

SQ025...B

SQ032...B

REGOLUS SWITCH DISCONNECTORS WITH TYPE "B" BASE MOUNTING (32 A / 40 A)

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Before use, read this booklet carefully to acquaint yourself with the features of the product. This booklet is an integral part of the product and therefore must be kept until the product is dismissed.



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SQ series Regolus switch disconnectors are designed and manufactured according to IEC international standard and EN European regulations.



Any improper installation or any tampering of the device may cause serious personnel injury or property damage, therefore, the installation and maintenance must be performed by specialized and authorized personnel.



The use of this device is not allowed in environment with a potentially explosive atmosphere or in presence of corrosive substances and in salt spray.

ATTENTION
 Before any installation or maintenance operation, disconnect the power supply to the system. Before restoring the power supply, make sure that all connections to the device have been made correctly. Giovenzana International B.V. disclaims any responsibility for any damage to things and people caused by non-compliance with the rules described here.

Switch disconnectors involved in this instruction manual:

Series	2 poles	3 poles	6 poles	3 + 3 poles (changeover)	AC-21A 690 V	AC-23A 400 V
SQ025	SQ025002B	SQ025003B	SQ025006B	SQ025033B	32 A	25 A
SQ032	SQ032002B	SQ032003B	SQ032006B	SQ032033B	40 A	32 A

Main features:

- base mounting
- DIN rail 35 mm mounting (EN 50022-35) or screw mounting
- suitable for door locking actuators

Additional references:

- matching actuators: p.5
- relevant accessories: p.6

SPECIFICATIONS

General characteristics

Protection class	terminals		IP 20
Material group		EN 60947-1	II
Pollution grade		EN 60947-1	3
Flammability	live electrical parts	UL94	V0
Ambient temperature	operating storage		-25 ... +55°C -30 ... +70°C
Climate withstand		IEC 68 part 2-3 IEC 68 part 2-30	damp heat, steady state damp heat, cyclic
Connections	terminal block caliber	EN60947-1	A6
	terminal screw		M4
	tightening torque	EN60947-1 UL508	1.2 N·m 7 lb·in (0.8 N·m)
Connectable section	flexible conductors		1.5 ... 10 mm ² AWG 12 ... 8
	solid conductors		1.5 ... 10 mm ² AWG 12 ... 8
Contacts			slow action double breaking
Opening angles			90°
Mechanical lifetime	@ 120 operations / hour		0.1 million cycles
Maximum altitude derating	up to 2000 m over 2000 m	voltage (V) power (A)	standard < 1% each 100 m < 1% each 1000 m

EN 60947-3 characteristics

		SQ025	SQ032
Rated operating voltage	Ue	690 V	690 V
Rated insulation voltage	Ui	690 V	690 V
Rated impulse withstand voltage (sectionable)	Uimp	8 kV	8 kV
Rated thermal current	Ith	32 A	40 A
Rated enclosed thermal current	Ithe	32 A	40 A
Frequency		50/60 Hz	50/60 Hz

Alternate current

Rated operating current		le	SQ025		SQ032		
AC-21A	Switching of resistive loads, including moderate overloads	690 V	32 A		40 A		
AC-22A	Switching of mixed resistive and inductive loads, including moderate overloads	500 V	25 A		32 A		
		690 V	25 A		32 A		
AC-23A	Switching of motor loads or other highly inductive loads	3 phases - 3 poles	230 V	25 A	7.5 kW	32 A	10 kW
			400 V	25 A	15 kW	32 A	18.5 kW
			500 V	25 A	15 kW	32 A	22 kW
			690 V	16 A	15 kW	20 A	18.5 kW
AC-3	Squirrel-cage motors: starting, switches off motors during running time	3 phases - 3 poles	230 V	22 A	5.5 kW	27 A	7.5 kW
			400 V	22 A	11 kW	27 A	15 kW
			500 V	22 A	11 kW	27 A	18.5 kW
			690 V	16 A	11 kW	20 A	15 kW
AC-23A	Nominal breaking capacity (cosφ 0.45)	230 V	200 A		256 A		
		400 V	200 A		256 A		
		500 V	200 A		256 A		
		690 V	128 A		160 A		

Short circuit characteristics

		SQ025		SQ032	
Rated short-time short circuit withstand current (1 s)	lcw	800 A		800 A	
Rated short circuit making capacity	lcm	1500 A		1500 A	
Conditional rated short circuit withstand current		10 kA		10 kA	
Fuse rating (type gG)	500 V	40 A		40 A	
	690 V	40 A		40 A	


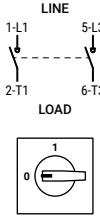
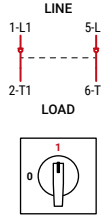

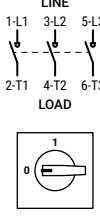
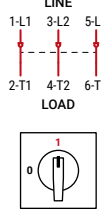

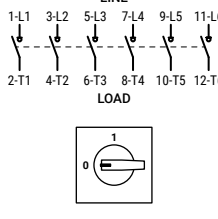
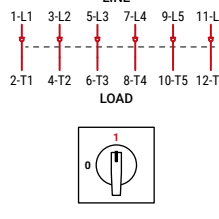

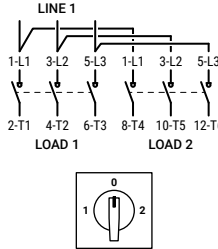
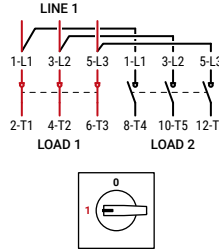
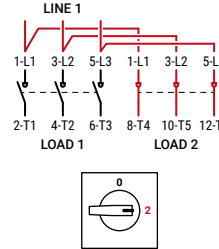
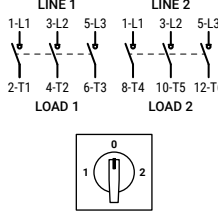
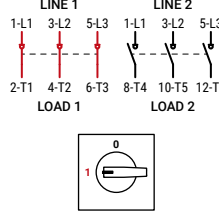
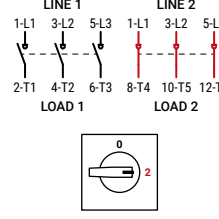
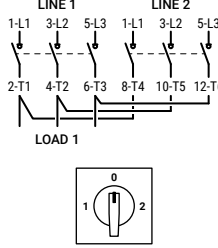
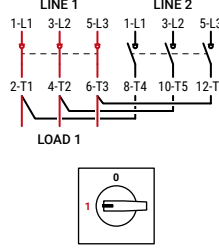
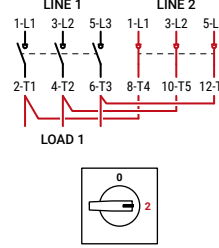
UL 508 characteristics

		SQ025		SQ032		
General use		600 V AC	32 A		40 A	
Standard motor load	1 phase - 2 poles	120 V AC	1.5 HP	20 FLA	2 HP	24 FLA
		200 - 208 V AC	2 HP		3 HP	
		240 V AC	3 HP	17 FLA	5 HP	28 FLA
	3 phases - 3 poles	200 - 208 V AC	7.5 HP		10 HP	
		240 V AC	7.5 HP	22 FLA	10 HP	28 FLA
		480 V AC	10 HP	14 FLA	15 HP	21 FLA
		600 V AC	15 HP	17 FLA	20 HP	22 FLA

Marking

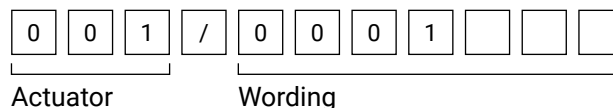
SQ...02B / SQ...03B	CE, UL, IMQ, EAC, CCC, UKCA
SQ...06B / SQ...33B	CE, UL, EAC, UKCA

QUICK REFERENCE




Switch disconnecter	Notes	Operational scheme		
 <p>2 poles</p> <p>SQ025002B SQ032002B</p>	<p>Installation instructions: p.7</p>			<p>One input LINE manages one LOAD.</p>
 <p>3 poles</p> <p>SQ025003B SQ032003B</p>	<p>Installation instructions: p.7</p>			<p>One input LINE manages one LOAD.</p>
 <p>6 poles</p> <p>SQ025006B SQ032006B</p>	<p>Installation instructions: p.9</p>			<p>One input LINE manages one LOAD.</p>
 <p>3 + 3 poles (changeover)</p> <p>SQ025033B SQ032033B</p>	<p>Standard configuration with changeover bridges.</p> <p>Installation instructions: p.11</p>			 <p>One input LINE 1 manages two LOAD 1 and LOAD 2 which are alternatives to each other (they cannot work together).</p>
<p>Configuration after removing the changeover bridges.</p> <p>Installation instructions: p.11</p>	<p>Configuration after removing the changeover bridges.</p> <p>Installation instructions: p.11</p>			 <p>Two input lines LINE 1 and LINE 2 manage two loads LOAD 1 and LOAD 2 which are alternatives to each other (they cannot work together).</p>
<p>Alternative configuration after moving the changeover bridges to the load side ("T" poles).</p> <p>Installation instructions: p.11</p>	<p>Alternative configuration after moving the changeover bridges to the load side ("T" poles).</p> <p>Installation instructions: p.11</p>			 <p>Two input lines LINE 1 and LINE 2 manage a single LOAD 1. This is the classic case of backup: the supply from the power grid arrives at LINE 1 and a generator is connected to LINE 2. If the supply from the power grid fails (LINE 1) it is possible to switch to the generator (LINE 2).</p>

OVERVIEW




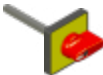
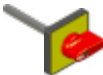













Actuator code reading



Switch disconnectors / actuators matrix

			
Type	B	B	B
Mounting	base	base	base
Poles	2 / 3	6	3 + 3 (changeover)

