

SQ025...R

SQ032...R

REGOLUS SWITCH DISCONNECTORS WITH TYPE "R" PANEL 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.



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
SQ025	SQ025002R	SQ025003R	SQ025006R	SQ025033R	32 A	25 A
SQ032	SQ032002R	SQ032003R	SQ032006R	SQ032033R	40 A	32 A

Main features:

- rear panel mounting
- screw fixing

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	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}	32 A	40 A
Rated enclosed thermal current	I _{the}	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	


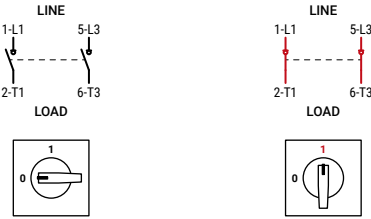

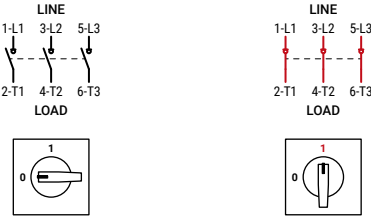

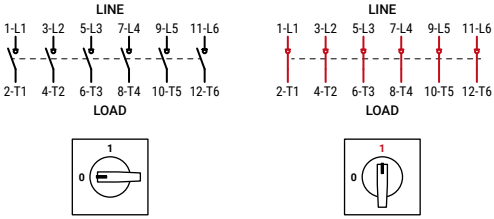

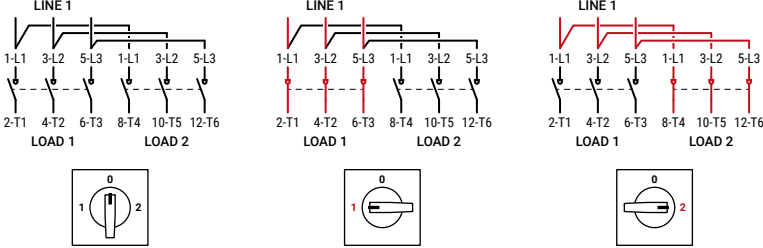
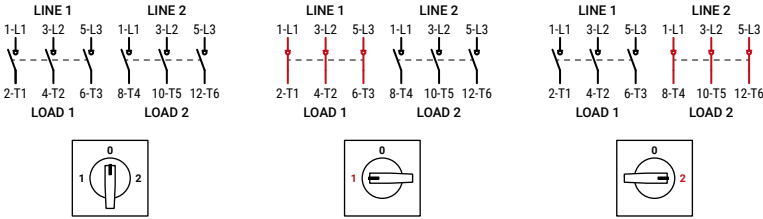
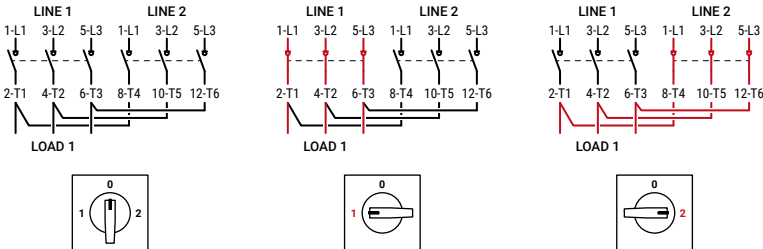
UL 508 characteristics

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

QUICK REFERENCE

Switch disconnecter	Notes	Operational scheme
 <p>2 poles</p> <p>SQ025002R SQ032002R</p>	<p>Installation instructions: p.7</p>	 <p>One input LINE manages one LOAD.</p>
 <p>3 poles</p> <p>SQ025003R SQ032003R</p>	<p>Installation instructions: p.7</p>	 <p>One input LINE manages one LOAD.</p>
 <p>6 poles</p> <p>SQ025006R SQ032006R</p>	<p>Installation instructions: p.9</p>	 <p>One input LINE manages one LOAD.</p>
 <p>3 + 3 poles (changeover)</p> <p>SQ025033R SQ032033R</p>	<p>Standard configuration with changeover bridges.</p> <p>Installation instructions: p.11</p>	 <p>One input LINE 1 manages two loads 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>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>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

Switch disconnectors / actuators matrix

















Actuator code reading

0	0	1	/	0	0	0	1	-	4	V
Actuator				Wording						






Type	R	R	R
Mounting	panel	panel	panel
Poles	2 / 3	6	3 + 3 (changeover)

ACTUATOR

48x48 Grey/Black screw	 001/...	 001/...	 001/...
48x48 Yellow/Red screw	 002/...	 002/...	 002/...
48x48 Grey/Black padlock screw	 003/...	 003/...	 003/...
48x48 Yellow/Red padlock screw	 004/...	 004/...	 004/...
67x67 Grey/Black padlock screw	 009/...	 009/...	- -
67x67 Yellow/Red padlock screw	 010/...	 010/...	- -

