



**GIOVENZANA  
INTERNATIONAL B.V**

**AUTOMATION TECHNOLOGIES**



**AUTOMATION**

**GENERAL CATALOGUE**



**GIOVENZANA**  
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AUTOMATION TECHNOLOGIES

**AUTOMATION CATALOGUE**

GIOVENZANA INTERNATIONAL reserves the right to modify, in order to improve their performance, all technical and functional characteristics of the products shown in the catalogue without prior notice as this information is intended for general knowledge and is not legally binding.

## THE PHILOSOPHY

Giovenzana's philosophy is based upon the basic principles of business management, dynamism and the continuous research for the operator's needs in the field of man-machine interaction. These principles, thanks to the experience and professionalism of its staff, guarantees Giovenzana's development and growth.

## THE HISTORY

With over 60 years experience in this field and excellent managerial skills, Giovenzana has maintained growth relying upon:

- market research
- product placement
- manufacturing technology, and above all, team work

## THE PRODUCTS

Giovenzana, leader in the industrial technology field, is the first choice for:

- handling equipment
- automation
- lifting equipment
- maintenance
- command and control of moving parts

Development, design and production are combined to reach a common goal and cover most industrial applications.

## QUALITY AS A WAY OF LIFE

The commercial success of a product does not happen by chance, but is the end result of the combined efforts of all human resources operating within an organizational structure that is devoted to quality.

Giovenzana is an UNI EN ISO 9001:2008 certified company. Today, Giovenzana's goal is not only "to manufacture a quality product," but also to ensure the protection of our production cycle processes Giovenzana's Company is certificated UNI EN ISO 14001:2004.





# GIOVENZANA

## INTERNATIONAL B.V.

The Company

### THE PRODUCTION

The solutions offered by **Giovenzana** are the results of the close examination of the requirements of industrial electrical accessories, and are in line with all relevant international standards. It comprises of three main sectors: Industrial automation, lift and lifting equipment.

### AUTOMATION

Automation includes Phoenix cam switches from 12A to 630A and Regolus switch disconnectors from 25A to 160A; Pegasus control auxiliaries with screw or spring loaded terminal contact blocks; limit switches with die cast or molded casing and safety switches; foot switches and micro switches.

### LIFT

Throughout the years, continuous technological research and development has made **Giovenzana** the undisputed leader in its field. The range includes: pit bottom push button stations, recall drive control units and inspection boxes.

### LIFTING EQUIPMENT

Lifting equipment comprises of single and double row pendant stations up to 14 gang for control and direct switching power circuits, reversing switches, worm screen and rotary limit switches, slip rings, horns, festoon systems and conductor rails.





## QUALITY

**Giovenzana**, leader in the elevator and lifting equipment field, has gained a prominent position in the automation sector with their launch of industrial control accessories into the market. For many years, all commercial and industrial operations are integrated within the frame of the UNI EN ISO 9001:2008 quality system.

### CSQ certificate N 9105. GIOV.

**Giovenzana** has fulfilled its commitment to the quality of its products since 1995. The quality system is the end users guarantee that all production stages are maintained under strict control and adhere to the requirements set by the company both in terms of customer expectations and compliance to the relevant international standards as proved by the various certificates **Giovenzana** holds for its products. With the certification UNI EN ISO 14001:2004, **Giovenzana** keeps up with new technologies in order to reduce the consumption of raw materials, energy and natural resources and to minimize refuse and emissions in hopes of progressively reducing negative impacts on the environment, **Giovenzana products are in conformity to directives Rohs, Pfos, Raee and Reach.**

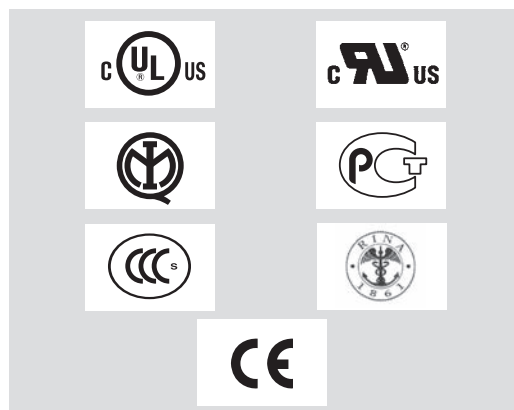
The certification CSQ N 9191. GIBV

## COMPLIANCE

All **Giovenzana** products are manufactured according to the relevant Cee directives. **Giovenzana** certifies this compliance with a declaration of conformity.

## CERTIFICATIONS

In order to reach the high level of quality **Giovenzana's** products achieve, they are tested by multiple third parties. In order to obtain the UL mark, **Giovenzana** submits their products to be tested by Underwriter Laboratories Inc., one of the most prestigious independent certification companies in the world.



# GIOVENZANA INTERNATIONAL B.V.

## Certifications

### CEE DIRECTIVES

As of January 1, 1997 it is compulsory to CE mark all electromechanical products: this has been outlined by two important regulations: 72/23 CEE and 93/68 CEE Low Voltage Directives.

### CE MARK

European directives, applied to all national regulations, set the minimum requirements in term of safety of all electrical material sold within the EU. The compliance to these requirements is certified to the manufacturer by the CE mark placed on the products.

### STANDARDS

Giovenzana's products comply with both the European EN and the American UL standards. These regulations, such as the EN 60024 (with regards to the safety requirements of the electrical circuits on board industrial machinery), define the characteristics, performance and use of the products.

### EN EUROPEAN STANDARDS

The EN European standards usually originate from IEC International standards and are the result of the collaboration between CENELEC (European Committee for Electrotechnical Standardization) member countries. These standards cover and eliminate existing national standards that may be contradictory or out of date.



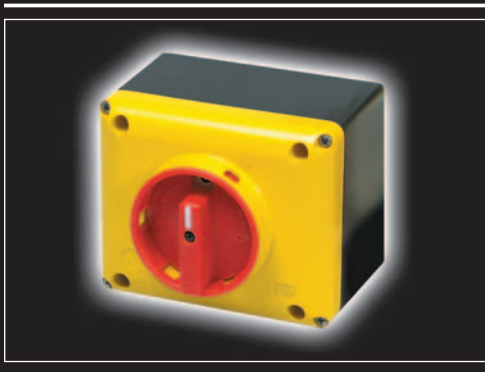
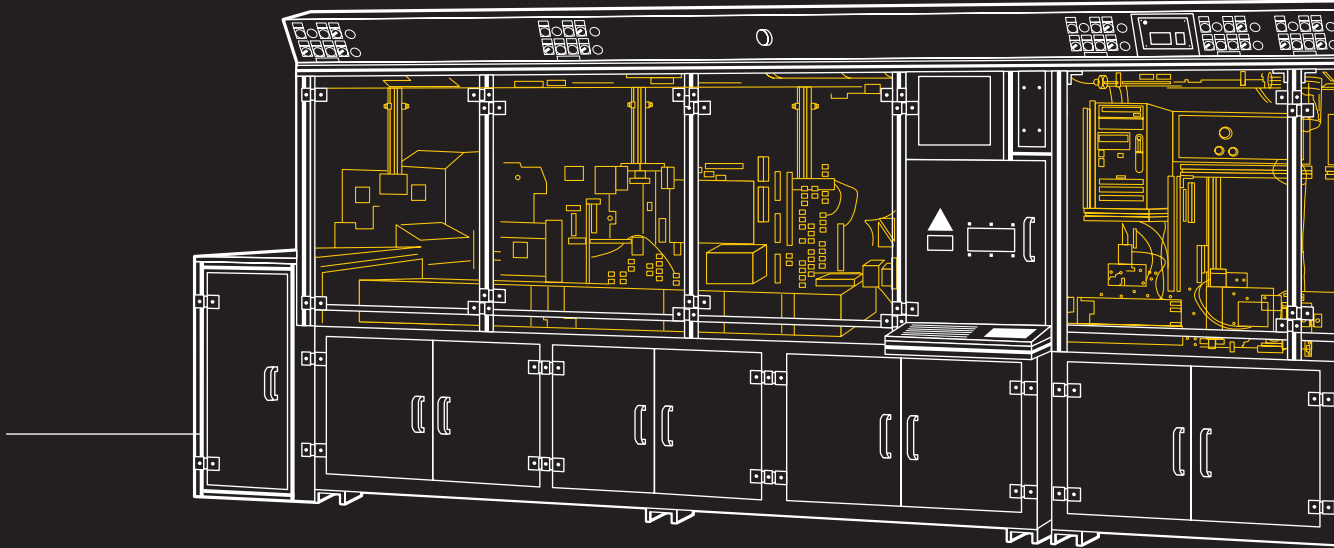


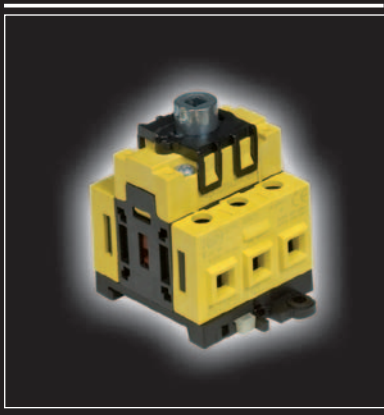
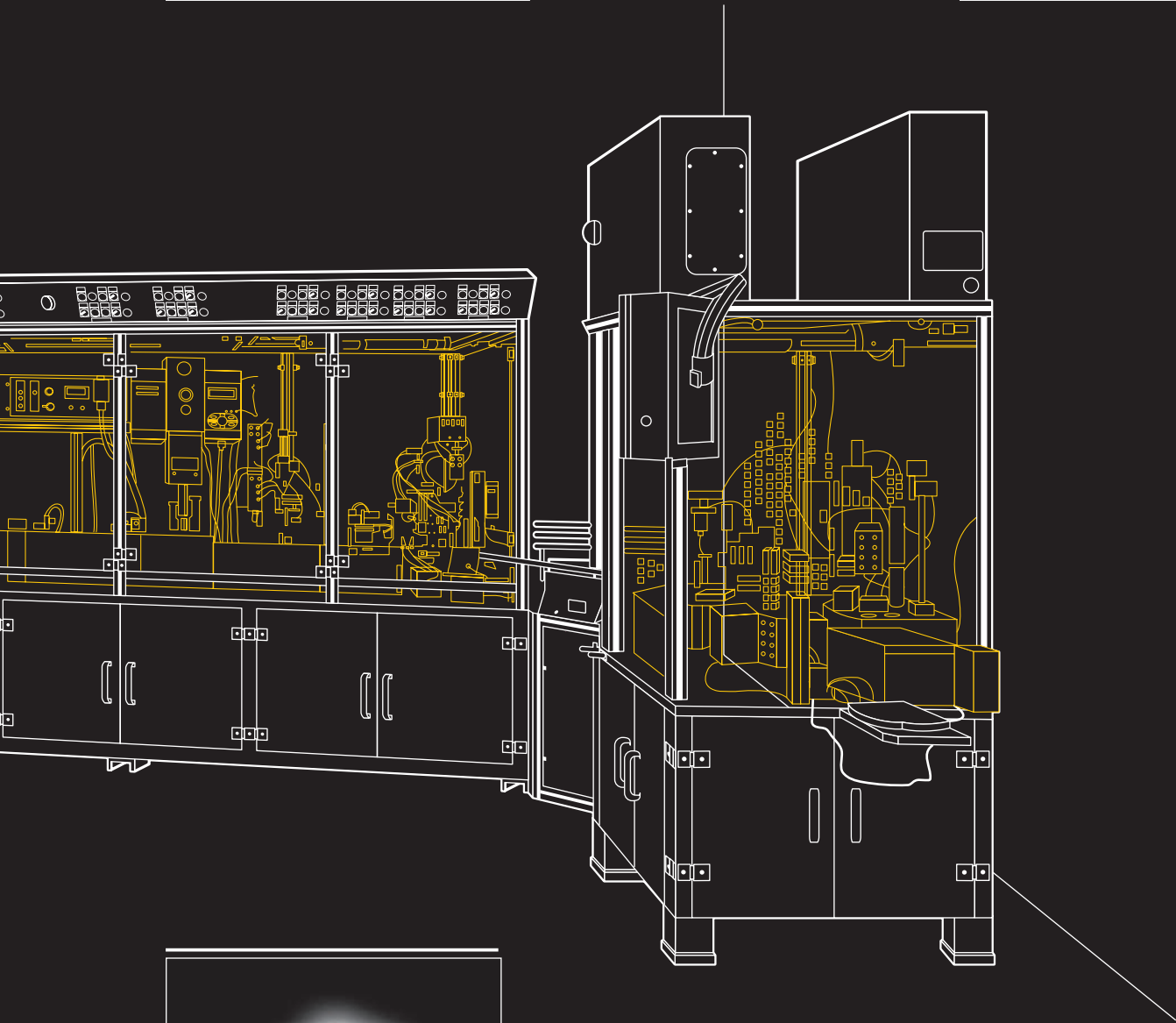
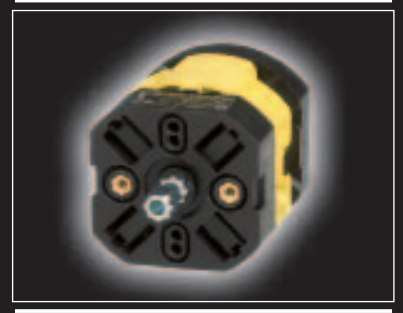
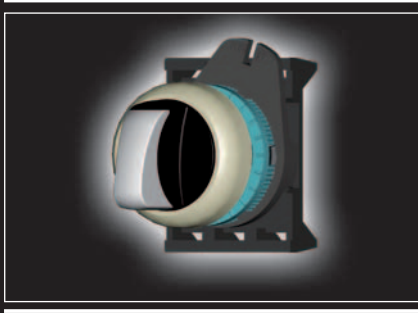