ACTUATOR

48x48 Grey/Black			
screw Ø 22	020/... 095/...	020/... 095/...	020/... 095/...
48x48 Yellow/Red			
screw Ø 22	030/... 070/...	030/... 070/...	030/... 070/...
48x48 Grey/Black padlock			
screw Ø 22	005/... 077/...	005/... 077/...	005/... 077/...
48x48 Yellow/Red padlock			
screw Ø 22	006/... 069/...	006/... 069/...	006/... 069/...
67x67 Grey/Black padlock			
screw Ø 22	011/... 063/...	011/... 063/...	011/... -
67x67 Yellow/Red padlock			
screw Ø 22	012/... 064/...	012/... 064/...	012/... -

WORDING

		
...0001	...0001	...0008-90

Installation instructions	screw Ø 22	p.7 p.13	p.9 p.15	p.11 p.17
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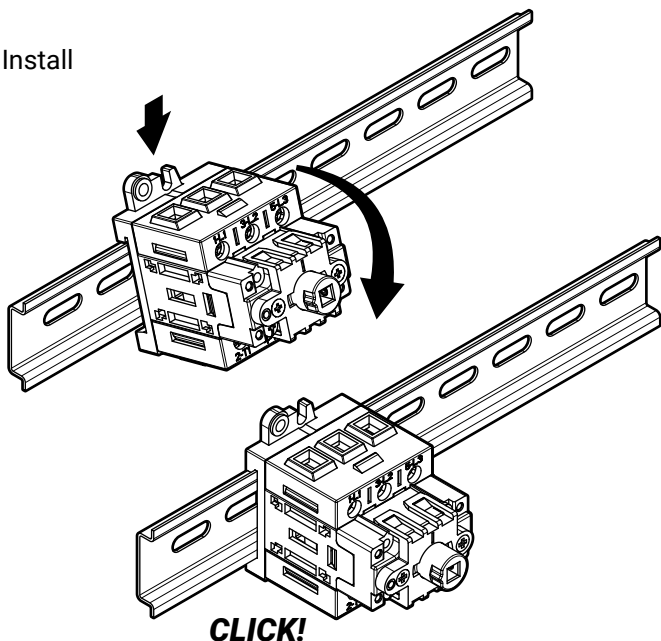
Accessories

Additional poles			Installation instructions	
Additional pole NO			SQ025AFPB SQ032AFPB	p.19
Fourth pole (early make / late break contact)			SQ025ANIB SQ032ANIB	p.19
Neutral terminal			SQ025ANPB SQ032ANPB	p.19
Ground terminal			SQ025APEB SQ032APEB	p.19
Auxiliary contacts				
Auxiliary contact 1 NC			SQ010AS1B	p.19
Auxiliary contact 1 NO			SQ010AS2B	p.19
Terminal protections				
Terminal protection for 3 poles			20900023	p.20
Terminal protection for 1 pole			20900025	p.20

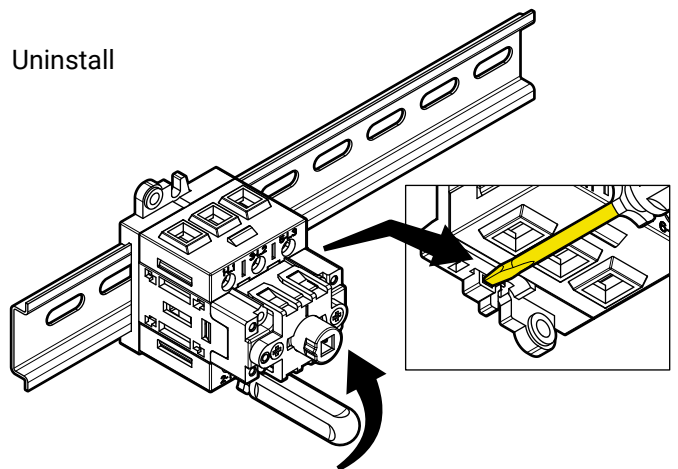
OVERALL INFORMATION

DIN rail mounting

Install



Uninstall



The SQ ... 02B and SQ ... 03B models are shown in the install and uninstall procedures.
The same procedures are valid for models SQ ... 06B and SQ ... 33B.

INSTALLATION WITH SCREW FIXING ACTUATORS

2 / 3 poles switch disconnecter installation (screw fixing)

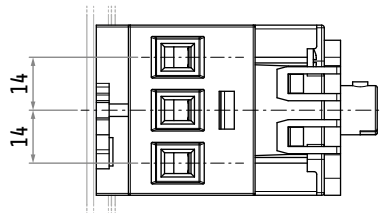
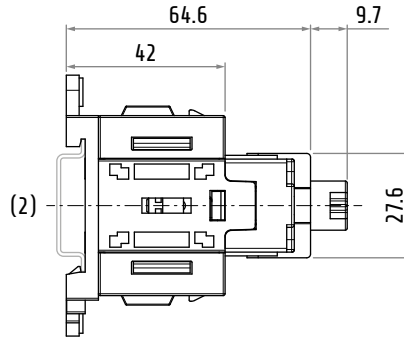
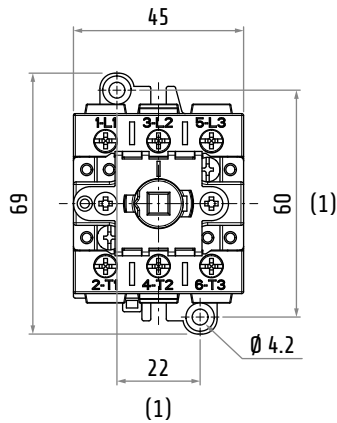
Switch disconnectors involved

SQ025002B

SQ032002B

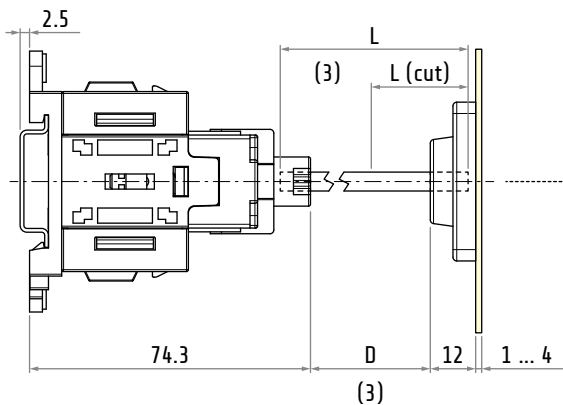
SQ025003B

SQ032003B

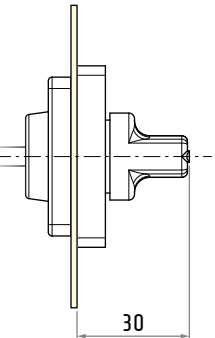


(1) Screws mounting (M4)

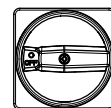
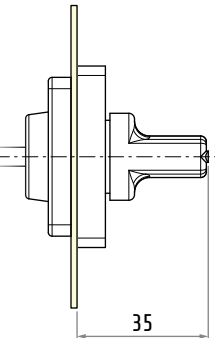
(2) DIN rail mounting
See "Overall information" on p.6.



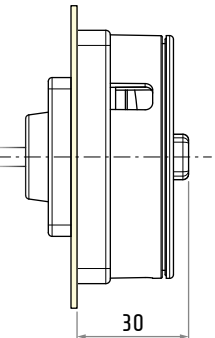
020/0001
030/0001



005/0001
006/0001



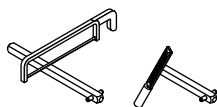
011/0001
012/0001



(3) Supplied and optional shafts

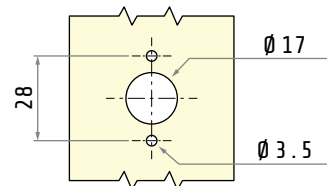
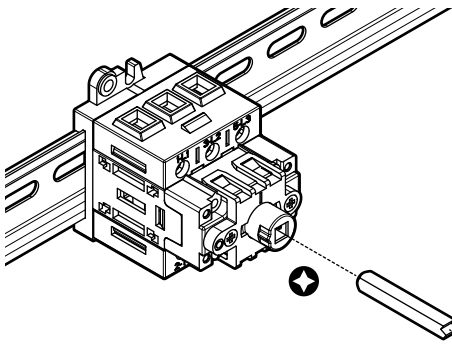
Shaft code	L	D (min)	D (max)
-	std	85 mm	~20 mm ~60 mm
20401089	opt	185 mm	~20 mm ~160 mm
20401164	opt	300 mm	~20 mm ~275 mm

Cut the shaft to the length that fit your needs (finish the cut with a file) referring to this formula:
 $L(\text{cut}) \approx D + 25 \text{ mm}$



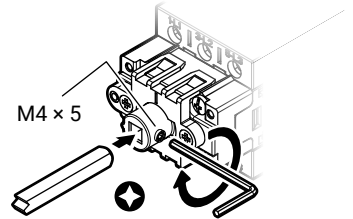
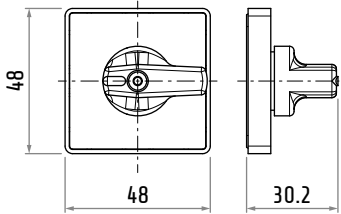
Dimensions in mm
Illustrations NOT in scale

(continued on next page)

