

SQ040...B

SQ063...B

REGOLUS SWITCH DISCONNECTORS WITH TYPE "B" BASE MOUNTING (63 A / 80 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.



Giovenzana International B.V. reserves the right to change the features and data shown in this document at any time and without notice. This document cannot therefore be considered a contract with third parties.



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
SQ040	SQ040002B	SQ040003B	SQ040006B	SQ040033B	63 A	50 A
SQ063	SQ063002B	SQ063003B	SQ063006B	SQ063033B	80 A	75 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	A8
	terminal screw		M5
	tightening torque	EN60947-1 UL508	3 N·m 32 lb·in (3.6 N·m)
Connectable section	flexible conductors		1.5 ... 25 mm ² AWG 10 ... 2
	solid conductors		1.5 ... 25 mm ² AWG 10 ... 2
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

		SQ040	SQ063
Rated operating voltage	U _e	690 V	690 V
Rated insulation voltage	U _i	690 V	690 V
Rated impulse withstand voltage (sectionable)	U _{imp}	8 kV	8 kV
Rated thermal current	I _{th}	63 A	80 A
Rated enclosed thermal current	I _{the}	63 A	80 A
Frequency		50/60 Hz	50/60 Hz

Alternate current

Rated operating current		le		SQ040	SQ063
AC-21A	Switching of resistive loads, including moderate overloads		690 V	63 A	80 A
AC-22A	Switching of mixed resistive and inductive loads, including moderate overloads		500 V	63 A	80 A
			690 V	63 A	80 A
AC-23A	Switching of motor loads or other highly inductive loads	3 phases - 3 poles	230 V	63 A	80 A
			400 V	50 A	75 A
			500 V	50 A	75 A
			690 V	26 A	32 A
AC-3	Squirrel-cage motors: starting, switches off motors during running time	3 phases - 3 poles	230 V	45 A	60 A
			400 V	40 A	60 A
			500 V	35 A	45 A
			690 V	22 A	25 A
AC-23A	Nominal breaking capacity (cosφ 0.45)		230 V	360 A	600 A
			400 V	360 A	536 A
			500 V	280 A	536 A
			690 V	176 A	256 A

Short circuit characteristics

			SQ040	SQ063
Rated short-time short circuit withstand current (1 s)	lcw		1200 A	1500 A
Rated short circuit making capacity	lcm		2200 A	2800 A
Conditional rated short circuit withstand current			10 kA	10 kA
Fuse rating (type gG)		500 V	80 A	80 A
		690 V	80 A	80 A


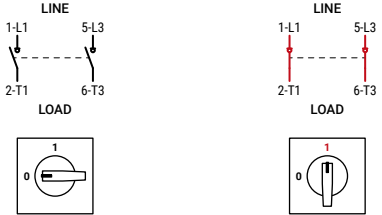

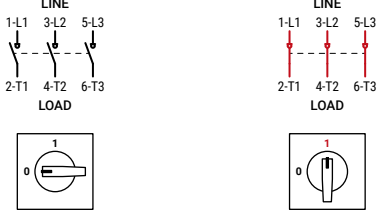

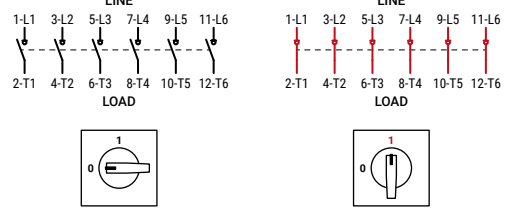

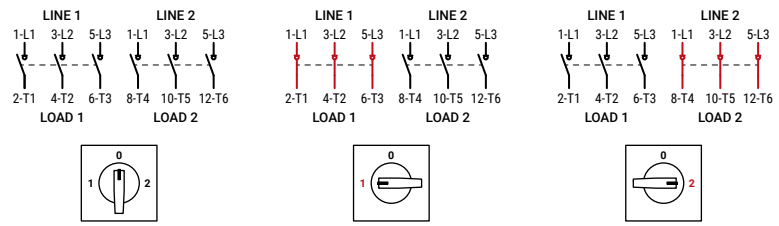
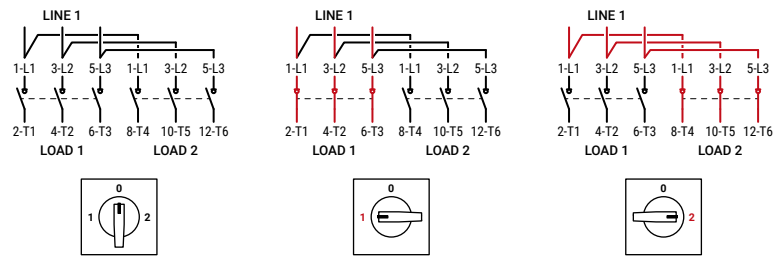
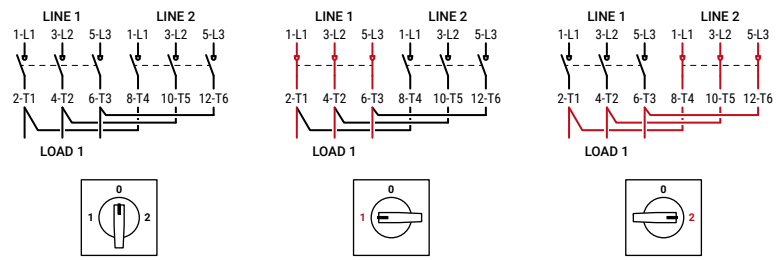
UL 508 characteristics

			SQ040	SQ063		
General use		600 V AC	60 A	80 A		
Standard motor load	1 phase - 2 poles	120 V AC	2 HP	24 FLA	3 HP	34 FLA
		200 - 208 V AC	3 HP		5 HP	
		240 V AC	5 HP	28 FLA	7.5 HP	40 FLA
	3 phases - 3 poles	200 - 208 V AC	7.5 HP		10 HP	
		240 V AC	10 HP	28 FLA	15 HP	42 FLA
		480 V AC	25 HP	34 FLA	30 HP	40 FLA
	600 V AC	30 HP	32 FLA	40 HP	41 FLA	

Marking

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

QUICK REFERENCE

Switch disconnecter	Notes	Operational scheme	
 2 poles SQ040002B SQ063002B	Installation instructions: p.7		One input LINE manages one LOAD.
 3 poles SQ040003B SQ063003B	Installation instructions: p.7		One input LINE manages one LOAD.
 6 poles SQ040006B SQ063006B	Installation instructions: p.9		One input LINE manages one LOAD.
 3 + 3 poles (changeover) SQ040033B SQ063033B	Standard configuration without changeover bridges. Installation instructions: p.11		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).
Alternative configuration with changeover bridges on the line side ("L" poles). Installation instructions: p.11		One input LINE 1 manages two loads LOAD 1 and LOAD 2 which are alternatives to each other (they cannot work together).	
Alternative configuration with changeover bridges on the load side ("T" poles). Installation instructions: p.11		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).	

