry	
		PG 13,5	M20 x 1,5
2NC slow action 08		Metal head Plastic body	Metal head Plastic body
		E20008TBI	E20108TBI
Weight	kg	0,22	
Pack	pcs	1	

standard article

**E400**

Cable entry				<div><div><div>mm 6</div><div>4</div><div>*</div><div>1</div><div>mm 0</div></div><div><div>11-12</div><div>21-22</div></div></div>
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	
E40008TBI	E40008TBM	E40108TBI	E40108TBM	
0,24	0,465	0,24	0,465	
1		1		



Hinges operating safety switches



Hinges operating safety switches

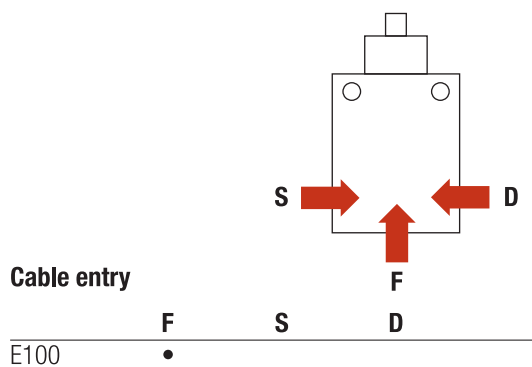
Safety switches for hinges are devices used to guarantee operator safety, applied to machines fitted with protection barriers. Metal shaft switches are ideal for the control of doors and gates, with application directly to the hinge. This kind of actuator is available on the series **E100** with thermoplastic or metal body and metal head, with **IP66** protection degree.

Reduced angle of operation

they guarantee stopping of dangerous movement when the lever reaches an angle of **4° 30'**.

In conformity with standards:

IEC EN 60947-5-1 • EN 60947-1 • UNI EN 1088
EN ISO 12100-1 • EN ISO 12100-2 • IEC 529 • EN 60529
VDE 0660-200 • VDE 0113 • UNI EN 13850



Fixing

E100	20/22 mm
------	----------

Thread

Thread	Series part no.
Pg 13,5	E100
M20x1,5	E101
1/2" NPT (on request)	E102
Pg 11 (on request)	E103
M16x1,5 (on request)	E104
M12 connector (on request)	E100/M12

Notes for installation

Instructions for correct installation:

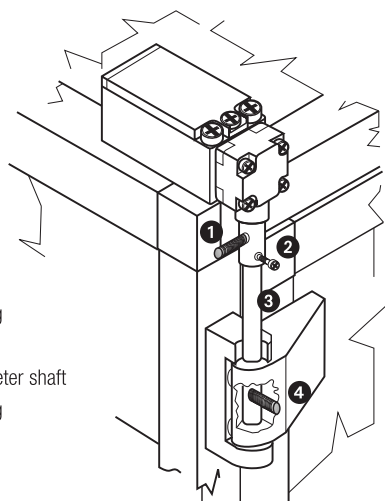
- Fix the switch in place to the door frame with two screws
Connect the safety circuit to the NC contact (21-22, 01/11-12, 04)
- Insert an 8 mm diameter shaft **3** protruding from the door hinge, in the shaft of the switch and fix it in place temporarily with the M4 screw **2**
- Adjust the opening point of the NC contact by rotating the shaft to reduce the standard opening angle (5°)
- Drill the pin **3** through one of the two holes in the shaft and fix it in place with the locking plug **1**

Applications:



Machines with safety barriers

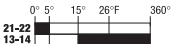
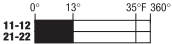
- 1 Locking plug
- 2 M4 screw
- 3 8 mm diameter shaft
- 4 Locking plug

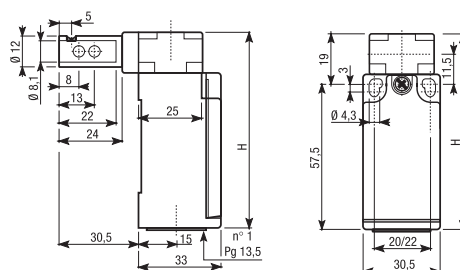



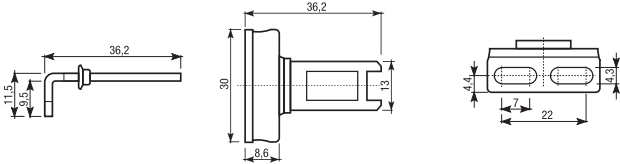

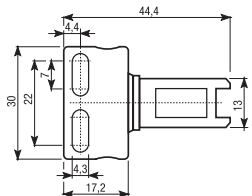

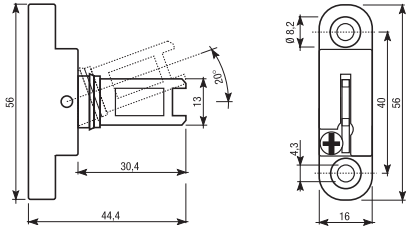

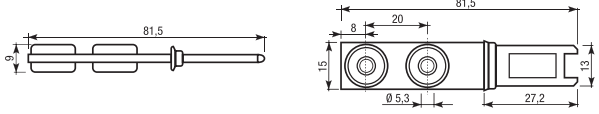

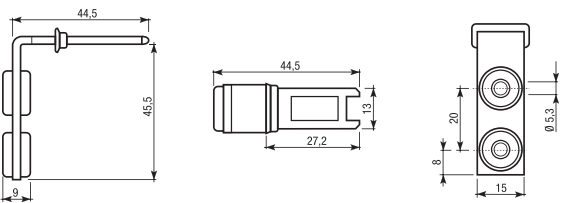





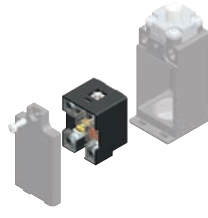
**E100**

Contact element	
1NO+1NC slow action 	01
2NC slow action 	04
Weight	kg
Pack	pcs
H	mm

standard article

Cable entry				
PG 13,5		M20 x 1,5		
Metal head Plastic body	Metal head Metal body	Metal head Plastic body	Metal head Metal body	Contact travel
E10001SCI	E10001SCM	E10101SCI	E10101SCM	
E10004SCI	E10004SCM	E10104SCI	E10104SCM	
0,125	0,215	0,125	0,215	
1	1	1	1	
76,5	74	76,5	74	



	Part no.	Description	Pack	Weight conf. (kg)	Dimensions
	Z5	Angle key mounting perpendicular to operating direction (key provided with the switch)	5	0,128	
	Z51	Straight key	5	0,128	
	Z52	Adjustable key	5	0,153	
	Z53	Straight key	5	0,128	
	Z54	Angle key mounting perpendicular to operating direction	5	0,128	
	M05	Clamp for Ø 5mm cable	5	0,140	
	R05	Wire rope thimble, shape A, for rope Ø5 mm - DIN 6899	5	0,050	
	T05	Wrought iron tension screw M6 x 60	5	0,320	
	O05	M8 eyelet with thread	5	0,155	
	F05	Ø 5mm Red safety cable	1	21,025	
	ELEM01	Slow action 1NO+1NC	5	0,485	
	ELEM04	Slow action 2NC	5	0,485	
	ELEM08	Slow action 2NC	5	0,485	

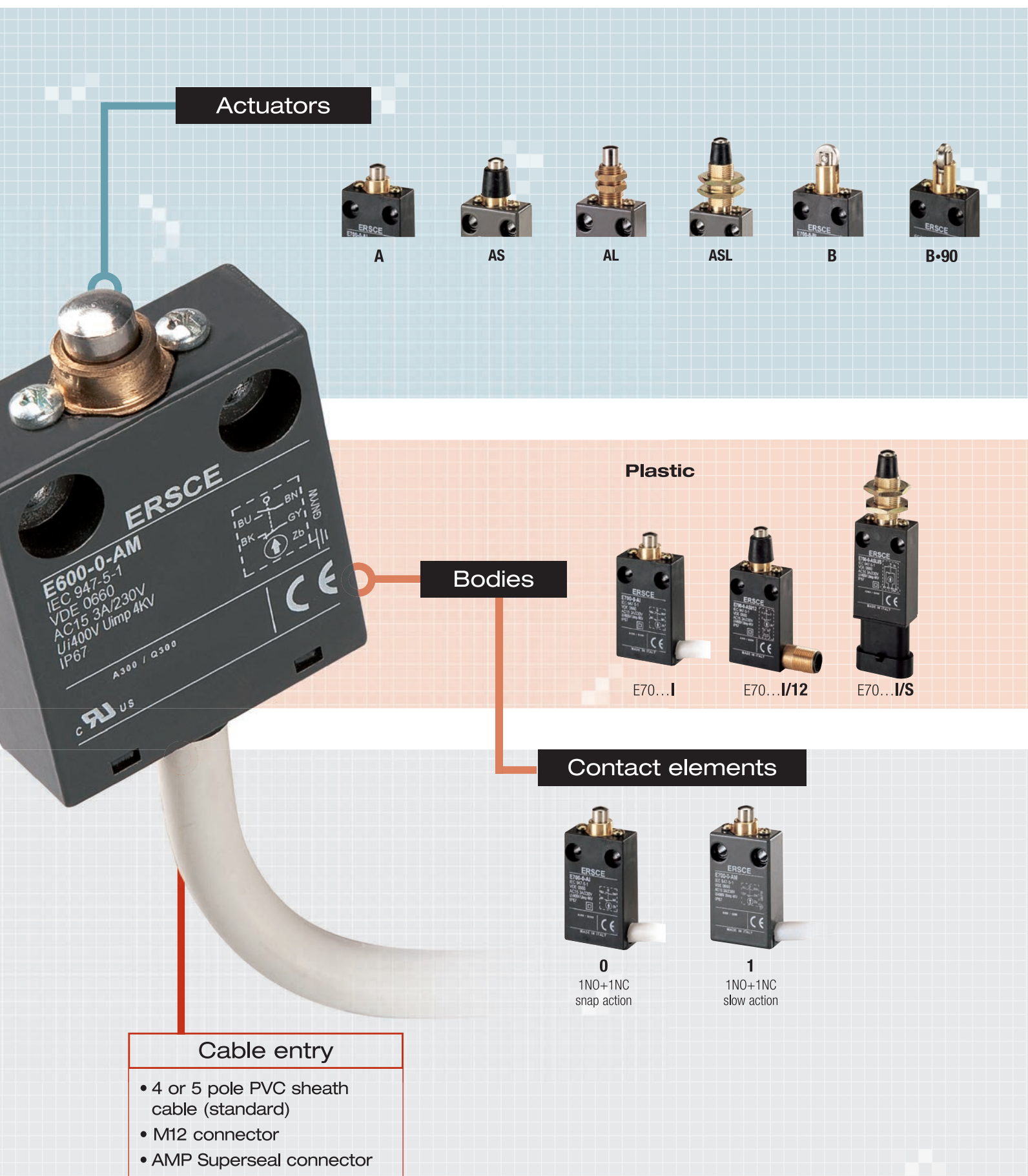
 standard article



Pre wired limit switches

E700
series

E600
series





BL



BL-90



E

Metal



E70...M



E70...M/12



E60...M



E60...M/12

Part no. structure

Series

- E60** cable entry on the bottom
- E70** cable entry on the side

Contact element

- 0** PVC cable (CEI 20-20)
- 1** M12 connector
- 2** AMP Superseal connector

Contact element

- 0** 1NO+1NC snap action
- 1** 1NO+1NC slow action

Body material

- I** Thermoplastic
- M** Metal

Type of actuator

- A** Steel plunger
- B** Steel roller plunger
- ...

Note: Please verify the effective availability of a product before ordering.

Technical data

					TYPE	E600 / E700
Maximum operating frequency					operat./hour ¹	3600
Insulation resistance			500 V DC		MΩ	100
Dielectric strenght			50/60 Hz for 1'		V AC	2500 ²
Rated insulation voltage	Ui	IEC947-5-1			V AC	500
Rated thermal current	Ithe	IEC947-5-1			A	10
Rated operating current	Category AC15 A300	Ie	IEC947-5-1/EN60947-5-1	24V	A	6
				125V	A	5
				230 V	A	3
				400 V	A	1,8
Contact resistance		IEC255-7 cat.3	initial value		mΩ	25
Short circuit protective devices		IEC269 (IEC947-5-1)				
		fuse type gL or gG			A	6
Rated conditionals short circuit current					A	1000
Pollution degree					A	3
Protection degree		EN 60529				IP67
Protection against electric shock				plastic	class	II
				metal	class	I
Vibration resistance		IEC68-2-6			mm	0,35 ± 15% (10 ÷ 55 Hz ± 1 Hz)
Shock resistance		IEC68-2-27	11ms		g	30
Mechanical life					cycles	10.000.000
Electric life		at 250V AC 6A with resistance load cosφ=1			cycles	500.000
		at 250V AC 6A with inductive load cosφ=0,4			cycles	500.000
					cycles	
Distance between contacts		Snap action type			mm	2x2
		Low action type			mm	2x1,25
Cable		Model / Section			mm ²	V4 - 5F - 4 o 5x0,75 (19 AWG)
		Colors				Brown-Blue (NO); Black-Grey (NC) Yellow/Green (GND)
		Sheath color				Grey RAL 7035
		Lenght			m	2
		Traslation speed			m/min	60
		Operating voltage			V	300/500
Air ambient temperature			operational		°C	-35 ÷ +85 (without formation of ice)
Relative umidity			operational			95% max

¹ One operation cycle means two movements, one to close and one to open as required by EN 60947-5

² Between terminals of the same polarity; between terminals with different polarity; between live mechanical parts and ground; between live mechanical parts and non-current-carrying metal parts

Certifications and Approvals



IEC EN 60947

E600

•

+

E700

•

+

- UL approval file E72861
- Approved
- + Conforms to requirements

E600-E700 series

- Cable with PVC sheath CEI 20-20 (other cables or connectors on request)
- Cable lenght 2m (other lenght on request)
- IP67 protection degree

E600 series:

- Metal body
- Metal actuators
- Cable entry on the bottom of the switch

E700 series:

- Plastic or Metal body
- Metal actuators
- Cable entry on the side of the switch

In conformity with standards:

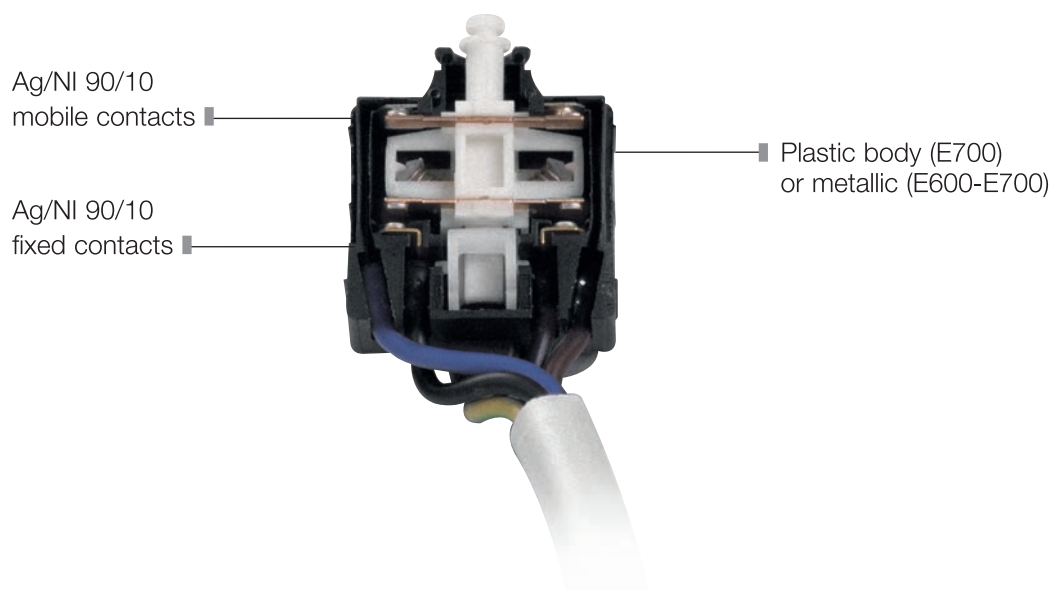
IEC EN 60947-5-1 • EN 60947-1 • UNI EN 1088 • EN ISO 12100-1
EN ISO 12100-2 • IEC 529 • EN 60529 • VDE 0660-200 • VDE 0113

Series	Product	Fixing holes
E600		
E700		

Contact elements

The E700 and E600 ranges have reduced dimension contact elements, with four terminal dual switching and galvanically separated mobile contacts.

The drives are by snap action '0' and slow action '1', 1NO + 1NC, positive opening.



Overturning levers

All the levers can be fastened on switches on straight or reverse side, to obtain two different work plans of the lever.

Actuation head

■ Rectilinear actuation



A
Steel Plunger



AS
Steel Plunger
with rubber gasket



B
Steel roller plunger



B•90
Steel roller plunger,
turned 90°



AL
Steel Plunger



ASL
Steel Plunger
with rubber gasket



BL
Steel roller plunger



BL•90
Steel roller plunger,
turned 90°

■ Angular actuation

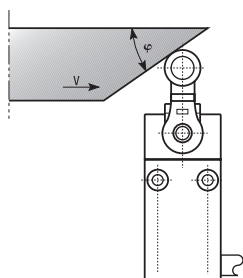


E/EA
Side rotary lever
with plastic or steel roller

■ Operating features

Roller lever

Actuators: E



Drive cam operating parameters

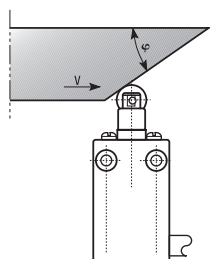
ϕ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60°-90°	0,25

Drive force

Minimum command force	4 Ncm
Minimum forced opening force	8 Ncm

Roller lever, side travel

Actuators: B-B/90°-BL-BL/90°



Drive cam operating parameters

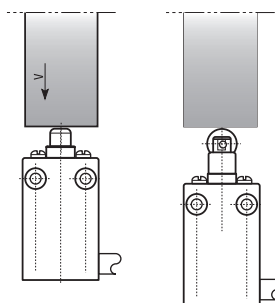
ϕ	V max (m/s)
30°	0,1
20°	0,3

Drive force

Minimum command force	8 N
Minimum forced opening force	18 N

Plunger, Roller plunger, vertical travel



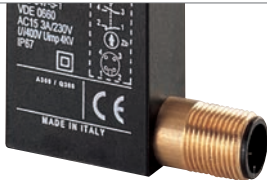


Actuators: A-AS-AL-B-B/90°-BL-BL/90°

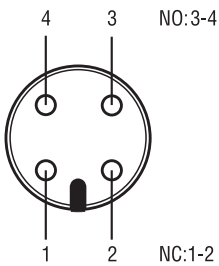
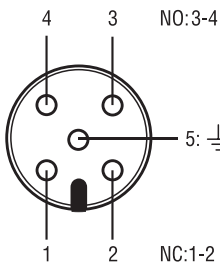
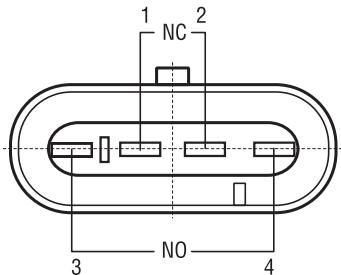
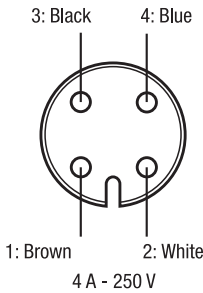
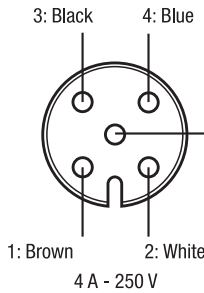
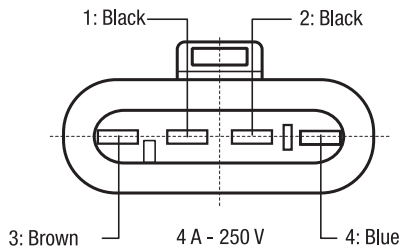
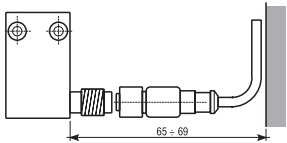
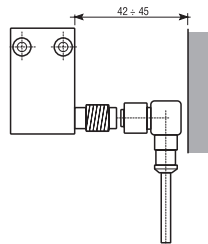
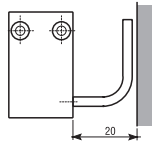
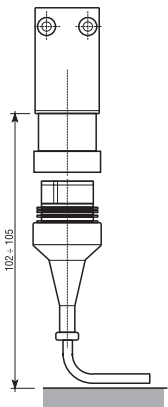


Drive cam operating parameters

V max (m/s)
0,5

Connections

Series	Nr. poles	
Standard PVC cable (CEI 20-20)	4 poles	
	4 poles + GND	
PVC - UL/CSA cable	4 poles	
	4 poles + GND	
PUR - UL/CSA cable	4 poles	
	4 poles + GND	
M12 connector	4 poles	
	4 poles + GND	
AMP Superseal connector	4 poles	

Type	Diagram	Type	Diagram
Switches with 4 pole M12x1 male connectors	 <p>4 poles</p>  <p>5 poles</p>	Switches with 4 pole AMP superseal male connectors	
4 pole M12x1 female connectors	 <p>4 poles</p>  <p>5 poles</p>	4 pole AMP superseal female connectors	
Type	Connection distances	Type	Connection distances
With straight 12 Ø connector		With bent 12 Ø connector	
With cable		With AMP superseal connector	

E700 series

limit and safety switches

A

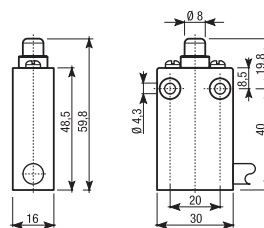


Steel plunger

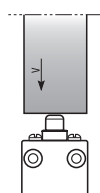
Contact element	
1NO+1NC snap action	0
1NO+1NC slow action	1
Weight	kg
Pack	pcs
Cable length	m

standard article

Plastic	Metal	Contact travel
E7000AI	E7000AM	
E7001AI	E7001AM	
0,288	0,327	
	1	
	2	



Drive cam operating parameters



V max (m/s) 0,5

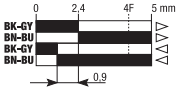
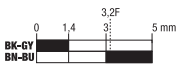
B

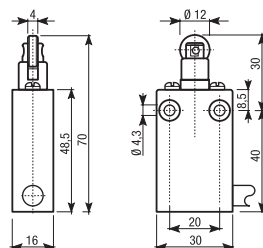


Steel roller plunger

Contact element	
1NO+1NC snap action	0
1NO+1NC slow action	1
Weight	kg
Pack	pcs
Cable length	m

 standard article

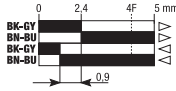
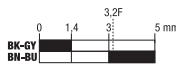
Plastic	Metal	Contact travel
E7000BI	E7000BM	
E7001BI	E7001BM	
0,296	0,331	
1		
2		

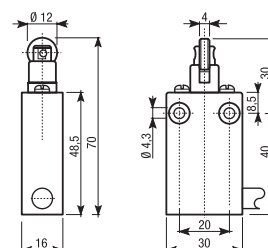


B•90

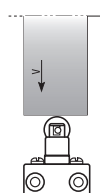


Steel roller plunger turned 90°

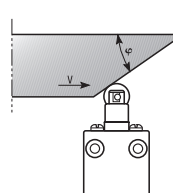
Plastic	Metal	Contact travel
E7000BI90	E7000BM90	
E7001BI90	E7001BM90	
0,296	0,331	
1		
2		



Drive cam operating parameters



V max (m/s) 0,5



φ	V max (m/s)
20°	0,3
30°	0,1

Min. force (N)	
for tripping	8
for positive opening	18



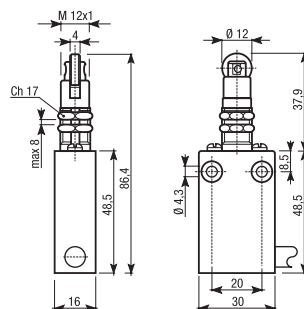
BL

Steel roller plunger,
vertical actuation

Contact element	
1NO+1NC snap action	0
1NO+1NC slow action	1
Weight	kg
Pack	pcs
Cable length	m

standard article

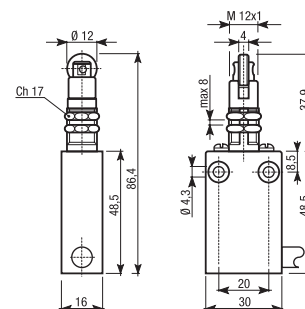
Plastic	Metal	Contact travel
E7000BLI	E7000BLM	
E7001BLI	E7001BLM	
0,306	0,348	
1		
2		



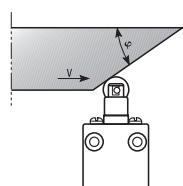
BL•90

Steel roller plunger turned 90°

Plastic	Metal	Contact travel
E7000BLI90	E7000BLM90	
E7001BLI90	E7001BLM90	
0,306	0,348	
1		
2		

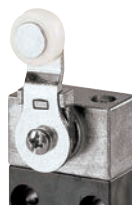


Drive cam operating parameters


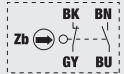


φ	V max (m/s)
20°	0,3
30°	0,1

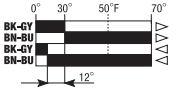
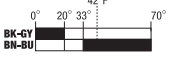
Min. force (N)	
for tripping	8
for positive opening	18

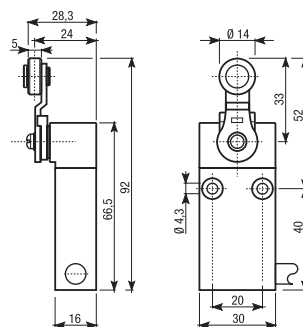


Thermoplastic roller lever

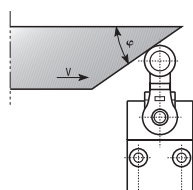
Contact element	
1NO+1NC snap action 	0
1NO+1NC slow action 	1
Weight	kg
Pack	pcs
Cable length	m

 standard article

Plastic	Metal	Contact travel
E7000EI	E7000EM	
E7001EI	E7001EM	
0,342	0,381	
	1	
	2	



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Min. force (cNm)	
for tripping	4
for positive opening	8

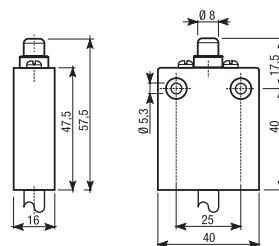


Steel plunger

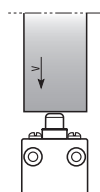
Contact element	
1NO+1NC snap action 	0
1NO+1NC slow action 	1
Weight	kg
Pack	pcs
Cable length	m

standard article

Metal	Contact travel
E6000AM	
E6001AM	
0,350	
1	
2	



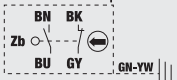
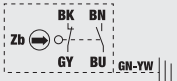
Drive cam operating parameters



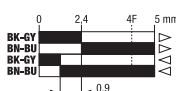
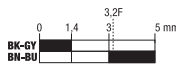
V max (m/s) 0,5

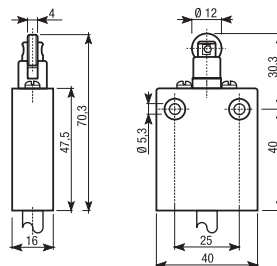


Steel roller plunger

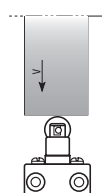
Contact element	
1NO+1NC snap action  BN BK Zb BU GY GN-YW	0
1NO+1NC slow action  BK BN Zb GY BU GN-YW	1
Weight	kg
Pack	pcs
Cable length	m

 standard article

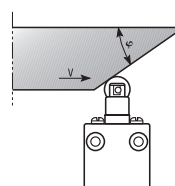
Metal	Contact travel
E6000BM	
E6001BM	
0,361	
1	
2	



Drive cam operating parameters



V max (m/s) 0,5



φ	V max (m/s)
20°	0,3
30°	0,1

Min. force (N)	
for tripping	8
for positive opening	18

B•90

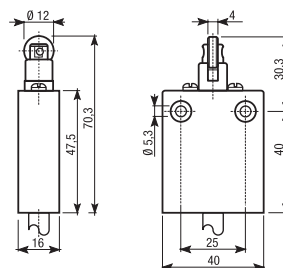


Steel roller plunger turned 90°

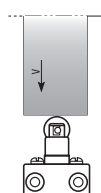
Contact element	
1NO+1NC snap action 	0
1NO+1NC slow action 	1
Weight	kg
Pack	pcs
Cable length	m

standard article

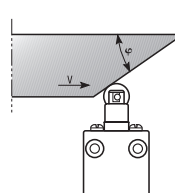
Metal	Contact travel
E6000BM90	
E6001BM90	
0,361	
1	
2	



Drive cam operating parameters



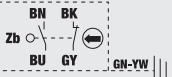
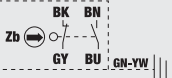
V max (m/s) 0,5



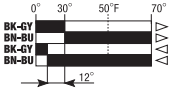
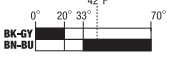
φ	V max (m/s)
20°	0,3
30°	0,1
Min. force (N)	
for tripping	8
for positive opening	18

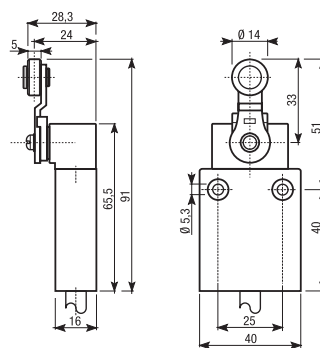


Thermoplastic roller lever

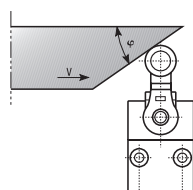
Contact element	
1NO+1NC snap action 	0
1NO+1NC slow action 	1
Weight	kg
Pack	pcs
Cable length	m

 standard article

Metal	Contact travel
E6000EM	
E6001EM	
0,408	
1	
2	



Drive cam operating parameters



φ	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

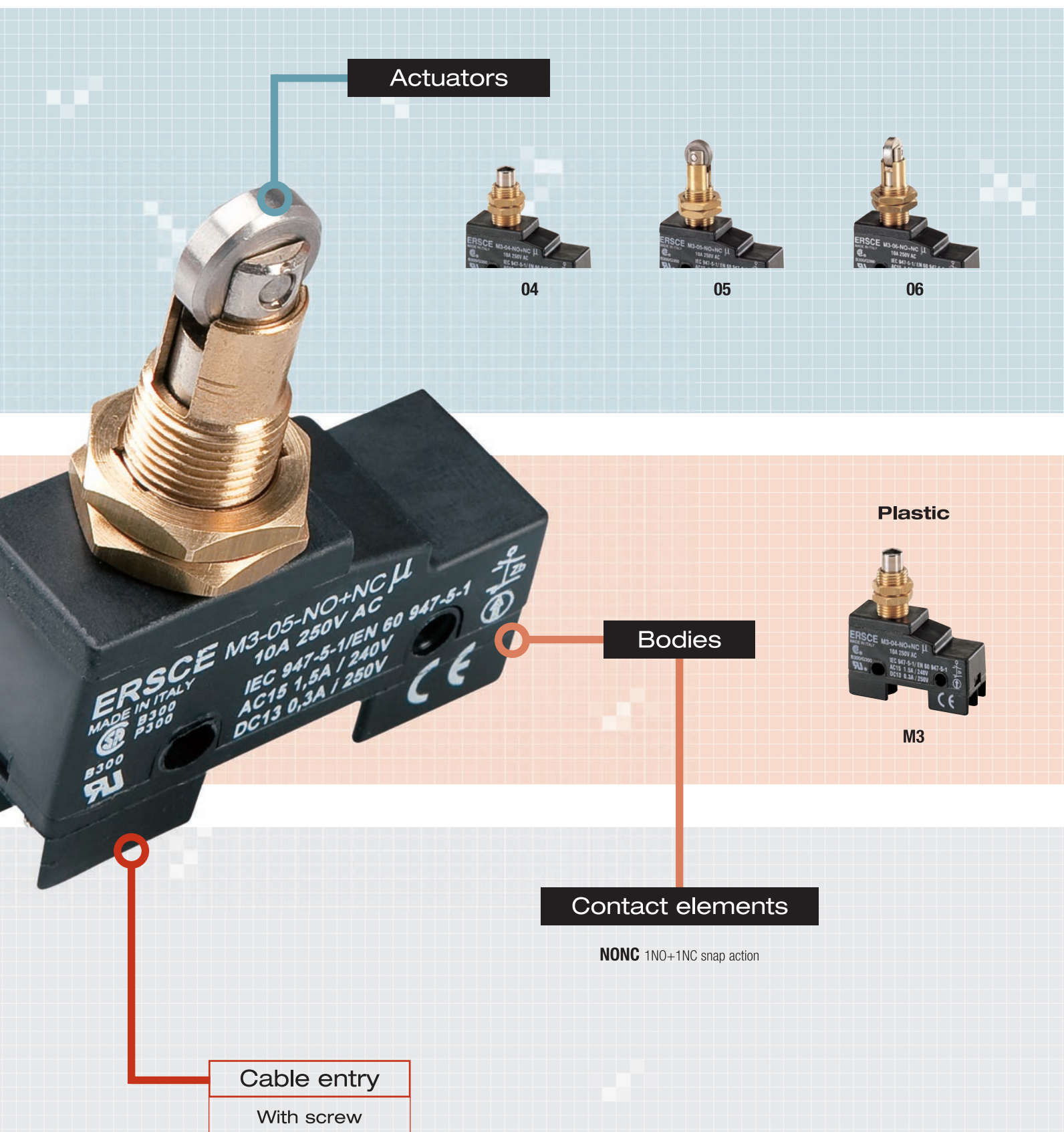
Min. force (cNm)	
for tripping	4
for positive opening	8



Microswitches

M3
series

Selection diagram





08

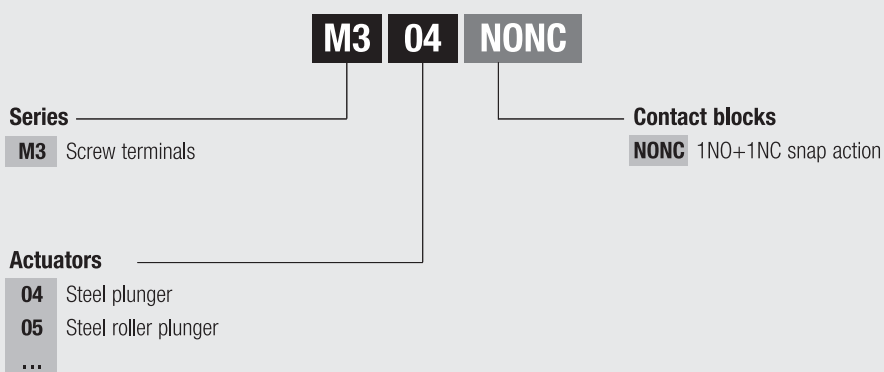
09

11

13

14

Product code structure



Note: Please verify the effective availability of a product before ordering.

Technical information

				TIPO	M3
Maximum operating frequency				operat./hour ¹	1800
Insulation resistance			500 V DC	MΩ	100
Dielectric strenght			50/60 Hz per 1'	V AC	2500 ²
Rated insulation voltage	Ui	IEC947-5-1		V AC	250
Rated thermal current	Ithe	IEC947-5-1		A	10
Rated operating current	Category AC15 A300	Ie IEC947-5-1/EN60947-5-1	24V	A	5
			125V	A	3
			230 V	A	1,5
Contact resistance		IEC255-7 cat.3	initial value	mΩ	25 max
Short circuit protective devices		IEC269 (IEC947-5-1) fuse type gL or gG		A	3
Pollution degree		IEC947-5-1		A	3
Protection degree		EN 60529			IP40
Vibration resistance		IEC68-2-6	mm		0,35 ± 15% (10 ÷ 55 Hz ± 1 Hz)
Shock resistance		IEC68-2-27	11ms	g	30
Mechanical life				cycles	15.000.000
Electric life		at 250V AC 6A with resistance load cosφ=1		cycles	500.000
		at 250V AC 6A with inductive load cosφ=0,4		cycles	500.000
Terminals		Type			Screw with combined notch and retractable plate (notch Ph. Size 1)
		Screw			M3,5
		Protection degree			IP00 (IP40 with terminals cover)
		Material			Steel class 8,8 / Galvanized
		Max. screw tightening torque			120 (12,24)
		Max connecting capacity	rigid cable	mm²	2x1,5
			flexible cable	mm²	2x1,5
			with prod terminal		1x1,5
Terminal numbering					In accordance with EN50013
Air ambient temperature			operational	°C	-25 ÷ +85 (without formation of ice)
Relative umidity			operational		95% max

¹ One operation cycle means two movements, one to close and one to open as required by EN 60947-5

² Between terminals with different polarity; between live mechanical parts and ground; between live mechanical parts and non-current-carrying metal parts

Certifications and Approvals



- UL approval file E72861
- CSA approval file 026716-0-00
- Approved
- + Conforms to requirements

**M3
series**

- Extremely compact
- Plastic body
- Metal actuators
- Galvanically separated contacts type Zb
- Gold plated contacts (on request)
- Contact elements 1NO+1NC snap action with positive opening of the NC contact in accordance to IEC EN 60947-5-1 and VDE 0660-200

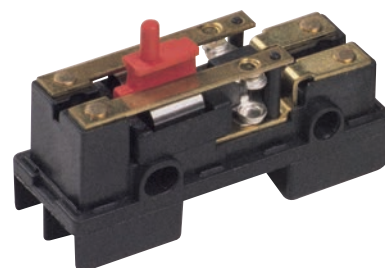
Series	Product	Fixing holes
M3		

Galvanically separated contacts type Zb

The NO and NC contacts are galvanically separated with positive opening: it is possible to use the contacts independently.

**High performance contacts**

Ag/Ni.



Actuation heads

■ Plunger actuation



04

Steel and
plunger Ø 8,3



05

Steel roller
plunger



06

Steel roller
plunger
turned 90°

■ Lever actuation



08

Lever,
length 54 mm



09

Lever,
length 63.5 mm



10

Steel and lever



11

Thermoplastic
roller lever,
length 26,6



13

Thermoplastic
roller lever,
length 37



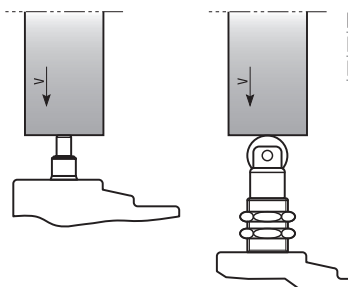
14

Thermoplastic
roller lever,
length 50,5

■ Operating characteristics

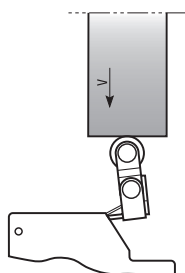
Plungers, roller plunger, vertical travel

Actuators: M...04-05-06



Drive force	
Minimum operating force	4 N
Minimum positive opening force	16 N

Levers, roller lever, vertical action



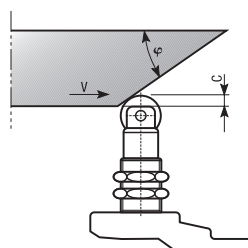
Drive forces	
Actuators: M...07-11-16	
Minimum operating force	2 Ncm
Minimum positive opening force	13 Ncm

Actuators : M...08-13	
Minimum operating force	1,6 Ncm
Minimum positive opening force	12 Ncm

Actuators : M...09-14	
Minimum operating force	1,3 Ncm
Minimum positive opening force	11 Ncm

Roller plunger, side travel

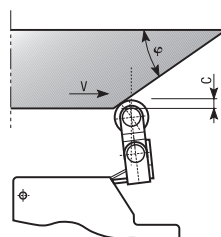
Actuators: M...05-06



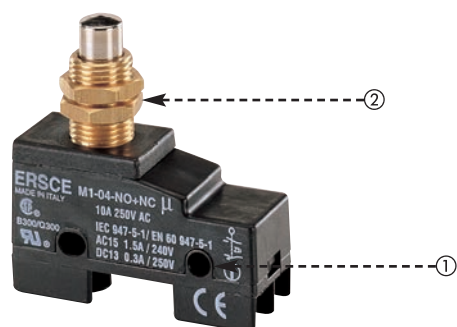
Operating parameters of the drive cam	
φ	V max (m/s)
30°	0,2
20°	0,5

Roller lever, side action

Actuators: M...11-13-14



Operating parameters of the drive cam	
φ	V max (m/s)
30°	0,5
45°	0,3
60°	0,2



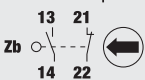
Tightening torque

- ① Tighten the fixing screws of the appliance with a torque of 1.2÷1.5 Nm
- ② Max tightening torque 4 Nm for drives fixed in place with hexagonal nuts

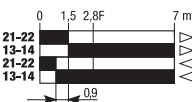
04

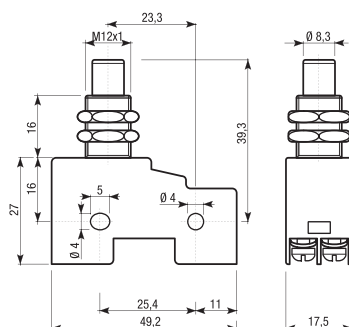


Steel plunger Ø8,3 mm

Contact element	
1NO+1NC snap action	
	
Weight pack	kg
Pack	pcs

 standard article

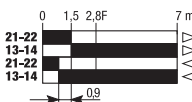
Plastic	Contact travel
M304N0NC	
0,925	
5	

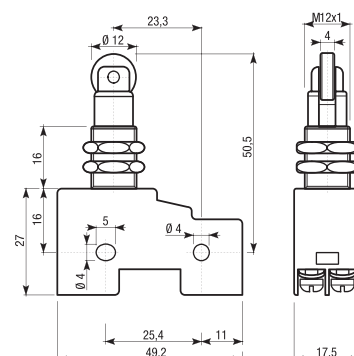


05

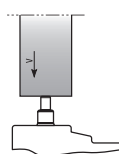


Steel roller plunger

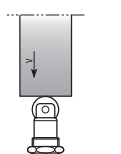
Plastic	Contact travel
M305N0NC	
1,105	
5	



Drive cam operating parameters



04



05

Min. force (N)	
for tripping	4
for positive opening	16

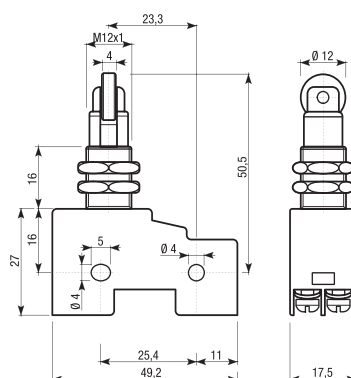


Steel roller plunger turned 90°

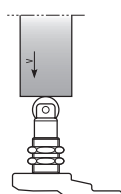
Contact element	
1NO+1NC snap action	
Weight pack	kg
Pack	pcs

standard article

Plastic	Contact travel
M306N0NC	
1,105	
5	



Drive cam operating parameters

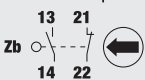


Min. force (N)	
for tripping	4
for positive opening	16

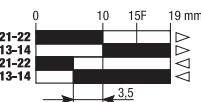
08

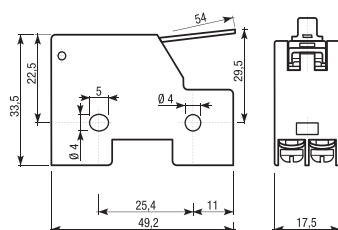


Lever length 54 mm

Contact element	
1NO+1NC snap action	
	
Weight pack	kg
Pack	pcs

 standard article

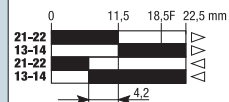
Plastic	Contact travel
M308NONC	
0,360	
5	

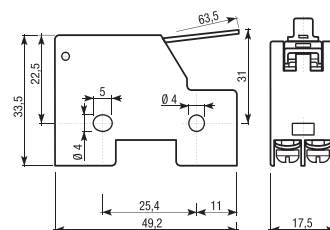


09

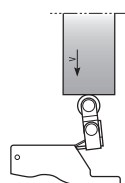


Lever length 63,5 mm

Plastic	Contact travel
M309NONC	
0,365	
5	



Drive cam operating parameters



Min. force (cNm)	
for tripping	1,6
for positive opening	12

11

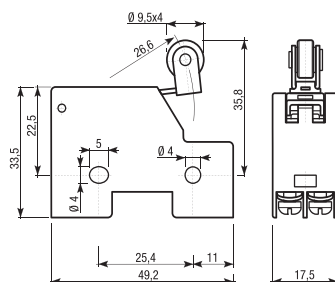


Thermoplastic roller lever
length 26,6 mm

Contact element	
1NO+1NC snap action	
Weight pack	kg
Pack	pcs

standard article

Plastic	Contact travel
M311NONC	
0,735	
5	

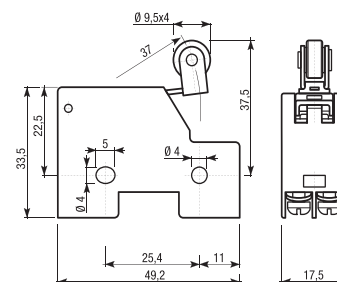


13

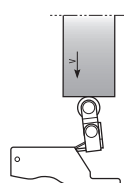


Thermoplastic roller lever
length 37 mm

Plastic	Contact travel
M313NONC	
0,745	
5	



Drive cam operating parameters

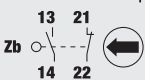


Min. force (cNm)	
for tripping	2
for positive opening	13

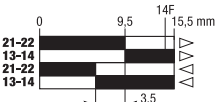
Min. force (cNm)	
for tripping	1.6
for positive opening	12

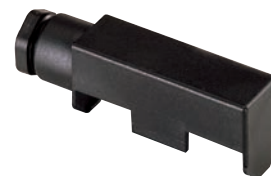
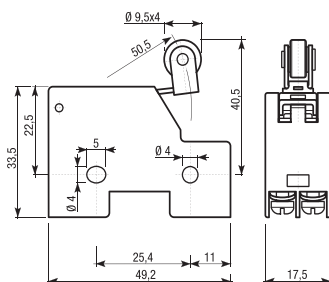


Thermoplastic roller lever
length 50,5 mm

Contact element	
1NO+1NC azione rapida	
	
Weight pack	kg
Pack	pcs

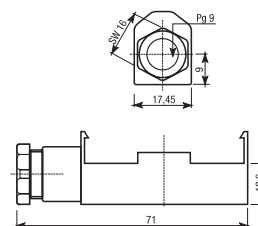
 standard article

Plastic	Contact travel
M314NONC	
0,755	
5	

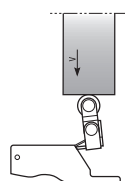


Accessory:
terminal cover for M3 series

Plastic
M3PROTA
0,195
5



Drive cam operating parameters



Min. force (cNm)	
for tripping	1,3
for positive opening	11



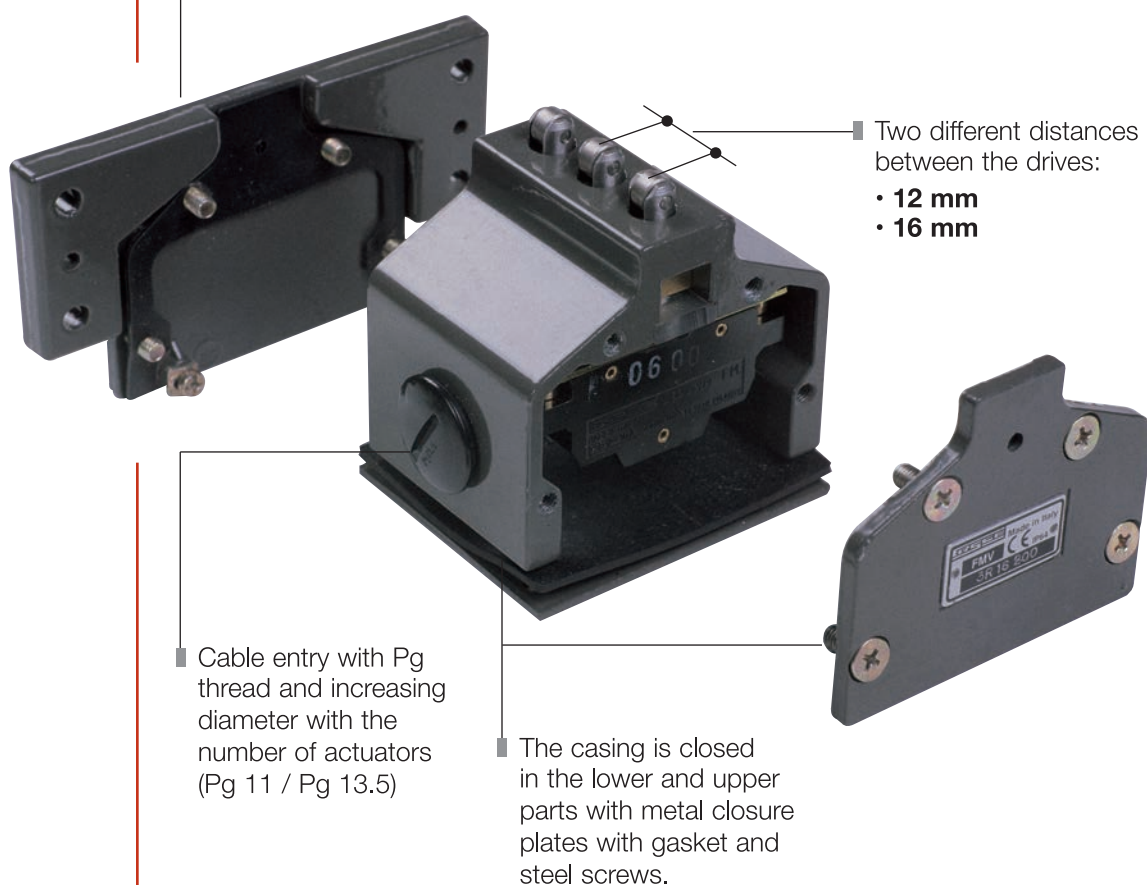
Multiple
position
switches
FMV

General features

The **FMV** series vertical mounting multiple position switches, are an important accessory in the automatic production process for monitoring the moving parts of a machine. Due to their limited dimensions in proportion to the functions performed, the multiple position switches offer the ideal solution to command automatic machines. The body of the multiple position switches is made of die cast metal alloy, while the roller plunger actuators are made of tempered steel.