## AUTOMATION

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# Phoenix

## Cam switches

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AUTOMATION TECHNOLOGIES



Current rating from 12A to 630A with Base, Din and panel mounting with fixing screws or  $\varnothing$  22,5 mm holes. Wide range of circuit diagrams available. Special versions made to order.

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# Phoenix

## Cam switches

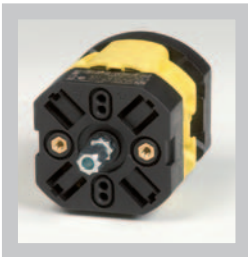
Range overview

### PO12 - PO16 - PO20 SERIES



- Panel mounting by means of horizontal fixing holes, 28 mm distance, for M3 screws or vertical fixing holes, 32 mm distance, for self tapping screws.
- Wafers secured by means of screws
- Metal shaft as standard
- IP20 rated terminals

### PX12 - PX16 - PX20 SERIES



- Panel mounting by means of horizontal fixing holes, 28 mm distance, for M3 screws or vertical fixing holes, 32 mm distance, for self tapping screws.
- Wafers secured by means of screws
- Metal shaft as standard
- IP10 rated terminals for special applications

### CO25 - CO32 - CO40 SERIES



- Panel mounting by means of horizontal fixing holes for M3 screws
- Wafers secured by means of screws
- Metal shaft as standard
- IP20 rated terminals

### CX25 - CX32 - CX40 SERIES



- Panel mounting by means of horizontal fixing holes for M3 screws
- Wafers secured by means of screws
- Metal shaft as standard
- IP10 rated terminals for special applications

# Phoenix

## Cam switches

Range overview



AUTOMATION TECHNOLOGIES

### CO63-CO80 SERIES



- Panel mounting by means of horizontal fixing holes 40 mm distance or on vertical fixing 46 mm with metrical screws M5
- Wafers secured by means of screws
- Standard metal shaft  $\square 6$  mm
- Terminals with wiring clamp M4



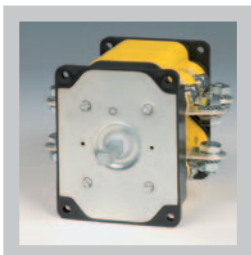
### C100 SERIES



- Panel mounting by means of vertical fixing holes 65 mm with metrical screws M5
- Wafers secured by means of screws
- Contacts 4 brakes
- Standard metal shaft  $\square 8$  mm
- Terminals screw with wiring clamp M5
- Unic version for panel and base fixing



### C200 SERIES



- Panel mounting by means of 4 holes 114x84 with metrical screws M6
- Wafers secured by means of screws
- Contacts 4 brakes
- Standard metal shaft  $\square 10$  mm
- Terminals for cable lugs connections with head exagonal screws M10
- Unic version for panel and base fixing
- C400 - C630 Series



On demand are realized series C400 lth 400 and series C630 lth 630A

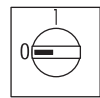
# Phoenix

## Panel mounting switches : R

Switches - changeover switches



### SWITCHES



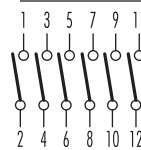
90°



60°

C100-C200 Series

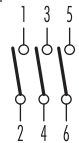
02.....06



07



45°



SERIES	NOM. CURRENT AC21A AMP.	1 POLE 1 WAFER	2 POLES 1 WAFER	3 POLES 2 WAFERS	4 POLES 2 WAFERS	5 POLES 3 WAFERS	6 POLES 3 WAFERS	3P WITH SPRIN RETURN 3 WAFERS
P012	12	P0120001R	P0120002R	P0120003R	P0120004R	P0120005R	P0120006R	P0120007R
P016	16	P0160001R	P0160002R	P0160003R	P0160004R	P0160005R	P0160006R	P0160007R
P020	20	P0200001R	P0200002R	P0200003R	P0200004R	P0200005R	P0200006R	P0200007R
C025	25	C0250001R	C0250002R	C0250003R	C0250004R	C0250005R	C0250006R	C0250007R
C032	32	C0320001R	C0320002R	C0320003R	C0320004R	C0320005R	C0320006R	C0320007R
C040	40	C0400001R	C0400002R	C0400003R	C0400004R	C0400005R	C0400006R	C0400007R
C063	63	-	C0630002R	C0630003R	C0630004R	-	C0630006R	-
C080	75	-	C0800002R	C0800003R	C0800004R	-	C0800006R	-
*C100	125	-	C1000002R	C1000003R	C1000004R	-	C1000006R	-
*C200	200	-	C2000002R	C2000003R	C2000004R	-	C2000006R	-

### LINE CHANGEOVER SWITCHES



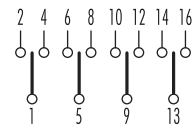
45°



60°

C100-C200 Series

08.....11



from 1 to 4 poles

SERIES	NOM. CURRENT AC21A AMP.	1 POLE 1 WAFER	2 POLES 2 WAFERS	3 POLES 3 WAFERS	4 POLES 4 WAFERS
P012	12	P0120008R	P0120009R	P0120010R	P0120011R
P016	16	P0160008R	P0160009R	P0160010R	P0160011R
P020	20	P0200008R	P0200009R	P0200010R	P0200011R
C025	25	C0250008R	C0250009R	C0250010R	C0250011R
C032	32	C0320008R	C0320009R	C0320010R	C0320011R
C040	40	C0400008R	C0400009R	C0400010R	C0400011R
C063	63	C0630008R	C0630009R	C0630010R	C0630011R
C080	75	C0800008R	C0800009R	C0800010R	C0800011R
*C100	125	C1000008R	C1000009R	C1000010R	C1000011R
*C200	200	C2000008R	C2000009R	C2000010R	C2000011R

\* Series available also in base mounting version.

# Phoenix

## Panel mounting switches: R

Reversing switches - motor changeover switches



AUTOMATION TECHNOLOGIES



### REVERSING SWITCHES

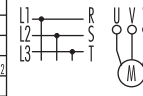
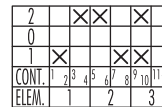
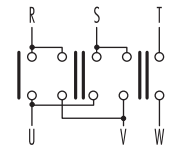
### REVERSING AND REVERSING PHASE STARTER - SWITCHES

SERIES	NOM. CURRENT AC21A AMP.	3 POLES 3 WAFERS
P012	12	P0120012R
P016	16	P0160012R
P020	20	P0200012R
C025	25	C0250012R
C032	32	C0320012R
C040	40	C0400012R
C063	63	C0630012R
C080	75	C0800012R

12



45°

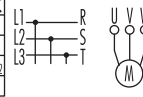
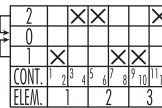
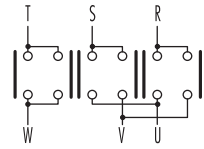


SERIES	NOM. CURRENT AC21A AMP.	3P WITH SPRING RETURN 3 WAFERS
P012	12	P0120013R
P016	16	P0160013R
P020	20	P0200013R
C025	25	C0250013R
C032	32	C0320013R
C040	40	C0400013R

13



45°



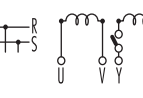
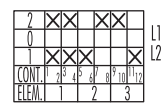
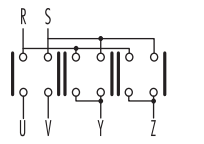
### REVERSING SWITCH FOR SINGLE PHASE MOTOR WITH CENTRIFUGAL CUT-OUT

SERIES	NOM. CURRENT AC21A AMP.	3 WAFERS
P012	12	P0120016R
P016	16	P0160016R
P020	20	P0200016R
C025	25	C0250016R
C032	32	C0320016R
C040	40	C0400016R

16



45°



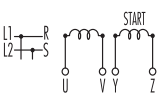
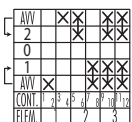
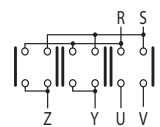
### REVERSING SWITCH WITH AUXILIARY PHASE

SERIES	NOM. CURRENT AC21A AMP.	3 Wafers - REV. SWITCHES	3 Wafers - SWITCHES
P012	12	P0120018R	P0120017R
P016	16	P0160018R	P0160017R
P020	20	P0200018R	P0200017R

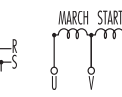
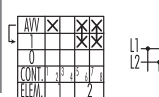
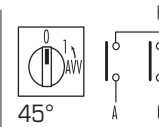
18



45°



17





# Phoenix

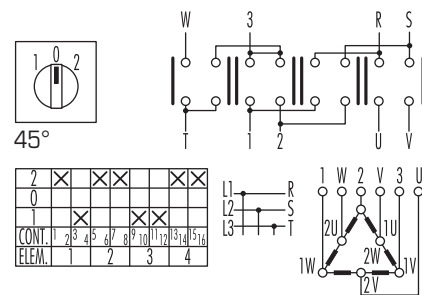
## Panel mounting switches: R Motor changeover switches



### MOTOR CHANGEOVER SWITCHES

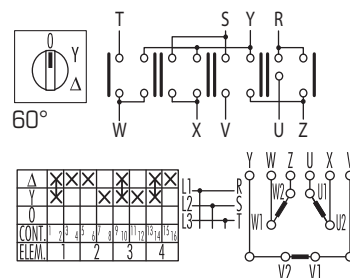
SERIES	NOM. POWER AC-23A kW-400V	DAHLENDER 2 SPEED SWITCH 3 WAFERS
PO12	5.5	PO120014R
PO16	7.5	PO160014R
PO20	9	PO200014R
CO25	11	CO250014R
CO32	15	CO320014R
CO40	18.5	CO400014R
CO63	22	CO630014R
CO80	30	CO800014R

