

SQN125...B

SQN160...B

REGOLUS SWITCH DISCONNECTORS WITH TYPE "B" BASE MOUNTING (125 A / 160 A)

SPECIFICATIONS 2
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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.



SQN series 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	3 poles	6 poles	3 + 3 poles (changeover)	AC-21A 690 V	AC-23A 400 V
SQN125	SQN125003B	SQN125006B	SQN125033B	125 A	125 A
SQN160	SQN160003B	SQN160006B	SQN160033B	160 A	160 A

Main features:

- rear panel mounting
- screw fixing

Additional references:

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

SPECIFICATIONS

General characteristics

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	A11	
	terminal screw		M8	
	tightening torque	EN60947-1 UL508	6 N·m 53 lb·in (6 N·m)	
Connectable section	flexible conductors	SQN125 SQN160	50 mm ² 70 mm ²	AWG 0 AWG 00
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

		SQN125	SQN160
Rated operating voltage	U _e	690 V	690 V
Rated insulation voltage	U _i	800 V	800 V
Rated impulse withstand voltage (sectionable)	U _{imp}	8 kV	8 kV
Rated thermal current	I _{th}	125 A	160 A
Rated enclosed thermal current	I _{the}	125 A	160 A
Frequency		50/60 Hz	50/60 Hz

Alternate current

Rated operating current		I_e	SQN125	SQN160
AC-21A	Switching of resistive loads, including moderate overloads	690 V	125 A	160 A
AC-22A	Switching of mixed resistive and inductive loads, including moderate overloads	500 V	125 A	160 A
		690 V	125 A	160 A
AC-23A	Switching of motor loads or other highly inductive loads	3 phases - 3 poles 400 V	125 A	160 A
		500 V	100 A	125 A
		690 V	80 A	100 A

Direct current

DC-21B	Switching of resistive loads, including moderate overloads	600 V	10 A	10 A
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Short circuit characteristics

		SQN125	SQN160
Rated short-time short circuit withstand current (1 s)	I_{cw}	3000 A	3000 A
Rated short circuit making capacity	I_{cm}	4500 A	4500 A
Conditional rated short circuit withstand current		10 kA 10 kA	10 kA 10 kA
Fuse rating (type gG)	690 V	125 A	125 A


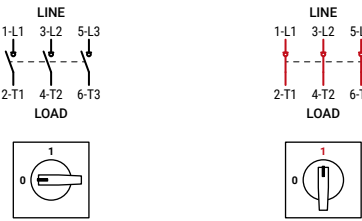

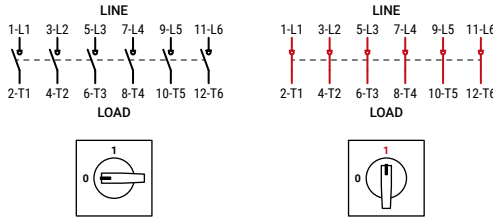

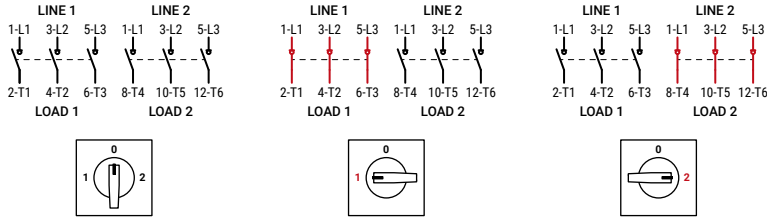
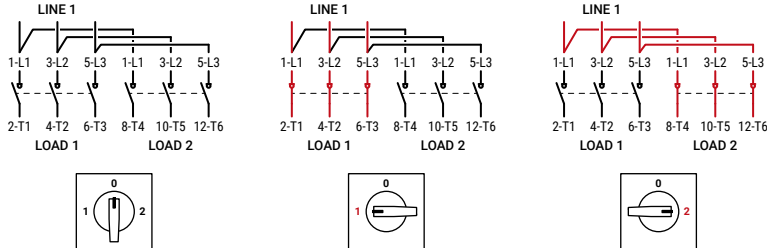
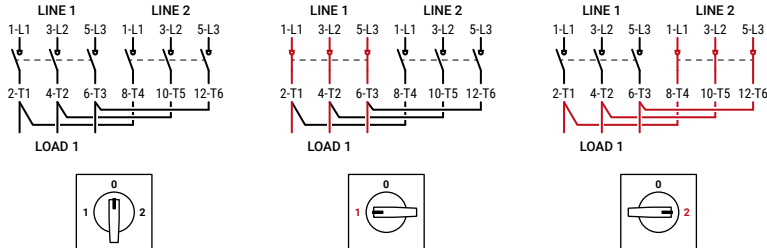
UL 508 characteristics

		SQN125	SQN160	
General use	600 V AC	125 A	150 A	
Standard motor load	3 phases - 3 poles	240 V AC	25 HP	25 HP
		480 V AC	50 HP	50 HP
		600 V AC	60 HP	60 HP

Marking

SQN...03B	CE, UL, UKCA
SQN...06B	CE, UKCA
SQN...33B	CE, UL, UKCA

QUICK REFERENCE

Switch disconnecter	Notes	Operational scheme
 <p>3 poles</p> <p>SQN125003B SQN160003B</p>	<p>Installation instructions: p.7</p>	 <p>One input LINE manages one LOAD.</p>
 <p>6 poles</p> <p>SQN125006B SQN160006B</p>	<p>Installation instructions: p.9</p>	 <p>One input LINE manages one LOAD.</p>
 <p>3 + 3 poles (changeover)</p> <p>SQN125033B SQN160033B</p>	<p>Standard configuration without changeover bridges.</p> <p>Installation instructions: p.11</p>	 <p>Two input LINE 1 and LINE 2 manage two LOAD 1 and LOAD 2 which are alternatives to each other (they cannot work together).</p>
<p>Alternative configuration with changeover bridges on the line side ("L" poles).</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>Alternative configuration with changeover bridges on the load side ("T" poles).</p> <p>Installation instructions: p.11</p>	 <p>Two input 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