WORDING

		
...0001-4V	..0001-4V	...0008-4V

Installation instructions	p.7	p.9	p.11
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Accessories

Additional poles				Installation instructions
Additional pole NO			SQ025AFPR SQ032AFPR	p.13
Fourth pole (early make / late break contact)			SQ025ANIR SQ032ANIR	p.13
Neutral terminal			SQ025ANPR SQ032ANPR	p.13
Ground terminal			SQ025APER SQ032APER	p.13
Auxiliary contacts				
Auxiliary contact 1 NC			SQ010AS1R	p.13
Auxiliary contact 1 NO			SQ010AS2R	p.13
Terminal protections				
Terminal protection for 3 poles			20900024	p.14
Terminal protection for 1 pole			20900025	p.14

INSTALLATION

2 / 3 poles switch disconnecter installation

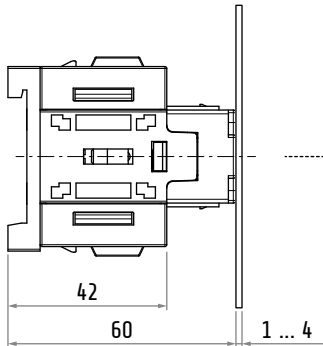
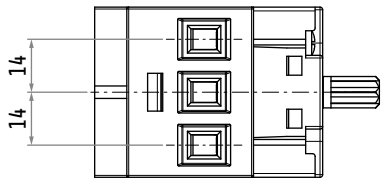
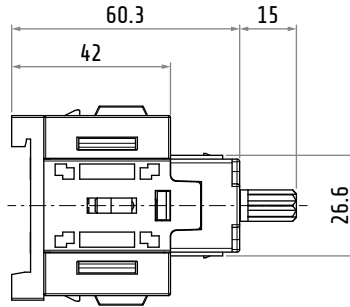
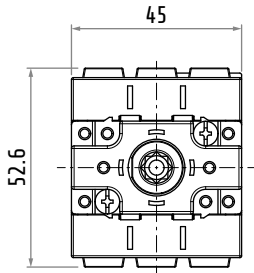
Switch disconnectors involved

SQ025002R

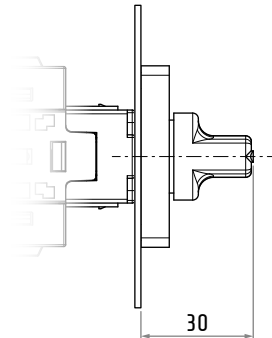
SQ032002R

SQ025003R

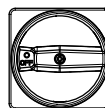
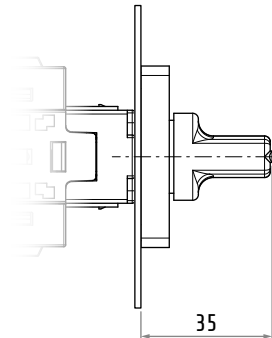
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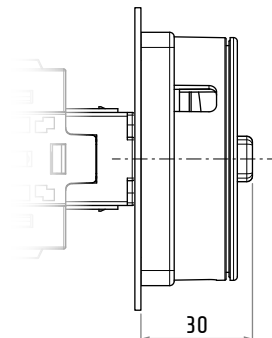
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002/0001-4V



003/0001-4V
004/0001-4V

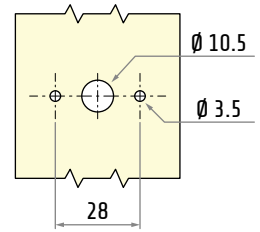
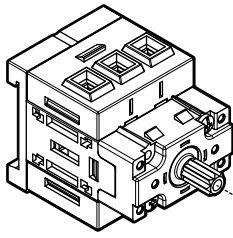


009/0001-4V
010/0001-4V



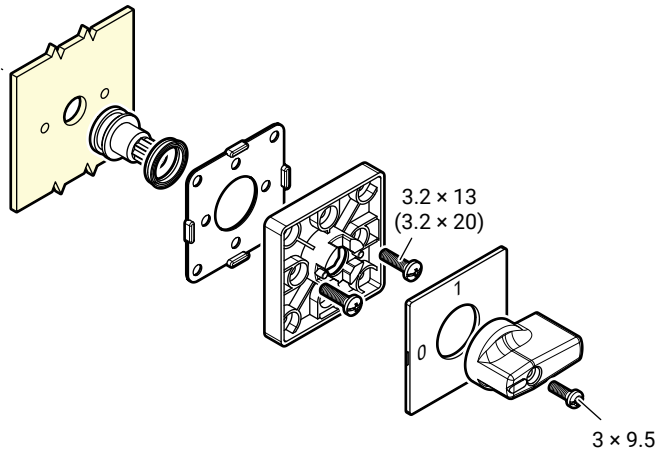
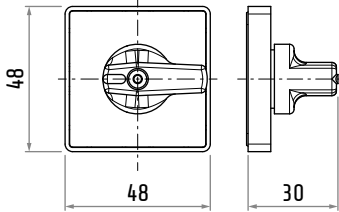
Dimensions in mm
Illustrations NOT in scale