OVERVIEW

Switch disconnectors / actuators matrix

Actuator code reading

0	4	9	/	0	0	0	1
Actuator				Wording			



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

ACTUATOR

67×67
Grey/Black
padlock
screw



321/...



321/...



321/...

67×67
Yellow/Red
padlock
screw



322/...



322/...



322/...

Ø78
Grey/Black
padlock
screw



311/...



311/...



311/...

Ø78
Yellow/Red
padlock
screw



312/...



312/...



312/...

WORDING



...0001



...0001



...0008

Installation
instructions

p.7

p.11

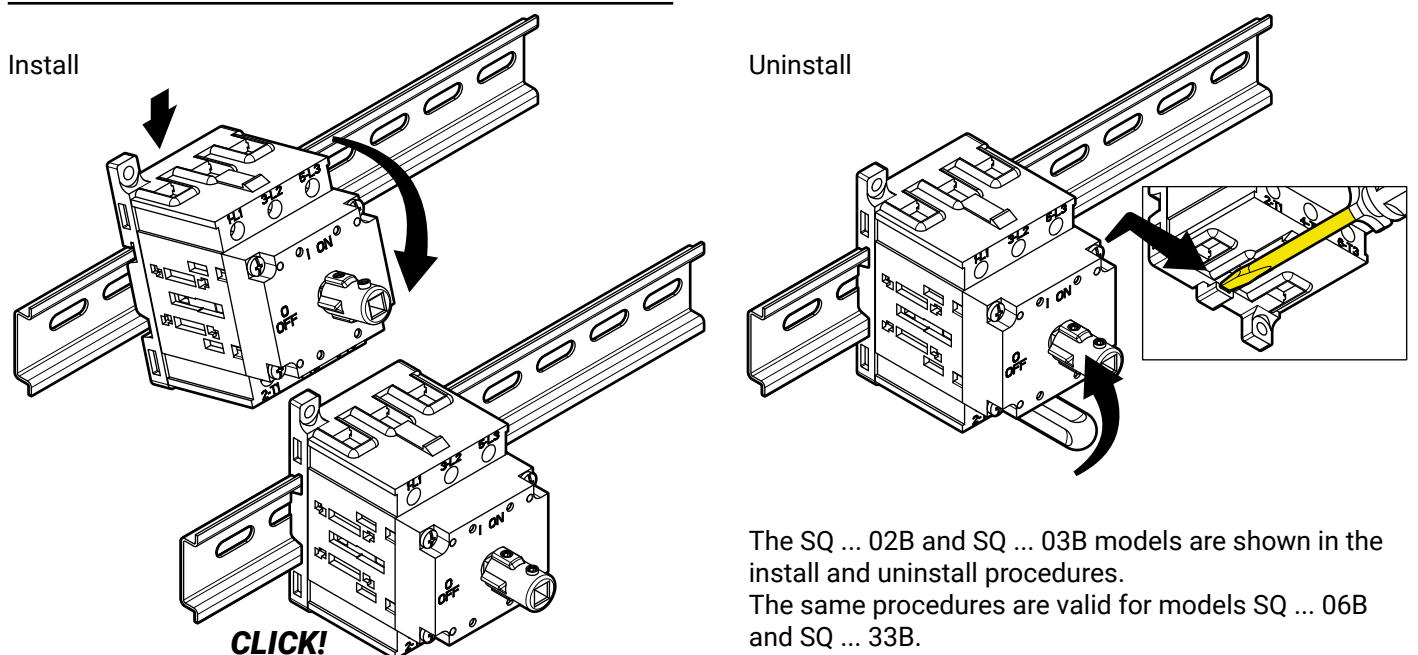
p.11

Accessories

Additional poles			Installation instructions	
Additional pole NO			SQ040AFPB SQ063AFPB	p.13
4th pole (early make contact)			SQ040ANIB SQ063ANIB	p.13
Neutral terminal			SQ040ANPB SQ063ANPB	p.13
Ground terminal			SQ040APEB SQ063APEB	p.13
Auxiliary contacts				
Auxiliary contact 1 NC			SQ010AS3B	p.13
Auxiliary contact 1 NO			SQ010AS4B	p.13
Terminal protections				
Terminal protection for 3 poles			20900041	p.14
Terminal protection for 1 pole			20900040	p.14

OVERALL INFORMATION

DIN rail mounting



INSTALLATION

2 / 3 poles switch disconnecter installation

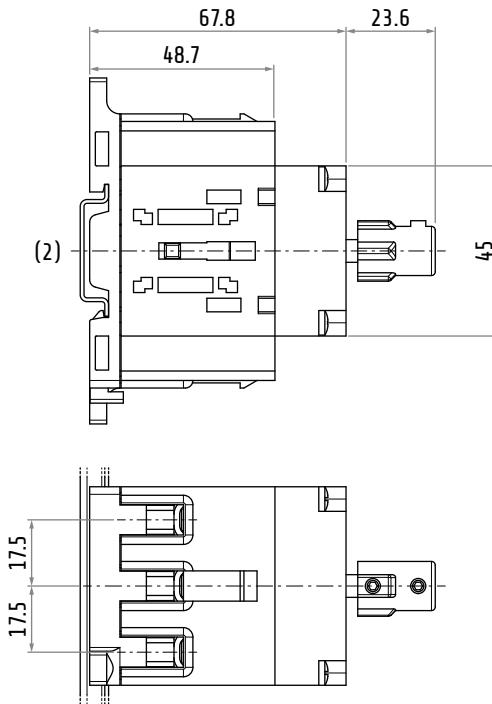
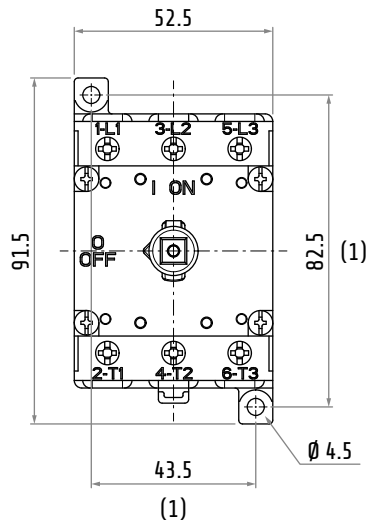
Switch disconnectors involved

SQ040002B

SQ063002B

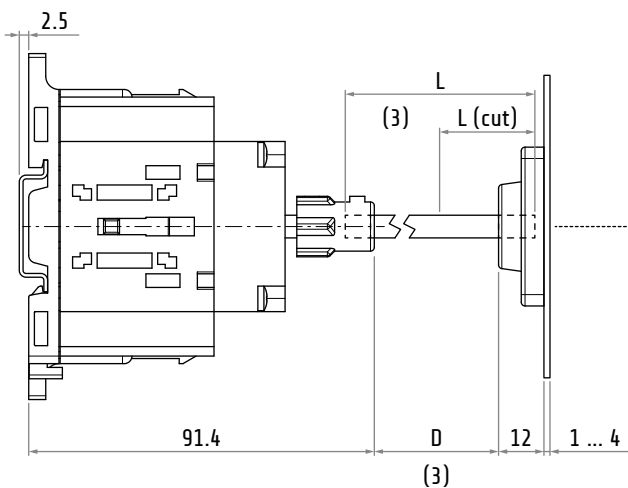
SQ040003B

SQ063003B



(1) Screws mounting (M4)

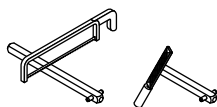
(2) DIN rail mounting
See "Overall information" on p.6.