Two different mounting brackets:

- 100 (130 for the start of the first actuators at 30 mm)
- 200 (230 for the start of the first actuators at 30 mm)



Technical data

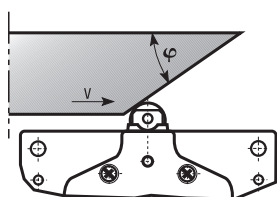
				TYPE	FMV
Maximum operating frequency				operat./hour ¹	1800
Insulation resistance			500 V DC	MΩ	100
Dielectric strenght			50/60 Hz for 1'	V AC	2000 ²
Rated insulation voltage	Ui	IEC947-5-1		V AC	500
Rated thermal current	Ithe	IEC947-5-1		A	10
Rated operating current	Category AC15 A300	le IEC947-5-1/EN60947-5-1	24V	A	10
			125V	A	10
			230 V	A	6
			400 V	A	4
Contact resistance		IEC255-7 cat.3	initial value	mΩ	25
Short circuit protective devices		IEC269 (IEC947-5-1)			
		fuse type gL or gG		A	10
Pollution degree		IEC947-5-1		A	3
Protection degree		EN 60529			IP64
Protection against electric shock			metal	class	I
Vibration resistance		IEC68-2-6		mm	0,35 ± 15%
					(10 ÷ 55 Hz ± 1 Hz)
Shock resistance		IEC68-2-27	11ms	g	30
Mechanical life				cycles	30.000.000
Electric life		at 250V AC 6A with resistance load cosφ=1		cycles	500.000
		at 250V AC 6A with inductive load cosφ=0,4		cycles	500.000
Terminals	Type				Screw with combined notch and retractable plate (notch Ph. Size 1)
	Screw				M3,5
	Material				Steel class 8,8 / Galvanized
	Max. screw tightening torque		Ncm (Kg cm)		120 (12,24)
	Max connecting capacity	rigid cable	mm²		2x1,5
		flexible cable	mm²		2x1,5
		with prod terminal			1x1,5
Terminal numbering					In accordance with EN50013
Air ambient temperature			operational	°C	-10 ÷ +70
					(without formation of ice)
Relative umidity			operational		95% max

¹ One operation cycle means two movements, one to close and one to open as required by EN 60947-5

² Between terminals with different polarity; between live mechanical parts and ground; between live mechanical parts and non-current-carrying metal parts

Operating characteristics

Roller side travel



Drive cam operating parameters

φ	V max (m/s)
30°	1
20°	1,5

Drive forces

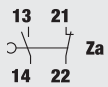
Minimum command force	10 N
Minimum force on lateral travel	18 N



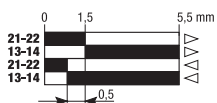
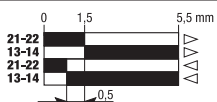
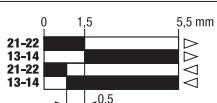
Start 30
Pitch 12

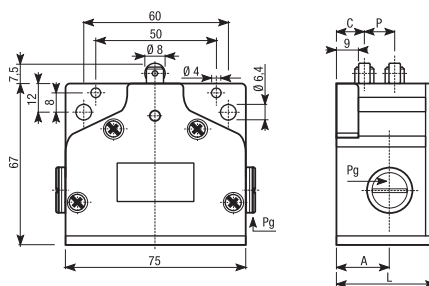


Vertical mounting bracket 100

Contact element	
snap action 1NO+1NC 	FM

 standard article

Metal	No. of roller actuators	Weight (kg)	Pack (pcs)	Travel diagram
FMV2R12130	2 R	0,421	1	
FMV3R12130	3 R	0,523	1	
FMV4R12130	4 R	0,621	1	



Characteristics

Distance between the actuators 12 mm, start 30 mm

Code	No. of actuators	P	C	L	Pg	A
FMV2R12130	2	12	30	54	11	30
FMV3R12130	3	12	30	66	13,5	35
FMV4R12130	4	12	30	78	13,5	35

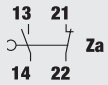
Notes:

P = Pitch (distance between two actuators)
C = Distance between bracket and first actuator
L = Overall dimensions
A = Distance between bracket and input/output holes

■ Start 30
Pitch 12

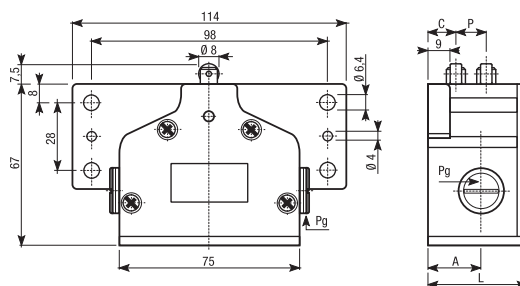


Vertical mounting bracket 200

Contact element	
snap action 1NO+1NC 	FM

 standard article

Metal	No. of roller actuators	Weight (kg)	Pack (pcs)	Travel diagram
FMV3R12230	3 R	0,563	1	
FMV4R12230	4 R	0,662	1	



Characteristics

Distance between the actuators 12 mm, start 30 mm

Code	No. of actuators	P	C	L	Pg	A
FMV3R12230	3	12	30	66	13,5	35
FMV4R12230	4	12	30	78	13,5	35


Notes:

P = Pitch (distance between two actuators)
 C = Distance between bracket and first actuator
 L = Overall dimensions
 A = Distance between bracket and input/output holes

- Start 30
- Pitch 16

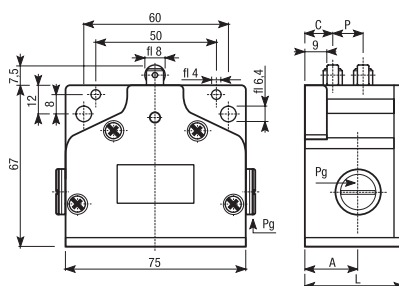


Vertical mounting bracket 100

Contact element		
snap action $1NO+1NC$ 		FM

 standard article

Metal	No. of roller actuators	Weight (kg)	Pack (pcs)	Travel diagram
FMV2R16130	2 R	0,470	1	
FMV3R16130	3 R	0,584	1	



Characteristics

Distance between the actuators 16 mm, start 30 mm

Code	No. of actuators	P	C	L	Pg	A
FMV2R16130	2	16	30	62	11	30
FMV3R16130	3	16	30	78	13,5	35

Notes:

P = Pitch (distance between two actuators)

C = Distance between bracket and first actuator

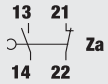
L = Overall dimensions

A = Distance between bracket and input/output holes

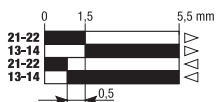
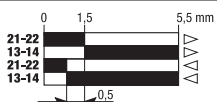
■ Start 30
Pitch 16

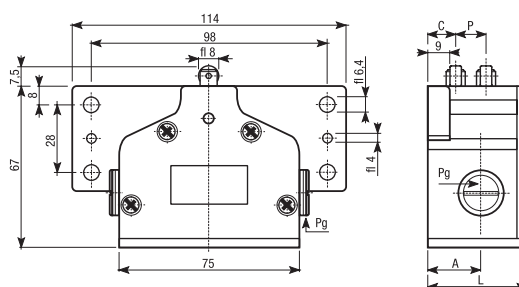


Vertical mounting bracket 200

Contact element	
snap action 1NO+1NC 	FM

 standard article

Metal	No. of roller actuators	Weight (kg)	Pack (pcs)	Travel diagram
FMV3R16230	3 R	0,629	1	
FMV4R16230	4 R	0,748	1	



Characteristics

Distance between the actuators 16 mm, start 30 mm

Code	No. of actuators	P	C	L	Pg	A
FMV3R16230	3	16	30	78	13,5	35
FMV4R16230	4	16	30	94	13,5	35

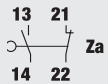
Notes:

P = Pitch (distance between two actuators)
 C = Distance between bracket and first actuator
 L = Overall dimensions
 A = Distance between bracket and input/output holes

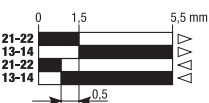
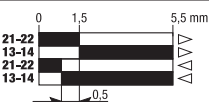
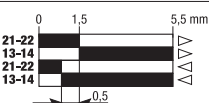
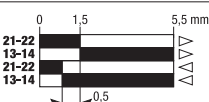
Start 12
Pitch 12

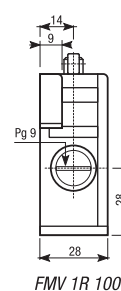
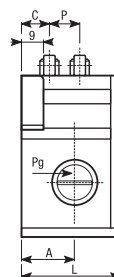
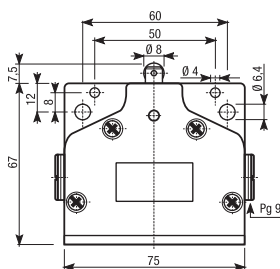


Vertical mounting bracket 100

Contact element	
snap action 1NO+1NC 	FM

 standard article

Metal	No. of roller actuators	Weight (kg)	Pack (pcs)	Travel diagram
FMV1R100	1 R	0,266	1	
FMV2R12100	2 R	0,363	1	
FMV3R12100	3 R	0,455	1	
FMV4R12100	4 R	0,528	1	



Characteristics

Distance between the actuators 12 mm, start 12 mm

Code	No. of actuators	P	C	L	Pg	A
FMV2R12100	2	12	12	41	11	22
FMV3R12100	3	12	12	53	13,5	30
FMV4R12100	4	12	12	60	13,5	30

Notes:

P = Pitch (distance between two actuators)

C = Distance between bracket and first actuator

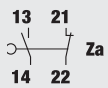
L = Overall dimensions

A = Distance between bracket and input/output holes

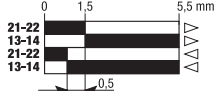
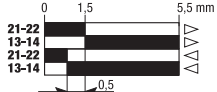
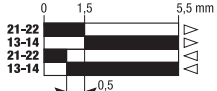
■ Start 16
Pitch 16

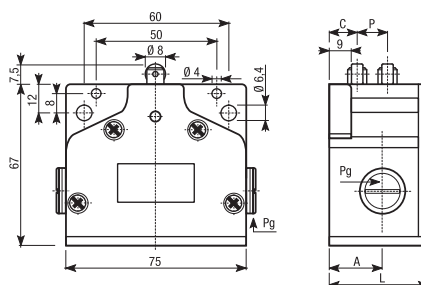


Vertical mounting bracket 100

Contact element	
snap action 1NO+1NC 	FM

 standard article

Metal	No. of roller actuators	Weight (kg)	Pack (pcs)	Travel diagram
FMV2R16100	2 R	0,405	1	
FMV3R16100	3 R	0,521	1	
FMV4R16100	4 R	0,642	1	



Characteristics

Distance between the actuators 16 mm, start 16 mm

Code	No. of actuators	P	C	L	Pg	A
FMV2R16100	2	16	16	48	11	22
FMV3R16100	3	16	16	64	13,5	30
FMV4R16100	4	16	16	80	13,5	30

Notes:

P = Pitch (distance between two actuators)


C = Distance between bracket and first actuator

L = Overall dimensions

A = Distance between bracket and input/output holes



Contact element

Contact element


Code	Description	Weight (kg)	Pack (pcs)	
FM	Mechanical contact element	0,025	5	

 standard article



Cams

Code	Description	Form	Weight (kg)	Pack (pcs)	
C1N	Tempered grinded steel cam according to DIN 69639	UA	0,025	1	<p>Side view</p> <p>C1N</p> <p>C2N-C3N-C4N-C5N</p> <p>C6N-C7N-C8N-C9N-C10N</p>
C2N	Tempered grinded steel cam according to DIN 69639	UA	0,030	1	
C3N	Tempered grinded steel cam		0,033	1	
C4N	Tempered grinded steel cam	UA	0,033	1	
C5N	Tempered grinded steel cam	UA	0,044	1	
C6N	Tempered grinded steel cam	UB	0,062	1	
C7N	Tempered grinded steel cam according to DIN 69639	UB	0,081	1	
C8N	Tempered grinded steel cam according to DIN 69639	UB	0,127	1	
C9N	Tempered grinded steel cam according to DIN 69639	UB	0,150	1	
C10N	Tempered grinded steel cam according to DIN 69639		0,179	1	

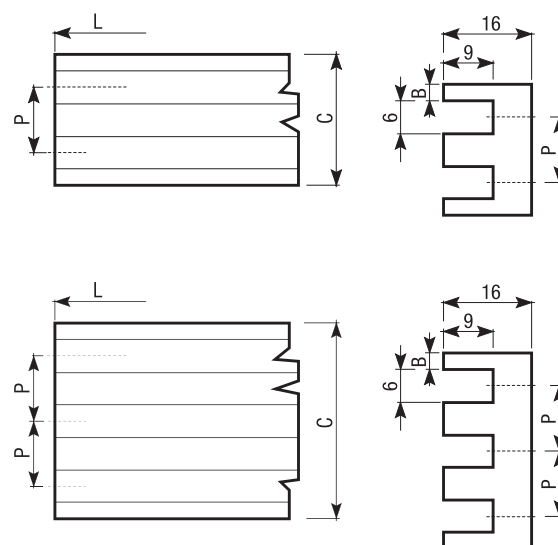
standard article

Characteristics							
Code	L1	L2	Form	Code	L1	L2	Form
C1N	0	25	UA	C6N	25	59,5	UB
C2N	4	29	UA	C7N	40	74	UB
C3N	6,3	31		C8N	63	114,5	UB
C4N	10	35	UA	C9N	100	134	UB
C5N	16	41	UA	C10N	125	147,5	



Assembly profile

Code	Description	Weight (kg)	Pack (pcs)	
G2121	Assembly profile in accordance with DIN 69368	0,713	1	
G2122	Assembly profile in accordance with DIN 69368	1,428	1	
G2161	Assembly profile in accordance with DIN 69368	1,080	1	
G2162	Assembly profile in accordance with DIN 69368	2,149	1	
G3121	Assembly profile in accordance with DIN 69368	1,080	1	
G3122	Assembly profile in accordance with DIN 69368	2,147	1	
G3161	Assembly profile in accordance with DIN 69368	1,613	1	
G3162	Assembly profile in accordance with DIN 69368	3,220	1	



 standard article

Characteristics

Code	P	B	C	L
G2121	12	3	24	1000
G2122	12	3	24	2000
G2161	16	5	32	1000
G2162	16	5	32	2000
G3121	12	3	36	1000
G3122	12	3	36	2000
G3161	16	5	48	1000
G3162	16	5	48	2000











Notes:

P = Pitch, distance between two channels
L = Overall rail length
C = Overall rail width
B = Lateral thickness
G2 = Linear cam tray with 2 channels
G3 = Linear cam tray with 3 channels



Power tool
switches

■ International standards and approvals

Country	Canada	Germany	Switzerland	Denmark	Norway	Sweden	Finland	Austria	Great Britain	IEC International Electrical Commission
Authority	CSA International	Verband Deutscher Elektrotechniker	Schweizerischer Elektrotechnischer Verein	Danmarks Elektriske Materielkontrol	Norges Elektriske Materielkontrol	Svenska Elektriske Materielkontroll-anstalten	Sähötär-kastukeskus	Österreichischer Verband für Elektrotechnik	British Standards Institution	
Mark of standard	 ⁽¹⁾	 ⁽²⁾							 ⁽²⁾	 ⁽³⁾
LEA202		+	+	+	+	+	+	+	+	+
LFA203		+	+	+	+	+	+	+	+	+
LLA42	•	+	+	+	+	+	+	+	+	+
LLA43	•	+	+	+	+	+	+	+	+	+
LNA45		+	+	+	+	+	+	+	+	+
LAA65		+	+	+	+	+	+	+	+	+
LAA88		+	+	+	+	+	+	+	+	+

• Approved

+ Conforms to requirements

Notes:

- 1) CSA Approval File 0282121-0-000
- 2) It is not required to bear a symbol but switches must conform to requirements.
- 3) IEC does not operate an approval scheme

			LLA65	LAA88	LEA202R	LLA42	LLA43	LFA203	LNA45
Rated insulation voltage	Ui	V	250	250	380	250	380	380	380
Rated operating voltage	Ue	V	250	250	380	250	380	380	380
Rated operation frequency		Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Rated Current									
Resistive load	In	A	6	8	10 (Ue=250V)	15	15	10 (Ue=250V)	20 (Ue=250V)
Inductive load	In	A	5	8	6 (Ue=250V)	10	10	6 (Ue=250V)	10 (Ue=250V)

Technical data CSA (Sec. CSA 22.2 n.55)

Rated insulation voltage	Ui	V	-	-	-	250	250	-	-
Rated operating voltage	Ue	V	-	-	-	250	250	-	-
Rated thermal current	Ith		-	-	-	15	15	-	-
General Use current (Resistive loads or low inductives)		-	-	-	15	15	-	-	
Standard motor load	3 phase - 3 poles	Hp	-	-	-	-	2	-	-
	1 phase - 2 poles	Hp	-	-	-	2	-	-	-

Mechanical characteristics

Mechanical life (120 cycles/hour)			1E5	1E5	1E5	1E5	1E5	1E5	1E5
Electrical life	EN61058		5E4	5E4	5E4	5E4	5E4	5E4	5E4
Insulation class	EN61058		II	II	II	II	II	II	II
Tipo di isolamento	EN61058		Reinforced	Reinforced	Reinforced	Reinforced	Reinforced	Standard	Reinforced
Terminal dimension			2	2	2	2	2	2	4
Connecting capability with flexible wires	Min-Max	mm ²	0,75-2,5	0,75-2,5	0,75-2,5	0,75-2,5	0,75-2,5	0,75-2,5	1,5-4
Connecting capability with solid wires	Min-Max	mm ²	1-2,5	1-2,5	1-2,5	1-2,5	1-2,5	1-2,5	2,5-6
Connecting capability with flexible wires	Min-Max	AWG	19-14	19-14	19-14	19-14	19-14	19-14	16-12
Connecting capability with solid wires	Min-Max	AWG	18-14	18-14	18-14	18-14	18-14	18-14	14-10
Terminal screw		M3	M3	M3,5	M3,5	M3,5	M3,5	M4	
Protection degree IEC 529 EN 60529	IP00		IP00	IP00	IP00	IP00	IP00	IP00	

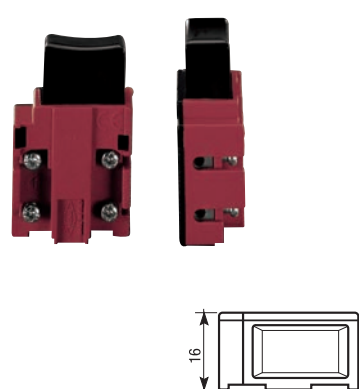
Ambient conditions

Operational ambient temperature	°C	T55	T55	T55	T55	T55	T55	T55
Storage ambient temperature	°C	-25 ÷ +70			-30 ÷ +70			
Withstand to constant humid		sec. IEC 60068-2-8						
Withstand to cycling humid		sec. IEC 60068-2-30						

2 pole trigger switches

LAA65-LAA88 series

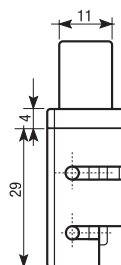
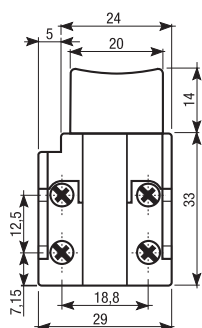
Part no.	Description	Pack
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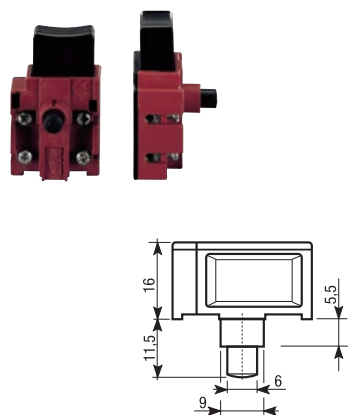
LAA65301

2 pole switch, command button without lock, 4 screw terminals

10



Diagram



LAA65311

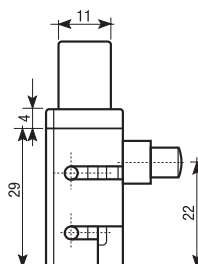
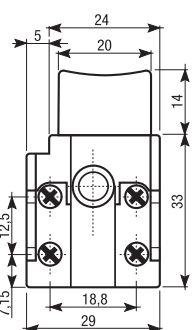
2 pole switch, command button with lock in ON Ø 6mm, 4 screw terminals

10

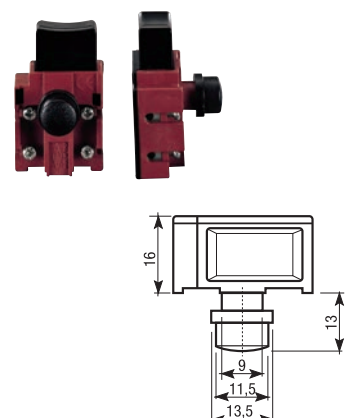
LAA88311

2 pole switch, command button with lock in ON Ø 6mm, 4 silver screw terminals

10



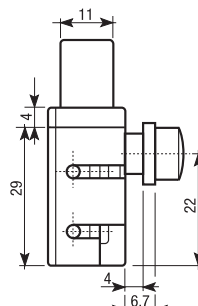
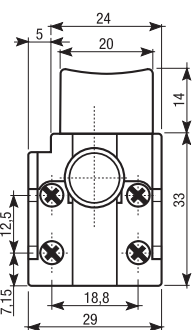
Diagram



LAA65331

2 pole switch, command button with lock in ON Ø 11,5mm, 4 screw terminals

10



Diagram


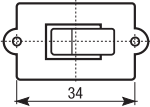
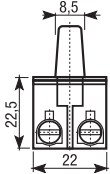
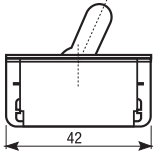


2 poles switches with lever

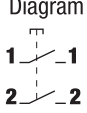
power tool switches

LEA202R series

Part no.	Description	Pack
LEA202R	2 pole switch with stable lever	10

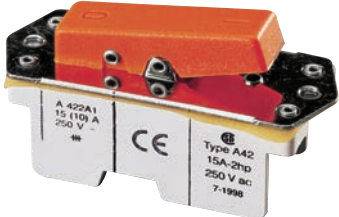
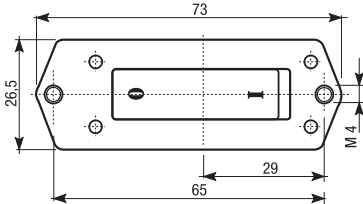
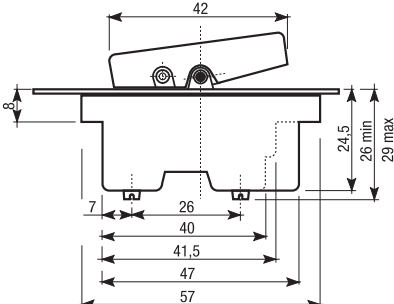
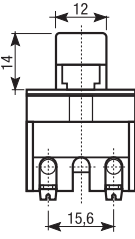





Diagram

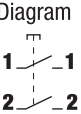


LLA42 series

Part no.	Description	Pack
LLA422N1	2 pole switch with black lever, fixing holes distance 55mm	10
LLA422A1	2 pole switch with orange lever, fixing holes distance 55mm	10
LLA422N3	2 pole switch with black lever, fixing holes distance 65mm	10

Diagram



standard article

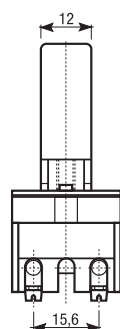
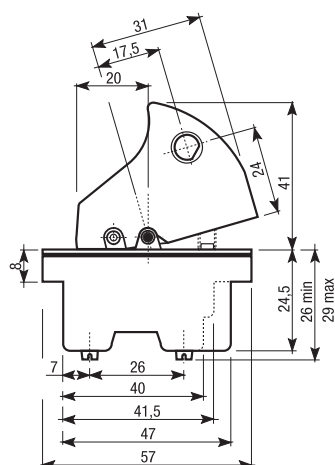
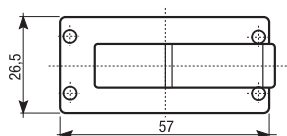
2 poles switches with lever

Part no.	Description	Pack
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LLA423N0

2 pole switch with black unstable lever, without fixing holes, L=31 mm

10



Diagram



LLA424N0

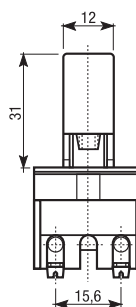
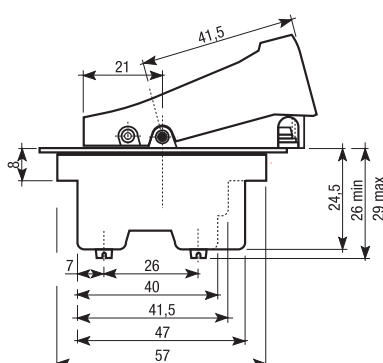
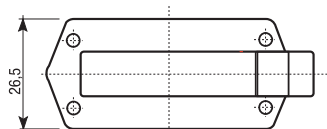
2 pole switch with black unstable lever, without fixing holes, L=41,5 mm

10

LLA424N0A

2 pole switch with special lever

10




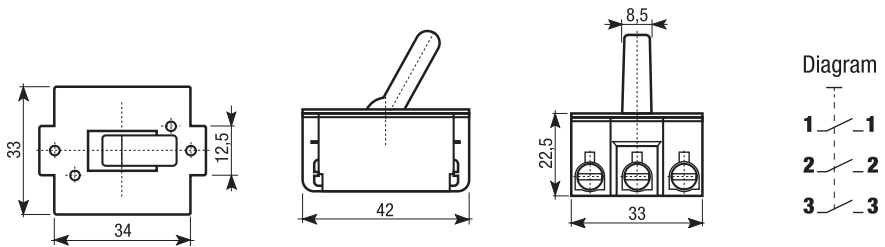

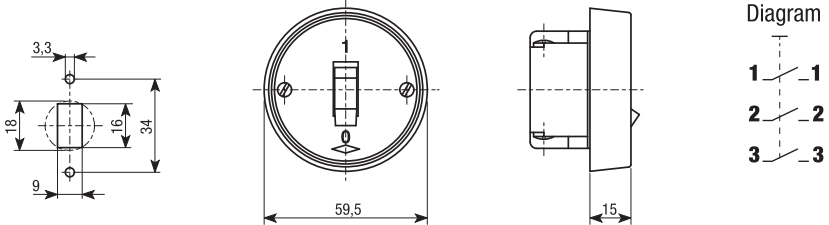
Diagram



3 pole switches with lever

power tool switches

LFA203 series

	Part no.	Description	Pack
	LFA203R	3 pole switch with stable lever	10
			
	LFA203RPT	3 pole switch with guarded round grey plate, rear mounting	5
			

 standard article

LLA43 series

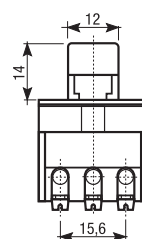
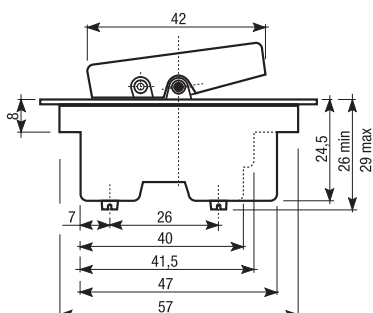
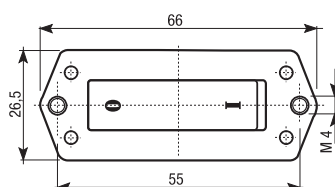
Part no.	Description	Pack
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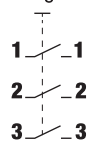
LLA432N1

3 pole switch with black stable lever, fixing holes distance 55mm, L=26,5 mm

10



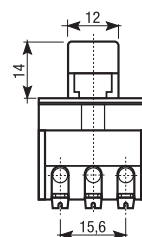
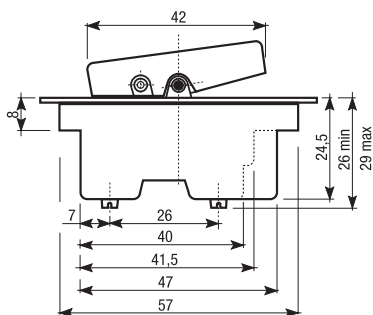
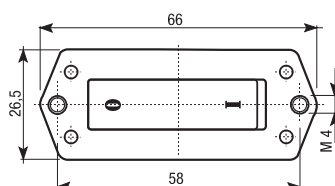
Diagram



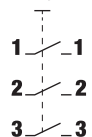
LLA432N2

3 pole switch with black stable lever, fixing holes distance 58mm, L=26,5 mm

10



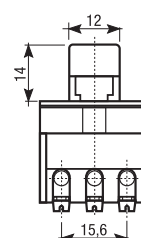
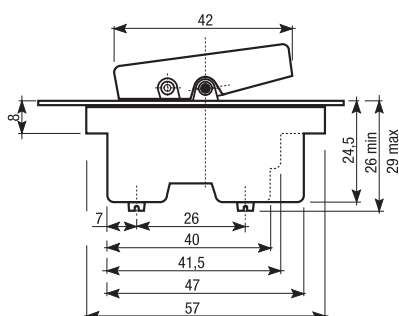
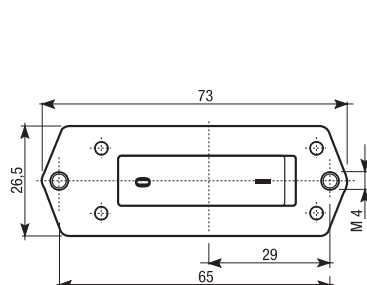
Diagram



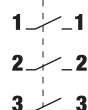
■ LLA43 series

Part no.	Description	Pack
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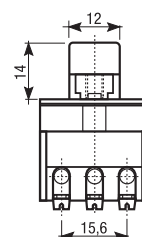
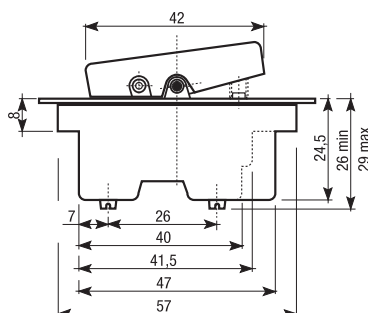
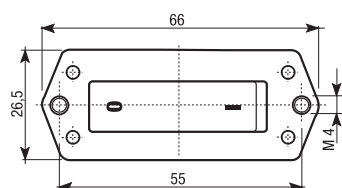
LLA432N3	3 pole switch with black stable lever, fixing holes distance 65mm	10
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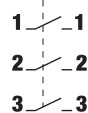
Diagram



LLA438N1	3 pole switch with black unstable lever, fixing holes distance 55mm	10
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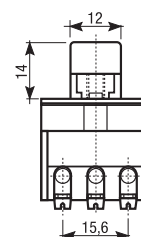
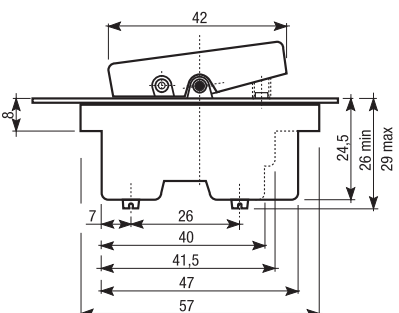
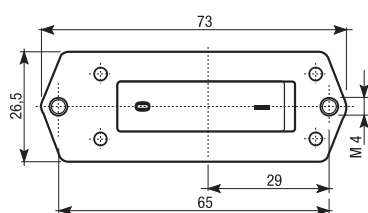


Diagram

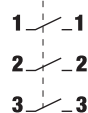


LLA438N3	3 pole switch with black unstable lever, fixing holes distance 65mm	10
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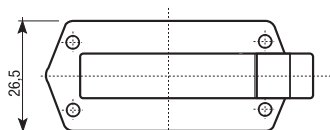
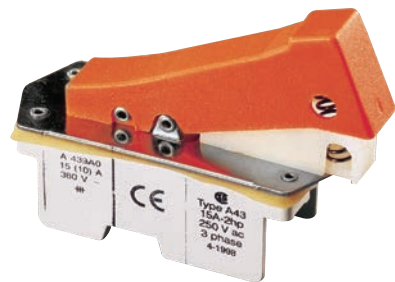
LLA438A3	3 pole switch with orange unstable lever, fixing holes distance 65mm	10
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Diagram



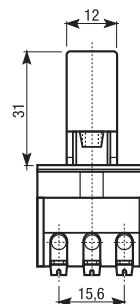
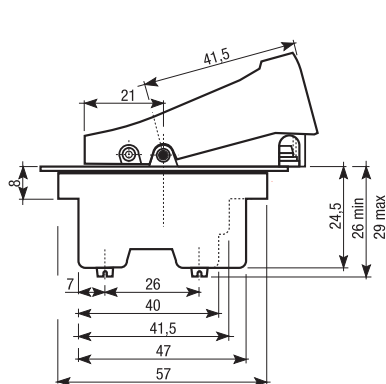
3 pole switches with lever



LLA439A0

3 pole switch with orange unstable lever, without fixing holes

10



Diagram

1 - 1
2 - 2
3 - 3

LNA45 series

Part no.

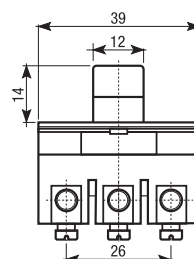
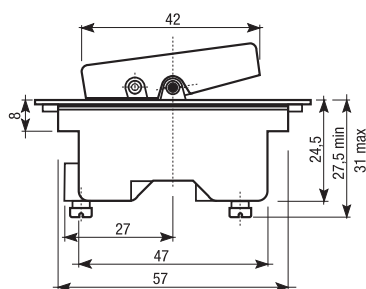
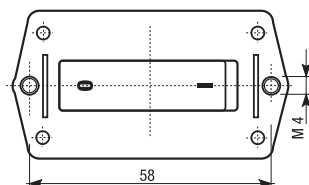
Description

Pack

LNA452N2

3 pole switch with black stable lever, fixing holes distance 58mm, L=39mm

10



Diagram

1 - 1
2 - 2
3 - 3

■ Dustproof cover

Part no.

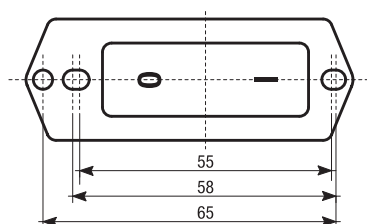
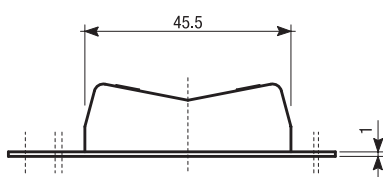
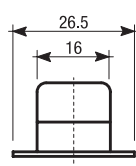
Description

Pack

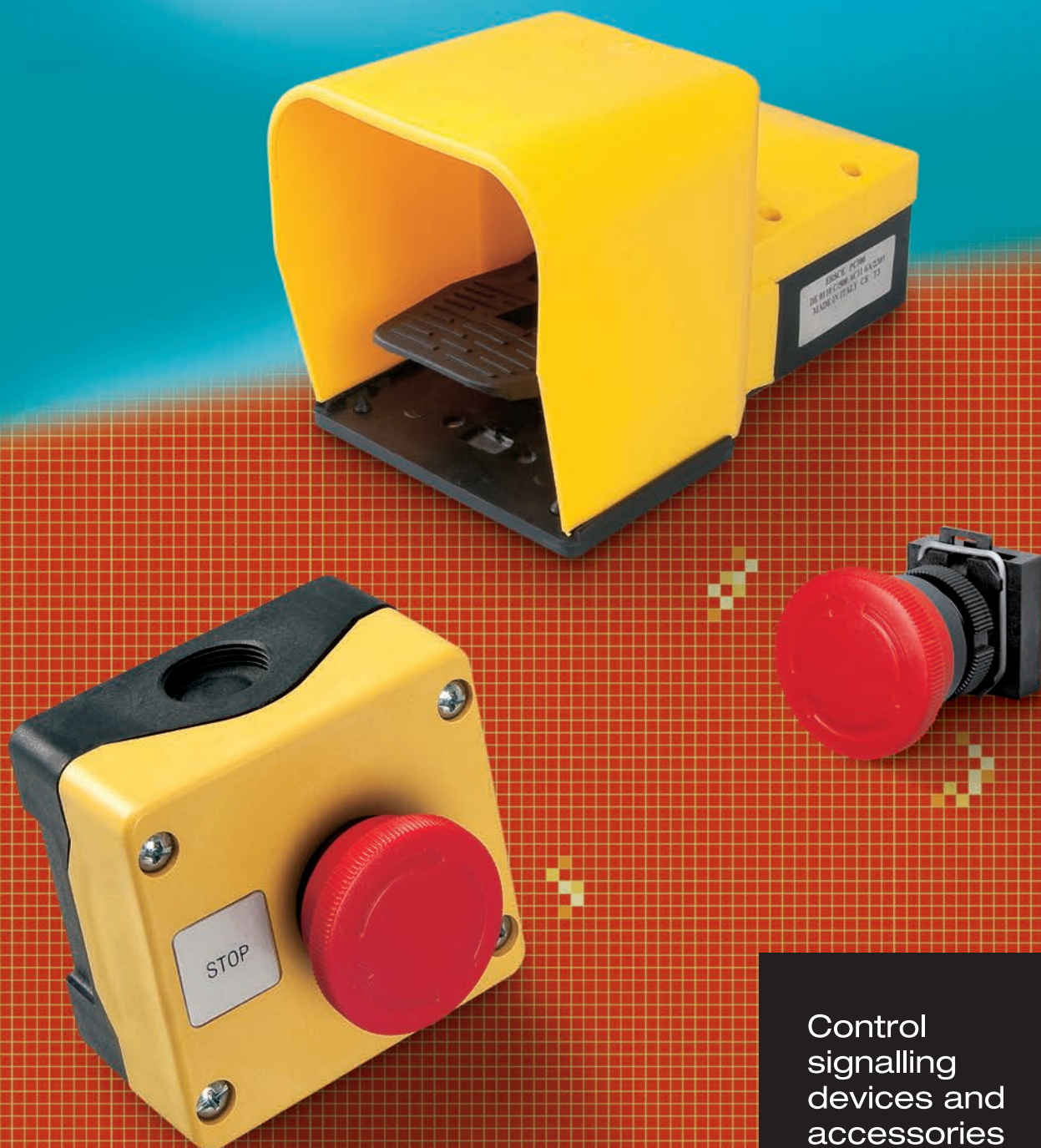
PROTG4198

Dustproof cover

10



This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



Control
signalling
devices and
accessories

General characteristics

Our control and signalling units are designed to ensure accuracy, reliability, high mechanical and electrical life. All pushbuttons are certified IP65 (IP66 with optional dustproof cover), while foot switches are IP54. The contact blocks are equipped with maximum 4 contacts with rating up to 10 A each. The NC contacts are made to guarantee positive opening for safety function. The terminal screws with self-raising plate are supplied in open position for an easier and quicker wiring operation.



Technical data

Rated insulation voltage		Ui	IEC947-5-1	V	600	
Rated thermal current		Ithe	IEC947-5-1	A	10	
Rated operational current			IEC947-5-1/EN60947-5-1			
	Category AC15	Ie	230 V	A	6	
			400 V	A	4	
			500 V	A	3	
	Category DC13	Ie	24 V	A	6	
			250 V	A	0,4	
Insulation resistance			500 V DC	MΩ	100	
Contact resistance		IEC255-7 cat. 3	Initial value	mΩ	25	
Dielectric insulation			50/60 Hz for 1' *	Vca	2500	
Short circuit protective devices		IEC269 (IEC947-5-1)				
			Gl or gG fuse	A	10	
Conditional short circuit current		IEC947-5-1		A	100	
Pollution degree		IEC947-5-1			3	
Command protection degree	(EN 60529)	Non-illuminated/illuminated			IP65	
		Dual pushbuttons			IP40	
		Joystick			IP65	
Vibration resistance		IEC68-2-6		mm	0,35 ± 15% (10÷55 Hz ± 1 Hz)	
Shock resistance		IEC68-2-27		11 ms	g	30
Mechanical life		Mushroom and coupling pushbuttons and controllers		cycles	500000	
		Selector switches		cycles	1000000	
		Illuminated pushbuttons		cycles	3000000	
Electrical life		at 250 V AC 6 A with resistance load cosφ=1		min cycles	500000	
		a 250 V AC 6 A with inductive load cosφ=0,4		min cycles	500000	
Distance between contacts		Slow action models		mm	2x2	
Terminals		Type			Screw with combined notch and removable plate	
		Screw			M3,5	
		Protection degree			IP20	
		Material			Steel class 8,8 / 6-8 micron	
		Max screw tightening Torque		cNm (kg cm)	120 (12,24)	
		Max connection	rigid cable	mm²	2x1,5	
			flexible cable	mm²	2x1,5	
		With prod terminal	mm²	1x1,5		
		Terminal numbering			In accordance with EN50013	
		Terminal colouring			Red for NC contacts, green for NO contacts	
Air ambient temperature		operationals		°C	-25 ÷ +70	
Relative humidity		operationals			95% max	
Weather resistance		temperate in accordance with DIN 50014:			23/50	
		damp in accordance with DIN 50015:			23/83	
		hot humid in accordance with DIN 50015:			40-92	
		variable humid in accordance with DIN 50016:			FW24	

* between terminals of the same polarity; between terminals of different polarity; between live metal parts and ground; between live and unpowered metal parts.

Certifications and Approvals



IEC EN 60947

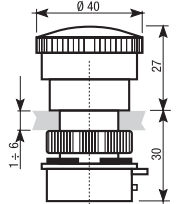
IPFB	●		+
PFB	●		+
C01B-C10B	●	●	+
C02-C20-C11	●	●	+

- UL approval file E72861
- CSA approval file 026716-0-000
- Approved
- + Conforms to requirements

- Rotate to release Ø40 emergency mushroom



Plastic Ø22 fixing with thermoplastic ring, IP65

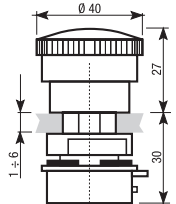
Code	Description		Pack	Weight pack (kg)
IPFB240	Rotate to release Ø40 mm red mushroom for rear mounting, fixing with thermoplastic ring		5	0,395

 standard article

when ordering please indicate both the code of the switch and of the contact, because the two products are handled separately



Ø22 fixing with metal screws, IP65

Code	Description		Pack	Weight pack (kg)
PFB240V	Rotate to release Ø40 mm red mushroom for rear mounting, fixing with metal screws		5	0,705

 standard article

when ordering please indicate both the code of the switch and of the contact, because the two products are handled separately

Contact blocks

Rear mounting



Slow action

Contact element	Code	Description		Pack	Weight pack (kg)
	C01B	Slow action single Contact block 1NC		5	0,545
	C10B	Slow action single Contact block 1NO		5	0,545

standard article

Twin contact blocks

Rear mounting



Slow action


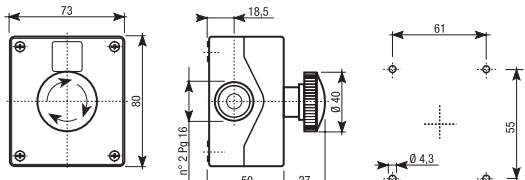
Contact element	Code	Description		Pack	Weight pack (kg)
	C02	Slow action twin Contact block 2NC		5	0,415
	C20	Slow action twin Contact block 2NO		5	0,395
	C11	Slow action twin Contact block 1NO+1NC		5	0,405

standard article

Thermoplastic control stations




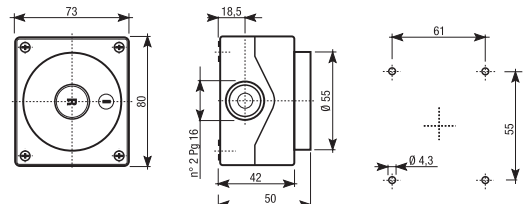
Double insulation control stations

Contact element	Code	Description		Pack	Weight (kg)
	SC150	Enclosure IP65, yellow cover with red emergency button (turn to release), 1NC Contact block		1	0,194

 standard article



Double insulation stations with control unit

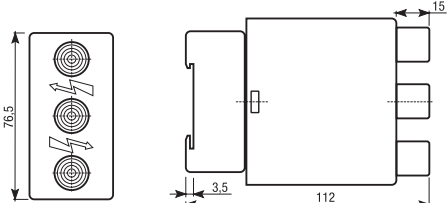
Contact element	Code	Description		Pack	Weight (kg)
	SC190	Enclosure IP50 for elevator shaft (EN81) with red emergency button, indication of 0 or 1 position and blue reset button		1	0,164

 standard article

Flashing devices



Double insulation enclosures

Code	Description		Pack	Weight (kg)
D91	Flashing device 190-500V AC		1	0,184

 standard article

Thermoplastic enclosures

control signalling devices and accessories



Double insulation enclosures

Code	Description		Pack	Weight (kg)
SD1	Thermoplastic enclosure for base mounting units, 1 hole, grey cover		1	0,122
SD1G	Thermoplastic enclosure for base mounting units, 1 hole, yellow cover		1	0,122
SD2	Thermoplastic enclosure for base mounting units, 2 holes, grey cover		1	0,152
SD3	Thermoplastic enclosure for base mounting units, 3 holes, grey cover		1	0,172
SD4	Thermoplastic enclosure for base mounting units, 4 holes, grey cover		1	0,218

standard article

50 mm version for base mounting electrical units

(includes contact blocks and lamp holders fixing plate)

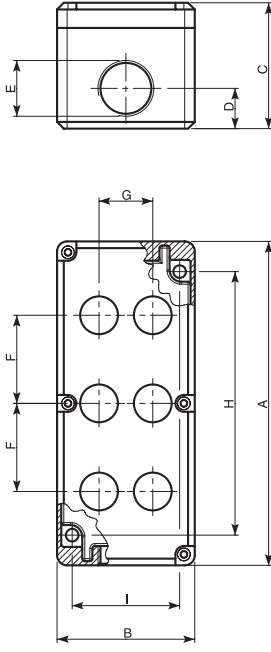
Code	Cover color
SD1	
SD1G	
SD2	
SD3	
SD4	

Color grey RAL 7031 - color yellow RAL 1012

Dimensions			Drilling template		no. of Ø22 holes
A	B	C	D	E	
73	80	50	61	55	1
73	80	50	61	55	1
106	80	50	94	55	2
139	80	50	127	55	3
172	80	50	160	55	4








Aluminium enclosures

Code	Description		Pack	Weight (kg)
SM1V	Aluminium enclosure, 1 hole, length 82 mm		1	0,431
SM2V	Aluminium enclosure, 2 vertical holes, length 141 mm		1	0,555
SM3V	Aluminium enclosure, 3 vertical holes, length 193 mm		1	0,795
SM40	Aluminium enclosure, 4 horizontal holes, length 141 mm		1	0,561
SM60	Aluminium enclosure, 6 horizontal holes, length 193 mm		1	0,786
SV1SF	Aluminium enclosure w/o holes length 82 mm		1	0,434
SV2SF	Aluminium enclosure w/o holes length 141 mm		1	0,572
SV3SF	Aluminium enclosure w/o holes length 193 mm		1	0,811

 standard article

Cover with Ø22 mm holes




Code	Color	No. of holes	Dimensions							Drilling template		No. of holes	
			A	B	C	D	E	F	G	H	I	O	V
SM 1 V		1	82	82	75	24	1" GAS	-	-	49	67	-	1
SM 2 V		2	141	82	75	24	1" GAS	52,5	-	108	67	-	2
SM 3 V		3	193	82	75	24	1" GAS	52,5	-	157	64	-	3
SM 4 0		4	141	82	75	24	1" GAS	52,5	32	108	67	2	2
SM 6 0		6	193	82	75	24	1" GAS	52,5	32	157	64	2	3

Color grey RAL 7031

O = Number of holes for horizontal line

V = Number of holes for vertical line

Cover without holes

Code	Color	Dimensions					Drilling template	
		A	B	C	D	E	H	I
SV 1 SF		82	82	75	24	1" GAS	49	67
SV 2 SF		141	82	75	24	1" GAS	108	67
SV 3 SF		193	82	75	24	1" GAS	157	64

Color grey RAL 7031

Foot switches

control signalling devices and accessories

■ Thermoplastic
foot switches

(IP54)



Without protection

Contact element

Code	Description		Pack	Weight (kg)
PSI00M20	Thermoplastic foot switches without protection		1	0,749

standard article



With protection

(IP54)

Contact element

Code	Description		Pack	Weight (kg)
PCI00M20	Thermoplastic foot switches with protection w/o lock		1	1,034
PCI00PIM20	Thermoplastic foot switches with protection with lock		1	1,024

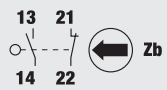
standard article

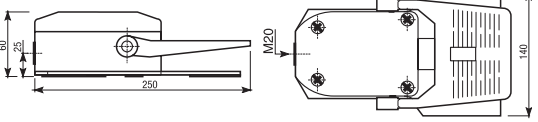
Metal foot switches



(IP54)

Without protection

Contact element


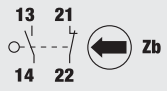
Code	Description		Pack	Weight (kg)
PSA00M20	Metal foot switches w/o protection and w/o lock		1	1,328

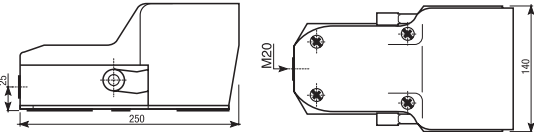
 standard article



(IP54)

With protection

Contact element


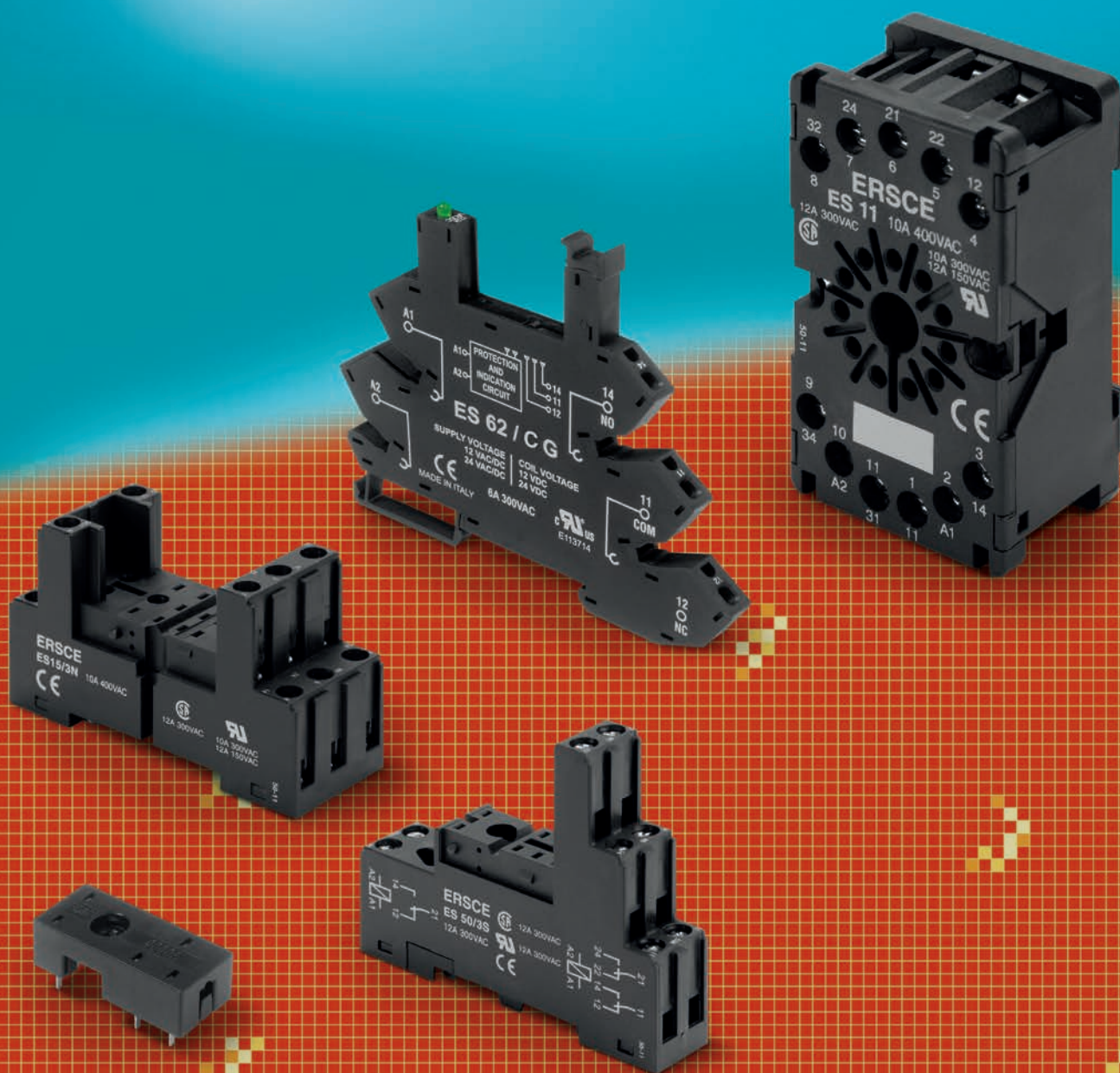
Code	Description		Pack	Weight (kg)
PCA00M20	Metal foot switches with protection and w/o lock		1	1,969
PCA00PIM20	Metal foot switches with protection and with lock		1	1,981

 standard article

Contact block

Code	Description	Pack	Weight pack (kg)
KIT00	Additional contact block 00 kit for foot switches	5	0,343
ELEM00	Contact block 1NO+1NC snap action	5	0,495
ELEM01	Contact block 1NO+1NC slow action	5	0,485

 standard article



Relay
sockets

A complete range

Bremas relay sockets range includes DIN rail sockets, plug-in input/interference suppression modules, securing springs, and the matching marking labels.

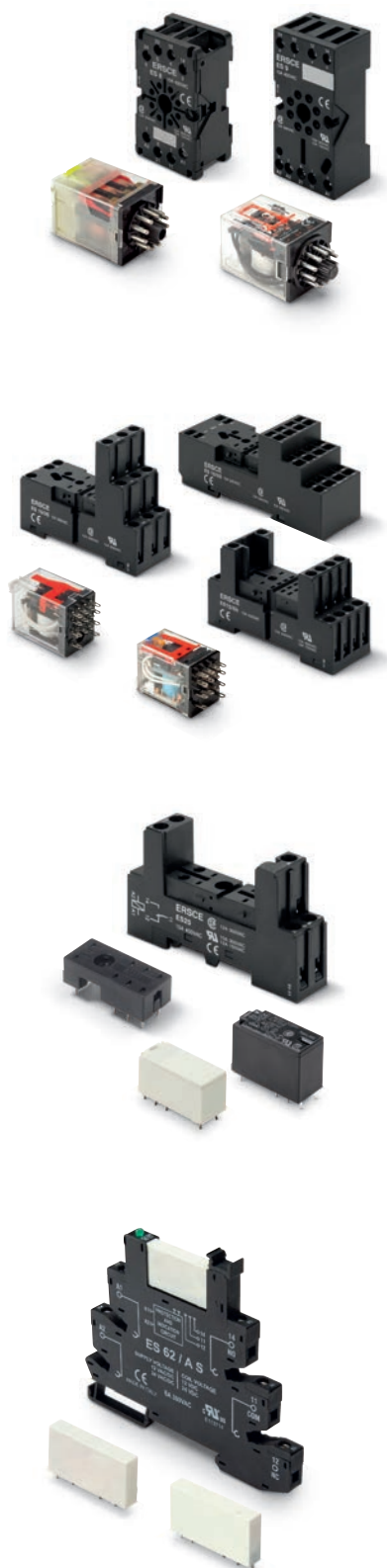
The modules are largely compatible with the usual standards on the market and have the major international approvals.

Easy, fast and flexible wiring is guaranteed by different options for cable management and connections: besides the screw connection method, relay sockets with the

spring-cage connection are also available for PCB relays with one or two PDT contacts and for industrial relays with two or four PDT contacts.

Double spring-cage connections guarantee easy operations for bridging of different contacts. Sockets with coil terminals and contact terminals on different sides to keep supply and signal wires separated are also available.





■ Socket for octal and undecal relays

Series ES8+12

Sockets for octal relays with 2 PDT contacts and for undecal relays with 3 PDT contacts. This family is characterized by large cross section terminals arranged on one level for good accessibility.

■ Socket for industrial relays

Series ES15

Sockets for plug-in industrial relays with 2, 3 or 4 PDT contacts. These sockets are also available with the spring-cage connection method for 2 or 4 PDT versions. Besides traditional 2/2-level sockets there is also a choice of modern "logical" 1/3-level versions with fully opposite coil and contact connections.

■ Socket for PCB relays

Series ES25+50 and EC25+50

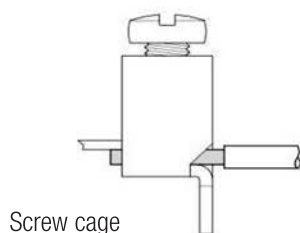
Narrow 16 mm sockets for PCB relays with one or two contacts. The spring-cage connection technology is available for socket relays with 5 mm pinning for DIN rails. Two options for terminals arrangement: 2/2-level and modern "logical" 1/3-level versions.

■ Slim socket for miniature relays

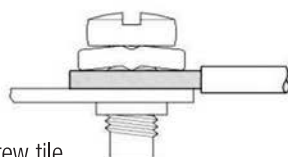
Series ES62

Ultra slim 6,2 mm sockets for miniature relays, available versions with input voltage from 12 to 230 V AC/DC. All these sockets are available with screw and spring-cage connection methods.

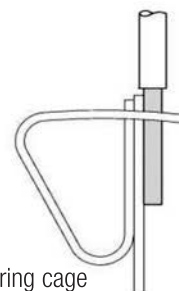
Wire locking systems



Screw cage

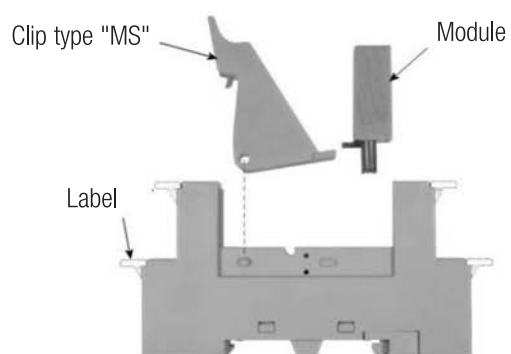


Screw tile

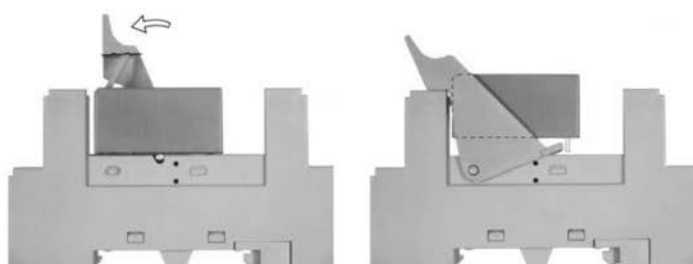


Spring cage
(screwless)

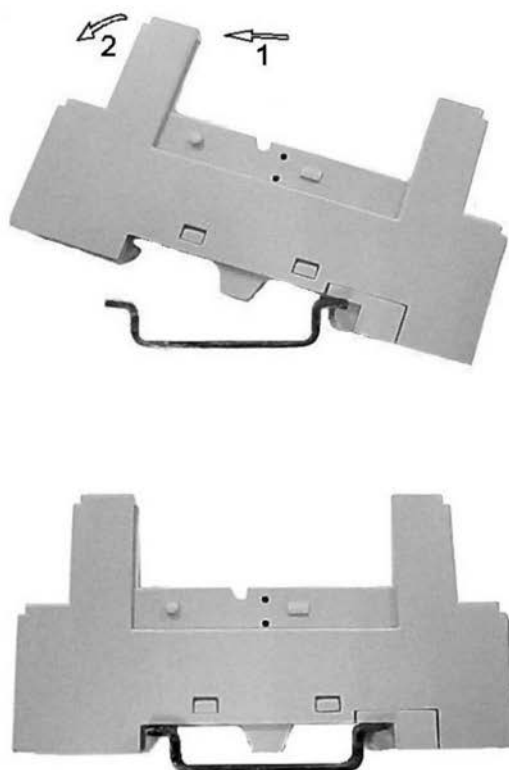
Accessories assembling layout



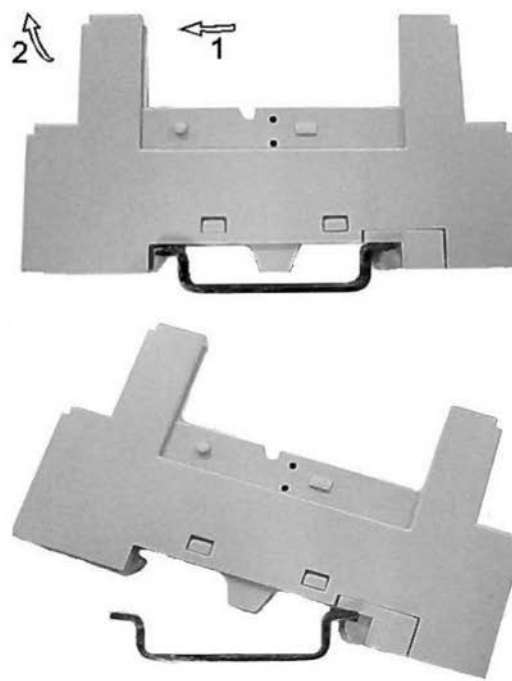
Relay fixed with "MS" spring disassembling layout



Relay socket assembling layout



Relay socket disassembling layout





Sockets
for octal
and undecal
relays

Socket model ES 8

ES8CNER - Pack. 10/220 pcs

Relay socket type ES 8, for octal relays (8 pins) with 2 PDT, screw connections, for mounting on NS 35/7,5.

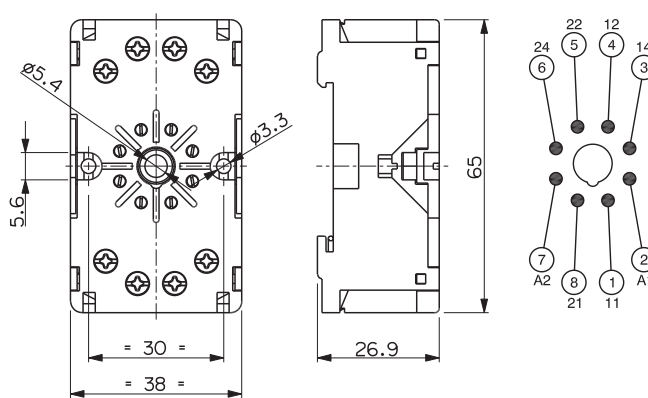
Rated current / Rated voltage	12 A / 300 VAC (CSA)
	10 A / 300 VAC (UL)
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 2,5 mm ²
Conductor cross section AWG	min. 26
Conductor cross section AWG	max 20
Stripping length	7 mm
Screw thread	M3

General data

Width	38 mm
Height	65 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model MH 60

MH60 - Pack. 10/200 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 58-60 mm

Model MH 55

MH55 - Pack. 10/200 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 53-55 mm

Socket model ES 11

ES11CNER - Pack. 10/220 pcs

Relay socket type ES 11, for undecal relays (11 pins) with 3 PDT, screw connections, for mounting on NS 35/7,5.

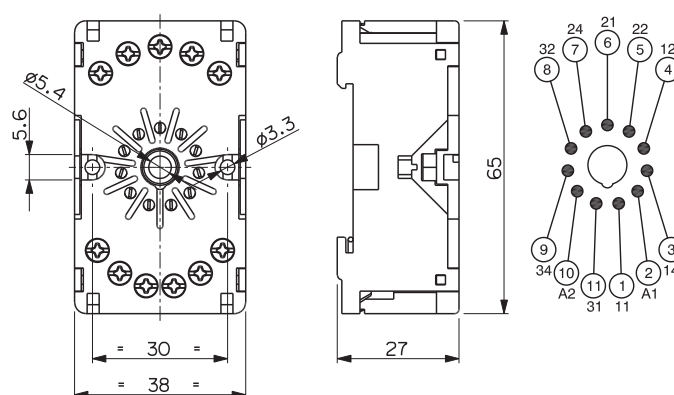
Rated current / Rated voltage	12 A / 300 VAC (CSA)
	10 A / 300 VAC (UL)
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 2,5 mm ²
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 14
Stripping length	7 mm
Screw thread	M3

General data

Width	38 mm
Height	65 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model MH 60

MH60 - Pack. 10/200 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 58-60 mm

Model MH 55

MH55 - Pack. 10/200 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 53-55 mm

 standard article

Socket model ES 11X

ES11XCNER - Pack. 10/220 pcs

Relay socket type ES 11X, for undecal relays (11 pins) with 3 PDT, screw connections, for mounting on NS 35/7,5.

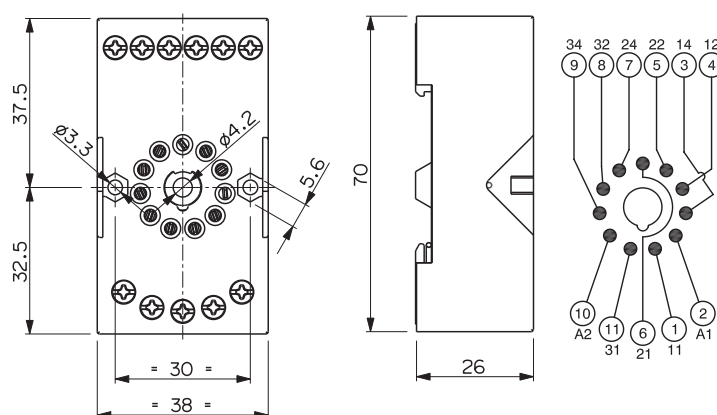
Rated current / Rated voltage	12 A / 300 VAC (CSA)
	10 A / 300 VAC (UL)
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 2,5 mm ²
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 14
Stripping length	7 mm
Screw thread	M3

General data

Width	38 mm
Height	70 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model MH 60

MH60 - Pack. 10/200 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 58-60 mm

Model MH 55

MH55 - Pack. 10/200 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 53-55 mm

Socket model ES 9

ES9CNER - Pack. 10/220 pcs

Relay socket type ES 9, for octal relays (8 pins) with 2 PDT and double A2 contact, screw connections, connection facility for input interference suppression modules, for mounting on NS 35/7,5.

