

C063...B

C080...B

PHOENIX CAM SWITCHES WITH TYPE "B" BASE MOUNTING (63 A / 80 A)

CODE READING	2
SPECIFICATIONS	2
SPECIFICATIONS	3
OVERALL DIMENSIONS.....	5
ELECTRICAL SCHEMES.....	6
ACTUATORS	7
MOUNTING INSTRUCTIONS.....	8



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.



C0 series cam switches 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

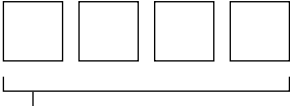
Before any installation or maintenance operation, disconnect the power supply to the system. Before restoring the power supply, make sure that all connections to the device have been made correctly. Giovenzana International B.V. disclaims any responsibility for any damage to things and people caused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

Cam switches involved in this instruction manual:

Series	Mounting	Terminal protection class	AC-21A (690 V)	AC-23A (400 V)
C063...B	Base	IP00	63 A	40 A
C080...B			80 A	54 A

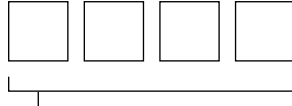
Read the page with the code reading for further useful information on the product in your possession. This instruction manual illustrates features and procedures relating to the products in the Giovenzana catalog. The specifications on p.3 and the mounting instructions on p.8, and following, are also valid for custom products derived from one of the series illustrated in this manual.

CODE READING



Series
Specifications: p.3

C063 63 A, IP00 contacts
C080 80 A, IP00 contacts



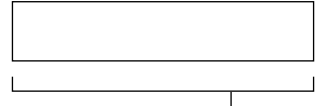
Electrical scheme
Reference table: p.6

ON-OFF switches 0-1
0002 2 poles
0003 3 poles
0004 4 poles
0006 6 poles
Changeover switches 1-0-2
0008 1 pole
0009 2 poles
0010 3 poles
0011 4 poles



Cam switch mounting type
Overall dimensions: p.5

B base mounting
S custom product (these products have their own electrical scheme, not available in this document)



Actuator code

Each cam switch series can be fitted with one or more actuators with their own code.

This document provides the installation instructions for each cam switch series and its matching actuators.

Actuators reference table: p.17

SPECIFICATIONS

General characteristics

Protection class	control	EN 60529	IP65
	control with knob only		IP40
	terminals		IP00
Material group		EN 60947-1	II
Pollution grade		EN 60947-1	3
Flammability		UL94	V0 (live electrical parts)
Ambient temperature	operating		-40 ... +70°C
	storage		-40 ... +70°C
Climate withstand		IEC 68 part 2-3	damp heat, steady state
		IEC 68 part 2-30	damp heat, cyclic
Terminal screw identification	conforming to		EN50013
Connections	terminal block caliber	EN60947-1	A7
	terminal screw		2 × M4
	tightening torque	EN60947-1 UL508	1.2 N·m (10.6 lb·in) 10.62 lb·in (1.2 N·m)
Connectable section	flexible conductors		2.5 ... 35 mm ² AWG 14 ... 3
	solid conductors		2.5 ... 35 mm ² AWG 14 ... 3
Contacts			double breaking
Opening angles			45° - 60° - 90°
Mechanical lifetime	@ 120 operations / hour		1 million cycles
Electrical lifetime	@ 120 operations / hour		C063... 0.5 million cycles
			C080... 0.25 million cycles

SPECIFICATIONS

EN 60947-3 characteristics

		C063...	C080...
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}	85 A	100 A
Rated enclosed thermal current	I _{the}	85 A	100 A
Frequency		50/60 Hz	50/60 Hz

Alternate current

Rated operating current		I _e		C063...	C080...		
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	690 V		63 A	80 A		
AC-23A	Switching of motor loads or other highly inductive loads	1 phase - 1 pole	110 V	45 A	4 kW	63 A	5.5 kW
			230 V	45 A	7.5 kW	63 A	11 kW
		3 phases - 3 poles	230 V	50 A	15 kW	58 A	18.5 kW
			400 V	40 A	22 kW	54 A	30 kW
			500 V	40 A	30 kW	54 A	37 kW
690 V	32 A	30 kW	40 A	37 kW			
AC-3	Squirrel-cage motors: starting, switches off motors during running time	1 phase - 1 pole	110 V	36 A	3.7 kW	45 A	4 kW
			230 V	36 A	6.5 kW	45 A	7.5 kW
		3 phases - 3 poles	230 V	37 A	11 kW	47 A	15 kW
			400 V	35 A	18.5 kW	44 A	22 kW
			500 V	35 A	22 kW	44 A	30 kW
690 V	25 A	22 kW	32 A	30 kW			
AC-23A	Nominal breaking capacity (cosφ 0.45)	230 V		400 A		464 A	
		400 V		320 A		432 A	
		500 V		320 A		432 A	
		690 V		256 A		320 A	