(3) Supplied and optional shafts

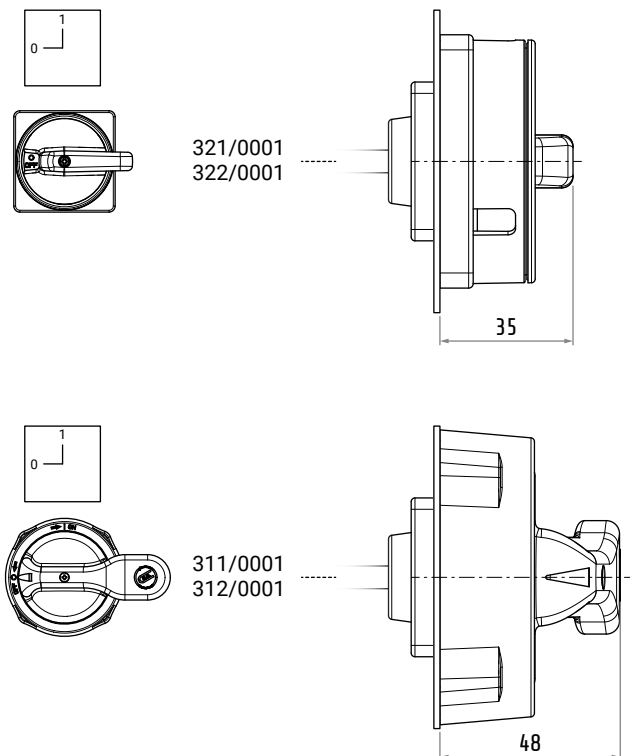
Shaft code	L	D (min)	D (max)
-	std 85 mm	~25 mm	~62 mm
20900010	opt 185 mm	~25 mm	~162 mm
20900011	opt 300 mm	~25 mm	~277 mm

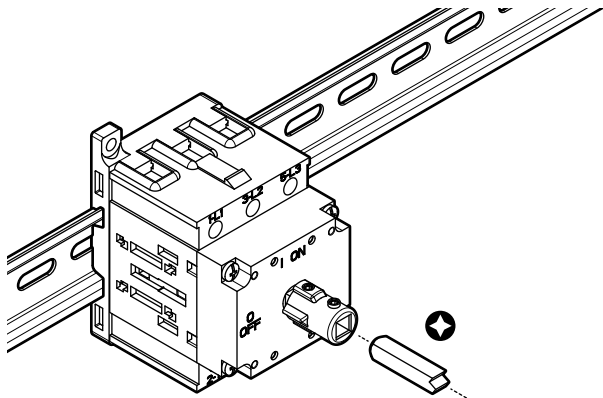
Cut the shaft to the length that fit your needs (finish the cut with a file) referring to this formula:
 $L(\text{cut}) \approx D + 23 \text{ mm}$



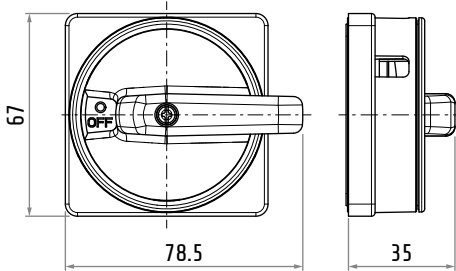
Dimensions in mm
Illustrations NOT in scale

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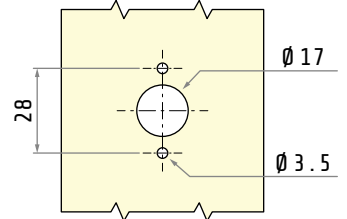