Switch disconnectors / actuators matrix

Actuator code reading

0	0	1	/	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
Ø 22

321/...
-

321/...
-

321/...
-

67×67
Yellow/Red
padlock



screw
Ø 22

322/...
-

322/...
-

322/...
-

Ø78
Grey/Black
padlock



screw
Ø 22

311/...
-

311/...
-

311/...
-

Ø78
Yellow/Red
padlock



screw
Ø 22

312/...
-

312/...
-

312/...
-

WORDING



...0001



...0001



...0008

Installation
instructions

p.7

p.9

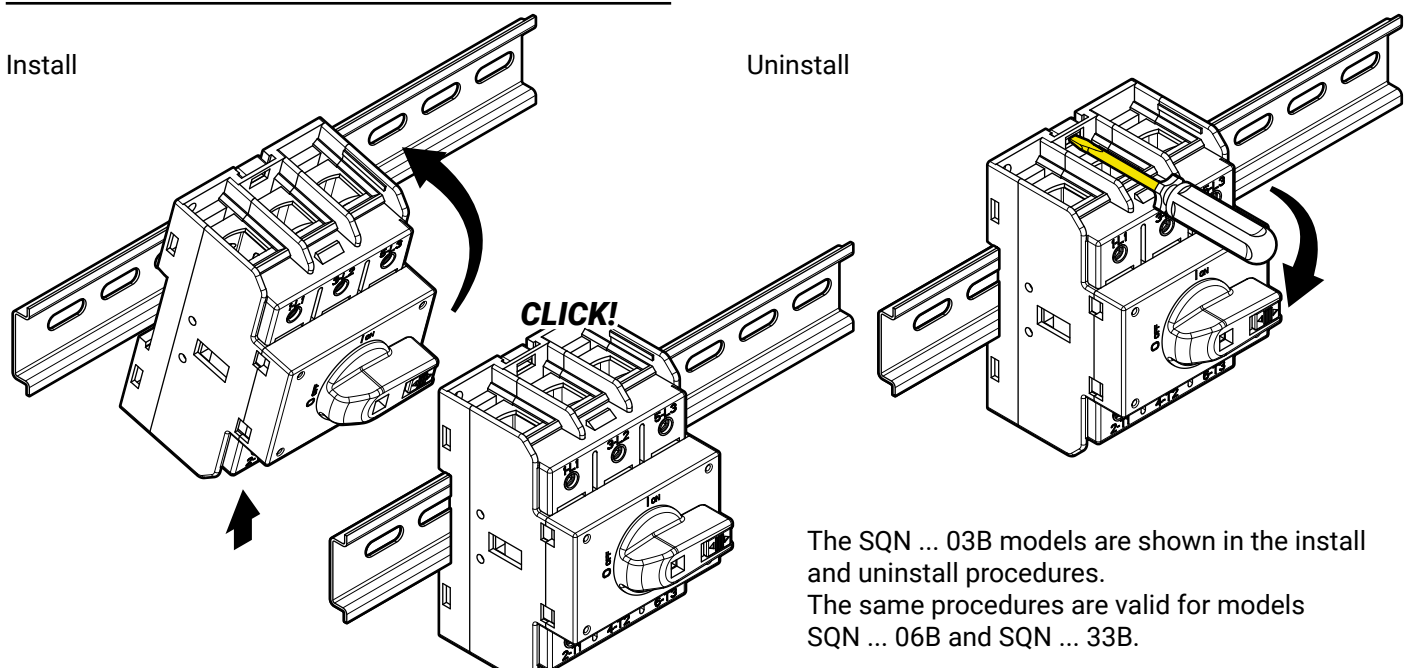
p.11

Accessories

Additional poles		Installation instructions	
Additional pole NO			SQN125AFPB SQN160AFPB p.13
4th pole (early make contact)			SQN125ANIB SQN160ANIB p.13
Neutral terminal			SQN125ANPB SQN160ANPB p.13
Ground terminal			SQN125APEB SQN160APEB p.13
Auxiliary contacts			
Auxiliary contact 1 NC			SQ010AS5B p.14 p.14
Auxiliary contact 1 NO			SQ010AS6B p.14 p.14
Terminal protections			
Terminal protection for 3 poles		20900064	p.15
Terminal protection for 1 pole		20900065	p.15

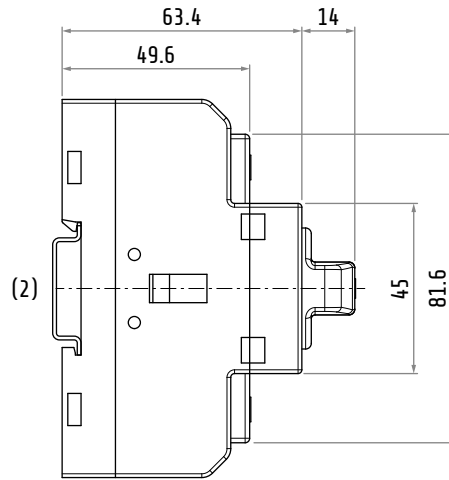
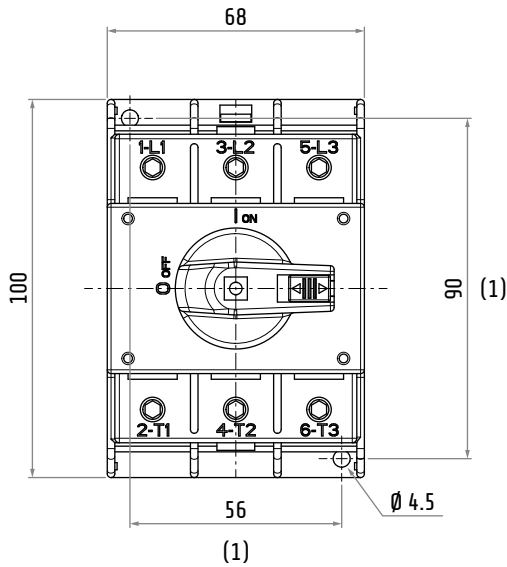
OVERALL INFORMATION

DIN rail mounting



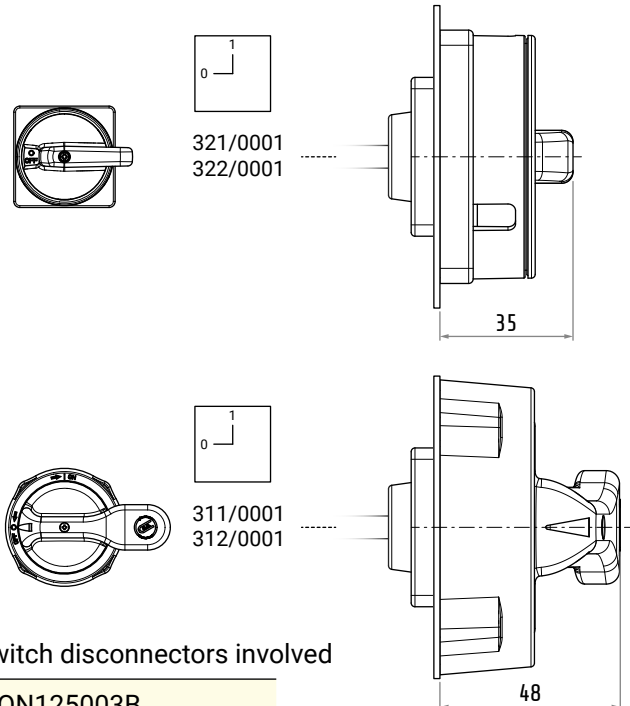
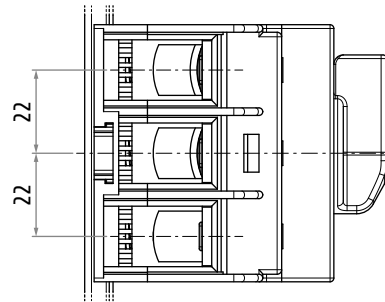
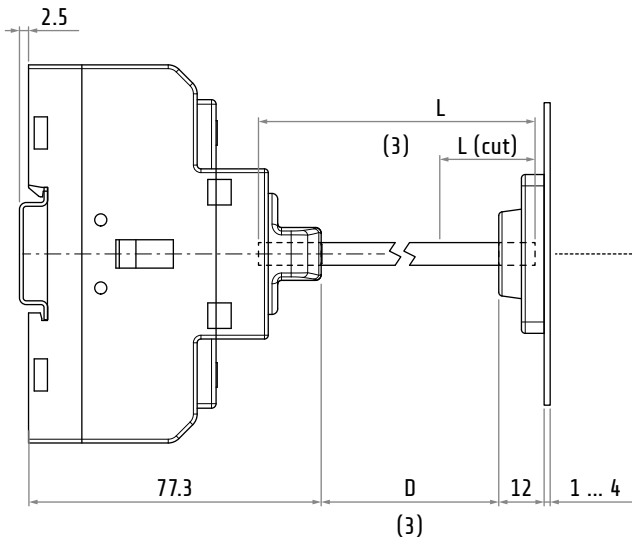
INSTALLATION

2 / 3 poles switch disconnecter installation



(1) Screws mounting (M4)

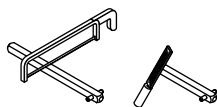
(2) DIN rail mounting
See "Overall information" on p.6.