14 Dahlander 2 speed switch



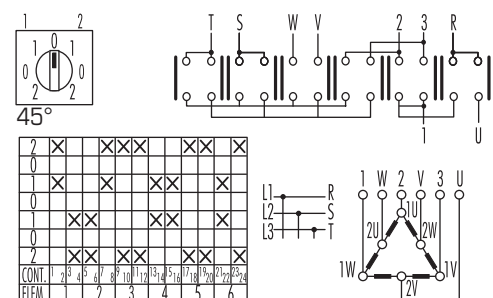
SERIES	NOM. POWER AC-23A kW-400V	STAR DELTA STARTER 4 WAFERS
PO12	5.5	PO120015R
PO16	7.5	PO160015R
PO20	9	PO200015R
CO25	11	CO250015R
CO32	15	CO320015R
CO40	18.5	CO400015R
C100	45	C1000015R

15 Star delta starter



SERIES	NOM. POWER AC-23A kW-400V	POLARITY CHANGEOVER SWITCH WITH REVERSE FUNCTION 6 WAFERS
PO12	5.5	PO120031R
PO16	7.5	PO160031R
PO20	9	PO200031R
CO25	11	CO250031R
CO32	15	CO320031R
CO40	18.5	CO400031R

31 Polarity changeover switch with reverse function





### AMMETER SWITCHES

### VOLTMETER SWITCHES

SERIES	NOM. CURRENT AC-21A AMP.	AMMETER 1 POLE FOR 3 CTS 3 WAFERS	19
P012	12	P0120019R	
P016	16	P0160019R	
P020	20	P0200019R	

SERIES	NOM. CURRENT AC-21A AMP.	VOLTMETER 3 PHASE TO NEUTRAL 2 WAFERS	20
P012	12	P0120020R	
P016	16	P0160020R	
P020	20	P0200020R	

SERIES	NOM. CURRENT AC-21A AMP.	VOLTMETER 3 PHASE CONCATENATED VOLTAGES 2 WAFERS	21
P012	12	P0120021R	
P016	16	P0160021R	
P020	20	P0200021R	

SERIES	NOM. CURRENT AC-21A AMP.	VOLTMETER 3 PHASE CONCATENATED VOLTAGES 2 CIRCUITS 4 WAFERS	22
P012	12	P0120022R	
P016	16	P0160022R	
P020	20	P0200022R	

SERIES	NOM. CURRENT AC-21A AMP.	VOLTMETER 3 PHASE CONCATENATED VOLTAGES 3 PHASE TO NEUTRAL 3 WAFERS	23
P012	12	P0120023R	
P016	16	P0160023R	
P020	20	P0200023R	

SERIES	NOM. CURRENT AC-21A AMP.	VOLTMETER 3 PHASE CONCATENATED VOLTAGES 1 PHASE TO NEUTRAL 3 WAFERS	24
P012	12	P0120024R	
P016	16	P0160024R	
P020	20	P0200024R	

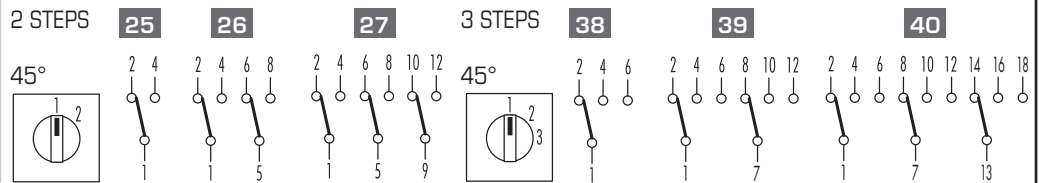
# Phoenix

## Panel mounting bases : R

Changeover without off switches - step switches

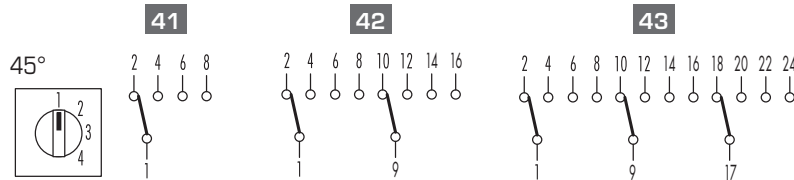


### CHANGEOVER WITHOUT OFF SWITCHES



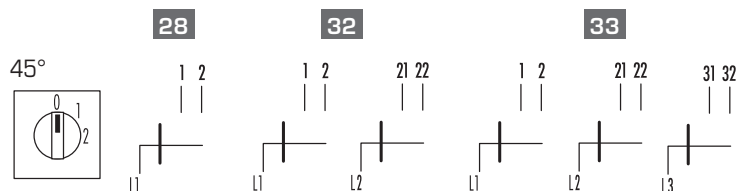
SERIES	NOM. CURRENT AC-21A AMP.	2 STEPS			3 STEPS		
		SINGLE POLE 1 WAFER	DOUBLE POLE 2 WAFERS	3 POLES 3 WAFERS	SINGLE POLE 2 WAFERS	DOUBLE POLE 3 WAFERS	3 POLES 5 WAFERS
P012	12	P0120025R	P0120026R	P0120027R	P0120038R	P0120039R	P0120040R
P016	16	P0160025R	P0160026R	P0160027R	P0160038R	P0160039R	P0160040R
P020	20	P0200025R	P0200026R	P0200027R	P0200038R	P0200039R	P0200040R

### 4 STEPS CHANGEOVER WITHOUT OFF SWITCHES



SERIES	NOM. CURRENT AC-21A AMP.	4 STEPS		
		SINGLE POLE 2 WAFERS	DOUBLE POLE 4 WAFERS	3 POLES 6 WAFERS
P012	12	P0120041R	P0120042R	P0120043R
P016	16	P0160041R	P0160042R	P0160043R
P020	20	P0200041R	P0200042R	P0200043R

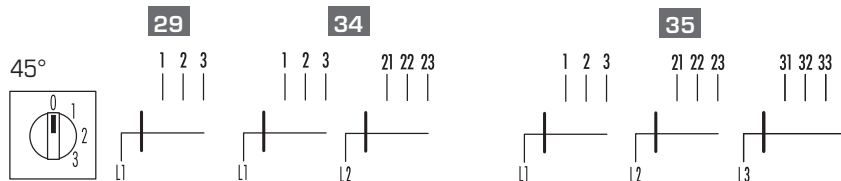
### MULTI WAY STEP SWITCHES WITH 0



SERIES	NOM. CURRENT AC-21A AMP.	2 STEPS		
		SINGLE POLE 1 WAFER	DOUBLE POLE 2 WAFERS	3 POLES 3 WAFERS
P012	12	P0120028R	P0120032R	P0120033R
P016	16	P0160028R	P0160032R	P0160033R
P020	20	P0200028R	P0200032R	P0200033R



#### MULTI WAY STEP SWITCHES WITH "O"

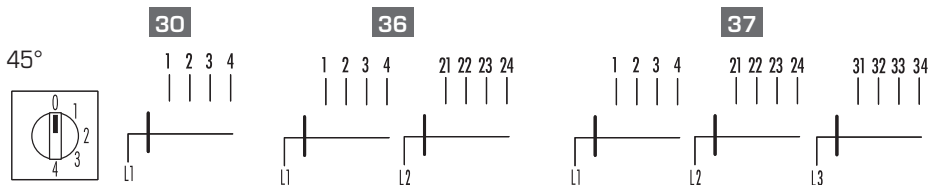


#### 3 STEPS

SERIES	NOM. CURRENT AC-21A AMP.	SINGLE POLE 2 WAFERS	DOUBLE POLE 3 WAFERS	3 POLES 5 WAFERS
P012	12	P0120029R	P0120034R	P0120035R
P016	16	P0160029R	P0160034R	P0160035R
P020	20	P0200029R	P0200034R	P0200035R



#### MULTI WAY STEP SWITCHES WITH "O"



#### 4 STEPS

SERIES	NOM. CURRENT AC-21A AMP.	SINGLE POLE 2 WAFERS	DOUBLE POLE 4 WAFERS	3 POLES 6 WAFERS
P012	12	P0120030R	P0120036R	P0120037R
P016	16	P0160030R	P0160036R	P0160037R
P020	20	P0200030R	P0200036R	P0200037R



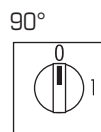
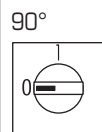
# Phoenix

## Box mounting base: B door interlock

On-Off switches



### ON-OFF SWITCHES P012 - P016 - P020 Series



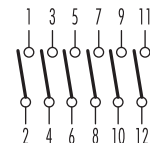
**03** 3 POLES



**04** 4 POLES



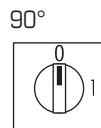
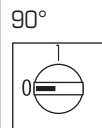
**06** 6 POLES



SERIES	NOM. CURRENT AC-21A AMP.	3 POLES 2 WAFERS	4 POLES 4 WAFERS	6 POLES 3 WAFERS
P012	12	P0120003B	P0120004B	P0120006B
P016	16	P0160003B	P0160004B	P0160006B
P020	20	P0200003B	P0200004B	P0200006B



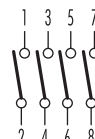
### ON-OFF SWITCHES C025 - CP032 - C040 Series



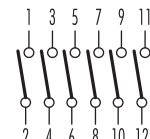
**03** 3 POLES



**04** 4 POLES



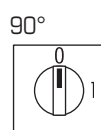
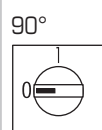
**06** 6 POLES



SERIES	NOM. CURRENT AC-21A AMP.	3 POLES 2 WAFERS	4 POLES 4 WAFERS	6 POLES 3 WAFERS
C025	25	C0250003B	C0250004B	C0250006B
C032	32	C0320003B	C0320004B	C0320006B
C040	40	C0400003B	C0400004B	C0400006B



### ON-OFF SWITCHES C025 - CP032 - C040 Series



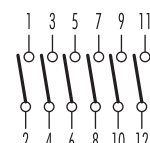
**03** 3 POLES



**04** 4 POLES



**06** 6 POLES



SERIES	NOM. CURRENT AC-21A AMP.	3 POLES 2 WAFERS	4 POLES 4 WAFERS	6 POLES 3 WAFERS
C063	63	C0630003B	C0630004B	C0630006B
C080	75	C0800003B	C0800004B	C0800006B

# Phoenix

## Box mounting base: B door interlock On-Off switches



AUTOMATION TECHNOLOGIES



### ON-OFF SWITCHES C100 Series

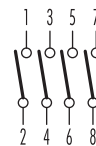
60°



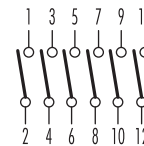
**03** 3 POLES



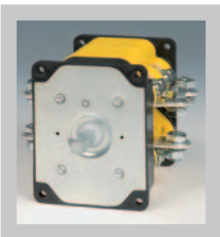
**04** 4 POLES



**06** 6 POLES



SERIES	NOM. CURRENT AC-21 AMP.	3 POLES 2 WAFERS	4 POLES 4 WAFERS	6 POLES 3 WAFERS
C100	125	C1000003R	<b>C1000004R</b>	C1000006R



### ON-OFF SWITCHES C200 Series

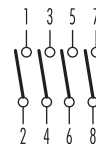
60°



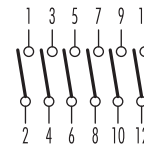
**03** 3 POLES



**04** 4 POLES



**06** 6 POLES



SERIES	NOM. CURRENT AC-21 AMP.	3 POLES 2 WAFERS	4 POLES 4 WAFERS	6 POLES 3 WAFERS
C200	200A	C2000003R	<b>C2000004R</b>	C2000006R

C100 - C200 Series are arranged in one execution one code for R and B fixing type.