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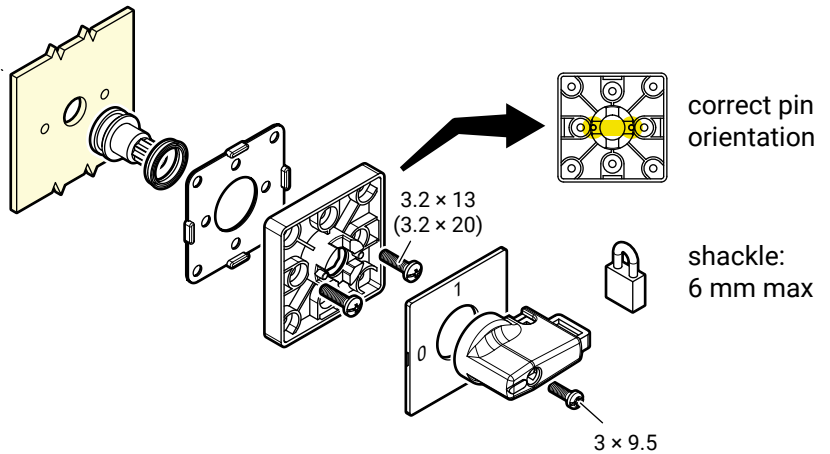
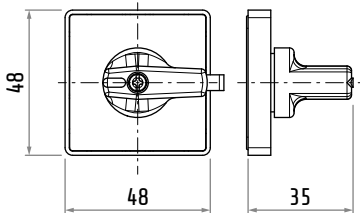


panel thickness:
1 ... 4 mm

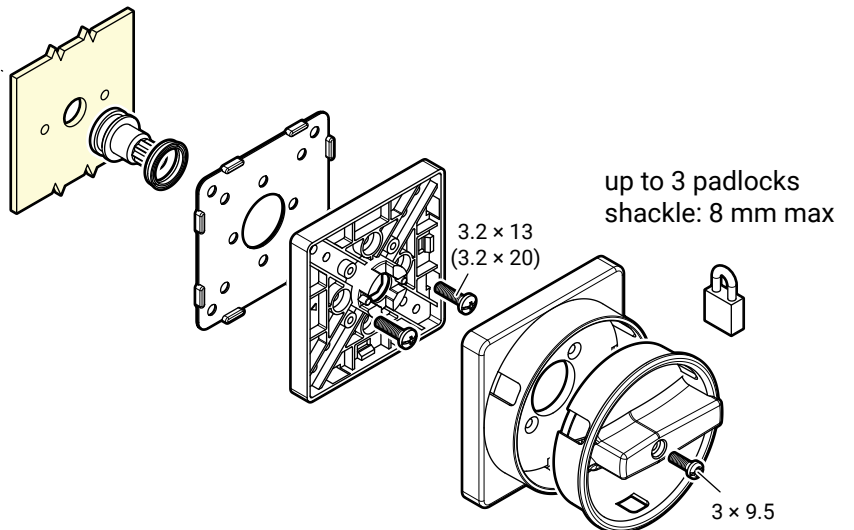
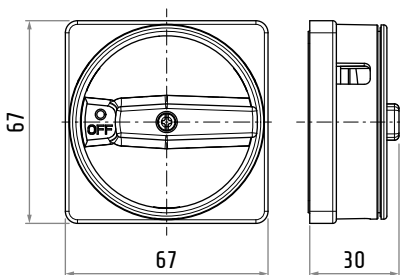
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003/0001-4V • 004/0001-4V