(3) Supplied and optional shafts

Shaft code	L	D (min)	D (max)
-	std 85 mm	~25 mm	~55 mm
20900010	opt 185 mm	~25 mm	~155 mm
20900011	opt 300 mm	~25 mm	~270 mm

Cut the shaft to the length that fit your needs (finish the cut with a file) referring to this formula:
 $L \text{ (cut)} \approx D + 30 \text{ mm}$



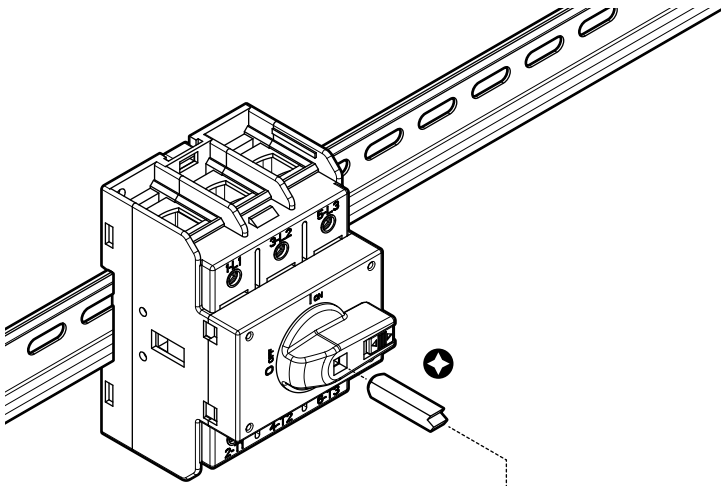
Dimensions in mm
Illustrations NOT in scale

(continued on next page)

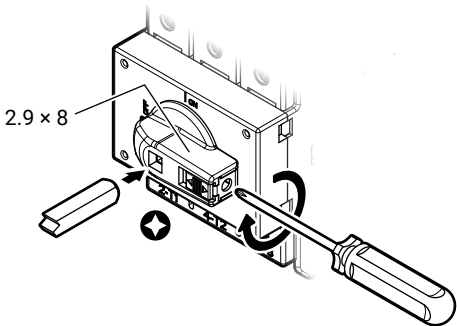
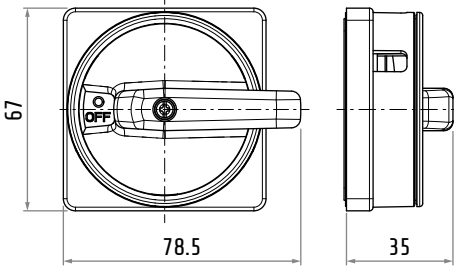
Switch disconnectors involved

SQN125003B

SQN160003B

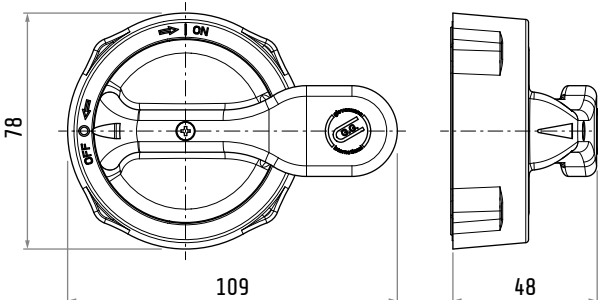


321/0001 • 322/0001

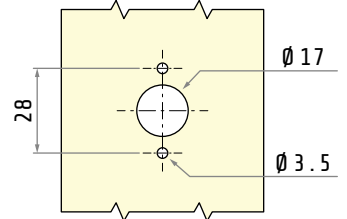


0.2-0.3 Nxm
1.8-2.7 lbfxin

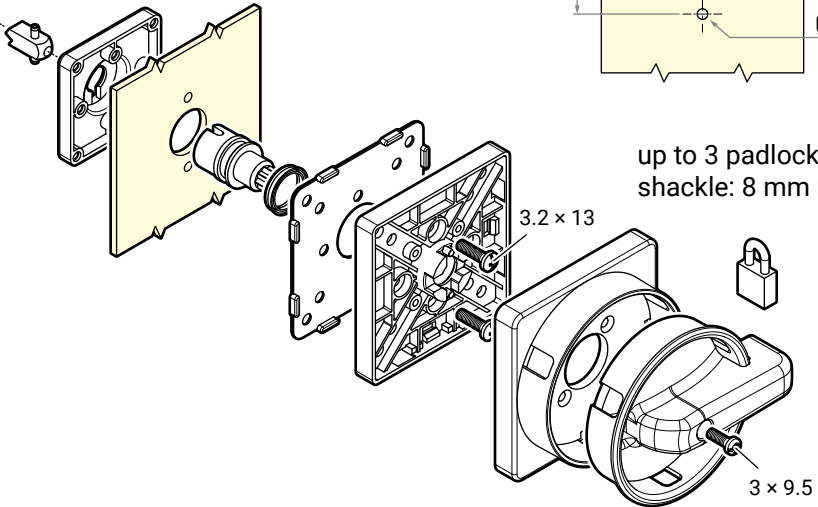
311/0001 • 312/0001



panel thickness:
1 ... 4 mm

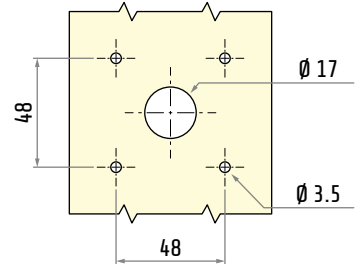


up to 3 padlocks
shackle: 8 mm max

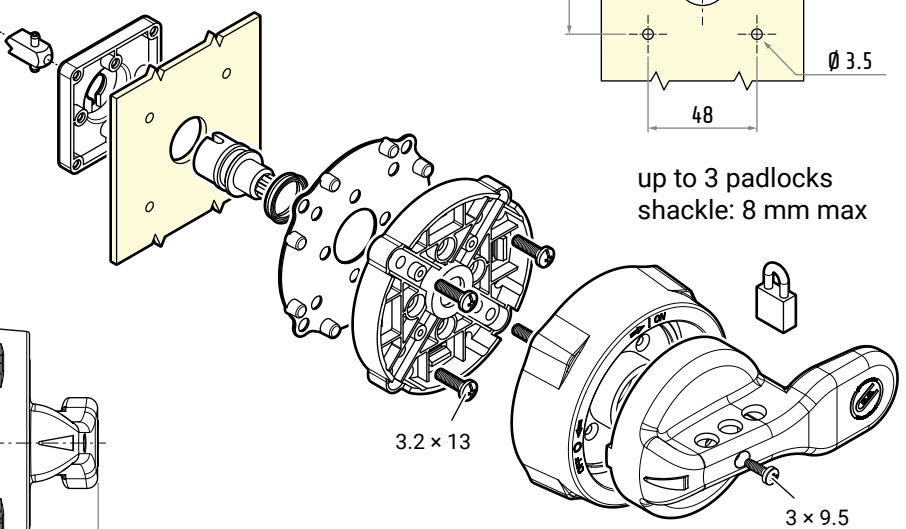


ATTENTION
(where padlocking is relevant)
Padlocking is possible only in
OFF position.

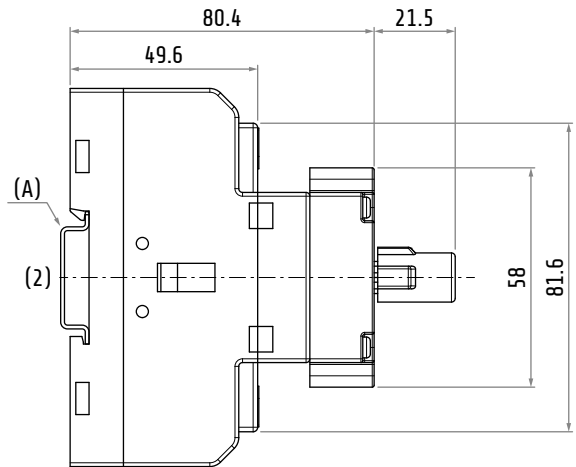
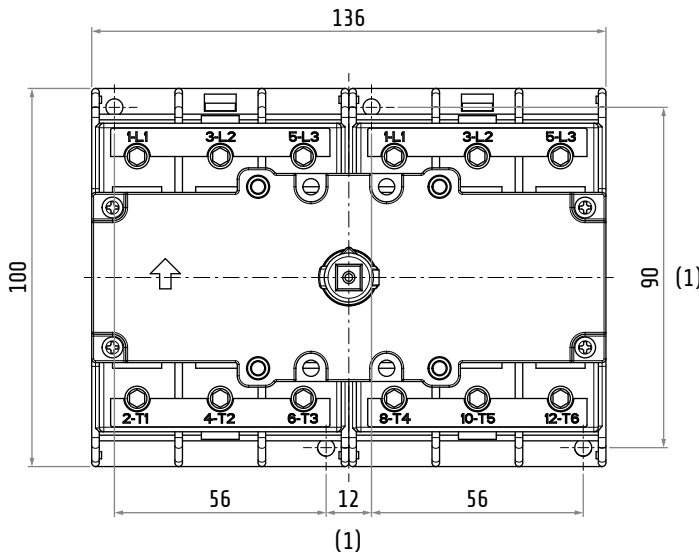
panel thickness:
1 ... 4 mm