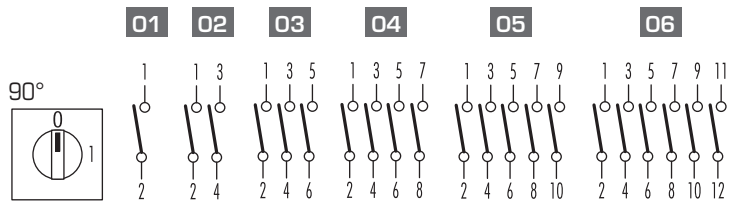
# Phoenix

Complete switches Base-DIN rail mounting for standardised enclosures  
On-Off switches - Instrumentation switches



## ON-OFF SWITCHES

DIN rail mounting for 46 mm. standardised enclosures



SERIES	NOM. CURRENT AC-21A AMP.	SINGLE POLE 3 WAFERS	DOUBLE POLE 3 WAFERS	3 POLES 3 WAFERS	4 POLES 3 WAFERS	5 POLES 3 WAFERS	6 POLES 3 WAFERS
PO12	12	PO120001D027	PO120002D027	PO120003D027	PO120004D027	PO120005D027	PO120006D027
PO16	16	PO160001D027	PO160002D027	PO160003D027	PO160004D027	PO160005D027	PO160006D027

## CHANGEOVER SWITCHES

SERIES	NOM. CURRENT AC-21A AMP.	AMMETER 1 POLE FOR 3 CTS 3 WAFERS	19
PO12	12	PO120019D027	
PO16	16	PO160019D027	

SERIES	NOM. CURRENT AC-21A AMP.	VOLTMETER 3 PHASE TO NEUTRAL 3 WAFERS	20
PO12	12	PO120020D027	
PO16	16	PO160020D027	

SERIES	NOM. CURRENT AC-21A AMP.	VOLTMETER 3 PHASE CONCATENATED VOLTAGES 3 WAFERS	21
PO12	12	PO120021D027	
PO16	16	PO160021D027	

SERIES	NOM. CURRENT AC-21A AMP.	VOLTMETER 3 PHASE CONCATENATED VOLTAGES 3 PHASE TO NEUTRAL 3 WAFERS	23
PO12	12	PO120023D027	
PO16	16	PO160023D027	

SERIES	NOM. CURRENT AC-21A AMP.	VOLTMETER 3 PHASE CONCATENATED VOLTAGES 1 PHASE TO NEUTRAL 3 WAFERS	24
PO12	12	PO120024D027	
PO16	16	PO160024D027	

# Phoenix

## Screw fixing plates - panel mounting R



AUTOMATION TECHNOLOGIES

### EN60529 - IP65 UL50 1 - 4 - 4x (\*) NEMA 4X Protection



Grey plate  
Black knob

- 48      **001/.....**       88    **201/.... - 241/....**
- 64      **007/.....**       130   **261/.....**

SERIES	PLATE	90°		45°		45°		45°		60°		45°	
		01.....06	01.....06	07	08....12-14-16	13	15	17					
P012	<input type="checkbox"/> 48												
P016	<input type="checkbox"/> 48	001/0001	001/0001-1	001/0007	001/0008	001/0013	001/0015	001/0017					
P020													
C025													
C032	<input type="checkbox"/> 64	007/0001	007/0001-1	007/0007	007/0008	007/0013	007/0015	007/0017					
C040													
C063	<input type="checkbox"/> 88	201/0001	201/0001-1	-	201/0008	-	-	-					
C080	<input type="checkbox"/> 88												
*C100	<input type="checkbox"/> 88	-	241/0001-1 <sup>□</sup>	-	241/0008 <sup>□</sup>	-	241/0015	-					
*C200	<input type="checkbox"/> 130	-	261/0001-1 <sup>□</sup>	-	261/0008 <sup>□</sup>	-	-	-					

SERIES	PLATE	45°		90°		45°		45°		45°		45°	
		18	19	24	20	21	22	23					
P012													
P016	<input type="checkbox"/> 48	001/0018	001/0019	001/0024	001/0020	001/0021	001/0022	001/0023					
P020													
C025													
C032	<input type="checkbox"/> 64	007/0018	007/0019	007/0024	007/0020	007/0021	007/0022	007/0023					
C040													











SERIES	PLATE	45°		45°		45°		45°		45°	
		25-26-27	38-39-40	41-42-43	28-32-33	29-34-35	30-36-37	31			
P012...020	<input type="checkbox"/> 48										
P012...020	<input type="checkbox"/> 48	001/0025	001/0038	001/0041	001/0028	001/0029	001/0030	001/0031			
C025...040	<input type="checkbox"/> 64	007/0025	007/0038	007/0041	007/0028	007/0029	007/0030	007/0031			

C100 - C200 60° switch

# Phoenix

## Screws fixing plates - Panel mounting R Door locking B

### EN60529 - IP65 UL50 1 - 4 - 4x (\*) NEMA 4X Protection

				PANEL MOUNTING		DOOR LOCKING		
		SERIES	PLATES					
	Grey plate round Black knob	P012....P020	□ 48	001/0001	001/0001-1	020/0001	-	
		C025....C040	□ 64	007/0001	007/0001-1	-	-	
		C63....C80	□ 88	201/0001	201/0001-1	220/0001	-	
		C100	□ 88	-	241/0001-1□	-	-	
		C200	□ 130	-	261/0001-1□	-	-	
	Yellow plate round Red knob	P012....P020	□ 48	002/0001	002/0001-1	-	-	
		C025....C040	□ 64	008/0001	008/0001-1	-	-	
	Grey plate round Black knob With looking facility	P012....P020	□ 48	-	003/0001-1	*005/0001	-	
		C025....C040		*003/0001	-	-	-	
	Yellow plate round Red knob With looking facility	P012....P020	□ 48	-	*004/0001-1	*006/0001	-	
		C025....C040		*004/0001	-	-	-	
	Grey plate round Black knob With looking facility (max.3)	P012....P020	□ 67	*009/0001	*009/0001-1	*011/0001	*011/0001-A	
		C025....C040		□ 67	*009/0001	*009/0001-1	*011/0001	*011/0001-A
		C63....C80		□ 92	209/0001	209/0001-1	211/0001	211/0001-1
		C100		□ 92	-	249/0001-1□	-	251/0001-1□
		C200		□ 130	-	269/0001-1□	-	271/0001-1□
	Yellow plate round Red knob With looking facility (max.3)	P012....P020	□ 67	*010/0001	*010/0001-1	*012/0001	*012/0001-2	
		C025....C040		□ 67	*010/0001	*010/0001-1	*012/0001	*012/0001-2
		C63....C80		□ 92	210/0001	210/0001-1	212/0001	212/0001-1
		C100		□ 92	-	250/0001-1□	-	252/0001-1□
		C200		□ 130	-	270/0001-1□	-	272/0001-1□

□ C100 - C200 60° switch

# Phoenix

## Panel mounting Ø 22 mm hole Panel mounting R



AUTOMATION TECHNOLOGIES

### EN60529 - IP65 UL50 1 - 4 - 4x (\*) NEMA 4X Protection



Panel mounting Ø 22 mm hole  
Grey plate  
Black knob  
□ 48

**056**

Panel mounting Ø 22 mm hole  
Grey plate  
with key  
□ 48

**057**



SERIES	TYPE	90° 01.....06		90° 01.....06		45° 08.....12- 14-16		90° 19		45° 20		45° 21	
		Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram
P012	with knob	056/0001	<b>056/0001-1</b>	056/0008	<b>056/0019</b>	056/0020	<b>056/0021</b>						
P016													
P020	with key *	057/0001	<b>057/0001-1</b>	057/0008-CA	-	-	-						

SERIES	TYPE	45° 22		45° 23		45° 24		45° 25....27		45° 38...40		45° 41....43	
		Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram
P012	with knob	056/0022	<b>056/0023</b>	056/0024	<b>056/0025</b>	056/0038	<b>056/0041</b>						
P016													
P020	with key *	-	-	-	-	-	-						

SERIE	TIPO	45° 28-32-34		45° 29-34-35		45° 30-36-37							
		Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram	Diagram
P012	with knob	056/0028	<b>056/0029</b>	056/0030									
P016													
P020	with key *	057/0028-CA	<b>057/0029-CA</b>	-									



Panel mounting Ø 22 mm hole  
with knob  
**028**

Panel mounting Ø 22 mm hole  
with key  
**029**

Key removal at position  
0° and 180°



P012-P016-P020	028	029
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











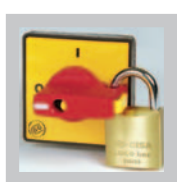













\* Key removal at "0" position



# Phoenix

## Panel mounting Ø 22 mm hole Panel mounting R - door locking B

### EN60529 - IP65 UL50 1 - 4 - 4x (\*) NEMA 4X Protection

				PANEL MOUNTING		DOOR LOCKING	
	Grey plate round Black knob	<b>SERIES</b>	<input type="checkbox"/> <b>PLATE</b>				
		P012....P020 C025.....C040	<input type="checkbox"/> 48	056/0001 -	056/0001-1 -	095/0001	-
	Yellow plate round Red knob	<b>SERIES</b>	<input type="checkbox"/> <b>PLATE</b>				
		P012....P020 C025.....C040	<input type="checkbox"/> 48	058/0001 -	058/0001-1 -	070/0001	-
	Grey plate round Black knob With looking facility	<b>SERIES</b>	<input type="checkbox"/> <b>PLATE</b>				
		P012....P020 C025.....C040	<input type="checkbox"/> 48	059/0001 -	- -	* 077/0001	-
	Yellow plate round Red knob With looking facility	<b>SERIES</b>	<input type="checkbox"/> <b>PLATE</b>				
		P012....P020 C025.....C040	<input type="checkbox"/> 48	060/0001 -	060/0001-1 -	* 069/0001	-
	Grey plate round Black disc type knob With looking facility (max.3)	<b>SERIES</b>	<input type="checkbox"/> <b>PLATE</b>				
		P012....P020 C025.....C040	<input type="checkbox"/> 67	061/0001 -	061/0001-1 -	* 063/0001	* 063/0001-1
	Yellow plate round Red disc type knob With looking facility (max.3)	<b>SERIES</b>	<input type="checkbox"/> <b>PLATE</b>				
		P012....P020 C025.....C040	<input type="checkbox"/> 67	062/0001 -	062/0001-1 -	* 064/0001	* 064/0001-1

# Phoenix

## Panel mounting Ø 22 mm hole Panel mounting R - Special plates



AUTOMATION TECHNOLOGIES

### EN60529 - IP65 UL50 1 - 4 - 4x (\*) NEMA 4X Protection



Screw fixing  
Grey plate  
Black knob

48 **001**  
 64 **007**

Panel mounting Ø 22 mm hole plate

Grey plate  
Black knob

48 **056**



45° SWITCHING  
ANGLE

PLATE	FIXING	45°	45°	45°	45°	45°	45°	45°
<input type="checkbox"/> 48	SCREW FIXING	001/0008-1	001/0008-4	001/0008-14	001/0840	-	001/0013-1	-
	Ø 22 MM HOLE	-	-	-	-	056/0008-3	-	-
<input type="checkbox"/> 64	SCREW FIXING	-	007/1481	-	-	-	007/0013-1	007/0008-1

45° SWITCHING  
ANGLE

PLATE	FIXING	45°	45°	45°	45°	45°	45°	45°
<input type="checkbox"/> 48	SCREW FIXING	-	001/0023-2	001/0949	001/0845	-	-	001/0410
	Ø 22 MM HOLE	-	-	-	-	-	-	-
<input type="checkbox"/> 64	SCREW FIXING	007/0013-2	007/1135	-	-	007/0008-2	007/0354	-

90° SWITCHING  
ANGLE

PLATE	FIXING	90°	90°	90°
<input type="checkbox"/> 48	SCREW FIXING	-	-	-
	Ø 22 MM HOLE	-	-	-
<input type="checkbox"/> 64	SCREW FIXING	007/1131	007/1133	007/1132

# Phoenix

## Cam switches

### Accessories

#### IP65 THERMOPLASTIC ENCLOSURES



FOR FRONT KNOB AND PANEL MOUNTING SWITCHES: R

Black box - grey cover  
RAL 7035  
Dimension 120x100x83 mm  
Nr. 8 knock-outs Pg.