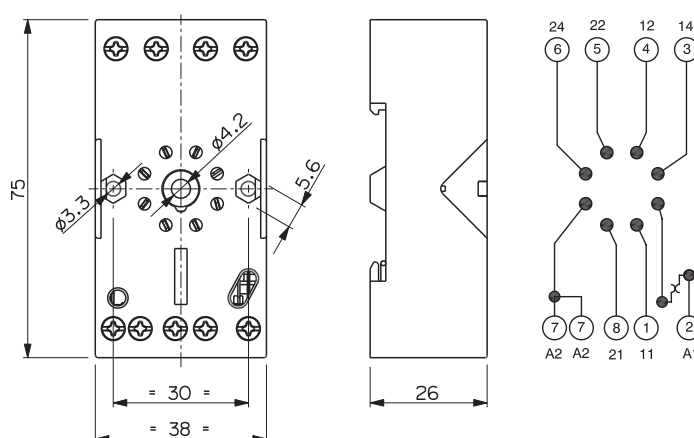
Rated current / Rated voltage	12 A / 300 VAC (CSA)
	10 A / 300 VAC (UL)
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 2,5 mm ²
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 14
Stripping length	7 mm
Screw thread	M3

General data

Width	38 mm
Height	75 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model MH 60

MH60 - Pack. 10/200 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 58-60 mm

Model MH 55

MH55 - Pack. 10/200 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 53-55 mm

Socket model ES 12

ES12CNER - Pack. 10/220 pcs

Relay socket type ES 12, for undecal relays (11 pins) with 3 PDT and double A2 contact, screw connections, connection facility for input interference suppression modules, for mounting on NS 35/7,5.

Rated current / Rated voltage	12 A / 300 VAC (CSA)
	10 A / 300 VAC (UL)

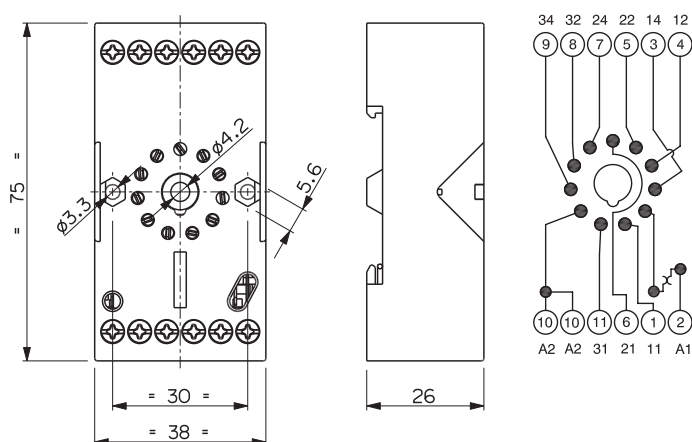
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 2,5 mm ²
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 14
Stripping length	7 mm
Screw thread	M3

General data

Width	38 mm
Height	75 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model MH 60

MH60 - Pack. 10/200 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 58-60 mm

Model MH 55

MH55 - Pack. 10/200 pcs

Spring for relay securing

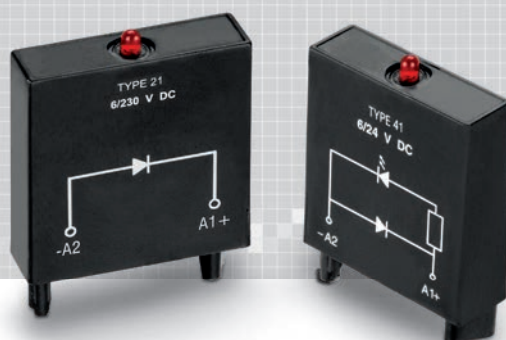
Material: X Cr Ni Steel

Relay height: 53-55 mm

 standard article

Modules for octal and undecal relay sockets

relay sockets



Modules with protection against polarity inversion

model type 21

TYPE21 - Pack. 10/100 pcs

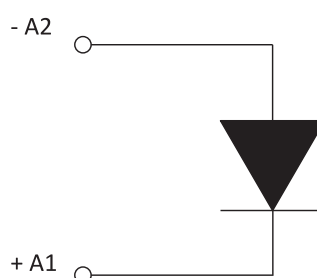
Plug-in module, for mounting on ES9 - ES12 with damping diode.

Electrical data

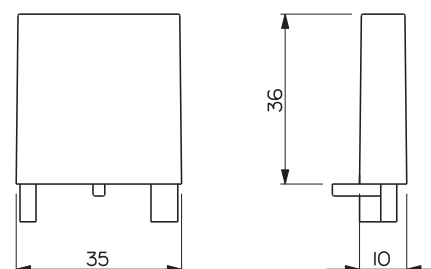
Polarity	A1+ / A2-
Input voltage	6/230 VDC



circuit diagram



dimension



model type 41

TYPE41 - Pack. 10/100 pcs

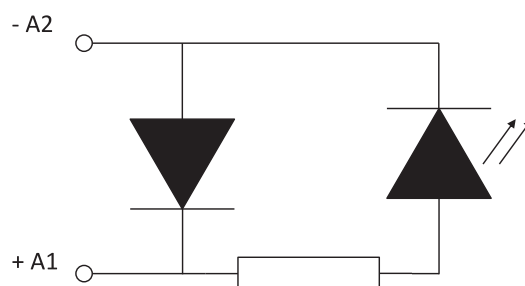
Plug-in module, for mounting on ES9 - ES12 with damping diode and red LED.

Electrical data

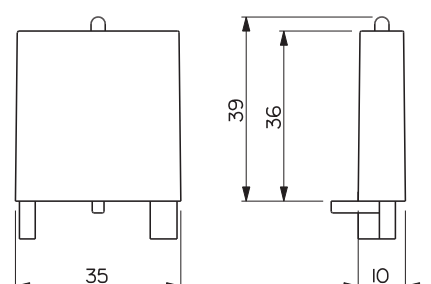
Polarity	A1+ / A2-
Input voltage	6/24 VDC



circuit diagram



dimension



model type 41V

TYPE41V - Pack. 10/200 pcs

Plug-in module, for mounting on ES9 - ES12 with damping diode and green LED.

Electrical data

Polarity	A1+ / A2-
Input voltage	6/24 VDC



This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



Sockets for
industrial relays

Socket model ES 15/2B

ES152BCNER - Pack. 10/240 pcs

Relay socket model ES 15/2B for industrial relay with 2 PDT, screw clamp terminals, connection facility for input interference suppression modules.

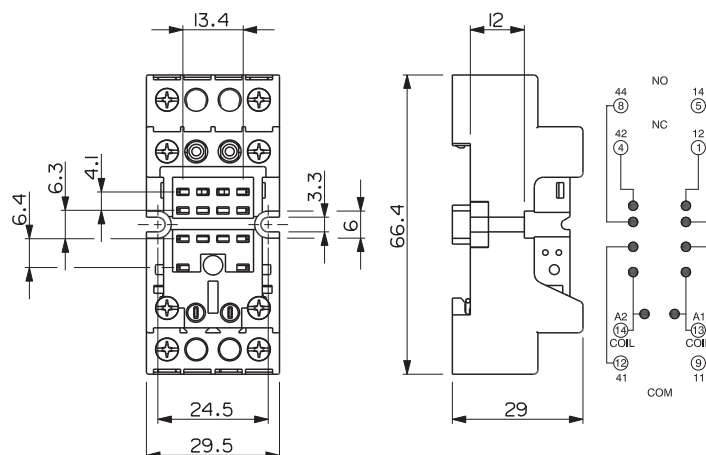
Rated voltage	300 VAC
Rated current	10 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	1,5 mm ²
Conductor cross section AWG	16
Screw thread	M3

General data

Width	29 mm
Height	66,4 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model MH 35

MH35 - Pack. 10/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 33,5-35,5 mm

Model MH 30

MH30 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 28-30 mm



Model TR

TR - Pack. 10/1000 pcs

Plate for ES50, ES35, ES32, ES25, ES50/3G, ES50/3S, ES35/3S, ES15/4-2B, ES15/4-2G

 standard article



Model MS 30 B

MS30B - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 30 C

MS30C - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 35 B

MS35B - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm



Model MS 35 C

MS35C - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm

Socket model ES 15/4B

ES154BCNER - Pack. 10/240 pcs

Relay socket model ES 15/4B for industrial relay with 4 PDT, screw clamp terminals, connection facility for input interference suppression modules.

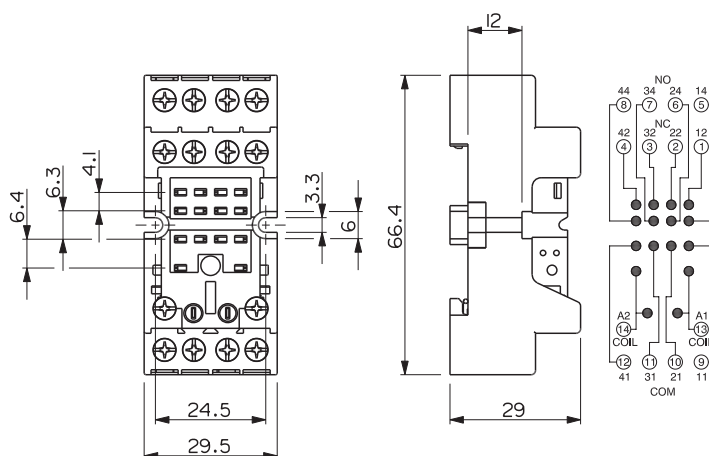
Rated voltage	300 VAC
Rated current	10 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	1,5 mm ²
Conductor cross section AWG	16
Screw thread	M3

General data

Width	29 mm
Height	66,4 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model MH 35

MH35 - Pack. 10/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 33,5-35,5 mm

Model MH 30

MH30 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 28-30 mm



Model TR

TR - Pack. 10/1000 pcs

Plate for ES50, ES35, ES32, ES25, ES50/3G, ES50/3S, ES35/3S, ES15/4-2B, ES15/4-2G

standard article



Model MS 30 B

MS30B - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 30 C

MS30C - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 35 B

MS35B - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm



Model MS 35 C

MS35C - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm

Socket model ES 15/2N

ES152NCNER - Pack. 10/220 pcs

Relay socket model ES 15/2N for industrial relay with 2 PDT, 2/2 - level, screw connections, connection facility for input interference suppression modules.

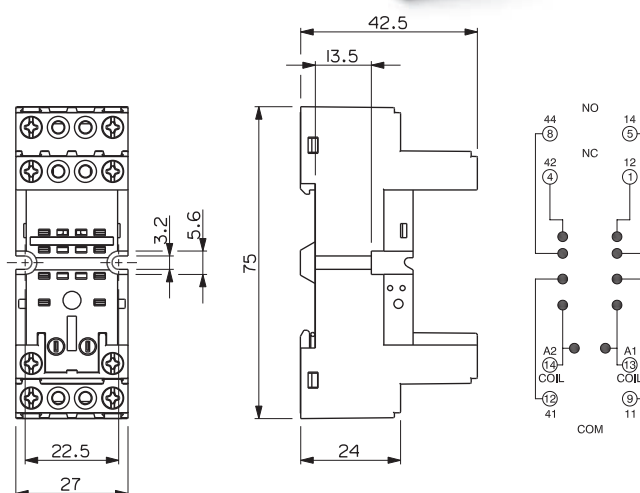
Rated current / Rated voltage	12 A / 300V (CSA)
	10 A / 300V (UL)
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 2,5 mm ²
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 14
Stripping length	7 mm
Screw thread	M3

General data

Width	27 mm
Height	75 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model MH 35

MH35 - Pack. 10/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 33,5-35,5 mm

Model MH 30

MH30 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 28-30 mm



Model TR1

TR1 - Pack. 10/1000 pcs

Plate for ES15/4-3-2N,
ES15/4-3-2S



Model MS 30 B

MS30B - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 30 C

MS30C - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 35 B

MS35B - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm



Model MS 35 C

MS35C - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm

Socket model ES 15/3N

ES153NCNER - Pack. 10/220 pcs

Relay socket model ES 15/3N for industrial relay with 3 PDT, 2/2 - level, screw connections, connection facility for input/interference suppression modules.

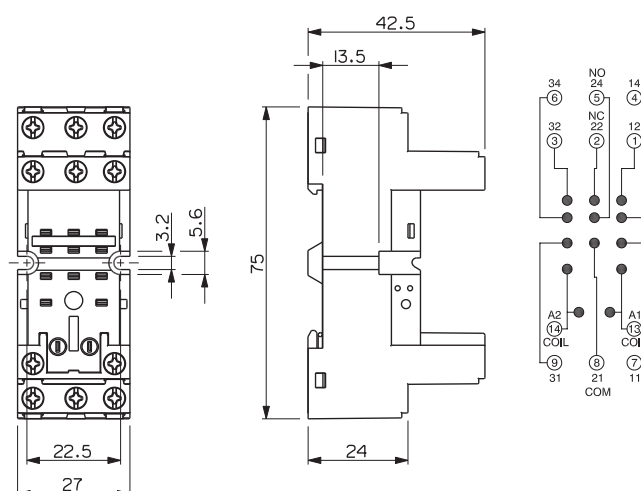
Rated current / Rated voltage	12 A / 300V (CSA)
	10 A / 300V (UL)
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 2,5 mm ²
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 14
Stripping length	7 mm
Screw thread	M3

General data

Width	27 mm
Height	75 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model MH 35

MH35 - Pack. 10/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 33,5-35,5 mm

Model MH 30

MH30 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 28-30 mm



Model TR1

TR1 - Pack. 10/1000 pcs

Plate for ES15/4-3-2N,
ES15/4-3-2S



Model MS 30 B

MS30B - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 30 C

MS30C - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 35 B

MS35B - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm



Model MS 35 C

MS35C - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm

Socket model ES 15/4N

ES154NCNER - Pack. 10/220 pcs

Relay socket model ES 15/4N for industrial relay with 4 PDT, 2/2 level, screw connections, connection facility for input interference suppression modules.

Rated current / Rated voltage	12 A / 300 VAC (CSA)
	10 A / 300 VAC (UL)

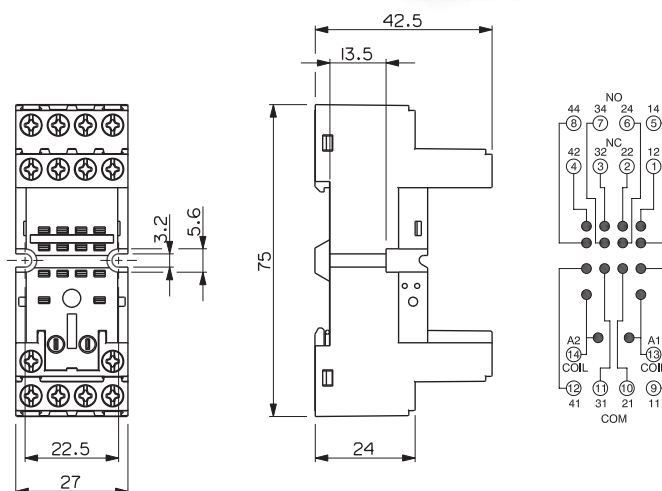
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 2,5 mm ²
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 14
Stripping length	7 mm
Screw thread	M3

General data

Width	27 mm
Height	75 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model MH 35

MH35 - Pack. 10/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 33,5-35,5 mm

Model MH 30

MH30 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel


Relay height: 28-30 mm



Model TR1

TR1 - Conf. 10/1000 pz.

Plate for ES15/4-3-2N,
ES15/4-3-2S

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Model MS 30 B

MS30B - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 30 C

MS30C - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 35 B

MS35B - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm



Model MS 35 C

MS35C - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm

Socket model ES 15/2S

ES152SCNER - Pack. 10/220 pcs

Relay socket model ES 15/2S for industrial relay with 2 PDT, 1/3 level, screw connections, connection facility for input interference suppression modules.

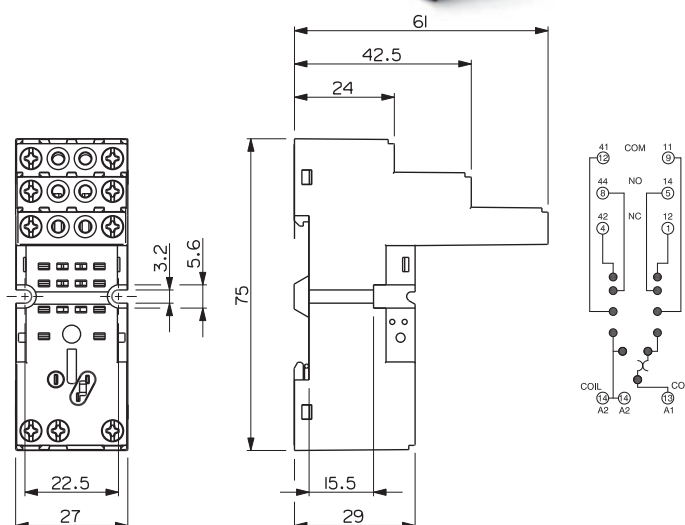
Rated voltage	300 VAC
Rated current	12 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 2,5 mm ²
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 14
Stripping length	7 mm
Screw thread	M3

General data

Width	27 mm
Height	75 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model MH 35

MH35 - Pack. 10/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 33,5-35,5 mm

Model MH 30

MH30 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 28-30 mm



Model TR1

TR1 - Pack. 10/1000 pcs

Plate for ES15/4-3-2N,
ES15/4-3-2S



Model MS 30 B

MS30B - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 30 C

MS30C - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 35 B

MS35B - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm



Model MS 35 C

MS35C - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm

Socket model ES 15/3S

ES153SCNER - Pack. 10/220 pcs

Relay socket model ES 15/3S for industrial relay with 3 PDT, 1/3 level, screw connections, connection facility for input interference suppression modules.

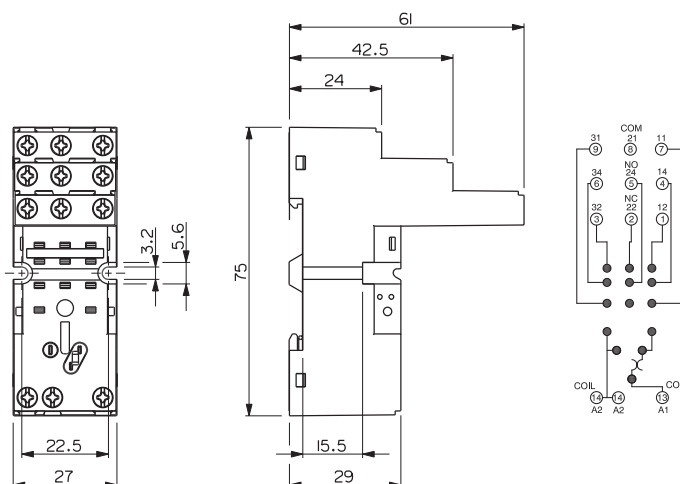
Rated voltage	300 VAC
Rated current	12 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 2,5 mm ²
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 14
Stripping length	7 mm
Screw thread	M3

General data

Width	27 mm
Height	75 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model MH 35

MH35 - Pack. 10/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 33,5-35,5 mm

Model MH 30

MH30 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 28-30 mm



Model TR1

TR1 - Pack. 10/1000 pcs

Plate for ES15/4-3-2N,
ES15/4-3-2S



Model MS 30 B

MS30B - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 30 C

MS30C - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 35 B

MS35B - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm



Model MS 35 C

MS35C - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm

Socket model ES 15/4S

ES154SCNER - Pack. 10/220 pcs

Relay socket model ES 15/4S for industrial relay with 4 PDT, 1/3 level, screw connections, connection facility for input interference suppression modules.

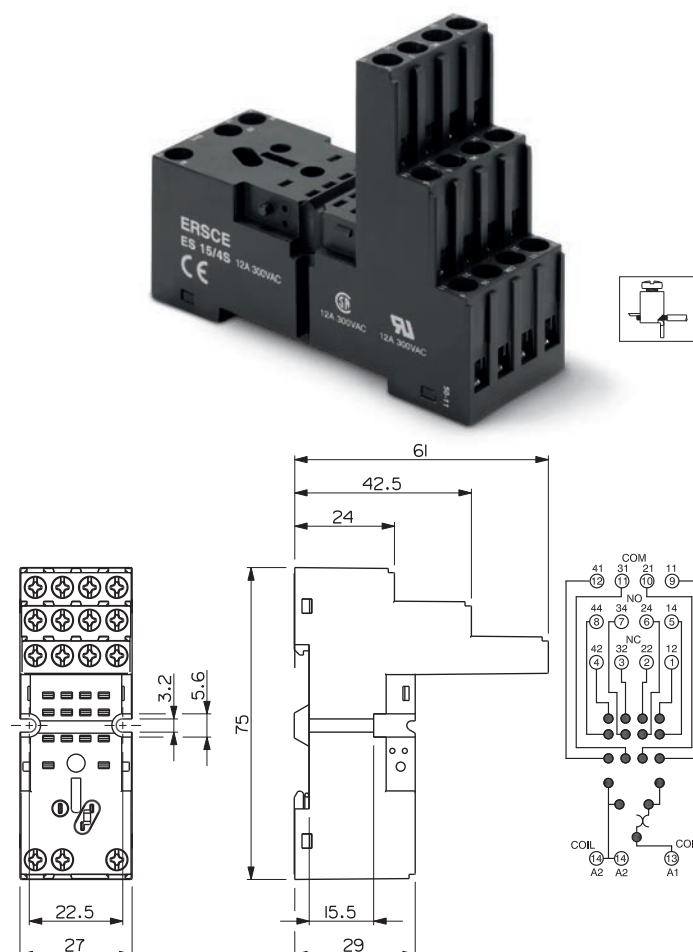
Rated voltage	300 VAC
Rated current	12 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 2,5 mm ²
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 14
Stripping length	7 mm
Screw thread	M3

General data

Width	27 mm
Height	75 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model MH 35

MH35 - Pack. 10/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 33,5-35,5 mm

Model MH 30

MH30 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 28-30 mm



Model TR1

TR1 - Pack. 10/1000 pcs

Plate for ES15/4-3-2N,
ES15/4-3-2S



Model MS 30 B

MS30B - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 30 C

MS30C - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 35 B

MS35B - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm



Model MS 35 C

MS35C - Pack. 10/100 pcs

Spring for relay securing and
releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm

Socket model ES 15/2G

ES152GCNER - Pack. 10/150 pcs

Relay socket model ES 15/2G for industrial relay with 2 PDT, 1/3 level, spring-cage connections, connection facility for input interference suppression modules.

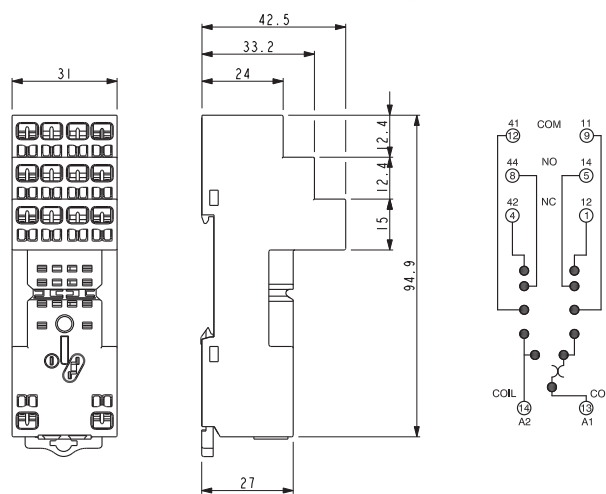
Rated voltage	300 VAC
Rated current	10 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 1,5 mm ²
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 16
Stripping length	10 mm

General data

Width	31 mm
Height	95 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model MH 35

MH35 - Pack. 10/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 33,5-35,5 mm

Model MH 30

MH30 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 28-30 mm



Model TR

TR - Pack. 10/1000 pcs

Plate for ES50, ES35, ES32, ES25, ES50/3G, ES50/3S, ES35/3S, ES15/4-2B, ES15/4-2G



Model MS 30 B

MS30B - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 30 C

MS30C - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 35 B

MS35B - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm



Model MS 35 C

MS35C - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm

Socket model ES 15/4G

ES154GCNER - Pack. 10/150 pcs

Relay socket model ES 15/4G for industrial relay with 4 PDT, 1/3 level, spring-cage connections, connection facility for input interference suppression modules.

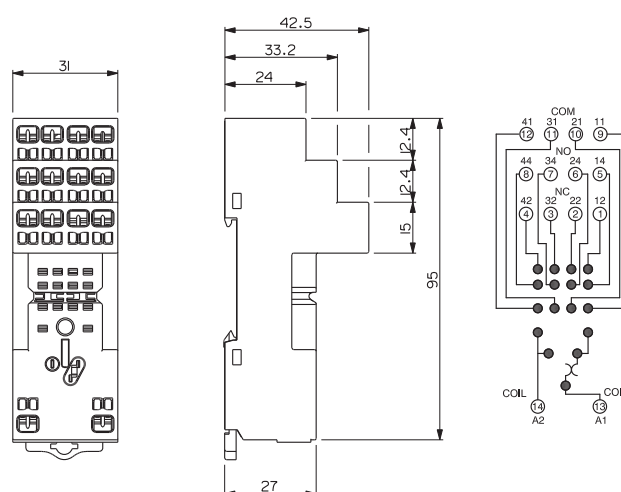
Rated voltage	300 VAC
Rated current	10 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,5 mm ² two wires for terminal
Conductor cross section solid and stranded	max. 1,5 mm ² two wires for terminal
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 16
Stripping length	10 mm

General data

Width	31 mm
Height	95 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model MH 35

MH35 - Pack. 10/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 33,5-35,5 mm

Model MH 30

MH30 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 28-30 mm



Model TR

TR - Pack. 10/1000 pcs

Plate for ES50, ES35, ES32, ES25, ES50/3G, ES50/3S, ES35/3S, ES15/4-2B, ES15/4-2G



Model MS 30 B

MS30B - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 30 C

MS30C - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 28-30 mm



Model MS 35 B

MS35B - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm



Model MS 35 C

MS35C - Pack. 10/100 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 33,5-35,5 mm

Modules for industrial relay sockets



Modules with protection against polarity inversion

Model type 22

TYPE22 - Pack. 10/200 pcs

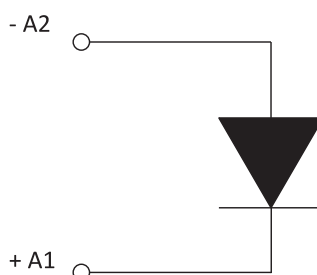
Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with damping diode

Electrical data

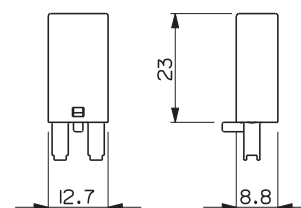
Polarity	A1+ / A2-
Input voltage	6/230 VDC



circuit diagram



dimension



Model type 42

TYPE42 - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S ES50
- ES35 - ES32 - ES25 - ES50/3 -
ES50/3S - ES35/3S - ES-50/3G
with damping diode and red LED.

Electrical data

Polarity	A1+ / A2-
Input voltage	6/24 VDC



Model type 42V

TYPE42V - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S ES50
- ES35 - ES32 - ES25 - ES50/3 -
ES50/3S - ES35/3S - ES-50/3G
with damping diode and green LED.

Electrical data

Polarity	A1+ / A2-
Input voltage	6/24 VDC



Model type 42B

TYPE42B - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S ES50
- ES35 - ES32 - ES25 - ES50/3 -
ES50/3S - ES35/3S - ES-50/3G
with damping diode and red LED.

Electrical data

Polarity	A1+ / A2-
Input voltage	24/60 VDC



Model type 42BV

TYPE42BV - Pack. 10/200 pcs

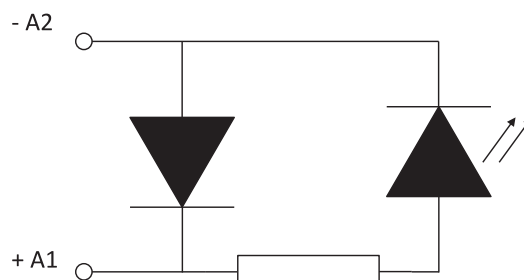
Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S ES50
- ES35 - ES32 - ES25 - ES50/3 -
ES50/3S - ES35/3S - ES-50/3G
with damping diode and green LED.

Electrical data

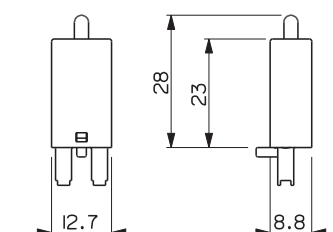
Polarity	A1+ / A2-
Input voltage	24/60 VDC



circuit diagram



dimension



Modules with RC Circuit

Model type 52C

TYPE52C - Pack. 10/200 pcs

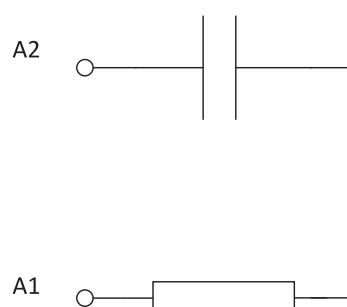
Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with RC circuit.

Electrical data

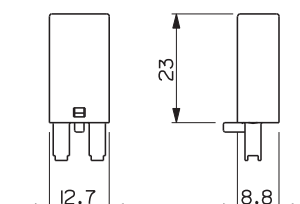
Polarity	A1+ / A2-
Input voltage	110/230 VAC



circuit diagram



dimension



Modules with signaling circuits

Model type 62

TYPE62 - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with red LED and
without protections against
polarity inversion.

Electrical data

Polarity	A1+ / A2-
Input voltage	6/24 VAC\VDC



Model type 62V

TYPE62V - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with green LED and
without protections against
polarity inversion.

Electrical data

Polarity	A1+ / A2-
Input voltage	6/24 VAC\VDC



Model type 62B

TYPE62B - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with red LED and
without protections against
polarity inversion.

Electrical data

Polarity	A1+ / A2-
Input voltage	24/60 VDC



Model type 62E

TYPE62E - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with red LED and
without protections against
polarity inversion.

Electrical data

Polarity	A1+ / A2-
Input voltage	24/60 VAC\VDC



Model type 92

TYPE92 - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with red LED and
without protections against
polarity inversion.

Electrical data

Polarity	A1+ / A2-
Input voltage	110/230VAC\VDC



Model type 92V

TYPE92V - Pack. 10/200 pcs

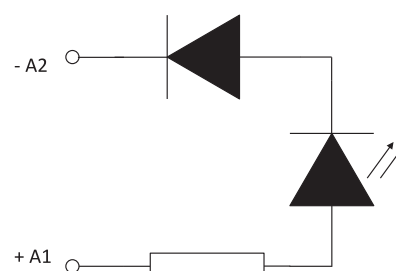
Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with green LED and
without protections against
polarity inversion.

Electrical data

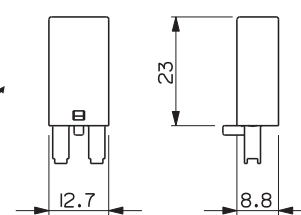
Polarity	A1+ / A2-
Input voltage	110/230 VAC\VDC



circuit diagram



dimension



Modules with signaling circuits and varistor

Model type 62C
TYPE62C - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with varistor and red
LED.

Electrical data	
Polarity	A1+ / A2-
Input voltage	6/24 VAC\VDC



Model type 62CV
TYPE62CV - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with varistor and
green LED.

Electrical data	
Polarity	A1+ / A2-
Input voltage	6/24 VAC\VDC



Model type 62DV
TYPE62DV - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with varistor and
green LED.

Electrical data	
Polarity	A1+ / A2-
Input voltage	24/60 VAC\VDC



Model type 92C
TYPE92C - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with varistor and red
LED.

Electrical data	
Polarity	A1+ / A2-
Input voltage	110/230 VAC\VDC



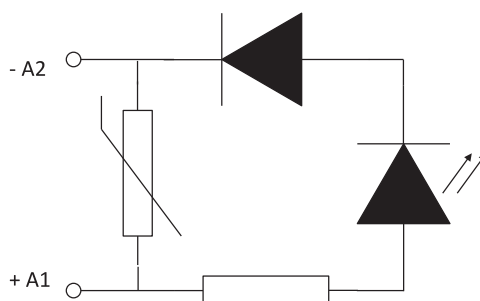
Model type 92CV
TYPE92CV - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with varistor and
green LED.

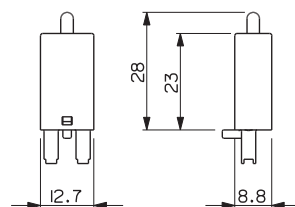
Electrical data	
Polarity	A1+ / A2-
Input voltage	110/230 VAC\VDC



circuit diagram



dimension



Modules with varistor

Model type 72
TYPE72 - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with varistor.

Electrical data	
Polarity	A1+ / A2-
Input voltage	24 VAC



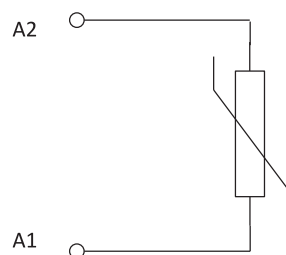
Model type 82V
TYPE82V - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with varistor.

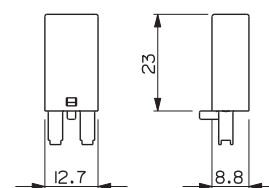
Electrical data	
Polarity	A1+ / A2-
Input voltage	230 VAC



circuit diagram



dimension





Sockets
for PCB relays

Socket model ES 25

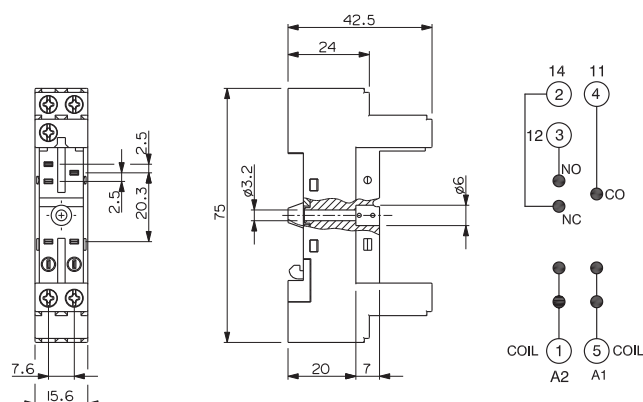
ES25CNER - Pack. 10/240 pcs

Relay socket Model ES 25, for miniature power relay, miniature switching relay or solid-state relay with 1 PDT and 2,5 mm pinning, 2/2 level design, screw connections, connection facility for input interference suppression modules.

Rated current / Rated voltage	12 A / 300 VAC (CSA)
	10 A / 300 VAC (UL)
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data	
Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 2,5 mm ²
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 14
Stripping length	7 mm
Screw thread	M3

General data	
Width	15,6 mm
Height	75,5 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model TR

TR - Pack. 10/1000 pcs

Plate for ES50, ES35, ES32, ES25, ES50/3G, ES50/3S, ES35/3S, ES15/4-2B, ES15/4-2G



Model MS 16

MS16 - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15,5-16,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G



Model MS 16 C

MS16C - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15,5-16,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G



Model MS 25

MS25 - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 25-25,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G

Socket model ES 32

ES32CNER - Pack. 10/240 pcs

Relay socket Model ES 32, for miniature power relay, miniature switching relay or solid-state relay with 1 PDT and 3,2 mm pinning, 2/2 level design, screw connections, connection facility for input interference suppression modules.

Rated current / Rated voltage

12 A / 300 VAC (CSA)

10 A / 300 VAC (UL)

Dielectric strength adjacent contact circuits

2500V

Dielectric strength coil contact circuits

2500V

Connection data

Conductor cross section solid and stranded

min. 0,5 mm²

Conductor cross section solid and stranded

max. 2,5 mm²

Conductor cross section AWG

min. 20

Conductor cross section AWG

max 14

Stripping length

7 mm

Screw thread

M3

General data

Width

15,6 mm

Height

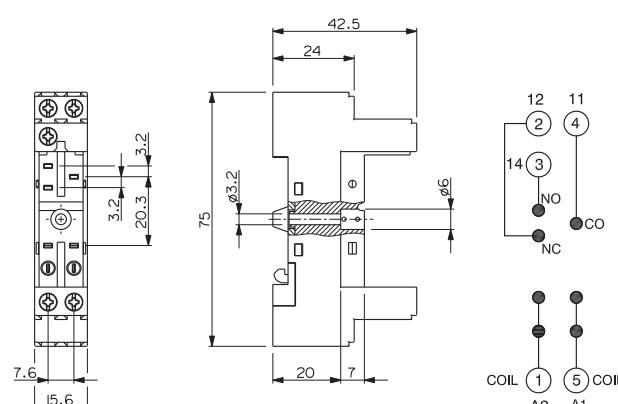
75,5 mm

Color

Black

Ambient temperature (operation)

-25 °C ... 85 °C



Accessories



Model TR

TR - Pack. 10/1000 pcs

Plate for ES50, ES35, ES32, ES25, ES50/3G, ES50/3S, ES35/3S, ES15/4-2B, ES15/4-2G



Model MS 16

MS16 - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15,5-16,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G



Model MS 16 C

MS16C - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15,5-16,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G



Model MS 25

MS25 - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 25-25,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G

Socket model ES 35

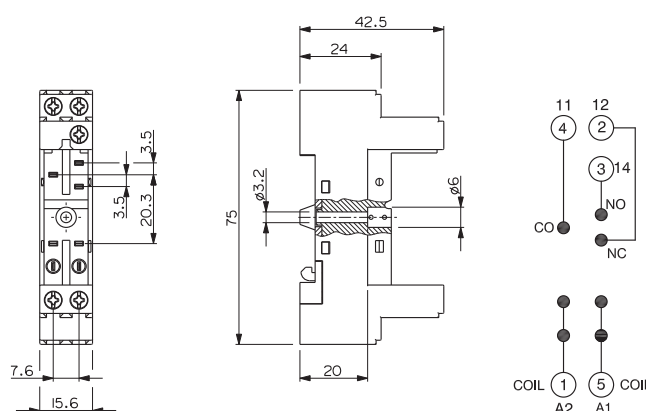
ES35CNER - Pack. 10/240 pcs

Relay socket Model ES 35, for miniature power relay or miniature switching relay or solid-state relay with 1 PDT and 3,5 mm pinning, 2/2 level design, screw connections, connection facility for input interference suppression modules.

Rated current / Rated voltage	12 A / 300 VAC (CSA)
	10 A / 300 VAC (UL)
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data	
Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 2,5 mm ²
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 14
Stripping length	7 mm
Screw thread	M3

General data	
Width	15,6 mm
Height	75,5 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model TR

TR - Pack. 10/1000 pcs

Plate for ES50, ES35, ES32, ES25, ES50/3G, ES50/3S, ES35/3S, ES15/4-2B, ES15/4-2G



Model MS 16

MS16 - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15,5-16,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G



Model MS 16 C

MS16C - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15,5-16,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G



Model MS 25

MS25 - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 25-25,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G

Socket model ES 35/3S

ES353SCNER - Pack. 10/240 pcs

Relay socket Model ES 35/3 S, for miniature power relay or miniature switching relay or solid-state relay with 1 PDT and 3,5 mm pinning, 1/3 level design, screw connections, connection facility for input interference suppression modules.

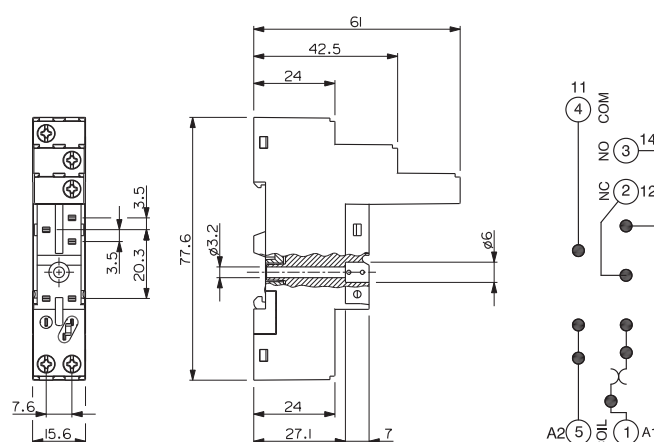
Rated voltage	300 VAC
Rated current	12 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 2,5 mm ²
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 14
Stripping length	7 mm
Screw thread	M3

General data

Width	15,6 mm
Height	77,6 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model TR

TR - Pack. 10/1000 pcs

Plate for ES50, ES35, ES32, ES25, ES50/3G, ES50/3S, ES35/3S, ES15/4-2B, ES15/4-2G



Model MS 16

MS16 - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15,5-16,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G



Model MS 16 C

MS16C - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15,5-16,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G



Model MS 25

MS25 - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 25-25,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G

Socket model ES 50

ES50CNER - Pack. 10/240 pcs

Relay socket Model ES 50, for miniature power relay or miniature switching relay or solid-state relay with 1 or 2 PDT and 5 mm pinning, 2/2 level design, screw connections, connection facility for input interference suppression modules.

Rated current / Rated voltage	12 A / 300 V (CSA)
	10 A / 300 V (UL)

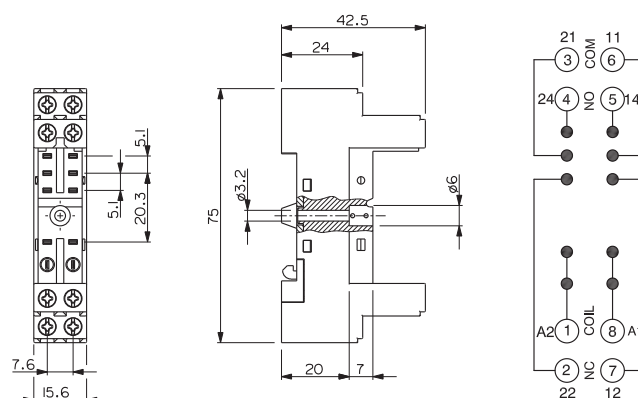
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,5 mm ²
Conductor cross section solid and stranded	max. 2,5 mm ²
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 14
Stripping length	7 mm
Screw thread	M3

General data

Width	15,6 mm
Height	75,5 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model TR

TR - Pack. 10/1000 pcs

Plate for ES50, ES35, ES32, ES25, ES50/3G, ES50/3S, ES35/3S, ES15/4-2B, ES15/4-2G



Model MS 16

MS16 - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15,5-16,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G



Model MS 16 C

MS16C - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15,5-16,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G



Model MS 25

MS25 - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 25-25,5 mm

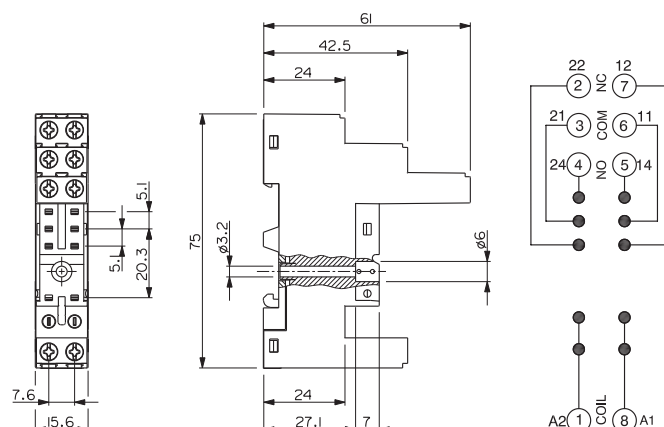
Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G

ES503CNER - Pack. 10/240 pcs

Rated voltage	300 VAC
Rated current	12 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

General data	
Width	15,6 mm
Height	75,6 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



TR - Pack. 10/1000 pcs



MS16 - Pack. 10/200 pcs

MS16C - Pack. 10/200 pcs



MS25 - Pack. 10/200 pcs

Spring for relay securing
and releasing

Material: Thermoplastic

Relay height: 25-25,5 mm

Supported sockets:
ES50-35-32-25, ES50/3,
ES50/3S, ES35/3S, ES50/3G

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■ Socket model **ES 50/3S**

ES503SCNER - Pack. 10/240 pcs

Relay socket Model ES 50/3 S, for miniature power relay or miniature switching relay or solid-state relay with 2 PDT and 5 mm pinning, 1/3 level design, screw connections, connection facility for input interference suppression modules.

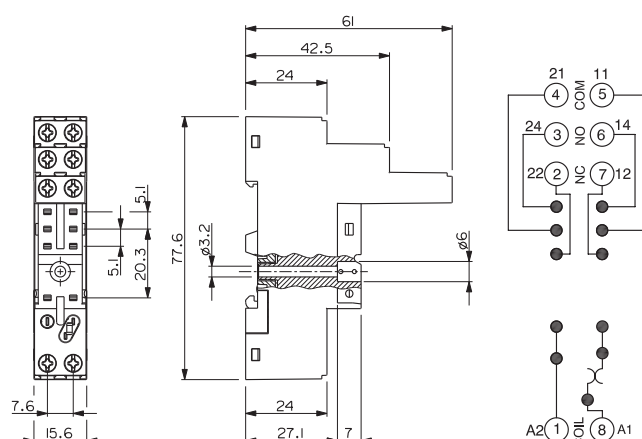
Rated voltage	300 VAC
Rated current	12 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Dati sulle connessioni

Sezione conduttori rigidi e flessibili	min. 0,5 mm ²
Sezione conduttori rigidi e flessibili	max. 2,5 mm ²
Sezione conduttori AWG	min. 20
Sezione conduttori AWG	max 14
Lunghezza di spelatura	7 mm
Tipo vite	M3

General data

Width	15,6 mm
Height	77,6 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



■ Model **TR**

TR - Pack. 10/1000 pcs

Plate for ES50, ES35, ES32, ES25, ES50/3G, ES50/3S, ES35/3S, ES15/4-2B, ES15/4-2G



■ Model **MS 16**

MS16 - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15,5-16,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G



■ Model **MS 16 C**

MS16C - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15,5-16,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G



■ Model **MS 25**

MS25 - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 25-25,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G

Socket model ES 50/3G

ES503GCNER - Pack. 10/240 pcs

Relay socket Model ES 50/3 G, for miniature power relay or miniature switching relay with or solid-state relay, 2 PDT and 5 mm pinning, 1/3 level design, spring-cage connections, connection facility for input interference suppression modules.

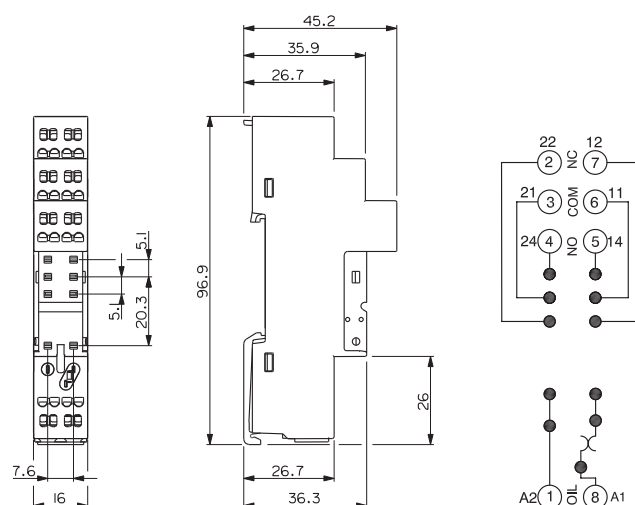
Rated voltage	300 VAC
Rated current	10 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	min. 0,2 mm ² two wires for terminal
Conductor cross section solid and stranded	max. 1,5 mm ² two wires for terminal
Conductor cross section AWG	min. 20
Conductor cross section AWG	max 16
Stripping length	11 mm

General data

Width	16 mm
Height	97 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model TR

TR - Pack. 10/1000 pcs

Plate for ES50, ES35, ES32, ES25, ES50/3G, ES50/3S, ES35/3S, ES15/4-2B, ES15/4-2G



Model MS 16

MS16 - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15,5-16,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G



Model MS 16 C

MS16C - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15,5-16,5 mm

Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G



Model MS 25

MS25 - Pack. 10/200 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 25-25,5 mm

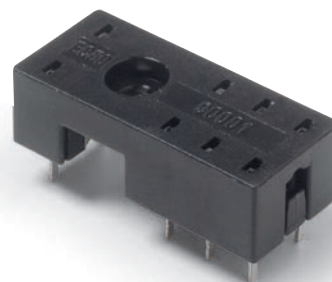
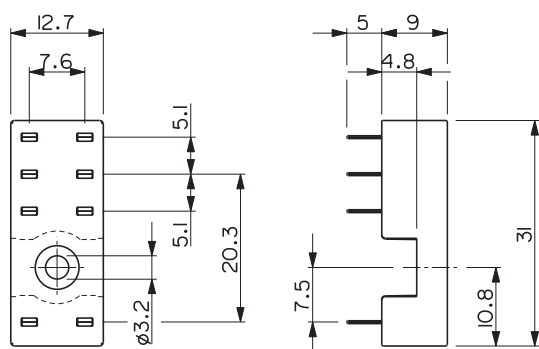
Supported sockets:

ES50-35-32-25, ES50/3, ES50/3S, ES35/3S, ES50/3G

■ Socket model EC 50

EC50CNER - Pack. 100/500 pcs

Relay socket model EC 50, for miniature power relay or miniature switching relay with 2 PDT and 5mm pinning.



Accessories



■ Model MP 12

MP12 - Pack. 100/2000 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 25-25,5 mm

Supported sockets: EC 50-35-32-25



■ Model MH 16

MH16 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 15-16,5mm

Supported sockets:

EC 50-35-32-25

■ Model MP 16

MP16 - Pack. 100/2000 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15-16,5 mm

Supported sockets: EC 50-35-32-25

■ Model MH 25

MH25 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 25-25,5mm

Supported sockets:

EC 50-35-32-25

■ Model MP 25

MP25 - Pack. 100/1500 pcs

Spring for relay securing and releasing

Material: Thermoplastic

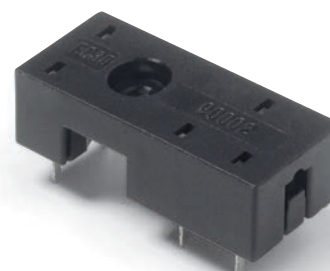
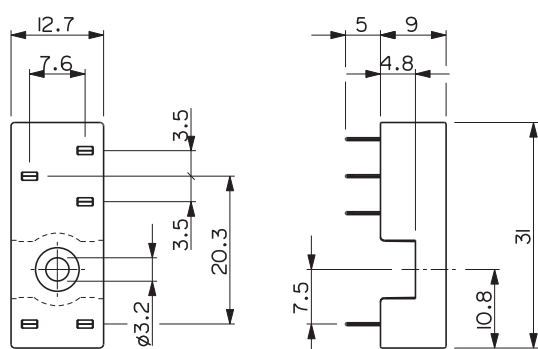
Relay height: 25-25,5 mm

Supported sockets: EC 50-35-32-25

Socket model EC 35

EC35CNER - Pack. 100/500 pcs

Relay socket model EC 35, for miniature power relay or miniature switching relay with 1 PDT and 3,5mm pinning.



Accessories



Model MP 12

MP12 - Pack. 100/2000 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 25-25,5 mm

Supported sockets: EC 50-35-32-25

Model MH 16

MH16 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 15-16,5mm

Supported sockets:

EC 50-35-32-25

Model MP 16

MP16 - Pack. 100/2000 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15-16,5 mm

Supported sockets: EC 50-35-32-25

Model MH 25

MH25 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 25-25,5mm

Supported sockets:

EC 50-35-32-25

Model MP 25

MP25 - Pack. 100/1500 pcs

Spring for relay securing and releasing

Material: Thermoplastic

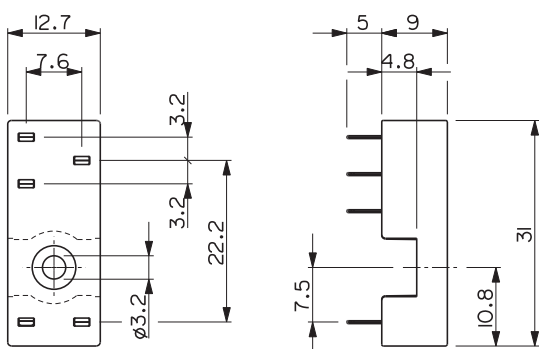
Relay height: 25-25,5 mm

Supported sockets: EC 50-35-32-25

■ Socket model EC 32

EC32CNER - Pack. 100/500 pcs

Relay socket model EC 32, for miniature power relay or miniature switching relay with 1 PDT and 3,2mm pinning.



Accessories



■ Model MP 12

MP12 - Pack. 100/2000 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 25-25,5 mm

Supported sockets: EC 50-35-32-25

■ Model MH 16

MH16 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 15-16,5mm

Supported sockets:

EC 50-35-32-25

■ Model MP 16

MP16 - Pack. 100/2000 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15-16,5 mm

Supported sockets: EC 50-35-32-25

■ Model MH 25

MH25 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 25-25,5mm

Supported sockets:

EC 50-35-32-25

■ Model MP 25

MP25 - Pack. 100/1500 pcs

Spring for relay securing and releasing

Material: Thermoplastic

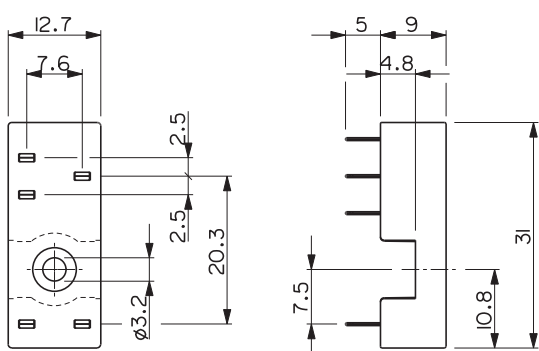
Relay height: 25-25,5 mm

Supported sockets: EC 50-35-32-25

Socket model EC 25

EC25CNER - Pack. 100/500 pcs

Relay socket model EC 25, for miniature power relay or miniature switching relay with 1 PDT and 2,5mm pinning.



Accessories



Model MP 12

MP12 - Pack. 100/2000 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 25-25,5 mm

Supported sockets: EC 50-35-32-25



Model MH 16

MH16 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 15-16,5mm

Supported sockets:

EC 50-35-32-25

Model MP 16

MP16 - Pack. 100/2000 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 15-16,5 mm

Supported sockets: EC 50-35-32-25

Model MH 25

MH25 - Pack. 100/1000 pcs

Spring for relay securing

Material: X Cr Ni Steel

Relay height: 25-25,5mm

Supported sockets:

EC 50-35-32-25

Model MP 25

MP25 - Pack. 100/1500 pcs

Spring for relay securing and releasing

Material: Thermoplastic

Relay height: 25-25,5 mm

Supported sockets: EC 50-35-32-25

Modules for PCB relay sockets



Modules with protection against polarity inversion

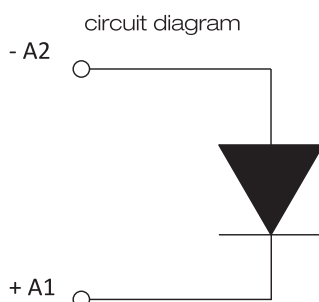
Model type 22

TYPE22 - Pack. 10/200 pcs

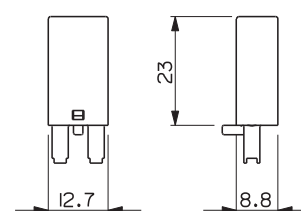
Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with damping diode.

Electrical data

Polarity	A1+ / A2-
Input voltage	6/230 VDC



dimension



Model type 42

TYPE42 - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S ES50
- ES35 - ES32 - ES25 - ES50/3 -
ES50/3S - ES35/3S - ES-50/3G
with damping diode and red LED.

Electrical data

Polarity	A1+ / A2-
Input voltage	6/24 VDC



Model type 42V

TYPE42V - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S ES50
- ES35 - ES32 - ES25 - ES50/3 -
ES50/3S - ES35/3S - ES-50/3G
with damping diode and green LED.

Electrical data

Polarity	A1+ / A2-
Input voltage	6/24 VDC



Model type 42B

TYPE42B - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S ES50
- ES35 - ES32 - ES25 - ES50/3 -
ES50/3S - ES35/3S - ES-50/3G
with damping diode and red LED.

Electrical data

Polarity	A1+ / A2-
Input voltage	24/60 VDC



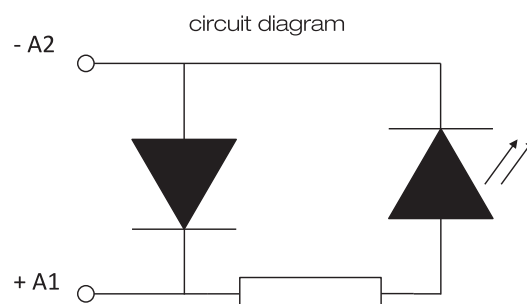
Model type 42BV

TYPE42BV - Pack. 10/200 pcs

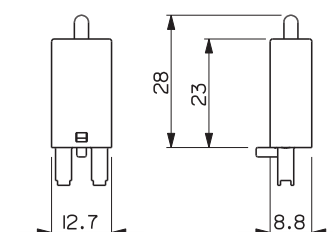
Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S ES50
- ES35 - ES32 - ES25 - ES50/3 -
ES50/3S - ES35/3S - ES-50/3G
with damping diode and green LED.