up to 3 padlocks
shackle: 8 mm max

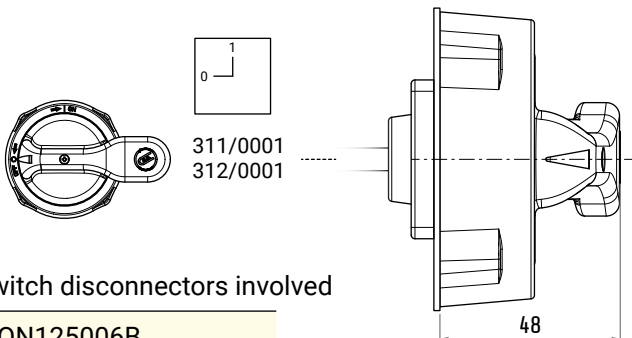
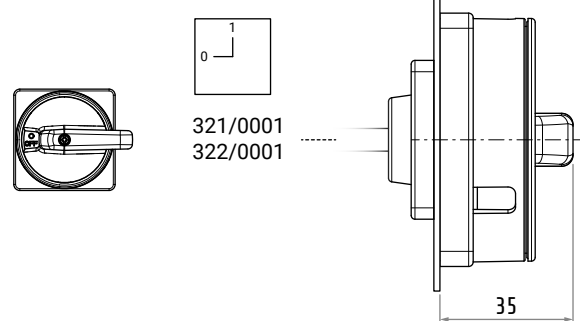
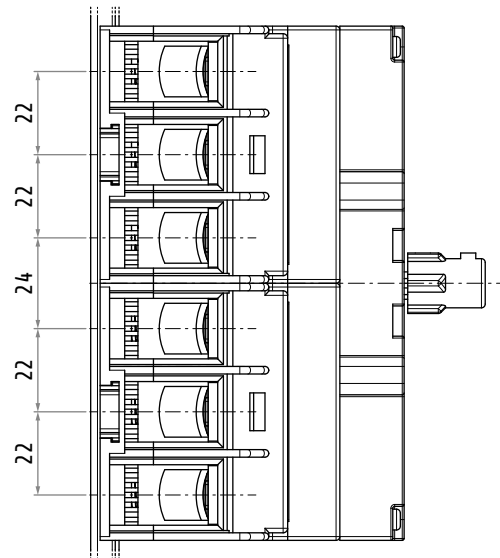
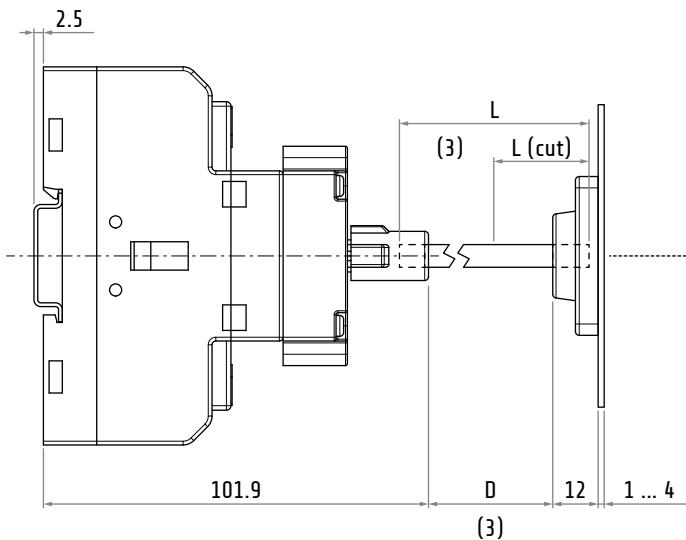


6 poles switch disconnecter installation



(1) Screws mounting (M4)

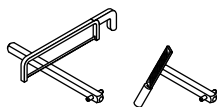
(2) DIN rail mounting
See "Overall information" on p.6.



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



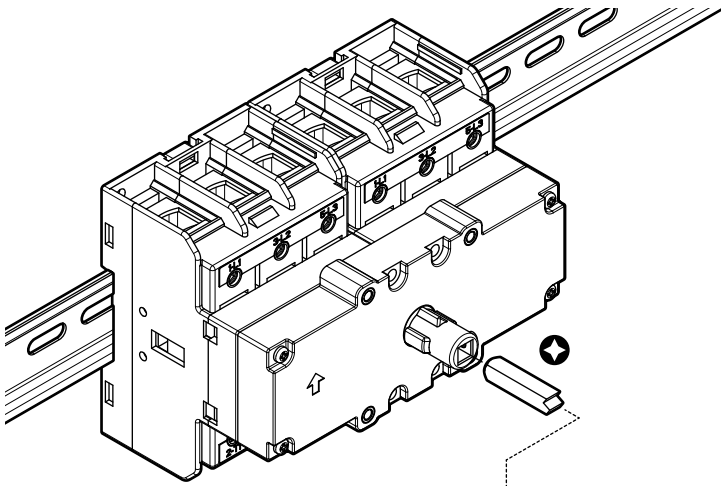
Dimensions in mm
Illustrations NOT in scale

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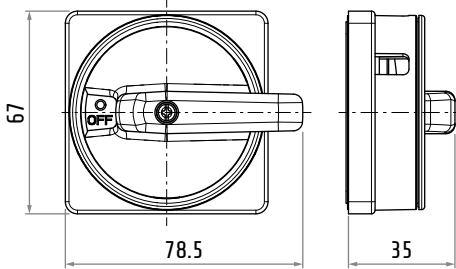
Switch disconnectors involved