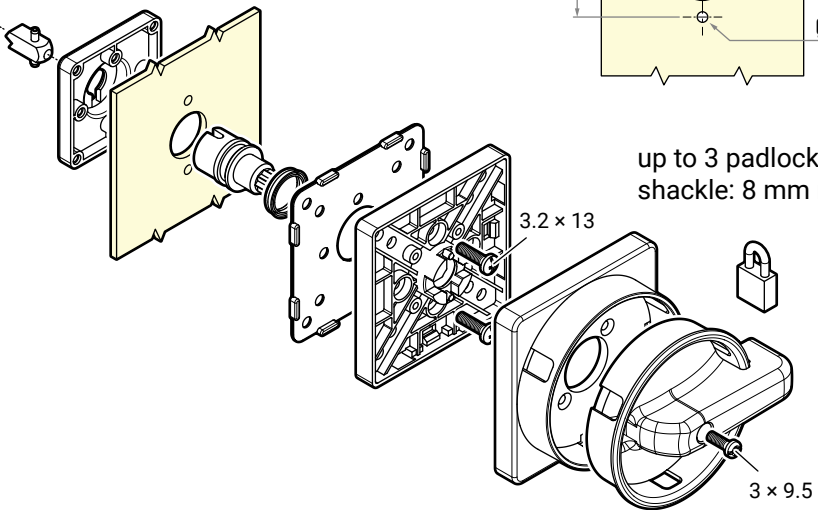
321/0001 • 322/0001



panel thickness:
1 ... 4 mm

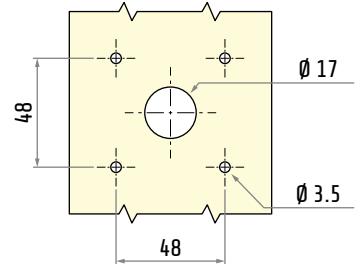


up to 3 padlocks
shackle: 8 mm max

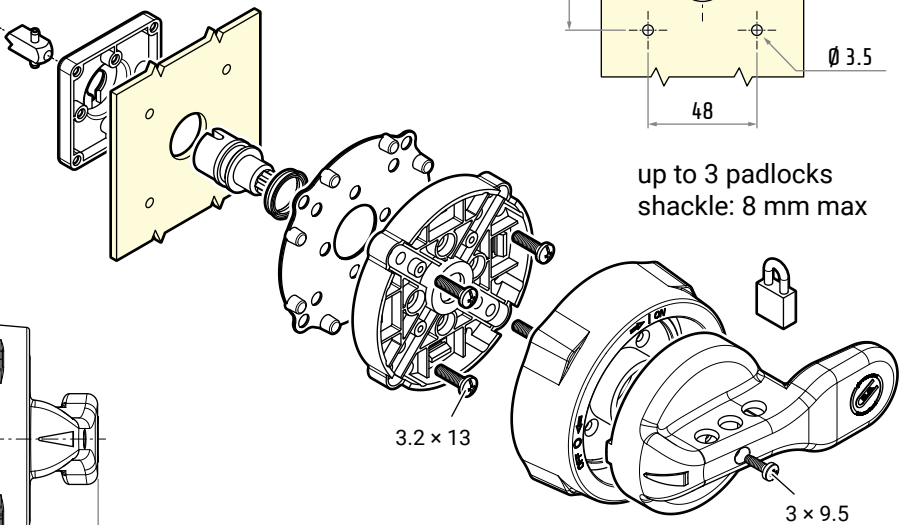
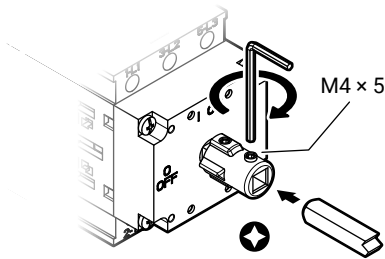


⚠ ATTENTION
(where padlocking is relevant)
Padlocking is possible only in
OFF position.

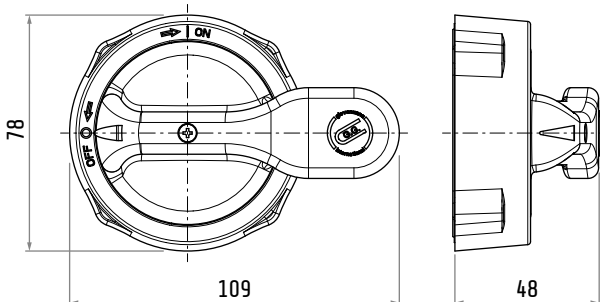
panel thickness:
1 ... 4 mm



up to 3 padlocks
shackle: 8 mm max



311/0001 • 312/0001

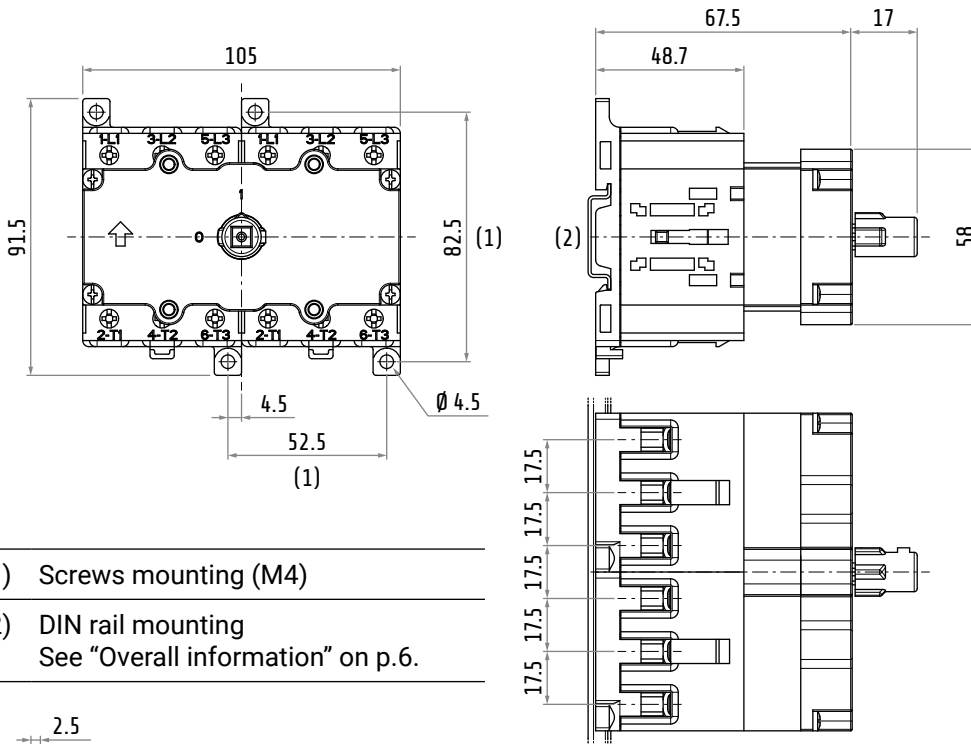


6 poles switch disconnecter installation

Switch disconnectors involved

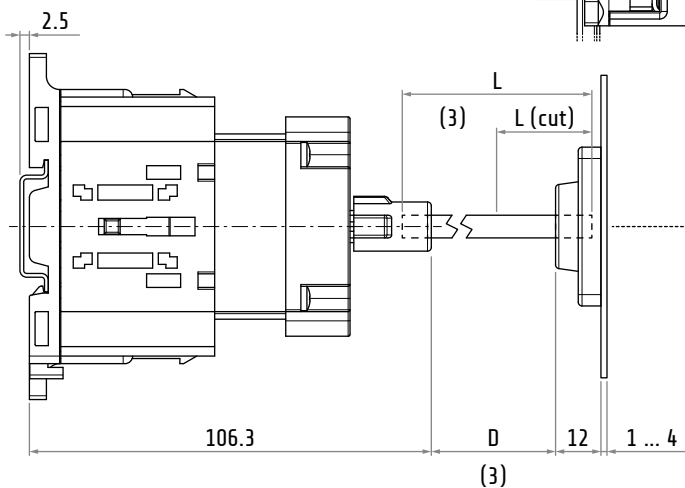
SQ040006B

SQ063006B



(1) Screws mounting (M4)

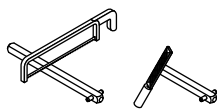
(2) DIN rail mounting
See "Overall information" on p.6.