009/0001-4V • 010/0001-4V



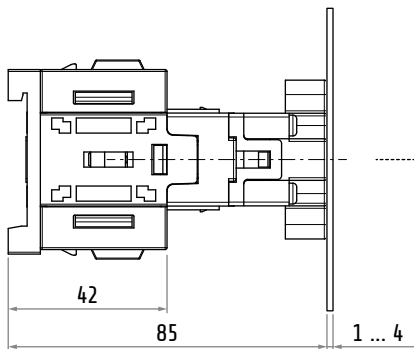
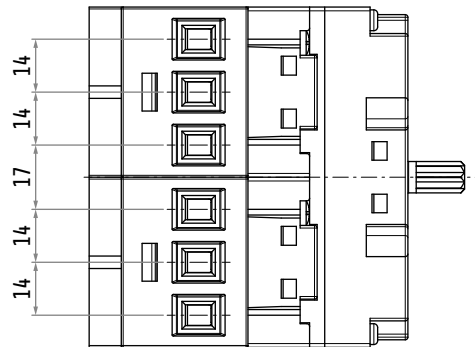
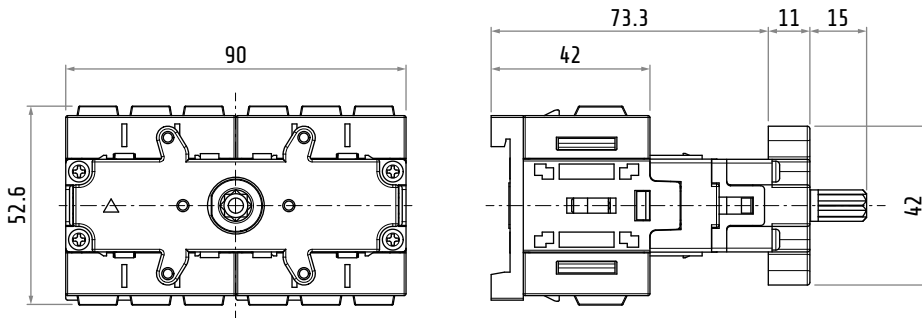
ATTENTION
(where padlocking is relevant)
Padlocking is possible only in OFF
position.

6 poles switch disconnecter installation

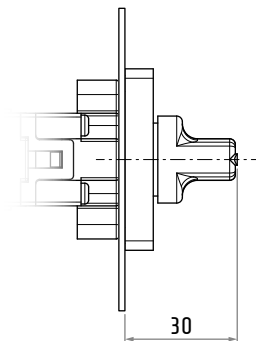
Switch disconnectors involved

SQ025006R

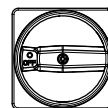
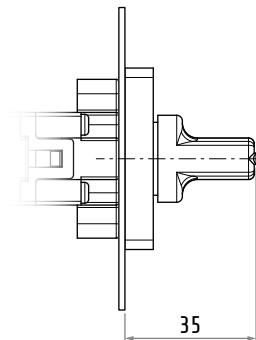
SQ032006R



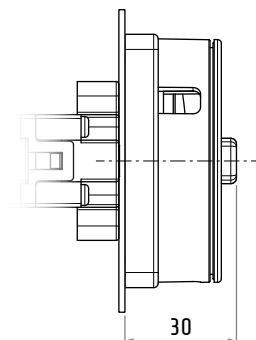
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003/0001-4V
004/0001-4V

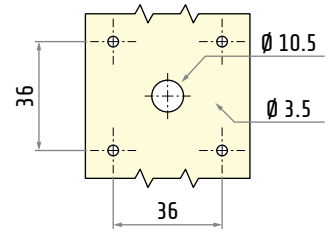
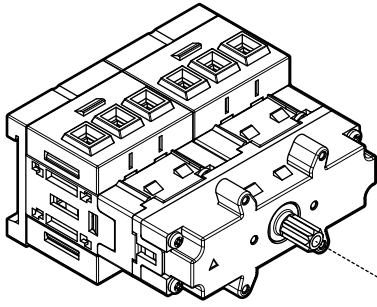


009/0001-4V
010/0001-4V



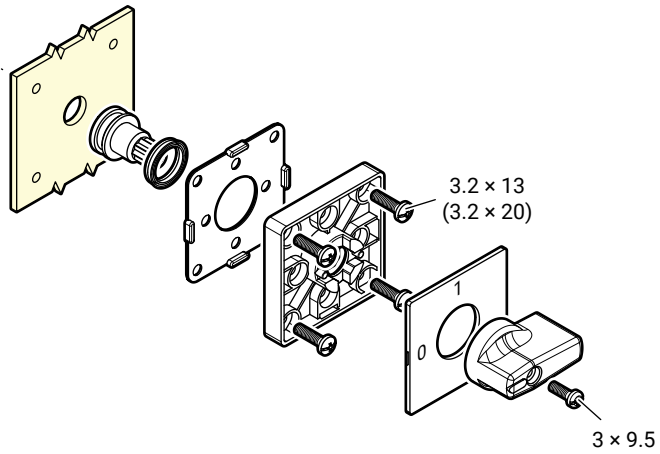
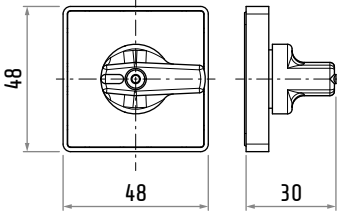
Dimensions in mm
Illustrations NOT in scale