Electrical data

Polarity	A1+ / A2-
Input voltage	24/60 VDC



dimension



Modules with RC Circuit

Model type 52C

TYPE52C - Pack. 10/200 pcs

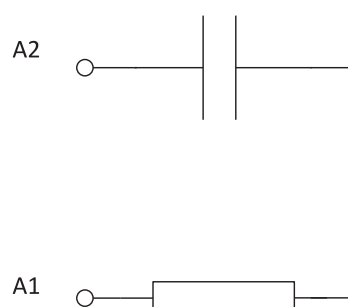
Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with RC circuit.

Electrical data

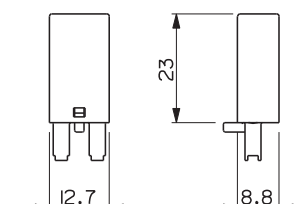
Polarity	A1+ / A2-
Input voltage	110/230 VAC



circuit diagram



dimension



Modules with signaling circuits

Model type 62

TYPE62 - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with red LED and
without protections against
polarity inversion.

Electrical data

Polarity	A1+ / A2-
Input voltage	6/24 VAC\VDC



Model type 62V

TYPE62V - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with green LED and
without protections against
polarity inversion.

Electrical data

Polarity	A1+ / A2-
Input voltage	6/24 VAC\VDC



Model type 62B

TYPE62B - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with red LED and
without protections against
polarity inversion.

Electrical data

Polarity	A1+ / A2-
Input voltage	24/60 VDC



Model type 62E

TYPE62E - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with red LED and
without protections against
polarity inversion.

Electrical data

Polarity	A1+ / A2-
Input voltage	24/60 VAC\VDC



Model type 92

TYPE92 - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with red LED and
without protections against
polarity inversion.

Electrical data

Polarity	A1+ / A2-
Input voltage	110/230 VAC\VDC



Model type 92V

TYPE92V - Pack. 10/200 pcs

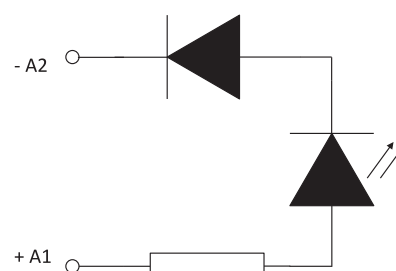
Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with green LED and
without protections against
polarity inversion.

Electrical data

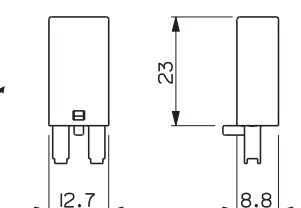
Polarity	A1+ / A2-
Input voltage	110/230 VAC\VDC



circuit diagram



dimension



Modules with signaling circuits and varistor

Model type 62C TYPE62C - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S ES50
- ES35 - ES32 - ES25 - ES50/3 -
ES50/3S - ES35/3S - ES-50/3G
with varistor and red LED.

Electrical data

Polarity	A1+ / A2-
Input voltage	6/24 VAC\VDC



Model type 62CV TYPE62CV - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S ES50
- ES35 - ES32 - ES25 - ES50/3 -
ES50/3S - ES35/3S - ES-50/3G
with varistor and green LED.

Electrical data

Polarity	A1+ / A2-
Input voltage	6/24 VAC\VDC



Model type 62DV TYPE62DV - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S ES50
- ES35 - ES32 - ES25 - ES50/3 -
ES50/3S - ES35/3S - ES-50/3G
with varistor and green LED.

Electrical data

Polarity	A1+ / A2-
Input voltage	24/60 VAC\VDC



Model type 92C TYPE92C - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S ES50
- ES35 - ES32 - ES25 - ES50/3 -
ES50/3S - ES35/3S - ES-50/3G
with varistor and red LED.

Electrical data

Polarity	A1+ / A2-
Input voltage	110/230 VAC\VDC



Model type 92CV TYPE92CV - Pack. 10/200 pcs

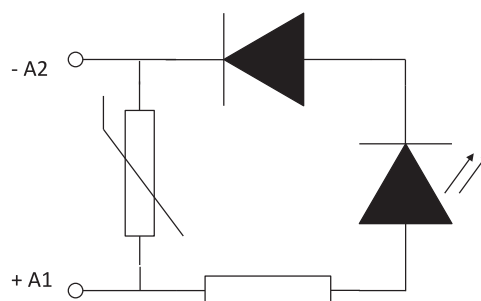
Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S ES50
- ES35 - ES32 - ES25 - ES50/3 -
ES50/3S - ES35/3S - ES-50/3G
with varistor and green LED.

Electrical data

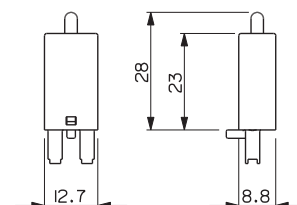
Polarity	A1+ / A2-
Input voltage	110/230 VAC\VDC



circuit diagram



dimension



Modules with varistor

Model type 72 TYPE72 - Pack. 10/200 pcs

Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with varistor.

Electrical data

Polarity	A1+ / A2-
Input voltage	24 VAC



Model type 82V TYPE82V - Pack. 10/200 pcs

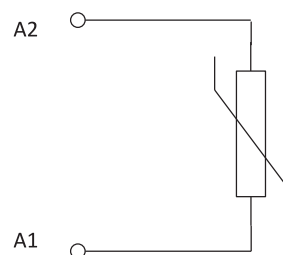
Plug-in module, for mounting on
ES15/4/2B - ES15/4/2G -
ES15/4/3/2N - ES15/4/3/2S
ES50 - ES35 - ES32 - ES25 -
ES50/3 - ES50/3S - ES35/3S -
ES-50/3G with varistor.

Electrical data

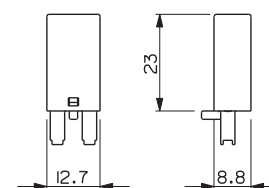
Polarity	A1+ / A2-
Input voltage	230 VAC



circuit diagram



dimension





Slim sockets for
miniature relays

Socket model **ES 62/AS**

ES62ASCNER - Pack. 10/270 pcs

Relay socket model ES 62/AS for miniature relay with protection and indication circuit, screw connections.

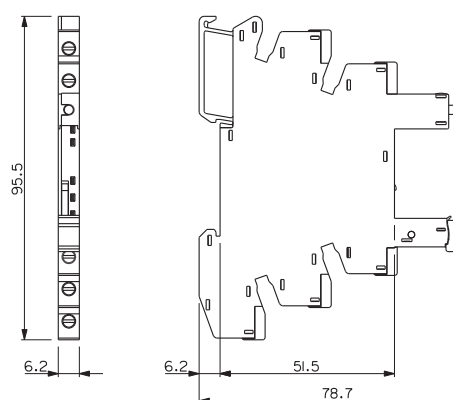
Input voltage	12 VAC/VDC - 24 VAC/VDC
Coil voltage	12 VDC - 24 VDC
Rated current	6 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	max. 2,5 mm ² (AWG 14)
Stripping length	9 mm
Screw thread	M 2,5

General data

Width	6,2 mm
Height	101 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model PL 64
PL64 - Pack. 2/96 pcs
Print label for ES 62 series



Model BB 20
BB20 - Pack. 10/300 pcs
Bus bar 20 poles for ES 62 series



Model BTF 2
BTF2 - Pack. 10/1000 pcs
Butterfly isolator for ES 62 series

Socket model ES 62/BS

ES62BSCNER - Pack. 10/270 pcs

Relay socket model ES 62/BS for miniature relay with protection and indication circuit, screw connections.

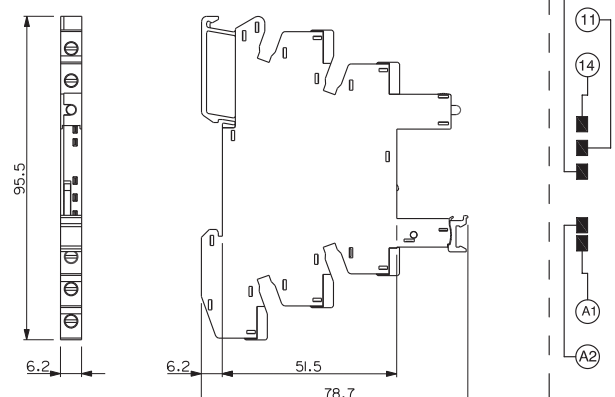
Input voltage	48 VAC/VDC - 60 VAC/VDC
Coil voltage	48 VDC - 60 VDC
Rated current	6 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	max. 2,5 mm ² (AWG 14)
Stripping length	9 mm
Screw thread	M 2,5

General data

Width	6,2 mm
Height	101 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model PL 64

PL64 - Pack. 2/96 pcs

Print label for ES 62 series



Model BB 20

BB20 - Pack. 10/300 pcs

Bus bar 20 poles for ES 62 series



Model BTF 2

BTF2 - Pack. 10/1000 pcs

Butterfly isolator for ES 62 series

Socket model ES 62/CS

ES62CSCNER - Pack. 10/270 pcs

Relay socket model ES 62/CS for miniature relay with protection and indication circuit, screw connections.

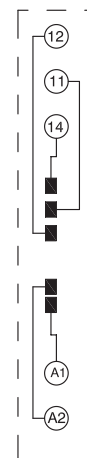
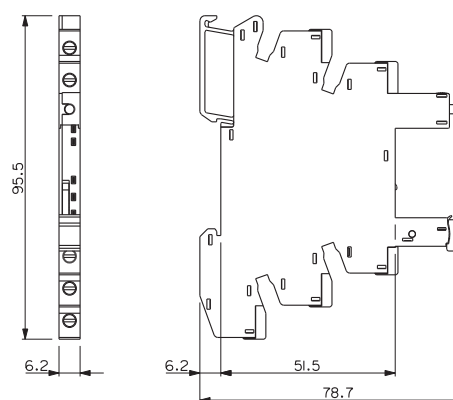
Input voltage	110 VAC/VDC
Coil voltage	60 VDC
Rated current	6 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	max. 2,5 mm ² (AWG 14)
Stripping length	9 mm
Screw thread	M 2,5

General data

Width	6,2 mm
Height	101 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model PL 64
PL64 - Pack. 2/96 pcs
Print label for ES 62 series



Model BB 20
BB20 - Pack. 10/300 pcs
Bus bar 20 poles for ES 62 series



Model BTF 2
BTF2 - Pack. 10/1000 pcs
Butterfly isolator for ES 62 series

Socket model ES 62/DS

ES62DSCNER - Pack. 10/270 pcs

Relay socket model ES 62/DS for miniature relay with protection and indication circuit, screw connections.

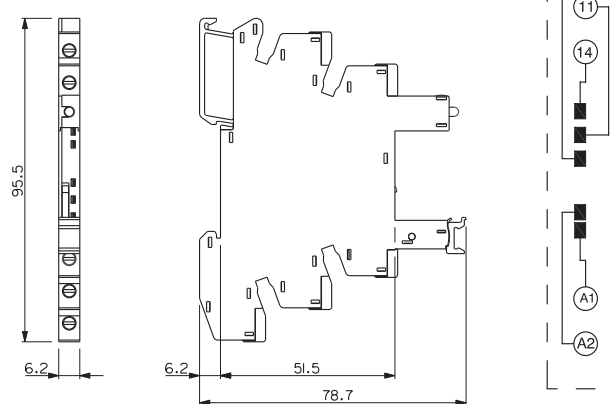
Input voltage	230 VAC/VDC
Coil voltage	60 VDC
Rated current	6 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	max. 2,5 mm ² (AWG 14)
Stripping length	9 mm
Screw thread	M 2,5

General data

Width	6,2 mm
Height	101 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model PL 64
PL64 - Pack. 2/96 pcs
Print label for ES 62 series



Model BB 20
BB20 - Pack. 10/300 pcs
Bus bar 20 poles for ES 62 series



Model BTF 2
BTF2 - Pack. 10/1000 pcs
Butterfly isolator for ES 62 series

■ Socket model ES 62/AG

ES62AGCNER - Pack. 10/270 pcs

Relay socket model ES 62/AG for miniature relay with protection and indication circuit, spring-cage connections.

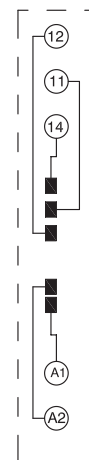
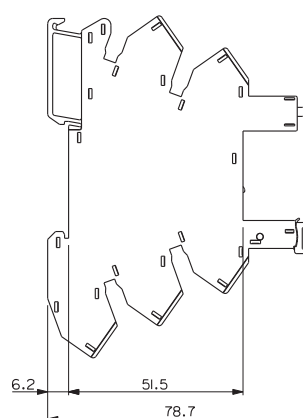
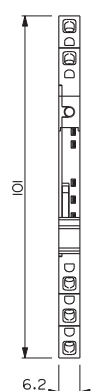
Input voltage	12 VAC/VDC - 24 VAC/VDC
Coil voltage	12 VDC - 24 VDC
Rated current	6 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	max. 1,5 mm² (AWG 16)
Stripping length	10 mm
Screw thread	M 2,5

General data

Width	6,2 mm
Height	101 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model PL 64

PL64 - Pack. 2/96 pcs

Print label for ES 62 series



Model BB 20

BB20 - Pack. 10/300 pcs

Bus bar 20 poles for ES 62 series



Model BTF 2

BTF2 - Pack. 10/1000 pcs

Butterfly isolator for ES 62 series

 Standard article

Socket model ES 62/BG

ES62BGCNER - Pack. 10/270 pcs

Relay socket model ES 62/BG for miniature relay with protection and indication circuit, spring-cage connections.

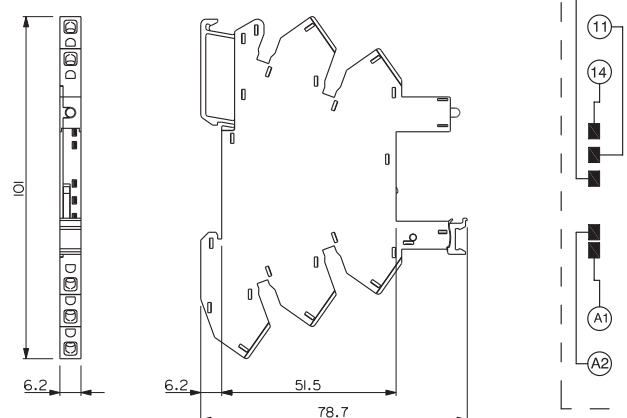
Input voltage	48 VAC/VDC - 60 VAC/VDC
Coil voltage	48VDC - 60VDC
Rated current	6 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	max. 1,5 mm ² (AWG 16)
Stripping length	10 mm

General data

Width	6,2 mm
Height	101 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model PL 64
PL64 - Pack. 2/96 pcs
Print label for ES 62 series



Model BB 20
BB20 - Pack. 10/300 pcs
Bus bar 20 poles for ES 62 series



Model BTF 2
BTF2 - Pack. 10/1000 pcs
Butterfly isolator for ES 62 series

Socket model ES 62/CG

ES62CGCNER - Pack. 10/270 pcs

Relay socket model ES 62/CG for miniature relay with protection
and indication circuit, spring-cage connections

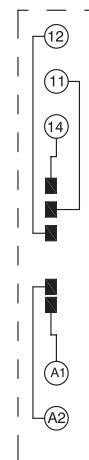
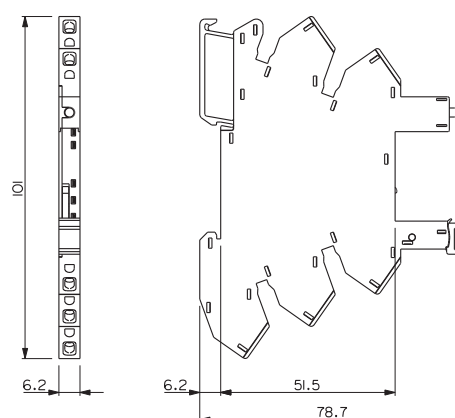
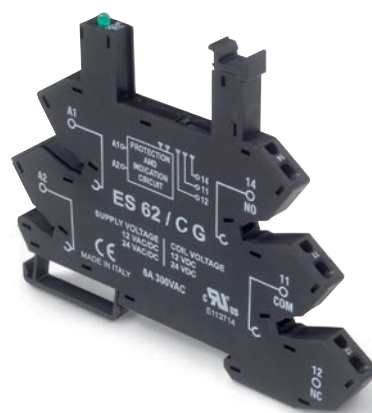
Input voltage	110 VAC/VDC
Coil voltage	60 VDC
Rated current	6 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	max. 1,5 mm ² (AWG 16)
Stripping length	10 mm

General data

Width	6,2 mm
Height	101 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model PL 64

PL64 - Pack. 2/96 pcs

Print label for ES 62 series



Model BB 20

BB20 - Pack. 10/300 pcs

Bus bar 20 poles for ES 62 series



Model BTF 2

BTF2 - Pack. 10/1000 pcs

Butterfly isolator for ES 62 series

Socket model ES 62/DG

ES62DGCNER - Pack. 10/270 pcs

Relay socket model ES 62/DG for miniature relay with protection and indication circuit, spring-cage connections.

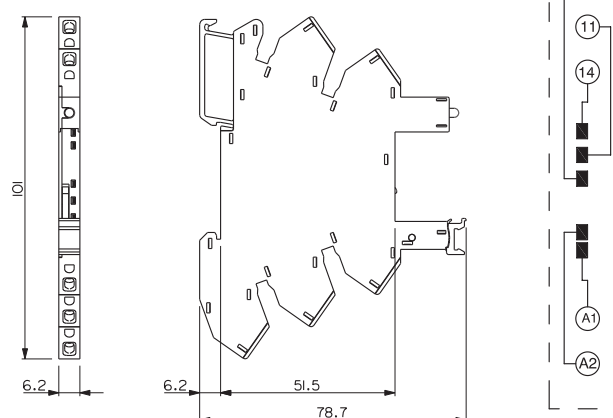
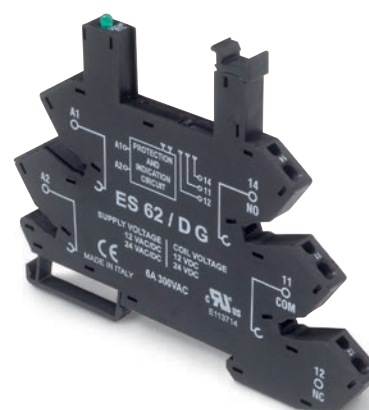
Input voltage	230 VAC/VDC
Coil voltage	60 VDC
Rated current	6 A
Dielectric strength adjacent contact circuits	2500V
Dielectric strength coil contact circuits	2500V

Connection data

Conductor cross section solid and stranded	max. 1,5 mm ² (AWG 16)
Stripping length	10 mm

General data

Width	6,2 mm
Height	101 mm
Color	Black
Ambient temperature (operation)	-25 °C ... 85 °C



Accessories



Model PL 64
PL64 - Pack. 2/96 pcs
Print label for ES 62 series



Model BB 20
BB20 - Pack. 10/300 pcs
Bus bar 20 poles for ES 62 series



Model BTF 2
BTF2 - Pack. 10/1000 pcs
Butterfly isolator for ES 62 series

 Standard article

All our products are designed, manufactured and tested in accordance with the requirements laid down in the most important national and international specifications and standards.

In most countries, the use of electrical devices is permitted if the manufacturer, upon his own responsibility, guarantees the conformity to the requirements. In other countries, the law lays down compulsory approval procedures.

For better understanding of the subject, the information set out below deals with requirement, conformity, approval.

REQUIREMENTS

This refers to the definitions contained in a standard relating to normal operating conditions, constructional and performance requirements, test procedures, etc. Requirements can be subdivided into:

International Requirements

These are the requirements issued by the following Authorities:

IEC International Electrotechnical Commission
This international commission contains members from the most important industrialised countries. It issues recommendations that are taken as the basis for the single national standards.

CENELEC Comité Européen de Normalisation Electrotechnique
This committee issues the EN standards to which the European countries refer.

National Provisions

These include the standards issued by the following approval bodies:

CEI Comitato Elettrotecnico Italiano, Italy
VDE Verband Deutscher Elektrotechniker, Germany
NF Normes Francaises, France
CSA Canadian Standards Association, Canada
UL Underwriter's Laboratories, USA
BIA-BG Berufsgenossenschaften, Germany
GOST Gosudarstvennyj Standart, Russia

CONFORMITY

Conformity to a standard consists of a declaration made by the manufacturer under his own responsibility to the effect that a specific product comply with all the requirements of the relevant standard.

Recently, the **CE Mark** has been introduced, for which the manufacturer declares that the products comply with the EEC Directives applicable. For the electrical material the EEC Directives applicable are: Low Voltage Directive (**72/23/EEC**, modified to **93/68/EEC**) for the safety of electric products and E.M.C. Directive (**89/339/EEC**, modified to **92/31/EEC** and to **93/68/EEC**) and Electromagnetic Compatibility.

APPROVAL

In some countries, approval of electric materials is compulsory by law.

This consists of a certificate of conformity with the requirements issued not by the manufacturer, but by an independent Testing Laboratory legally recognized. Each approved item has to carry the mark of approval, such as **CSA** or **UL**. For this last, two different levels of acceptance are required:

RECOGNIZED = The device should be marked with the letters **UR** only, and can be used in electrical equipment only by qualified personnel who are fully aware of the limits of use of the product.
The sale of this equipment for general use is not permitted.

LISTED = The device should be marked with the letters **UL** alongside the mark of approval and can be fitted in electrical appliances or sold loose, as it complies with all the requirements in the relevant standard.

Command auxiliaries

A mechanical manoeuvre device which controls the operations of equipment, including signalling, interlocks, and so on. The category therefore includes position and safety switches, microswitches, pushbuttons and pedal switches.

Utilization Category

The standards define a certain number of categories regarding the normal use of switches. Each category of use defines the current and voltage values (expressed as multiples of the rated values) corresponding to the various load closure and switching situations.

Operations cycle

A sequence of two operations with movement from rest to operating position and vice versa.

Auxiliary circuit

All the conductor parts (auxiliary contacts) of a switch designed to be included in a circuit separate from the main one and the switch command circuit. Used for supplementary functions such as signalling, interlocks, measurements, regulation, and so on.

Command circuit

An electrical circuit separate from the main one which handles the closing or opening operations of the switch, or both.

Main circuit

All the conductor parts (main contacts) of a switch included in the circuit that the switch has to open and close.

Admissible short term current

The maximum current the switch is able to support during a specified brief period of time, within the context of the specified conditions of use and behaviour.

Rated operational current I_e

A current that characterises the switch in accordance with the conditions of use, mainly defined on the basis of the rated voltage, category of use and type of service.

Rated thermal current I_{th}

The maximum current that the switch is able to support for a duration of 8 hours without causing the excess temperature of the various parts to exceed the value laid down by the standards.

Time constant or power factor

Ratio between inductance and resistance, that is, $L/R = \text{mH}/\Omega = \text{ms}$.

Clearance

The shortest permitted distance between two conductor parts.

The shortest distance along the surface of an insulating material between two conductive parts.

Creepage distance

The shortest permitted distance between two conductor parts laid on a surface of insulating material. The shortest distance along the surface of an insulating material between two conductive parts.

Electrical durability

The number of manoeuvres under load that the contacts may carry out without maintenance. Depending on the category of use, this is determined by the rated current and voltage. The shortest distance along the surface of an insulating material between two conductive parts.

Mechanical durability

Number of manoeuvres without the movement of current that the switch is able to carry out before the overhaul or replacement of mechanical parts becomes necessary.

Contact element

Fixed or mobile, conductor or insulating, parts of a command auxiliary necessary to close or open a single conductor route of a circuit.

Double switching contact element

A contact element that opens or closes the conductor length of its circuit in two points positioned in series

Electrically separate contact elements

Contacts belonging to the same contact element, but suitably insulated from each other in such a way that they can be connected in electrically separate circuits.

Contact element in exchange

The combination of stabilisation and switching contacts in a contact element.

Position (safety) switches

A command auxiliary whose control system is activated by a moving part of the machine, when this part reaches a predetermined position. Known as a safety switch when the control action switches the power supply circuit of the machine.

Closure or switching power

The highest current that the switch is able to stabilise or switch at a given voltage and in the specific conditions of the circuit and its operation.

Air ambient temperature

This is the air temperature measured around the appliance. For devices installed inside a casing, this is the air temperature outside the casing.

The minimum and maximum values determine the temperature interval within which a device is able to perform in a satisfactory manner.

Rated voltage of the command circuit U_c

The voltage on which the operating and heating characteristics of the command circuit are based.

Rated operational voltage U_e

The voltage that, together with the rated operating current, determines the operating characteristics of the switch, and to which the closure and switching powers refer. The operating voltage cannot be greater than the insulation voltage.

Rated insulation voltage U_I

The voltage to which the insulation strength tests, escape lines and the distances in air typical of the switch refer.

Insulation resistance

The IEC 664 standard lays down four correlation criteria for the impulse voltage. It is important to determine the correct correlation for the user in accordance with the application and select the position switch as a result. The manufacturer indicates the impulse voltage (U_{imp}) that can be supported among the information set out on the product plate.

Connector terminals

Mechanical tests carried out using the maximum connection sections of the terminals to determine the mechanical resistance and safety of the terminal connection holding. The terminals are identified in accordance with the EN 50013 standards.

Contact element diagrams

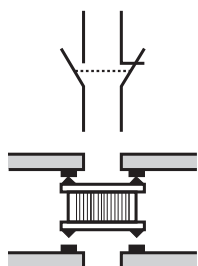
There are various types of contact element classified in accordance with the CEI EN 60947-5-1 standard, with different technical features and consequently different, more or less safe, electrical properties.

Breakage power

This corresponds to the maximum admissible electrical load. A simple name (such as A300) informs the user on the features of the switch depending on its category of use.

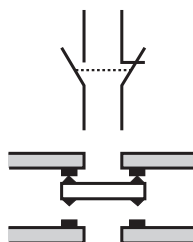
Forced NC contact opening (IEC 947-5-1, section 3)

In the case of switches used in command circuits with safety functions, the safe opening of the NC contacts is required (see IEC 204 and EN 60204). The forced opening of the NC contacts has to be confirmed with an impulse voltage test (2500 V).



Zb Form

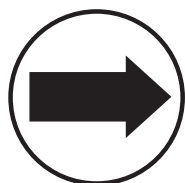
Double switching exchange contact element with four terminals. (The two mobile contacts are electrically separated).



Other 4 terminal forms:

Za Form

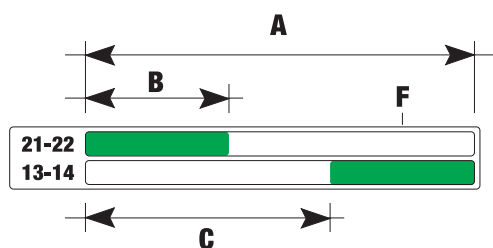
Dual switching exchange contact element with four terminals. (The contacts have the same polarity).



Forced or positive opening symbol

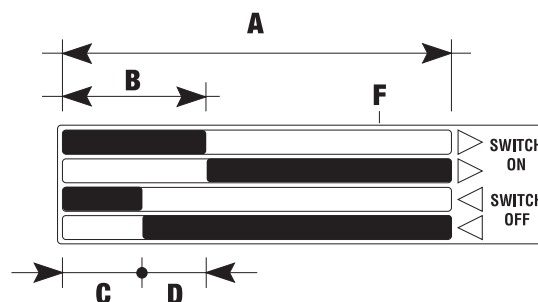
The term positive opening means the complete and safe separation of the closed contacts (NC), as a result of the specific movement of the driver by means of inelastic elements. The positive opening travel is indicated by the manufacturer.

Example of travel diagram, slow action element



A = maximum driver travel in mm or degrees
B = drive travel up to the opening of the NC 21-22 command
C = drive travel up to the closure of the NO 13-14 command
F = total travel necessary for the complete forced opening

Example of travel diagram, fast action element



A = maximum driver travel in mm or degrees
B = drive travel up to the opening of the NC 21-22 command
C = drive travel up to the closure of the NO 13-14 command
D = B-C: differential travel
F = total travel necessary for the complete forced opening

Utilization with alternating current

Power equipment, switchgear and controlgear according to EN 60947-4 and IEC 947-4

(contactors, equipment for starting of motors)

- AC1** Connection or disconnection of non-inductive or slightly inductive loads (e.g. resistance furnaces).
This equipment should have a $\cos\varphi$ no less than 0,95.
- AC2** Starting, counter-current braking and switching off of slip-ring motors.
The contactor makes and breaks the starting current, which can reach $1,5 \div 3$ times the rated current of the motor.
- AC3** Starting and switching off of squirrel-cage motors during running.
The contactor makes the starting current, which can reach $4 \div 8$ times the rated current of the motor, and breaks the rated current absorbed by the motor.
The switching conditions are easy, as the voltage at the motor terminals is approximately $20 \div 30\%$ of the supply voltage.
- AC4** Starting, plugging and inching of squirrel-cage motors.
The contactor makes and breaks the starting current, which can reach $4 \div 88$ times the rated current of the motor.
The switching conditions are severe, as the voltage at the motor terminals can be equal to that of the supply voltage.
- AC5a** Switching of electric discharge lamp controls.
- AC5b** Switching of incandescent lamps.
The peaks of current at the connection of the lighting circuits and the power factor are function of the type of lamp, the wiring system and the presence or not of the compensation.
- AC6a** Switching of transformers.
High peaks of current characterize the commutation of transformers during the connection phase, due to the phenomenon of magnetization.
- AC6b** Switching of capacitor banks.
High peaks of current characterize the commutation of capacitor banks during the connection phase, due to the presence of harmonic currents.

Power equipment, switchgear and controlgear according to EN 60947-3 and IEC 947-3

(switches, disconnectors, switch-disconnectors, fuse-combination units)

- AC20** Connecting and disconnecting under no-load conditions..
- AC21** Switching of resistive loads including moderate overloads.
- AC22** Switching of mixed resistive and inductive loads, including moderate overloads.
- AC23** Switching of motor loads or other highly inductive loads.

Control circuit devices and switching elements according to EN 60947-5 and IEC 947-5

(control relays, auxiliary contacts, units for control and signalling)

- AC12** Control of resistive loads and solid-state loads with isolation by optocouplers.
- AC13** Control of solid state loads with transformer isolation.
- AC14** Control of small electromagnetic loads ($\leq 72\text{VA}$).
- AC15** Control of electromagnetic loads ($> 72\text{VA}$).

Utilization with direct current

Power equipment, switchgear and controlgear according to EN 60947-4 and IEC 947-4

(contactors, equipment for starting of motors)

- DC1** Connection or disconnection of non-inductive or slightly inductive loads (e.g. resistance furnaces).
This equipment should operate with a L/R time-constant less than or equal to 1ms.
- DC3** Starting, plugging and inching of shunt-motors. Dynamic breaking of DC motors.
This equipment should operate with a L/R time-constant less than or equal to 2,5ms.
The contactor makes and breaks the starting current, which is close to 2,5 times the rated current of the motor.
The switching conditions are severe, as the voltage at the motor terminals can be equal to that of the supply voltage.
- DC5** Starting, plugging and inching of series-motors. Dynamic breaking of DC motors.
This equipment should operate with a L/R time-constant less than or equal to 15ms.
The contactor makes and breaks the starting current, which is close to 2,5 times the rated current of the motor.
The switching conditions are severe, as the voltage at the motor terminals can be equal to that of the supply voltage.
- DC6** Switching of incandescent lamps.

Power equipment, switchgear and controlgear according to EN 60947-3 and IEC 947-3

(switches, disconnectors, switch-disconnectors, fuse-combination units)

- DC20** Connecting and disconnecting under no-load conditions.
- DC21** Switching of resistive loads including moderate overloads.
- DC22** Switching of mixed resistive and inductive loads, including moderate overloads (e.g. shunt-motors).
- DC23** Switching of highly inductive loads (e.g. series-motors).

Control circuit devices and switching elements according to EN 60947-5 and IEC 947-5

(control relays, auxiliary contacts, units for control and signalling)

- DC12** Control of resistive loads and solid state loads with isolation by optocouplers.
- DC13** Control of electromagnets without economy resistor in circuit.
- DC14** Control of electromagnetic loads having economy resistor in circuit.
- By plugging is understood stopping or reversing the motor rapidly by reversing motor primary connections while the motor is running.
 - By inching (jogging) is understood energizing a motor once or repeatedly for short periods to obtain small movements of the driven mechanism.
 - The designation of AC20-AC21-AC22-AC23-DC20-DC21-DC22-DC23 utilization categories is completed by the suffix A or B according to whether the intended applications require frequent or infrequent operations. Utilization categories with suffix B are appropriate for devices which, due to design or application, are only intended for infrequent operation (e.g. disconnectors normally only operated to provide isolation for maintenance work).

Standard cross-sections of round copper conductors corresponding to the conventional thermal currents

Range of rated thermal current □		Section of copper conductors/cables	
A		mm ²	AWG/MCM
0	8	1	18
8	12	1,5	16
12	15	2,5	14
15	20	2,5	12
20	25	4	10
25	32	6	10
32	50	10	8
50	65	16	6
65	85	25	4
85	100	35	3
100	115	35	2
115	130	50	1
130	150	50	0
150	175	70	00
175	200	95	000
200	225	95	0000
225	250	120	250
250	275	150	300
275	300	185	350
300	350	185	400
350	400	240	500
400	500	2x150	2x250
500	630	2x185	2x350
630	800	2x240	2x300

Range of rated thermal current □		Section of copper bars ▲		
A		N°	mm	inches
400	500	2	30x5	1,00x0,250
500	630	2	40x5	1,25x0,250
630	800	2	50x5	1,50x0,250
800	1000	2	60x5	2,00x0,250
1000	1250	2	80x5	2,50x0,250
1250	1600	2	100x5	3,00x0,250
1600	2000	3	100x5	3,00x0,250
2000	2500	4	100x5	3,00x0,250
2500	3150	3	100x10	6,00x0,250

□ The current value should always be greater than the left-hand value and less than or equal to the right-hand value.

▲ Bars are assumed to be arranged with their long faces vertical. Arrangements with long faces horizontal may be used if specified by the manufacturer.
Where 4 bars are used they shall be in two sets of two bars with not more than 100mm between pair centres.

The International Recommendations IEC 529 to which the single national standards refer, as well as the European Harmonized Standards EN 60529 and EN 50102, classify the degree of protection provided by the enclosures for electrical equipment as regards:

- protection of the persons against access to hazardous parts inside the enclosure (e.g. low-voltage live parts, mechanical parts).
- protection of the equipment inside the enclosure against ingress of solid foreign objects.

c) protection of the equipment inside the enclosure against the harmful effects due to the ingress of water.

d) protection of the enclosure against damage due to harmful external mechanical impacts.

The degrees of protection relating to the first three items are designed by the IP code, followed by a combination of two characteristic numerals, to which a first additional letter and a second supplementary letter, both optional, can be added.

IP Code First characteristic numeral			Second characteristic numeral			IK Code Characteristic group numeral		
Protection against ingress of solid objects. Protection of persons against access to hazardous parts.			Protection against harmful ingress of water.			Protection against harmful external mechanical impacts.		
0		No protection.	0		No protection.	0		No protection.
1		Full penetration of 50 mm diameter sphere not allowed. Protection against access with the back of a hand.	1		Protection against vertically falling drops of water. Limited ingress permitted.	01		Resistance to impact of a mass of 200 g with a striking energy of 0,15 J.
2		Full penetration of 12,5 mm diameter sphere not allowed. Protection against access with a finger.	2		Protected against vertically falling drops of water with enclosure tilted 15° from the vertical. Limited ingress permitted. Dripping up to 15° from the vertical.	02		Resistance to impact of a mass of 200 g with a striking energy of 0,20 J.
3		The access probe of 2,5 mm diameter shall not penetrate. Protection against access with a tool.	3		Protected against sprays to 60° from the vertical. Limited ingress permitted. Limited spraying.	03		Resistance to impact of a mass of 200 g with a striking energy of 0,35 J.
4		The access probe of 1,0 mm diameter shall not penetrate. Protection against access with a wire.	4		Protected against water splashed from all directions. Limited ingress permitted. Splashing from all directions.	04		Resistance to impact of a mass of 200 g with a striking energy of 0,50 J.
5		Limited ingress of dust permitted (no harmful deposit). Protection against access with a wire.	5		Protected against jets of water. Limited ingress permitted. Hosing jets from all directions.	05		Resistance to impact of a mass of 200 g with a striking energy of 0,70 J.
6		Total protection against ingress of dust. Protection against access with a wire.	6		Protected against strong jets of water. Limited ingress permitted. Strong hosing jets from all directions.	06		Resistance to impact of a mass of 500 g with a striking energy of 1 J.
			7		Protected against the effects of immersion between 15 cm and 1 m. Temporary immersion.	07		Resistance to impact of a mass of 500 g with a striking energy of 2 J.
			8		Protected against long periods of immersion under pressure. Continuous immersion.	08		Resistance to impact of a mass of 1,7 kg with a striking energy of 5 J.
						09		Resistance to impact of a mass of 5 kg with a striking energy of 10 J.
						10		Resistance to impact of a mass of 5 kg with a striking energy of 20 J.

When the equipment is classified for one of the two main types of protection only, that is to say with only one numeral, the omitted numeral should be replaced with the letter X (e.g. IPX5 or IP2X).

Product list in alphabetical order by type

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
AU1	VC846400	184	1	CA0120010PL2	CA0120010PL2	74	1	CA0160035E5RT6	CA0160035E5RT6	79	1
AU1	VC846400	191	1	CA0120010S31	CA0120010S31	227	1	CA0160036PL2	CA0160036PL2	74	1
AU1	VC846400	217	1	CA0120011PL1	CA0120011PL1	75	1	CA0160036S31	CA0160036S31	227	1
AU2	VC847200	184	1	CA0120011PL2	CA0120011PL2	75	1	CA0160039PL1	CA0160039PL1	73	1
AU2	VC847200	191	1	CA0120011R03	CA0120011R03	78	1	CA0160039PL2	CA0160039PL2	73	1
AU2	VC847200	217	1	CA0120016PL1	CA0120016PL1	75	1	CA0160039S31	CA0160039S31	227	1
AU3	VC848000	184	1	CA0120016PL2	CA0120016PL2	75	1	CA01600G3B95RL6	CA01600G3B95RL6	224	1
AU3	VC848000	191	1	CA0120018PL1	CA0120018PL1	76	1	CA01600G3BK6	CA01600G3BK6	77	1
AU3	VC848000	217	1	CA0120018PL2	CA0120018PL2	76	1	CA01600G3BL6	CA01600G3BL6	77	1
AU4	VC849800	184	1	CA0120022PL1	CA0120022PL1	76	1	CA01600G3RK6	CA01600G3RK6	77	1
AU4	VC849800	191	1	CA0120022PL2	CA0120022PL2	76	1	CA01600G3RL6	CA01600G3RL6	77	1
AU4	VC849800	217	1	CA0120031PL1	CA0120031PL1	75	1	CA01600G4B95RL6	CA01600G4B95RL6	224	1
AU6	VC851400	184	1	CA0120031PL2	CA0120031PL2	75	1	CA01600G4BK6	CA01600G4BK6	78	1
AU6	VC851400	191	1	CA0120034PL1	CA0120034PL1	75	1	CA01600G4BL6	CA01600G4BL6	78	1
AU6	VC851400	217	1	CA0120034PL2	CA0120034PL2	75	1	CA01600G4RK6	CA01600G4RK6	78	1
AU7	VC852200	184	1	CA0120036PL1	CA0120036PL1	74	1	CA01600G4RL6	CA01600G4RL6	78	1
AU7	VC852200	191	1	CA0120036PL2	CA0120036PL2	74	1	CA0200001PL2	CA0200001PL2	72	1
AU7	VC852200	217	1	CA0120039PL1	CA0120039PL1	73	1	CA0200002PL1	CA0200002PL1	72	1
AU8	VC853000	184	1	CA0120039PL2	CA0120039PL2	73	1	CA0200002PL2	CA0200002PL2	72	1
AU8	VC853000	191	1	CA0120039S31	CA0120039S31	227	1	CA0200002R03	CA0200002R03	78	1
AU8	VC853000	217	1	CA01200G3B95RL6	CA01200G3B95RL6	224	1	CA0200003PL1	CA0200003PL1	72	1
B110	B110	229	1	CA01200G3BK6	CA01200G3BK6	77	1	CA0200003PL2	CA0200003PL2	72	1
B140	B140	229	1	CA01200G3BL6	CA01200G3BL6	77	1	CA0200003R03	CA0200003R03	78	1
B95	B95	229	1	CA01200G3RK6	CA01200G3RK6	77	1	CA0200003S31	CA0200003S31	226	1
BB20	BB20	470..477	10/300	CA01200G3RL6	CA01200G3RL6	77	1	CA0200004PL2	CA0200004PL2	72	1
BTf2	BTf2	470..477	10/1000	CA01200G4BK6	CA01200G4BK6	78	1	CA0200005PL2	CA0200005PL2	73	1
C01B	C01B	184	5	CA01200G4BL6	CA01200G4BL6	78	1	CA0200006PL1	CA0200006PL1	73	1
C01B	C01B	217	5	CA01200G4RK6	CA01200G4RK6	78	1	CA0200006PL2	CA0200006PL2	73	1
C01B	C01B	421	5	CA01200G4RL6	CA01200G4RL6	78	1	CA0200007B95RL6	CA0200007B95RL6	224	1
C02	C02	421	5	CA0160001PL2	CA0160001PL2	72	1	CA0200007PL2	CA0200007PL2	73	1
C10B	C10B	184	5	CA0160002PL1	CA0160002PL1	72	1	CA0200007S31	CA0200007S31	226	1
C10B	C10B	217	5	CA0160002PL2	CA0160002PL2	72	1	CA0200008B95RL6	CA0200008B95RL6	224	1
C10B	C10B	421	5	CA0160002R03	CA0160002R03	78	1	CA0200008PL2	CA0200008PL2	74	1
C10N	C10N	403	1	CA0160003PL1	CA0160003PL1	72	1	CA0200008R03	CA0200008R03	78	1
C11	C11	421	5	CA0160003PL2	CA0160003PL2	72	1	CA0200008S31	CA0200008S31	226	1
C1N	C1N	403	1	CA0160003R03	CA0160003R03	78	1	CA0200009PL2	CA0200009PL2	74	1
C20	C20	421	5	CA0160003S31	CA0160003S31	226	1	CA0200009R03	CA0200009R03	78	1
C2N	C2N	403	1	CA0160004PL1	CA0160004PL1	72	1	CA0200009S31	CA0200009S31	226	1
C3N	C3N	403	1	CA0160004PL2	CA0160004PL2	72	1	CA0200010PL2	CA0200010PL2	74	1
C4N	C4N	403	1	CA0160005PL2	CA0160005PL2	73	1	CA0200010S31	CA0200010S31	227	1
C5N	C5N	403	1	CA0160006PL1	CA0160006PL1	73	1	CA0200011PL2	CA0200011PL2	75	1
C6N	C6N	403	1	CA0160006PL2	CA0160006PL2	73	1	CA0200011R03	CA0200011R03	78	1
C7N	C7N	403	1	CA0160007B95RL6	CA0160007B95RL6	224	1	CA0200031PL2	CA0200031PL2	75	1
C8N	C8N	403	1	CA0160007PL1	CA0160007PL1	73	1	CA0200034PL2	CA0200034PL2	75	1
C9N	C9N	403	1	CA0160007PL2	CA0160007PL2	73	1	CA0200036PL2	CA0200036PL2	74	1
CA0120001PL1	CA0120001PL1	72	1	CA0160007S31	CA0160007S31	226	1	CA0200036S31	CA0200036S31	227	1
CA0120001PL2	CA0120001PL2	72	1	CA0160008B95RL6	CA0160008B95RL6	224	1	CA0200039PL2	CA0200039PL2	73	1
CA0120002PL1	CA0120002PL1	72	1	CA0160008PL1	CA0160008PL1	74	1	CA0200039S31	CA0200039S31	227	1
CA0120002PL2	CA0120002PL2	72	1	CA0160008PL2	CA0160008PL2	74	1	CA02000G3B95RL6	CA02000G3B95RL6	224	1
CA0120002R03	CA0120002R03	78	1	CA0160008R03	CA0160008R03	78	1	CA02000G3BK6	CA02000G3BK6	77	1
CA0120003PL1	CA0120003PL1	72	1	CA0160008S31	CA0160008S31	226	1	CA02000G3BL6	CA02000G3BL6	77	1
CA0120003PL2	CA0120003PL2	72	1	CA0160009PL1	CA0160009PL1	74	1	CA02000G3RK6	CA02000G3RK6	77	1
CA0120003S31	CA0120003S31	226	1	CA0160009PL2	CA0160009PL2	74	1	CA02000G3RL6	CA02000G3RL6	77	1
CA0120004PL1	CA0120004PL1	72	1	CA0160009R03	CA0160009R03	78	1	CA02000G4B95RL6	CA02000G4B95RL6	224	1
CA0120004PL2	CA0120004PL2	72	1	CA0160009S31	CA0160009S31	226	1	CA02000G4BK6	CA02000G4BK6	78	1
CA0120005PL1	CA0120005PL1	73	1	CA0160010PL1	CA0160010PL1	74	1	CA02000G4BL6	CA02000G4BL6	78	1
CA0120005PL2	CA0120005PL2	73	1	CA0160010PL2	CA0160010PL2	74	1	CA02000G4RK6	CA02000G4RK6	78	1
CA0120006PL1	CA0120006PL1	73	1	CA0160010S31	CA0160010S31	227	1	CA02000G4RL6	CA02000G4RL6	78	1
CA0120006PL2	CA0120006PL2	73	1	CA0160011PL1	CA0160011PL1	75	1	CA0250001PL2	CA0250001PL2	72	1
CA0120007B95RL6	CA0120007B95RL6	224	1	CA0160011PL2	CA0160011PL2	75	1	CA0250002PL2	CA0250002PL2	72	1
CA0120007PL1	CA0120007PL1	73	1	CA0160011R03	CA0160011R03	78	1	CA0250002R03	CA0250002R03	78	1
CA0120007PL2	CA0120007PL2	73	1	CA0160016PL2	CA0160016PL2	75	1	CA0250003PL1	CA0250003PL1	72	1
CA0120007S31	CA0120007S31	226	1	CA0160018PL2	CA0160018PL2	76	1	CA0250003PL2	CA0250003PL2	72	1
CA0120008B95RL6	CA0120008B95RL6	224	1	CA0160022PL2	CA0160022PL2	76	1	CA0250003R03	CA0250003R03	78	1
CA0120008PL1	CA0120008PL1	74	1	CA0160031PL2	CA0160031PL2	75	1	CA0250003S31	CA0250003S31	226	1
CA0120008PL2	CA0120008PL2	74	1	CA0160034PL1	CA0160034PL1	75	1	CA0250004PL2	CA0250004PL2	72	1
CA0120008R03	CA0120008R03	78	1	CA0160034PL2	CA0160034PL2	75	1	CA0250005PL2	CA0250005PL2	73	1
CA0120008S31	CA0120008S31	226	1	CA0160035E3PL2	CA0160035E3PL2	79	1	CA0250006PL2	CA0250006PL2	73	1
CA0120009PL1	CA0120009PL1	74	1	CA0160035E3RL6	CA0160035E3RL6	79	1	CA0250007PL2	CA0250007PL2	73	1
CA0120009PL2	CA0120009PL2	74	1	CA0160035E3RT6	CA0160035E3RT6	79	1	CA0250007S31	CA0250007S31	226	1
CA0120009R03	CA0120009R03	78	1	CA0160035E4PL2	CA0160035E4PL2	79	1	CA0250008PL2	CA0250008PL2	74	1
CA0120009S31	CA0120009S31	226	1	CA0160035E4RT6	CA0160035E4RT6	79	1	CA0250008S31	CA0250008S31	226	1
CA0120010PL1	CA0120010PL1	74	1	CA0160035E5PL2	CA0160035E5PL2	79	1	CA0250009PL2	CA0250009PL2	74	1

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
CA0250009S31	CA0250009S31	226	1	CA0400003S31	CA0400003S31	226	1	CA06300G43L3	CA06300G43L3	90	1
CA0250010PL2	CA0250010PL2	74	1	CA0400004PL2	CA0400004PL2	72	1	CA06300G4LE3	CA06300G4LE3	90	1
CA0250010S31	CA0250010S31	227	1	CA0400006PL2	CA0400006PL2	73	1	CA06300G4LN3	CA06300G4LN3	90	1
CA0250011PL2	CA0250011PL2	75	1	CA0400007PL2	CA0400007PL2	73	1	CA1000003PL4	CA1000003PL4	87	1
CA0250031PL2	CA0250031PL2	75	1	CA0400008PL2	CA0400008PL2	74	1	CA1000003PL9	CA1000003PL9	87	1
CA0250034PL2	CA0250034PL2	75	1	CA0400009PL2	CA0400009PL2	74	1	CA1000004PL4	CA1000004PL4	87	1
CA0250035E3RL6	CA0250035E3RL6	79	1	CA0400010PL2	CA0400010PL2	74	1	CA1000004PL9	CA1000004PL9	87	1
CA0250035E3RT6	CA0250035E3RT6	79	1	CA0400039PL2	CA0400039PL2	73	1	CA1000006PL4	CA1000006PL4	88	1
CA0250035E4RT6	CA0250035E4RT6	79	1	CA04000G3BK6	CA04000G3BK6	77	1	CA1000006PL9	CA1000006PL9	88	1
CA0250035E5RT6	CA0250035E5RT6	79	1	CA04000G3BL6	CA04000G3BL6	77	1	CA1000007PL4	CA1000007PL4	88	1
CA0250036S31	CA0250036S31	227	1	CA04000G3RK6	CA04000G3RK6	77	1	CA1000007PL9	CA1000007PL9	88	1
CA0250039PL2	CA0250039PL2	73	1	CA04000G3RL6	CA04000G3RL6	77	1	CA1000008PL4	CA1000008PL4	89	1
CA0250039S31	CA0250039S31	227	1	CA04000G4BK6	CA04000G4BK6	78	1	CA1000008PL9	CA1000008PL9	89	1
CA02500G3B95RL6	CA02500G3B95RL6	224	1	CA04000G4BL6	CA04000G4BL6	78	1	CA1000010PL4	CA1000010PL4	89	1
CA02500G3BK6	CA02500G3BK6	77	1	CA04000G4RK6	CA04000G4RK6	78	1	CA1000010PL9	CA1000010PL9	89	1
CA02500G3BL6	CA02500G3BL6	77	1	CA04000G4RL6	CA04000G4RL6	78	1	CA1000010S10	CA1000010S10	229	1
CA02500G3RK6	CA02500G3RK6	77	1	CA0500002PL3	CA0500002PL3	87	1	CA1000039PL4	CA1000039PL4	88	1
CA02500G3RL6	CA02500G3RL6	77	1	CA0500003PL3	CA0500003PL3	87	1	CA1000039PL9	CA1000039PL9	88	1
CA02500G4BK6	CA02500G4BK6	78	1	CA0500003S40	CA0500003S40	228	1	CA1000039S10	CA1000039S10	229	1
CA02500G4BL6	CA02500G4BL6	78	1	CA0500004PL3	CA0500004PL3	87	1	CA10000G33L4	CA10000G33L4	90	1
CA02500G4RK6	CA02500G4RK6	78	1	CA0500006PL3	CA0500006PL3	88	1	CA10000G3LE4	CA10000G3LE4	90	1
CA02500G4RL6	CA02500G4RL6	78	1	CA0500007PL3	CA0500007PL3	88	1	CA10000G43L4	CA10000G43L4	90	1
CA0260001PL2	CA0260001PL2	72	1	CA0500007S40	CA0500007S40	228	1	CA10000G4LE4	CA10000G4LE4	90	1
CA0260002PL2	CA0260002PL2	72	1	CA0500008PL3	CA0500008PL3	89	1	CA2000003PL4	CA2000003PL4	87	1
CA0260002R03	CA0260002R03	78	1	CA0500008S40	CA0500008S40	228	1	CA2000003PL9	CA2000003PL9	87	1
CA0260003PL2	CA0260003PL2	72	1	CA0500009PL3	CA0500009PL3	89	1	CA2000004PL4	CA2000004PL4	87	1
CA0260003R03	CA0260003R03	78	1	CA0500010PL3	CA0500010PL3	89	1	CA2000004PL9	CA2000004PL9	87	1
CA0260004PL2	CA0260004PL2	72	1	CA0500010S40	CA0500010S40	228	1	CA2000006PL4	CA2000006PL4	88	1
CA0260005PL2	CA0260005PL2	73	1	CA0500003PL3	CA0500003PL3	88	1	CA2000006PL9	CA2000006PL9	88	1
CA0260006PL2	CA0260006PL2	73	1	CA0500039S40	CA0500039S40	228	1	CA2000007PL4	CA2000007PL4	88	1
CA0260007PL2	CA0260007PL2	73	1	CA05000G33L3	CA05000G33L3	90	1	CA2000007PL9	CA2000007PL9	88	1
CA0260008PL2	CA0260008PL2	74	1	CA05000G33N3	CA05000G33N3	90	1	CA2000008PL4	CA2000008PL4	89	1
CA0260009PL2	CA0260009PL2	74	1	CA05000G3LE3	CA05000G3LE3	90	1	CA2000008PL9	CA2000008PL9	89	1
CA0260010PL2	CA0260010PL2	74	1	CA05000G3LN3	CA05000G3LN3	90	1	CA2000010PL4	CA2000010PL4	89	1
CA0260011PL2	CA0260011PL2	75	1	CA05000G43L3	CA05000G43L3	90	1	CA2000010PL9	CA2000010PL9	89	1
CA0260031PL2	CA0260031PL2	75	1	CA05000G43N3	CA05000G43N3	90	1	CA2000039PL4	CA2000039PL4	88	1
CA0260034PL2	CA0260034PL2	75	1	CA05000G4LE3	CA05000G4LE3	90	1	CA2000039PL9	CA2000039PL9	88	1
CA0260039PL2	CA0260039PL2	73	1	CA05000G4LN3	CA05000G4LN3	90	1	CA2000039S20	CA2000039S20	229	1
CA02600G3BK6	CA02600G3BK6	77	1	CA0510002PL2	CA0510002PL2	72	1	CA20000G33L4	CA20000G33L4	90	1
CA02600G3BL6	CA02600G3BL6	77	1	CA0510003PL2	CA0510003PL2	72	1	CA20000G3LE4	CA20000G3LE4	90	1
CA02600G3RK6	CA02600G3RK6	77	1	CA0510004PL2	CA0510004PL2	72	1	CA20000G43L4	CA20000G43L4	90	1
CA02600G3RL6	CA02600G3RL6	77	1	CA0510006PL2	CA0510006PL2	73	1	CA20000G4LE4	CA20000G4LE4	90	1
CA02600G4BK6	CA02600G4BK6	78	1	CA0510007PL2	CA0510007PL2	73	1	CA4000003PL4	CA4000003PL4	87	1
CA02600G4BL6	CA02600G4BL6	78	1	CA0510008PL2	CA0510008PL2	74	1	CA4000003PL9	CA4000003PL9	87	1
CA02600G4RK6	CA02600G4RK6	78	1	CA0510009PL2	CA0510009PL2	74	1	CA4000006PL5	CA4000006PL5	88	1
CA02600G4RL6	CA02600G4RL6	78	1	CA0510010PL2	CA0510010PL2	74	1	CA4000006PL9	CA4000006PL9	88	1
CA0320002PL2	CA0320002PL2	72	1	CA0510039PL2	CA0510039PL2	73	1	CA4000007PL5	CA4000007PL5	88	1
CA0320003PL2	CA0320003PL2	72	1	CA05100G3BK6	CA05100G3BK6	77	1	CA4000007PL9	CA4000007PL9	88	1
CA0320003S31	CA0320003S31	226	1	CA05100G3BL6	CA05100G3BL6	77	1	CA4000008PL5	CA4000008PL5	89	1
CA0320004PL2	CA0320004PL2	72	1	CA05100G3RK6	CA05100G3RK6	77	1	CA4000008PL9	CA4000008PL9	89	1
CA0320006PL2	CA0320006PL2	73	1	CA05100G3RL6	CA05100G3RL6	77	1	CA4000039PL5	CA4000039PL5	88	1
CA0320007PL2	CA0320007PL2	73	1	CA05100G4BK6	CA05100G4BK6	78	1	CA6300003PL5	CA6300003PL5	87	1
CA0320007S31	CA0320007S31	226	1	CA05100G4BL6	CA05100G4BL6	78	1	CA6300006PL5	CA6300006PL5	88	1
CA0320008PL2	CA0320008PL2	74	1	CA05100G4RK6	CA05100G4RK6	78	1	CA6300006PL9	CA6300006PL9	88	1
CA0320008S31	CA0320008S31	226	1	CA05100G4RL6	CA05100G4RL6	78	1	CA6300007PL5	CA6300007PL5	88	1
CA0320009PL2	CA0320009PL2	74	1	CA0630002PL3	CA0630002PL3	87	1	CA6300008PL5	CA6300008PL5	89	1
CA0320009S31	CA0320009S31	226	1	CA0630003PL3	CA0630003PL3	87	1	CA6300039PL5	CA6300039PL5	88	1
CA0320010PL2	CA0320010PL2	74	1	CA0630003S90	CA0630003S90	228	1	CQ0120002RV4	CQ0120002RV4	99	1
CA0320010S31	CA0320010S31	227	1	CA0630004PL3	CA0630004PL3	87	1	CQ01200G3BK6S	CQ01200G3BK6S	104	1
CA0320039PL2	CA0320039PL2	73	1	CA0630006PL3	CA0630006PL3	88	1	CQ01200G3BL6S	CQ01200G3BL6S	103	1
CA0320039S31	CA0320039S31	227	1	CA0630007PL3	CA0630007PL3	88	1	CQ01200G3RK6S	CQ01200G3RK6S	104	1
CA03200G3B95RL6	CA03200G3B95RL6	224	1	CA0630007S90	CA0630007S90	228	1	CQ01200G3RL6S	CQ01200G3RL6S	103	1
CA03200G3BK6	CA03200G3BK6	77	1	CA0630008PL3	CA0630008PL3	89	1	CQ0120003RV4	CQ0120003RV4	99	1
CA03200G3BL6	CA03200G3BL6	77	1	CA0630008S90	CA0630008S90	228	1	CQ0120003RV6	CQ0120003RV6	99	1
CA03200G3RK6	CA03200G3RK6	77	1	CA0630009PL3	CA0630009PL3	89	1	CQ01200G4BK6S	CQ01200G4BK6S	104	1
CA03200G3RL6	CA03200G3RL6	77	1	CA0630010PL3	CA0630010PL3	89	1	CQ01200G4BL6S	CQ01200G4BL6S	103	1
CA03200G4B95RL6	CA03200G4B95RL6	224	1	CA0630010S90	CA0630010S90	228	1	CQ01200G4RK6S	CQ01200G4RK6S	104	1
CA03200G4BK6	CA03200G4BK6	78	1	CA0630039PL3	CA0630039PL3	88	1	CQ01200G4RL6S	CQ01200G4RL6S	103	1
CA03200G4BL6	CA03200G4BL6	78	1	CA0630039S90	CA0630039S90	228	1	CQ0120004RV4	CQ0120004RV4	99	1
CA03200G4RK6	CA03200G4RK6	78	1	CA06300G33L3	CA06300G33L3	90	1	CQ0120004RV6	CQ0120004RV6	99	1
CA03200G4RL6	CA03200G4RL6	78	1	CA06300G33N3	CA06300G33N3	90	1	CQ0120005RV4	CQ0120005RV4	99	1
CA0400002PL2	CA0400002PL2	72	1	CA06300G3LE3	CA06300G3LE3	90	1	CQ0120005RV6	CQ0120005RV6	99	1
CA0400003PL2	CA0400003PL2	72	1	CA06300G3LN3	CA06300G3LN3	90	1	CQ0120006RV4	CQ0120006RV4	100	1