SQN125006B

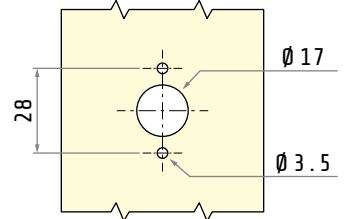
SQN160006B



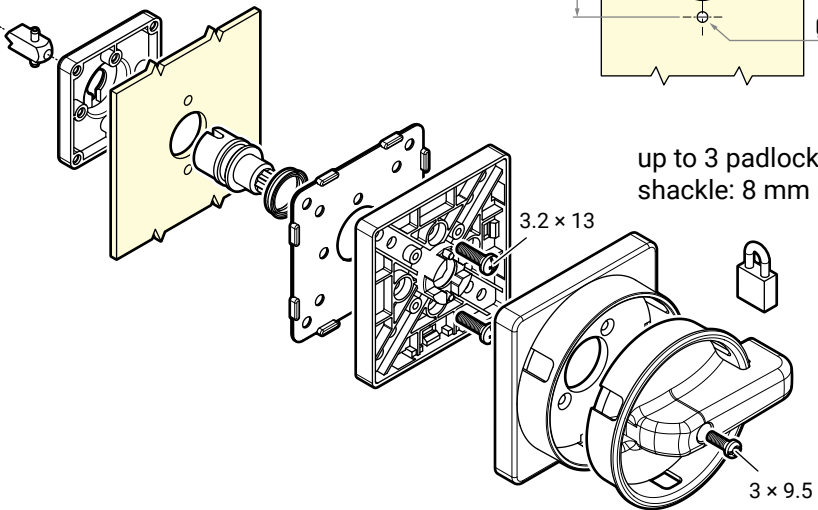
321/0001 • 322/0001



panel thickness:
1 ... 4 mm

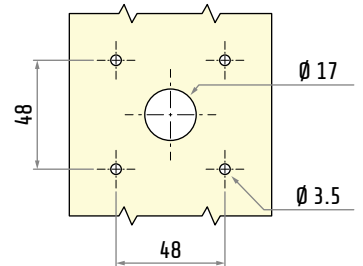


up to 3 padlocks
shackle: 8 mm max

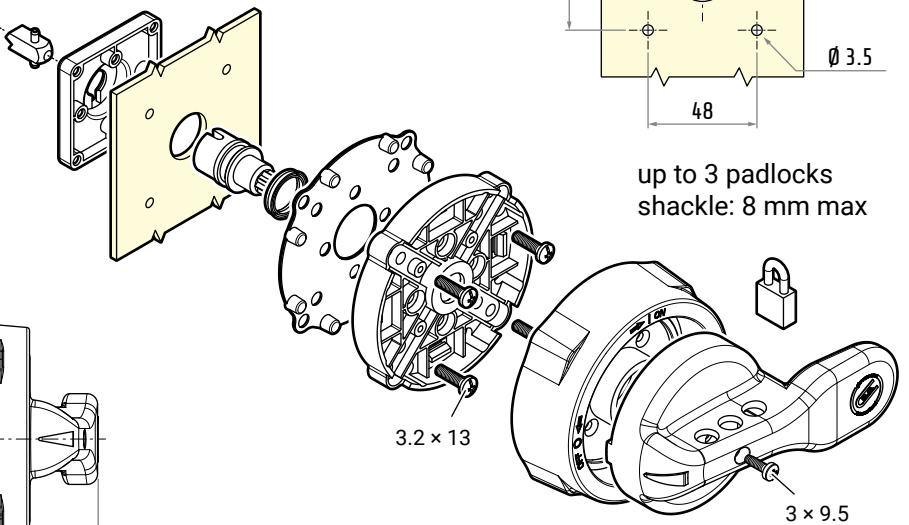
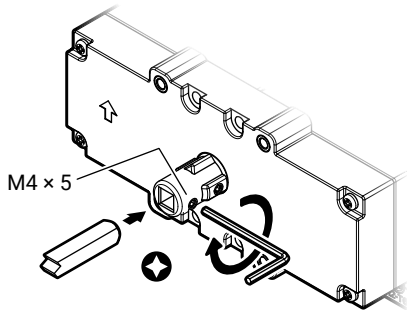


⚠ ATTENTION
(where padlocking is relevant)
Padlocking is possible only in
OFF position.

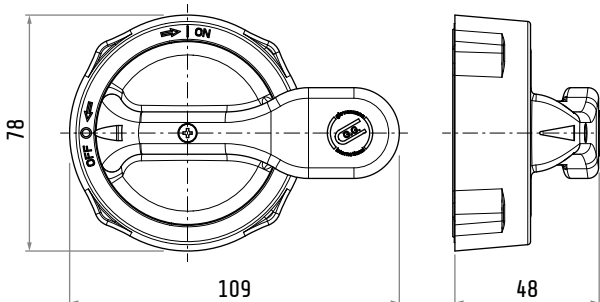
panel thickness:
1 ... 4 mm



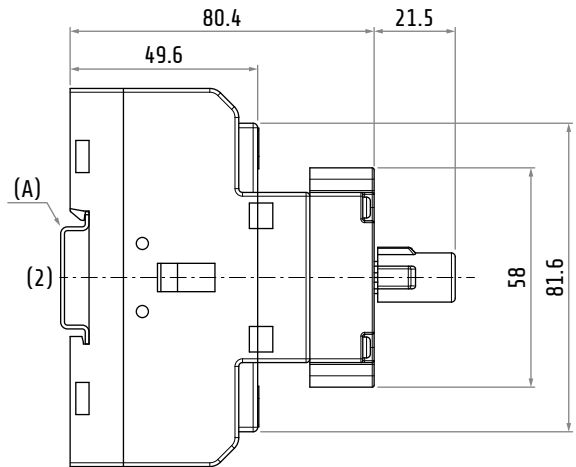
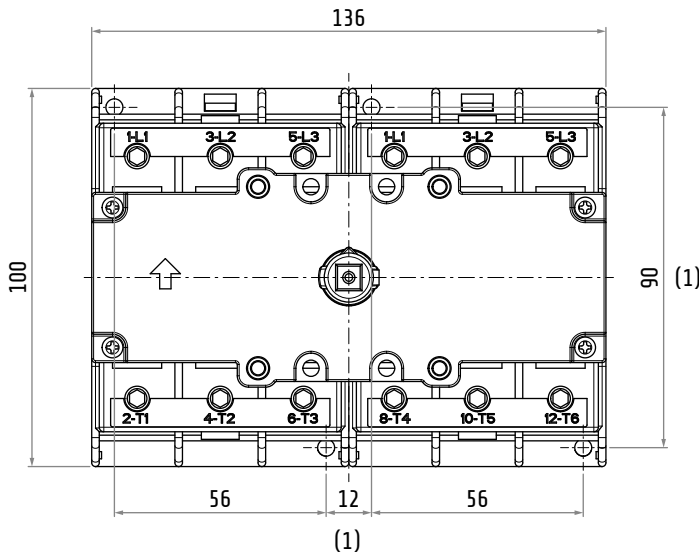
up to 3 padlocks
shackle: 8 mm max



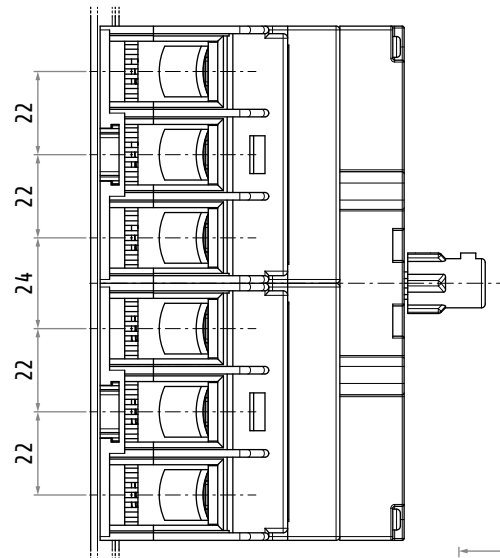
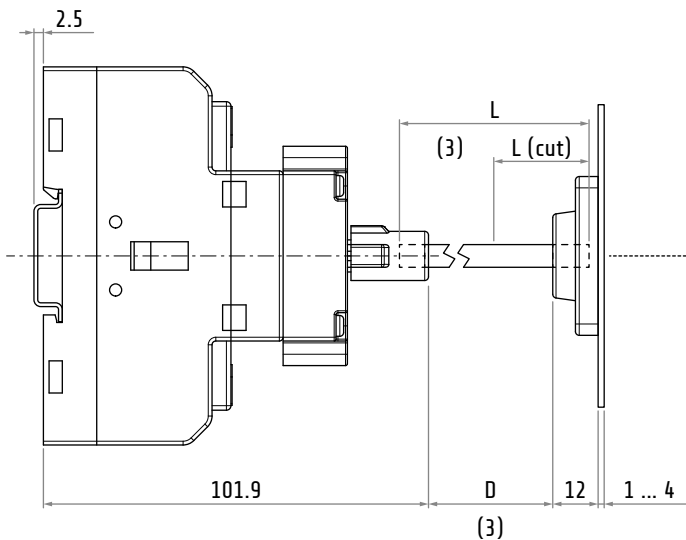
311/0001 • 312/0001



3 + 3 poles (changeover) switch disconnecter installation



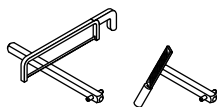
- (1) Screws mounting (M4)
- (2) DIN rail mounting
See "Overall information" on p.6.