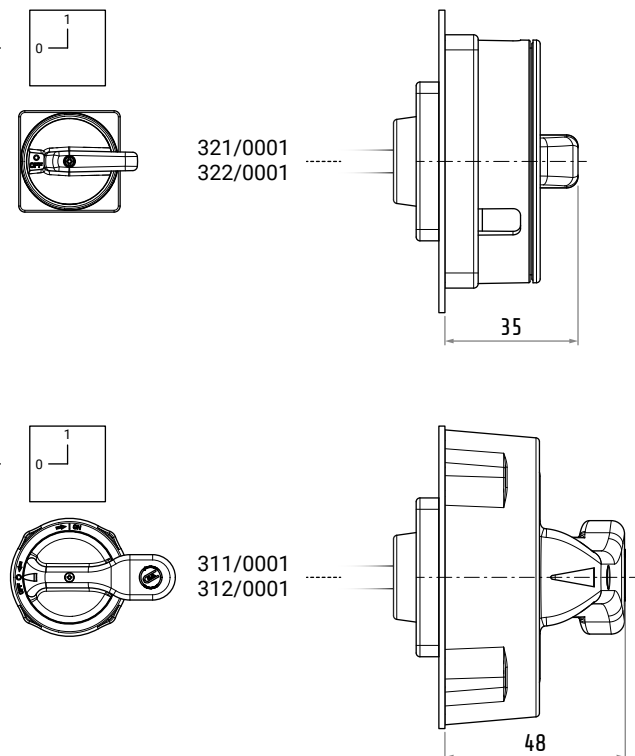
(3) Supplied and optional shafts

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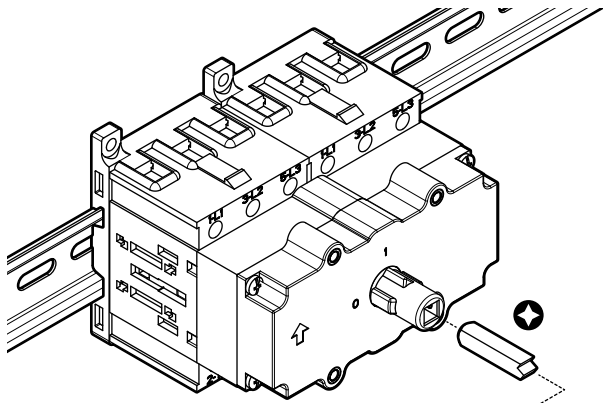
Cut the shaft to the length that fit your needs (finish the cut with a file) referring to this formula:
 $L(\text{cut}) \approx D + 23 \text{ mm}$



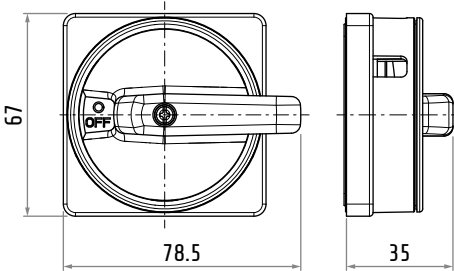
Dimensions in mm
Illustrations NOT in scale



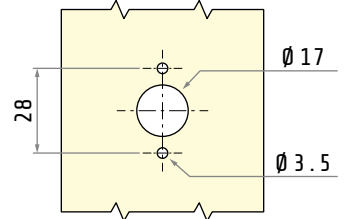
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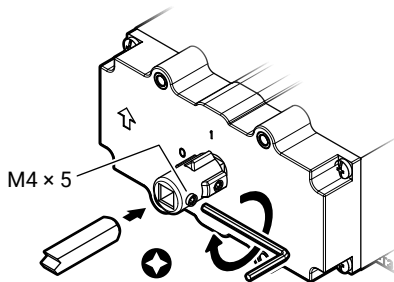
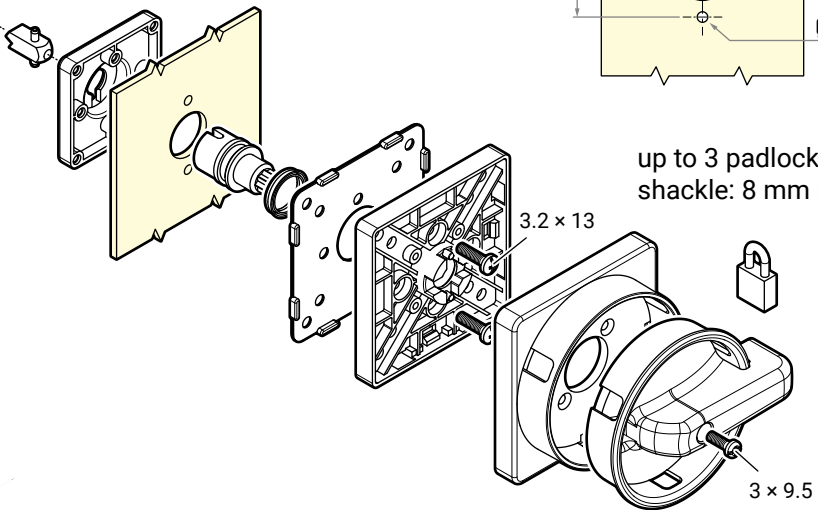
321/0001 • 322/0001



panel thickness:
1 ... 4 mm

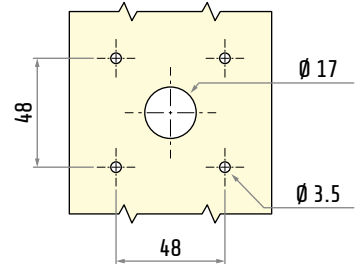


up to 3 padlocks
shackle: 8 mm max

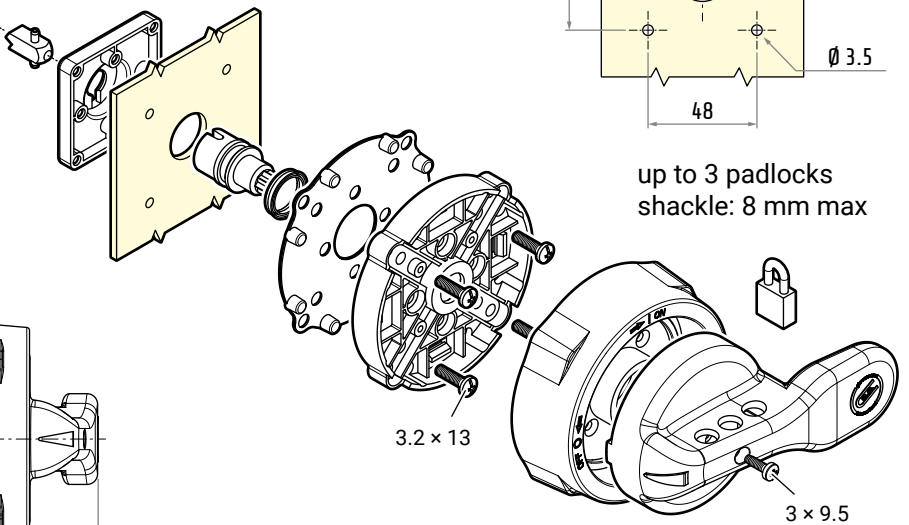


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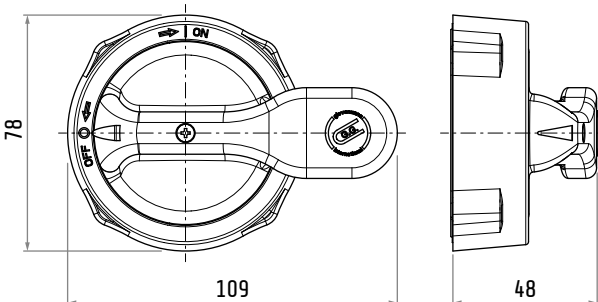
panel thickness:
1 ... 4 mm