Product list in alphabetical order by type

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
CQ0120007RV4	CQ0120007RV4	100	1	CQ03200G4BK6S	CQ03200G4BK6S	104	1	CR0120011GV4	CR0120011GV4	58	1
CQ0120007RV6	CQ0120007RV6	100	1	CQ03200G4BL6S	CQ03200G4BL6S	103	1	CR0120011RT4	CR0120011RT4	46	1
CQ0120008RV4	CQ0120008RV4	100	1	CQ03200G4RK6S	CQ03200G4RK6S	104	1	CR0120011RT6	CR0120011RT6	46	1
CQ0120008RV6	CQ0120008RV6	100	1	CQ03200G4RL6S	CQ03200G4RL6S	103	1	CR0120011RV4	CR0120011RV4	58	1
CQ0120009RV4	CQ0120009RV4	101	1	CQ0320004RV6	CQ0320004RV6	99	1	CR0120016GT4	CR0120016GT4	47	1
CQ0120009RV6	CQ0120009RV6	101	1	CQ0320006RV6	CQ0320006RV6	100	1	CR0120016GT6	CR0120016GT6	47	1
CQ0120016RV4	CQ0120016RV4	101	1	CQ0320007RV6	CQ0320007RV6	100	1	CR0120016GV4	CR0120016GV4	59	1
CQ0120016RV6	CQ0120016RV6	101	1	CQ0320008RV6	CQ0320008RV6	100	1	CR0120016RT4	CR0120016RT4	47	1
CQ0120018RV4	CQ0120018RV4	102	1	CQ0320009RV6	CQ0320009RV6	101	1	CR0120016RT6	CR0120016RT6	47	1
CQ0120018RV6	CQ0120018RV6	102	1	CQ0320010RV6	CQ0320010RV6	101	1	CR0120016RV4	CR0120016RV4	59	1
CQ0120022RV4	CQ0120022RV4	102	1	CQ0320039RV6	CQ0320039RV6	100	1	CR0120018GT4	CR0120018GT4	48	1
CQ0120022RV6	CQ0120022RV6	102	1	CR0120001GT4	CR0120001GT4	42	1	CR0120018GT6	CR0120018GT6	48	1
CQ0120039RV4	CQ0120039RV4	100	1	CR0120001GT6	CR0120001GT6	42	1	CR0120018GV4	CR0120018GV4	60	1
CQ012DN07DDN	CQ012DN07DDN	106	1	CR0120001GV4	CR0120001GV4	54	1	CR0120018RT4	CR0120018RT4	48	1
CQ012DN08DDN	CQ012DN08DDN	106	1	CR0120001RT4	CR0120001RT4	42	1	CR0120018RT6	CR0120018RT6	48	1
CQ012DN09DDN	CQ012DN09DDN	106	1	CR0120001RT6	CR0120001RT6	42	1	CR0120018RV4	CR0120018RV4	60	1
CQ012DN10DDN	CQ012DN10DDN	106	1	CR0120001RV4	CR0120001RV4	54	1	CR0120022GT4	CR0120022GT4	48	1
CQ012DN16DDN	CQ012DN16DDN	106	1	CR0120002GT4	CR0120002GT4	42	1	CR0120022GT6	CR0120022GT6	48	1
CQ012DN18DDN	CQ012DN18DDN	106	1	CR0120002GT6	CR0120002GT6	42	1	CR0120022GV4	CR0120022GV4	60	1
CQ012DN22DDN	CQ012DN22DDN	106	1	CR0120002GV4	CR0120002GV4	54	1	CR0120022RT4	CR0120022RT4	48	1
CQ0160002RV4	CQ0160002RV4	99	1	CR0120002RT4	CR0120002RT4	42	1	CR0120022RT6	CR0120022RT6	48	1
CQ0160002RV6	CQ0160002RV6	99	1	CR0120002RT6	CR0120002RT6	42	1	CR0120022RV4	CR0120022RV4	60	1
CQ01600G3BK6S	CQ01600G3BK6S	104	1	CR0120002RV4	CR0120002RV4	54	1	CR0120031GT4	CR0120031GT4	46	1
CQ01600G3BL6S	CQ01600G3BL6S	103	1	CR0120003GT4	CR0120003GT4	42	1	CR0120031GT6	CR0120031GT6	46	1
CQ01600G3RK6S	CQ01600G3RK6S	104	1	CR0120003GT6	CR0120003GT6	42	1	CR0120031GV4	CR0120031GV4	58	1
CQ01600G3RL6S	CQ01600G3RL6S	103	1	CR0120003GV4	CR0120003GV4	54	1	CR0120031RT4	CR0120031RT4	46	1
CQ0160003RV4	CQ0160003RV4	99	1	CR0120003RT4	CR0120003RT4	42	1	CR0120031RT6	CR0120031RT6	46	1
CQ0160003RV6	CQ0160003RV6	99	1	CR0120003RT6	CR0120003RT6	42	1	CR0120031RV4	CR0120031RV4	58	1
CQ01600G4BK6S	CQ01600G4BK6S	104	1	CR0120003RV4	CR0120003RV4	54	1	CR0120032GT4	CR0120032GT4	47	1
CQ01600G4BL6S	CQ01600G4BL6S	103	1	CR0120004GT4	CR0120004GT4	43	1	CR0120032GT6	CR0120032GT6	47	1
CQ01600G4RK6S	CQ01600G4RK6S	104	1	CR0120004GT6	CR0120004GT6	43	1	CR0120032GV4	CR0120032GV4	59	1
CQ01600G4RL6S	CQ01600G4RL6S	103	1	CR0120004GV4	CR0120004GV4	55	1	CR0120032RT4	CR0120032RT4	47	1
CQ0160004RV4	CQ0160004RV4	99	1	CR0120004RT4	CR0120004RT4	43	1	CR0120032RT6	CR0120032RT6	47	1
CQ0160004RV6	CQ0160004RV6	99	1	CR0120004RT6	CR0120004RT6	43	1	CR0120032RV4	CR0120032RV4	59	1
CQ0160006RV4	CQ0160006RV4	100	1	CR0120004RV4	CR0120004RV4	55	1	CR0120034GT4	CR0120034GT4	47	1
CQ0160006RV6	CQ0160006RV6	100	1	CR0120005GT4	CR0120005GT4	43	1	CR0120034GT6	CR0120034GT6	47	1
CQ0160007RV4	CQ0160007RV4	100	1	CR0120005GT6	CR0120005GT6	43	1	CR0120034GV4	CR0120034GV4	59	1
CQ0160007RV6	CQ0160007RV6	100	1	CR0120005GV4	CR0120005GV4	55	1	CR0120034RT4	CR0120034RT4	47	1
CQ0160008RV4	CQ0160008RV4	100	1	CR0120005RT4	CR0120005RT4	43	1	CR0120034RT6	CR0120034RT6	47	1
CQ0160008RV6	CQ0160008RV6	100	1	CR0120005RT6	CR0120005RT6	43	1	CR0120034RV4	CR0120034RV4	59	1
CQ0160009RV4	CQ0160009RV4	101	1	CR0120005RV4	CR0120005RV4	55	1	CR0120035GT4	CR0120035GT4	43	1
CQ0160009RV6	CQ0160009RV6	101	1	CR0120006GT4	CR0120006GT4	44	1	CR0120035GT6	CR0120035GT6	43	1
CQ0160010RV4	CQ0160010RV4	101	1	CR0120006GT6	CR0120006GT6	44	1	CR0120035GV4	CR0120035GV4	55	1
CQ0160010RV6	CQ0160010RV6	101	1	CR0120006GV4	CR0120006GV4	56	1	CR0120035RT4	CR0120035RT4	43	1
CQ0160011RV4	CQ0160011RV4	101	1	CR0120006RT4	CR0120006RT4	44	1	CR0120035RT6	CR0120035RT6	43	1
CQ0160039RV4	CQ0160039RV4	100	1	CR0120006RT6	CR0120006RT6	44	1	CR0120035RV4	CR0120035RV4	55	1
CQ0160039RV6	CQ0160039RV6	100	1	CR0120006RV4	CR0120006RV4	56	1	CR0120036GT4	CR0120036GT4	45	1
CQ016DN07DDN	CQ016DN07DDN	106	1	CR0120007GT4	CR0120007GT4	44	1	CR0120036GT6	CR0120036GT6	45	1
CQ016DN08DDN	CQ016DN08DDN	106	1	CR0120007GT6	CR0120007GT6	44	1	CR0120036GV4	CR0120036GV4	57	1
CQ016DN09DDN	CQ016DN09DDN	106	1	CR0120007GV4	CR0120007GV4	56	1	CR0120036RT4	CR0120036RT4	45	1
CQ016DN10DDN	CQ016DN10DDN	106	1	CR0120007RT4	CR0120007RT4	44	1	CR0120036RT6	CR0120036RT6	45	1
CQ0250002RV6	CQ0250002RV6	99	1	CR0120007RT6	CR0120007RT6	44	1	CR0120036RV4	CR0120036RV4	57	1
CQ02500G3BK6S	CQ02500G3BK6S	104	1	CR0120007RV4	CR0120007RV4	56	1	CR0120039GT4	CR0120039GT4	44	1
CQ02500G3BL6S	CQ02500G3BL6S	103	1	CR0120008GT4	CR0120008GT4	45	1	CR0120039GT6	CR0120039GT6	44	1
CQ02500G3RK6S	CQ02500G3RK6S	104	1	CR0120008GT6	CR0120008GT6	45	1	CR0120039GV4	CR0120039GV4	56	1
CQ02500G3RL6S	CQ02500G3RL6S	103	1	CR0120008GV4	CR0120008GV4	57	1	CR0120039RT4	CR0120039RT4	44	1
CQ0250003RV6	CQ0250003RV6	99	1	CR0120008RT4	CR0120008RT4	45	1	CR0120039RT6	CR0120039RT6	44	1
CQ02500G4BK6S	CQ02500G4BK6S	104	1	CR0120008RT6	CR0120008RT6	45	1	CR0120039RV4	CR0120039RV4	56	1
CQ02500G4BL6S	CQ02500G4BL6S	103	1	CR0120008RV4	CR0120008RV4	57	1	CR01200G3BK6	CR01200G3BK6	52	1
CQ02500G4RK6S	CQ02500G4RK6S	104	1	CR0120009GT4	CR0120009GT4	45	1	CR01200G3BK6S	CR01200G3BK6S	64	1
CQ02500G4RL6S	CQ02500G4RL6S	103	1	CR0120009GT6	CR0120009GT6	45	1	CR01200G3BL6	CR01200G3BL6	52	1
CQ0250004RV6	CQ0250004RV6	99	1	CR0120009GV4	CR0120009GV4	57	1	CR01200G3BL6S	CR01200G3BL6S	64	1
CQ0250006RV6	CQ0250006RV6	100	1	CR0120009RT4	CR0120009RT4	45	1	CR01200G3GK6	CR01200G3GK6	53	1
CQ0250007RV6	CQ0250007RV6	100	1	CR0120009RT6	CR0120009RT6	45	1	CR01200G3GL6	CR01200G3GL6	53	1
CQ0250008RV6	CQ0250008RV6	100	1	CR0120009RV4	CR0120009RV4	57	1	CR01200G3HK6	CR01200G3HK6	53	1
CQ0250009RV6	CQ0250009RV6	101	1	CR0120010GT4	CR0120010GT4	46	1	CR01200G3HL6	CR01200G3HL6	53	1
CQ0250010RV6	CQ0250010RV6	101	1	CR0120010GT6	CR0120010GT6	46	1	CR01200G3RK6	CR01200G3RK6	52	1
CQ0250039RV6	CQ0250039RV6	100	1	CR0120010GV4	CR0120010GV4	58	1	CR01200G3RK6S	CR01200G3RK6S	64	1
CQ03200G3BK6S	CQ03200G3BK6S	104	1	CR0120010RT4	CR0120010RT4	46	1	CR01200G3RL6	CR01200G3RL6	52	1
CQ03200G3BL6S	CQ03200G3BL6S	103	1	CR0120010RT6	CR0120010RT6	46	1	CR01200G3RL6S	CR01200G3RL6S	64	1
CQ03200G3RK6S	CQ03200G3RK6S	104	1	CR0120010RV4	CR0120010RV4	58	1	CR01200G4BK6	CR01200G4BK6	52	1
CQ03200G3RL6S	CQ03200G3RL6S	103	1	CR0120011GT4	CR0120011GT4	46	1	CR01200G4BK6S	CR01200G4BK6S	64	1
CQ0320003RV6	CQ0320003RV6	99	1	CR0120011GT6	CR0120011GT6	46	1	CR01200G4BL6	CR01200G4BL6	52	1

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
CR01200G4BL6S	CR01200G4BL6S	64	1	CR0160003RT6	CR0160003RT6	42	1	CR0160035RV4	CR0160035RV4	55	1
CR01200G4GK6	CR01200G4GK6	53	1	CR0160003RV4	CR0160003RV4	54	1	CR0160036GT4	CR0160036GT4	45	1
CR01200G4GL6	CR01200G4GL6	53	1	CR0160004GT4	CR0160004GT4	43	1	CR0160036GT6	CR0160036GT6	45	1
CR01200G4HK6	CR01200G4HK6	53	1	CR0160004GT6	CR0160004GT6	43	1	CR0160036GV4	CR0160036GV4	57	1
CR01200G4HL6	CR01200G4HL6	53	1	CR0160004GV4	CR0160004GV4	55	1	CR0160036RT4	CR0160036RT4	45	1
CR01200G4RK6	CR01200G4RK6	52	1	CR0160004RT4	CR0160004RT4	43	1	CR0160036RT6	CR0160036RT6	45	1
CR01200G4RK6S	CR01200G4RK6S	64	1	CR0160004RT6	CR0160004RT6	43	1	CR0160036RV4	CR0160036RV4	57	1
CR01200G4RL6	CR01200G4RL6	52	1	CR0160004RV4	CR0160004RV4	55	1	CR0160039GT4	CR0160039GT4	44	1
CR01200G4RL6S	CR01200G4RL6S	64	1	CR0160005GT4	CR0160005GT4	43	1	CR0160039GT6	CR0160039GT6	44	1
CR012M013GT4	CR012M013GT4	50	1	CR0160005GT6	CR0160005GT6	43	1	CR0160039GV4	CR0160039GV4	56	1
CR012M013GT6	CR012M013GT6	50	1	CR0160005GV4	CR0160005GV4	55	1	CR0160039RT4	CR0160039RT4	44	1
CR012M013GV4	CR012M013GV4	62	1	CR0160005RT4	CR0160005RT4	43	1	CR0160039RT6	CR0160039RT6	44	1
CR012M013RT4	CR012M013RT4	50	1	CR0160005RT6	CR0160005RT6	43	1	CR0160039RV4	CR0160039RV4	56	1
CR012M013RT6	CR012M013RT6	50	1	CR0160005RV4	CR0160005RV4	55	1	CR01600G3BK6	CR01600G3BK6	52	1
CR012M013RV4	CR012M013RV4	62	1	CR0160006GT4	CR0160006GT4	44	1	CR01600G3BK6S	CR01600G3BK6S	64	1
CR012M014GT4	CR012M014GT4	51	1	CR0160006GT6	CR0160006GT6	44	1	CR01600G3BL6	CR01600G3BL6	52	1
CR012M014GT6	CR012M014GT6	51	1	CR0160006GV4	CR0160006GV4	56	1	CR01600G3BL6S	CR01600G3BL6S	64	1
CR012M014GV4	CR012M014GV4	63	1	CR0160006RT4	CR0160006RT4	44	1	CR01600G3GK6	CR01600G3GK6	53	1
CR012M014RT4	CR012M014RT4	51	1	CR0160006RT6	CR0160006RT6	44	1	CR01600G3GL6	CR01600G3GL6	53	1
CR012M014RT6	CR012M014RT6	51	1	CR0160006RV4	CR0160006RV4	56	1	CR01600G3HK6	CR01600G3HK6	53	1
CR012M014RV4	CR012M014RV4	63	1	CR0160007GT4	CR0160007GT4	44	1	CR01600G3HL6	CR01600G3HL6	53	1
CR012M015GT4	CR012M015GT4	51	1	CR0160007GT6	CR0160007GT6	44	1	CR01600G3RK6	CR01600G3RK6	52	1
CR012M015GT6	CR012M015GT6	51	1	CR0160007GV4	CR0160007GV4	56	1	CR01600G3RK6S	CR01600G3RK6S	64	1
CR012M015GV4	CR012M015GV4	63	1	CR0160007RT4	CR0160007RT4	44	1	CR01600G3RL6	CR01600G3RL6	52	1
CR012M015RT4	CR012M015RT4	51	1	CR0160007RT6	CR0160007RT6	44	1	CR01600G3RL6S	CR01600G3RL6S	64	1
CR012M015RT6	CR012M015RT6	51	1	CR0160007RV4	CR0160007RV4	56	1	CR01600G4BK6	CR01600G4BK6	52	1
CR012M015RV4	CR012M015RV4	63	1	CR0160008GT4	CR0160008GT4	45	1	CR01600G4BK6S	CR01600G4BK6S	64	1
CR012MZ13GT4	CR012MZ13GT4	48	1	CR0160008GT6	CR0160008GT6	45	1	CR01600G4BL6	CR01600G4BL6	52	1
CR012MZ13GT6	CR012MZ13GT6	48	1	CR0160008GV4	CR0160008GV4	57	1	CR01600G4BL6S	CR01600G4BL6S	64	1
CR012MZ13GV4	CR012MZ13GV4	60	1	CR0160008RT4	CR0160008RT4	45	1	CR01600G4GK6	CR01600G4GK6	53	1
CR012MZ13RT4	CR012MZ13RT4	48	1	CR0160008RT6	CR0160008RT6	45	1	CR01600G4GL6	CR01600G4GL6	53	1
CR012MZ13RT6	CR012MZ13RT6	48	1	CR0160008RV4	CR0160008RV4	57	1	CR01600G4HK6	CR01600G4HK6	53	1
CR012MZ13RV4	CR012MZ13RV4	60	1	CR0160009GT4	CR0160009GT4	45	1	CR01600G4HL6	CR01600G4HL6	53	1
CR012MZ14GT4	CR012MZ14GT4	49	1	CR0160009GT6	CR0160009GT6	45	1	CR01600G4RK6	CR01600G4RK6	52	1
CR012MZ14GT6	CR012MZ14GT6	49	1	CR0160009GV4	CR0160009GV4	57	1	CR01600G4RK6S	CR01600G4RK6S	64	1
CR012MZ14GV4	CR012MZ14GV4	61	1	CR0160009RT4	CR0160009RT4	45	1	CR01600G4RL6	CR01600G4RL6	52	1
CR012MZ14RT4	CR012MZ14RT4	49	1	CR0160009RT6	CR0160009RT6	45	1	CR01600G4RL6S	CR01600G4RL6S	64	1
CR012MZ14RT6	CR012MZ14RT6	49	1	CR0160009RV4	CR0160009RV4	57	1	CR016M013GT4	CR016M013GT4	50	1
CR012MZ14RV4	CR012MZ14RV4	61	1	CR0160010GT4	CR0160010GT4	46	1	CR016M013GT6	CR016M013GT6	50	1
CR012MZ23GT4	CR012MZ23GT4	49	1	CR0160010GT6	CR0160010GT6	46	1	CR016M013GV4	CR016M013GV4	62	1
CR012MZ23GT6	CR012MZ23GT6	49	1	CR0160010GV4	CR0160010GV4	58	1	CR016M013RT4	CR016M013RT4	50	1
CR012MZ23GV4	CR012MZ23GV4	61	1	CR0160010RT4	CR0160010RT4	46	1	CR016M013RT6	CR016M013RT6	50	1
CR012MZ23RT4	CR012MZ23RT4	49	1	CR0160010RT6	CR0160010RT6	46	1	CR016M013RV4	CR016M013RV4	62	1
CR012MZ23RT6	CR012MZ23RT6	49	1	CR0160010RV4	CR0160010RV4	58	1	CR016M014GT4	CR016M014GT4	51	1
CR012MZ23RV4	CR012MZ23RV4	61	1	CR0160011GT4	CR0160011GT4	46	1	CR016M014GT6	CR016M014GT6	51	1
CR012MZ24GT4	CR012MZ24GT4	49	1	CR0160011GT6	CR0160011GT6	46	1	CR016M014GV4	CR016M014GV4	63	1
CR012MZ24GT6	CR012MZ24GT6	49	1	CR0160011GV4	CR0160011GV4	58	1	CR016M014RT4	CR016M014RT4	51	1
CR012MZ24GV4	CR012MZ24GV4	61	1	CR0160011RT4	CR0160011RT4	46	1	CR016M014RT6	CR016M014RT6	51	1
CR012MZ24RT4	CR012MZ24RT4	49	1	CR0160011RT6	CR0160011RT6	46	1	CR016M014RV4	CR016M014RV4	63	1
CR012MZ24RT6	CR012MZ24RT6	49	1	CR0160011RV4	CR0160011RV4	58	1	CR016M015GT4	CR016M015GT4	51	1
CR012MZ24RV4	CR012MZ24RV4	61	1	CR0160031GT4	CR0160031GT4	46	1	CR016M015GT6	CR016M015GT6	51	1
CR012MZ33GT4	CR012MZ33GT4	50	1	CR0160031GT6	CR0160031GT6	46	1	CR016M015GV4	CR016M015GV4	63	1
CR012MZ33GT6	CR012MZ33GT6	50	1	CR0160031GV4	CR0160031GV4	58	1	CR016M015RT4	CR016M015RT4	51	1
CR012MZ33GV4	CR012MZ33GV4	62	1	CR0160031RT4	CR0160031RT4	46	1	CR016M015RT6	CR016M015RT6	51	1
CR012MZ33RT4	CR012MZ33RT4	50	1	CR0160031RT6	CR0160031RT6	46	1	CR016M015RV4	CR016M015RV4	63	1
CR012MZ33RT6	CR012MZ33RT6	50	1	CR0160031RV4	CR0160031RV4	58	1	CR016MZ13GT4	CR016MZ13GT4	48	1
CR012MZ33RV4	CR012MZ33RV4	62	1	CR0160032GT4	CR0160032GT4	47	1	CR016MZ13GT6	CR016MZ13GT6	48	1
CR0160001GT4	CR0160001GT4	42	1	CR0160032GT6	CR0160032GT6	47	1	CR016MZ13GV4	CR016MZ13GV4	60	1
CR0160001GT6	CR0160001GT6	42	1	CR0160032GV4	CR0160032GV4	59	1	CR016MZ13RT4	CR016MZ13RT4	48	1
CR0160001GV4	CR0160001GV4	54	1	CR0160032RT4	CR0160032RT4	47	1	CR016MZ13RT6	CR016MZ13RT6	48	1
CR0160001RT4	CR0160001RT4	42	1	CR0160032RT6	CR0160032RT6	47	1	CR016MZ13RV4	CR016MZ13RV4	60	1
CR0160001RT6	CR0160001RT6	42	1	CR0160032RV4	CR0160032RV4	59	1	CR016MZ14GT4	CR016MZ14GT4	49	1
CR0160001RV4	CR0160001RV4	54	1	CR0160034GT4	CR0160034GT4	47	1	CR016MZ14GT6	CR016MZ14GT6	49	1
CR0160002GT4	CR0160002GT4	42	1	CR0160034GT6	CR0160034GT6	47	1	CR016MZ14GV4	CR016MZ14GV4	61	1
CR0160002GT6	CR0160002GT6	42	1	CR0160034GV4	CR0160034GV4	59	1	CR016MZ14RT4	CR016MZ14RT4	49	1
CR0160002GV4	CR0160002GV4	54	1	CR0160034RT4	CR0160034RT4	47	1	CR016MZ14RT6	CR016MZ14RT6	49	1
CR0160002RT4	CR0160002RT4	42	1	CR0160034RT6	CR0160034RT6	47	1	CR016MZ14RV4	CR016MZ14RV4	61	1
CR0160002RT6	CR0160002RT6	42	1	CR0160034RV4	CR0160034RV4	59	1	CR016MZ23GT4	CR016MZ23GT4	49	1
CR0160002RV4	CR0160002RV4	54	1	CR0160035GT4	CR0160035GT4	43	1	CR016MZ23GT6	CR016MZ23GT6	49	1
CR0160003GT4	CR0160003GT4	42	1	CR0160035GT6	CR0160035GT6	43	1	CR016MZ23GV4	CR016MZ23GV4	61	1
CR0160003GT6	CR0160003GT6	42	1	CR0160035GV4	CR0160035GV4	55	1	CR016MZ23RT4	CR016MZ23RT4	49	1
CR0160003GV4	CR0160003GV4	54	1	CR0160035RT4	CR0160035RT4	43	1	CR016MZ23RT6	CR016MZ23RT6	49	1
CR0160003RT4	CR0160003RT4	42	1	CR0160035RT6	CR0160035RT6	43	1	CR016MZ23RV4	CR016MZ23RV4	61	1

Product list in alphabetical order by type

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
CR016MZ24GT4	CR016MZ24GT4	49	1	CR0200011GT6	CR0200011GT6	46	1	CR0250002GV6	CR0250002GV6	54	1
CR016MZ24GT6	CR016MZ24GT6	49	1	CR0200011GV4	CR0200011GV4	58	1	CR0250002RT4	CR0250002RT4	42	1
CR016MZ24GV4	CR016MZ24GV4	61	1	CR0200011RT4	CR0200011RT4	46	1	CR0250002RT6	CR0250002RT6	42	1
CR016MZ24RT4	CR016MZ24RT4	49	1	CR0200011RT6	CR0200011RT6	46	1	CR0250002RV6	CR0250002RV6	54	1
CR016MZ24RT6	CR016MZ24RT6	49	1	CR0200011RV4	CR0200011RV4	58	1	CR0250003GT4	CR0250003GT4	42	1
CR016MZ24RV4	CR016MZ24RV4	61	1	CR0200031GT4	CR0200031GT4	46	1	CR0250003GT6	CR0250003GT6	42	1
CR016MZ33GT4	CR016MZ33GT4	50	1	CR0200031GT6	CR0200031GT6	46	1	CR0250003GV6	CR0250003GV6	54	1
CR016MZ33GT6	CR016MZ33GT6	50	1	CR0200031GV4	CR0200031GV4	58	1	CR0250003RT4	CR0250003RT4	42	1
CR016MZ33GV4	CR016MZ33GV4	62	1	CR0200031RT4	CR0200031RT4	46	1	CR0250003RT6	CR0250003RT6	42	1
CR016MZ33RT4	CR016MZ33RT4	50	1	CR0200031RT6	CR0200031RT6	46	1	CR0250003RV6	CR0250003RV6	54	1
CR016MZ33RT6	CR016MZ33RT6	50	1	CR0200031RV4	CR0200031RV4	58	1	CR0250004GT4	CR0250004GT4	43	1
CR016MZ33RV4	CR016MZ33RV4	62	1	CR0200034GT4	CR0200034GT4	47	1	CR0250004GT6	CR0250004GT6	43	1
CR0200001GT4	CR0200001GT4	42	1	CR0200034GT6	CR0200034GT6	47	1	CR0250004GV6	CR0250004GV6	55	1
CR0200001GT6	CR0200001GT6	42	1	CR0200034GV4	CR0200034GV4	59	1	CR0250004RT4	CR0250004RT4	43	1
CR0200001GV4	CR0200001GV4	54	1	CR0200034RT4	CR0200034RT4	47	1	CR0250004RT6	CR0250004RT6	43	1
CR0200001RT4	CR0200001RT4	42	1	CR0200034RT6	CR0200034RT6	47	1	CR0250004RV6	CR0250004RV6	55	1
CR0200001RT6	CR0200001RT6	42	1	CR0200034RV4	CR0200034RV4	59	1	CR0250005GT4	CR0250005GT4	43	1
CR0200001RV4	CR0200001RV4	54	1	CR0200036GT4	CR0200036GT4	45	1	CR0250005GT6	CR0250005GT6	43	1
CR0200002GT4	CR0200002GT4	42	1	CR0200036GT6	CR0200036GT6	45	1	CR0250005GV6	CR0250005GV6	55	1
CR0200002GT6	CR0200002GT6	42	1	CR0200036GV4	CR0200036GV4	57	1	CR0250005RT4	CR0250005RT4	43	1
CR0200002GV4	CR0200002GV4	54	1	CR0200036RT4	CR0200036RT4	45	1	CR0250005RT6	CR0250005RT6	43	1
CR0200002RT4	CR0200002RT4	42	1	CR0200036RT6	CR0200036RT6	45	1	CR0250005RV6	CR0250005RV6	55	1
CR0200002RT6	CR0200002RT6	42	1	CR0200036RV4	CR0200036RV4	57	1	CR0250006GT4	CR0250006GT4	44	1
CR0200002RV4	CR0200002RV4	54	1	CR0200039GT4	CR0200039GT4	44	1	CR0250006GT6	CR0250006GT6	44	1
CR0200003GT4	CR0200003GT4	42	1	CR0200039GT6	CR0200039GT6	44	1	CR0250006GV6	CR0250006GV6	56	1
CR0200003GT6	CR0200003GT6	42	1	CR0200039GV4	CR0200039GV4	56	1	CR0250006RT4	CR0250006RT4	44	1
CR0200003GV4	CR0200003GV4	54	1	CR0200039RT4	CR0200039RT4	44	1	CR0250006RT6	CR0250006RT6	44	1
CR0200003RT4	CR0200003RT4	42	1	CR0200039RT6	CR0200039RT6	44	1	CR0250006RV6	CR0250006RV6	56	1
CR0200003RT6	CR0200003RT6	42	1	CR0200039RV4	CR0200039RV4	56	1	CR0250007GT4	CR0250007GT4	44	1
CR0200003RV4	CR0200003RV4	54	1	CR02000G3BK6	CR02000G3BK6	52	1	CR0250007GT6	CR0250007GT6	44	1
CR0200004GT4	CR0200004GT4	43	1	CR02000G3BK6S	CR02000G3BK6S	64	1	CR0250007GV6	CR0250007GV6	56	1
CR0200004GT6	CR0200004GT6	43	1	CR02000G3BL6	CR02000G3BL6	52	1	CR0250007RT4	CR0250007RT4	44	1
CR0200004GV4	CR0200004GV4	55	1	CR02000G3BL6S	CR02000G3BL6S	64	1	CR0250007RT6	CR0250007RT6	44	1
CR0200004RT4	CR0200004RT4	43	1	CR02000G3GK6	CR02000G3GK6	53	1	CR0250007RV6	CR0250007RV6	56	1
CR0200004RT6	CR0200004RT6	43	1	CR02000G3GL6	CR02000G3GL6	53	1	CR0250008GT4	CR0250008GT4	45	1
CR0200004RV4	CR0200004RV4	55	1	CR02000G3HK6	CR02000G3HK6	53	1	CR0250008GT6	CR0250008GT6	45	1
CR0200005GT4	CR0200005GT4	43	1	CR02000G3HL6	CR02000G3HL6	53	1	CR0250008GV6	CR0250008GV6	57	1
CR0200005GT6	CR0200005GT6	43	1	CR02000G3RK6	CR02000G3RK6	52	1	CR0250008RT4	CR0250008RT4	45	1
CR0200005GV4	CR0200005GV4	55	1	CR02000G3RK6S	CR02000G3RK6S	64	1	CR0250008RT6	CR0250008RT6	45	1
CR0200005RT4	CR0200005RT4	43	1	CR02000G3RL6	CR02000G3RL6	52	1	CR0250008RV6	CR0250008RV6	57	1
CR0200005RT6	CR0200005RT6	43	1	CR02000G3RL6S	CR02000G3RL6S	64	1	CR0250009GT4	CR0250009GT4	45	1
CR0200005RV4	CR0200005RV4	55	1	CR02000G4BK6	CR02000G4BK6	52	1	CR0250009GT6	CR0250009GT6	45	1
CR0200006GT4	CR0200006GT4	44	1	CR02000G4BK6S	CR02000G4BK6S	64	1	CR0250009GV6	CR0250009GV6	57	1
CR0200006GT6	CR0200006GT6	44	1	CR02000G4BL6	CR02000G4BL6	52	1	CR0250009RT4	CR0250009RT4	45	1
CR0200006GV4	CR0200006GV4	56	1	CR02000G4BL6S	CR02000G4BL6S	64	1	CR0250009RT6	CR0250009RT6	45	1
CR0200006RT4	CR0200006RT4	44	1	CR02000G4GK6	CR02000G4GK6	53	1	CR0250009RV6	CR0250009RV6	57	1
CR0200006RT6	CR0200006RT6	44	1	CR02000G4GL6	CR02000G4GL6	53	1	CR0250010GT4	CR0250010GT4	46	1
CR0200006RV4	CR0200006RV4	56	1	CR02000G4HK6	CR02000G4HK6	53	1	CR0250010GT6	CR0250010GT6	46	1
CR0200007GT4	CR0200007GT4	44	1	CR02000G4HL6	CR02000G4HL6	53	1	CR0250010GV6	CR0250010GV6	58	1
CR0200007GT6	CR0200007GT6	44	1	CR02000G4RK6	CR02000G4RK6	52	1	CR0250010RT4	CR0250010RT4	46	1
CR0200007GV4	CR0200007GV4	56	1	CR02000G4RK6S	CR02000G4RK6S	64	1	CR0250010RT6	CR0250010RT6	46	1
CR0200007RT4	CR0200007RT4	44	1	CR02000G4RL6	CR02000G4RL6	52	1	CR0250010RV6	CR0250010RV6	58	1
CR0200007RT6	CR0200007RT6	44	1	CR02000G4RL6S	CR02000G4RL6S	64	1	CR0250011GT4	CR0250011GT4	46	1
CR0200007RV4	CR0200007RV4	56	1	CR020MZ13GT4	CR020MZ13GT4	48	1	CR0250011GT6	CR0250011GT6	46	1
CR0200008GT4	CR0200008GT4	45	1	CR020MZ13GT6	CR020MZ13GT6	48	1	CR0250011GV6	CR0250011GV6	58	1
CR0200008GT6	CR0200008GT6	45	1	CR020MZ13GV4	CR020MZ13GV4	60	1	CR0250011RT4	CR0250011RT4	46	1
CR0200008GV4	CR0200008GV4	57	1	CR020MZ13RT4	CR020MZ13RT4	48	1	CR0250011RT6	CR0250011RT6	46	1
CR0200008RT4	CR0200008RT4	45	1	CR020MZ13RT6	CR020MZ13RT6	48	1	CR0250011RV6	CR0250011RV6	58	1
CR0200008RT6	CR0200008RT6	45	1	CR020MZ13RV4	CR020MZ13RV4	60	1	CR0250031GT4	CR0250031GT4	46	1
CR0200008RV4	CR0200008RV4	57	1	CR020MZ23GT4	CR020MZ23GT4	49	1	CR0250031GT6	CR0250031GT6	46	1
CR0200009GT4	CR0200009GT4	45	1	CR020MZ23GT6	CR020MZ23GT6	49	1	CR0250031GV6	CR0250031GV6	58	1
CR0200009GT6	CR0200009GT6	45	1	CR020MZ23GV4	CR020MZ23GV4	61	1	CR0250031RT4	CR0250031RT4	46	1
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CR0200009RT4	CR0200009RT4	45	1	CR020MZ23RT6	CR020MZ23RT6	49	1	CR0250031RV6	CR0250031RV6	58	1
CR0200009RT6	CR0200009RT6	45	1	CR020MZ23RV4	CR020MZ23RV4	61	1	CR0250032GT4	CR0250032GT4	47	1
CR0200009RV4	CR0200009RV4	57	1	CR0250001GT4	CR0250001GT4	42	1	CR0250032GT6	CR0250032GT6	47	1
CR0200010GT4	CR0200010GT4	46	1	CR0250001GT6	CR0250001GT6	42	1	CR0250032GV6	CR0250032GV6	59	1
CR0200010GT6	CR0200010GT6	46	1	CR0250001GV6	CR0250001GV6	54	1	CR0250032RT4	CR0250032RT4	47	1
CR0200010GV4	CR0200010GV4	58	1	CR0250001RT4	CR0250001RT4	42	1	CR0250032RT6	CR0250032RT6	47	1
CR0200010RT4	CR0200010RT4	46	1	CR0250001RT6	CR0250001RT6	42	1	CR0250032RV6	CR0250032RV6	59	1
CR0200010RT6	CR0200010RT6	46	1	CR0250001RV6	CR0250001RV6	54	1	CR0250034GT4	CR0250034GT4	47	1
CR0200010RV4	CR0200010RV4	58	1	CR0250002GT4	CR0250002GT4	42	1	CR0250034GT6	CR0250034GT6	47	1
CR0200011GT4	CR0200011GT4	46	1	CR0250002GT6	CR0250002GT6	42	1	CR0250034GV6	CR0250034GV6	59	1

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
CR0250034RT4	CR0250034RT4	47	1	CR0260011RV4	CR0260011RV4	58	1	CR0320008RT6	CR0320008RT6	45	1
CR0250034RT6	CR0250034RT6	47	1	CR02600031RT4	CR02600031RT4	46	1	CR0320008RV6	CR0320008RV6	57	1
CR0250034RV6	CR0250034RV6	59	1	CR0260031RV4	CR0260031RV4	58	1	CR0320009GT4	CR0320009GT4	45	1
CR0250036GT4	CR0250036GT4	45	1	CR0260032RT4	CR0260032RT4	47	1	CR0320009GT6	CR0320009GT6	45	1
CR0250036GT6	CR0250036GT6	45	1	CR0260032RV4	CR0260032RV4	59	1	CR0320009GV6	CR0320009GV6	57	1
CR0250036GV6	CR0250036GV6	57	1	CR0260034RT4	CR0260034RT4	47	1	CR0320009RT4	CR0320009RT4	45	1
CR0250036RT4	CR0250036RT4	45	1	CR0260034RV4	CR0260034RV4	59	1	CR0320009RT6	CR0320009RT6	45	1
CR0250036RT6	CR0250036RT6	45	1	CR0260036RT4	CR0260036RT4	45	1	CR0320009RV6	CR0320009RV6	57	1
CR0250036RV6	CR0250036RV6	57	1	CR0260036RV4	CR0260036RV4	57	1	CR0320010GT4	CR0320010GT4	46	1
CR0250039GT4	CR0250039GT4	44	1	CR0260039RT4	CR0260039RT4	44	1	CR0320010GT6	CR0320010GT6	46	1
CR0250039GT6	CR0250039GT6	44	1	CR0260039RV4	CR0260039RV4	56	1	CR0320010GV6	CR0320010GV6	58	1
CR0250039GV6	CR0250039GV6	56	1	CR02600G3BK6	CR02600G3BK6	52	1	CR0320010RT4	CR0320010RT4	46	1
CR0250039RT4	CR0250039RT4	44	1	CR02600G3BK6S	CR02600G3BK6S	64	1	CR0320010RT6	CR0320010RT6	46	1
CR0250039RV6	CR0250039RV6	56	1	CR02600G3BL6	CR02600G3BL6	52	1	CR0320010RV6	CR0320010RV6	58	1
CR02500G3BK6	CR02500G3BK6	52	1	CR02600G3BL6S	CR02600G3BL6S	64	1	CR0320039GT4	CR0320039GT4	44	1
CR02500G3BK6S	CR02500G3BK6S	64	1	CR02600G3GK6	CR02600G3GK6	53	1	CR0320039GT6	CR0320039GT6	44	1
CR02500G3BL6	CR02500G3BL6	52	1	CR02600G3GL6	CR02600G3GL6	53	1	CR0320039GV6	CR0320039GV6	56	1
CR02500G3BL6S	CR02500G3BL6S	64	1	CR02600G3HK6	CR02600G3HK6	53	1	CR0320039RT4	CR0320039RT4	44	1
CR02500G3GK6	CR02500G3GK6	53	1	CR02600G3HL6	CR02600G3HL6	53	1	CR0320039RT6	CR0320039RT6	44	1
CR02500G3GL6	CR02500G3GL6	53	1	CR02600G3RK6	CR02600G3RK6	52	1	CR0320039RV6	CR0320039RV6	56	1
CR02500G3HK6	CR02500G3HK6	53	1	CR02600G3RK6S	CR02600G3RK6S	64	1	CR03200G3BK6	CR03200G3BK6	52	1
CR02500G3HL6	CR02500G3HL6	53	1	CR02600G3RL6	CR02600G3RL6	52	1	CR03200G3BK6S	CR03200G3BK6S	64	1
CR02500G3RK6	CR02500G3RK6	52	1	CR02600G3RL6S	CR02600G3RL6S	64	1	CR03200G3BL6	CR03200G3BL6	52	1
CR02500G3RK6S	CR02500G3RK6S	64	1	CR02600G4BK6	CR02600G4BK6	52	1	CR03200G3BL6S	CR03200G3BL6S	64	1
CR02500G3RL6	CR02500G3RL6	52	1	CR02600G4BK6S	CR02600G4BK6S	64	1	CR03200G3GK6	CR03200G3GK6	53	1
CR02500G3RL6S	CR02500G3RL6S	64	1	CR02600G4BL6	CR02600G4BL6	52	1	CR03200G3GL6	CR03200G3GL6	53	1
CR02500G4BK6	CR02500G4BK6	52	1	CR02600G4BL6S	CR02600G4BL6S	64	1	CR03200G3HK6	CR03200G3HK6	53	1
CR02500G4BK6S	CR02500G4BK6S	64	1	CR02600G4GK6	CR02600G4GK6	53	1	CR03200G3HL6	CR03200G3HL6	53	1
CR02500G4BL6	CR02500G4BL6	52	1	CR02600G4GL6	CR02600G4GL6	53	1	CR03200G3RK6	CR03200G3RK6	52	1
CR02500G4BL6S	CR02500G4BL6S	64	1	CR02600G4HK6	CR02600G4HK6	53	1	CR03200G3RK6S	CR03200G3RK6S	64	1
CR02500G4GK6	CR02500G4GK6	53	1	CR02600G4HL6	CR02600G4HL6	53	1	CR03200G3RL6	CR03200G3RL6	52	1
CR02500G4GL6	CR02500G4GL6	53	1	CR02600G4RK6	CR02600G4RK6	52	1	CR03200G3RL6S	CR03200G3RL6S	64	1
CR02500G4HK6	CR02500G4HK6	53	1	CR02600G4RK6S	CR02600G4RK6S	64	1	CR03200G4BK6	CR03200G4BK6	52	1
CR02500G4HL6	CR02500G4HL6	53	1	CR02600G4RL6	CR02600G4RL6	52	1	CR03200G4BK6S	CR03200G4BK6S	64	1
CR02500G4RK6	CR02500G4RK6	52	1	CR02600G4RL6S	CR02600G4RL6S	64	1	CR03200G4BL6	CR03200G4BL6	52	1
CR02500G4RK6S	CR02500G4RK6S	64	1	CR026MZ13RT4	CR026MZ13RT4	48	1	CR03200G4BL6S	CR03200G4BL6S	64	1
CR02500G4RL6	CR02500G4RL6	52	1	CR026MZ13RV4	CR026MZ13RV4	60	1	CR03200G4GK6	CR03200G4GK6	53	1
CR02500G4RL6S	CR02500G4RL6S	64	1	CR026MZ23RT4	CR026MZ23RT4	49	1	CR03200G4GL6	CR03200G4GL6	53	1
CR025MZ13GT4	CR025MZ13GT4	48	1	CR026MZ23RV4	CR026MZ23RV4	61	1	CR03200G4HK6	CR03200G4HK6	53	1
CR025MZ13GT6	CR025MZ13GT6	48	1	CR0320002GT4	CR0320002GT4	42	1	CR03200G4HL6	CR03200G4HL6	53	1
CR025MZ13GV6	CR025MZ13GV6	60	1	CR0320002GT6	CR0320002GT6	42	1	CR03200G4RK6	CR03200G4RK6	52	1
CR025MZ13RT4	CR025MZ13RT4	48	1	CR0320002GV6	CR0320002GV6	54	1	CR03200G4RK6S	CR03200G4RK6S	64	1
CR025MZ13RT6	CR025MZ13RT6	48	1	CR0320002RT4	CR0320002RT4	42	1	CR03200G4RL6	CR03200G4RL6	52	1
CR025MZ13RV6	CR025MZ13RV6	60	1	CR0320002RT6	CR0320002RT6	42	1	CR03200G4RL6S	CR03200G4RL6S	64	1
CR025MZ23GT4	CR025MZ23GT4	49	1	CR0320002RV6	CR0320002RV6	54	1	CR0400002GT4	CR0400002GT4	42	1
CR025MZ23GT6	CR025MZ23GT6	49	1	CR0320003GT4	CR0320003GT4	42	1	CR0400002GT6	CR0400002GT6	42	1
CR025MZ23GV6	CR025MZ23GV6	61	1	CR0320003GT6	CR0320003GT6	42	1	CR0400002GV6	CR0400002GV6	54	1
CR025MZ23RT4	CR025MZ23RT4	49	1	CR0320003GV6	CR0320003GV6	54	1	CR0400002RT4	CR0400002RT4	42	1
CR025MZ23RT6	CR025MZ23RT6	49	1	CR0320003RT4	CR0320003RT4	42	1	CR0400002RT6	CR0400002RT6	42	1
CR025MZ23RV6	CR025MZ23RV6	61	1	CR0320003RT6	CR0320003RT6	42	1	CR0400002RV6	CR0400002RV6	54	1
CR0260001RT4	CR0260001RT4	42	1	CR0320003RV6	CR0320003RV6	54	1	CR0400003GT4	CR0400003GT4	42	1
CR0260001RT6	CR0260001RT6	42	1	CR0320004GT4	CR0320004GT4	43	1	CR0400003GT6	CR0400003GT6	42	1
CR0260001RV4	CR0260001RV4	54	1	CR0320004GT6	CR0320004GT6	43	1	CR0400003GV6	CR0400003GV6	54	1
CR0260002RT4	CR0260002RT4	42	1	CR0320004GV6	CR0320004GV6	55	1	CR0400003RT4	CR0400003RT4	42	1
CR0260002RV4	CR0260002RV4	54	1	CR0320004RT4	CR0320004RT4	43	1	CR0400003RT6	CR0400003RT6	42	1
CR0260003RT4	CR0260003RT4	42	1	CR0320004RT6	CR0320004RT6	43	1	CR0400003RV6	CR0400003RV6	54	1
CR0260003RV4	CR0260003RV4	54	1	CR0320004RV6	CR0320004RV6	55	1	CR0400004GT4	CR0400004GT4	43	1
CR0260004RT4	CR0260004RT4	43	1	CR0320006GT4	CR0320006GT4	44	1	CR0400004GT6	CR0400004GT6	43	1
CR0260004RV4	CR0260004RV4	55	1	CR0320006GT6	CR0320006GT6	44	1	CR0400004GV6	CR0400004GV6	55	1
CR0260005RT4	CR0260005RT4	43	1	CR0320006GV6	CR0320006GV6	56	1	CR0400004RT4	CR0400004RT4	43	1
CR0260005RV4	CR0260005RV4	55	1	CR0320006RT4	CR0320006RT4	44	1	CR0400004RT6	CR0400004RT6	43	1
CR0260006RT4	CR0260006RT4	44	1	CR0320006RT6	CR0320006RT6	44	1	CR0400004RV6	CR0400004RV6	55	1
CR0260006RV4	CR0260006RV4	56	1	CR0320006RV6	CR0320006RV6	56	1	CR0400006GT4	CR0400006GT4	44	1
CR0260007RT4	CR0260007RT4	44	1	CR0320007GT4	CR0320007GT4	44	1	CR0400006GT6	CR0400006GT6	44	1
CR0260007RV4	CR0260007RV4	56	1	CR0320007GT6	CR0320007GT6	44	1	CR0400006GV6	CR0400006GV6	56	1
CR0260008RT4	CR0260008RT4	45	1	CR0320007GV6	CR0320007GV6	56	1	CR0400006RT4	CR0400006RT4	44	1
CR0260008RV4	CR0260008RV4	57	1	CR0320007RT4	CR0320007RT4	44	1	CR0400006RT6	CR0400006RT6	44	1
CR0260009RT4	CR0260009RT4	45	1	CR0320007RT6	CR0320007RT6	44	1	CR0400006RV6	CR0400006RV6	56	1
CR0260009RV4	CR0260009RV4	57	1	CR0320007RV6	CR0320007RV6	56	1	CR0400007GT4	CR0400007GT4	44	1
CR0260010RT4	CR0260010RT4	46	1	CR0320008GT4	CR0320008GT4	45	1	CR0400007GT6	CR0400007GT6	44	1
CR0260010RV4	CR0260010RV4	58	1	CR0320008GT6	CR0320008GT6	45	1	CR0400007GV6	CR0400007GV6	56	1
CR0260011RT4	CR0260011RT4	46	1	CR0320008GV6	CR0320008GV6	57	1	CR0400007RT4	CR0400007RT4	44	1
				CR0320008RT4	CR0320008RT4	45	1	CR0400007RT6	CR0400007RT6	44	1

Product list in alphabetical order by type

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
CR0400007RV6	CR0400007RV6	56	1	CS016M213PL2	CS016M213PL2	76	1	DS0204BAL6	DS0204BAL6	152	1
CR0400008GT4	CR0400008GT4	45	1	CS016M214PL1	CS016M214PL1	76	1	DS0204BAL6S	DS0204BAL6S	153	1
CR0400008GT6	CR0400008GT6	45	1	CS016M214PL2	CS016M214PL2	76	1	DS0204BAT4	DS0204BAT4	154	1
CR0400008GV6	CR0400008GV6	57	1	CS016M223PL2	CS016M223PL2	77	1	DS0204BAT4L	DS0204BAT4L	152	1
CR0400008RT4	CR0400008RT4	45	1	CS020M213PL2	CS020M213PL2	76	1	DS0204BAT6	DS0204BAT6	154	1
CR0400008RT6	CR0400008RT6	45	1	D91	D91	422	1	DS0204BAT6L	DS0204BAT6L	152	1
CR0400008RV6	CR0400008RV6	57	1	DS0203BAK6	DS0203BAK6	152	1	DS0204BAV4	DS0204BAV4	153	1
CR0400009GT4	CR0400009GT4	45	1	DS0203BAK6S	DS0203BAK6S	153	1	DS0204BAV6	DS0204BAV6	153	1
CR0400009GT6	CR0400009GT6	45	1	DS0203BAL6	DS0203BAL6	152	1	DS0204BAW4	DS0204BAW4	153	1
CR0400009GV6	CR0400009GV6	57	1	DS0203BAL6S	DS0203BAL6S	153	1	DS0204BAW6	DS0204BAW6	153	1
CR0400009RT4	CR0400009RT4	45	1	DS0203BAT4	DS0203BAT4	154	1	DS0204BAY4	DS0204BAY4	154	1
CR0400009RT6	CR0400009RT6	45	1	DS0203BAT4L	DS0203BAT4L	152	1	DS0204BAY4L	DS0204BAY4L	152	1
CR0400009RV6	CR0400009RV6	57	1	DS0203BAT6	DS0203BAT6	154	1	DS0204BAY6	DS0204BAY6	154	1
CR0400010GT4	CR0400010GT4	46	1	DS0203BAT6L	DS0203BAT6L	152	1	DS0204BAY6L	DS0204BAY6L	152	1
CR0400010GT6	CR0400010GT6	46	1	DS0203BAV4	DS0203BAV4	153	1	DS0204BDDN	DS0204BDDN	158	1
CR0400010GV6	CR0400010GV6	58	1	DS0203BAV6	DS0203BAV6	153	1	DS0204BFCD	DS0204BFCD	158	1
CR0400010RT4	CR0400010RT4	46	1	DS0203BAW4	DS0203BAW4	153	1	DS0204BFK6	DS0204BFK6	155	1
CR0400010RT6	CR0400010RT6	46	1	DS0203BAW6	DS0203BAW6	153	1	DS0204BFL6	DS0204BFL6	155	1
CR0400010RV6	CR0400010RV6	58	1	DS0203BAY4	DS0203BAY4	154	1	DS0204BFT4	DS0204BFT4	156	1
CR0400039GT4	CR0400039GT4	44	1	DS0203BAY4L	DS0203BAY4L	152	1	DS0204BFT4L	DS0204BFT4L	155	1
CR0400039GT6	CR0400039GT6	44	1	DS0203BAY6	DS0203BAY6	154	1	DS0204BFT6	DS0204BFT6	156	1
CR0400039GV6	CR0400039GV6	56	1	DS0203BAY6L	DS0203BAY6L	152	1	DS0204BFT6L	DS0204BFT6L	155	1
CR0400039RT4	CR0400039RT4	44	1	DS0203BDDN	DS0203BDDN	158	1	DS0204BFV4	DS0204BFV4	157	1
CR0400039RT6	CR0400039RT6	44	1	DS0203BFCD	DS0203BFCD	158	1	DS0204BFV6	DS0204BFV6	157	1
CR0400039RV6	CR0400039RV6	56	1	DS0203BFK6	DS0203BFK6	155	1	DS0204BFW4	DS0204BFW4	157	1
CR0400039BK6	CR0400039BK6	52	1	DS0203BFL6	DS0203BFL6	155	1	DS0204BFW6	DS0204BFW6	157	1
CR0400039BK6S	CR0400039BK6S	64	1	DS0203BFT4	DS0203BFT4	156	1	DS0204BFY4	DS0204BFY4	156	1
CR0400039BL6	CR0400039BL6	52	1	DS0203BFT4L	DS0203BFT4L	155	1	DS0204BFY4L	DS0204BFY4L	155	1
CR0400039BL6S	CR0400039BL6S	64	1	DS0203BFT6	DS0203BFT6	156	1	DS0204BFY6	DS0204BFY6	156	1
CR0400039GK6	CR0400039GK6	53	1	DS0203BFT6L	DS0203BFT6L	155	1	DS0204BFY6L	DS0204BFY6L	155	1
CR0400039GL6	CR0400039GL6	53	1	DS0203BFV4	DS0203BFV4	157	1	DS0204G	DS0204G	158	1
CR0400039HK6	CR0400039HK6	53	1	DS0203BFV6	DS0203BFV6	157	1	DS0204GDK6	DS0204GDK6	155	1
CR0400039HL6	CR0400039HL6	53	1	DS0203BFW4	DS0203BFW4	157	1	DS0204GDL6	DS0204GDL6	155	1
CR0400039RK6	CR0400039RK6	52	1	DS0203BFW6	DS0203BFW6	157	1	DS0204GDT4	DS0204GDT4	156	1
CR0400039RK6S	CR0400039RK6S	64	1	DS0203BFY4	DS0203BFY4	156	1	DS0204GDT4L	DS0204GDT4L	155	1
CR0400039RL6	CR0400039RL6	52	1	DS0203BFY4L	DS0203BFY4L	155	1	DS0204GDT6	DS0204GDT6	156	1
CR0400039RL6S	CR0400039RL6S	64	1	DS0203BFY6	DS0203BFY6	156	1	DS0204GDT6L	DS0204GDT6L	155	1
CR040004BK6	CR040004BK6	52	1	DS0203BFY6L	DS0203BFY6L	155	1	DS0204GDV4	DS0204GDV4	157	1
CR040004BK6S	CR040004BK6S	64	1	DS0203G	DS0203G	158	1	DS0204GDV6	DS0204GDV6	157	1
CR040004BL6	CR040004BL6	52	1	DS0203GDK6	DS0203GDK6	155	1	DS0204GDW4	DS0204GDW4	157	1
CR040004BL6S	CR040004BL6S	64	1	DS0203GDL6	DS0203GDL6	155	1	DS0204GDW6	DS0204GDW6	157	1
CR040004GK6	CR040004GK6	53	1	DS0203GDT4	DS0203GDT4	156	1	DS0204GDY4	DS0204GDY4	156	1
CR040004GL6	CR040004GL6	53	1	DS0203GDT4L	DS0203GDT4L	155	1	DS0204GDY4L	DS0204GDY4L	155	1
CR040004HK6	CR040004HK6	53	1	DS0203GDT6	DS0203GDT6	156	1	DS0204GDY6	DS0204GDY6	156	1
CR040004HL6	CR040004HL6	53	1	DS0203GDT6L	DS0203GDT6L	155	1	DS0204GDY6L	DS0204GDY6L	155	1
CR040004RK6	CR040004RK6	52	1	DS0203GDV4	DS0203GDV4	157	1	DS0204P	DS0204P	158	1
CR040004RK6S	CR040004RK6S	64	1	DS0203GDV6	DS0203GDV6	157	1	DS0204PQK6S	DS0204PQK6S	152	1
CR040004RL6	CR040004RL6	52	1	DS0203GDW4	DS0203GDW4	157	1	DS0204PQL6S	DS0204PQL6S	152	1
CR040004RL6S	CR040004RL6S	64	1	DS0203GDW6	DS0203GDW6	157	1	DS0204PQV4	DS0204PQV4	153	1
CR0510002RT6	CR0510002RT6	42	1	DS0203GDY4	DS0203GDY4	156	1	DS0204PQV6	DS0204PQV6	153	1
CR0510003RT6	CR0510003RT6	42	1	DS0203GDY4L	DS0203GDY4L	155	1	DS0204PQW4	DS0204PQW4	153	1
CR0510004RT6	CR0510004RT6	43	1	DS0203GDY6	DS0203GDY6	156	1	DS0204PQW6	DS0204PQW6	153	1
CR0510006RT6	CR0510006RT6	44	1	DS0203GDY6L	DS0203GDY6L	155	1	DS0204R	DS0204R	158	1
CR0510007RT6	CR0510007RT6	44	1	DS0203P	DS0203P	158	1	DS0204RQT4	DS0204RQT4	154	1
CR0510008RT6	CR0510008RT6	45	1	DS0203PQK6S	DS0203PQK6S	152	1	DS0204RQT4L	DS0204RQT4L	152	1
CR0510009RT6	CR0510009RT6	45	1	DS0203PQL6S	DS0203PQL6S	152	1	DS0204RQT6	DS0204RQT6	154	1
CR0510010RT6	CR0510010RT6	46	1	DS0203PQV4	DS0203PQV4	153	1	DS0204RQT6L	DS0204RQT6L	152	1
CR0510039RT6	CR0510039RT6	44	1	DS0203PQV6	DS0203PQV6	153	1	DS0204RQY4	DS0204RQY4	154	1
CR05100G3BK6	CR05100G3BK6	52	1	DS0203PQW4	DS0203PQW4	153	1	DS0204RQY4L	DS0204RQY4L	152	1
CR05100G3BL6	CR05100G3BL6	52	1	DS0203PQW6	DS0203PQW6	153	1	DS0204RQY6	DS0204RQY6	154	1
CR05100G3RK6	CR05100G3RK6	52	1	DS0203R	DS0203R	158	1	DS0204RQY6L	DS0204RQY6L	152	1
CR05100G3RL6	CR05100G3RL6	52	1	DS0203RQT4	DS0203RQT4	154	1	DS0204RRK6	DS0204RRK6	152	1
CR05100G4BK6	CR05100G4BK6	52	1	DS0203RQT4L	DS0203RQT4L	152	1	DS0204RRL6	DS0204RRL6	152	1
CR05100G4BL6	CR05100G4BL6	52	1	DS0203RQT6	DS0203RQT6	154	1	DS0323BAK6	DS0323BAK6	152	1
CR05100G4RK6	CR05100G4RK6	52	1	DS0203RQT6L	DS0203RQT6L	152	1	DS0323BAK6S	DS0323BAK6S	153	1
CR05100G4RL6	CR05100G4RL6	52	1	DS0203RQY4	DS0203RQY4	154	1	DS0323BAL6	DS0323BAL6	152	1
CS012M213PL1	CS012M213PL1	76	1	DS0203RQY4L	DS0203RQY4L	152	1	DS0323BAL6S	DS0323BAL6S	153	1
CS012M213PL2	CS012M213PL2	76	1	DS0203RQY6	DS0203RQY6	154	1	DS0323BAT4	DS0323BAT4	154	1
CS012M214PL1	CS012M214PL1	76	1	DS0203RQY6L	DS0203RQY6L	152	1	DS0323BAT4L	DS0323BAT4L	152	1
CS012M214PL2	CS012M214PL2	76	1	DS0203RRK6	DS0203RRK6	152	1	DS0323BAT6	DS0323BAT6	154	1
CS012M223PL1	CS012M223PL1	77	1	DS0203RRL6	DS0203RRL6	152	1	DS0323BAT6L	DS0323BAT6L	152	1
CS012M223PL2	CS012M223PL2	77	1	DS0204BAK6	DS0204BAK6	152	1	DS0323BAV4	DS0323BAV4	153	1
CS016M213PL1	CS016M213PL1	76	1	DS0204BAK6S	DS0204BAK6S	153	1	DS0323BAV6	DS0323BAV6	153	1