(3) Supplied and optional shafts

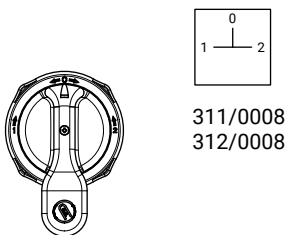
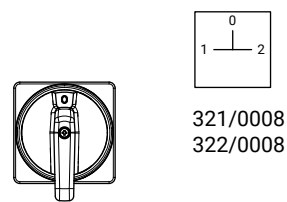
Shaft code	L	D (min)	D (max)
-	std 85 mm	~25 mm	~62 mm
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Cut the shaft to the length that fit your needs (finish the cut with a file) referring to this formula:
 $L \text{ (cut)} \approx D + 23 \text{ mm}$



Dimensions in mm
 Illustrations NOT in scale

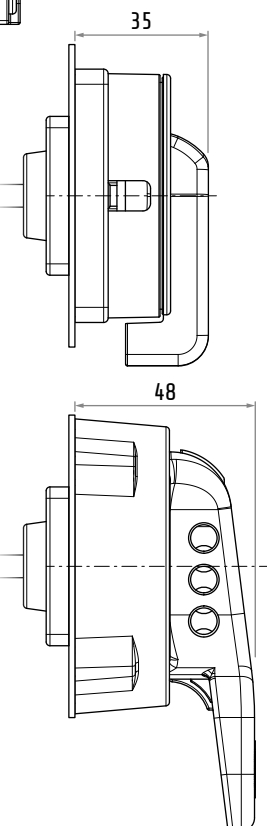
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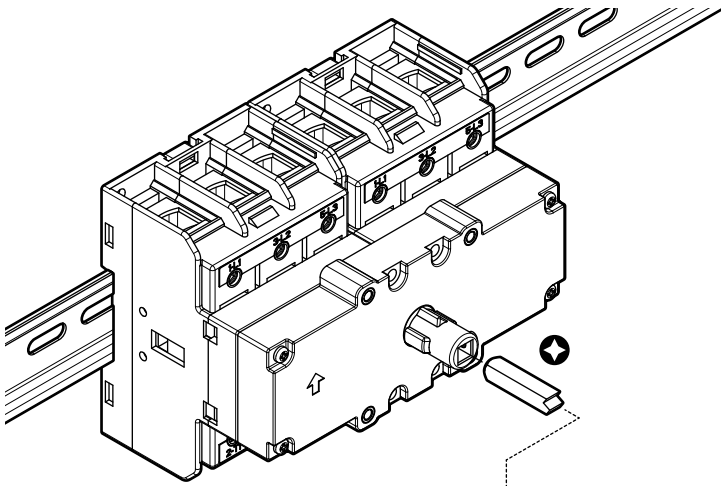


Switch disconnectors involved

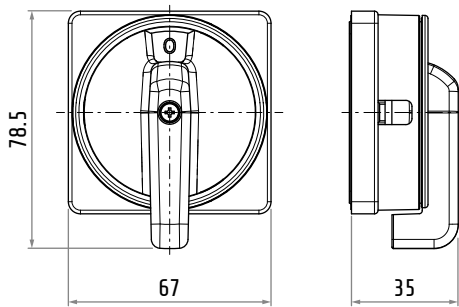
SQN125033B

SQN160033B

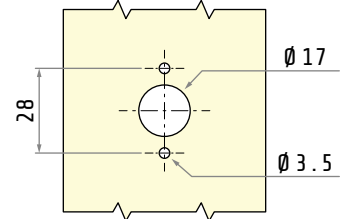




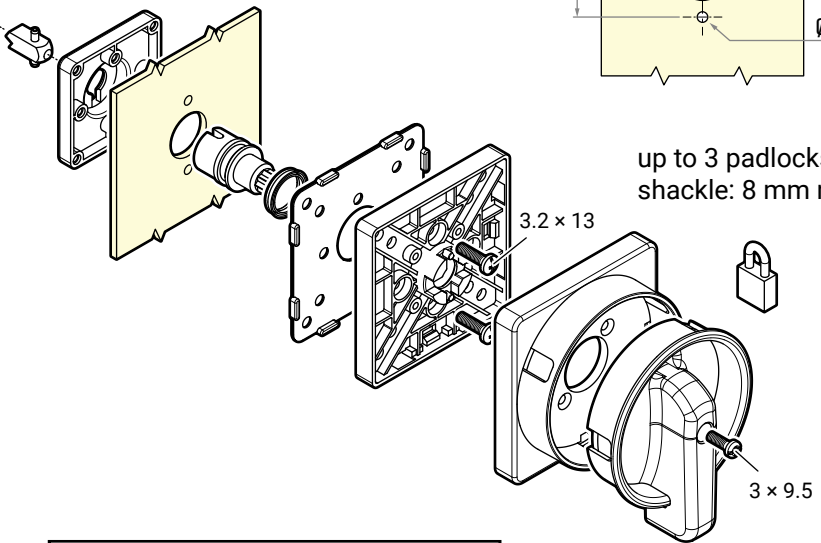
321/0008 • 322/0008



panel thickness:
1 ... 4 mm

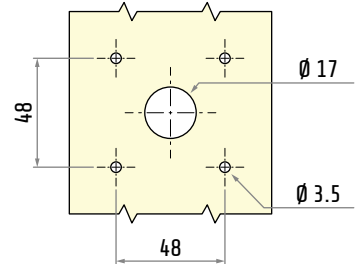


up to 3 padlocks
shackle: 8 mm max

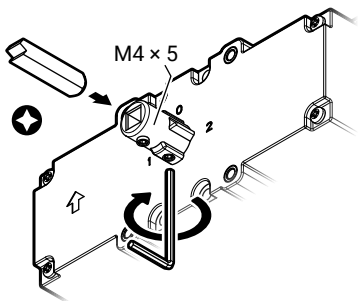


⚠ ATTENTION
(where padlocking is relevant)
Padlocking is possible only in
OFF position.

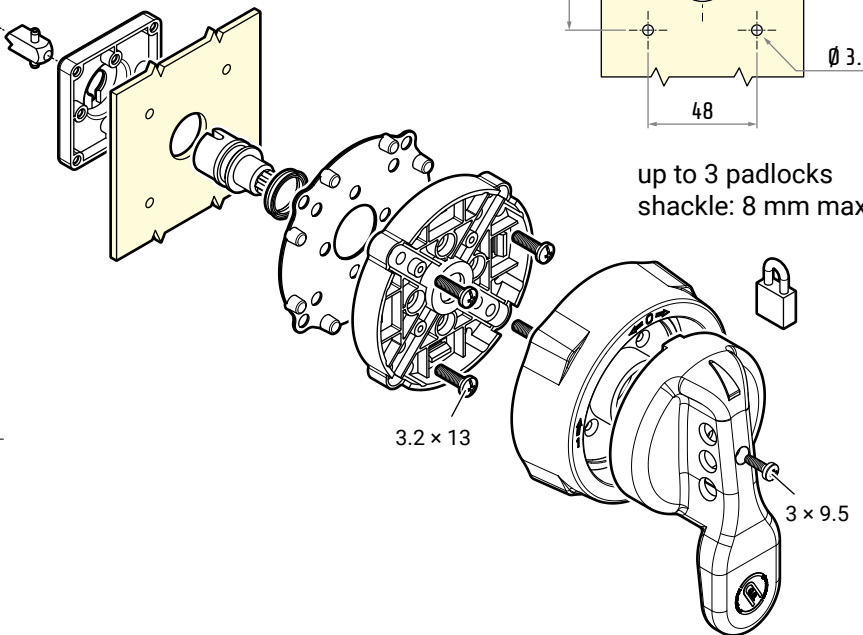
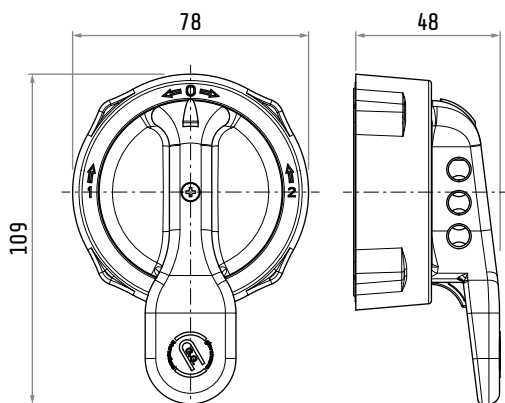
panel thickness:
1 ... 4 mm