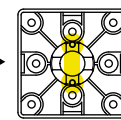
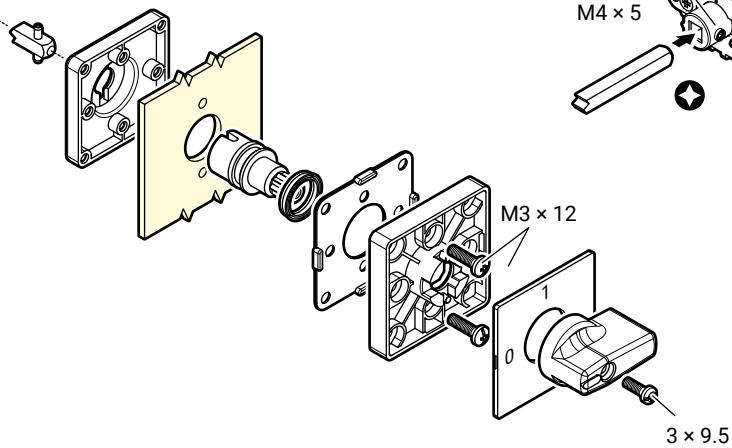
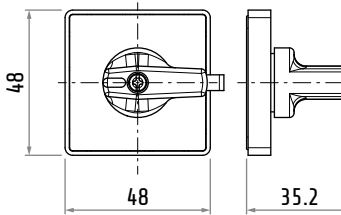


panel thickness:
1 ... 4 mm

020/0001 • 030/0001



005/0001 • 006/0001

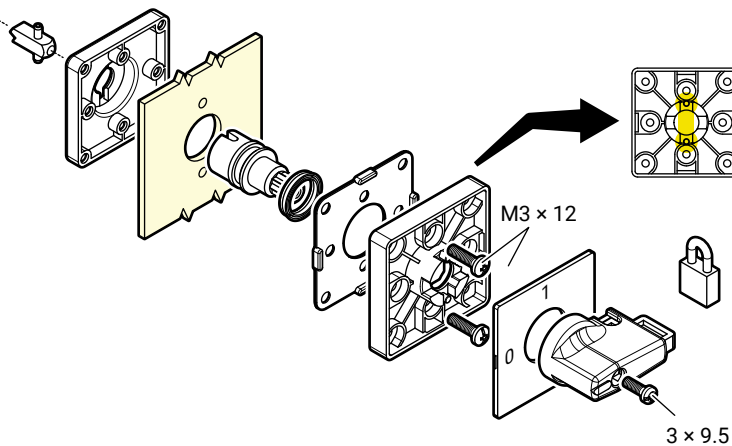
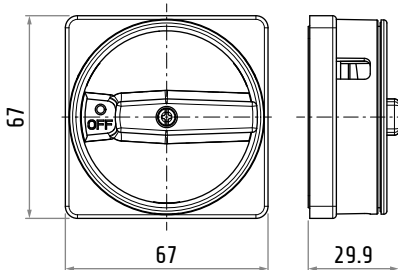


correct pin
orientation



shackle:
6 mm max

011/0001 • 012/0001



3 x 9.5

up to 3 padlocks
shackle: 8 mm max



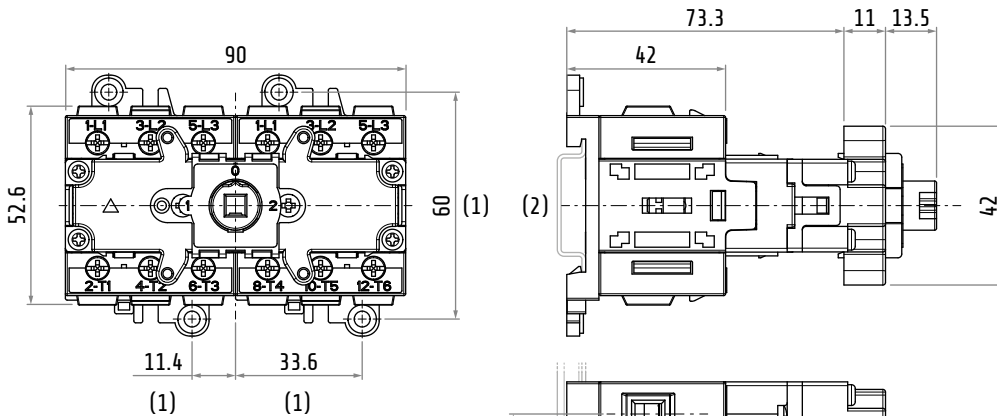
⚠ ATTENTION
(where padlocking is relevant)
Padlocking is possible only in OFF position. Padlocking does not lock the door but prevents any operation on the handle.

6 poles switch disconnecter installation (screw fixing)

Switch disconnectors involved

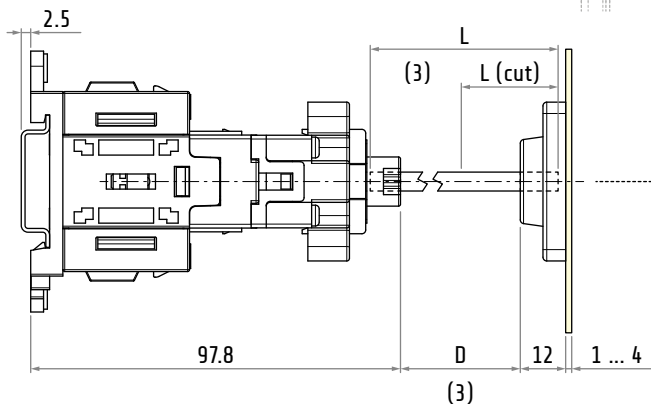
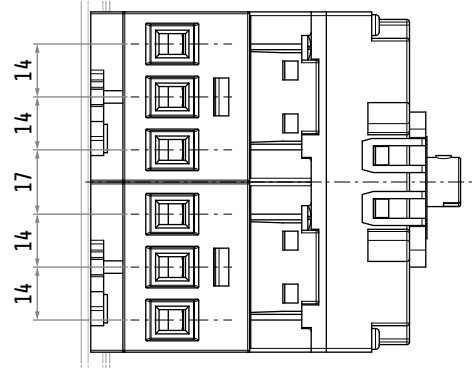
SQ025006B

SQ032006B



(1) Screws mounting (M4)

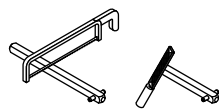
(2) DIN rail mounting
See "Overall information" on p.6.



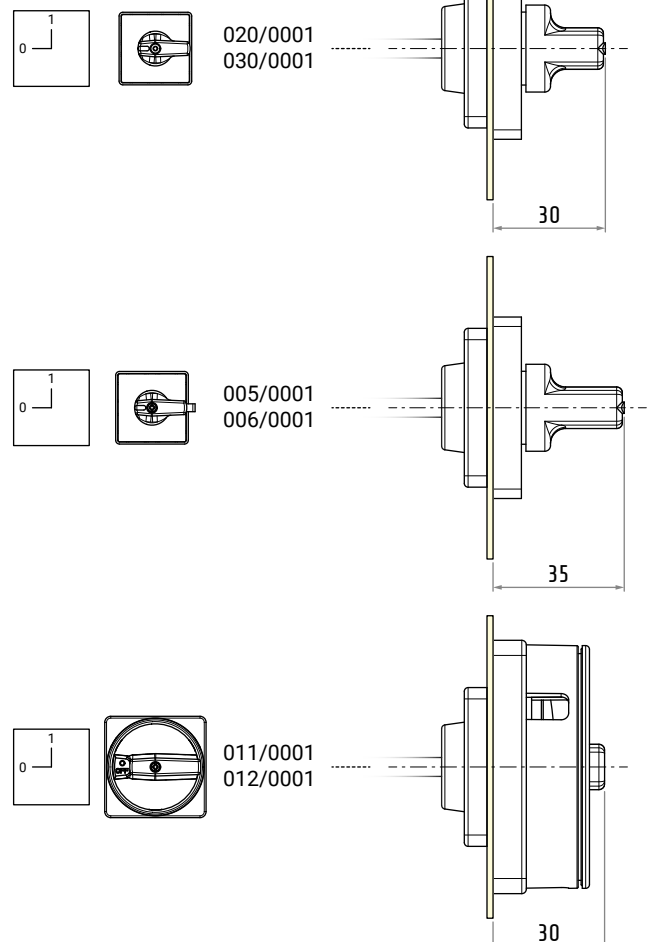
(3) Supplied and optional shafts

Shaft code	L	D (min)	D (max)
-	std	85 mm	~20 mm ~60 mm
20401089	opt	185 mm	~20 mm ~160 mm
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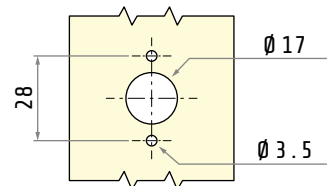
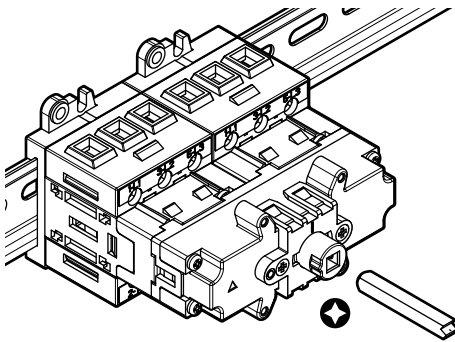
Cut the shaft to the length that fit your needs (finish the cut with a file) referring to this formula:
 $L(\text{cut}) \approx D + 25 \text{ mm}$



Dimensions in mm
Illustrations NOT in scale

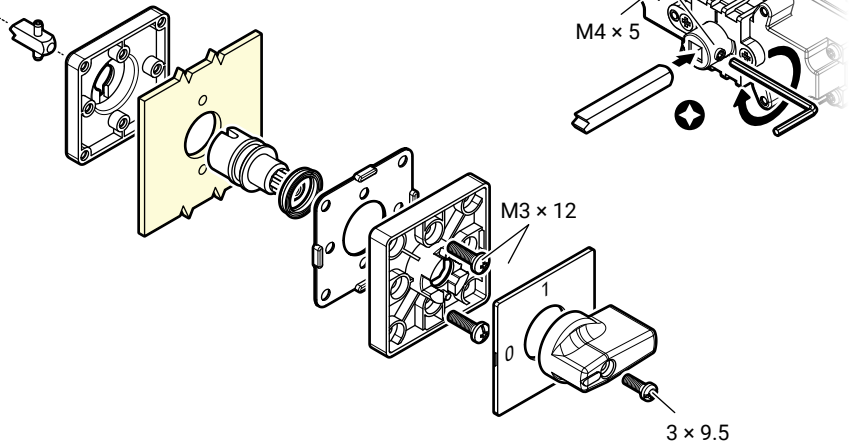
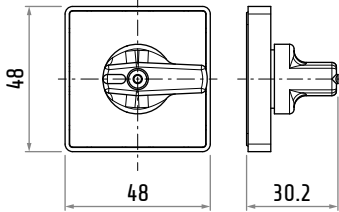