PO12 - PO16 - PO20 Series

Max. 3 wafers

**BF1/2NGO**

CO25 - CO32 - CO40 Series

Max. 2 wafers

**BF1/6NGO**

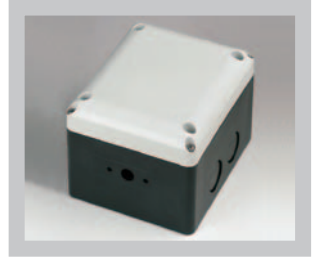
FOR SIDE KNOB AND PANEL MOUNTING SWITCHES: R

Black box - grey cover  
RAL 7035  
Dimension 120x100x83 mm  
Nr. 8 knock-outs Pg.

PO12 - PO16 - PO20 Series

Max. 6 wafers

**BL1/ONGO**



FOR FRONT KNOB AND PANEL MOUNTING SWITCHES: R

Black box - grey cover  
RAL 7035  
Dimension 130x180x106 mm.  
Nr. 4 knock-outs M25/M32 +  
nr. 2 ø 22 mm closed hole on  
the bottom

CO25 - CO32 - CO40 Series

Max. 3 wafers

**BF4/GNGO**

CO63 - CO80 Series

Max. 2 wafers

**BF4/HNGO**

FOR PROTECTED FRONT KNOB AND PANEL MOUNTING SWITCHES: R

Black box - grey cover  
RAL 7035  
Dimension 75x75x60 mm.  
Nr. 4 knock-outs M20

PO12 - PO16 - PO20 Series

Max. 3 wafers

**PROTECTED COVER WITH HANDLE**

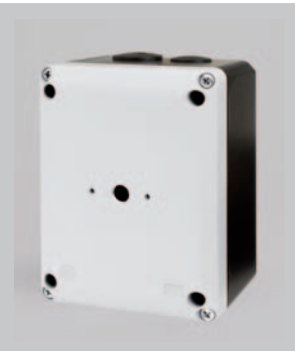
**PQCPGN**

**FLAT COVER**

**PQCOGN**



#### IP65 ALUMINIUM ENCLOSURES



FOR FRONT KNOB AND PANEL MOUNTING SWITCHES: R

Black box - grey cover  
RAL 7035  
Dimension 105x140x85 mm.  
Complete with nr. 2 M25  
and nr. 2 M20 taps

PO12 - PO16 - PO20 Series

Max. 3 wafers

**BFA/ANGO**

CO25 - CO32 - CO40 Series

Max. 2 wafers

**BFA/BNGO**



#### PROTECTION

##### BOOT PROTECTION



SERIES	N° OF WAF.	DIAM.	CODE
PO12.....PO20	Max.3	65	11706031
CO25.....CO40	Max.3	85	20101005

##### BOOT PROTECTION ADAPTER



SERIES	N° OF WAF.	DIAM.	CODE
PO12.....PO20	2 Ele.	65	11702038
CO25.....CO40	2 Ele.	85	11706332

##### SOFT PROTECTION



SERIES	N° OF WAF.	DIAM.	CODE
PO12.....PO20	Max.3	65	20101007

# Phoenix

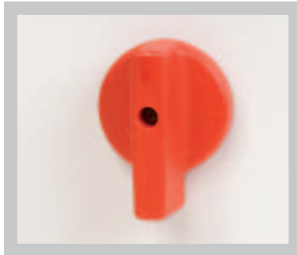
## Cam switches

### Accessories



AUTOMATION TECHNOLOGIES

#### KNOB



SERIES	CODE	COLOR
P012...C040	072	Black
	073	Red
C063...C080	218	Black
	219	Red

#### LONG KNOB



SERIES	CODE	COLOR
P012...C040	081	Black
	110	Red
-	-	-
-	-	-

#### LEVER



SERIES	CODE	COLOR
C100 □8	240	Black
C200 □10	260	Black

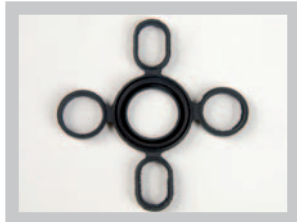
#### ROUND KNOB



SERIES	Ø	CODE	COLOR
P012...C040	34	018	Black
	34	111	Red
P012...C040	40	040	Black
	40	112	Red

#### GASKETS

For panel mounting R with knob only



SERIES	CODE
P012...P020	28000012



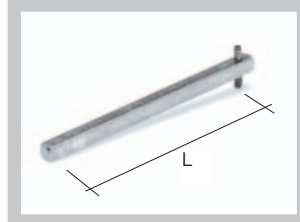
SERIES	CODE
C025...C040	15000015



SERIES	CODE
C063...C080	15010016

#### 5 MM SQUARE LONG SHAFT

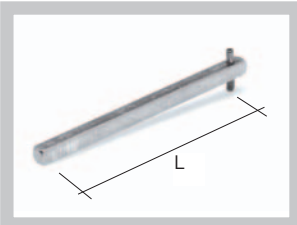
For panel mounting B door locking



SERIES	L/mm	CODE
P012...P020	185	20401089
C025...C040	300	20401164

#### 6 MM SQUARE LONG SHAFT

For panel mounting B door locking



SERIES	L/mm	CODE
C063...C080	300	20900029
C100 □8	200	254
C200 □10	200	274

#### EXECUTIONS ON DEMAND

##### Fast on connections

Flat fast on terminals  
Single or double terminals  
From 6,3x0,8 or double  
6,3x0,8 2 2,8x0,8  
P012...P020 Series



##### Unidirectional turn

Unidirectional turn  
C025...C040 Series



##### Axial interlock

"push and turn" interlock in  
several positions  
C025...C040 Series



##### Special shafts

Length and shape  
on request



# Phoenix

## Characteristics

### Electrical

<b>EN 60947-3 CHARACTERISTICS</b>				<b>P012 - PX12</b>	<b>P016 - PX16</b>
Rated operating voltage Ue		V		690	690
Rated insulation voltage Ui		V		690	690
Rated impulse withstand voltage Uimp (sectionable)		kV		4	4
Rated thermal current Ith		A		16	20
Rated thermal current in enclosed Ithe		A		12	16
Frequency		Hz		50/60	50/60
<b>RATED OPERATING CURRENT Ie: alternate current</b>					
AC-21A Switching resistive loads (☐) with light overloads		690V	A	12	16
AC-22A Switching mixed resistive and inductive loads at light overloads		690V	A	12	16
AC-23A Periodic switching of motors (☐)	single phase - 1 pole	110V	A/kW	12/1,1	14/1,5
		230V	A/kW	12/2,2	14/3
		230V	A/kW	10/3	13/4
	3 phase - 3 pole	400V	A/kW	10/5,5	13/7,5
		500V	A/kW	10/7,5	14/10
		690V	A/kW	10/7,5	14/10
AC3 Starting of cage motors (interruption while running)	single phase - 2 pole	110V	A/kW	10/0,75	12/1,1
		230V	A/kW	10/2	12/2,2
		230V	A/kW	8/2,2	10/3
	3 phase - 3 pole	400V	A/kW	8/4	10/5,5
		500V	A/kW	8/5,5	10/7,5
		690V	A/kW	6/5,5	8/7,5
<b>RATED OPERATING CURRENT Ie: direct current</b>					
DC-21A Switching resistive loads with light overloads	50V (1 phase)		A	10	12
DC-22A Switching mixed resistive and inductive loads at light overloads	30V (1 phase)		A	8	10
Nominal interruption power AC-23A (cosφ 0.45)	230V	A		80	104
	400V	A		80	104
	500V	A		80	112
	690V	A		80	112
Power dissipation per each phase			W	0,3*	0,35*
<b>SHORT CIRCUIT CHARACTERISTICS</b>					
Rated short-time short circuit withstand current Icw (1s)			A	300	300
Rated short circuit making capacity Icm			A	1200	1200
Conditional rated short circuit withstand current			kA	5	5
Fuse rating gG	690V		A	20	20
<b>UL 508 CHARACTERISTICS</b>					
General Use	600V ac		A	12	16
Standard motors load	single phase - 2 poles	120V ac	HP(FLA)	0,5 (9,8)	1 (16)
		240V ac	HP(FLA)	1 (8)	1,5 (10)
		200V ac	HP(FLA)	1,5 (9)	3 (14,4)
	3 phase - 3 poles	240V ac	HP(FLA)	3 (9,6)	5 (15,2)
		480V ac	HP(FLA)	5 (7,6)	7,5 (11)
		600V ac	HP(FLA)	5 (6,1)	7,5 (9)

\* Values not reported on the IMG file ☐ Series C100 - C200 AC-21 - AC-23

# Phoenix

## Characteristics

### Electrical



AUTOMATION TECHNOLOGIES

PO20 - PX20	CO25 - CX25	CO32 - CX32	CO40 - CX40	CO63	CO80	C100	C200
690	690	690	690	690	690	690	690
690	690	690	690	690	690	690	690
4	6	6	6	8	8	8	8
25	32	40	50	85	100	125	250
20	25	32	40	85	100	125	200
50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
20	25	32	40	63	80	125	250
20	25	32	40	63	80	-	-
18/2	25/2,2	30/2,5	35/3	45/4	63/5,5	-	-
18/4	25/4,5	30/5,5	35/6,5	45/7,5	63/11	70/13	108/20
16/5	25/7,5	30/9	35/11	50/15	58/18,5	94/30	175/55
16/9	22/11	27/15	32/18,5	40/22	54/30	81/45	162/90
16/11	22/15	27/18,5	32/22	40/30	54/37	80/55	158/110
16/12,5	20/15	22/18,5	25/22	32/30	40/37	-	-
16/1,5	22/2	25/2,2	30/2,5	36/3	45/4	-	-
16/3,5	22/3,7	25/4	30/5,5	35/6,5	45/7,5	82/15	130/24
12/4	18/5,5	23/7,5	27/9	37/11	47/15	97/31	144/46
12/6,5	18/9	23/11	27/15	35/18,5	44/22	67/37	139/77
12/8	18/11	23/15	27/18,5	35/22	44/30	53/37	85/59
10/9	14/11	18/15	20/18,5	25/22	32/30	-	-
16	20*	25*	32*	-	-	-	-
12	16*	20*	25*	-	-	-	-
128	200	240	280	400	464	-	-
128	176	216	256	320	432	648	1296
128	176	216	256	320	432	-	-
128	160	176	200	256	320	-	-
0,4*	-	-	-	-	-	-	-
300	500	500	500	1200	1200	2000	4000
1200	2840	2840	2840	2000	2000	-	-
5	10	10	10	10	10	-	-
20	40 *	40 *	40 *	100	100	-	-
20	25	32	40	63	85	-	-
1,5 (20)	1,5(20)	2 (24)	3 (34)	5 (56)	5(56)	-	-
2 (12)	3 (17)	5 (28)	5 (28)	7,5 (40)	10 (50)	-	-
5 (22,8)	7,5 (25,3)	7,5 (25,3)	10 (32,2)	-	-	-	-
5 (15,2)	7,5 (22)	7,5 (22)	10 (28)	15 (42)	20 (54)	-	-
10 (14)	15 (21)	20 (27)	20 (27)	30 (40)	40 (52)	-	-
10 (11)	15 (17)	20 (22)	20 (22)	40 (41)	50 (52)	-	-