Short circuit characteristics

		C063...	C080...
Rated short-time short circuit withstand current (1 s) I_{cw}		1200 A	1200 A
Rated short circuit making capacity	I_{cm}	2000 A	2000 A
Conditional rated short circuit withstand current		10 kA	10 kA
Fuse rating (type gG)	690 V	100 A	100 A

UL 508 characteristics

			C063...	C080...		
General use	600 V AC		63 A	85 A		
Standard motor load	1 phase - 2 poles	120 V AC	5 HP	56 FLA	5 HP	56 FLA
		240 V AC	7.5 HP	40 FLA	10 HP	50 FLA
	3 phases - 3 poles	240 V AC	15 HP	42 FLA	20 HP	54 FLA
		480 V AC	30 HP	40 FLA	40 HP	52 FLA
		600 V AC	40 HP	41 FLA	50 HP	52 FLA

Marking

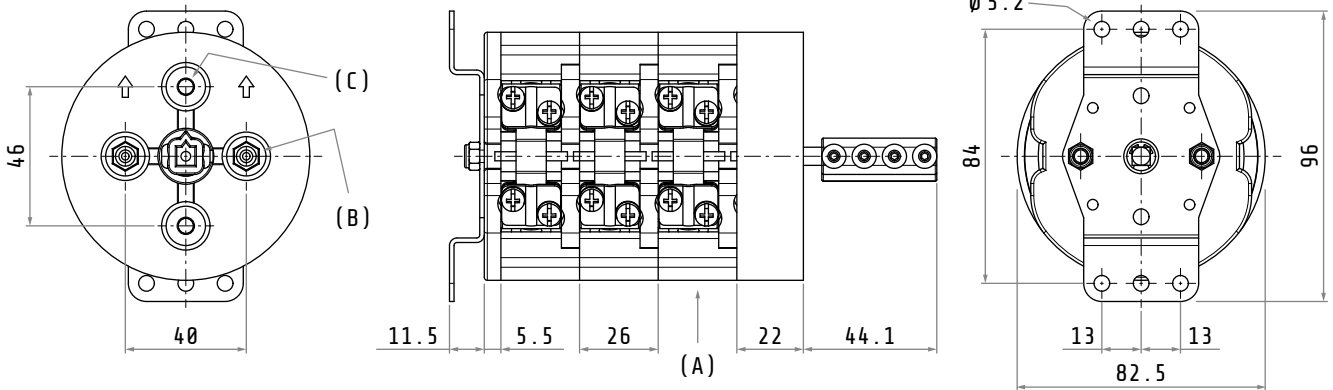
Compliance by passed test

Approved

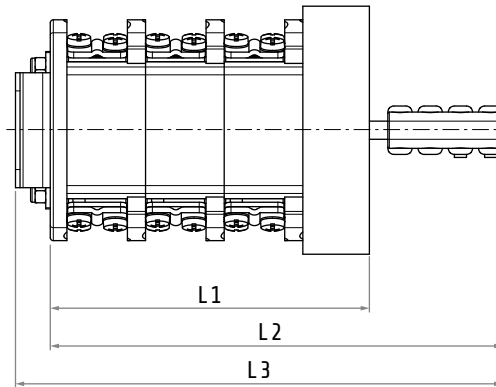


OVERALL DIMENSIONS

C063...B / C080...B



Terminal
protection class
IP00



Dimensions in mm
Illustrations NOT in scale

- (A) wafer (thickness = 26 mm)
- (B) metric screw (M5) fixing hole
- (C) metric screw (M5) fixing hole

Some dimensions depend on the number of wafers of the cam switch and can be calculated with these formulas:

$$L1 \text{ [mm]} = 5.5 + (26 \times \text{n. of wafers}) + 22$$

$$L2 \text{ [mm]} = L1 + 44.1$$

$$L3 \text{ [mm]} = L2 + 11.5$$

Examples:

n. of wafers	1	2	3	4	5	6
L1 [mm]	53.5	79.5	105.5	131.5	157.5	183.5
L2 [mm]	97.6	123.6	149.6	175.6	201.6	227.6
L3 [mm]	109.1	135.1	161.1	187.1	213.1	239.1