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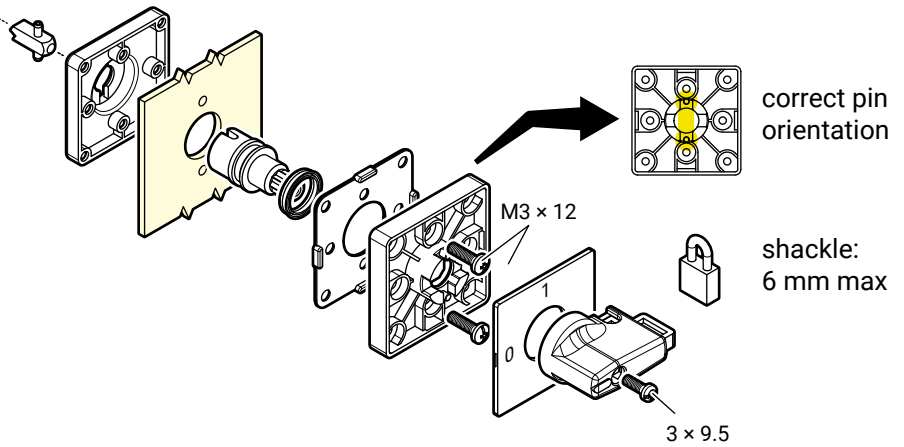
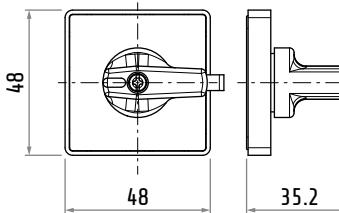


panel thickness:
1 ... 4 mm

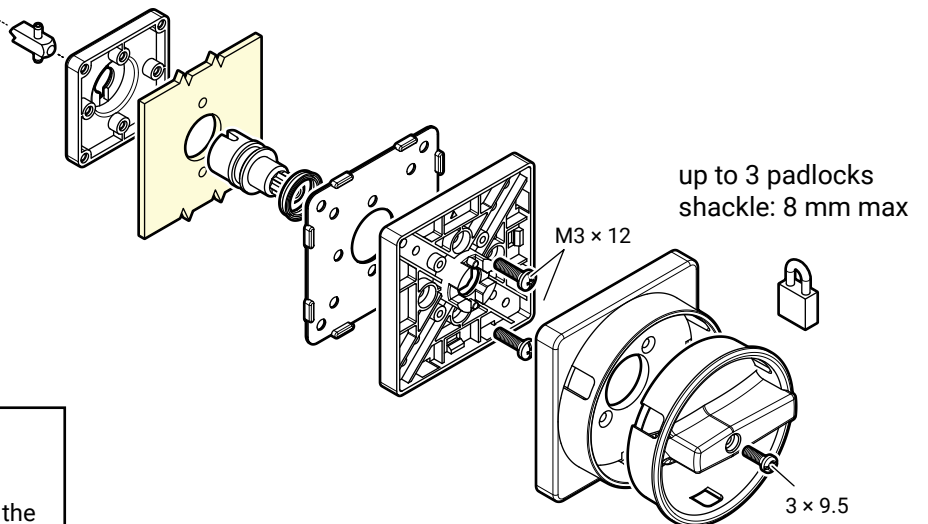
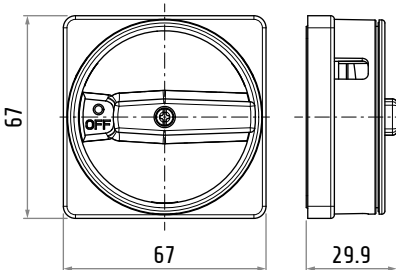
020/0001 • 030/0001



005/0001 • 006/0001



011/0001 • 012/0001



ATTENTION

(where padlocking is relevant)

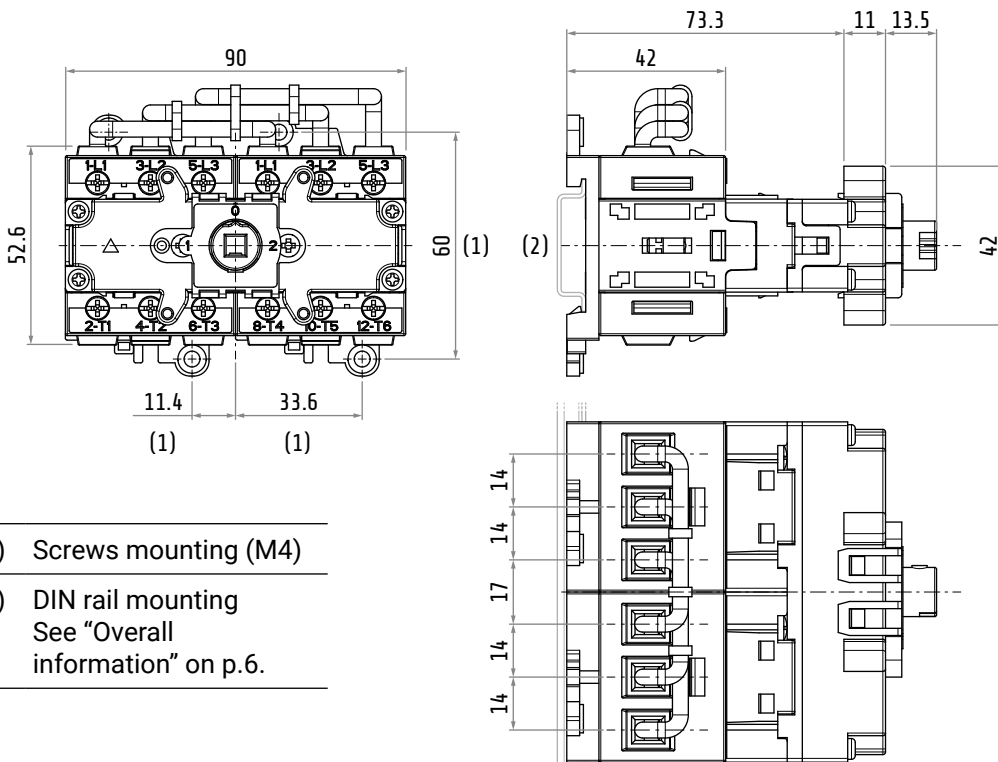
Padlocking is possible only in OFF position. Padlocking does not lock the door but prevents any operation on the handle.

3 + 3 poles (changeover) switch disconnecter installation (screw fixing)

Switch disconnectors involved

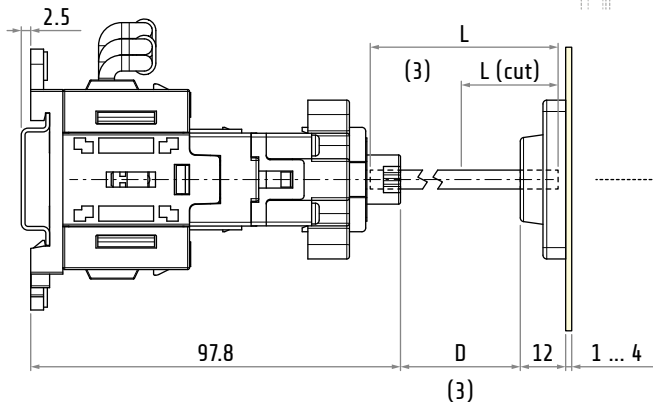
SQ025033B

SQ032033B



(1) Screws mounting (M4)

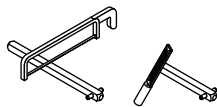
(2) DIN rail mounting
See "Overall information" on p.6.



(3) Supplied and optional shafts

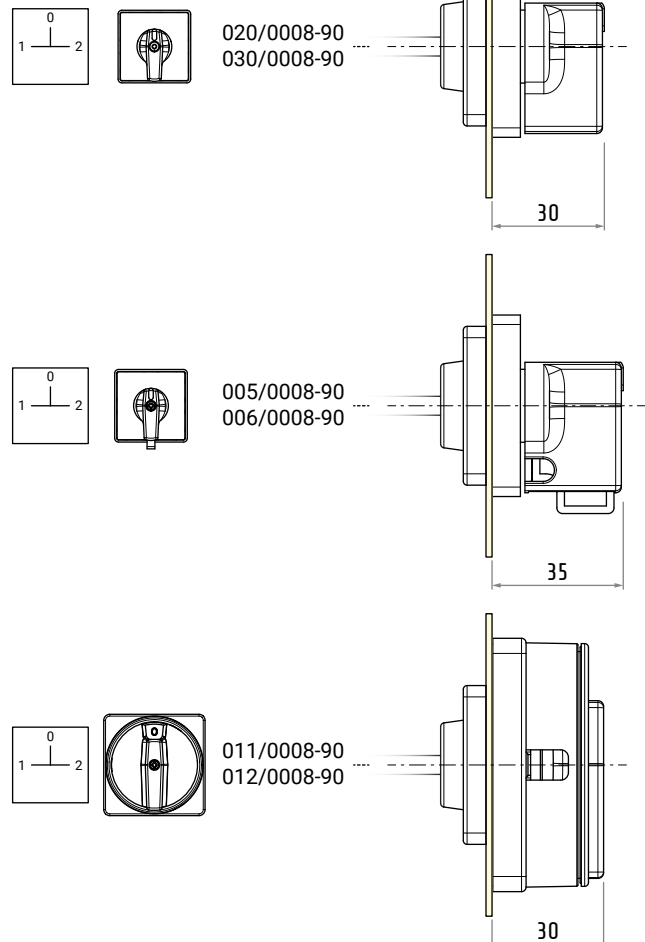
Shaft code	L	D (min)	D (max)
-	std	85 mm	~20 mm ~60 mm
20401089	opt	185 mm	~20 mm ~160 mm
20401164	opt	300 mm	~20 mm ~275 mm