\* Fuses type gG 40a 500V



# Phoenix

## Technical data

### General characteristics

Comply with rules		
Protection class control	control control with knob only terminals terminals PX e CX series	EN60529 (UL50*) NEMA 4X
Material group		EN60947-1
Pollution grade		EN60947-1
Flammability		UL 94
Ambient temperature		°C °C
Climate withstand		IEC68 part 2-3 IEC68 part 2-30
Terminal screw identification		
Connections:		
Terminal block caliber		EN60947-1
Terminal screw		
Screwing torque		EN60947-1 UL508
Connectable section:		
Flexible conductors min/max		mm <sup>2</sup> AWG
Solid conductors min/max		mm <sup>2</sup> AWG
Contacts		
Opening angles		
Mechanical lifetime at 120 operations per hour		mil./cl
Electrical lifetime at 120 operations per hour	AC21	mil./cl

#### CERTIFICATIONS

-  CE mark – Europa
-  cUL Listed – USA and Canada
-  Istituto Marchio Qualità (IMQ) – Italia
-  CCC Cina
-  GOST Russia

\* See p/n device

# Phoenix

## Characteristics

### General



AUTOMATION TECHNOLOGIES

IEC947-3, EN60947-3, UL508						IEC947-3, EN60947-3, UL508				
P012 - P016 - P020 PX12 - PX16 - PX20			C025 - C032 - C040 CX25 - CX32 - CX40			C063 - C080		C100	C200	
IP65 (Type 1 - 4 - 4X)			IP65 (Type 1 - 4 - 4X)			IP65		IP65	IP65	
IP40			IP40			IP40		-	-	
IP20			IP20			IPOO		IPOO	IPOO	
IP10			IP10			-		-	-	
II			II			II		I	I	
3			3			3		3	3	
VO: Live Parts						VO: Live Parts				
Operating: -25 +55						Operating: -25 +40				
Storage: -30 +70						Storage: -25 +60				
Hot Damp						Hot Damp				
Unsettled hot damp						Unsettled hot damp				
EN50013						EN50013				
A3			A5			A8		A8	-	
M 3,5			M4			2xM 4		2xM5	screws TE M10x20	
0,8 Nm (7,2 lb. in.)			1,2 Nm (10,6 lb. in.)			1,2 Nm (10,6 lb. in.)		2 Nm (18 lb. in.)	for rope terminals	
7,5 lb. in. (0,85 Nm)			12 lb in. (1,4 Nm)			10,62 lb. in. (1,2 Nm)		-	-	
1x0,75/4 - 2x0,75/2,5			2x2,5/10			2,5/35		6/35	-	
16-12			14-6			14/3		8/2	-	
1x0,75/4 - 2x0,75/2,5			2X2,5/10			2,5/35		10/35	-	
16-12			14-6			14/3		8/2	-	
Double gap contacts with positive opening action						Double contacts with double breaking				
30° - 45° - 60° - 90°			30° - 45° - 60° - 90°			45° - 60° - 90°		45° - 60° - 90°	45° - 60° - 90°	
1	1	1	1	1	1	1	1	0,5	0,5	
1	0,75	0,75	1	0,75	0,75	0,5	0,25	0,1	0,1	
P012 PX12	P016 PX16	P020 PX20	C025 CX25	C032 CX32	C040 CX40	C063	C080	C100	C200	
■	■	■	■	■	■	■	■	■	■	
●	●	●	●	●	●	●	●			
●	●	●	●	●	●	●	●			
●	●	●	●	●	●					
●	●	●	●	●	●					

■ Meets or exceed the minimum requirement

● Certified

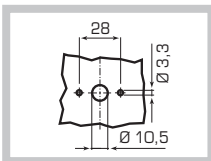
# Phoenix

## Dimensions

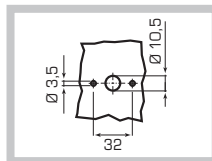
Fixing details

### PANEL MOUNTING SWITCHES: R

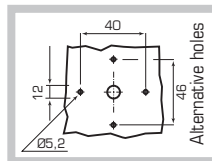
#### FIXING HOLES



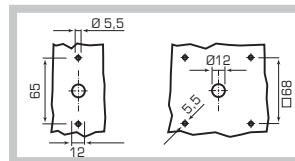
**SERIES PO12 - P016 - P020**  
**PX12 - PX16 - PX20**



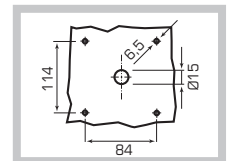
**SERIES CO25 - C032 - C040**  
**CX25 - CX32 - CX40**



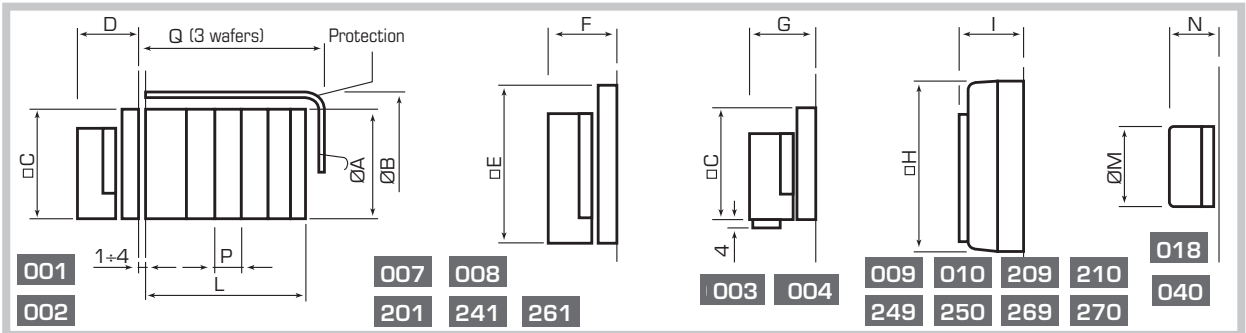
**SERIES CO63 - C080**



**SERIES C100**



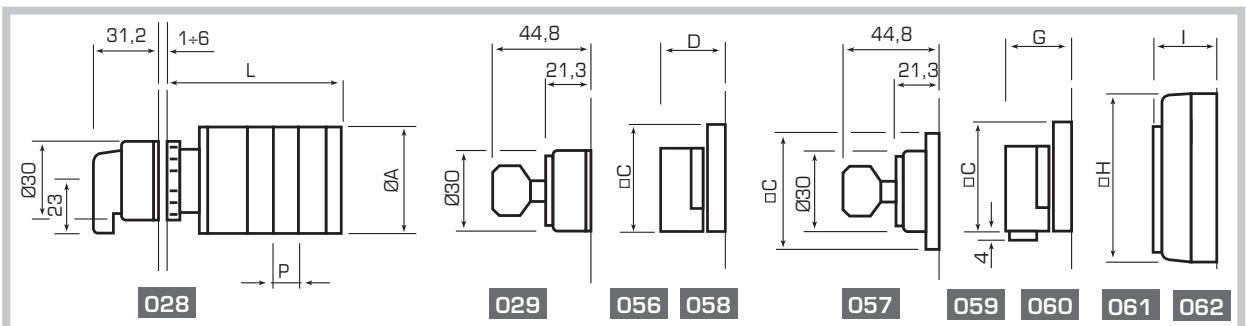
**SERIES C200**



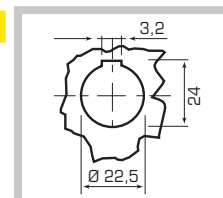
#### L x WAFERS No.

SERIES	1	2	3	4	5	6	P	A	B	C	D	E	F	G	H	I	M	N	Q
<b>PO12 - P016 - P020</b>	39	51,7	64,4	77,1	89,8	102,5	12,7	45	63	48	30,2	64	30,2	35,2	67	30,2	34	18,8	80
<b>CO25 - C032 - C040</b>	41,5	59	76,5	94	111,5	129	17,5	62	85	48	30,2	64	30,2	35,2	67	30,2	40	20,5	102
<b>CO63 - C080</b>	58,3	84,3	110,3	136,3	162,3	188,3	26	82	-	-	-	88	44	-	92	44	-	-	-
<b>C100</b>	69	97	125	153	181	209	28	84	-	-	-	88	38	-	92	56	-	-	-
<b>C200</b>	89	129	169	209	249	289	40	100x130	-	-	-	130	55	-	130	62	-	-	-

### PANEL MOUNTED WITH DIAM. 22,5 HOLE



#### FIXING HOLE



#### L x WAFERS No.

SERIES	1	2	3	4	5	6
<b>PO12 - P016 - P020</b> <b>PX12 - PX16 - PX20</b>	58,2	70,9	83,6	96,3	109	121,7

For the Series PX and CX, are valid the fixing holes and the dimensions of PO and CO Series.

# Phoenix

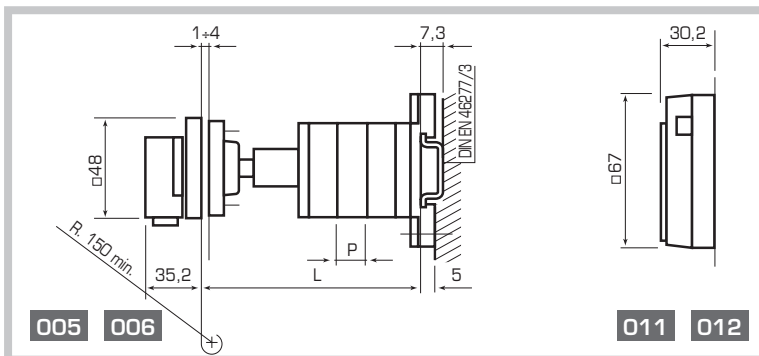
## Dimensions

Fixing details



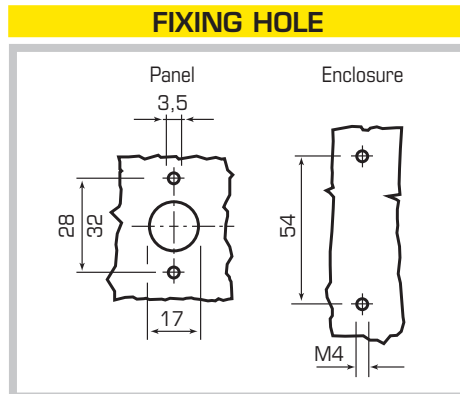
AUTOMATION TECHNOLOGIES

### BASE MOUNTING FOR DOOR INTERLOCK - PANEL MOUNTING B



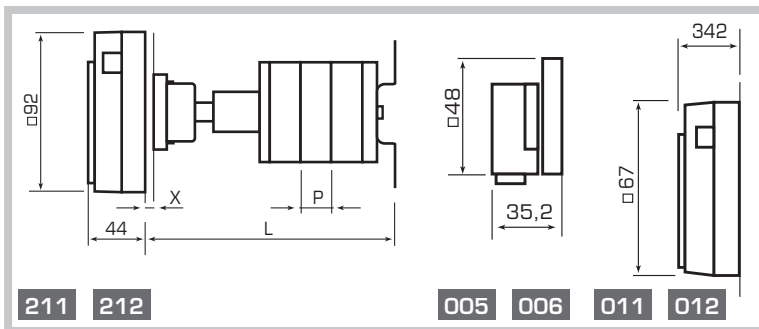
L x WAFERS No. WITH SHAFT AS STANDARD

SERIES		1	2	3	4	5	6	P
P012 - P016 - P020	min*	74,7	87,4	100,1	112,8	125,5	138,2	12,7
	max	132,7	145,4	158,1	170,8	183,5	196,2	
PX12 - PX16 - PX20	min*	74,7	87,4	100,1	112,8	125,5	138,2	12,7
	max	232,7	245,4	258,1	270,8	283,5	296,2	