ELECTRICAL SCHEMES

Code checking pattern

								B
Series			Function			Mounting		
C063 / C080								

Function	N. of wafers	Electrical scheme
ON-OFF switches 0-1		
0002 ON-OFF switch 2 poles	1	p.6
0003 ON-OFF switch 3 poles	2	
0004 ON-OFF switch 4 poles	2	
0006 ON-OFF switch 6 poles	3	
Changeover switches 1-0-2		
0008 Changeover switch 1 pole	1	p.6
0009 Changeover switch 2 poles	2	
0010 Changeover switch 3 poles	3	
0011 Changeover switch 4 poles	4	

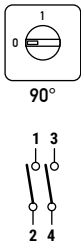
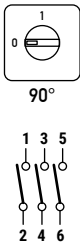
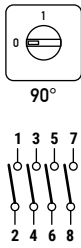
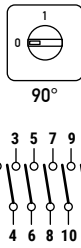
ON-OFF switches 0-1

0002 • 2 poles

0003 • 3 poles

0004 • 4 poles

0006 • 6 poles

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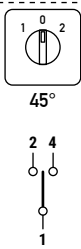
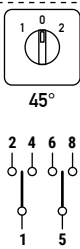
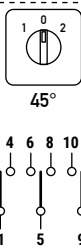
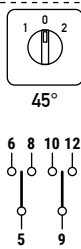
Changeover switches 1-0-2

0008 • 1 pole

0009 • 2 poles

0010 • 3 poles

0011 • 4 poles




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W Wafers
CNT Contacts

ACTUATORS







Cam switches / actuators matrix

Check the "Operation schemes matrix" (p.7) to identify the available operation scheme for each operator. Each actuator is referenced to the relevant page of the mounting instructions.

Series and size		C063 C080
Terminal protection class		IP00
Mounting type		B
88×88	Grey/Black	
screw	IP65	220/... (p.8)
92×92	Grey/Black max 3 padlocks	
screw	IP65	211/... (p.9)
92×92	Yellow/Red max 3 padlocks	
screw	IP65	212/... (p.9)