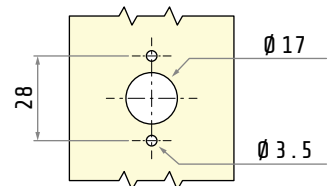
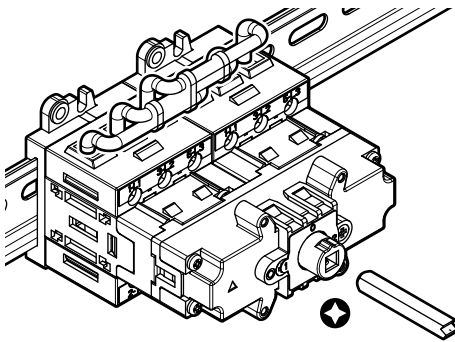
Cut the shaft to the length that fit your needs (finish the cut with a file) referring to this formula:
 $L(\text{cut}) \approx D + 25 \text{ mm}$



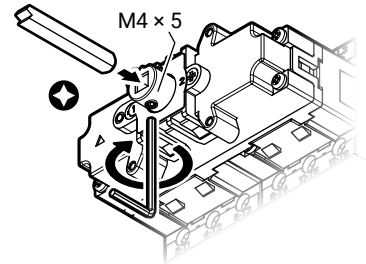
Dimensions in mm
Illustrations NOT in scale

(continued on next page)

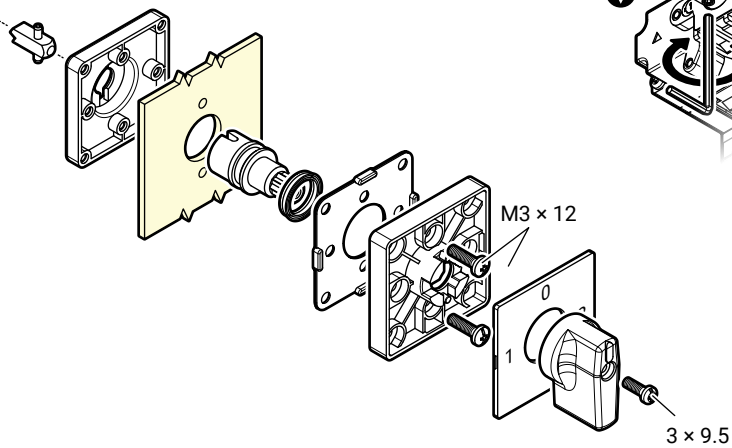
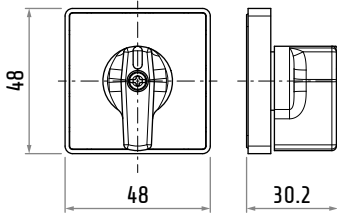




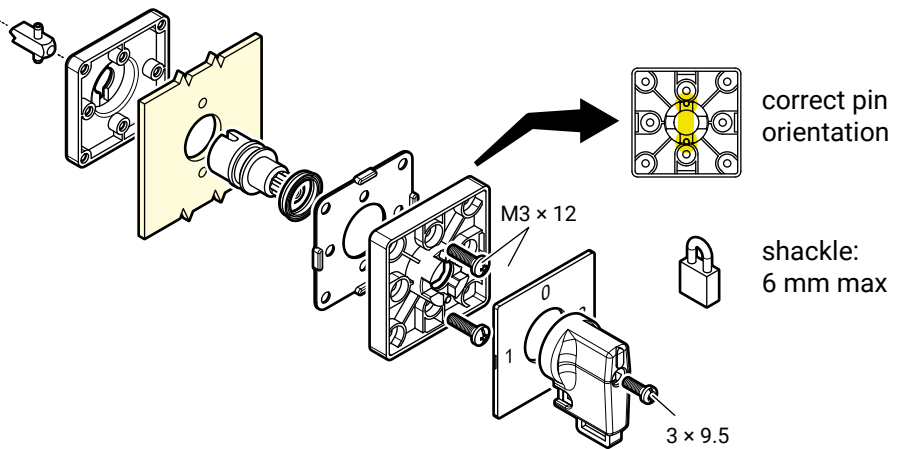
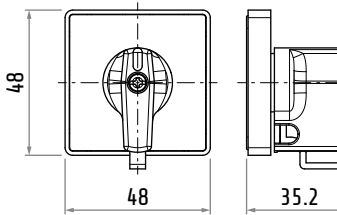
panel thickness:
1 ... 4 mm



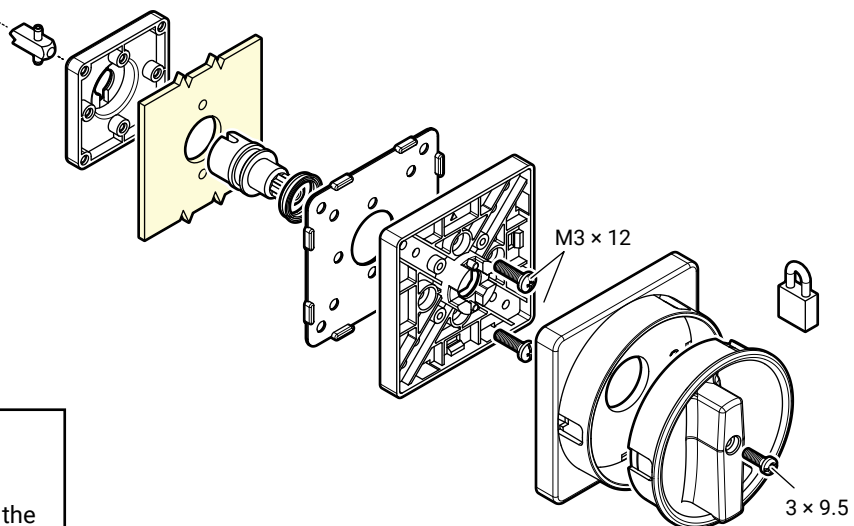
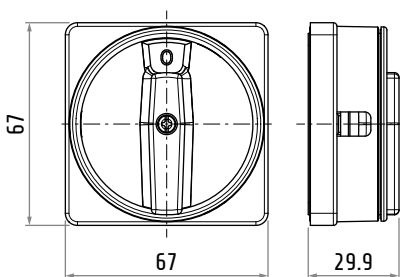
020/0008-90 • 030/0008-90



005/0008-90 • 006/0008-90



011/0008-90 • 012/0008-90



ATTENTION

(where padlocking is relevant)

Padlocking is possible only in OFF position. Padlocking does not lock the door but prevents any operation on the handle.

INSTALLATION WITH Ø22 FIXING ACTUATORS

2 / 3 poles switch disconnecter installation (Ø22 fixing)

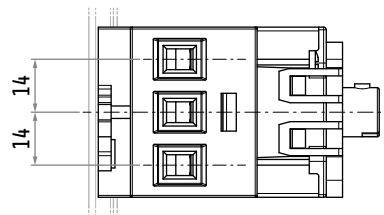
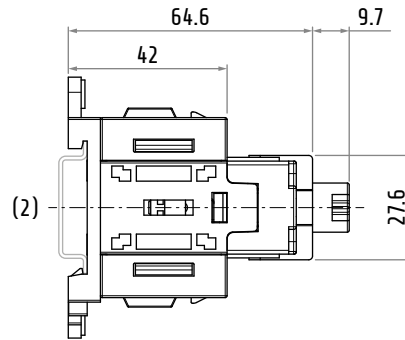
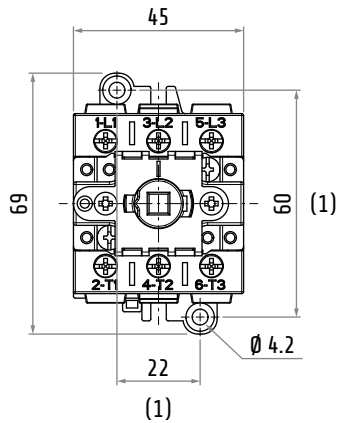
Switch disconnectors involved

SQ025002B

SQ032002B

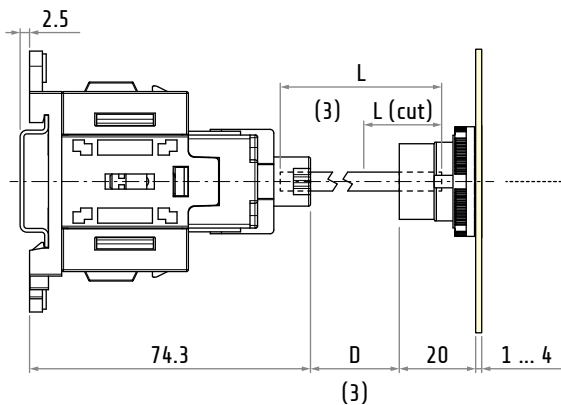
SQ025003B

SQ032003B



(1) Screws mounting (M4)

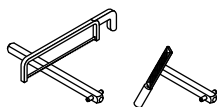
(2) DIN rail mounting
See "Overall information" on p.6.