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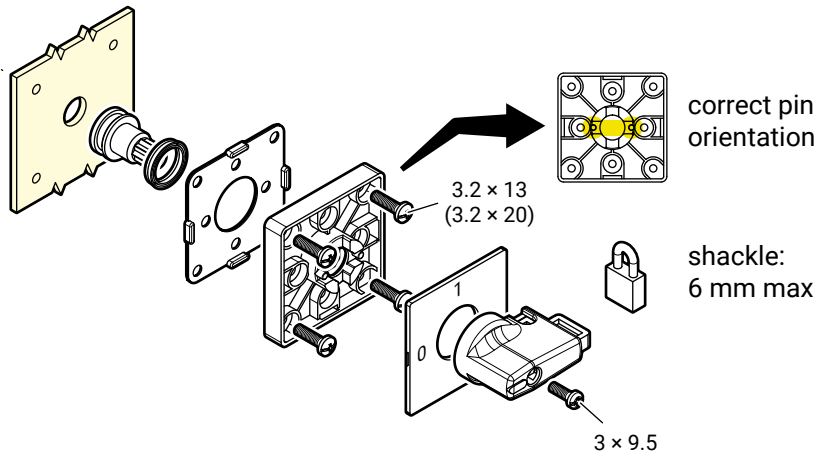
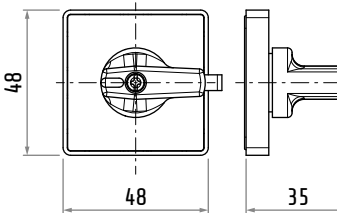


panel thickness:
1 ... 4 mm

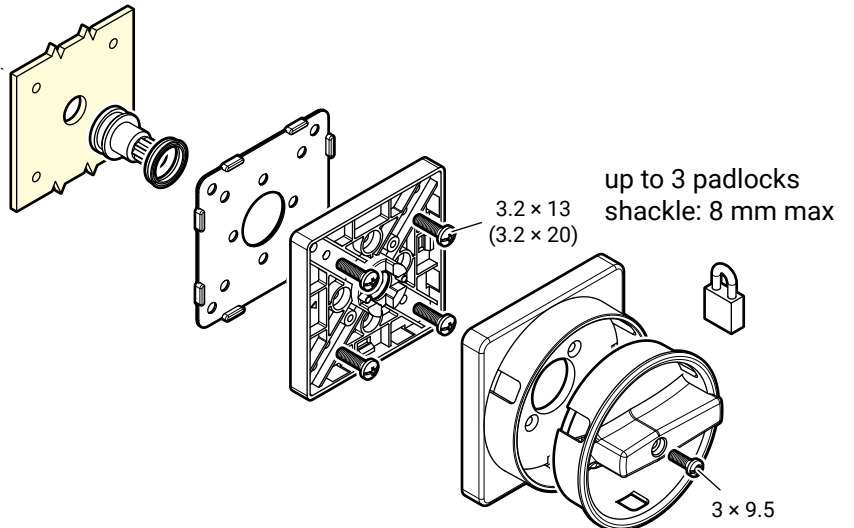
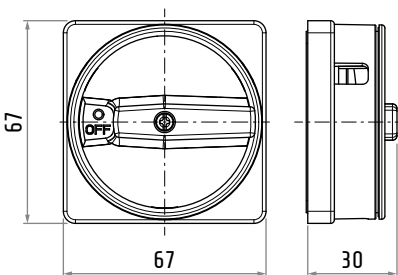
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009/0001-4V • 010/0001-4V