Operation schemes matrix

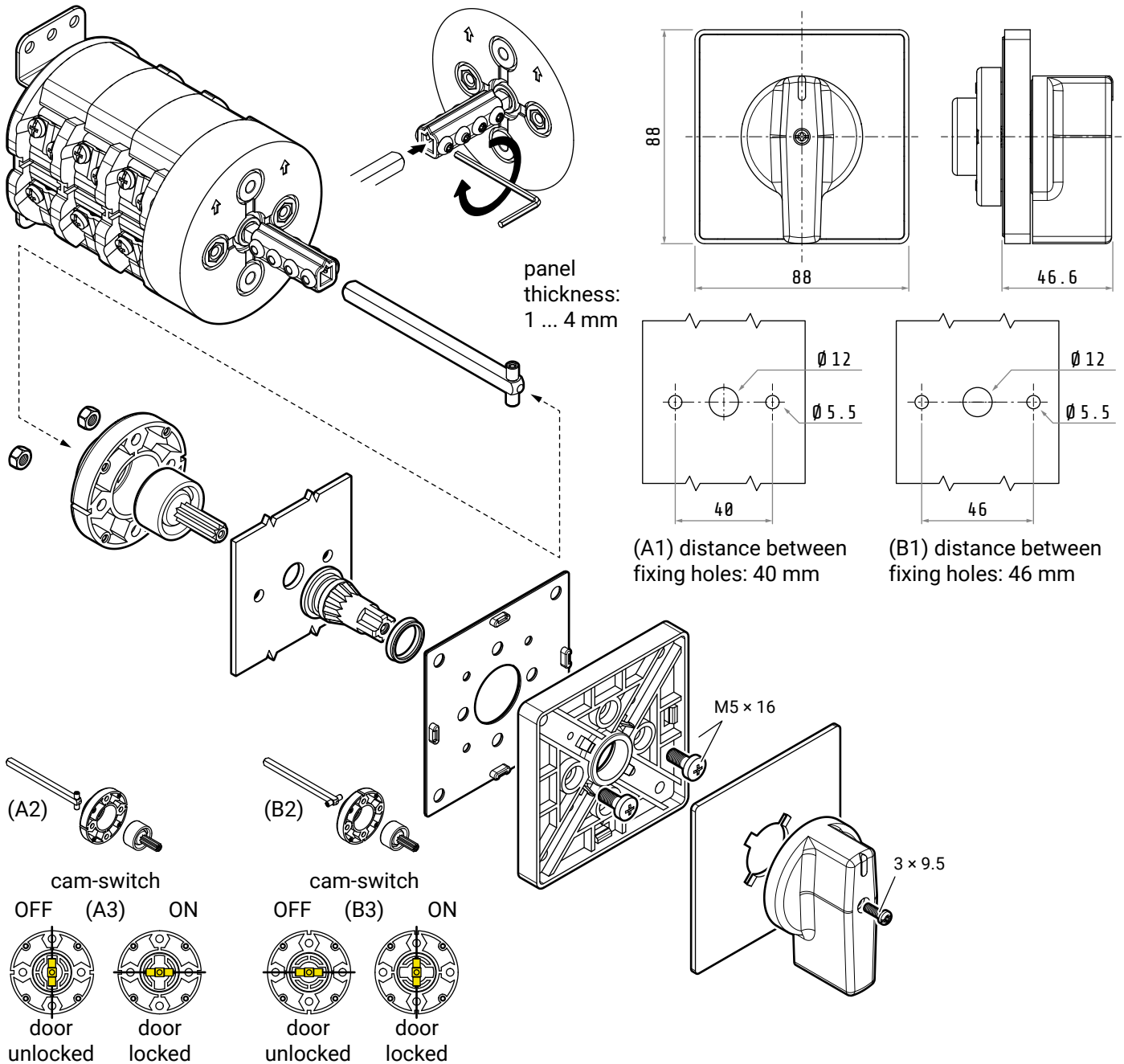
Actuator code example: 201/0001

		ON-OFF switches 0-1		Changeover switches 1-0-2 / Motor switches
		 90°	 90°	 45°
	211/...	0001	0001-1	0008
	212/...	0001	0001-1	0008
	220/...	0001	-	0008

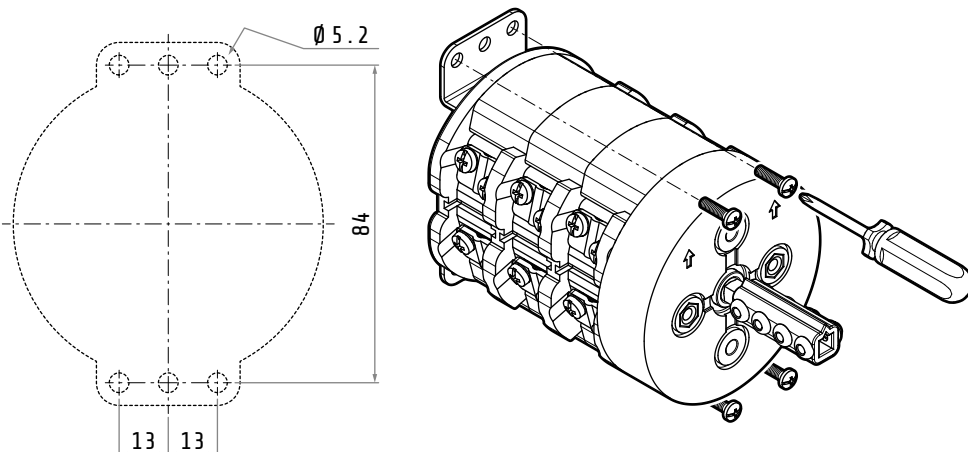
MOUNTING INSTRUCTIONS

220/...