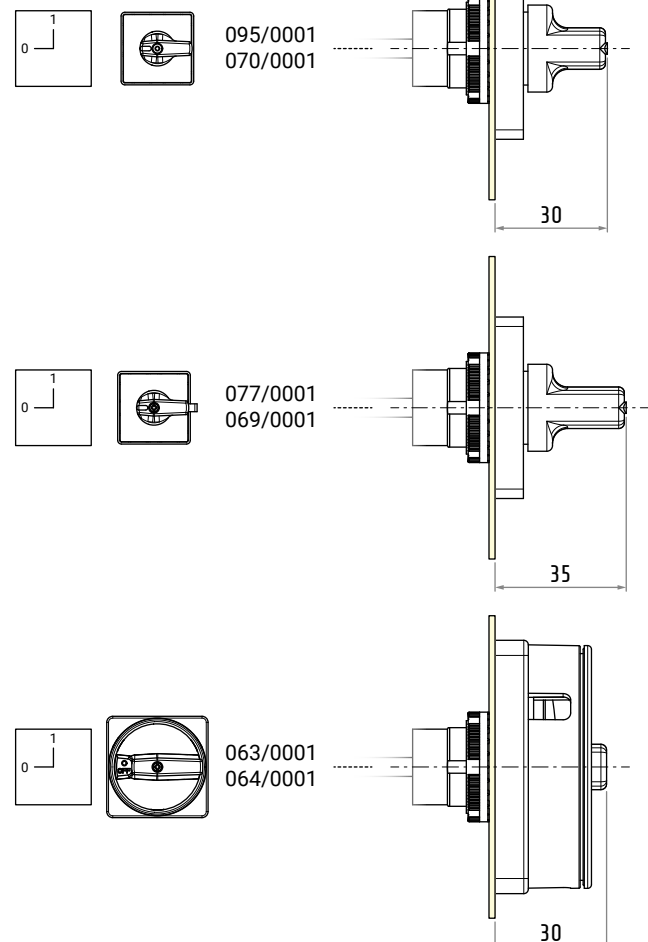
(3) Supplied and optional shafts

Shaft code	L	D (min)	D (max)
-	std	85 mm	~20 mm ~57 mm
20401089	opt	185 mm	~20 mm ~157 mm
20401164	opt	300 mm	~20 mm ~272 mm

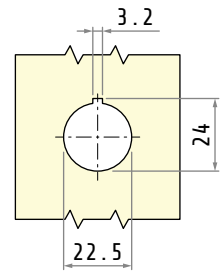
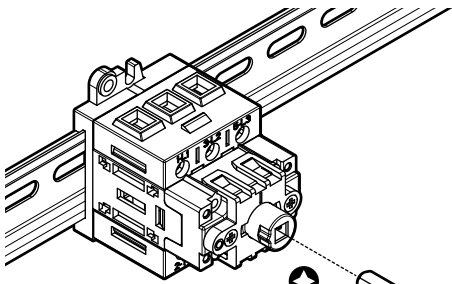
Cut the shaft to the length that fit your needs (finish the cut with a file) referring to this formula:
 $L \text{ (cut)} \approx D + 28 \text{ mm}$



Dimensions in mm
Illustrations NOT in scale

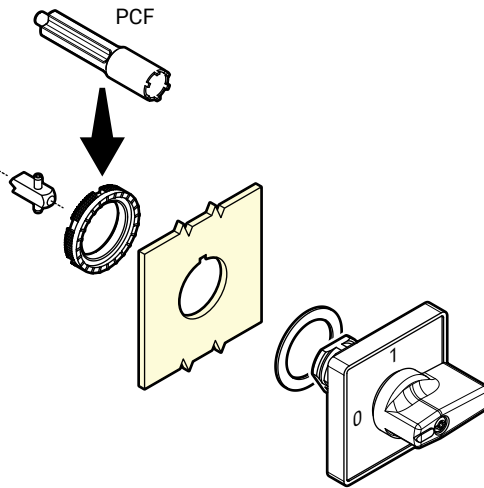
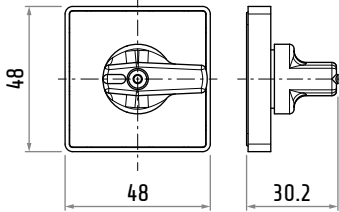


(continued on next page)

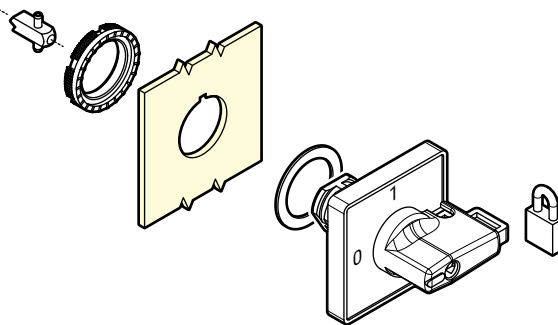
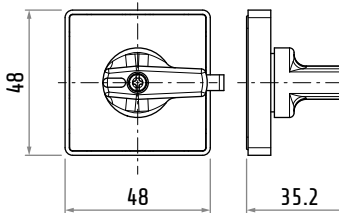


panel thickness:
1 ... 4 mm

095/0001 • 070/0001

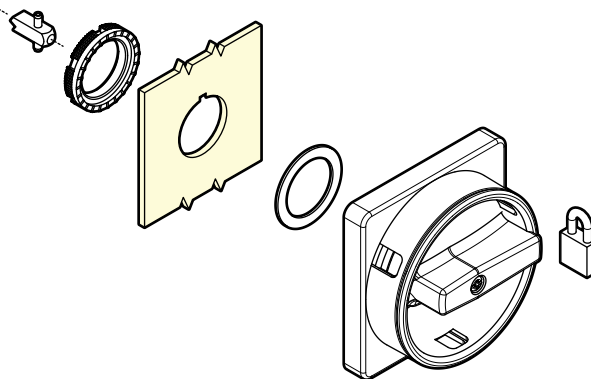
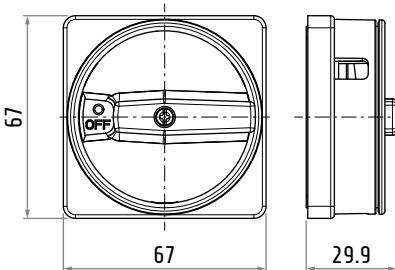


077/0001 • 069/0001



shackle:
6 mm max

063/0001 • 064/0001



up to 3 padlocks
shackle: 8 mm max



ATTENTION

(where padlocking is relevant)

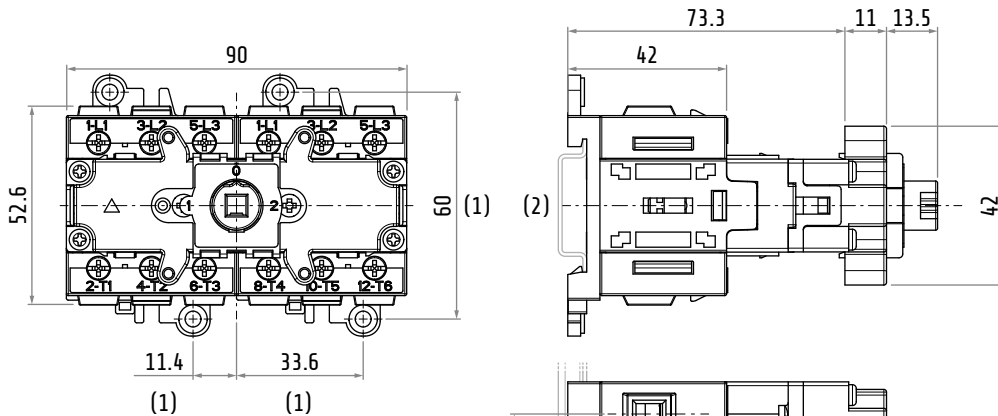
Padlocking is possible only in OFF position. Padlocking does not lock the door but prevents any operation on the handle.

6 poles switch disconnecter installation (Ø22 fixing)

Switch disconnectors involved

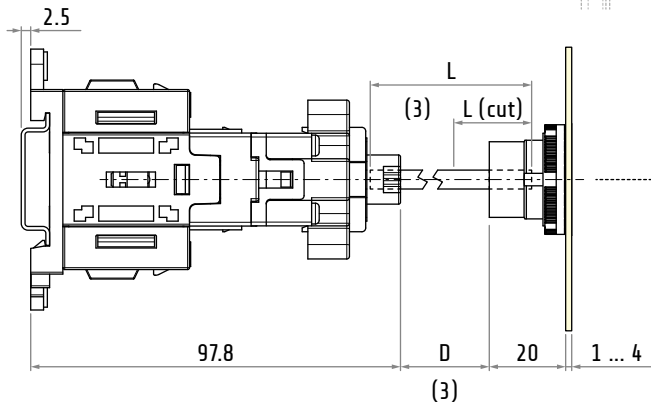
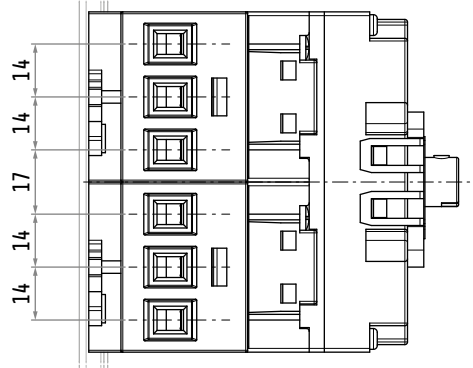
SQ025006B

SQ032006B



(1) Screws mounting (M4)

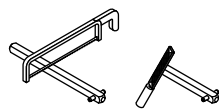
(2) DIN rail mounting
See "Overall information" on p.6.



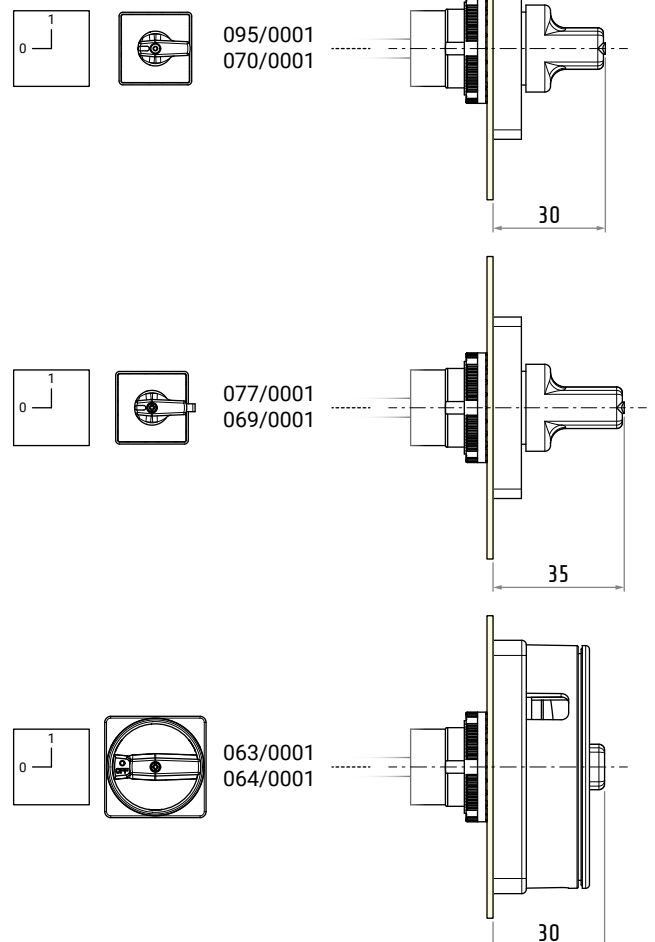
(3) Supplied and optional shafts

Shaft code	L	D (min)	D (max)
-	std 85 mm	~20 mm	~57 mm
20401089	opt 185 mm	~20 mm	~157 mm
20401164	opt 300 mm	~20 mm	~272 mm