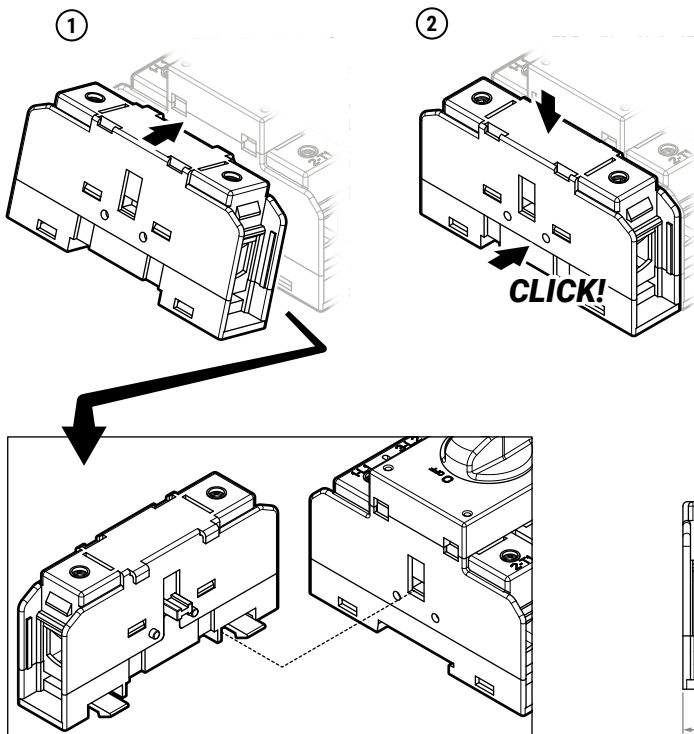
up to 3 padlocks
shackle: 8 mm max



311/0008 • 312/0008



Additional poles mounting



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

Additional poles

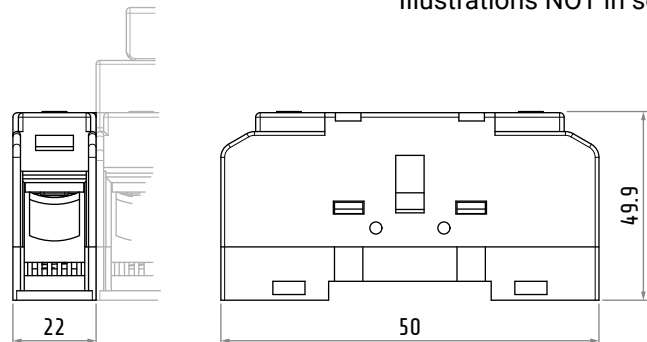
SQN125AFPB
SQN160AFPB

SQN125ANIB
SQN160ANIB

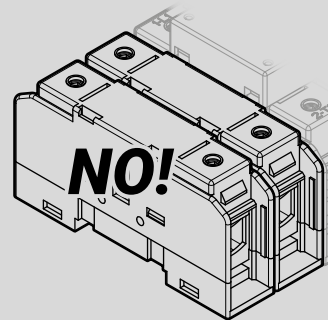
SQN125ANPB
SQN160ANPB

SQN125APEB
SQN160APEB

Dimensions in mm
Illustrations NOT in scale



ATTENTION
IT IS STRICTLY FORBIDDEN TO INSTALL AN
ADDITIONAL POLE ON ANOTHER ADDITIONAL
POLE.