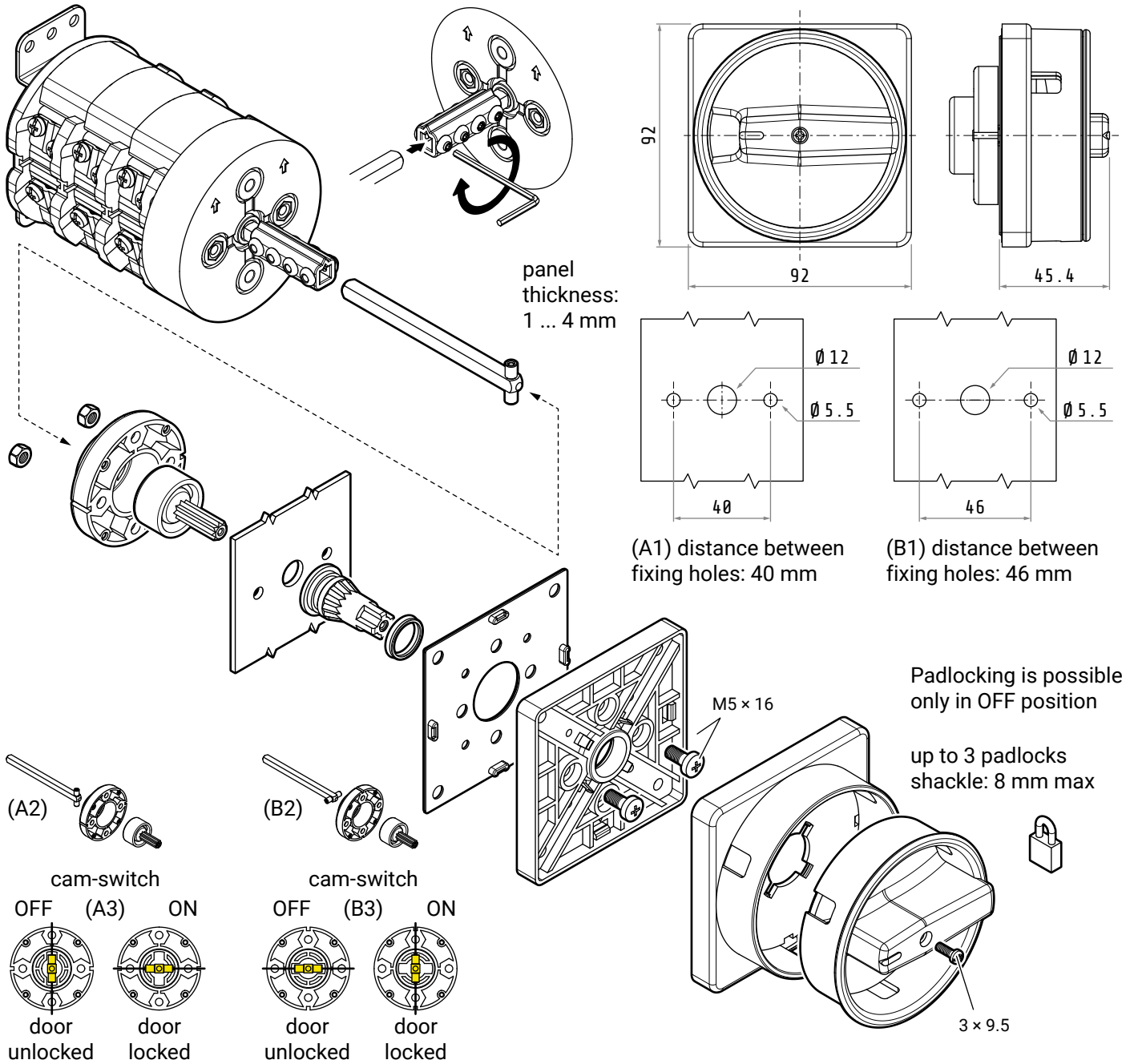
screw fixing



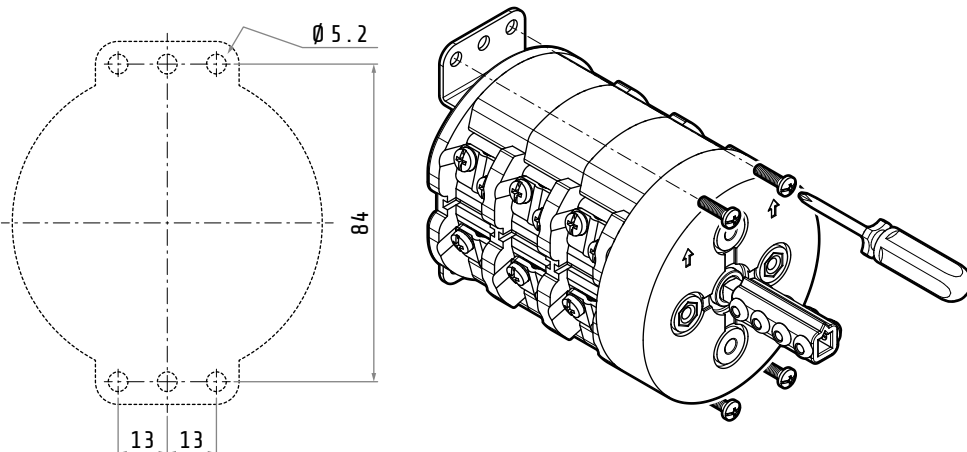
Mounting



The exploded view shows an example with 40 mm distance between the fixing holes (A1). 46 mm distance between the fixing holes (B1) is also possible. Changing configuration from (A1) to (B1) requires the 90° rotation of the illustrated components (A2 - B2). The orientation of the shaft (A3 - B3), change accordingly.



Mounting



The exploded view shows an example with 40 mm distance between the fixing holes (A1). 46 mm distance between the fixing holes (B1) is also possible. Changing configuration from (A1) to (B1) requires the 90° rotation of the illustrated components (A2 - B2). The orientation of the shaft (A3 - B3), change accordingly.



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