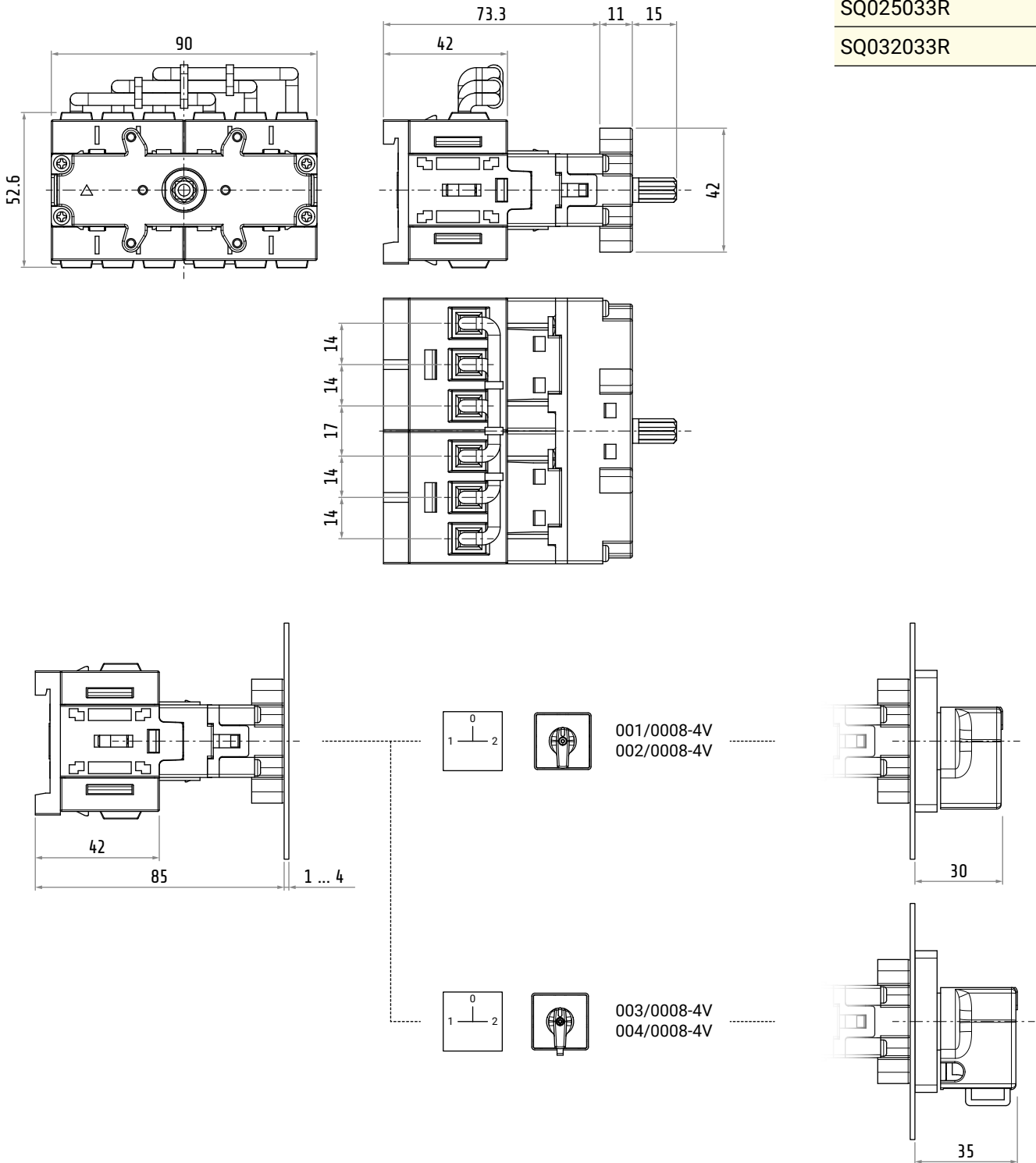
ATTENTION
(where padlocking is relevant)
Padlocking is possible only in OFF
position.

3 + 3 poles (changeover) switch disconnecter installation

Switch disconnectors involved

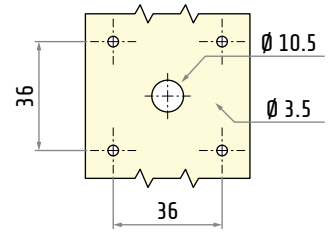
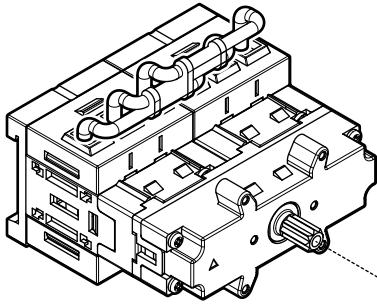
SQ025033R

SQ032033R



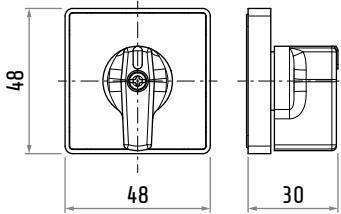
Dimensions in mm
Illustrations NOT in scale