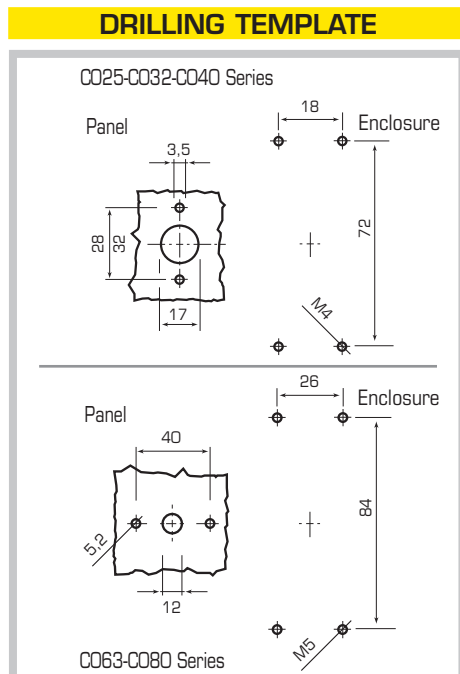
L x WAFERS No. WITH SHAFT EXTENSION 185 mm (ref. 20401089)

	1	2	3	4	5	6
min*	74,7	87,4	100,1	112,8	125,5	138,2
max	232,7	245,4	258,1	270,8	283,5	296,2



L x WAFERS No. WITH SHAFT AS STANDARD

SERIES		1	2	3	4	P	X
C025 - C032 - C040	min*	94,5	112	129,5	147	17,5	1 ÷ 4
	max	152,5	170	187,5	205		
CX25 - CX32 - CX40	min*	129	155	181	207	26	1 ÷ 10
	max	177	203	229	255		



L x WAFERS No. WITH SHAFT EXTENSION 185 mm (ref. 20401089)

	1	2	3	4
min*	94,5	112	129,5	147
max	252,5	270	287,5	305
min*	129	155	181	207
max	277	303	329	355

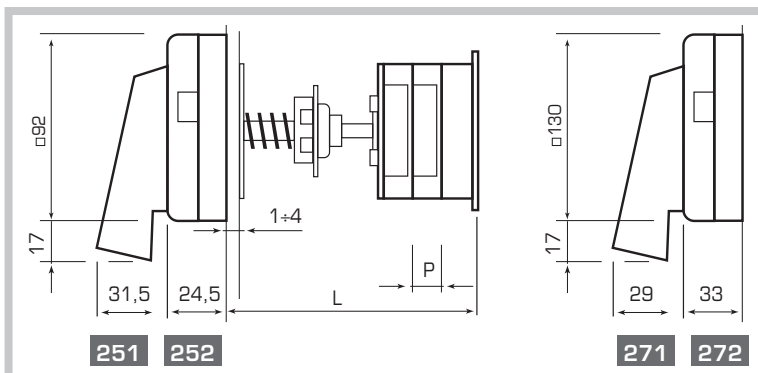
\* L minimum length with cut shaft

# Phoenix

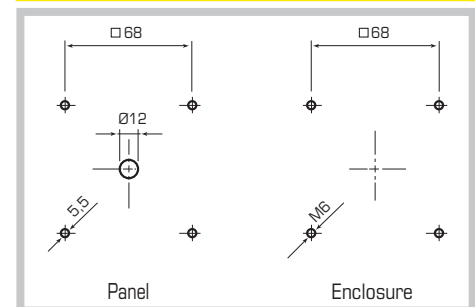
## Dimensions

### Fixing details

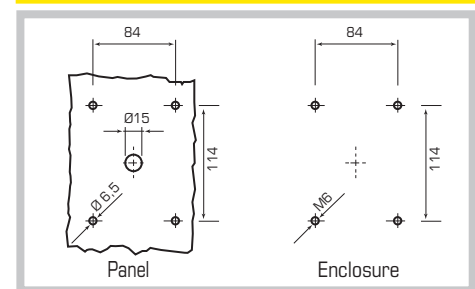
#### BASE MOUNTING FOR DOOR INTERLOCK - PANEL MOUNTING B



#### C100 SERIES



#### C200 SERIES



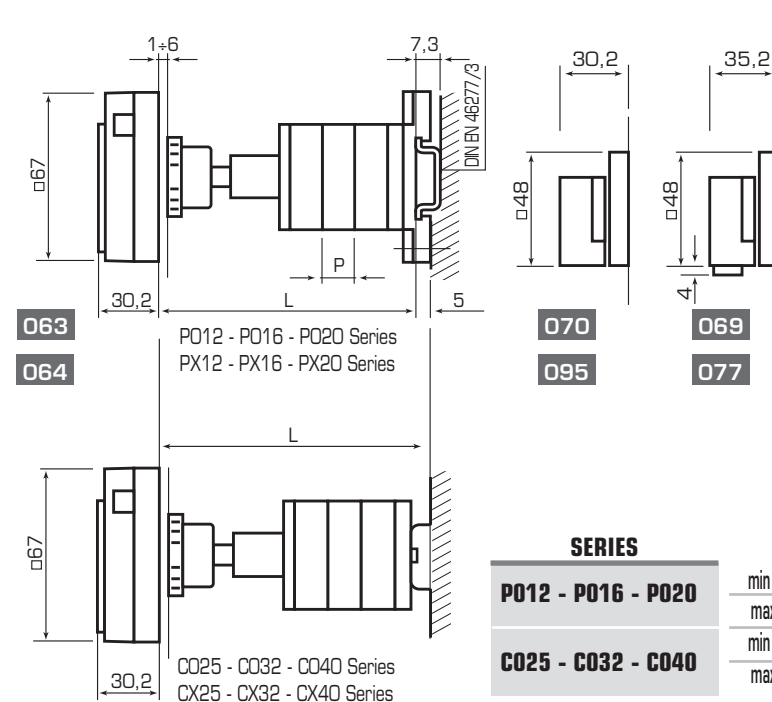
SERIES		L x WAFERS No. WITH SHAFT AS STANDARD				
		1	2	3	4	P
C100	min	134	162	190	218	28
	max	140	178	196	224	
C200	min	157	197	237	277	40
	max	163	203	243	283	

Length with long shaft = + 200 mm

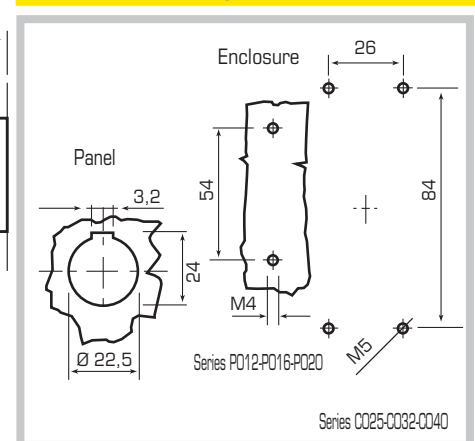
C 100 Series shaft cod. 254

C 200 Series shaft cod. 274

#### BASE MOUNTING Ø 22,5 FOR DOOR INTERLOCK - PANEL MOUNTING B

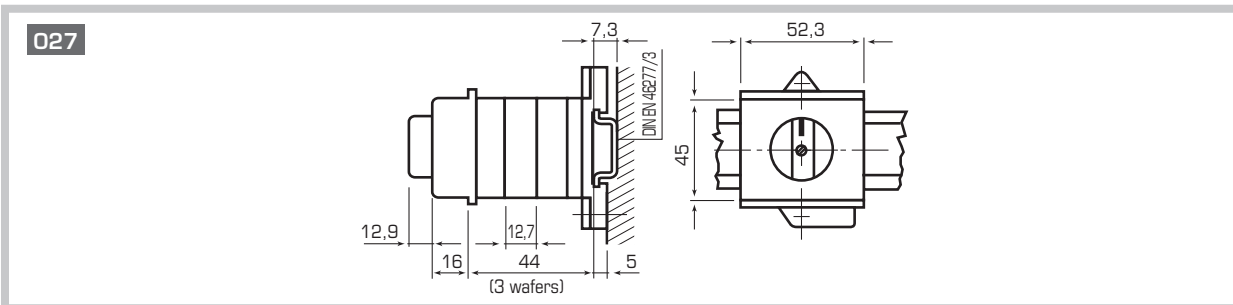


#### DRILLING TEMPLATE

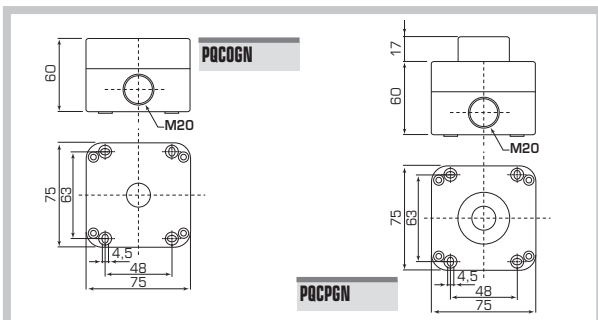
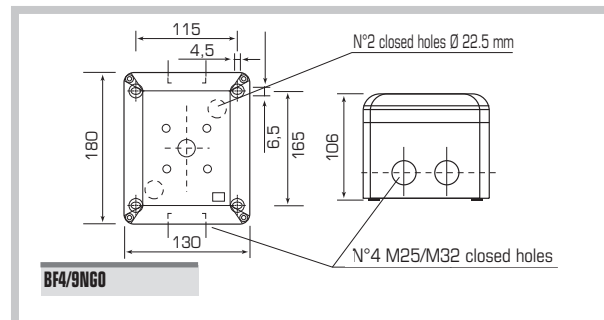
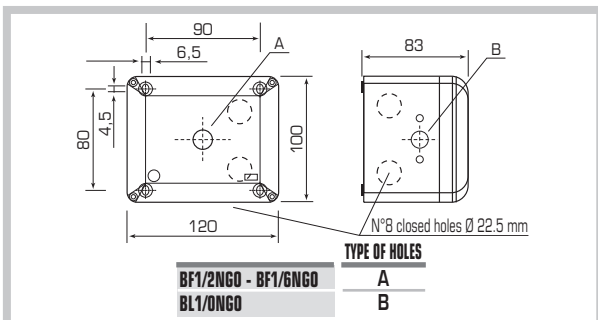


SERIES		L x WAFERS No. WITH SHAFT AS STANDARD				
		1	2	3	4	P
PO12 - PO16 - PO20	min*	79,5	92,2	104,9	117,6	12,7
	max	139	151,7	164,4	177,1	
CO25 - CO32 - CO40	min*	99,5	117	134,5	152	17,5
	max	159	176,5	194	211,5	

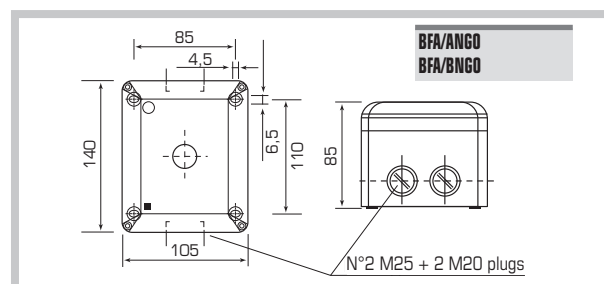
### BASE MOUNTING - 46 mm - STANDARD ENCLOSURE