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
DS0323BAW4	DS0323BAW4	153	1	DS0324BFK6	DS0324BFK6	155	1	DS0403BFW4	DS0403BFW4	157	1
DS0323BAW6	DS0323BAW6	153	1	DS0324BFL6	DS0324BFL6	155	1	DS0403BFW6	DS0403BFW6	157	1
DS0323BAY4	DS0323BAY4	154	1	DS0324BFT4	DS0324BFT4	156	1	DS0403BFY4	DS0403BFY4	156	1
DS0323BAY4L	DS0323BAY4L	152	1	DS0324BFT4L	DS0324BFT4L	155	1	DS0403BFY4L	DS0403BFY4L	155	1
DS0323BAY6	DS0323BAY6	154	1	DS0324BFT6	DS0324BFT6	156	1	DS0403BFY6	DS0403BFY6	156	1
DS0323BAY6L	DS0323BAY6L	152	1	DS0324BFT6L	DS0324BFT6L	155	1	DS0403BFY6L	DS0403BFY6L	155	1
DS0323BDDN	DS0323BDDN	158	1	DS0324BFV4	DS0324BFV4	157	1	DS0403G	DS0403G	158	1
DS0323BFCD	DS0323BFCD	158	1	DS0324BFV6	DS0324BFV6	157	1	DS0403GDK6	DS0403GDK6	155	1
DS0323BFK6	DS0323BFK6	155	1	DS0324BFW4	DS0324BFW4	157	1	DS0403GDL6	DS0403GDL6	155	1
DS0323BFL6	DS0323BFL6	155	1	DS0324BFW6	DS0324BFW6	157	1	DS0403GDT4	DS0403GDT4	156	1
DS0323BFT4	DS0323BFT4	156	1	DS0324BFY4	DS0324BFY4	156	1	DS0403GDT4L	DS0403GDT4L	155	1
DS0323BFT4L	DS0323BFT4L	155	1	DS0324BFY4L	DS0324BFY4L	155	1	DS0403GDT6	DS0403GDT6	156	1
DS0323BFT6	DS0323BFT6	156	1	DS0324BFY6	DS0324BFY6	156	1	DS0403GDT6L	DS0403GDT6L	155	1
DS0323BFT6L	DS0323BFT6L	155	1	DS0324BFY6L	DS0324BFY6L	155	1	DS0403GDV4	DS0403GDV4	157	1
DS0323BFV4	DS0323BFV4	157	1	DS0324G	DS0324G	158	1	DS0403GDV6	DS0403GDV6	157	1
DS0323BFV6	DS0323BFV6	157	1	DS0324GDK6	DS0324GDK6	155	1	DS0403GDW4	DS0403GDW4	157	1
DS0323BFW4	DS0323BFW4	157	1	DS0324GDL6	DS0324GDL6	155	1	DS0403GDW6	DS0403GDW6	157	1
DS0323BFW6	DS0323BFW6	157	1	DS0324GDT4	DS0324GDT4	156	1	DS0403GDY4	DS0403GDY4	156	1
DS0323BFY4	DS0323BFY4	156	1	DS0324GDT4L	DS0324GDT4L	155	1	DS0403GDY4L	DS0403GDY4L	155	1
DS0323BFY4L	DS0323BFY4L	155	1	DS0324GDT6	DS0324GDT6	156	1	DS0403GDY6	DS0403GDY6	156	1
DS0323BFY6	DS0323BFY6	156	1	DS0324GDT6L	DS0324GDT6L	155	1	DS0403GDY6L	DS0403GDY6L	155	1
DS0323BFY6L	DS0323BFY6L	155	1	DS0324GDV4	DS0324GDV4	157	1	DS0403P	DS0403P	158	1
DS0323G	DS0323G	158	1	DS0324GDV6	DS0324GDV6	157	1	DS0403PQK6S	DS0403PQK6S	152	1
DS0323GDK6	DS0323GDK6	155	1	DS0324GDW4	DS0324GDW4	157	1	DS0403PQL6S	DS0403PQL6S	152	1
DS0323GDL6	DS0323GDL6	155	1	DS0324GDW6	DS0324GDW6	157	1	DS0403PQV4	DS0403PQV4	153	1
DS0323GDT4	DS0323GDT4	156	1	DS0324GDY4	DS0324GDY4	156	1	DS0403PQV6	DS0403PQV6	153	1
DS0323GDT4L	DS0323GDT4L	155	1	DS0324GDY4L	DS0324GDY4L	155	1	DS0403PQW4	DS0403PQW4	153	1
DS0323GDT6	DS0323GDT6	156	1	DS0324GDY6	DS0324GDY6	156	1	DS0403PQW6	DS0403PQW6	153	1
DS0323GDT6L	DS0323GDT6L	155	1	DS0324GDY6L	DS0324GDY6L	155	1	DS0403R	DS0403R	158	1
DS0323GDV4	DS0323GDV4	157	1	DS0324P	DS0324P	158	1	DS0403RQT4	DS0403RQT4	154	1
DS0323GDV6	DS0323GDV6	157	1	DS0324PQK6S	DS0324PQK6S	152	1	DS0403RQT4L	DS0403RQT4L	152	1
DS0323GDW4	DS0323GDW4	157	1	DS0324PQL6S	DS0324PQL6S	152	1	DS0403RQT6	DS0403RQT6	154	1
DS0323GDW6	DS0323GDW6	157	1	DS0324PQV4	DS0324PQV4	153	1	DS0403RQT6L	DS0403RQT6L	152	1
DS0323GDY4	DS0323GDY4	156	1	DS0324PQV6	DS0324PQV6	153	1	DS0403RQY4	DS0403RQY4	154	1
DS0323GDY4L	DS0323GDY4L	155	1	DS0324PQW4	DS0324PQW4	153	1	DS0403RQY4L	DS0403RQY4L	152	1
DS0323GDY6	DS0323GDY6	156	1	DS0324PQW6	DS0324PQW6	153	1	DS0403RQY6	DS0403RQY6	154	1
DS0323GDY6L	DS0323GDY6L	155	1	DS0324R	DS0324R	158	1	DS0403RQY6L	DS0403RQY6L	152	1
DS0323P	DS0323P	158	1	DS0324RQT4	DS0324RQT4	154	1	DS0403RRK6	DS0403RRK6	152	1
DS0323PQK6S	DS0323PQK6S	152	1	DS0324RQT4L	DS0324RQT4L	152	1	DS0403RRL6	DS0403RRL6	152	1
DS0323PQL6S	DS0323PQL6S	152	1	DS0324RQT6	DS0324RQT6	154	1	DS0404BAK6	DS0404BAK6	152	1
DS0323PQV4	DS0323PQV4	153	1	DS0324RQT6L	DS0324RQT6L	152	1	DS0404BAK6S	DS0404BAK6S	153	1
DS0323PQV6	DS0323PQV6	153	1	DS0324RQY4	DS0324RQY4	154	1	DS0404BAL6	DS0404BAL6	152	1
DS0323PQW4	DS0323PQW4	153	1	DS0324RQY4L	DS0324RQY4L	152	1	DS0404BAL6S	DS0404BAL6S	153	1
DS0323PQW6	DS0323PQW6	153	1	DS0324RQY6	DS0324RQY6	154	1	DS0404BAT4	DS0404BAT4	154	1
DS0323R	DS0323R	158	1	DS0324RQY6L	DS0324RQY6L	152	1	DS0404BAT4L	DS0404BAT4L	152	1
DS0323RQT4	DS0323RQT4	154	1	DS0324RRK6	DS0324RRK6	152	1	DS0404BAT6	DS0404BAT6	154	1
DS0323RQT4L	DS0323RQT4L	152	1	DS0324RRL6	DS0324RRL6	152	1	DS0404BAT6L	DS0404BAT6L	152	1
DS0323RQT6	DS0323RQT6	154	1	DS0403BAK6	DS0403BAK6	152	1	DS0404BAV4	DS0404BAV4	153	1
DS0323RQT6L	DS0323RQT6L	152	1	DS0403BAK6S	DS0403BAK6S	153	1	DS0404BAV6	DS0404BAV6	153	1
DS0323RQY4	DS0323RQY4	154	1	DS0403BAL6	DS0403BAL6	152	1	DS0404BAW4	DS0404BAW4	153	1
DS0323RQY4L	DS0323RQY4L	152	1	DS0403BAL6S	DS0403BAL6S	153	1	DS0404BAW6	DS0404BAW6	153	1
DS0323RQY6	DS0323RQY6	154	1	DS0403BAT4	DS0403BAT4	154	1	DS0404BAY4	DS0404BAY4	154	1
DS0323RQY6L	DS0323RQY6L	152	1	DS0403BAT4L	DS0403BAT4L	152	1	DS0404BAY4L	DS0404BAY4L	152	1
DS0323RRK6	DS0323RRK6	152	1	DS0403BAT6	DS0403BAT6	154	1	DS0404BAY6	DS0404BAY6	154	1
DS0323RRL6	DS0323RRL6	152	1	DS0403BAT6L	DS0403BAT6L	152	1	DS0404BAY6L	DS0404BAY6L	152	1
DS0324BAK6	DS0324BAK6	152	1	DS0403BAV4	DS0403BAV4	153	1	DS0404BDDN	DS0404BDDN	158	1
DS0324BAK6S	DS0324BAK6S	153	1	DS0403BAV6	DS0403BAV6	153	1	DS0404BFCD	DS0404BFCD	158	1
DS0324BAL6	DS0324BAL6	152	1	DS0403BAW4	DS0403BAW4	153	1	DS0404BFK6	DS0404BFK6	155	1
DS0324BAL6S	DS0324BAL6S	153	1	DS0403BAW6	DS0403BAW6	153	1	DS0404BFL6	DS0404BFL6	155	1
DS0324BAT4	DS0324BAT4	154	1	DS0403BAY4	DS0403BAY4	154	1	DS0404BFT4	DS0404BFT4	156	1
DS0324BAT4L	DS0324BAT4L	152	1	DS0403BAY4L	DS0403BAY4L	152	1	DS0404BFT4L	DS0404BFT4L	155	1
DS0324BAT6	DS0324BAT6	154	1	DS0403BAY6	DS0403BAY6	154	1	DS0404BFT6	DS0404BFT6	156	1
DS0324BAT6L	DS0324BAT6L	152	1	DS0403BAY6L	DS0403BAY6L	152	1	DS0404BFT6L	DS0404BFT6L	155	1
DS0324BAV4	DS0324BAV4	153	1	DS0403BDDN	DS0403BDDN	158	1	DS0404BFV4	DS0404BFV4	157	1
DS0324BAV6	DS0324BAV6	153	1	DS0403BFCD	DS0403BFCD	158	1	DS0404BFV6	DS0404BFV6	157	1
DS0324BAW4	DS0324BAW4	153	1	DS0403BFK6	DS0403BFK6	155	1	DS0404BFW4	DS0404BFW4	157	1
DS0324BAW6	DS0324BAW6	153	1	DS0403BFL6	DS0403BFL6	155	1	DS0404BFW6	DS0404BFW6	157	1
DS0324BAY4	DS0324BAY4	154	1	DS0403BFT4	DS0403BFT4	156	1	DS0404BFY4	DS0404BFY4	156	1
DS0324BAY4L	DS0324BAY4L	152	1	DS0403BFT4L	DS0403BFT4L	155	1	DS0404BFY4L	DS0404BFY4L	155	1
DS0324BAY6	DS0324BAY6	154	1	DS0403BFT6	DS0403BFT6	156	1	DS0404BFY6	DS0404BFY6	156	1
DS0324BAY6L	DS0324BAY6L	152	1	DS0403BFT6L	DS0403BFT6L	155	1	DS0404BFY6L	DS0404BFY6L	155	1
DS0324BDDN	DS0324BDDN	158	1	DS0403BFV4	DS0403BFV4	157	1	DS0404G	DS0404G	158	1
DS0324BFCD	DS0324BFCD	158	1	DS0403BFV6	DS0403BFV6	157	1	DS0404GDK6	DS0404GDK6	155	1

Product list in alphabetical order by type

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
DS0404GDL6	DS0404GDL6	155	1	DS0503GDV4	DS0503GDV4	171	1	DS0504P	DS0504P	172	1
DS0404GDT4	DS0404GDT4	156	1	DS0503GDV6	DS0503GDV6	171	1	DS0504PQK6S	DS0504PQK6S	164	1
DS0404GDT4L	DS0404GDT4L	155	1	DS0503GDW4	DS0503GDW4	171	1	DS0504PQL6S	DS0504PQL6S	164	1
DS0404GDT6	DS0404GDT6	156	1	DS0503GDW6	DS0503GDW6	171	1	DS0504PQV4	DS0504PQV4	166	1
DS0404GDT6L	DS0404GDT6L	155	1	DS0503GDY4	DS0503GDY4	170	1	DS0504PQV6	DS0504PQV6	166	1
DS0404GDV4	DS0404GDV4	157	1	DS0503GDY4L	DS0503GDY4L	169	1	DS0504PQW4	DS0504PQW4	166	1
DS0404GDV6	DS0404GDV6	157	1	DS0503GDY6	DS0503GDY6	170	1	DS0504PQW6	DS0504PQW6	166	1
DS0404GDW4	DS0404GDW4	157	1	DS0503GDY6L	DS0503GDY6L	168	1	DS0504R	DS0504R	172	1
DS0404GDW6	DS0404GDW6	157	1	DS0503P	DS0503P	172	1	DS0504RQK6	DS0504RQK6	164	1
DS0404GDY4	DS0404GDY4	156	1	DS0503PQK6S	DS0503PQK6S	164	1	DS0504RQL6	DS0504RQL6	164	1
DS0404GDY4L	DS0404GDY4L	155	1	DS0503PQL6S	DS0503PQL6S	164	1	DS0504RQT4	DS0504RQT4	167	1
DS0404GDY6	DS0404GDY6	156	1	DS0503PQV4	DS0503PQV4	166	1	DS0504RQT4L	DS0504RQT4L	165	1
DS0404GDY6L	DS0404GDY6L	155	1	DS0503PQV6	DS0503PQV6	166	1	DS0504RQT6	DS0504RQT6	167	1
DS0404P	DS0404P	158	1	DS0503PQW4	DS0503PQW4	166	1	DS0504RQT6L	DS0504RQT6L	164	1
DS0404PQK6S	DS0404PQK6S	152	1	DS0503PQW6	DS0503PQW6	166	1	DS0504RQY4	DS0504RQY4	167	1
DS0404PQL6S	DS0404PQL6S	152	1	DS0503R	DS0503R	172	1	DS0504RQY4L	DS0504RQY4L	165	1
DS0404PQV4	DS0404PQV4	153	1	DS0503RQK6	DS0503RQK6	164	1	DS0504RQY6	DS0504RQY6	167	1
DS0404PQV6	DS0404PQV6	153	1	DS0503RQL6	DS0503RQL6	164	1	DS0504RQY6L	DS0504RQY6L	164	1
DS0404PQW4	DS0404PQW4	153	1	DS0503RQT4	DS0503RQT4	167	1	DS0633BAK6	DS0633BAK6	164	1
DS0404PQW6	DS0404PQW6	153	1	DS0503RQT4L	DS0503RQT4L	165	1	DS0633BAK6S	DS0633BAK6S	165	1
DS0404R	DS0404R	158	1	DS0503RQT6	DS0503RQT6	167	1	DS0633BAL6	DS0633BAL6	164	1
DS0404RQT4	DS0404RQT4	154	1	DS0503RQT6L	DS0503RQT6L	164	1	DS0633BAL6S	DS0633BAL6S	165	1
DS0404RQT4L	DS0404RQT4L	152	1	DS0503RQY4	DS0503RQY4	167	1	DS0633BAT4	DS0633BAT4	167	1
DS0404RQT6	DS0404RQT6	154	1	DS0503RQY4L	DS0503RQY4L	165	1	DS0633BAT4L	DS0633BAT4L	165	1
DS0404RQT6L	DS0404RQT6L	152	1	DS0503RQY6	DS0503RQY6	167	1	DS0633BAT6	DS0633BAT6	167	1
DS0404RQY4	DS0404RQY4	154	1	DS0503RQY6L	DS0503RQY6L	164	1	DS0633BAT6L	DS0633BAT6L	164	1
DS0404RQY4L	DS0404RQY4L	152	1	DS0504BAK6	DS0504BAK6	164	1	DS0633BAV4	DS0633BAV4	166	1
DS0404RQY6	DS0404RQY6	154	1	DS0504BAK6S	DS0504BAK6S	165	1	DS0633BAV6	DS0633BAV6	166	1
DS0404RQY6L	DS0404RQY6L	152	1	DS0504BAL6	DS0504BAL6	164	1	DS0633BAW4	DS0633BAW4	166	1
DS0404RRK6	DS0404RRK6	152	1	DS0504BAL6S	DS0504BAL6S	165	1	DS0633BAW6	DS0633BAW6	166	1
DS0404RRL6	DS0404RRL6	152	1	DS0504BAT4	DS0504BAT4	167	1	DS0633BAY4	DS0633BAY4	167	1
DS0404PAD	DS0404PAD	159	5	DS0504BAT4L	DS0504BAT4L	165	1	DS0633BAY4L	DS0633BAY4L	165	1
DS0404PR1	DS0404PR1	159	5	DS0504BAT6	DS0504BAT6	167	1	DS0633BAY6	DS0633BAY6	167	1
DS0404PR3	DS0404PR3	159	5	DS0504BAT6L	DS0504BAT6L	164	1	DS0633BAY6L	DS0633BAY6L	164	1
DS0503BAK6	DS0503BAK6	164	1	DS0504BAV4	DS0504BAV4	166	1	DS0633BBDN	DS0633BBDN	172	1
DS0503BAK6S	DS0503BAK6S	165	1	DS0504BAV6	DS0504BAV6	166	1	DS0633BFCD	DS0633BFCD	172	1
DS0503BAL6	DS0503BAL6	164	1	DS0504BAW4	DS0504BAW4	166	1	DS0633BFK6	DS0633BFK6	168	1
DS0503BAL6S	DS0503BAL6S	165	1	DS0504BAW6	DS0504BAW6	166	1	DS0633BFL6	DS0633BFL6	168	1
DS0503BAT4	DS0503BAT4	167	1	DS0504BAY4	DS0504BAY4	167	1	DS0633BFT4	DS0633BFT4	170	1
DS0503BAT4L	DS0503BAT4L	165	1	DS0504BAY4L	DS0504BAY4L	165	1	DS0633BFT4L	DS0633BFT4L	169	1
DS0503BAT6	DS0503BAT6	167	1	DS0504BAY6	DS0504BAY6	167	1	DS0633BFT6	DS0633BFT6	170	1
DS0503BAT6L	DS0503BAT6L	164	1	DS0504BAY6L	DS0504BAY6L	164	1	DS0633BFT6L	DS0633BFT6L	168	1
DS0503BAV4	DS0503BAV4	166	1	DS0504BDDN	DS0504BDDN	172	1	DS0633BFV4	DS0633BFV4	171	1
DS0503BAV6	DS0503BAV6	166	1	DS0504BFC	DS0504BFC	172	1	DS0633BFV6	DS0633BFV6	171	1
DS0503BAW4	DS0503BAW4	166	1	DS0504BFK6	DS0504BFK6	168	1	DS0633BFW4	DS0633BFW4	171	1
DS0503BAW6	DS0503BAW6	166	1	DS0504BFL6	DS0504BFL6	168	1	DS0633BFW6	DS0633BFW6	171	1
DS0503BAY4	DS0503BAY4	167	1	DS0504BFT4	DS0504BFT4	170	1	DS0633BFY4	DS0633BFY4	170	1
DS0503BAY4L	DS0503BAY4L	165	1	DS0504BFT4L	DS0504BFT4L	169	1	DS0633BFY4L	DS0633BFY4L	169	1
DS0503BAY6	DS0503BAY6	167	1	DS0504BFT6	DS0504BFT6	170	1	DS0633BFY6	DS0633BFY6	170	1
DS0503BAY6L	DS0503BAY6L	164	1	DS0504BFT6L	DS0504BFT6L	168	1	DS0633BFY6L	DS0633BFY6L	168	1
DS0503BBDN	DS0503BBDN	172	1	DS0504BFV4	DS0504BFV4	171	1	DS0633G	DS0633G	172	1
DS0503BFCD	DS0503BFCD	172	1	DS0504BFV6	DS0504BFV6	171	1	DS0633GDK6	DS0633GDK6	168	1
DS0503BFK6	DS0503BFK6	168	1	DS0504BFW4	DS0504BFW4	171	1	DS0633GDL6	DS0633GDL6	168	1
DS0503BFL6	DS0503BFL6	168	1	DS0504BFW6	DS0504BFW6	171	1	DS0633GDT4	DS0633GDT4	170	1
DS0503BFT4	DS0503BFT4	170	1	DS0504BFY4	DS0504BFY4	170	1	DS0633GDT4L	DS0633GDT4L	169	1
DS0503BFT4L	DS0503BFT4L	169	1	DS0504BFY4L	DS0504BFY4L	169	1	DS0633GDT6	DS0633GDT6	170	1
DS0503BFT6	DS0503BFT6	170	1	DS0504BFY6	DS0504BFY6	170	1	DS0633GDT6L	DS0633GDT6L	168	1
DS0503BFT6L	DS0503BFT6L	168	1	DS0504BFY6L	DS0504BFY6L	168	1	DS0633GDV4	DS0633GDV4	171	1
DS0503BFV4	DS0503BFV4	171	1	DS0504G	DS0504G	172	1	DS0633GDV6	DS0633GDV6	171	1
DS0503BFV6	DS0503BFV6	171	1	DS0504GDK6	DS0504GDK6	168	1	DS0633GDW4	DS0633GDW4	171	1
DS0503BFW4	DS0503BFW4	171	1	DS0504GDL6	DS0504GDL6	168	1	DS0633GDW6	DS0633GDW6	171	1
DS0503BFW6	DS0503BFW6	171	1	DS0504GDT4	DS0504GDT4	170	1	DS0633GDY4	DS0633GDY4	170	1
DS0503BFY4	DS0503BFY4	170	1	DS0504GDT4L	DS0504GDT4L	169	1	DS0633GDY4L	DS0633GDY4L	169	1
DS0503BFY4L	DS0503BFY4L	169	1	DS0504GDT6	DS0504GDT6	170	1	DS0633GDY6	DS0633GDY6	170	1
DS0503BFY6	DS0503BFY6	170	1	DS0504GDT6L	DS0504GDT6L	168	1	DS0633GDY6L	DS0633GDY6L	168	1
DS0503BFY6L	DS0503BFY6L	168	1	DS0504GDV4	DS0504GDV4	171	1	DS0633P	DS0633P	172	1
DS0503G	DS0503G	172	1	DS0504GDV6	DS0504GDV6	171	1	DS0633PQK6S	DS0633PQK6S	164	1
DS0503GDK6	DS0503GDK6	168	1	DS0504GDW4	DS0504GDW4	171	1	DS0633PQL6S	DS0633PQL6S	164	1
DS0503GDL6	DS0503GDL6	168	1	DS0504GDW6	DS0504GDW6	171	1	DS0633PQV4	DS0633PQV4	166	1
DS0503GDT4	DS0503GDT4	170	1	DS0504GDY4	DS0504GDY4	170	1	DS0633PQV6	DS0633PQV6	166	1
DS0503GDT4L	DS0503GDT4L	169	1	DS0504GDY4L	DS0504GDY4L	169	1	DS0633PQW4	DS0633PQW4	166	1
DS0503GDT6	DS0503GDT6	170	1	DS0504GDY6	DS0504GDY6	170	1	DS0633PQW6	DS0633PQW6	166	1
DS0503GDT6L	DS0503GDT6L	168	1	DS0504GDY6L	DS0504GDY6L	168	1	DS0633R	DS0633R	172	1

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
DS0633RQK6	DS0633RQK6	164	1	DS0634RQY6	DS0634RQY6	167	1	DS0804BAT6	DS0804BAT6	167	1
DS0633RQL6	DS0633RQL6	164	1	DS0634RQY6L	DS0634RQY6L	164	1	DS0804BAT6L	DS0804BAT6L	164	1
DS0633RQT4	DS0633RQT4	167	1	DS0803BAK6	DS0803BAK6	164	1	DS0804BAV4	DS0804BAV4	166	1
DS0633RQT4L	DS0633RQT4L	165	1	DS0803BAK6S	DS0803BAK6S	165	1	DS0804BAV6	DS0804BAV6	166	1
DS0633RQT6	DS0633RQT6	167	1	DS0803BAL6	DS0803BAL6	164	1	DS0804BAW4	DS0804BAW4	166	1
DS0633RQT6L	DS0633RQT6L	164	1	DS0803BAL6S	DS0803BAL6S	165	1	DS0804BAW6	DS0804BAW6	166	1
DS0633RQY4	DS0633RQY4	167	1	DS0803BAT4	DS0803BAT4	167	1	DS0804BAY4	DS0804BAY4	167	1
DS0633RQY4L	DS0633RQY4L	165	1	DS0803BAT4L	DS0803BAT4L	165	1	DS0804BAY4L	DS0804BAY4L	165	1
DS0633RQY6	DS0633RQY6	167	1	DS0803BAT6	DS0803BAT6	167	1	DS0804BAY6	DS0804BAY6	167	1
DS0633RQY6L	DS0633RQY6L	164	1	DS0803BAT6L	DS0803BAT6L	164	1	DS0804BAY6L	DS0804BAY6L	164	1
DS0634BAK6	DS0634BAK6	164	1	DS0803BAV4	DS0803BAV4	166	1	DS0804BDDN	DS0804BDDN	172	1
DS0634BAK6S	DS0634BAK6S	165	1	DS0803BAV6	DS0803BAV6	166	1	DS0804BFCD	DS0804BFCD	172	1
DS0634BAL6	DS0634BAL6	164	1	DS0803BAW4	DS0803BAW4	166	1	DS0804BFK6	DS0804BFK6	168	1
DS0634BAL6S	DS0634BAL6S	165	1	DS0803BAW6	DS0803BAW6	166	1	DS0804BFL6	DS0804BFL6	168	1
DS0634BAT4	DS0634BAT4	167	1	DS0803BAY4	DS0803BAY4	167	1	DS0804BFT4	DS0804BFT4	170	1
DS0634BAT4L	DS0634BAT4L	165	1	DS0803BAY4L	DS0803BAY4L	165	1	DS0804BFT4L	DS0804BFT4L	169	1
DS0634BAT6	DS0634BAT6	167	1	DS0803BAY6	DS0803BAY6	167	1	DS0804BFT6	DS0804BFT6	170	1
DS0634BAT6L	DS0634BAT6L	164	1	DS0803BAY6L	DS0803BAY6L	164	1	DS0804BFT6L	DS0804BFT6L	168	1
DS0634BAV4	DS0634BAV4	166	1	DS0803BDDN	DS0803BDDN	172	1	DS0804BFV4	DS0804BFV4	171	1
DS0634BAV6	DS0634BAV6	166	1	DS0803BDCD	DS0803BDCD	172	1	DS0804BFV6	DS0804BFV6	171	1
DS0634BAW4	DS0634BAW4	166	1	DS0803BFK6	DS0803BFK6	168	1	DS0804BFW4	DS0804BFW4	171	1
DS0634BAW6	DS0634BAW6	166	1	DS0803BFL6	DS0803BFL6	168	1	DS0804BFW6	DS0804BFW6	171	1
DS0634BAY4	DS0634BAY4	167	1	DS0803BFT4	DS0803BFT4	170	1	DS0804BFY4	DS0804BFY4	170	1
DS0634BAY4L	DS0634BAY4L	165	1	DS0803BFT4L	DS0803BFT4L	169	1	DS0804BFY4L	DS0804BFY4L	169	1
DS0634BAY6	DS0634BAY6	167	1	DS0803BFT6	DS0803BFT6	170	1	DS0804BFY6	DS0804BFY6	170	1
DS0634BAY6L	DS0634BAY6L	164	1	DS0803BFT6L	DS0803BFT6L	168	1	DS0804BFY6L	DS0804BFY6L	168	1
DS0634BDDN	DS0634BDDN	172	1	DS0803BFV4	DS0803BFV4	171	1	DS0804G	DS0804G	172	1
DS0634BFCD	DS0634BFCD	172	1	DS0803BFV6	DS0803BFV6	171	1	DS0804GDK6	DS0804GDK6	168	1
DS0634BFK6	DS0634BFK6	168	1	DS0803BFW4	DS0803BFW4	171	1	DS0804GDL6	DS0804GDL6	168	1
DS0634BFL6	DS0634BFL6	168	1	DS0803BFW6	DS0803BFW6	171	1	DS0804GDT4	DS0804GDT4	170	1
DS0634BFT4	DS0634BFT4	170	1	DS0803BFY4	DS0803BFY4	170	1	DS0804GDT4L	DS0804GDT4L	169	1
DS0634BFT4L	DS0634BFT4L	169	1	DS0803BFY4L	DS0803BFY4L	169	1	DS0804GDT6	DS0804GDT6	170	1
DS0634BFT6	DS0634BFT6	170	1	DS0803BFY6	DS0803BFY6	170	1	DS0804GDT6L	DS0804GDT6L	168	1
DS0634BFT6L	DS0634BFT6L	168	1	DS0803BFY6L	DS0803BFY6L	168	1	DS0804GDV4	DS0804GDV4	171	1
DS0634BFV4	DS0634BFV4	171	1	DS0803G	DS0803G	172	1	DS0804GDV6	DS0804GDV6	171	1
DS0634BFV6	DS0634BFV6	171	1	DS0803GDK6	DS0803GDK6	168	1	DS0804GDW4	DS0804GDW4	171	1
DS0634BFW4	DS0634BFW4	171	1	DS0803GDL6	DS0803GDL6	168	1	DS0804GDW6	DS0804GDW6	171	1
DS0634BFW6	DS0634BFW6	171	1	DS0803GDT4	DS0803GDT4	170	1	DS0804GDY4	DS0804GDY4	170	1
DS0634BFY4	DS0634BFY4	170	1	DS0803GDT4L	DS0803GDT4L	169	1	DS0804GDY4L	DS0804GDY4L	169	1
DS0634BFY4L	DS0634BFY4L	169	1	DS0803GDT6	DS0803GDT6	170	1	DS0804GDY6	DS0804GDY6	170	1
DS0634BFY6	DS0634BFY6	170	1	DS0803GDT6L	DS0803GDT6L	168	1	DS0804GDY6L	DS0804GDY6L	168	1
DS0634BFY6L	DS0634BFY6L	168	1	DS0803GDV4	DS0803GDV4	171	1	DS0804P	DS0804P	172	1
DS0634G	DS0634G	172	1	DS0803GDV6	DS0803GDV6	171	1	DS0804PQK6S	DS0804PQK6S	164	1
DS0634GDK6	DS0634GDK6	168	1	DS0803GDW4	DS0803GDW4	171	1	DS0804PQL6S	DS0804PQL6S	164	1
DS0634GDL6	DS0634GDL6	168	1	DS0803GDW6	DS0803GDW6	171	1	DS0804PQV4	DS0804PQV4	166	1
DS0634GDT4	DS0634GDT4	170	1	DS0803GDY4	DS0803GDY4	170	1	DS0804PQV6	DS0804PQV6	166	1
DS0634GDT4L	DS0634GDT4L	169	1	DS0803GDY4L	DS0803GDY4L	169	1	DS0804PQW4	DS0804PQW4	166	1
DS0634GDT6	DS0634GDT6	170	1	DS0803GDY6	DS0803GDY6	170	1	DS0804PQW6	DS0804PQW6	166	1
DS0634GDT6L	DS0634GDT6L	168	1	DS0803GDY6L	DS0803GDY6L	168	1	DS0804R	DS0804R	172	1
DS0634GDV4	DS0634GDV4	171	1	DS0803P	DS0803P	172	1	DS0804RQK6	DS0804RQK6	164	1
DS0634GDV6	DS0634GDV6	171	1	DS0803PQK6S	DS0803PQK6S	164	1	DS0804RQL6	DS0804RQL6	164	1
DS0634GDW4	DS0634GDW4	171	1	DS0803PQL6S	DS0803PQL6S	164	1	DS0804RQT4	DS0804RQT4	167	1
DS0634GDW6	DS0634GDW6	171	1	DS0803PQV4	DS0803PQV4	166	1	DS0804RQT4L	DS0804RQT4L	165	1
DS0634GDY4	DS0634GDY4	170	1	DS0803PQV6	DS0803PQV6	166	1	DS0804RQT6	DS0804RQT6	167	1
DS0634GDY4L	DS0634GDY4L	169	1	DS0803PQW4	DS0803PQW4	166	1	DS0804RQT6L	DS0804RQT6L	164	1
DS0634GDY6	DS0634GDY6	170	1	DS0803PQW6	DS0803PQW6	166	1	DS0804RQY4	DS0804RQY4	167	1
DS0634GDY6L	DS0634GDY6L	168	1	DS0803R	DS0803R	172	1	DS0804RQY4L	DS0804RQY4L	165	1
DS0634P	DS0634P	172	1	DS0803RQK6	DS0803RQK6	164	1	DS0804RQY6	DS0804RQY6	167	1
DS0634PQK6S	DS0634PQK6S	164	1	DS0803RQL6	DS0803RQL6	164	1	DS0804RQY6L	DS0804RQY6L	164	1
DS0634PQL6S	DS0634PQL6S	164	1	DS0803RQT4	DS0803RQT4	167	1	DS1003BAK6	DS1003BAK6	164	1
DS0634PQV4	DS0634PQV4	166	1	DS0803RQT4L	DS0803RQT4L	165	1	DS1003BAK6S	DS1003BAK6S	165	1
DS0634PQV6	DS0634PQV6	166	1	DS0803RQT6	DS0803RQT6	167	1	DS1003BAL6	DS1003BAL6	164	1
DS0634PQW4	DS0634PQW4	166	1	DS0803RQT6L	DS0803RQT6L	164	1	DS1003BAL6S	DS1003BAL6S	165	1
DS0634PQW6	DS0634PQW6	166	1	DS0803RQY4	DS0803RQY4	167	1	DS1003BAT4	DS1003BAT4	167	1
DS0634R	DS0634R	172	1	DS0803RQY4L	DS0803RQY4L	165	1	DS1003BAT4L	DS1003BAT4L	165	1
DS0634RQK6	DS0634RQK6	164	1	DS0803RQY6	DS0803RQY6	167	1	DS1003BAT6	DS1003BAT6	167	1
DS0634RQL6	DS0634RQL6	164	1	DS0803RQY6L	DS0803RQY6L	164	1	DS1003BAT6L	DS1003BAT6L	164	1
DS0634RQT4	DS0634RQT4	167	1	DS0804BAK6	DS0804BAK6	164	1	DS1003BAV4	DS1003BAV4	166	1
DS0634RQT4L	DS0634RQT4L	165	1	DS0804BAK6S	DS0804BAK6S	165	1	DS1003BAV6	DS1003BAV6	166	1
DS0634RQT6	DS0634RQT6	167	1	DS0804BAL6	DS0804BAL6	164	1	DS1003BAW4	DS1003BAW4	166	1
DS0634RQT6L	DS0634RQT6L	164	1	DS0804BAL6S	DS0804BAL6S	165	1	DS1003BAW6	DS1003BAW6	166	1
DS0634RQY4	DS0634RQY4	167	1	DS0804BAT4	DS0804BAT4	167	1	DS1003BAY4	DS1003BAY4	167	1
DS0634RQY4L	DS0634RQY4L	165	1	DS0804BAT4L	DS0804BAT4L	165	1	DS1003BAY4L	DS1003BAY4L	165	1

Product list in alphabetical order by type

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
DS1003BAY6	DS1003BAY6	167	1	DS1004BFT6	DS1004BFT6	170	1	E10000CP	E10000CP	255	1
DS1003BAY6L	DS1003BAY6L	164	1	DS1004BFT6L	DS1004BFT6L	168	1	E10000CPS1	E10000CPS1	256	1
DS1003BDDN	DS1003BDDN	172	1	DS1004BFV4	DS1004BFV4	171	1	E10000DI	E10000DI	257	1
DS1003BFCD	DS1003BFCD	172	1	DS1004BFV6	DS1004BFV6	171	1	E10000DIS1	E10000DIS1	258	1
DS1003BFK6	DS1003BFK6	168	1	DS1004BFW4	DS1004BFW4	171	1	E10000DM	E10000DM	257	1
DS1003BFL6	DS1003BFL6	168	1	DS1004BFW6	DS1004BFW6	171	1	E10000DMS1	E10000DMS1	258	1
DS1003BFT4	DS1003BFT4	170	1	DS1004BFY4	DS1004BFY4	170	1	E10000DP	E10000DP	257	1
DS1003BFT4L	DS1003BFT4L	169	1	DS1004BFY4L	DS1004BFY4L	169	1	E10000DPS1	E10000DPS1	258	1
DS1003BFT6	DS1003BFT6	170	1	DS1004BFY6	DS1004BFY6	170	1	E10000EI	E10000EI	259	1
DS1003BFT6L	DS1003BFT6L	168	1	DS1004BFY6L	DS1004BFY6L	168	1	E10000EIS0	E10000EIS0	261	1
DS1003BFV4	DS1003BFV4	171	1	DS1004G	DS1004G	172	1	E10000EIRA	E10000EIRA	260	1
DS1003BFV6	DS1003BFV6	171	1	DS1004GDK6	DS1004GDK6	168	1	E10000EM	E10000EM	259	1
DS1003BFW4	DS1003BFW4	171	1	DS1004GDL6	DS1004GDL6	168	1	E10000EM50	E10000EM50	261	1
DS1003BFW6	DS1003BFW6	171	1	DS1004GDT4	DS1004GDT4	170	1	E10000EMRA	E10000EMRA	260	1
DS1003BFY4	DS1003BFY4	170	1	DS1004GDT4L	DS1004GDT4L	169	1	E10000EP	E10000EP	259	1
DS1003BFY4L	DS1003BFY4L	169	1	DS1004GDT6	DS1004GDT6	170	1	E10000EP50	E10000EP50	261	1
DS1003BFY6	DS1003BFY6	170	1	DS1004GDT6L	DS1004GDT6L	168	1	E10000EPRA	E10000EPRA	260	1
DS1003BFY6L	DS1003BFY6L	168	1	DS1004GDV4	DS1004GDV4	171	1	E10000FI	E10000FI	265	1
DS1003G	DS1003G	172	1	DS1004GDV6	DS1004GDV6	171	1	E10000FI50	E10000FI50	266	1
DS1003GDK6	DS1003GDK6	168	1	DS1004GDW4	DS1004GDW4	171	1	E10000FM	E10000FM	265	1
DS1003GDL6	DS1003GDL6	168	1	DS1004GDW6	DS1004GDW6	171	1	E10000FM50	E10000FM50	266	1
DS1003GDT4	DS1003GDT4	170	1	DS1004GDY4	DS1004GDY4	170	1	E10000FP	E10000FP	265	1
DS1003GDT4L	DS1003GDT4L	169	1	DS1004GDY4L	DS1004GDY4L	169	1	E10000FP50	E10000FP50	266	1
DS1003GDT6	DS1003GDT6	170	1	DS1004GDY6	DS1004GDY6	170	1	E10000FR150	E10000FR150	267	1
DS1003GDT6L	DS1003GDT6L	168	1	DS1004GDY6L	DS1004GDY6L	168	1	E10000FRM50	E10000FRM50	267	1
DS1003GDV4	DS1003GDV4	171	1	DS1004P	DS1004P	172	1	E10000FRP50	E10000FRP50	267	1
DS1003GDV6	DS1003GDV6	171	1	DS1004PQK6S	DS1004PQK6S	164	1	E10000GI	E10000GI	268	1
DS1003GDW4	DS1003GDW4	171	1	DS1004PQL6S	DS1004PQL6S	164	1	E10000GM	E10000GM	268	1
DS1003GDW6	DS1003GDW6	171	1	DS1004PQV4	DS1004PQV4	166	1	E10000GP	E10000GP	268	1
DS1003GDY4	DS1003GDY4	170	1	DS1004PQV6	DS1004PQV6	166	1	E10000HI	E10000HI	269	1
DS1003GDY4L	DS1003GDY4L	169	1	DS1004PQW4	DS1004PQW4	166	1	E10000HM	E10000HM	269	1
DS1003GDY6	DS1003GDY6	170	1	DS1004PQW6	DS1004PQW6	166	1	E10000HP	E10000HP	269	1
DS1003GDY6L	DS1003GDY6L	168	1	DS1004R	DS1004R	172	1	E10000II	E10000II	262	1
DS1003P	DS1003P	172	1	DS1004RQK6	DS1004RQK6	164	1	E10000II50	E10000II50	264	1
DS1003PQK6S	DS1003PQK6S	164	1	DS1004RQL6	DS1004RQL6	164	1	E10000IRA	E10000IRA	263	1
DS1003PQL6S	DS1003PQL6S	164	1	DS1004RQT4	DS1004RQT4	167	1	E10000IM	E10000IM	262	1
DS1003PQV4	DS1003PQV4	166	1	DS1004RQT4L	DS1004RQT4L	165	1	E10000IM50	E10000IM50	264	1
DS1003PQV6	DS1003PQV6	166	1	DS1004RQT6	DS1004RQT6	167	1	E10000IMRA	E10000IMRA	263	1
DS1003PQW4	DS1003PQW4	166	1	DS1004RQT6L	DS1004RQT6L	164	1	E10000IP	E10000IP	262	1
DS1003PQW6	DS1003PQW6	166	1	DS1004RQY4	DS1004RQY4	167	1	E10000IP50	E10000IP50	264	1
DS1003R	DS1003R	172	1	DS1004RQY4L	DS1004RQY4L	165	1	E10000IPRA	E10000IPRA	263	1
DS1003RQK6	DS1003RQK6	164	1	DS1004RQY6	DS1004RQY6	167	1	E10000LI	E10000LI	270	1
DS1003RQL6	DS1003RQL6	164	1	DS1004RQY6L	DS1004RQY6L	164	1	E10000LM	E10000LM	270	1
DS1003RQT4	DS1003RQT4	167	1	DS100PR1B	DS100PR1B	173	5	E10000LP	E10000LP	270	1
DS1003RQT4L	DS1003RQT4L	165	1	DS100PR1R	DS100PR1R	173	5	E10000LPI	E10000LPI	271	1
DS1003RQT6	DS1003RQT6	167	1	DS100PR3B	DS100PR3B	173	5	E10000LPM	E10000LPM	271	1
DS1003RQT6L	DS1003RQT6L	164	1	DS100PR3R	DS100PR3R	173	5	E10000LPP	E10000LPP	271	1
DS1003RQY4	DS1003RQY4	167	1	DSC040NCB	DSC040NCB	158	5	E10000LSI	E10000LSI	272	1
DS1003RQY4L	DS1003RQY4L	165	1	DSC040NCR	DSC040NCR	158	5	E10000LSM	E10000LSM	272	1
DS1003RQY6	DS1003RQY6	167	1	DSC040NOB	DSC040NOB	158	5	E10000LSP	E10000LSP	272	1
DS1003RQY6L	DS1003RQY6L	164	1	DSC040NOR	DSC040NOR	158	5	E10001ABI	E10001ABI	339	1
DS1004BAK6	DS1004BAK6	164	1	DSC040PAB	DSC040PAB	158	5	E10001ABM	E10001ABM	339	1
DS1004BAK6S	DS1004BAK6S	165	1	DSC040PAR	DSC040PAR	158	5	E10001AI	E10001AI	251	1
DS1004BAL6	DS1004BAL6	164	1	DSC040PENB	DSC040PENB	158	5	E10001AIS1	E10001AIS1	252	1
DS1004BAL6S	DS1004BAL6S	165	1	DSC040PENR	DSC040PENR	158	5	E10001AM	E10001AM	251	1
DS1004BAT4	DS1004BAT4	167	1	DSC040PSB	DSC040PSB	158	5	E10001AMS1	E10001AMS1	252	1
DS1004BAT4L	DS1004BAT4L	165	1	DSC040PSR	DSC040PSR	158	5	E10001AP	E10001AP	251	1
DS1004BAT6	DS1004BAT6	167	1	E10000AI	E10000AI	251	1	E10001APS1	E10001APS1	252	1
DS1004BAT6L	DS1004BAT6L	164	1	E10000AIS1	E10000AIS1	252	1	E10001BBI	E10001BBI	340	1
DS1004BAV4	DS1004BAV4	166	1	E10000AAM	E10000AAM	251	1	E10001BBM	E10001BBM	340	1
DS1004BAV6	DS1004BAV6	166	1	E10000AMS1	E10000AMS1	252	1	E10001BI	E10001BI	253	1
DS1004BAW4	DS1004BAW4	166	1	E10000AAP	E10000AAP	251	1	E10001BI13	E10001BI13	254	1
DS1004BAW6	DS1004BAW6	166	1	E10000APS1	E10000APS1	252	1	E10001BM	E10001BM	253	1
DS1004BAY4	DS1004BAY4	167	1	E10000BI	E10000BI	253	1	E10001BM13	E10001BM13	254	1
DS1004BAY4L	DS1004BAY4L	165	1	E10000BI13	E10000BI13	254	1	E10001BP	E10001BP	253	1
DS1004BAY6	DS1004BAY6	167	1	E10000BM	E10000BM	253	1	E10001BP13	E10001BP13	254	1
DS1004BAY6L	DS1004BAY6L	164	1	E10000BM13	E10000BM13	254	1	E10001CBI	E10001CBI	341	1
DS1004BDDN	DS1004BDDN	172	1	E10000BP	E10000BP	253	1	E10001CBM	E10001CBM	341	1
DS1004BFCD	DS1004BFCD	172	1	E10000BP13	E10000BP13	254	1	E10001CI	E10001CI	255	1
DS1004BFK6	DS1004BFK6	168	1	E10000CI	E10000CI	255	1	E10001CIS1	E10001CIS1	256	1
DS1004BFL6	DS1004BFL6	168	1	E10000CIS1	E10000CIS1	256	1	E10001CM	E10001CM	255	1
DS1004BFT4	DS1004BFT4	170	1	E10000CM	E10000CM	255	1	E10001CMS1	E10001CMS1	256	1
DS1004BFT4L	DS1004BFT4L	169	1	E10000CMS1	E10000CMS1	256	1	E10001CP	E10001CP	255	1

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
E10001CPS1	E10001CPS1	256	1	E10002BM13	E10002BM13	254	1	E10003CP	E10003CP	255	1
E10001DBI	E10001DBI	342	1	E10002BP	E10002BP	253	1	E10003CPS1	E10003CPS1	256	1
E10001DBM	E10001DBM	342	1	E10002BP13	E10002BP13	254	1	E10003DI	E10003DI	257	1
E10001DI	E10001DI	257	1	E10002CI	E10002CI	255	1	E10003DIS1	E10003DIS1	258	1
E10001DIS1	E10001DIS1	258	1	E10002CIS1	E10002CIS1	256	1	E10003DM	E10003DM	257	1
E10001DM	E10001DM	257	1	E10002CM	E10002CM	255	1	E10003DMS1	E10003DMS1	258	1
E10001DMS1	E10001DMS1	258	1	E10002CMS1	E10002CMS1	256	1	E10003DP	E10003DP	257	1
E10001DP	E10001DP	257	1	E10002CP	E10002CP	255	1	E10003DPS1	E10003DPS1	258	1
E10001DPS1	E10001DPS1	258	1	E10002CPS1	E10002CPS1	256	1	E10003EI	E10003EI	259	1
E10001EBI	E10001EBI	343	1	E10002DI	E10002DI	257	1	E10003EI50	E10003EI50	261	1
E10001EBM	E10001EBM	343	1	E10002DIS1	E10002DIS1	258	1	E10003EIRA	E10003EIRA	260	1
E10001EI	E10001EI	259	1	E10002DM	E10002DM	257	1	E10003EM	E10003EM	259	1
E10001EI50	E10001EI50	261	1	E10002DMS1	E10002DMS1	258	1	E10003EM50	E10003EM50	261	1
E10001EIRA	E10001EIRA	260	1	E10002DP	E10002DP	257	1	E10003EMRA	E10003EMRA	260	1
E10001EM	E10001EM	259	1	E10002DPS1	E10002DPS1	258	1	E10003EP	E10003EP	259	1
E10001EM50	E10001EM50	261	1	E10002EI	E10002EI	259	1	E10003EP50	E10003EP50	261	1
E10001EMRA	E10001EMRA	260	1	E10002EI50	E10002EI50	261	1	E10003EPRA	E10003EPRA	260	1
E10001EP	E10001EP	259	1	E10002EIRA	E10002EIRA	260	1	E10003FI	E10003FI	265	1
E10001EP50	E10001EP50	261	1	E10002EM	E10002EM	259	1	E10003FI50	E10003FI50	266	1
E10001EPRA	E10001EPRA	260	1	E10002EM50	E10002EM50	261	1	E10003FM	E10003FM	265	1
E10001FBI	E10001FBI	345	1	E10002EMRA	E10002EMRA	260	1	E10003FM50	E10003FM50	266	1
E10001FBI50	E10001FBI50	346	1	E10002EP	E10002EP	259	1	E10003FP	E10003FP	265	1
E10001FBM	E10001FBM	345	1	E10002EP50	E10002EP50	261	1	E10003FP50	E10003FP50	266	1
E10001FBM50	E10001FBM50	346	1	E10002EPRA	E10002EPRA	260	1	E10003FRI50	E10003FRI50	267	1
E10001FBRI50	E10001FBRI50	347	1	E10002FI	E10002FI	265	1	E10003FRM50	E10003FRM50	267	1
E10001FBRM50	E10001FBRM50	347	1	E10002FI50	E10002FI50	266	1	E10003FRP50	E10003FRP50	267	1
E10001FI	E10001FI	265	1	E10002FM	E10002FM	265	1	E10003GI	E10003GI	268	1
E10001FI50	E10001FI50	266	1	E10002FM50	E10002FM50	266	1	E10003GM	E10003GM	268	1
E10001FM	E10001FM	265	1	E10002FPP	E10002FPP	265	1	E10003GP	E10003GP	268	1
E10001FM50	E10001FM50	266	1	E10002FP50	E10002FP50	266	1	E10003HI	E10003HI	269	1
E10001FP	E10001FP	265	1	E10002FRI50	E10002FRI50	267	1	E10003HM	E10003HM	269	1
E10001FP50	E10001FP50	266	1	E10002FRM50	E10002FRM50	267	1	E10003HP	E10003HP	269	1
E10001FRI50	E10001FRI50	267	1	E10002FRP50	E10002FRP50	267	1	E10003II	E10003II	262	1
E10001FRM50	E10001FRM50	267	1	E10002GI	E10002GI	268	1	E10003II50	E10003II50	264	1
E10001FRP50	E10001FRP50	267	1	E10002GM	E10002GM	268	1	E10003IRA	E10003IRA	263	1
E10001GI	E10001GI	268	1	E10002GP	E10002GP	268	1	E10003IM	E10003IM	262	1
E10001GM	E10001GM	268	1	E10002HI	E10002HI	269	1	E10003IM50	E10003IM50	264	1
E10001GP	E10001GP	268	1	E10002HM	E10002HM	269	1	E10003IMRA	E10003IMRA	263	1
E10001HI	E10001HI	269	1	E10002HP	E10002HP	269	1	E10003IP	E10003IP	262	1
E10001HM	E10001HM	269	1	E10002II	E10002II	262	1	E10003IP50	E10003IP50	264	1
E10001HP	E10001HP	269	1	E10002II50	E10002II50	264	1	E10003IPRA	E10003IPRA	263	1
E10001IBI	E10001IBI	344	1	E10002IIRA	E10002IIRA	263	1	E10003LI	E10003LI	270	1
E10001IBM	E10001IBM	344	1	E10002IM	E10002IM	262	1	E10003LM	E10003LM	270	1
E10001II	E10001II	262	1	E10002IM50	E10002IM50	264	1	E10003LP	E10003LP	270	1
E10001II50	E10001II50	264	1	E10002IMRA	E10002IMRA	263	1	E10003LPI	E10003LPI	271	1
E10001IIRA	E10001IIRA	263	1	E10002IP	E10002IP	262	1	E10003LPM	E10003LPM	271	1
E10001IM	E10001IM	262	1	E10002IP50	E10002IP50	264	1	E10003LPP	E10003LPP	271	1
E10001IM50	E10001IM50	264	1	E10002IPRA	E10002IPRA	263	1	E10003LSI	E10003LSI	272	1
E10001IMRA	E10001IMRA	263	1	E10002LI	E10002LI	270	1	E10003LSM	E10003LSM	272	1
E10001IP	E10001IP	262	1	E10002LM	E10002LM	270	1	E10003LSP	E10003LSP	272	1
E10001IP50	E10001IP50	264	1	E10002LP	E10002LP	270	1	E10004ABI	E10004ABI	339	1
E10001IPRA	E10001IPRA	263	1	E10002LPI	E10002LPI	271	1	E10004ABM	E10004ABM	339	1
E10001LI	E10001LI	270	1	E10002LPM	E10002LPM	271	1	E10004AI	E10004AI	251	1
E10001LM	E10001LM	270	1	E10002LPP	E10002LPP	271	1	E10004AIS1	E10004AIS1	252	1
E10001LP	E10001LP	270	1	E10002LSI	E10002LSI	272	1	E10004AM	E10004AM	251	1
E10001LPI	E10001LPI	271	1	E10002LSM	E10002LSM	272	1	E10004AMS1	E10004AMS1	252	1
E10001LPM	E10001LPM	271	1	E10002LSP	E10002LSP	272	1	E10004AP	E10004AP	251	1
E10001LPP	E10001LPP	271	1	E10003AI	E10003AI	251	1	E10004APS1	E10004APS1	252	1
E10001LSI	E10001LSI	272	1	E10003AIS1	E10003AIS1	252	1	E10004BBI	E10004BBI	340	1
E10001LSM	E10001LSM	272	1	E10003AM	E10003AM	251	1	E10004BBM	E10004BBM	340	1
E10001LSP	E10001LSP	272	1	E10003AMS1	E10003AMS1	252	1	E10004BI	E10004BI	253	1
E10001SSJ	E10001SSJ	354	1	E10003AP	E10003AP	251	1	E10004BI13	E10004BI13	254	1
E10001SCI	E10001SCI	361	1	E10003APS1	E10003APS1	252	1	E10004BM	E10004BM	253	1
E10001SCM	E10001SCM	361	1	E10003BI	E10003BI	253	1	E10004BM13	E10004BM13	254	1
E10002AI	E10002AI	251	1	E10003BI13	E10003BI13	254	1	E10004BP	E10004BP	253	1
E10002AIS1	E10002AIS1	252	1	E10003BM	E10003BM	253	1	E10004BP13	E10004BP13	254	1
E10002AM	E10002AM	251	1	E10003BM13	E10003BM13	254	1	E10004CBI	E10004CBI	341	1
E10002AMS1	E10002AMS1	252	1	E10003BP	E10003BP	253	1	E10004CBM	E10004CBM	341	1
E10002AP	E10002AP	251	1	E10003BP13	E10003BP13	254	1	E10004CI	E10004CI	255	1
E10002APS1	E10002APS1	252	1	E10003CI	E10003CI	255	1	E10004CIS1	E10004CIS1	256	1
E10002BI	E10002BI	253	1	E10003CHS1	E10003CHS1	256	1	E10004CM	E10004CM	255	1
E10002BI13	E10002BI13	254	1	E10003CM	E10003CM	255	1	E10004CMS1	E10004CMS1	256	1
E10002BM	E10002BM	253	1	E10003CMS1	E10003CMS1	256	1	E10004CP	E10004CP	255	1