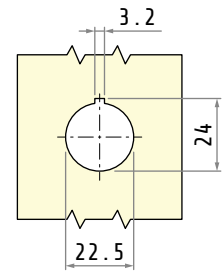
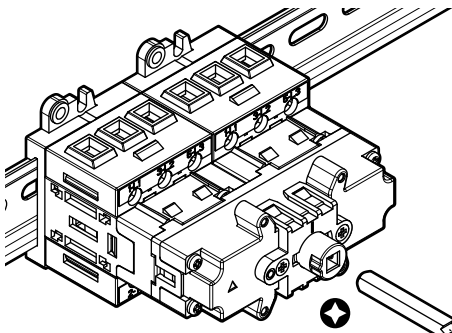
Cut the shaft to the length that fit your needs (finish the cut with a file) referring to this formula:
 $L(\text{cut}) \approx D + 28 \text{ mm}$



Dimensions in mm
Illustrations NOT in scale

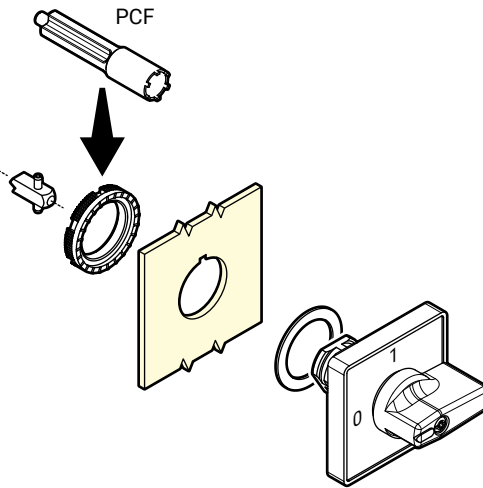
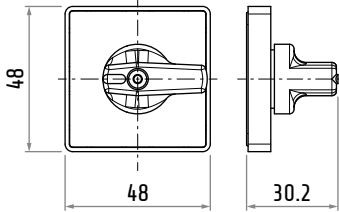


(continued on next page)

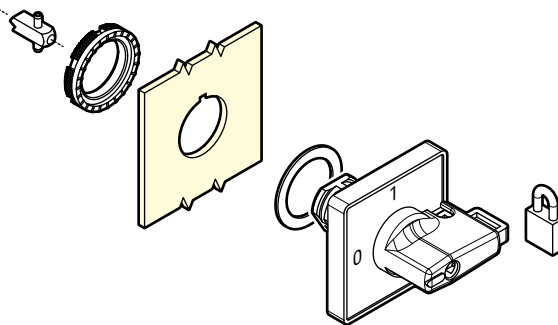
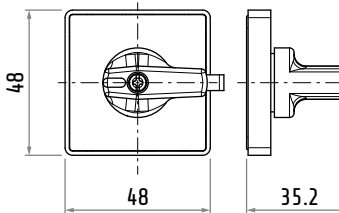


panel thickness:
1 ... 4 mm

095/0001 • 070/0001

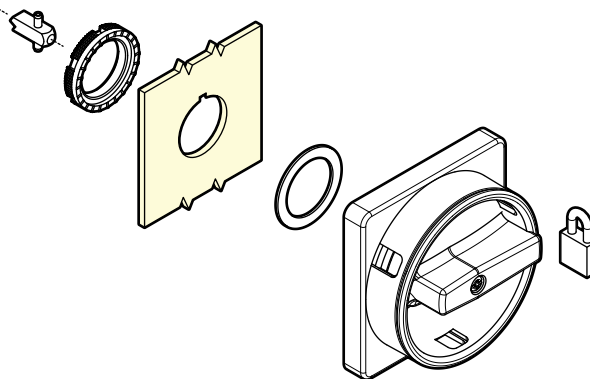
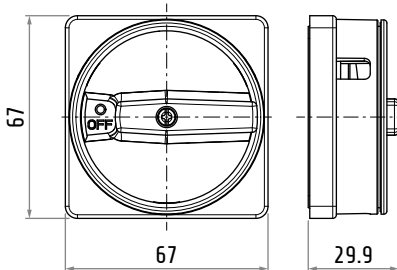


077/0001 • 069/0001



shackle:
6 mm max

063/0001 • 064/0001



up to 3 padlocks
shackle: 8 mm max



ATTENTION
(where padlocking is relevant)

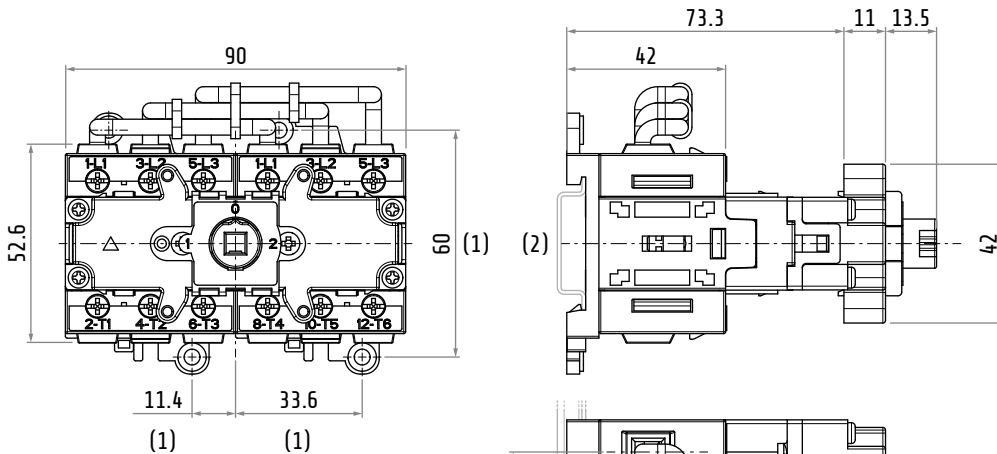
Padlocking is possible only in OFF position. Padlocking does not lock the door but prevents any operation on the handle.

3 + 3 poles (changeover) switch disconnecter installation (screw fixing)

Switch disconnectors involved

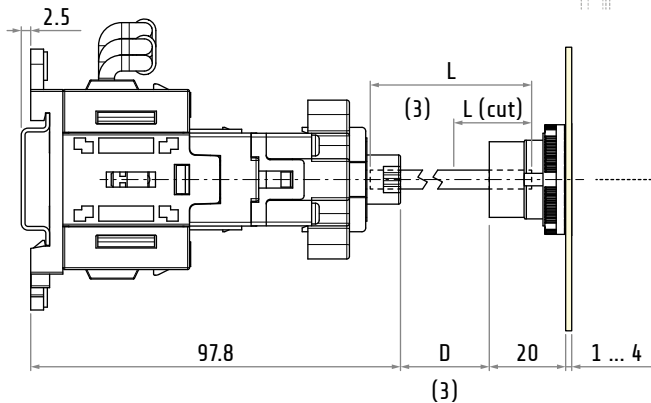
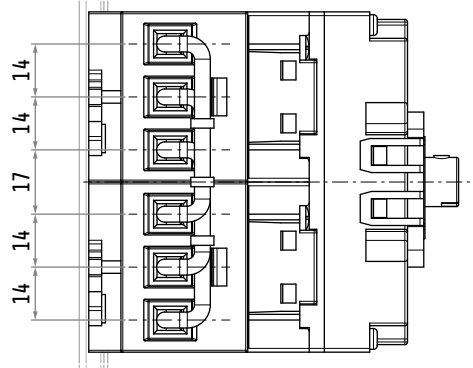
SQ025033B

SQ032033B

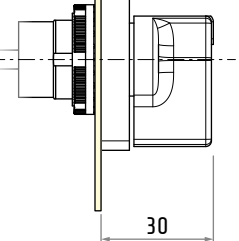


(1) Screws mounting (M4)

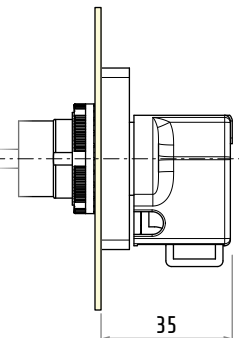
(2) DIN rail mounting
See "Overall information" on p.6.