up to 3 padlocks
shackle: 8 mm max



311/0001 • 312/0001

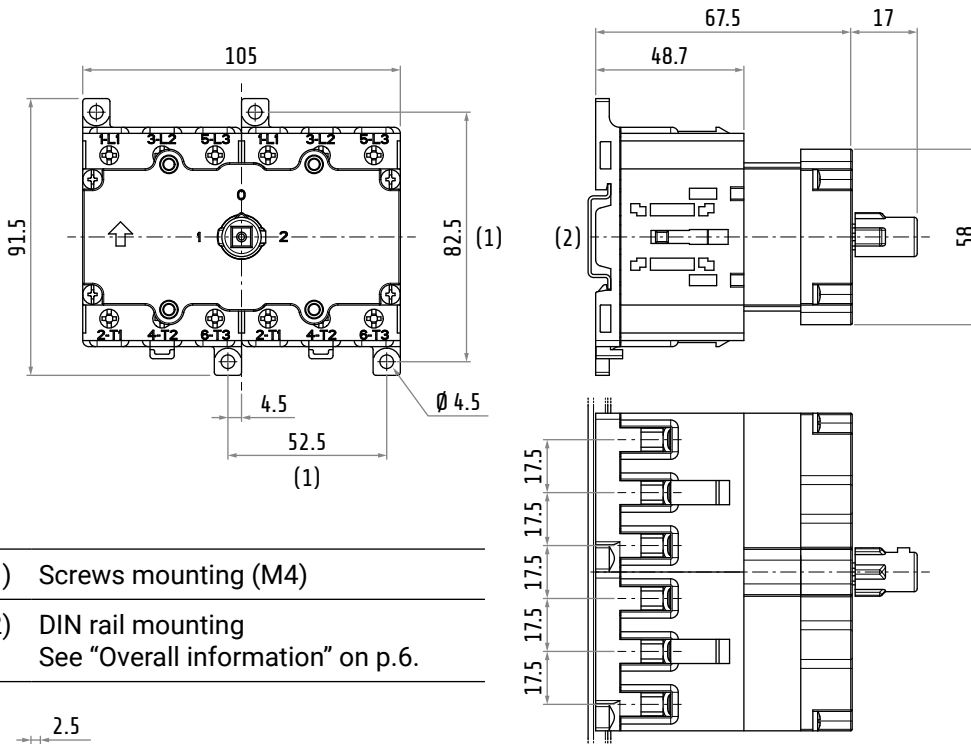


3 + 3 poles (changeover) switch disconnecter installation

Switch disconnectors involved

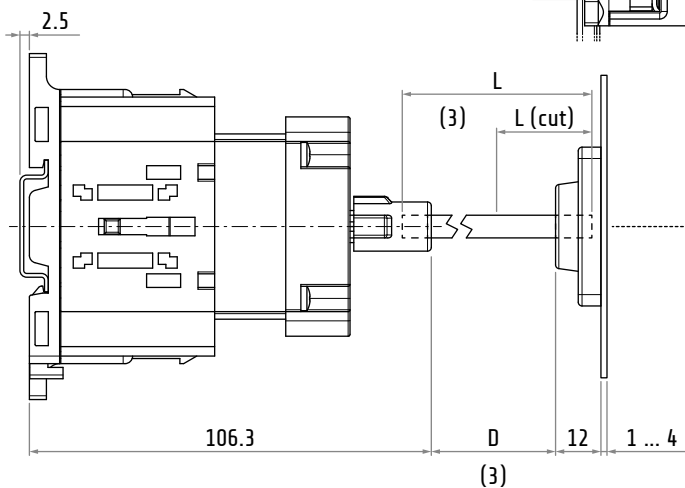
SQ040033B

SQ063033B



(1) Screws mounting (M4)

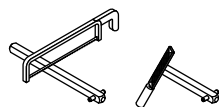
(2) DIN rail mounting
See "Overall information" on p.6.



(3) Supplied and optional shafts

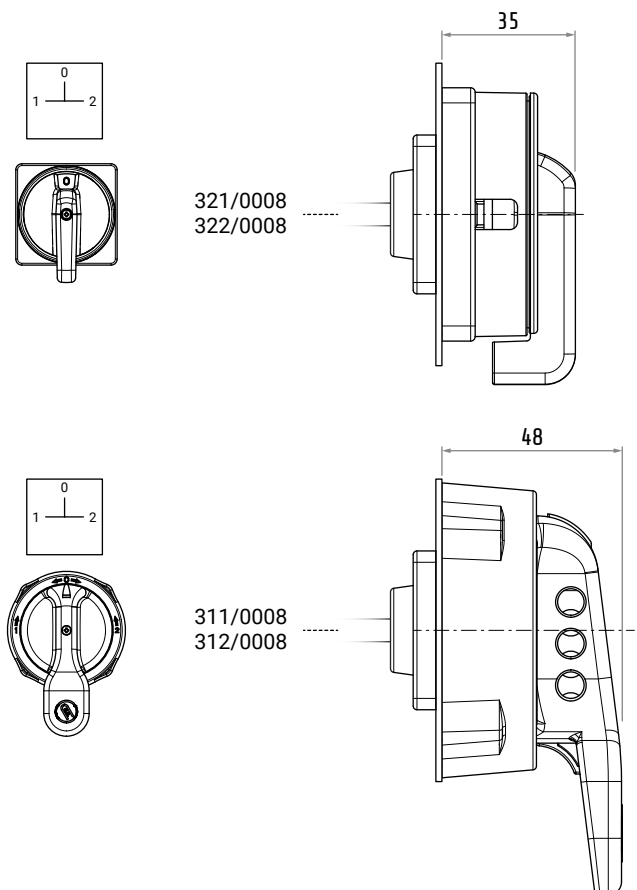
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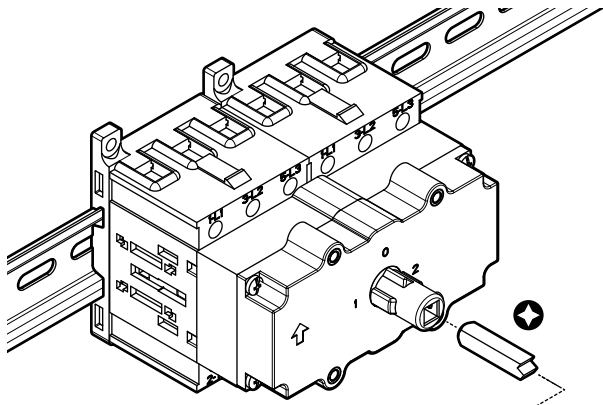
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 $L \text{ (cut)} \approx D + 23 \text{ mm}$