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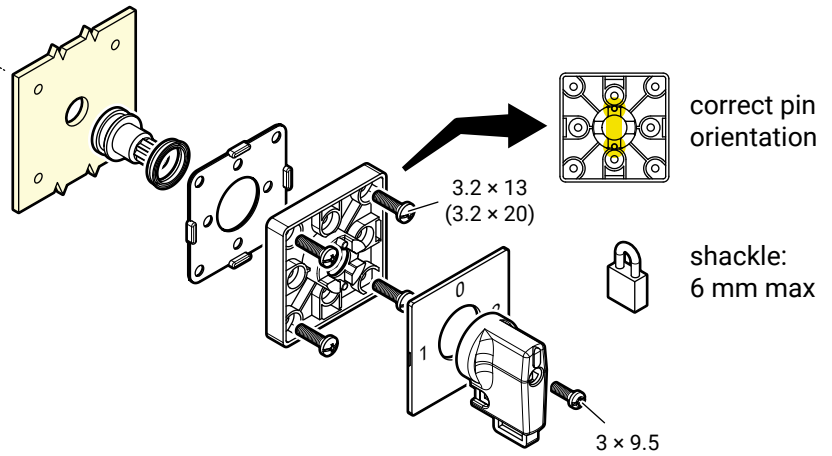
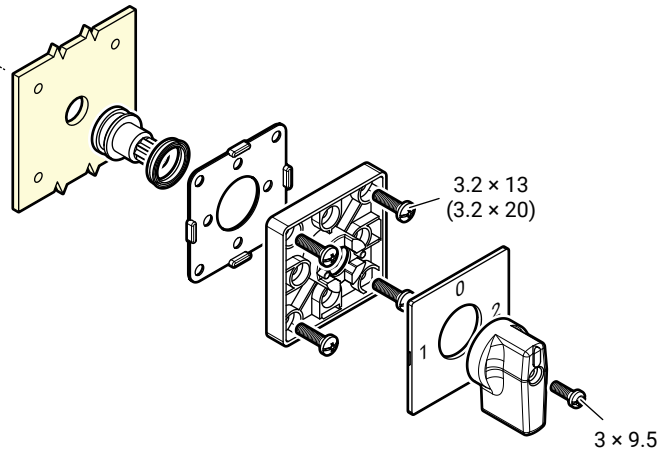
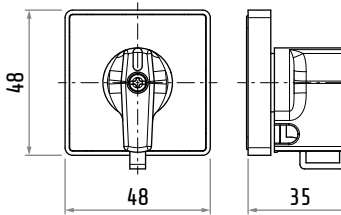