Product list in alphabetical order by type

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
E10004CPS1	E10004CPS1	256	1	E10005BM13	E10005BM13	254	1	E10008TBM	E10008TBM	358	1
E10004DBI	E10004DBI	342	1	E10005BP	E10005BP	253	1	E10100AI	E10100AI	251	1
E10004DBM	E10004DBM	342	1	E10005BP13	E10005BP13	254	1	E10100AIS1	E10100AIS1	252	1
E10004DI	E10004DI	257	1	E10005CI	E10005CI	255	1	E10100AM	E10100AM	251	1
E10004DIS1	E10004DIS1	258	1	E10005CIS1	E10005CIS1	256	1	E10100AMS1	E10100AMS1	252	1
E10004DM	E10004DM	257	1	E10005CM	E10005CM	255	1	E10100AP	E10100AP	251	1
E10004DMS1	E10004DMS1	258	1	E10005CMS1	E10005CMS1	256	1	E10100APS1	E10100APS1	252	1
E10004DP	E10004DP	257	1	E10005CP	E10005CP	255	1	E10100BI	E10100BI	253	1
E10004DPS1	E10004DPS1	258	1	E10005CPS1	E10005CPS1	256	1	E10100BI13	E10100BI13	254	1
E10004EBI	E10004EBI	343	1	E10005DI	E10005DI	257	1	E10100BM	E10100BM	253	1
E10004EBM	E10004EBM	343	1	E10005DIS1	E10005DIS1	258	1	E10100BM13	E10100BM13	254	1
E10004EI	E10004EI	259	1	E10005DM	E10005DM	257	1	E10100BP	E10100BP	253	1
E10004EI50	E10004EI50	261	1	E10005DMS1	E10005DMS1	258	1	E10100BP13	E10100BP13	254	1
E10004EIRA	E10004EIRA	260	1	E10005DP	E10005DP	257	1	E10100CI	E10100CI	255	1
E10004EM	E10004EM	259	1	E10005DPS1	E10005DPS1	258	1	E10100CIS1	E10100CIS1	256	1
E10004EM50	E10004EM50	261	1	E10005EI	E10005EI	259	1	E10100CM	E10100CM	255	1
E10004EMRA	E10004EMRA	260	1	E10005EI50	E10005EI50	261	1	E10100CMS1	E10100CMS1	256	1
E10004EP	E10004EP	259	1	E10005EIRA	E10005EIRA	260	1	E10100CP	E10100CP	255	1
E10004EP50	E10004EP50	261	1	E10005EM	E10005EM	259	1	E10100CPS1	E10100CPS1	256	1
E10004EPRA	E10004EPRA	260	1	E10005EM50	E10005EM50	261	1	E10100DI	E10100DI	257	1
E10004FBI	E10004FBI	345	1	E10005EMRA	E10005EMRA	260	1	E10100DIS1	E10100DIS1	258	1
E10004FBI50	E10004FBI50	346	1	E10005EP	E10005EP	259	1	E10100DM	E10100DM	257	1
E10004FBM	E10004FBM	345	1	E10005EP50	E10005EP50	261	1	E10100DMS1	E10100DMS1	258	1
E10004FBM50	E10004FBM50	346	1	E10005EPRA	E10005EPRA	260	1	E10100DP	E10100DP	257	1
E10004FBRI50	E10004FBRI50	347	1	E10005FI	E10005FI	265	1	E10100DPS1	E10100DPS1	258	1
E10004FBRM50	E10004FBRM50	347	1	E10005FI50	E10005FI50	266	1	E10100EI	E10100EI	259	1
E10004FI	E10004FI	265	1	E10005FM	E10005FM	265	1	E10100EI50	E10100EI50	261	1
E10004FI50	E10004FI50	266	1	E10005FM50	E10005FM50	266	1	E10100EIRA	E10100EIRA	260	1
E10004FM	E10004FM	265	1	E10005FP	E10005FP	265	1	E10100EM	E10100EM	259	1
E10004FM50	E10004FM50	266	1	E10005FP50	E10005FP50	266	1	E10100EM50	E10100EM50	261	1
E10004FP	E10004FP	265	1	E10005FRI50	E10005FRI50	267	1	E10100EMRA	E10100EMRA	260	1
E10004FP50	E10004FP50	266	1	E10005FRM50	E10005FRM50	267	1	E10100EP	E10100EP	259	1
E10004FRI50	E10004FRI50	267	1	E10005FRP50	E10005FRP50	267	1	E10100EP50	E10100EP50	261	1
E10004FRM50	E10004FRM50	267	1	E10005GI	E10005GI	268	1	E10100EPRA	E10100EPRA	260	1
E10004FRP50	E10004FRP50	267	1	E10005GM	E10005GM	268	1	E10100FI	E10100FI	265	1
E10004GI	E10004GI	268	1	E10005GP	E10005GP	268	1	E10100FI50	E10100FI50	266	1
E10004GM	E10004GM	268	1	E10005HI	E10005HI	269	1	E10100FM	E10100FM	265	1
E10004GP	E10004GP	268	1	E10005HM	E10005HM	269	1	E10100FM50	E10100FM50	266	1
E10004HI	E10004HI	269	1	E10005HP	E10005HP	269	1	E10100FP	E10100FP	265	1
E10004HM	E10004HM	269	1	E10005II	E10005II	262	1	E10100FP50	E10100FP50	266	1
E10004HP	E10004HP	269	1	E10005II50	E10005II50	264	1	E10100FRI50	E10100FRI50	267	1
E10004IBI	E10004IBI	344	1	E10005IIRA	E10005IIRA	263	1	E10100FRM50	E10100FRM50	267	1
E10004IBM	E10004IBM	344	1	E10005IM	E10005IM	262	1	E10100FRP50	E10100FRP50	267	1
E10004II	E10004II	262	1	E10005IM50	E10005IM50	264	1	E10100GI	E10100GI	268	1
E10004II50	E10004II50	264	1	E10005IMRA	E10005IMRA	263	1	E10100GM	E10100GM	268	1
E10004IIRA	E10004IIRA	263	1	E10005IP	E10005IP	262	1	E10100GP	E10100GP	268	1
E10004IM	E10004IM	262	1	E10005IP50	E10005IP50	264	1	E10100HI	E10100HI	269	1
E10004IM50	E10004IM50	264	1	E10005IPRA	E10005IPRA	263	1	E10100HM	E10100HM	269	1
E10004IMRA	E10004IMRA	263	1	E10005LI	E10005LI	270	1	E10100HP	E10100HP	269	1
E10004IP	E10004IP	262	1	E10005LM	E10005LM	270	1	E10100II	E10100II	262	1
E10004IP50	E10004IP50	264	1	E10005LP	E10005LP	270	1	E10100II50	E10100II50	264	1
E10004IPRA	E10004IPRA	263	1	E10005LPI	E10005LPI	271	1	E10100IIRA	E10100IIRA	263	1
E10004LI	E10004LI	270	1	E10005LPM	E10005LPM	271	1	E10100IM	E10100IM	262	1
E10004LM	E10004LM	270	1	E10005LPP	E10005LPP	271	1	E10100IM50	E10100IM50	264	1
E10004LP	E10004LP	270	1	E10005LSI	E10005LSI	272	1	E10100IMRA	E10100IMRA	263	1
E10004LPI	E10004LPI	271	1	E10005LSM	E10005LSM	272	1	E10100IP	E10100IP	262	1
E10004LPM	E10004LPM	271	1	E10005LSP	E10005LSP	272	1	E10100IP50	E10100IP50	264	1
E10004LPP	E10004LPP	271	1	E10007EIC	E10007EIC	321	1	E10100IPRA	E10100IPRA	263	1
E10004LSI	E10004LSI	272	1	E10007EMC	E10007EMC	321	1	E10100LI	E10100LI	270	1
E10004LSM	E10004LSM	272	1	E10007EPC	E10007EPC	321	1	E10100LM	E10100LM	270	1
E10004LSP	E10004LSP	272	1	E10007FI50C	E10007FI50C	324	1	E10100LP	E10100LP	270	1
E10004SSJ	E10004SSJ	354	1	E10007FI50C	E10007FI50C	325	1	E10100LPI	E10100LPI	271	1
E10004SCI	E10004SCI	361	1	E10007FIC	E10007FIC	323	1	E10100LPM	E10100LPM	271	1
E10004SCM	E10004SCM	361	1	E10007FM50C	E10007FM50C	324	1	E10100LPP	E10100LPP	271	1
E10005AI	E10005AI	251	1	E10007FMC	E10007FMC	323	1	E10100LSI	E10100LSI	272	1
E10005AIS1	E10005AIS1	252	1	E10007FP50C	E10007FP50C	325	1	E10100LSM	E10100LSM	272	1
E10005AM	E10005AM	251	1	E10007FP50C	E10007FP50C	324	1	E10100LSP	E10100LSP	272	1
E10005AMS1	E10005AMS1	252	1	E10007FPC	E10007FPC	323	1	E10101ABI	E10101ABI	339	1
E10005AP	E10005AP	251	1	E10007IIC	E10007IIC	322	1	E10101ABM	E10101ABM	339	1
E10005APS1	E10005APS1	252	1	E10007IMC	E10007IMC	322	1	E10101AI	E10101AI	251	1
E10005BI	E10005BI	253	1	E10007IPC	E10007IPC	322	1	E10101AIS1	E10101AIS1	252	1
E10005BI13	E10005BI13	254	1	E10008TBI	E10008TBI	358	1	E10101AM	E10101AM	251	1
E10005BM	E10005BM	253	1					E10101AMS1	E10101AMS1	252	1

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
E10101AP	E10101AP	251	1	E10101LPM	E10101LPM	271	1	E10102LSP	E10102LSP	272	1
E10101APS1	E10101APS1	252	1	E10101LPP	E10101LPP	271	1	E10103AI	E10103AI	251	1
E10101BBI	E10101BBI	340	1	E10101LSI	E10101LSI	272	1	E10103AIS1	E10103AIS1	252	1
E10101BBM	E10101BBM	340	1	E10101LSM	E10101LSM	272	1	E10103AM	E10103AM	251	1
E10101BI	E10101BI	253	1	E10101LSP	E10101LSP	272	1	E10103AMS1	E10103AMS1	252	1
E10101BI13	E10101BI13	254	1	E10101S5I	E10101S5I	354	1	E10103AP	E10103AP	251	1
E10101BM	E10101BM	253	1	E10101SCI	E10101SCI	361	1	E10103APS1	E10103APS1	252	1
E10101BM13	E10101BM13	254	1	E10101SCM	E10101SCM	361	1	E10103BI	E10103BI	253	1
E10101BP	E10101BP	253	1	E10102AI	E10102AI	251	1	E10103BI13	E10103BI13	254	1
E10101BP13	E10101BP13	254	1	E10102AIS1	E10102AIS1	252	1	E10103BM	E10103BM	253	1
E10101CBI	E10101CBI	341	1	E10102AM	E10102AM	251	1	E10103BM13	E10103BM13	254	1
E10101CBM	E10101CBM	341	1	E10102AMS1	E10102AMS1	252	1	E10103BP	E10103BP	253	1
E10101CI	E10101CI	255	1	E10102AP	E10102AP	251	1	E10103BP13	E10103BP13	254	1
E10101CIS1	E10101CIS1	256	1	E10102APS1	E10102APS1	252	1	E10103CI	E10103CI	255	1
E10101CM	E10101CM	255	1	E10102BI	E10102BI	253	1	E10103CIS1	E10103CIS1	256	1
E10101CMS1	E10101CMS1	256	1	E10102BI13	E10102BI13	254	1	E10103CM	E10103CM	255	1
E10101CP	E10101CP	255	1	E10102BM	E10102BM	253	1	E10103CMS1	E10103CMS1	256	1
E10101CPS1	E10101CPS1	256	1	E10102BM13	E10102BM13	254	1	E10103CP	E10103CP	255	1
E10101DBI	E10101DBI	342	1	E10102BP	E10102BP	253	1	E10103CPS1	E10103CPS1	256	1
E10101DBM	E10101DBM	342	1	E10102BP13	E10102BP13	254	1	E10103DI	E10103DI	257	1
E10101DI	E10101DI	257	1	E10102CI	E10102CI	255	1	E10103DIS1	E10103DIS1	258	1
E10101DIS1	E10101DIS1	258	1	E10102CIS1	E10102CIS1	256	1	E10103DM	E10103DM	257	1
E10101DM	E10101DM	257	1	E10102CM	E10102CM	255	1	E10103DMS1	E10103DMS1	258	1
E10101DMS1	E10101DMS1	258	1	E10102CMS1	E10102CMS1	256	1	E10103DP	E10103DP	257	1
E10101DP	E10101DP	257	1	E10102CP	E10102CP	255	1	E10103DPS1	E10103DPS1	258	1
E10101DPS1	E10101DPS1	258	1	E10102CPS1	E10102CPS1	256	1	E10103EI	E10103EI	259	1
E10101EBI	E10101EBI	343	1	E10102DI	E10102DI	257	1	E10103EI50	E10103EI50	261	1
E10101EBM	E10101EBM	343	1	E10102DIS1	E10102DIS1	258	1	E10103EIRA	E10103EIRA	260	1
E10101EI	E10101EI	259	1	E10102DM	E10102DM	257	1	E10103EM	E10103EM	259	1
E10101EI50	E10101EI50	261	1	E10102DMS1	E10102DMS1	258	1	E10103EM50	E10103EM50	261	1
E10101EIRA	E10101EIRA	260	1	E10102DP	E10102DP	257	1	E10103EMRA	E10103EMRA	260	1
E10101EM	E10101EM	259	1	E10102DPS1	E10102DPS1	258	1	E10103EP	E10103EP	259	1
E10101EM50	E10101EM50	261	1	E10102EI	E10102EI	259	1	E10103EP50	E10103EP50	261	1
E10101EMRA	E10101EMRA	260	1	E10102EI50	E10102EI50	261	1	E10103EPRA	E10103EPRA	260	1
E10101EP	E10101EP	259	1	E10102EIRA	E10102EIRA	260	1	E10103FI	E10103FI	265	1
E10101EP50	E10101EP50	261	1	E10102EM	E10102EM	259	1	E10103FI50	E10103FI50	266	1
E10101EPRA	E10101EPRA	260	1	E10102EM50	E10102EM50	261	1	E10103FM	E10103FM	265	1
E10101FBI	E10101FBI	345	1	E10102EMRA	E10102EMRA	260	1	E10103FM50	E10103FM50	266	1
E10101FBI50	E10101FBI50	346	1	E10102EP	E10102EP	259	1	E10103FP	E10103FP	265	1
E10101FBM	E10101FBM	345	1	E10102EP50	E10102EP50	261	1	E10103FP50	E10103FP50	266	1
E10101FBM50	E10101FBM50	346	1	E10102EPRA	E10102EPRA	260	1	E10103FRI50	E10103FRI50	267	1
E10101FBR150	E10101FBR150	347	1	E10102FI	E10102FI	265	1	E10103FRM50	E10103FRM50	267	1
E10101FBRM50	E10101FBRM50	347	1	E10102FI50	E10102FI50	266	1	E10103FRP50	E10103FRP50	267	1
E10101FI	E10101FI	265	1	E10102FM	E10102FM	265	1	E10103GI	E10103GI	268	1
E10101FI50	E10101FI50	266	1	E10102FM50	E10102FM50	266	1	E10103GM	E10103GM	268	1
E10101FM	E10101FM	265	1	E10102FP	E10102FP	265	1	E10103GP	E10103GP	268	1
E10101FM50	E10101FM50	266	1	E10102FP50	E10102FP50	266	1	E10103HI	E10103HI	269	1
E10101FP	E10101FP	265	1	E10102FRI50	E10102FRI50	267	1	E10103HM	E10103HM	269	1
E10101FP50	E10101FP50	266	1	E10102FRM50	E10102FRM50	267	1	E10103HP	E10103HP	269	1
E10101FRI50	E10101FRI50	267	1	E10102FRP50	E10102FRP50	267	1	E10103II	E10103II	262	1
E10101FRM50	E10101FRM50	267	1	E10102GI	E10102GI	268	1	E10103I50	E10103I50	264	1
E10101FRP50	E10101FRP50	267	1	E10102GM	E10102GM	268	1	E10103IIRA	E10103IIRA	263	1
E10101GI	E10101GI	268	1	E10102GP	E10102GP	268	1	E10103IM	E10103IM	262	1
E10101GM	E10101GM	268	1	E10102HI	E10102HI	269	1	E10103IM50	E10103IM50	264	1
E10101GP	E10101GP	268	1	E10102HM	E10102HM	269	1	E10103IMRA	E10103IMRA	263	1
E10101HI	E10101HI	269	1	E10102HP	E10102HP	269	1	E10103IP	E10103IP	262	1
E10101HM	E10101HM	269	1	E10102II	E10102II	262	1	E10103IP50	E10103IP50	264	1
E10101HP	E10101HP	269	1	E10102II50	E10102II50	264	1	E10103IPRA	E10103IPRA	263	1
E10101IBI	E10101IBI	344	1	E10102IIRA	E10102IIRA	263	1	E10103LI	E10103LI	270	1
E10101IBM	E10101IBM	344	1	E10102IM	E10102IM	262	1	E10103LM	E10103LM	270	1
E10101II	E10101II	262	1	E10102IM50	E10102IM50	264	1	E10103LP	E10103LP	270	1
E10101II50	E10101II50	264	1	E10102IMRA	E10102IMRA	263	1	E10103LPI	E10103LPI	271	1
E10101IIRA	E10101IIRA	263	1	E10102IP	E10102IP	262	1	E10103LPM	E10103LPM	271	1
E10101IM	E10101IM	262	1	E10102IP50	E10102IP50	264	1	E10103LPP	E10103LPP	271	1
E10101IM50	E10101IM50	264	1	E10102IPRA	E10102IPRA	263	1	E10103LSI	E10103LSI	272	1
E10101IMRA	E10101IMRA	263	1	E10102LI	E10102LI	270	1	E10103LSM	E10103LSM	272	1
E10101IP	E10101IP	262	1	E10102LM	E10102LM	270	1	E10103LSP	E10103LSP	272	1
E10101IP50	E10101IP50	264	1	E10102LP	E10102LP	270	1	E10104ABI	E10104ABI	339	1
E10101IPRA	E10101IPRA	263	1	E10102LPI	E10102LPI	271	1	E10104ABM	E10104ABM	339	1
E10101LI	E10101LI	270	1	E10102LPM	E10102LPM	271	1	E10104AI	E10104AI	251	1
E10101LM	E10101LM	270	1	E10102LPP	E10102LPP	271	1	E10104AIS1	E10104AIS1	252	1
E10101LP	E10101LP	270	1	E10102LSI	E10102LSI	272	1	E10104AM	E10104AM	251	1
E10101LPI	E10101LPI	271	1	E10102LSM	E10102LSM	272	1	E10104AMS1	E10104AMS1	252	1

Product list in alphabetical order by type

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
E10104AP	E10104AP	251	1	E10104LPM	E10104LPM	271	1	E10105LSP	E10105LSP	272	1
E10104APS1	E10104APS1	252	1	E10104LPP	E10104LPP	271	1	E10107EIC	E10107EIC	321	1
E10104BBI	E10104BBI	340	1	E10104LSI	E10104LSI	272	1	E10107EMC	E10107EMC	321	1
E10104BBM	E10104BBM	340	1	E10104LSM	E10104LSM	272	1	E10107EPC	E10107EPC	321	1
E10104BI	E10104BI	253	1	E10104LSP	E10104LSP	272	1	E10107FI50C	E10107FI50C	324	1
E10104BI13	E10104BI13	254	1	E10104S5I	E10104S5I	354	1	E10107FI50C	E10107FI50C	325	1
E10104BM	E10104BM	253	1	E10104SCI	E10104SCI	361	1	E10107FIC	E10107FIC	323	1
E10104BM13	E10104BM13	254	1	E10104SCM	E10104SCM	361	1	E10107FM50C	E10107FM50C	324	1
E10104BP	E10104BP	253	1	E10105AI	E10105AI	251	1	E10107FM50C	E10107FM50C	325	1
E10104BP13	E10104BP13	254	1	E10105AIS1	E10105AIS1	252	1	E10107FP50C	E10107FP50C	324	1
E10104CBI	E10104CBI	341	1	E10105AM	E10105AM	251	1	E10107FP50C	E10107FP50C	325	1
E10104CBM	E10104CBM	341	1	E10105AMS1	E10105AMS1	252	1	E10107FPC	E10107FPC	323	1
E10104CI	E10104CI	255	1	E10105AP	E10105AP	251	1	E10107IIC	E10107IIC	322	1
E10104CIS1	E10104CIS1	256	1	E10105APS1	E10105APS1	252	1	E10107IMC	E10107IMC	322	1
E10104CM	E10104CM	255	1	E10105BI	E10105BI	253	1	E10107IPC	E10107IPC	322	1
E10104CMS1	E10104CMS1	256	1	E10105BI13	E10105BI13	254	1	E10108TBI	E10108TBI	358	1
E10104CP	E10104CP	255	1	E10105BM	E10105BM	253	1	E10108TBM	E10108TBM	358	1
E10104CPS1	E10104CPS1	256	1	E10105BM13	E10105BM13	254	1	E20000AI	E20000AI	275	1
E10104DBI	E10104DBI	342	1	E10105BP	E10105BP	253	1	E20000AIS1	E20000AIS1	275	1
E10104DBM	E10104DBM	342	1	E10105BP13	E10105BP13	254	1	E20000BI	E20000BI	276	1
E10104DI	E10104DI	257	1	E10105CI	E10105CI	255	1	E20000BI13	E20000BI13	276	1
E10104DIS1	E10104DIS1	258	1	E10105CIS1	E10105CIS1	256	1	E20000CI	E20000CI	277	1
E10104DM	E10104DM	257	1	E10105CM	E10105CM	255	1	E20000CIS1	E20000CIS1	277	1
E10104DMS1	E10104DMS1	258	1	E10105CMS1	E10105CMS1	256	1	E20000DI	E20000DI	278	1
E10104DP	E10104DP	257	1	E10105CP	E10105CP	255	1	E20000DIS1	E20000DIS1	278	1
E10104DPS1	E10104DPS1	258	1	E10105CPS1	E10105CPS1	256	1	E20000EI	E20000EI	279	1
E10104EBI	E10104EBI	343	1	E10105DI	E10105DI	257	1	E20000EI50	E20000EI50	280	1
E10104EBM	E10104EBM	343	1	E10105DIS1	E10105DIS1	258	1	E20000EIRA	E20000EIRA	279	1
E10104EI	E10104EI	259	1	E10105DM	E10105DM	257	1	E20000FI	E20000FI	282	1
E10104EI50	E10104EI50	261	1	E10105DMS1	E10105DMS1	258	1	E20000FI50	E20000FI50	282	1
E10104EIRA	E10104EIRA	260	1	E10105DP	E10105DP	257	1	E20000FRI50	E20000FRI50	283	1
E10104EM	E10104EM	259	1	E10105DPS1	E10105DPS1	258	1	E20000GI	E20000GI	283	1
E10104EM50	E10104EM50	261	1	E10105EI	E10105EI	259	1	E20000HI	E20000HI	284	1
E10104EMRA	E10104EMRA	260	1	E10105EI50	E10105EI50	261	1	E20000II	E20000II	280	1
E10104EP	E10104EP	259	1	E10105EIRA	E10105EIRA	260	1	E20000II50	E20000II50	281	1
E10104EP50	E10104EP50	261	1	E10105EM	E10105EM	259	1	E20000IIRA	E20000IIRA	281	1
E10104EPRA	E10104EPRA	260	1	E10105EM50	E10105EM50	261	1	E20000LI	E20000LI	284	1
E10104FBI	E10104FBI	345	1	E10105EMRA	E10105EMRA	260	1	E20000LPI	E20000LPI	285	1
E10104FBI50	E10104FBI50	346	1	E10105EP	E10105EP	259	1	E20000LSI	E20000LSI	285	1
E10104FBM	E10104FBM	345	1	E10105EP50	E10105EP50	261	1	E20001ABI	E20001ABI	348	1
E10104FBM50	E10104FBM50	346	1	E10105EPRA	E10105EPRA	260	1	E20001AI	E20001AI	275	1
E10104FBR150	E10104FBR150	347	1	E10105FI	E10105FI	265	1	E20001AIS1	E20001AIS1	275	1
E10104FBRM50	E10104FBRM50	347	1	E10105FI50	E10105FI50	266	1	E20001BBI	E20001BBI	348	1
E10104FI	E10104FI	265	1	E10105FM	E10105FM	265	1	E20001BI	E20001BI	276	1
E10104FI50	E10104FI50	266	1	E10105FM50	E10105FM50	266	1	E20001BI13	E20001BI13	276	1
E10104FM	E10104FM	265	1	E10105FP	E10105FP	265	1	E20001CBI	E20001CBI	349	1
E10104FM50	E10104FM50	266	1	E10105FP50	E10105FP50	266	1	E20001CI	E20001CI	277	1
E10104FP	E10104FP	265	1	E10105FRI50	E10105FRI50	267	1	E20001CIS1	E20001CIS1	277	1
E10104FP50	E10104FP50	266	1	E10105FRM50	E10105FRM50	267	1	E20001DI	E20001DI	278	1
E10104FRI50	E10104FRI50	267	1	E10105FRP50	E10105FRP50	267	1	E20001DIS1	E20001DIS1	278	1
E10104FRM50	E10104FRM50	267	1	E10105GI	E10105GI	268	1	E20001EBI	E20001EBI	350	1
E10104FRP50	E10104FRP50	267	1	E10105GM	E10105GM	268	1	E20001EI	E20001EI	279	1
E10104GI	E10104GI	268	1	E10105GP	E10105GP	268	1	E20001EI50	E20001EI50	280	1
E10104GM	E10104GM	268	1	E10105HI	E10105HI	269	1	E20001EIRA	E20001EIRA	279	1
E10104GP	E10104GP	268	1	E10105HM	E10105HM	269	1	E20001FI	E20001FI	282	1
E10104HI	E10104HI	269	1	E10105HP	E10105HP	269	1	E20001FI50	E20001FI50	282	1
E10104HM	E10104HM	269	1	E10105II	E10105II	262	1	E20001FRI50	E20001FRI50	283	1
E10104HP	E10104HP	269	1	E10105II50	E10105II50	264	1	E20001GI	E20001GI	283	1
E10104IBI	E10104IBI	344	1	E10105IIRA	E10105IIRA	263	1	E20001HI	E20001HI	284	1
E10104IBM	E10104IBM	344	1	E10105IM	E10105IM	262	1	E20001IBI	E20001IBI	351	1
E10104II	E10104II	262	1	E10105IM50	E10105IM50	264	1	E20001II	E20001II	280	1
E10104II50	E10104II50	264	1	E10105IMRA	E10105IMRA	263	1	E20001II50	E20001II50	281	1
E10104IIRA	E10104IIRA	263	1	E10105IP	E10105IP	262	1	E20001IIRA	E20001IIRA	281	1
E10104IM	E10104IM	262	1	E10105IP50	E10105IP50	264	1	E20001LI	E20001LI	284	1
E10104IM50	E10104IM50	264	1	E10105IPRA	E10105IPRA	263	1	E20001LPI	E20001LPI	285	1
E10104IMRA	E10104IMRA	263	1	E10105LI	E10105LI	270	1	E20001LSI	E20001LSI	285	1
E10104IP	E10104IP	262	1	E10105LM	E10105LM	270	1	E20001S5I	E20001S5I	355	1
E10104IP50	E10104IP50	264	1	E10105LP	E10105LP	270	1	E20002AI	E20002AI	275	1
E10104IPRA	E10104IPRA	263	1	E10105LPI	E10105LPI	271	1	E20002AIS1	E20002AIS1	275	1
E10104LI	E10104LI	270	1	E10105LPM	E10105LPM	271	1	E20002BI	E20002BI	276	1
E10104LM	E10104LM	270	1	E10105LPP	E10105LPP	271	1	E20002BI13	E20002BI13	276	1
E10104LP	E10104LP	270	1	E10105LSI	E10105LSI	272	1	E20002CI	E20002CI	277	1
E10104LPI	E10104LPI	271	1	E10105LSM	E10105LSM	272	1	E20002CIS1	E20002CIS1	277	1

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
E20002DI	E20002DI	278	1	E20005DIS1	E20005DIS1	278	1	E20102CIS1	E20102CIS1	277	1
E20002DIS1	E20002DIS1	278	1	E20005EI	E20005EI	279	1	E20102DI	E20102DI	278	1
E20002EI	E20002EI	279	1	E20005EI50	E20005EI50	280	1	E20102DIS1	E20102DIS1	278	1
E20002EI50	E20002EI50	280	1	E20005EIRA	E20005EIRA	279	1	E20102EI	E20102EI	279	1
E20002EIRA	E20002EIRA	279	1	E20005FI	E20005FI	282	1	E20102EI50	E20102EI50	280	1
E20002FI	E20002FI	282	1	E20005FI50	E20005FI50	282	1	E20102EIRA	E20102EIRA	279	1
E20002FI50	E20002FI50	282	1	E20005FRI50	E20005FRI50	283	1	E20102FI	E20102FI	282	1
E20002FRI50	E20002FRI50	283	1	E20005GI	E20005GI	283	1	E20102FI50	E20102FI50	282	1
E20002GI	E20002GI	283	1	E20005HI	E20005HI	284	1	E20102FRI50	E20102FRI50	283	1
E20002HI	E20002HI	284	1	E20005II	E20005II	280	1	E20102GI	E20102GI	283	1
E20002II	E20002II	280	1	E20005II50	E20005II50	281	1	E20102HI	E20102HI	284	1
E20002II50	E20002II50	281	1	E20005IIRA	E20005IIRA	281	1	E20102II	E20102II	280	1
E20002IIRA	E20002IIRA	281	1	E20005LI	E20005LI	284	1	E20102II50	E20102II50	281	1
E20002LI	E20002LI	284	1	E20005LPI	E20005LPI	285	1	E20102IIRA	E20102IIRA	281	1
E20002LPI	E20002LPI	285	1	E20005LSI	E20005LSI	285	1	E20102LI	E20102LI	284	1
E20002LSI	E20002LSI	285	1	E20007EIC	E20007EIC	326	1	E20102LPI	E20102LPI	285	1
E20003AI	E20003AI	275	1	E20007IIC	E20007IIC	326	1	E20102LSI	E20102LSI	285	1
E20003AIS1	E20003AIS1	275	1	E20008TBI	E20008TBI	359	1	E20103AI	E20103AI	275	1
E20003BI	E20003BI	276	1	E20100AI	E20100AI	275	1	E20103AIS1	E20103AIS1	275	1
E20003BI13	E20003BI13	276	1	E20100AIS1	E20100AIS1	275	1	E20103BI	E20103BI	276	1
E20003CI	E20003CI	277	1	E20100BI	E20100BI	276	1	E20103BI13	E20103BI13	276	1
E20003CIS1	E20003CIS1	277	1	E20100B13	E20100B13	276	1	E20103CI	E20103CI	277	1
E20003DI	E20003DI	278	1	E20100CI	E20100CI	277	1	E20103CIS1	E20103CIS1	277	1
E20003DIS1	E20003DIS1	278	1	E20100CIS1	E20100CIS1	277	1	E20103DI	E20103DI	278	1
E20003EI	E20003EI	279	1	E20100DI	E20100DI	278	1	E20103DIS1	E20103DIS1	278	1
E20003EI50	E20003EI50	280	1	E20100DIS1	E20100DIS1	278	1	E20103EI	E20103EI	279	1
E20003EIRA	E20003EIRA	279	1	E20100EI	E20100EI	279	1	E20103EI50	E20103EI50	280	1
E20003FI	E20003FI	282	1	E20100EI50	E20100EI50	280	1	E20103EIRA	E20103EIRA	279	1
E20003FI50	E20003FI50	282	1	E20100EIRA	E20100EIRA	279	1	E20103FI	E20103FI	282	1
E20003FRI50	E20003FRI50	283	1	E20100FI	E20100FI	282	1	E20103FI50	E20103FI50	282	1
E20003GI	E20003GI	283	1	E20100FI50	E20100FI50	282	1	E20103FRI50	E20103FRI50	283	1
E20003HI	E20003HI	284	1	E20100FRI50	E20100FRI50	283	1	E20103GI	E20103GI	283	1
E20003II	E20003II	280	1	E20100GI	E20100GI	283	1	E20103HI	E20103HI	284	1
E20003II50	E20003II50	281	1	E20100HI	E20100HI	284	1	E20103II	E20103II	280	1
E20003IIRA	E20003IIRA	281	1	E20100II	E20100II	280	1	E20103II50	E20103II50	281	1
E20003LI	E20003LI	284	1	E20100II50	E20100II50	281	1	E20103IIRA	E20103IIRA	281	1
E20003LPI	E20003LPI	285	1	E20100IIRA	E20100IIRA	281	1	E20103LI	E20103LI	284	1
E20003LSI	E20003LSI	285	1	E20100LI	E20100LI	284	1	E20103LPI	E20103LPI	285	1
E20004ABI	E20004ABI	348	1	E20100LPI	E20100LPI	285	1	E20103LSI	E20103LSI	285	1
E20004AI	E20004AI	275	1	E20100LSI	E20100LSI	285	1	E20104ABI	E20104ABI	348	1
E20004AIS1	E20004AIS1	275	1	E20101ABI	E20101ABI	348	1	E20104AI	E20104AI	275	1
E20004ABBI	E20004ABBI	348	1	E20101AI	E20101AI	275	1	E20104AIS1	E20104AIS1	275	1
E20004ABI	E20004ABI	276	1	E20101AIS1	E20101AIS1	275	1	E20104BBI	E20104BBI	348	1
E20004BI13	E20004BI13	276	1	E20101BBI	E20101BBI	348	1	E20104BI	E20104BI	276	1
E20004CBI	E20004CBI	349	1	E20101BI	E20101BI	276	1	E20104BI13	E20104BI13	276	1
E20004CI	E20004CI	277	1	E20101BI13	E20101BI13	276	1	E20104CBI	E20104CBI	349	1
E20004CIS1	E20004CIS1	277	1	E20101CBI	E20101CBI	349	1	E20104CI	E20104CI	277	1
E20004DI	E20004DI	278	1	E20101CI	E20101CI	277	1	E20104CIS1	E20104CIS1	277	1
E20004DIS1	E20004DIS1	278	1	E20101CIS1	E20101CIS1	277	1	E20104DI	E20104DI	278	1
E20004EBI	E20004EBI	350	1	E20101DI	E20101DI	278	1	E20104DIS1	E20104DIS1	278	1
E20004EI	E20004EI	279	1	E20101DIS1	E20101DIS1	278	1	E20104EBI	E20104EBI	350	1
E20004EI50	E20004EI50	280	1	E20101EBI	E20101EBI	350	1	E20104EI	E20104EI	279	1
E20004EIRA	E20004EIRA	279	1	E20101EI	E20101EI	279	1	E20104EI50	E20104EI50	280	1
E20004FI	E20004FI	282	1	E20101EI50	E20101EI50	280	1	E20104EIRA	E20104EIRA	279	1
E20004FI50	E20004FI50	282	1	E20101EIRA	E20101EIRA	279	1	E20104FI	E20104FI	282	1
E20004FRI50	E20004FRI50	283	1	E20101FI	E20101FI	282	1	E20104FI50	E20104FI50	282	1
E20004GI	E20004GI	283	1	E20101FI50	E20101FI50	282	1	E20104FRI50	E20104FRI50	283	1
E20004HI	E20004HI	284	1	E20101FRI50	E20101FRI50	283	1	E20104GI	E20104GI	283	1
E20004IBI	E20004IBI	351	1	E20101GI	E20101GI	283	1	E20104HI	E20104HI	284	1
E20004II	E20004II	280	1	E20101HI	E20101HI	284	1	E20104IBI	E20104IBI	351	1
E20004II50	E20004II50	281	1	E20101IBI	E20101IBI	351	1	E20104II	E20104II	280	1
E20004IIRA	E20004IIRA	281	1	E20101II	E20101II	280	1	E20104II50	E20104II50	281	1
E20004LI	E20004LI	284	1	E20101II50	E20101II50	281	1	E20104IIRA	E20104IIRA	281	1
E20004LPI	E20004LPI	285	1	E20101IIRA	E20101IIRA	281	1	E20104LI	E20104LI	284	1
E20004LSI	E20004LSI	285	1	E20101LI	E20101LI	284	1	E20104LPI	E20104LPI	285	1
E20004SSI	E20004SSI	355	1	E20101LPI	E20101LPI	285	1	E20104LSI	E20104LSI	285	1
E20005AI	E20005AI	275	1	E20101LSI	E20101LSI	285	1	E20104SSI	E20104SSI	355	1
E20005AIS1	E20005AIS1	275	1	E20101S5I	E20101S5I	355	1	E20105AI	E20105AI	275	1
E20005BI	E20005BI	276	1	E20102AI	E20102AI	275	1	E20105AIS1	E20105AIS1	275	1
E20005BI13	E20005BI13	276	1	E20102AIS1	E20102AIS1	275	1	E20105BI	E20105BI	276	1
E20005CI	E20005CI	277	1	E20102BI	E20102BI	276	1	E20105BI13	E20105BI13	276	1
E20005CIS1	E20005CIS1	277	1	E20102BI13	E20102BI13	276	1	E20105CI	E20105CI	277	1
E20005DI	E20005DI	278	1	E20102CI	E20102CI	277	1	E20105CIS1	E20105CIS1	277	1

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Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
E20105DI	E20105DI	278	1	E30002FRM50	E30002FRM50	295	1	E30100AMS1	E30100AMS1	287	1
E20105DIS1	E20105DIS1	278	1	E30002GM	E30002GM	295	1	E30100BM	E30100BM	288	1
E20105EI	E20105EI	279	1	E30002HM	E30002HM	296	1	E30100CM	E30100CM	289	1
E20105EI50	E20105EI50	280	1	E30002IM	E30002IM	292	1	E30100CMS1	E30100CMS1	289	1
E20105EIRA	E20105EIRA	279	1	E30002IM50	E30002IM50	293	1	E30100DM	E30100DM	290	1
E20105FI	E20105FI	282	1	E30002IMRA	E30002IMRA	293	1	E30100DMS1	E30100DMS1	290	1
E20105FI50	E20105FI50	282	1	E30002LM	E30002LM	296	1	E30100EM	E30100EM	291	1
E20105FRI50	E20105FRI50	283	1	E30002LPM	E30002LPM	297	1	E30100EM50	E30100EM50	292	1
E20105GI	E20105GI	283	1	E30002LSM	E30002LSM	297	1	E30100EMRA	E30100EMRA	291	1
E20105HI	E20105HI	284	1	E30003AM	E30003AM	287	1	E30100FM	E30100FM	294	1
E20105II	E20105II	280	1	E30003AMS1	E30003AMS1	287	1	E30100FM50	E30100FM50	294	1
E20105II50	E20105II50	281	1	E30003BM	E30003BM	288	1	E30100FRM50	E30100FRM50	295	1
E20105IIRA	E20105IIRA	281	1	E30003CM	E30003CM	289	1	E30100GM	E30100GM	295	1
E20105LI	E20105LI	284	1	E30003CMS1	E30003CMS1	289	1	E30100HM	E30100HM	296	1
E20105LPI	E20105LPI	285	1	E30003DM	E30003DM	290	1	E30100IM	E30100IM	292	1
E20105LSI	E20105LSI	285	1	E30003DMS1	E30003DMS1	290	1	E30100IM50	E30100IM50	293	1
E20107EIC	E20107EIC	326	1	E30003EM	E30003EM	291	1	E30100IMRA	E30100IMRA	293	1
E20107IIC	E20107IIC	326	1	E30003EM50	E30003EM50	292	1	E30100LM	E30100LM	296	1
E20108TBI	E20108TBI	359	1	E30003EMRA	E30003EMRA	291	1	E30100LPM	E30100LPM	297	1
E30000AM	E30000AM	287	1	E30003FM	E30003FM	294	1	E30100LSM	E30100LSM	297	1
E30000AMS1	E30000AMS1	287	1	E30003FM50	E30003FM50	294	1	E30101AM	E30101AM	287	1
E30000BM	E30000BM	288	1	E30003FRM50	E30003FRM50	295	1	E30101AMS1	E30101AMS1	287	1
E30000CM	E30000CM	289	1	E30003GM	E30003GM	295	1	E30101BM	E30101BM	288	1
E30000CMS1	E30000CMS1	289	1	E30003HM	E30003HM	296	1	E30101CM	E30101CM	289	1
E30000DM	E30000DM	290	1	E30003IM	E30003IM	292	1	E30101CMS1	E30101CMS1	289	1
E30000DMS1	E30000DMS1	290	1	E30003IM50	E30003IM50	293	1	E30101DM	E30101DM	290	1
E30000EM	E30000EM	291	1	E30003IMRA	E30003IMRA	293	1	E30101DMS1	E30101DMS1	290	1
E30000EM50	E30000EM50	292	1	E30003LM	E30003LM	296	1	E30101EM	E30101EM	291	1
E30000EMRA	E30000EMRA	291	1	E30003LPM	E30003LPM	297	1	E30101EM50	E30101EM50	292	1
E30000FM	E30000FM	294	1	E30003LSM	E30003LSM	297	1	E30101EMRA	E30101EMRA	291	1
E30000FM50	E30000FM50	294	1	E30004AM	E30004AM	287	1	E30101FM	E30101FM	294	1
E30000FRM50	E30000FRM50	295	1	E30004AMS1	E30004AMS1	287	1	E30101FM50	E30101FM50	294	1
E30000GM	E30000GM	295	1	E30004BM	E30004BM	288	1	E30101FRM50	E30101FRM50	295	1
E30000HM	E30000HM	296	1	E30004CM	E30004CM	289	1	E30101GM	E30101GM	295	1
E30000IM	E30000IM	292	1	E30004CMS1	E30004CMS1	289	1	E30101HM	E30101HM	296	1
E30000IM50	E30000IM50	293	1	E30004DM	E30004DM	290	1	E30101IM	E30101IM	292	1
E30000IMRA	E30000IMRA	293	1	E30004DMS1	E30004DMS1	290	1	E30101IM50	E30101IM50	293	1
E30000LM	E30000LM	296	1	E30004EM	E30004EM	291	1	E30101IMRA	E30101IMRA	293	1
E30000LPM	E30000LPM	297	1	E30004EM50	E30004EM50	292	1	E30101LM	E30101LM	296	1
E30000LSM	E30000LSM	297	1	E30004EMRA	E30004EMRA	291	1	E30101LPM	E30101LPM	297	1
E30001AM	E30001AM	287	1	E30004FM	E30004FM	294	1	E30101LSM	E30101LSM	297	1
E30001AMS1	E30001AMS1	287	1	E30004FM50	E30004FM50	294	1	E30102AM	E30102AM	287	1
E30001BM	E30001BM	288	1	E30004FRM50	E30004FRM50	295	1	E30102AMS1	E30102AMS1	287	1
E30001CM	E30001CM	289	1	E30004GM	E30004GM	295	1	E30102BM	E30102BM	288	1
E30001CMS1	E30001CMS1	289	1	E30004HM	E30004HM	296	1	E30102CM	E30102CM	289	1
E30001DM	E30001DM	290	1	E30004IM	E30004IM	292	1	E30102CMS1	E30102CMS1	289	1
E30001DMS1	E30001DMS1	290	1	E30004IM50	E30004IM50	293	1	E30102DM	E30102DM	290	1
E30001EM	E30001EM	291	1	E30004IMRA	E30004IMRA	293	1	E30102DMS1	E30102DMS1	290	1
E30001EM50	E30001EM50	292	1	E30004LM	E30004LM	296	1	E30102EM	E30102EM	291	1
E30001EMRA	E30001EMRA	291	1	E30004LPM	E30004LPM	297	1	E30102EM50	E30102EM50	292	1
E30001FM	E30001FM	294	1	E30004LSM	E30004LSM	297	1	E30102EMRA	E30102EMRA	291	1
E30001FM50	E30001FM50	294	1	E30005AM	E30005AM	287	1	E30102FM	E30102FM	294	1
E30001FRM50	E30001FRM50	295	1	E30005AMS1	E30005AMS1	287	1	E30102FM50	E30102FM50	294	1
E30001GM	E30001GM	295	1	E30005BM	E30005BM	288	1	E30102FRM50	E30102FRM50	295	1
E30001HM	E30001HM	296	1	E30005CM	E30005CM	289	1	E30102GM	E30102GM	295	1
E30001IM	E30001IM	292	1	E30005CMS1	E30005CMS1	289	1	E30102HM	E30102HM	296	1
E30001IM50	E30001IM50	293	1	E30005DM	E30005DM	290	1	E30102IM	E30102IM	292	1
E30001IMRA	E30001IMRA	293	1	E30005DMS1	E30005DMS1	290	1	E30102IM50	E30102IM50	293	1
E30001LM	E30001LM	296	1	E30005EM	E30005EM	291	1	E30102IMRA	E30102IMRA	293	1
E30001LPM	E30001LPM	297	1	E30005EM50	E30005EM50	292	1	E30102LM	E30102LM	296	1
E30001LSM	E30001LSM	297	1	E30005EMRA	E30005EMRA	291	1	E30102LPM	E30102LPM	297	1
E30002AM	E30002AM	287	1	E30005FM	E30005FM	294	1	E30102LSM	E30102LSM	297	1
E30002AMS1	E30002AMS1	287	1	E30005FM50	E30005FM50	294	1	E30103AM	E30103AM	287	1
E30002BM	E30002BM	288	1	E30005FRM50	E30005FRM50	295	1	E30103AMS1	E30103AMS1	287	1
E30002CM	E30002CM	289	1	E30005GM	E30005GM	295	1	E30103BM	E30103BM	288	1
E30002CMS1	E30002CMS1	289	1	E30005HM	E30005HM	296	1	E30103CM	E30103CM	289	1
E30002DM	E30002DM	290	1	E30005IM	E30005IM	292	1	E30103CMS1	E30103CMS1	289	1
E30002DMS1	E30002DMS1	290	1	E30005IM50	E30005IM50	293	1	E30103DM	E30103DM	290	1
E30002EM	E30002EM	291	1	E30005IMRA	E30005IMRA	293	1	E30103DMS1	E30103DMS1	290	1
E30002EM50	E30002EM50	292	1	E30005LM	E30005LM	296	1	E30103EM	E30103EM	291	1
E30002EMRA	E30002EMRA	291	1	E30005LPM	E30005LPM	297	1	E30103EM50	E30103EM50	292	1
E30002FM	E30002FM	294	1	E30005LSM	E30005LSM	297	1	E30103EMRA	E30103EMRA	291	1
E30002FM50	E30002FM50	294	1	E30100AM	E30100AM	287	1	E30103FM	E30103FM	294	1

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
E30103FM50	E30103FM50	294	1	E40000FI50	E40000FI50	313	1	E40002DI	E40002DI	304	1
E30103FRM50	E30103FRM50	295	1	E40000FM	E40000FM	312	1	E40002DIS1	E40002DIS1	305	1
E30103GM	E30103GM	295	1	E40000FM50	E40000FM50	313	1	E40002DM	E40002DM	304	1
E30103HM	E30103HM	296	1	E40000FRI50	E40000FRI50	314	1	E40002DMS1	E40002DMS1	305	1
E30103IM	E30103IM	292	1	E40000FRM50	E40000FRM50	314	1	E40002EI	E40002EI	306	1
E30103IM50	E30103IM50	293	1	E40000GI	E40000GI	315	1	E40002EI50	E40002EI50	308	1
E30103IMRA	E30103IMRA	293	1	E40000GM	E40000GM	315	1	E40002EIRA	E40002EIRA	307	1
E30103LM	E30103LM	296	1	E40000HI	E40000HI	316	1	E40002EM	E40002EM	306	1
E30103LPM	E30103LPM	297	1	E40000HM	E40000HM	316	1	E40002EM50	E40002EM50	308	1
E30103LSM	E30103LSM	297	1	E40000II	E40000II	309	1	E40002EMRA	E40002EMRA	307	1
E30104AM	E30104AM	287	1	E40000II50	E40000II50	311	1	E40002FI	E40002FI	312	1
E30104AMS1	E30104AMS1	287	1	E40000IIRA	E40000IIRA	310	1	E40002FI50	E40002FI50	313	1
E30104BM	E30104BM	288	1	E40000IIM	E40000IIM	309	1	E40002FM	E40002FM	312	1
E30104CM	E30104CM	289	1	E40000IIM50	E40000IIM50	311	1	E40002FM50	E40002FM50	313	1
E30104CMS1	E30104CMS1	289	1	E40000IMRA	E40000IMRA	310	1	E40002FRI50	E40002FRI50	314	1
E30104DM	E30104DM	290	1	E40000LI	E40000LI	317	1	E40002FRM50	E40002FRM50	314	1
E30104DMS1	E30104DMS1	290	1	E40000LM	E40000LM	317	1	E40002GI	E40002GI	315	1
E30104EM	E30104EM	291	1	E40000LPI	E40000LPI	318	1	E40002GM	E40002GM	315	1
E30104EM50	E30104EM50	292	1	E40000LPM	E40000LPM	318	1	E40002HI	E40002HI	316	1
E30104EMRA	E30104EMRA	291	1	E40000LSI	E40000LSI	319	1	E40002HM	E40002HM	316	1
E30104FM	E30104FM	294	1	E40000LSM	E40000LSM	319	1	E40002II	E40002II	309	1
E30104FM50	E30104FM50	294	1	E40001AI	E40001AI	299	1	E40002II50	E40002II50	311	1
E30104FRM50	E30104FRM50	295	1	E40001AIS1	E40001AIS1	300	1	E40002IIRA	E40002IIRA	310	1
E30104GM	E30104GM	295	1	E40001IAM	E40001IAM	299	1	E40002IIM	E40002IIM	309	1
E30104HM	E30104HM	296	1	E40001AMS1	E40001AMS1	300	1	E40002IM50	E40002IM50	311	1
E30104IM	E30104IM	292	1	E40001BI	E40001BI	301	1	E40002IMRA	E40002IMRA	310	1
E30104IM50	E30104IM50	293	1	E40001BM	E40001BM	301	1	E40002LI	E40002LI	317	1
E30104IMRA	E30104IMRA	293	1	E40001CI	E40001CI	302	1	E40002LM	E40002LM	317	1
E30104LM	E30104LM	296	1	E40001CIS1	E40001CIS1	303	1	E40002LPI	E40002LPI	318	1
E30104LPM	E30104LPM	297	1	E40001CM	E40001CM	302	1	E40002LPM	E40002LPM	318	1
E30104LSM	E30104LSM	297	1	E40001CMS1	E40001CMS1	303	1	E40002LSI	E40002LSI	319	1
E30105AM	E30105AM	287	1	E40001DI	E40001DI	304	1	E40002LSM	E40002LSM	319	1
E30105AMS1	E30105AMS1	287	1	E40001DIS1	E40001DIS1	305	1	E40003AI	E40003AI	299	1
E30105BM	E30105BM	288	1	E40001DM	E40001DM	304	1	E40003AIS1	E40003AIS1	300	1
E30105CM	E30105CM	289	1	E40001DMS1	E40001DMS1	305	1	E40003AM	E40003AM	299	1
E30105CMS1	E30105CMS1	289	1	E40001EI	E40001EI	306	1	E40003AMS1	E40003AMS1	300	1
E30105DM	E30105DM	290	1	E40001EI50	E40001EI50	308	1	E40003BI	E40003BI	301	1
E30105DMS1	E30105DMS1	290	1	E40001EIRA	E40001EIRA	307	1	E40003BM	E40003BM	301	1
E30105EM	E30105EM	291	1	E40001EM	E40001EM	306	1	E40003CI	E40003CI	302	1
E30105EM50	E30105EM50	292	1	E40001EM50	E40001EM50	308	1	E40003CIS1	E40003CIS1	303	1
E30105EMRA	E30105EMRA	291	1	E40001EMRA	E40001EMRA	307	1	E40003CM	E40003CM	302	1
E30105FM	E30105FM	294	1	E40001FI	E40001FI	312	1	E40003CMS1	E40003CMS1	303	1
E30105FM50	E30105FM50	294	1	E40001FI50	E40001FI50	313	1	E40003DI	E40003DI	304	1
E30105FRM50	E30105FRM50	295	1	E40001FM	E40001FM	312	1	E40003DIS1	E40003DIS1	305	1
E30105GM	E30105GM	295	1	E40001FM50	E40001FM50	313	1	E40003DM	E40003DM	304	1
E30105HM	E30105HM	296	1	E40001FRI50	E40001FRI50	314	1	E40003DMS1	E40003DMS1	305	1
E30105IM	E30105IM	292	1	E40001FRM50	E40001FRM50	314	1	E40003EI	E40003EI	306	1
E30105IM50	E30105IM50	293	1	E40001GI	E40001GI	315	1	E40003EI50	E40003EI50	308	1
E30105IMRA	E30105IMRA	293	1	E40001GM	E40001GM	315	1	E40003EIRA	E40003EIRA	307	1
E30105LM	E30105LM	296	1	E40001HI	E40001HI	316	1	E40003EM	E40003EM	306	1
E30105LPM	E30105LPM	297	1	E40001HM	E40001HM	316	1	E40003EM50	E40003EM50	308	1
E30105LSM	E30105LSM	297	1	E40001II	E40001II	309	1	E40003EMRA	E40003EMRA	307	1
E40000AI	E40000AI	299	1	E40001II50	E40001II50	311	1	E40003FI	E40003FI	312	1
E40000AIS1	E40000AIS1	300	1	E40001IIRA	E40001IIRA	310	1	E40003FI50	E40003FI50	313	1
E40000AM	E40000AM	299	1	E40001IIM	E40001IIM	309	1	E40003FM	E40003FM	312	1
E40000AMS1	E40000AMS1	300	1	E40001IM50	E40001IM50	311	1	E40003FM50	E40003FM50	313	1
E40000BI	E40000BI	301	1	E40001IMRA	E40001IMRA	310	1	E40003FRI50	E40003FRI50	314	1
E40000BM	E40000BM	301	1	E40001LI	E40001LI	317	1	E40003FRM50	E40003FRM50	314	1
E40000CI	E40000CI	302	1	E40001LM	E40001LM	317	1	E40003GI	E40003GI	315	1
E40000CIS1	E40000CIS1	303	1	E40001LPI	E40001LPI	318	1	E40003GM	E40003GM	315	1
E40000CM	E40000CM	302	1	E40001LPM	E40001LPM	318	1	E40003HI	E40003HI	316	1
E40000CMS1	E40000CMS1	303	1	E40001LSI	E40001LSI	319	1	E40003HM	E40003HM	316	1
E40000DI	E40000DI	304	1	E40001LSM	E40001LSM	319	1	E40003II	E40003II	309	1
E40000DIS1	E40000DIS1	305	1	E40002AI	E40002AI	299	1	E40003II50	E40003II50	311	1
E40000DM	E40000DM	304	1	E40002AIS1	E40002AIS1	300	1	E40003IIRA	E40003IIRA	310	1
E40000DMS1	E40000DMS1	305	1	E40002AM	E40002AM	299	1	E40003IM	E40003IM	309	1
E40000EI	E40000EI	306	1	E40002AMS1	E40002AMS1	300	1	E40003IM50	E40003IM50	311	1
E40000EI50	E40000EI50	308	1	E40002BI	E40002BI	301	1	E40003IMRA	E40003IMRA	310	1
E40000EIRA	E40000EIRA	307	1	E40002BM	E40002BM	301	1	E40003LI	E40003LI	317	1
E40000EM	E40000EM	306	1	E40002CI	E40002CI	302	1	E40003LM	E40003LM	317	1
E40000EM50	E40000EM50	308	1	E40002CIS1	E40002CIS1	303	1	E40003LPI	E40003LPI	318	1
E40000EMRA	E40000EMRA	307	1	E40002CM	E40002CM	302	1	E40003LPM	E40003LPM	318	1
E40000FI	E40000FI	312	1	E40002CMS1	E40002CMS1	303	1	E40003LSI	E40003LSI	319	1