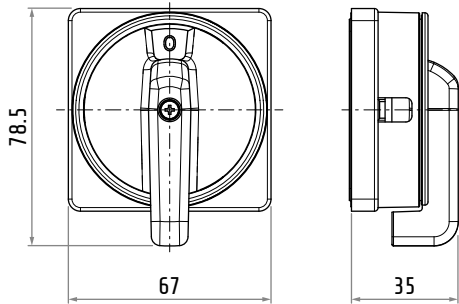
Dimensions in mm
Illustrations NOT in scale

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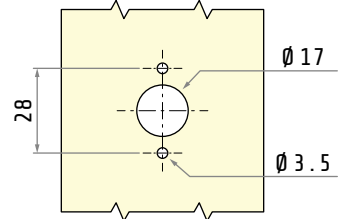




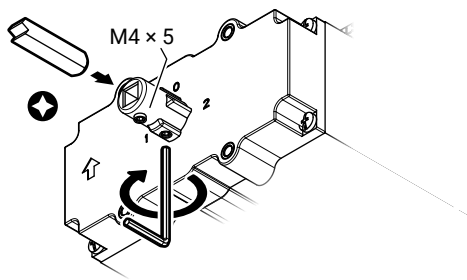
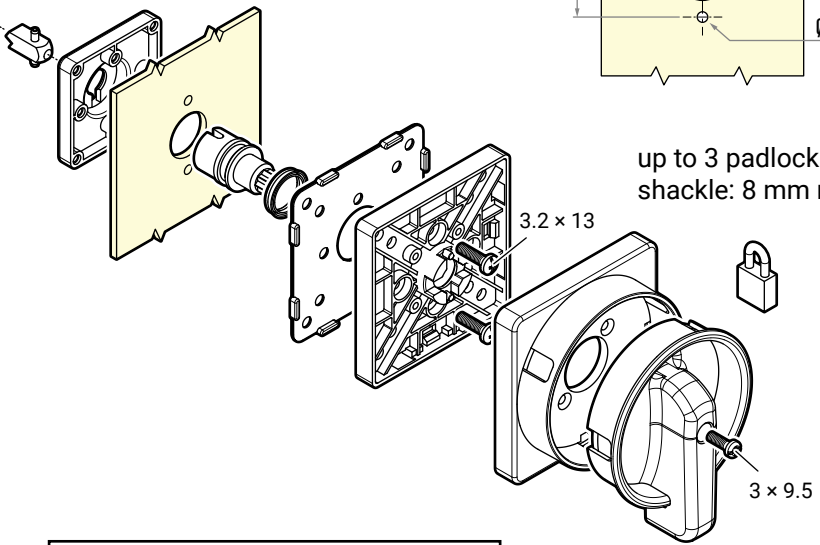
321/0008 • 322/0008



panel thickness:
1 ... 4 mm

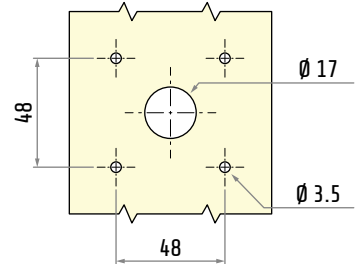


up to 3 padlocks
shackle: 8 mm max



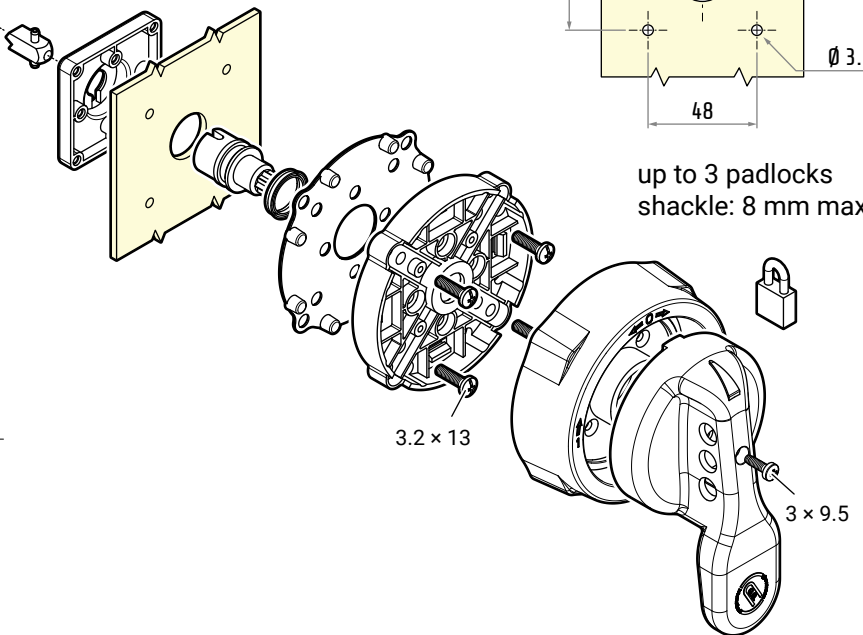
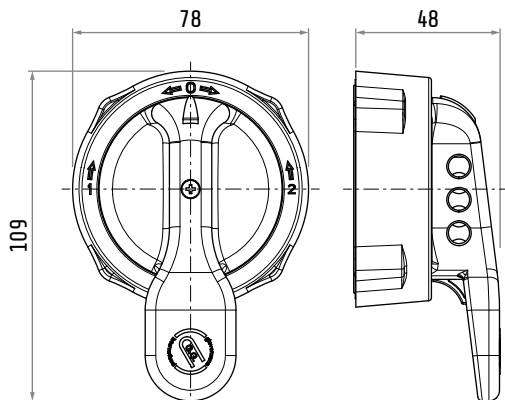
⚠ ATTENTION
(where padlocking is relevant)
Padlocking is possible only in
OFF position.