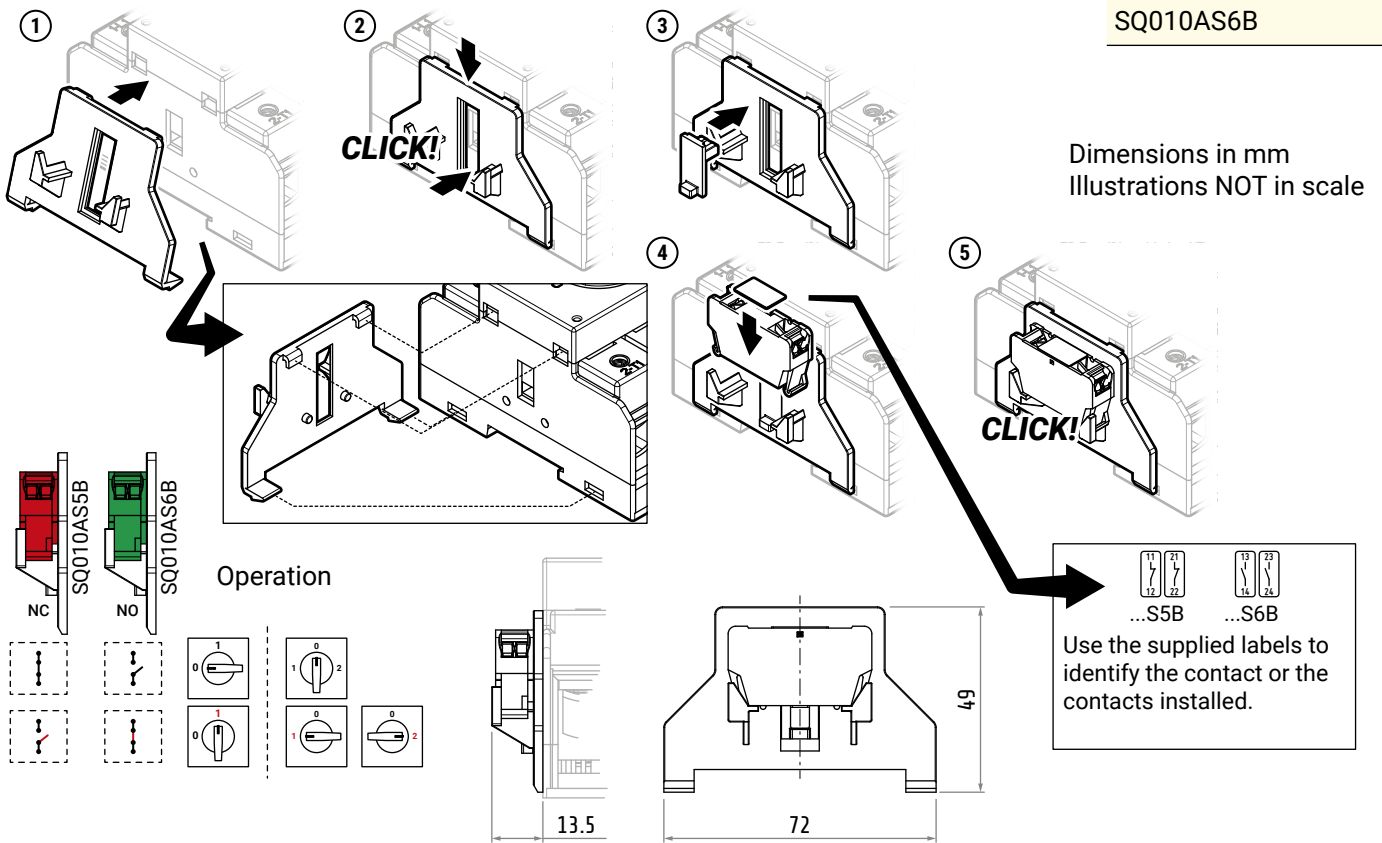


Auxiliary contacts mounting

Auxiliary contacts

SQ010AS5B

SQ010AS6B

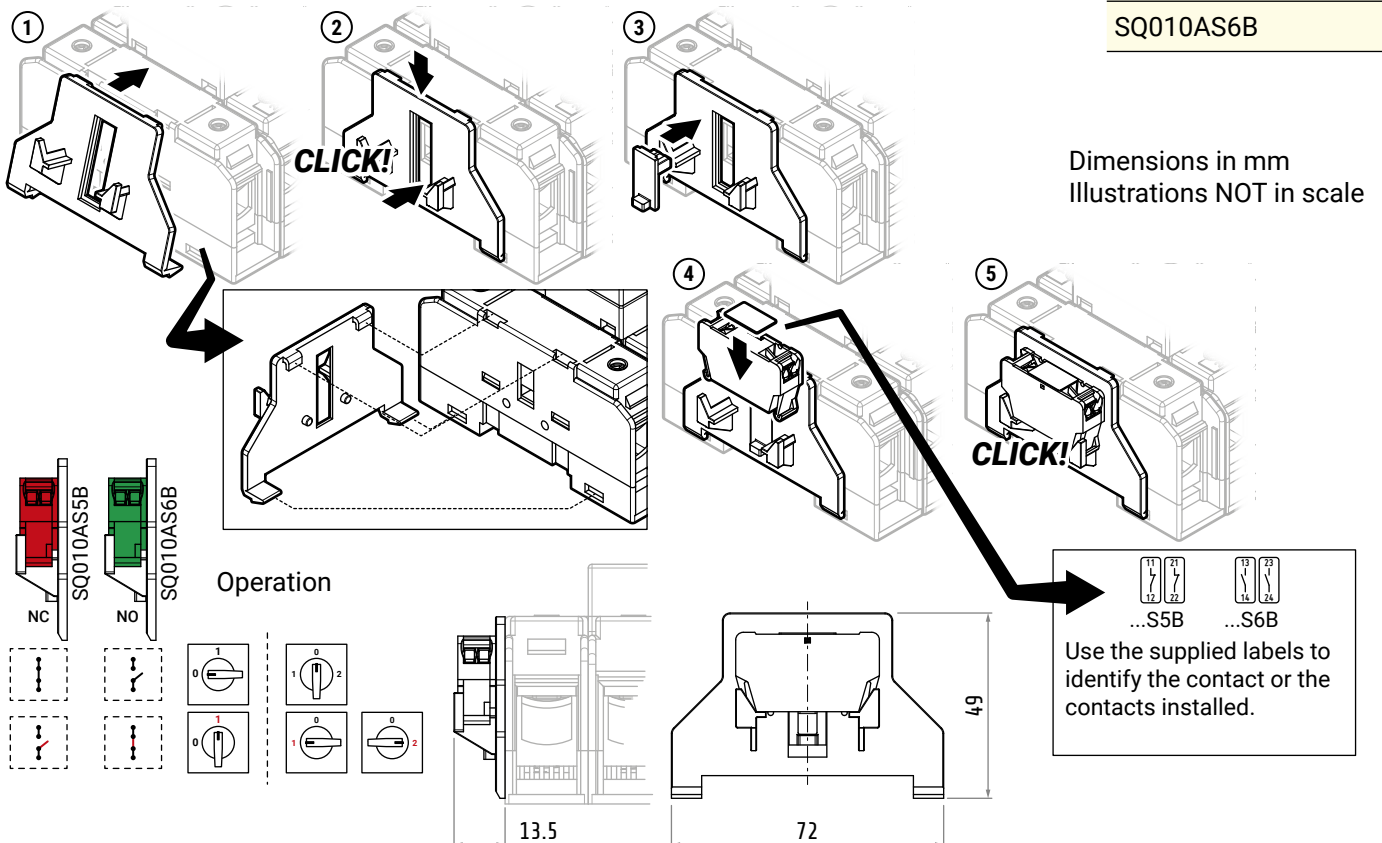


Auxiliary contacts mounting on additional poles

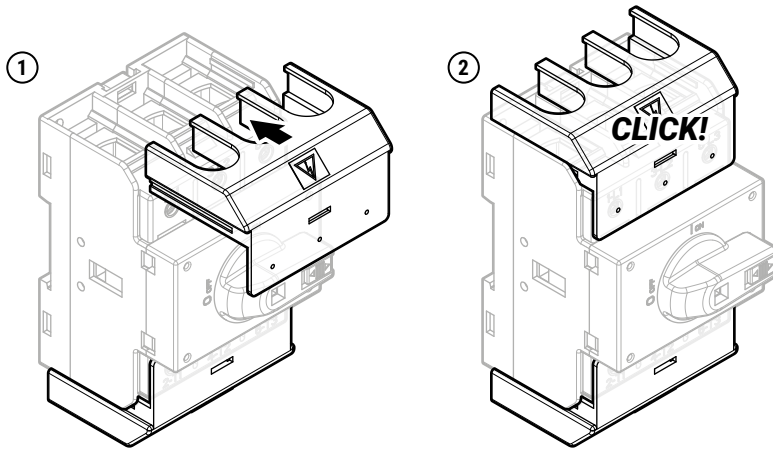
Auxiliary contacts

SQ010AS5B

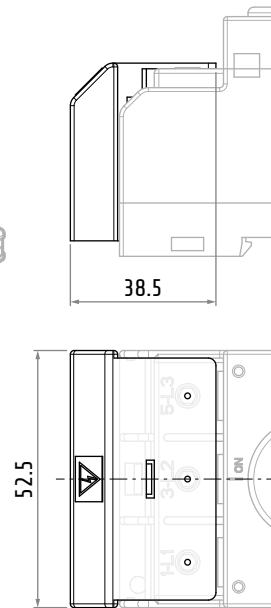
SQ010AS6B



Terminal protection mounting

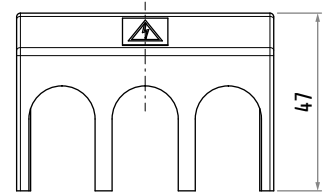


Dimensions in mm
Illustrations NOT in scale

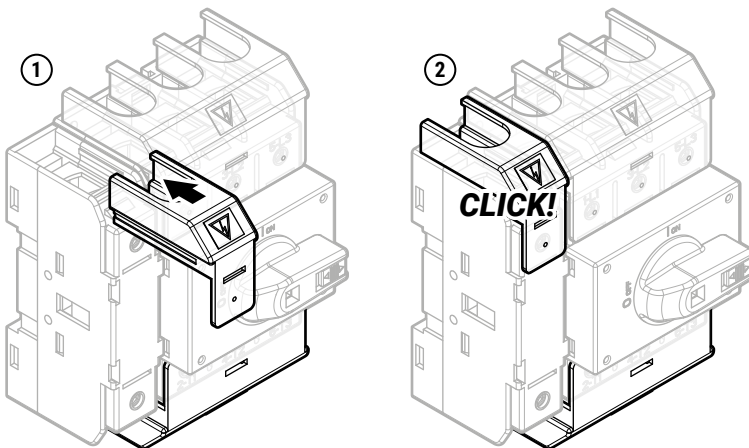


Terminal protection

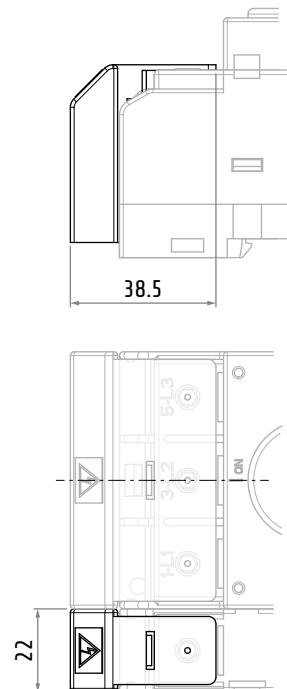
20900064



Additional poles protection mounting

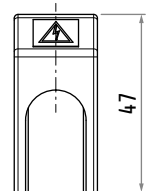


Dimensions in mm
Illustrations NOT in scale



Additional poles protection

20900065





A series of horizontal dashed lines spanning the width of the page, providing a template for text entry.