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Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
E40003LSM	E40003LSM	319	1	E40005II	E40005II	309	1	E40101EM	E40101EM	306	1
E40004AI	E40004AI	299	1	E40005II50	E40005II50	311	1	E40101EM50	E40101EM50	308	1
E40004AIS1	E40004AIS1	300	1	E40005IIRA	E40005IIRA	310	1	E40101EMRA	E40101EMRA	307	1
E40004AM	E40004AM	299	1	E40005IJM	E40005IJM	309	1	E40101FI	E40101FI	312	1
E40004AMS1	E40004AMS1	300	1	E40005IM50	E40005IM50	311	1	E40101FI50	E40101FI50	313	1
E40004BI	E40004BI	301	1	E40005IMRA	E40005IMRA	310	1	E40101FM	E40101FM	312	1
E40004BM	E40004BM	301	1	E40005LI	E40005LI	317	1	E40101FM50	E40101FM50	313	1
E40004CI	E40004CI	302	1	E40005LM	E40005LM	317	1	E40101FRI50	E40101FRI50	314	1
E40004CIS1	E40004CIS1	303	1	E40005LPI	E40005LPI	318	1	E40101FRM50	E40101FRM50	314	1
E40004CM	E40004CM	302	1	E40005LPM	E40005LPM	318	1	E40101GI	E40101GI	315	1
E40004CMS1	E40004CMS1	303	1	E40005LSI	E40005LSI	319	1	E40101GM	E40101GM	315	1
E40004DI	E40004DI	304	1	E40005LSM	E40005LSM	319	1	E40101HI	E40101HI	316	1
E40004DIS1	E40004DIS1	305	1	E40008TBI	E40008TBI	359	1	E40101HM	E40101HM	316	1
E40004DM	E40004DM	304	1	E40008TBM	E40008TBM	359	1	E40101II	E40101II	309	1
E40004DMS1	E40004DMS1	305	1	E40100AI	E40100AI	299	1	E40101II50	E40101II50	311	1
E40004EI	E40004EI	306	1	E40100AIS1	E40100AIS1	300	1	E40101IIRA	E40101IIRA	310	1
E40004EI50	E40004EI50	308	1	E40100AM	E40100AM	299	1	E40101IM	E40101IM	309	1
E40004EIRA	E40004EIRA	307	1	E40100AMS1	E40100AMS1	300	1	E40101IM50	E40101IM50	311	1
E40004EM	E40004EM	306	1	E40100BI	E40100BI	301	1	E40101IMRA	E40101IMRA	310	1
E40004EM50	E40004EM50	308	1	E40100BM	E40100BM	301	1	E40101LI	E40101LI	317	1
E40004EMRA	E40004EMRA	307	1	E40100CI	E40100CI	302	1	E40101LM	E40101LM	317	1
E40004FI	E40004FI	312	1	E40100CIS1	E40100CIS1	303	1	E40101LPI	E40101LPI	318	1
E40004FI50	E40004FI50	313	1	E40100CCM	E40100CCM	302	1	E40101LPM	E40101LPM	318	1
E40004FM	E40004FM	312	1	E40100CMS1	E40100CMS1	303	1	E40101LSI	E40101LSI	319	1
E40004FM50	E40004FM50	313	1	E40100DI	E40100DI	304	1	E40101LSM	E40101LSM	319	1
E40004FRI50	E40004FRI50	314	1	E40100DIS1	E40100DIS1	305	1	E40102AI	E40102AI	299	1
E40004FRM50	E40004FRM50	314	1	E40100DM	E40100DM	304	1	E40102AIS1	E40102AIS1	300	1
E40004GI	E40004GI	315	1	E40100DMS1	E40100DMS1	305	1	E40102AM	E40102AM	299	1
E40004GM	E40004GM	315	1	E40100EI	E40100EI	306	1	E40102AMS1	E40102AMS1	300	1
E40004HI	E40004HI	316	1	E40100EI50	E40100EI50	308	1	E40102BI	E40102BI	301	1
E40004HM	E40004HM	316	1	E40100EIRA	E40100EIRA	307	1	E40102BM	E40102BM	301	1
E40004II	E40004II	309	1	E40100EM	E40100EM	306	1	E40102CI	E40102CI	302	1
E40004II50	E40004II50	311	1	E40100EM50	E40100EM50	308	1	E40102CIS1	E40102CIS1	303	1
E40004IIRA	E40004IIRA	310	1	E40100EMRA	E40100EMRA	307	1	E40102CM	E40102CM	302	1
E40004IM	E40004IM	309	1	E40100FI	E40100FI	312	1	E40102CMS1	E40102CMS1	303	1
E40004IM50	E40004IM50	311	1	E40100FI50	E40100FI50	313	1	E40102DI	E40102DI	304	1
E40004IMRA	E40004IMRA	310	1	E40100FM	E40100FM	312	1	E40102DIS1	E40102DIS1	305	1
E40004LI	E40004LI	317	1	E40100FM50	E40100FM50	313	1	E40102DM	E40102DM	304	1
E40004LM	E40004LM	317	1	E40100FRI50	E40100FRI50	314	1	E40102DMS1	E40102DMS1	305	1
E40004LPI	E40004LPI	318	1	E40100FRM50	E40100FRM50	314	1	E40102EI	E40102EI	306	1
E40004LPM	E40004LPM	318	1	E40100GI	E40100GI	315	1	E40102EI50	E40102EI50	308	1
E40004LSI	E40004LSI	319	1	E40100GM	E40100GM	315	1	E40102EIRA	E40102EIRA	307	1
E40004LSM	E40004LSM	319	1	E40100HI	E40100HI	316	1	E40102EM	E40102EM	306	1
E40005AI	E40005AI	299	1	E40100HM	E40100HM	316	1	E40102EM50	E40102EM50	308	1
E40005AIS1	E40005AIS1	300	1	E40100II	E40100II	309	1	E40102EMRA	E40102EMRA	307	1
E40005AM	E40005AM	299	1	E40100II50	E40100II50	311	1	E40102FI	E40102FI	312	1
E40005AMS1	E40005AMS1	300	1	E40100IIRA	E40100IIRA	310	1	E40102FI50	E40102FI50	313	1
E40005BI	E40005BI	301	1	E40100IIM	E40100IIM	309	1	E40102FM	E40102FM	312	1
E40005BM	E40005BM	301	1	E40100IM50	E40100IM50	311	1	E40102FM50	E40102FM50	313	1
E40005CI	E40005CI	302	1	E40100IMRA	E40100IMRA	310	1	E40102FRI50	E40102FRI50	314	1
E40005CIS1	E40005CIS1	303	1	E40100LI	E40100LI	317	1	E40102FRM50	E40102FRM50	314	1
E40005CM	E40005CM	302	1	E40100LM	E40100LM	317	1	E40102GI	E40102GI	315	1
E40005CMS1	E40005CMS1	303	1	E40100LPI	E40100LPI	318	1	E40102GM	E40102GM	315	1
E40005DI	E40005DI	304	1	E40100LPM	E40100LPM	318	1	E40102HI	E40102HI	316	1
E40005DIS1	E40005DIS1	305	1	E40100LSI	E40100LSI	319	1	E40102HM	E40102HM	316	1
E40005DM	E40005DM	304	1	E40100LSM	E40100LSM	319	1	E40102II	E40102II	309	1
E40005DMS1	E40005DMS1	305	1	E40101AI	E40101AI	299	1	E40102II50	E40102II50	311	1
E40005EI	E40005EI	306	1	E40101AIS1	E40101AIS1	300	1	E40102IIRA	E40102IIRA	310	1
E40005EI50	E40005EI50	308	1	E40101AM	E40101AM	299	1	E40102IM	E40102IM	309	1
E40005EIRA	E40005EIRA	307	1	E40101AMS1	E40101AMS1	300	1	E40102IM50	E40102IM50	311	1
E40005EM	E40005EM	306	1	E40101BI	E40101BI	301	1	E40102IMRA	E40102IMRA	310	1
E40005EM50	E40005EM50	308	1	E40101BM	E40101BM	301	1	E40102LI	E40102LI	317	1
E40005EMRA	E40005EMRA	307	1	E40101CI	E40101CI	302	1	E40102LM	E40102LM	317	1
E40005FI	E40005FI	312	1	E40101CIS1	E40101CIS1	303	1	E40102LPI	E40102LPI	318	1
E40005FI50	E40005FI50	313	1	E40101CM	E40101CM	302	1	E40102LPM	E40102LPM	318	1
E40005FM	E40005FM	312	1	E40101CMS1	E40101CMS1	303	1	E40102LSI	E40102LSI	319	1
E40005FM50	E40005FM50	313	1	E40101DI	E40101DI	304	1	E40102LSM	E40102LSM	319	1
E40005FRI50	E40005FRI50	314	1	E40101DIS1	E40101DIS1	305	1	E40103AI	E40103AI	299	1
E40005FRM50	E40005FRM50	314	1	E40101DM	E40101DM	304	1	E40103AIS1	E40103AIS1	300	1
E40005GI	E40005GI	315	1	E40101DMS1	E40101DMS1	305	1	E40103AM	E40103AM	299	1
E40005GM	E40005GM	315	1	E40101EI	E40101EI	306	1	E40103AMS1	E40103AMS1	300	1
E40005HI	E40005HI	316	1	E40101EI50	E40101EI50	308	1	E40103BI	E40103BI	301	1
E40005HM	E40005HM	316	1	E40101EIRA	E40101EIRA	307	1	E40103BM	E40103BM	301	1

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
E40103CI	E40103CI	302	1	E40104LM	E40104LM	317	1	E7001BLI	E7001BLI	375	1
E40103CIS1	E40103CIS1	303	1	E40104LPI	E40104LPI	318	1	E7001BLI90	E7001BLI90	375	1
E40103CM	E40103CM	302	1	E40104LPM	E40104LPM	318	1	E7001BLM	E7001BLM	375	1
E40103CMS1	E40103CMS1	303	1	E40104LSI	E40104LSI	319	1	E7001BLM90	E7001BLM90	375	1
E40103DI	E40103DI	304	1	E40104LSM	E40104LSM	319	1	E7001BM	E7001BM	374	1
E40103DIS1	E40103DIS1	305	1	E40105AI	E40105AI	299	1	E7001BM90	E7001BM90	374	1
E40103DM	E40103DM	304	1	E40105AIS1	E40105AIS1	300	1	E7001EI	E7001EI	376	1
E40103DMS1	E40103DMS1	305	1	E40105AM	E40105AM	299	1	E7001EM	E7001EM	376	1
E40103EI	E40103EI	306	1	E40105AMS1	E40105AMS1	300	1	EC25CNER	EC25CNER	465	100/500
E40103EI50	E40103EI50	308	1	E40105BI	E40105BI	301	1	EC32CNER	EC32CNER	464	100/500
E40103EIRA	E40103EIRA	307	1	E40105BM	E40105BM	301	1	EC35CNER	EC35CNER	463	100/500
E40103EM	E40103EM	306	1	E40105CI	E40105CI	302	1	EC50CNER	EC50CNER	462	100/500
E40103EM50	E40103EM50	308	1	E40105CIS1	E40105CIS1	303	1	ELEM00	ELEM00	327	1
E40103EMRA	E40103EMRA	307	1	E40105CM	E40105CM	302	1	ELEM00	ELEM00	426	5
E40103FI	E40103FI	312	1	E40105CMS1	E40105CMS1	303	1	ELEM01	ELEM01	327	1
E40103FI50	E40103FI50	313	1	E40105DI	E40105DI	304	1	ELEM01	ELEM01	362	1
E40103FM	E40103FM	312	1	E40105DIS1	E40105DIS1	305	1	ELEM01	ELEM01	426	5
E40103FM50	E40103FM50	313	1	E40105DM	E40105DM	304	1	ELEM01A	ELEM01A	327	1
E40103FRI50	E40103FRI50	314	1	E40105DMS1	E40105DMS1	305	1	ELEM02	ELEM02	327	1
E40103FRM50	E40103FRM50	314	1	E40105EI	E40105EI	306	1	ELEM03	ELEM03	327	1
E40103GI	E40103GI	315	1	E40105EI50	E40105EI50	308	1	ELEM03S	ELEM03S	327	1
E40103GM	E40103GM	315	1	E40105EIRA	E40105EIRA	307	1	ELEM04	ELEM04	327	1
E40103HI	E40103HI	316	1	E40105EM	E40105EM	306	1	ELEM04	ELEM04	362	1
E40103HM	E40103HM	316	1	E40105EM50	E40105EM50	308	1	ELEM04S	ELEM04S	327	1
E40103II	E40103II	309	1	E40105EMRA	E40105EMRA	307	1	ELEM05	ELEM05	327	1
E40103II50	E40103II50	311	1	E40105FI	E40105FI	312	1	ELEM07	ELEM07	327	1
E40103IIRA	E40103IIRA	310	1	E40105FI50	E40105FI50	313	1	ELEM08	ELEM08	362	1
E40103IM	E40103IM	309	1	E40105FM	E40105FM	312	1	ELEM10	ELEM10	327	1
E40103IM50	E40103IM50	311	1	E40105FM50	E40105FM50	313	1	ELEM80	ELEM80	327	1
E40103IMRA	E40103IMRA	310	1	E40105FRI50	E40105FRI50	314	1	ELEM81	ELEM81	327	1
E40103LI	E40103LI	317	1	E40105FRM50	E40105FRM50	314	1	ES11CNER	ES11CNER	433	10/220
E40103LM	E40103LM	317	1	E40105GI	E40105GI	315	1	ES11XCNER	ES11XCNER	434	10/220
E40103LPI	E40103LPI	318	1	E40105GM	E40105GM	315	1	ES12CNER	ES12CNER	436	10/220
E40103LPM	E40103LPM	318	1	E40105HI	E40105HI	316	1	ES152BCNER	ES152BCNER	440	10/240
E40103LSI	E40103LSI	319	1	E40105HM	E40105HM	316	1	ES152GCNER	ES152GCNER	448	10/150
E40103LSM	E40103LSM	319	1	E40105II	E40105II	309	1	ES152NCNER	ES152NCNER	442	10/220
E40104AI	E40104AI	299	1	E40105II50	E40105II50	311	1	ES152SCNER	ES152SCNER	445	10/220
E40104AIS1	E40104AIS1	300	1	E40105IIRA	E40105IIRA	310	1	ES153NCNER	ES153NCNER	443	10/220
E40104AM	E40104AM	299	1	E40105IM	E40105IM	309	1	ES153SCNER	ES153SCNER	446	10/220
E40104AMS1	E40104AMS1	300	1	E40105IM50	E40105IM50	311	1	ES154BCNER	ES154BCNER	441	10/240
E40104BI	E40104BI	301	1	E40105IMRA	E40105IMRA	310	1	ES154GCNER	ES154GCNER	449	10/150
E40104BM	E40104BM	301	1	E40105LI	E40105LI	317	1	ES154NCNER	ES154NCNER	444	10/220
E40104CI	E40104CI	302	1	E40105LM	E40105LM	317	1	ES154SCNER	ES154SCNER	447	10/220
E40104CIS1	E40104CIS1	303	1	E40105LPI	E40105LPI	318	1	ES25CNER	ES25CNER	454	10/240
E40104CM	E40104CM	302	1	E40105LPM	E40105LPM	318	1	ES32CNER	ES32CNER	455	10/240
E40104CMS1	E40104CMS1	303	1	E40105LSI	E40105LSI	319	1	ES353SCNER	ES353SCNER	457	10/240
E40104DI	E40104DI	304	1	E40105LSM	E40105LSM	319	1	ES35CNER	ES35CNER	456	10/240
E40104DIS1	E40104DIS1	305	1	E40108TBI	E40108TBI	359	1	ES503CNER	ES503CNER	459	10/240
E40104DM	E40104DM	304	1	E40108TBM	E40108TBM	359	1	ES503GCNER	ES503GCNER	461	10/240
E40104DMS1	E40104DMS1	305	1	E6000AM	E6000AM	377	1	ES503SCNER	ES503SCNER	460	10/240
E40104EI	E40104EI	306	1	E6000BM	E6000BM	378	1	ES50CNER	ES50CNER	458	10/240
E40104EI50	E40104EI50	308	1	E6000BM90	E6000BM90	379	1	ES62AGCNER	ES62AGCNER	474	10/270
E40104EIRA	E40104EIRA	307	1	E6000EM	E6000EM	380	1	ES62ASCNER	ES62ASCNER	470	10/270
E40104EM	E40104EM	306	1	E6001AM	E6001AM	377	1	ES62BGCNER	ES62BGCNER	475	10/270
E40104EM50	E40104EM50	308	1	E6001BM	E6001BM	378	1	ES62BSCNER	ES62BSCNER	471	10/270
E40104EMRA	E40104EMRA	307	1	E6001BM90	E6001BM90	379	1	ES62CGCNER	ES62CGCNER	476	10/270
E40104FI	E40104FI	312	1	E6001EM	E6001EM	380	1	ES62CSCNER	ES62CSCNER	472	10/270
E40104FI50	E40104FI50	313	1	E7000AI	E7000AI	373	1	ES62DGCNER	ES62DGCNER	477	10/270
E40104FM	E40104FM	312	1	E7000AM	E7000AM	373	1	ES62DSCNER	ES62DSCNER	473	10/270
E40104FM50	E40104FM50	313	1	E7000BI	E7000BI	374	1	ES8CNER	ES8CNER	432	10/220
E40104FRI50	E40104FRI50	314	1	E7000BI90	E7000BI90	374	1	ES9CNER	ES9CNER	435	10/220
E40104FRM50	E40104FRM50	314	1	E7000BLI	E7000BLI	375	1	F05	F05	362	1
E40104GI	E40104GI	315	1	E7000BLI90	E7000BLI90	375	1	FIN3L3Q7	FIN3L3Q7	91	5
E40104GM	E40104GM	315	1	E7000BLM	E7000BLM	375	1	FINPL3Q7	FINPL3Q7	91	5
E40104HI	E40104HI	316	1	E7000BLM90	E7000BLM90	375	1	FINPL4Q10	FINPL4Q10	91	5
E40104HM	E40104HM	316	1	E7000BM	E7000BM	374	1	FM	FM	402	5
E40104II	E40104II	309	1	E7000BM90	E7000BM90	374	1	FMV1R100	FMV1R100	400	1
E40104II50	E40104II50	311	1	E7000EI	E7000EI	376	1	FMV2R12100	FMV2R12100	400	1
E40104IIRA	E40104IIRA	310	1	E7000EM	E7000EM	376	1	FMV2R12130	FMV2R12130	396	1
E40104IM	E40104IM	309	1	E7001AI	E7001AI	373	1	FMV2R16100	FMV2R16100	401	1
E40104IM50	E40104IM50	311	1	E7001AM	E7001AM	373	1	FMV2R16130	FMV2R16130	398	1
E40104IMRA	E40104IMRA	310	1	E7001BI	E7001BI	374	1	FMV3R12100	FMV3R12100	400	1
E40104LI	E40104LI	317	1	E7001BI90	E7001BI90	374	1	FMV3R12130	FMV3R12130	396	1

Product list in alphabetical order by type

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
FMV3R12230	FMV3R12230	397	1	M12DS01	VC758100	184	1	PALBL095	PALBL095	105	5
FMV3R16100	FMV3R16100	401	1	M12DS01	VC758100	216	1	PALBL095	PALBL095	159	5
FMV3R16130	FMV3R16130	398	1	M12DS03	VC764900	191	1	PALBL095	PALBL095	173	5
FMV3R16230	FMV3R16230	399	1	M12R01	VC768000	184	1	PALBL095	PALBL095	205	5
FMV4R12100	FMV4R12100	400	1	M12R01	VC768000	216	1	PALBL115	PALBL115	65	5
FMV4R12130	FMV4R12130	396	1	M12RDS01	VC770600	184	1	PALBL115	PALBL115	80	5
FMV4R12230	FMV4R12230	397	1	M12RDS01	VC770600	216	1	PALBL115	PALBL115	105	5
FMV4R16100	FMV4R16100	401	1	M1301	VC771400	184	1	PALBL115	PALBL115	159	5
FMV4R16230	FMV4R16230	399	1	M1301	VC771400	216	1	PALBL115	PALBL115	173	5
G12	VC792000	184	1	M1303	VC777100	191	1	PALBL115	PALBL115	205	5
G12	VC792000	191	1	M13C01	VC772200	184	1	PALBL135	PALBL135	65	5
G12	VC792000	217	1	M13C01	VC772200	216	1	PALBL135	PALBL135	80	5
G2121	G2121	404	1	M13C03	VC778900	191	1	PALBL135	PALBL135	105	5
G2122	G2122	404	1	M13DS01	VC773000	184	1	PALBL135	PALBL135	159	5
G2161	G2161	404	1	M13DS01	VC773000	216	1	PALBL135	PALBL135	173	5
G2162	G2162	404	1	M13DS03	VC779700	191	1	PALBL135	PALBL135	205	5
G3121	G3121	404	1	M13R01	VC783900	184	1	PALBL155	PALBL155	65	5
G3122	G3122	404	1	M13R01	VC783900	216	1	PALBL155	PALBL155	80	5
G3161	G3161	404	1	M13RDS01	VC785400	184	1	PALBL155	PALBL155	105	5
G3162	G3162	404	1	M13RDS01	VC785400	216	1	PALBL155	PALBL155	159	5
G8	VC748200	184	1	M304NONC	M304NONC	388	5	PALBL155	PALBL155	173	5
G8	VC748200	191	1	M305NONC	M305NONC	388	5	PALBL155	PALBL155	205	5
G8	VC748200	217	1	M306NONC	M306NONC	389	5	PALBL175	PALBL175	65	5
I03	VC721900	215	1	M308NONC	M308NONC	390	5	PALBL175	PALBL175	80	5
I04	VC722700	215	1	M309NONC	M309NONC	390	5	PALBL175	PALBL175	105	5
I09	VD719200	190	1	M311NONC	M311NONC	391	5	PALBL175	PALBL175	159	5
I09NL	VD721800	190	1	M313NONC	M313NONC	391	5	PALBL175	PALBL175	173	5
I123	VC805000	183	1	M314NONC	M314NONC	392	5	PALBL175	PALBL175	205	5
I123	VC805000	215	1	M3PROTA	M3PROTA	392	5	PALBL180Q10	PALBL180Q10	91	10
I203	VC807600	183	1	M601	VC730000	216	1	PALBL185	PALBL185	91	10
I203	VC807600	215	1	M601DS	VC732600	216	1	PALBL300	PALBL300	65	5
I31	VD692100	183	1	M601R	VC739100	216	1	PALBL300	PALBL300	80	5
I31	VD692100	215	1	M601RDS	VC741700	216	1	PALBL300	PALBL300	105	5
I32	VD696200	183	1	M801	VC733400	184	1	PALBL300	PALBL300	159	5
I32	VD696200	215	1	M801	VC733400	216	1	PALBL300	PALBL300	173	5
I41	VD693900	183	1	M801DS	VC735900	184	1	PALBL300	PALBL300	205	5
I41	VD693900	215	1	M801DS	VC735900	216	1	PALBL500	PALBL500	65	5
I42	VD697000	183	1	M801R	VC742500	184	1	PALBL500	PALBL500	80	5
I42	VD697000	215	1	M801R	VC742500	216	1	PALBL500	PALBL500	105	5
I99	VD723400	190	1	M801RDS	VC744100	184	1	PALBL500	PALBL500	159	5
I99NL	VD725900	190	1	M801RDS	VC744100	216	1	PALBL500	PALBL500	173	5
IPFB240	IPFB240	420	5	M9G034N5	M9G034N5	91	5	PALBL500	PALBL500	205	5
K4	VC844900	190	1	MH16	MH16	462..465	100/1000	PCA00M20	PCA00M20	426	1
K5	VC845600	190	1	MH25	MH25	462..465	100/1000	PCA00PIM20	PCA00PIM20	426	1
KIT00	KIT00	426	5	MH30	MH30	440..449	10/1000	PCIO0M20	PCIO0M20	425	1
LAA65301	LAA65301	408	10	MH35	MH35	440..449	10/1000	PCIO0PIM20	PCIO0PIM20	425	1
LAA65311	LAA65311	408	10	MH55	MH55	432..436	10/200	PFB240V	PFB240V	420	5
LAA65331	LAA65331	408	10	MH60	MH60	432..436	10/200	PL64	PL64	470..477	2/96
LAA88311	LAA88311	408	10	MP12	MP12	462..465	100/2000	PROT2271003	PROT2271003	91	2
LEA202R	LEA202R	409	10	MP16	MP16	462..465	100/2000	PROTG4198	PROTG4198	415	10
LFA203R	LFA203R	411	10	MP25	MP25	462..465	100/1500	PROTLE6747	PROTLE6747	80	5
LFA203RPT	LFA203RPT	411	5	MS16	MS16	454..461	10/200	PROTLE6748	PROTLE6748	80	5
LLA422A1	LLA422A1	409	10	MS16C	MS16C	454..461	10/200	PROTLEG3229001	PROTLEG3229001	91	2
LLA422N1	LLA422N1	409	10	MS25	MS25	454..461	10/200	PROTLEG3229002	PROTLEG3229002	91	2
LLA422N3	LLA422N3	409	10	MS30B	MS30B	440..449	10/100	PROTLEG3942	PROTLEG3942	91	2
LLA423N0	LLA423N0	410	10	MS30C	MS30C	440..449	10/100	PSA00M20	PSA00M20	426	1
LLA424N0	LLA424N0	410	10	MS35B	MS35B	440..449	10/100	PSIO0M20	PSIO0M20	425	1
LLA424NOA	LLA424NOA	410	10	MS35C	MS35C	440..449	10/100	R05	R05	362	1
LLA432N1	LLA432N1	412	10	O05	O05	362	1	S03	VC719300	215	1
LLA432N2	LLA432N2	412	10	PALBL055	PALBL055	159	5	S04	VC720100	215	1
LLA432N3	LLA432N3	413	10	PALBL055	PALBL055	173	5	S09	VD718400	190	1
LLA438A3	LLA438A3	413	10	PALBL055	PALBL055	205	5	S09NL	VD720000	190	1
LLA438N1	LLA438N1	413	10	PALBL065	PALBL065	65	5	S123	VC804300	183	1
LLA438N3	LLA438N3	413	10	PALBL065	PALBL065	80	5	S123	VC804300	215	1
LLA439A0	LLA439A0	414	10	PALBL065	PALBL065	105	5	S203	VC806800	183	1
LNA452N2	LNA452N2	414	10	PALBL075	PALBL075	65	5	S203	VC806800	215	1
M05	M05	362	1	PALBL075	PALBL075	80	5	S31	VC723500	215	1
M1201	VC756500	184	1	PALBL075	PALBL075	105	5	S31	S31	229	1
M1201	VC756500	216	1	PALBL075	PALBL075	159	5	S31C	VC723500	183	1
M1203	VC762300	191	1	PALBL075	PALBL075	173	5	S32	VD694700	183	1
M12C01	VC757300	184	1	PALBL075	PALBL075	205	5	S32	VD694700	215	1
M12C01	VC757300	216	1	PALBL095	PALBL095	65	5	S33	VC815900	214	1
M12C03	VC763100	191	1	PALBL095	PALBL095	80	5	S333	VC816700	214	1

Type	Part number	Page	Pack	Type	Part number	Page	Pack	Type	Part number	Page	Pack
S40	S40	229	1	T8	VC728400	191	1	TSD04003M1205	VD559200	190	1
S41	VC724300	183	1	T8	VC728400	215	1	TSD04004M1205	VD560000	190	1
S41	VC724300	215	1	T8/1	VD700200	183	1	TSD06303M1205	VD563400	190	1
S42	VD695400	183	1	T8/1	VD700200	191	1	TSD06304M1205	VD564200	190	1
S42	VD695400	215	1	T8/1	VD700200	215	1	TSD08003M1305	VD567500	190	1
S55	VC822500	183	1	TF0633M6010C	VC307700	214	1	TSD08004M1305	VD568300	190	1
S55	VC822500	216	1	TF0633SM6010C	VC315000	214	1	TSD10003M1305	VD571700	190	1
S555	VC824100	183	1	TF0634M6010C	VC308500	214	1	TSD10004M1305	VD572500	190	1
S555	VC824100	216	1	TF0634SM6010C	VC316800	214	1	TSD12503M1305	VD575800	190	1
S90	S90	229	1	TF0803M80102	VC309300	214	1	TSD12504M1305	VD576600	190	1
S99	VD722600	190	1	TF0803SM80102	VC317600	214	1	TSD16003M1305	VC858600	190	1
S99NL	VD724200	190	1	TF0804M80102	VC310100	214	1	TSD16004M1305	VC859400	190	1
SB0203B110AK6	SB0203B110AK6	225	1	TF0804SM80102	VC318400	214	1	TYPE21	TYPE21	437	10/100
SB0203B110AL6	SB0203B110AL6	225	1	TF1003M80102	VC311900	214	1	TYPE22	TYPE22	450	10/200
SB0204B110AK6	SB0204B110AK6	225	1	TF1003SM80102	VC319200	214	1	TYPE41	TYPE41	437	10/100
SB0204B110AL6	SB0204B110AL6	225	1	TF1004M80102	VC312700	214	1	TYPE41V	TYPE41V	437	10/200
SB0323B110AK6	SB0323B110AK6	225	1	TF1004SM80102	VC320000	214	1	TYPE42	TYPE42	450	10/200
SB0323B110AL6	SB0323B110AL6	225	1	TF1253M80102	VD500600	214	1	TYPE42B	TYPE42B	450	10/200
SB0324B110AK6	SB0324B110AK6	225	1	TF1254M80102	VD501400	214	1	TYPE42BV	TYPE42BV	450	10/200
SB0324B110AL6	SB0324B110AL6	225	1	TF1603M80102	VD502200	214	1	TYPE42V	TYPE42V	450	10/200
SB0403B110AK6	SB0403B110AK6	225	1	TF1604M80102	VD503000	214	1	TYPE52C	TYPE52C	451	10/200
SB0403B110AL6	SB0403B110AL6	225	1	TF2503M120102	VC357200	214	1	TYPE62	TYPE62	451	10/200
SB0404B110AK6	SB0404B110AK6	225	1	TF2504M120102	VC358000	214	1	TYPE62B	TYPE62B	451	10/200
SB0404B110AL6	SB0404B110AL6	225	1	TF4003M120103	VC359800	214	1	TYPE62C	TYPE62C	452	10/200
SB0503B140AK6	SB0503B140AK6	225	1	TF4004M120103	VC360600	214	1	TYPE62CV	TYPE62CV	452	10/200
SB0503B140AL6	SB0503B140AL6	225	1	TF6303M120104	VC361400	214	1	TYPE62DV	TYPE62DV	452	10/200
SB0504B140AK6	SB0504B140AK6	225	1	TF6304M120104	VC362200	214	1	TYPE62E	TYPE62E	451	10/200
SB0504B140AL6	SB0504B140AL6	225	1			440-441-		TYPE62V	TYPE62V	451	10/200
SB0633B140AK6	SB0633B140AK6	225	1	TR	TR	448-449-	10/1000	TYPE72	TYPE72	452	10/200
SB0633B140AL6	SB0633B140AL6	225	1			454..461		TYPE82V	TYPE82V	452	10/200
SB0634B140AK6	SB0634B140AK6	225	1	TR1	TR1	442..447	10/1000	TYPE92	TYPE92	451	10/200
SB0634B140AL6	SB0634B140AL6	225	1	TS10003M1301	VC422400	182	1	TYPE92C	TYPE92C	452	10/200
SB0803B140AK6	SB0803B140AK6	225	1	TS10003VM1301	VC443000	182	1	TYPE92CV	TYPE92CV	452	10/200
SB0803B140AL6	SB0803B140AL6	225	1	TS10004M1301	VC423200	182	1	TYPE92V	TYPE92V	451	10/200
SB0804B140AK6	SB0804B140AK6	225	1	TS10004VM1301	VC444800	182	1	XC012AB	XC012AB	172	5
SB0804B140AL6	SB0804B140AL6	225	1	TS1253M801	VC522100	182	1	XC012AR	XC012AR	172	5
SB1003B140AK6	SB1003B140AK6	225	1	TS1253SM801	VC526200	182	1	XC012CB	XC012CB	172	5
SB1003B140AL6	SB1003B140AL6	225	1	TS1254M801	VC523900	182	1	XC012CR	XC012CR	172	5
SB1004B140AK6	SB1004B140AK6	225	1	TS1254SM801	VC527000	182	1	XC050PB	XC050PB	172	5
SB1004B140AL6	SB1004B140AL6	225	1	TS1603M801	VC524700	182	1	XC050PR	XC050PR	172	5
SC150	SC150	422	1	TS1604M801	VC525400	182	1	XC063PB	XC063PB	172	5
SC190	SC190	422	1	TS2003M801	VC853800	182	1	XC063PR	XC063PR	172	5
SD1	SD1	423	1	TS2004M801	VC854600	182	1	XC100GB	XC100GB	172	5
SD1G	SD1G	423	1	TS2503M801	VC855400	182	1	XC100GR	XC100GR	172	5
SD2	SD2	423	1	TS2504M801	VC856200	182	1	XC100PB	XC100PB	172	5
SD3	SD3	423	1	TS4003M1201	VC416600	182	1	XC100PR	XC100PR	172	5
SD31	VC718500	214	1	TS4003VM1201	VC437200	182	1	XC16AN	XC16AN	204	5
SD32	VD690500	214	1	TS4004M1201	VC417400	182	1	XC16CN	XC16CN	204	5
SD3F	VC714400	214	1	TS4004VM1201	VC438000	182	1	XC32AN	XC32AN	204	5
SD4	SD4	423	1	TS6303M1201	VC418200	182	1	XC32CN	XC32CN	204	5
SD41	VD689700	214	1	TS6303VM1301	VC439800	182	1	XC32GN	XC32GN	204	5
SD42	VD691300	214	1	TS6304M1201	VC419000	182	1	XNAG813	XNAG813	205	5
SD4F	VC715100	214	1	TS6304VM1301	VC440600	182	1	XNF0163BK6	XNF0163BK6	204	1
SM1V	SM1V	424	1	TS8003M1301	VC420800	182	1	XNF0163BL6	XNF0163BL6	204	1
SM2V	SM2V	424	1	TS8003VM1301	VC441400	182	1	XNF0164BK6	XNF0164BK6	204	1
SM3V	SM3V	424	1	TS8004M1301	VC421600	182	1	XNF0164BL6	XNF0164BL6	204	1
SM40	SM40	424	1	TS8004VM1301	VC442200	182	1	XNF0323BK6	XNF0323BK6	204	1
SM60	SM60	424	1	TSC02503M1203	VC540300	190	1	XNF0323BL6	XNF0323BL6	204	1
SV1SF	SV1SF	424	1	TSC02504M1203	VC541100	190	1	XNF0324BK6	XNF0324BK6	204	1
SV2SF	SV2SF	424	1	TSC04003M1203	VC542900	190	1	XNF0324BL6	XNF0324BL6	204	1
SV3SF	SV3SF	424	1	TSC04004M1203	VC543700	190	1	Z5	Z5	362	1
T05	T05	362	1	TSC06303M1203	VC544500	190	1	Z51	Z51	362	1
T10	VC794600	191	1	TSC06304M1203	VC545200	190	1	Z52	Z52	362	1
T10/1	VC795300	191	1	TSC08003M1303	VC546000	190	1	Z53	Z53	362	1
T12	VC797900	183	1	TSC08004M1303	VC547800	190	1	Z54	Z54	362	1
T12	VC797900	191	1	TSC10003M1303	VC548600	190	1				
T12	VC797900	215	1	TSC10004M1303	VC549400	190	1				
T12/1	VC798700	183	1	TSC12503M1303	VC550200	190	1				
T12/1	VC798700	191	1	TSC12504M1303	VC551000	190	1				
T12/1	VC798700	215	1	TSC16003M1303	VC857000	190	1				
T6	VC727600	215	1	TSC16004M1303	VC857800	190	1				
T6/1	VD699600	215	1	TSD02503M1205	VD555000	190	1				
T8	VC728400	183	1	TSD02504M1205	VD556800	190	1				

1. Subject / sphere of application

1.1 This document constitutes the terms and conditions of sale of Bremas Ersce S.p.A, a single-member company, head office in Cambiago (MI), via Castellazzo,9.

2. Introduction

2.1 The terms and conditions of sale, unless otherwise stated in writing for any exceptions or modifications, are applied to the delivery of products manufactured and purchased by Bremas Ersce S.p.A.. Any different terms of the contract which are submitted, attached, quoted, added or modified by the Client do not apply to without written acceptance by Bremas Ersce S.p.A..

2.2 The terms and conditions of sale refer to all articles currently offered by Bremas Ersce S.p.A. together with all future models and variants which may be included and reported in its catalogues, drawings, data sheets and brochures. Bremas Ersce S.p.A. does hereby reserve the right to modify, add or vary in any time the manufacture of one or more products, without prior notice.

2.3 Every order sent by a Client and confirmed by Bremas Ersce S.p.A. is considered irrevocable and refers to these terms and conditions of sale which are considered tacitly accepted in every respect.

3. Order confirmations

3.1 All the orders shall be accepted by Bremas Ersce S.p.A. sending an order confirmation. These confirms report the codes of ordered products, the prices, the delivery terms, the payments terms and / or other information which can be useful for the definition of the contract.

3.2 No order submitted shall be deemed to be accepted unless and until confirmed by Bremas Ersce S.p.A. with the related order confirmation.

4. Prices and methods of payment

4.1 The quoted prices are those referred to the confirmation order; they can be however modified according to unforeseeable variations of costs and currency exchange.

4.2 Unless otherwise stated between the parties, all prices do not include Value Added Tax, packaging and transport costs which shall be borne by the Client.

4.3 The invoices are to be irrevocably paid in due time according to the indicated terms. In case of non-payment in due time or partial payment, the Seller may suspend further deliveries of the already ordered products. Bremas Ersce S.p.A. shall besides have the right to:

- consider the contract immediately terminated
- charge interests on delayed payments on a day to day basis at the debtor rate
- choose any options to recover the credit, as well any proceedings.

5. Delivery and transport terms

5.1 Unless otherwise agreed in writing, the delivery terms shown in the order confirmation do apply to the goods leaving from Bremas Ersce plant. Value Added Tax, insurance and transport costs are charged to the Client.

5.2 The delivery terms indicated in the order confirmations are binding except for strikes, raw materials lack, moulds breakdown or other inconveniences related to the economic activity. In case of late deliveries, the Seller does not accept any responsibilities for direct or indirect damages to the Client, unless otherwise stated between the parties.

5.3 The goods travel at the Client's risks. At the receipt of the goods, the Client shall immediately control that the delivered products are conform in their weight, number, quantity and typology with the ones described in the delivery note.

5.4 All claims for differences found in the goods must be submitted in writing by the Client to Bremas Ersce S.p.A. within eight days after date of receipt of the goods.

5.5 Bremas Ersce S.p.A. does not assume any responsibilities for transport delays, damages or goods' loss.

6. Warranty

6.1 Bremas Ersce S.p.A. warrants its components for a period of 24 months from the delivery date as for the functional conformity and the technical characteristics indicated in the drawings, data sheets or specifications issued by Bremas Ersce S.p.A..

6.2 The warranty does exclusively apply to products returned within the warranty expiration and considered as defective by Bremas Ersce S.p.A..

6.3 The warranty shall be considered the commitment of Bremas Ersce S.p.A. at its own discretion, to replace free of charge returned products considered as defective, delivering with transport to the Client's costs from the plant in Cambiago (MI). The Seller may as well credit the relevant value. Except as otherwise stated in writing by the management of Bremas Ersce S.p.A., the Client shall indemnify the Seller against any compensations for direct or indirect damages and charges such as:

- costs assumed for the replacement of the components
- costs assumed in the plants of the Client
- costs for "recall" actions
- costs assumed for the selection of materials or replacement of entire instalments

6.4 No warranty is expected for all products which will result defective due to the following circumstances which are not related to manufacture defects: carelessness; Usage non-compliant with the technical specifications; Mistakes in the project or manufacture of the advice in which the components are inserted; Incorrect maintenance; Maintenance made by non-authorized staff; Transport damages.

6.5 No warranty is moreover expected in case of wrong usage of the device.

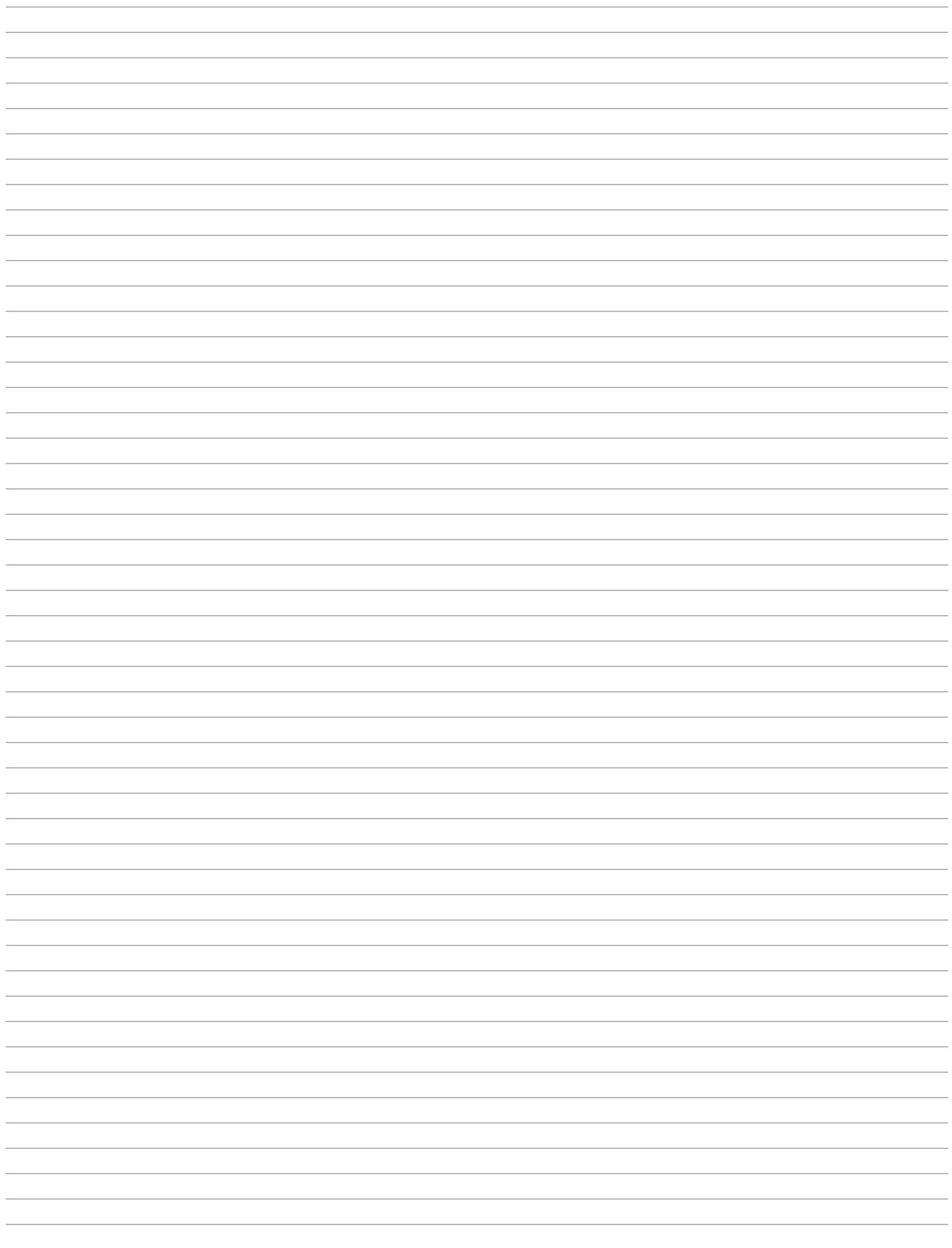
7. Patent rights

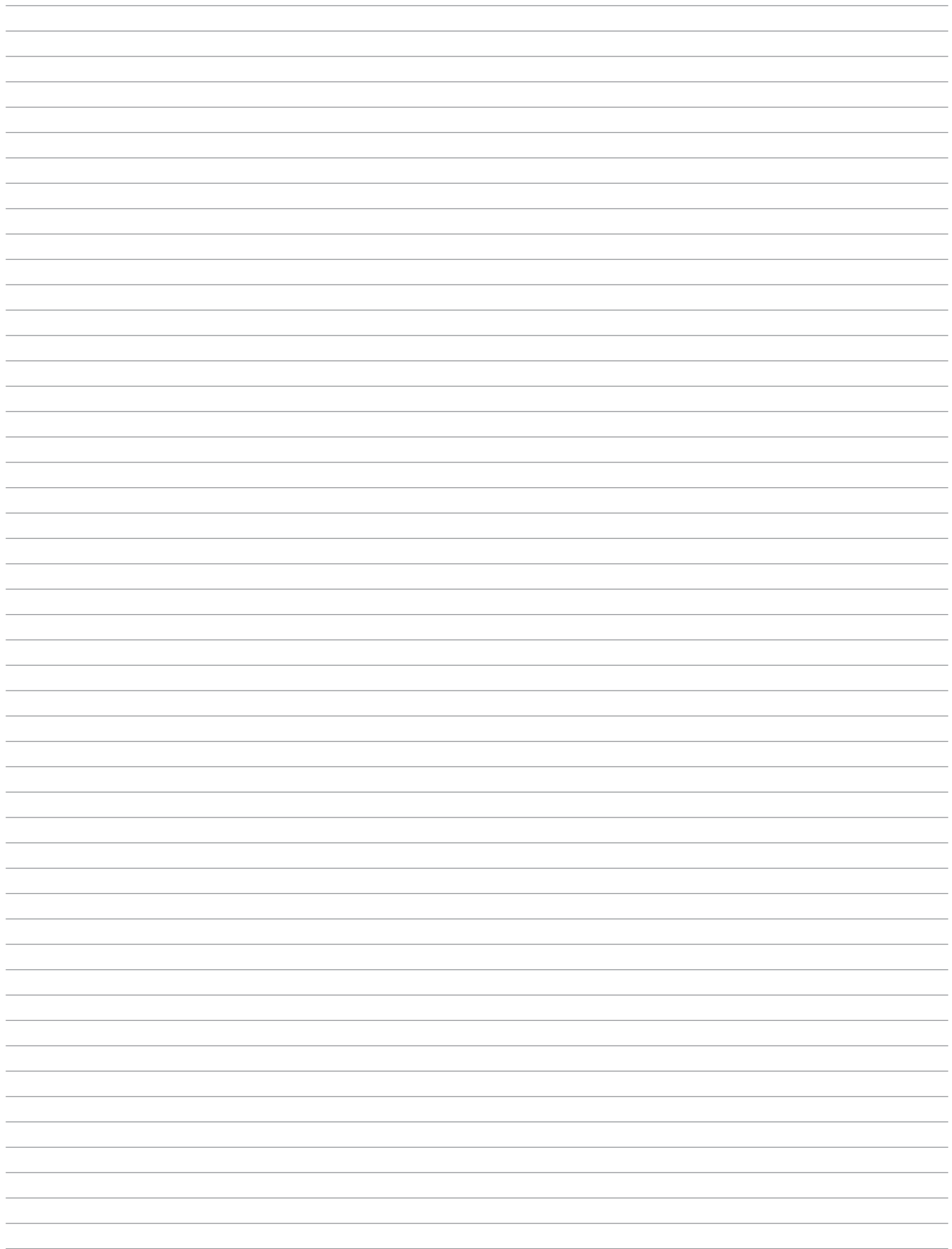
7.1 Bremas Ersce S.p.A. assures that the supplied products do not violate any patent rights of a third party, that they are not given in pawn or mortgaged and are free from any obligations.

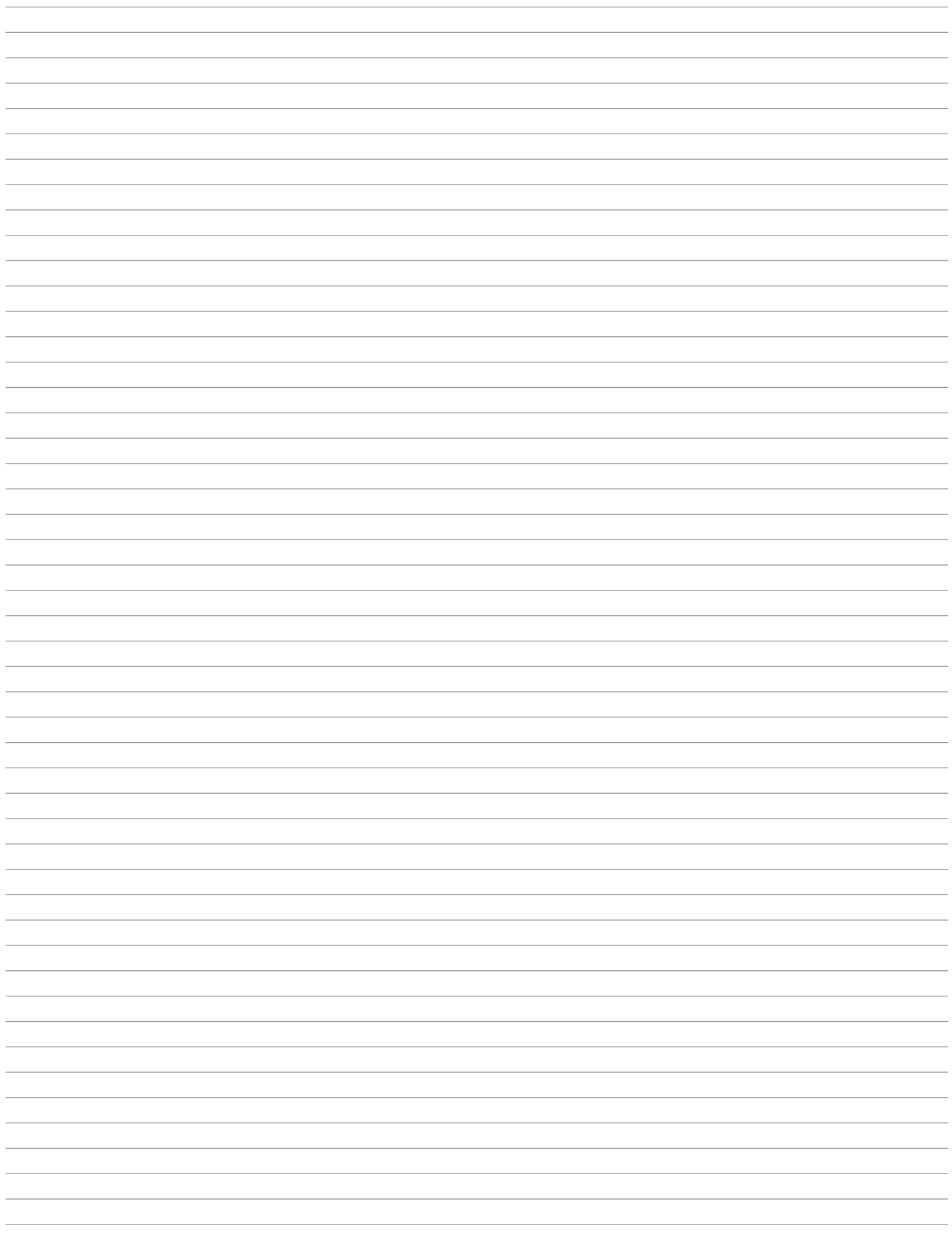
7.2 All knowledge and restricted information acquired by the Client and imparted to it by Bremas Ersce S.p.A. shall be treated as confidential.

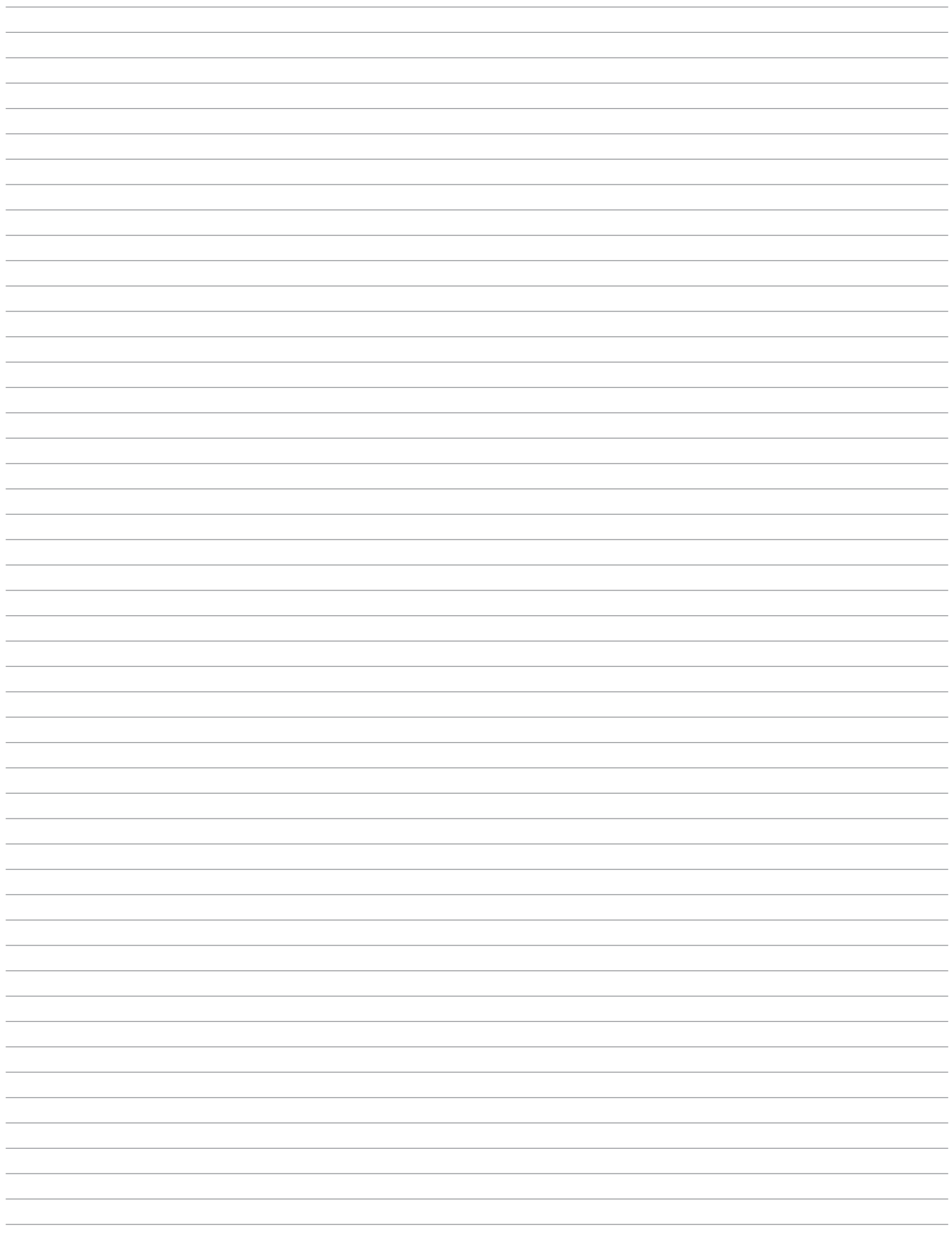
8. Competent court of jurisdiction

Any disputes shall be referred to the competent court of jurisdiction in Milano.

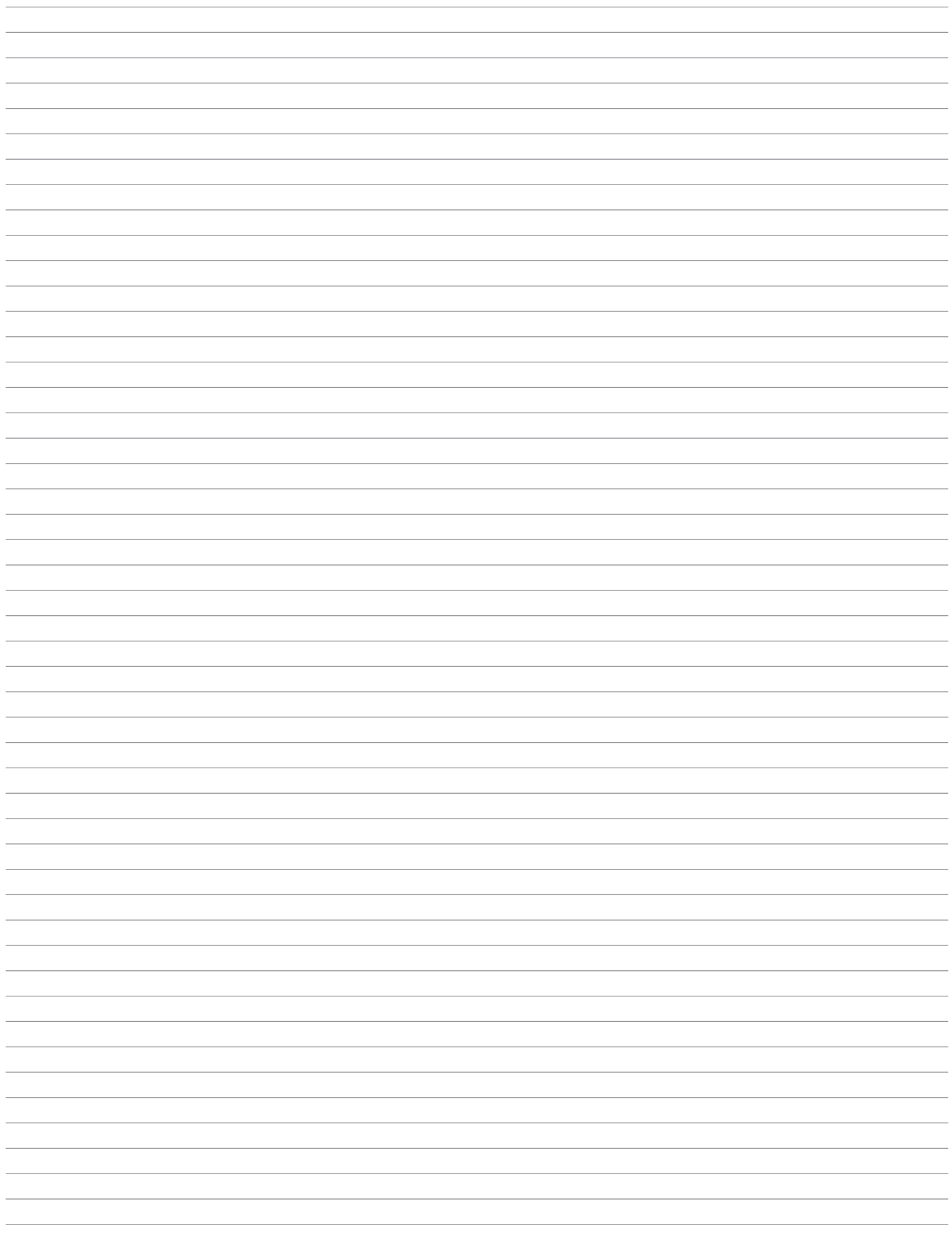












www.bremas.eu



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ISO 9001 Certified Quality System