panel thickness:
1 ... 4 mm

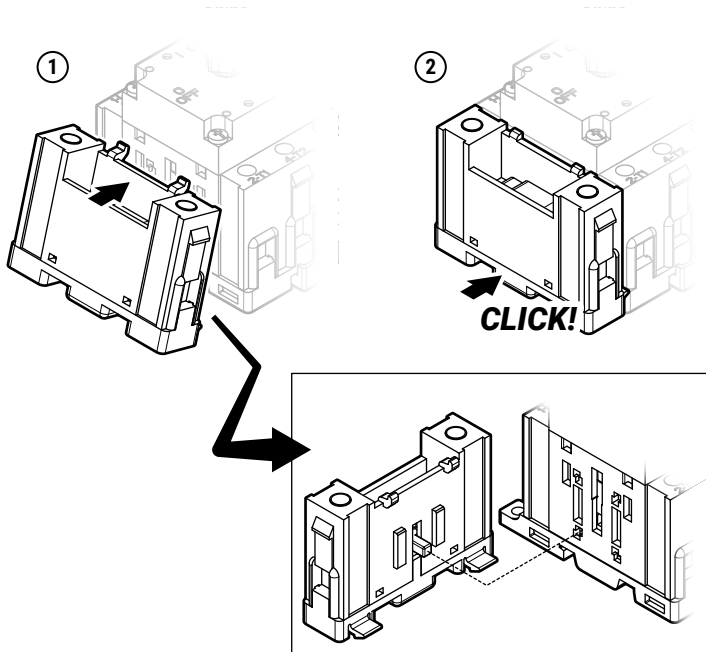


up to 3 padlocks
shackle: 8 mm max

311/0008 • 312/0008



Additional poles mounting



- (1) Hook and insert the cursor protrusion into the slot
- (2) Push to fasten

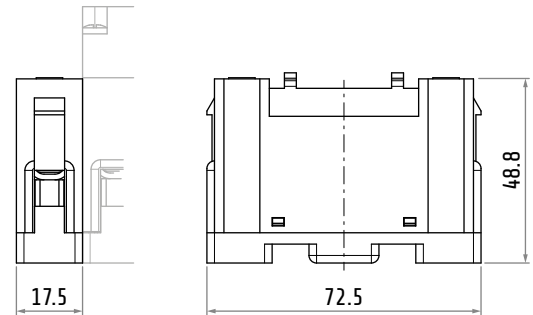
Additional poles

SQ040AFPB
SQ063AFPB

SQ040ANIB
SQ063ANIB

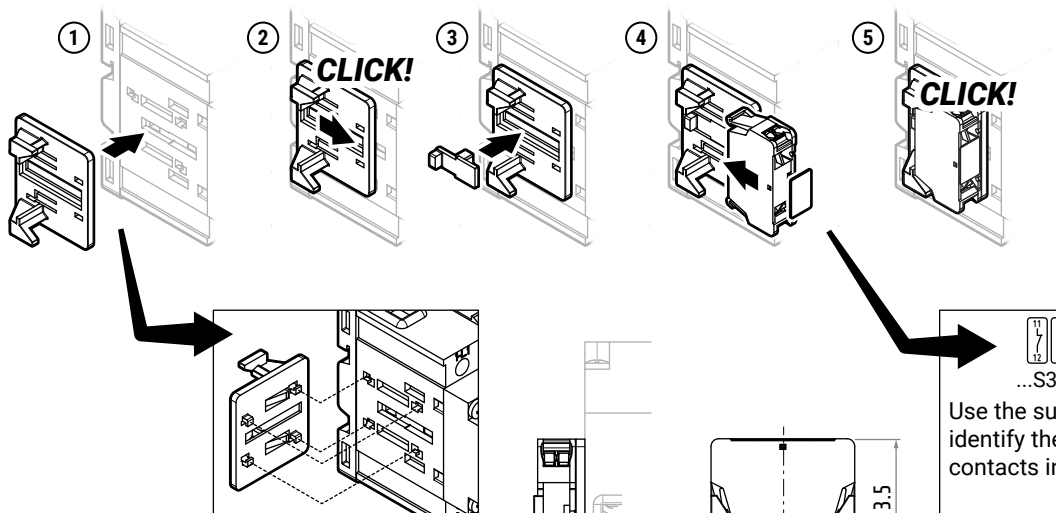
SQ040ANPB
SQ063ANPB

SQ040APEB
SQ063APEB

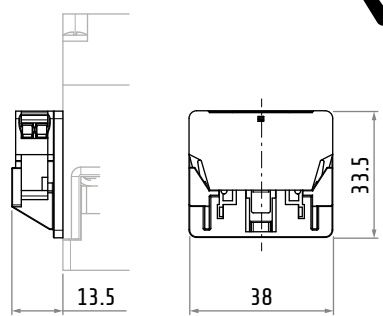


Dimensions in mm
Illustrations NOT in scale

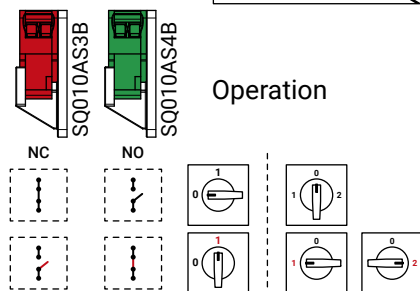
Auxiliary contacts mounting



...S3B ...S4B
 Use the supplied labels to identify the contact or the contacts installed.



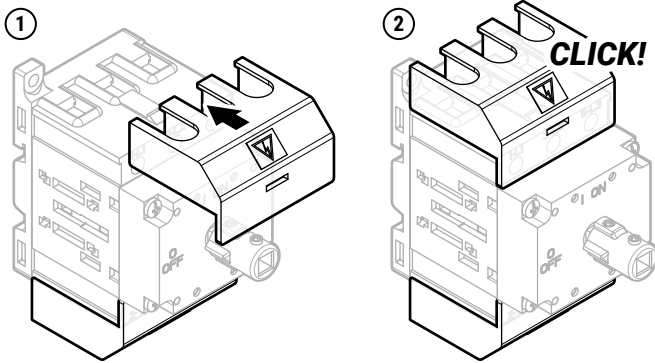
Dimensions in mm
Illustrations NOT in scale



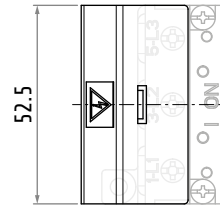
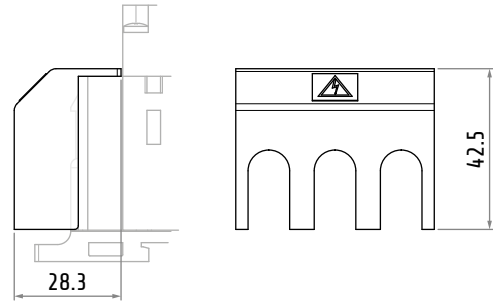
Terminal protection mounting

Terminal protection

20900041



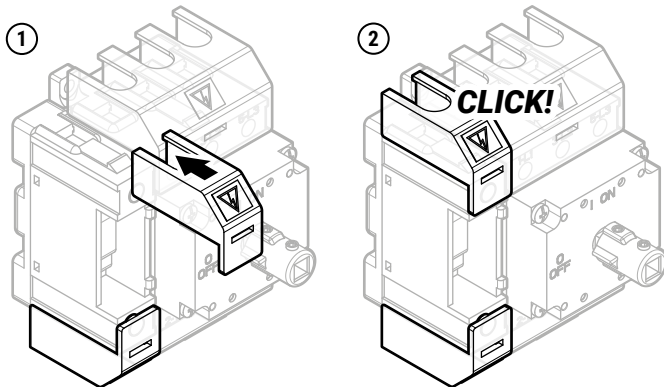
Dimensions in mm
Illustrations NOT in scale



Additional poles protection mounting

Additional poles protection

20900040



Dimensions in mm
Illustrations NOT in scale