095/0008-90
070/0008-90



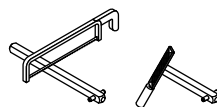
077/0008-90
069/0008-90



(3) Supplied and optional shafts

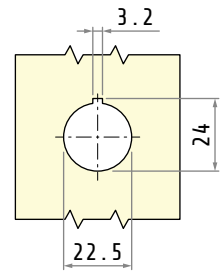
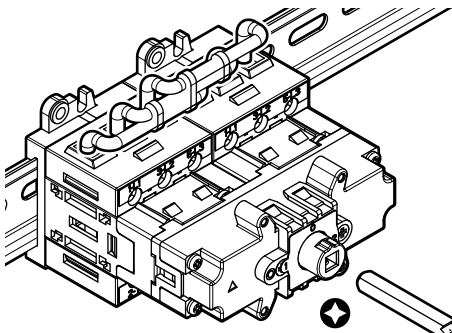
Shaft code	L	D (min)	D (max)
-	std	85 mm	~20 mm ~57 mm
20401089	opt	185 mm	~20 mm ~157 mm
20401164	opt	300 mm	~20 mm ~272 mm

Cut the shaft to the length that fit your needs (finish the cut with a file) referring to this formula:
 $L(\text{cut}) \approx D + 28 \text{ mm}$



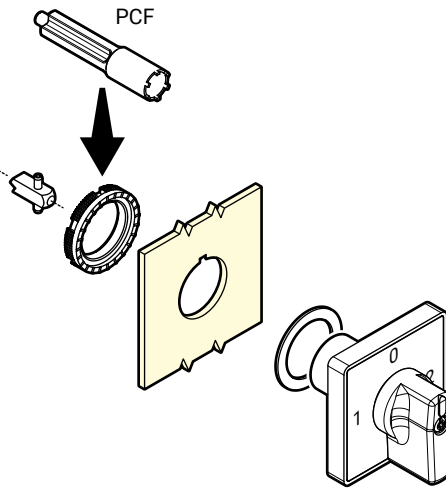
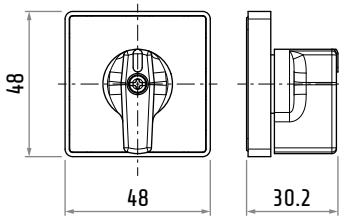
Dimensions in mm
Illustrations NOT in scale

(continued on next page)

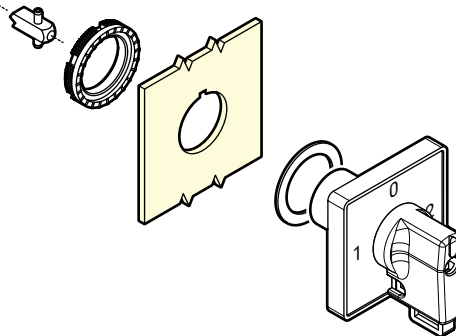
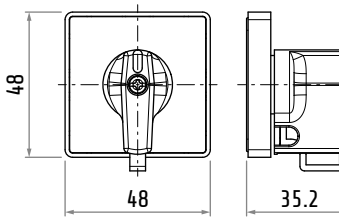


panel thickness:
1 ... 4 mm

095/0008-90 • 070/0008-90



077/0008-90 • 069/0008-90



shackle:
6 mm max

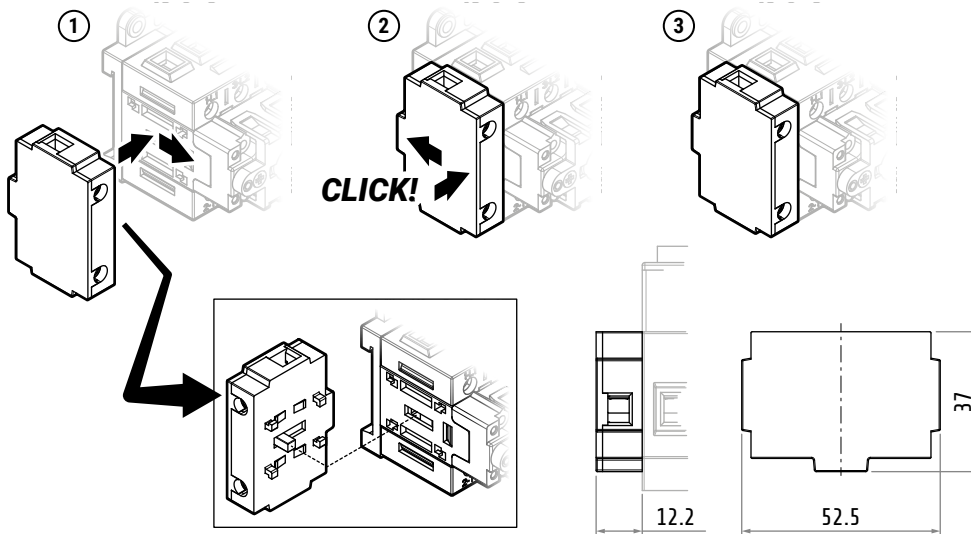


ATTENTION
(where padlocking is relevant)

Padlocking is possible only in OFF position. Padlocking does not lock the door but prevents any operation on the handle.

ACCESSORIES INSTALLATION

Additional poles mounting



Additional poles

SQ025AFPB
SQ032AFPB

SQ025ANIB
SQ032ANIB

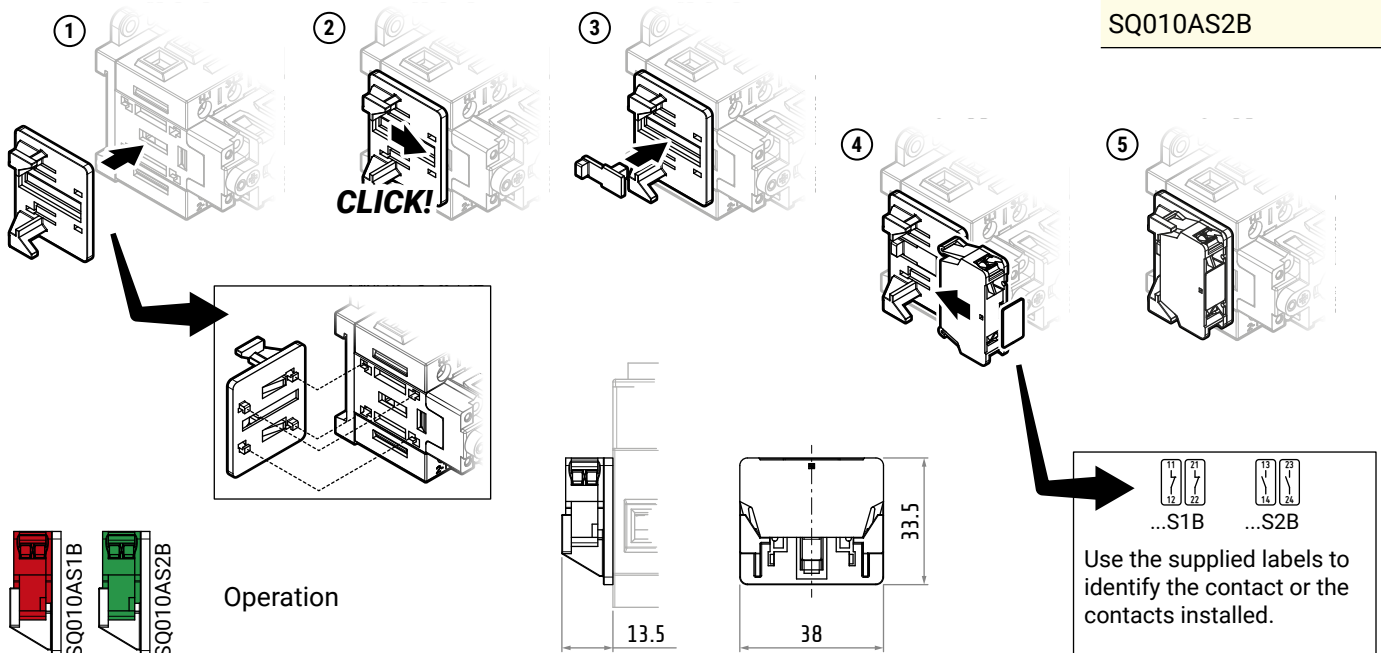
SQ025ANPB
SQ032ANPB

SQ025APEB
SQ032APEB

Dimensions in mm
Illustrations NOT in scale

- (1) Insert the cursor protrusion into the slot and push upward
- (2) Hook and push downward

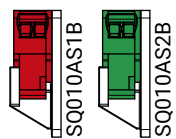
Auxiliary contacts mounting



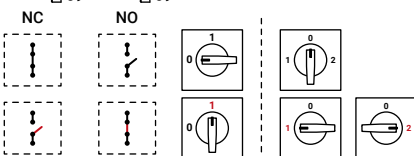
Auxiliary contacts

SQ010AS1B

SQ010AS2B



Operation

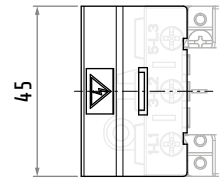
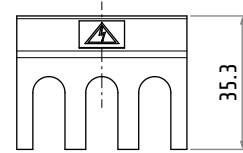
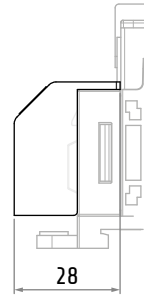
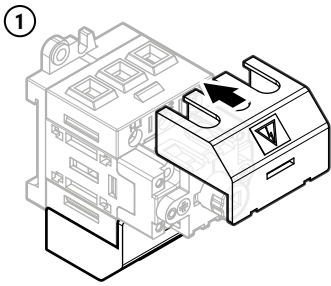


Dimensions in mm
Illustrations NOT in scale

Terminal protection mounting

Terminal protection

20900023

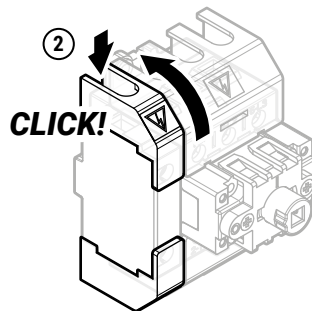
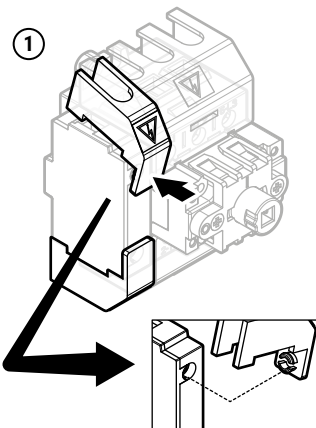


Dimensions in mm
Illustrations NOT in scale

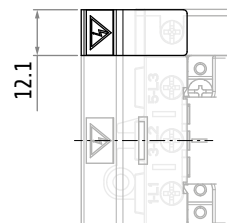
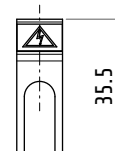
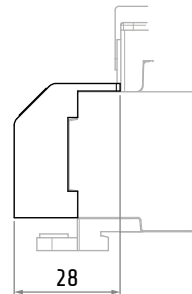
Additional poles protection mounting

Additional poles protection

20900025



- (1) Insert the edge of the pin into the hole
- (2) Rotate and push towards the additional pole



Dimensions in mm
Illustrations NOT in scale