panel thickness:
1 ... 4 mm

001/0008-4V • 002/0008-4V

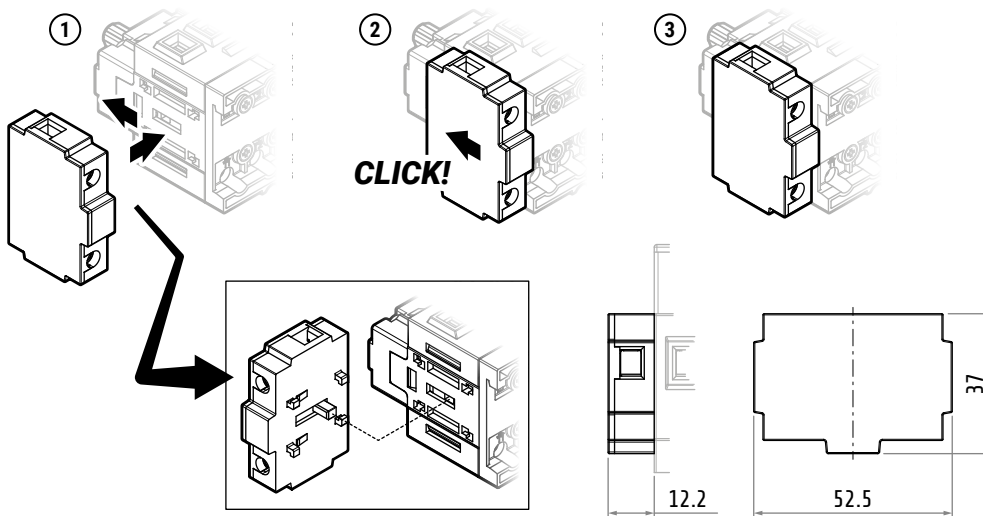


003/0008-4V • 004/0008-4V



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

Additional poles mounting



Additional poles

SQ025AFPR
SQ032AFPR

SQ025ANIR
SQ032ANIR

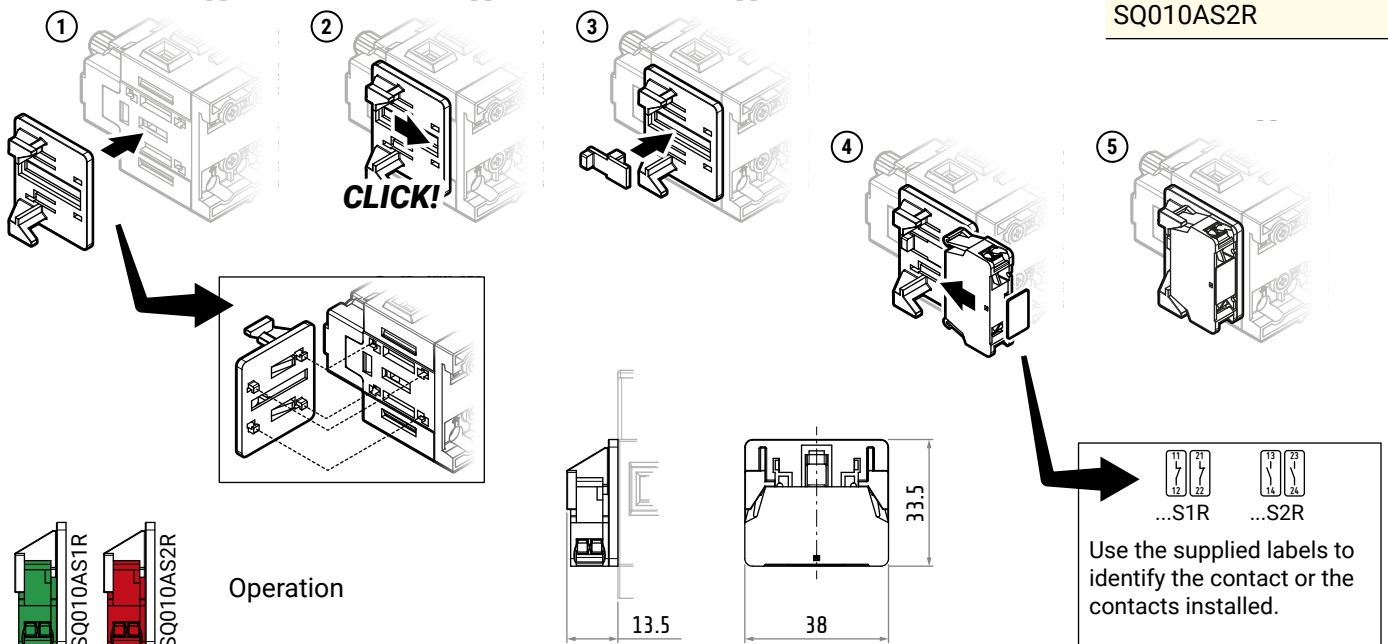
SQ025ANPR
SQ032ANPR

SQ025APER
SQ032APER

Dimensions in mm
Illustrations NOT in scale

- (1) Insert the cursor protrusion into the slot and push upward and hook
- (2) Push upward

Auxiliary contacts mounting



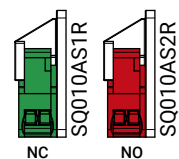
Auxiliary contacts

SQ010AS1R

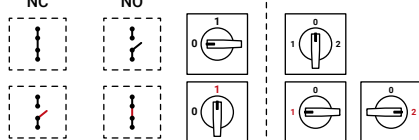
SQ010AS2R

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

Dimensions in mm
Illustrations NOT in scale



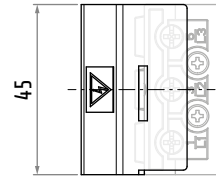
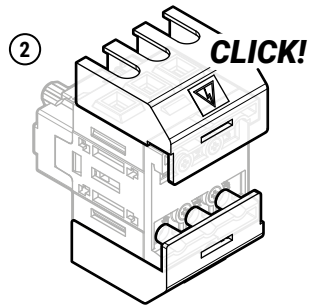
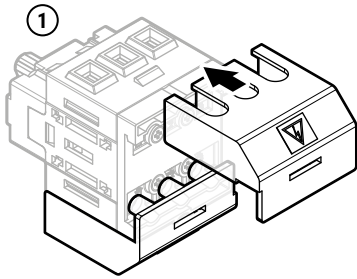
Operation



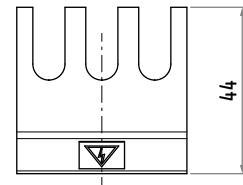
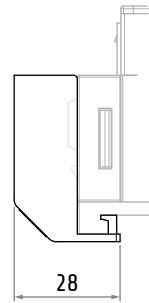
Terminal protection mounting

Terminal protection

20900024



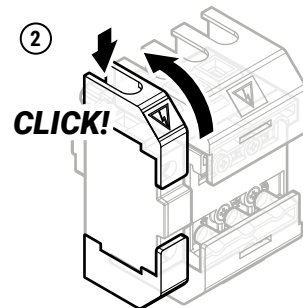
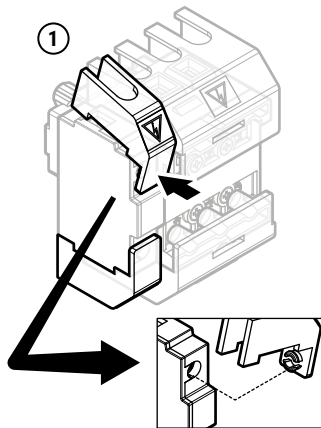
Dimensions in mm
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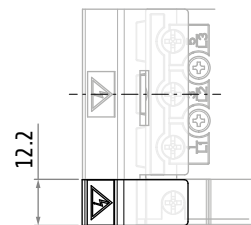
Additional poles protection mounting

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