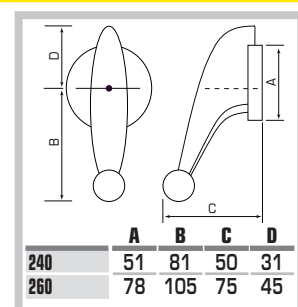
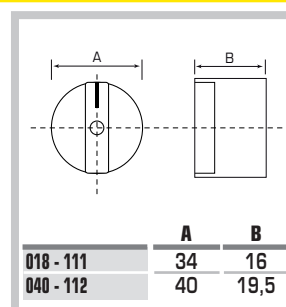
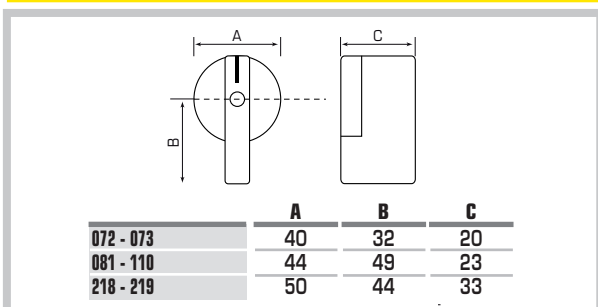
### THERMOPLASTIC BOXES



### ALUMINIUM BOX



### KNOBS AND LEVER

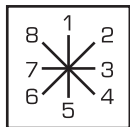




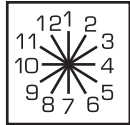
# Phoenix

## Cam switches

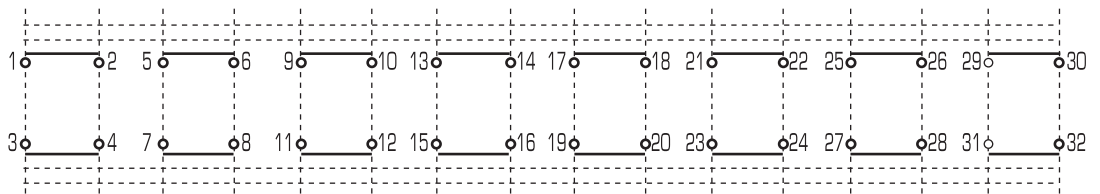
Special diagram on request



45 - 90

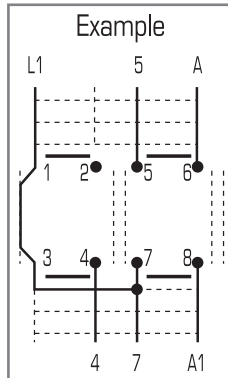


30 - 60



POS.	DESCRIPTION	POS.	DESCRIPTION
1		7	
2		8	
3		9	
4		10	
5		11	
6		12	

10	39-40		
	37-38		
9	35-36		
	33-34		
8	31-32		
	29-30		
7	27-28		
	25-26		
6	23-24		
	21-22		
5	19-20		
	17-18		
4	15-16		
	13-14		
3	11-12		
	9-10		
2	7-8		
	5-6		
1	3-4		
	1-2		
Wafer			
Contact			
			Position



2	7-8		X
	5-6	X	X
1	3-4	X	X
	1-2		X
Wafer			
Contact		0	1
			M
			Position

- Open contact
- Closed contact
- Break before make
- Contact closed: no interruption during change-over
- Spring return
- Make before break
- Open contact early make

Rated current I <sub>e</sub>		Operational rated voltage U <sub>e</sub>	
Category	Amp/kw	Volt	
<input type="checkbox"/> AC-21A	A		V
<input type="checkbox"/> AC-22A	A		V
<input type="checkbox"/> AC-23A	1Ph	kW	V
	3Ph	kW	V
<input type="checkbox"/> AC-3	1Ph	kW	V
	3Ph	kW	V

**Series** \_\_\_\_\_

**Mounting:**

Panel mounting

Base mounting

DIN rail

**Operating:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Notes:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Company** \_\_\_\_\_

**Contact Mr** \_\_\_\_\_

Ph. \_\_\_\_\_

Fax \_\_\_\_\_

E-mail \_\_\_\_\_

Quantity \_\_\_\_\_

Due date \_\_\_\_\_

Order No. \_\_\_\_\_

# Regolus

## Switch - disconnectors

Table of contents



AUTOMATION TECHNOLOGIES



Current rating from 25A up to 160A, panel, base and DIN rail mounting.  
Available in the 2, 3 and 4-pole version with central control knob and through shaft.  
2 and 3-pole fuse holders for switch-disconnectors up to 32A.

### TABLE OF CONTENTS

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■ SQ Series: Base mounting	pag.43	■ SQ Series: Characteristic	pag.58
Panel mounting and all complete products	pag.44	■ SE Series: Characteristic	pag.60
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Complete products	pag.50	■ SE Series: Examples of mounting	pag.64
■ Plate for fixing with screws	pag.52	■ SQ Series: Dimensions	pag.65
■ Plate for central fixing $\varnothing 22$	pag.53	■ SE Series: Dimensions	pag.68
■ SQ Series: Accessories	pag.54	■ Enclosed installation dimensions	pag.70

# Regolus

## Switch - Disconnectors

Execution overview

### SQ025 - SQ032 SERIES

#### PANEL MOUNTING



#### Type R - Fixing with screw

- Rated current from 25A to 40A
- Series modular with 3 extensible poles
- Shaft  $\square$ 6 mm - star shape
- Fixing panel spacing 28 mm horizontal with tapping screws
- Terminal protection class IP20
- Modular power and auxiliary contact

### SQ025 - SQ032 SERIES

#### PANEL MOUNTING



#### Type S for central hole fixing $\varnothing$ 22,5

- Rated current from 25A to 40A
- Series modular with 3 extensible poles
- Fixing panel on central hole  $\varnothing$  22,5 mm
- Terminal protection class IP20
- Modular power and auxiliary contact

### SQ025 - SQ032 SERIES

#### BOX - B



#### Type B for Door interlock

- Rated current from 25A to 40A
- Series modular with 3 extensible poles
- Fixing box on DIN rail - EN 50022-35 or with screws
- Terminal protection class IP20
- Modular power and auxiliary contact
- Type B: Standard
- Type K: Door Interlock with shaft mounting on the command

#### BOX - K



### SQ025 - SQ032 SERIES

#### BOX - D



#### Type D - L1N direct command

- Rated current from 25A to 40A
- Series modular with 3 extensible poles
- Fix box on DIN - DIN-EN 50022-35 or with screw
- Complete with locking knob (1 lck)
- Terminal protection class IP20
- Modular power and auxiliary contact



# Regolus

## Switch - Disconnectors

Execution overview

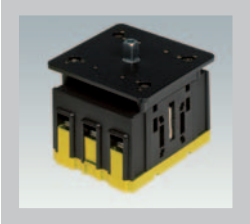


AUTOMATION TECHNOLOGIES

### SQ040 - SQ063 SERIES

#### PANEL MOUNTING

#### Type R - Fixing with screw

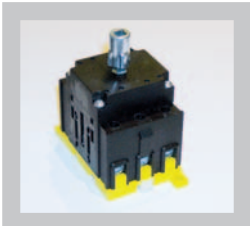


- Rated current from 63A to 80A
- Series modular with 3 extensible poles
- Independent manual operator - snap action
- Control Shaft □ 6 mm
- Fixing panel on distance □ 36 mm vertical - with screw self-tapping
- Terminal protection class IP20
- Modular power and auxiliary contact

### SQ040 - SQ063 SERIES

#### BOX

#### Type B - Standard for door interlock

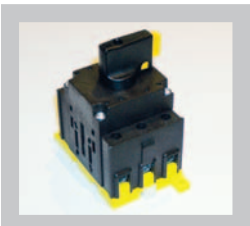


- Rated current from 63A to 80A
- Series modular with 3 extensible poles
- Independent manual operator - snap action
- Fix box on DIN - DIN-EN 50022-35 or with screw
- Terminal protection class IP20
- Modular power and auxiliary contact

### SQ040 - SQ063 SERIES

#### BOX

#### Type D - L2N - direct command



- Rated current from 63A to 80A
- Series modular with 3 extensible poles
- Independent manual operator - snap action
- Fix box on DIN - DIN-EN 50022-35 or with screw
- Complete of command to knob with locking (1 lck)
- Terminal protection class IP20
- Modular power and auxiliary contact

### SQ125 - SQ160 SERIES

#### BOX

#### Type D - L2N Direct Command and Standard for door interlock



- Rated current from 125A to 160A
- Modular series with 3 extensible poles
- Central Shaft □ 5 mm
- Fix box on DIN - DIN-EN 50022-35 or with screw
- Complete of locked knob (1 lck) developed for door interlock command
- Modular power and auxiliary contact

# Regolus

## Switch - Disconnectors

Execution overview

### SE16 - SE32 SERIES

#### PANEL MOUNTING - R



Type R - Fixing with screw - Type S - central fixing  $\varnothing$  22,5

- Rated current from 32A to 40A
- Series with 4 poles
- Star shape control shaft  $\square$  6 mm
- Terminal protection class IP20
- matching with auxiliares contacts
- **Type R:** Fixing panel on distant spacing 28 mm horizontal with
- **Type S:** Fixing panel on central hole  $\varnothing$  22,5

#### PANEL MOUNTING - S



### SE16 - SE32 SERIES

#### BOX



Type B for standard Door interlock

- Rated current from 32A to 40A
- Series with 4 poles
- Throghout metal shaft  $\square$  5mm
- Fixing box on DIN RAIL EN 50022-35
- Terminal protection class IP20
- matching with auxiliares contacts

### SE63 - SE100 SERIES

#### PANEL MOUNTING



Type R - Fixing with screw

- Rated current from 63A to 100A
- Series with 4 poles
- Throghout metal shaft  $\square$  6mm
- Fixing panel on distant 36 mm with metric screws
- Terminal protection class IP20

### SE63 - SE100 SERIES

#### BOX



Type B for standard Door interlock

- Rated current from 63A to 100A
- Series with 4 poles
- Throghout metal shaft  $\square$  6 mm
- Fixing box DIN RAIL DIN-EN 50022-35 or with screws
- Terminal protection class IP20

# Regolus

## Switch - Disconnectors

SQ Series - Switch body



AUTOMATION TECHNOLOGIES

### BASE MOUNTING



#### Base mounting

- Type B
- Fixing box DIN RAIL DIN-EN 50022-35
- Standard Enclosures for commands, door locking with shaft fixing details



#### Base mounting

- Type K
- Fixing box DIN RAIL DIN-EN 50022-35
- Standard Enclosures for commands, door locking with shaft fixing on the command

SERIES	AC-21A AMP. 690V	AC-23A AMP. 400V	DIAGRAMS		EXECUTION TYPE B		EXECUTION TYPE K	
	32	25	2 POLES	3 POLES	2 POLES	3 POLES	2 POLES	3 POLES
SQ025	32	25			SQ025002B	SQ025003B	SQ025002K	SQ025003K
SQ032	40	32			SQ032002B	SQ032003B	SQ032002K	SQ032003K

### PANEL MOUNTING



#### Panel mounting

- Type R
- For screw fixing



#### Panel mounting

- Type R
- Fixing panel on central hole  $\varnothing$  22.5

SERIES	AC-21A AMP. 690V	AC-23A AMP. 400V	DIAGRAMS		EXECUTION TYPE R		EXECUTION TYPE S	
	32	25	2 POLES	3 POLES	2 POLES	3 POLES	2 POLES	3 POLES
SQ025	32	25			SQ025002R	SQ025003R	SQ025002S	SQ025003S
SQ032	40	32			SQ032002R	SQ032003R	SQ032002S	SQ032003S



#### Base mounting

- Type B
- Fixing box DIN RAIL DIN-EN 50022-35
- Standard Enclosures for commands, door locking with shaft fixing details



#### Panel mounting

- Type R
- For screw fixing

SERIES	AC-21A AMP. 690V	AC-23A AMP. 400V	DIAGRAMS		6 POLES SWITCH		CHANGEOVER	
			6 POLES	3 POLES	BOX	PANEL MOUNTING	BOX	PANEL MOUNTING
SQ025	32	25			SQ025006B	SQ025006R	SQ025033B	SQ025033R
SQ032	40	32			SQ032006B	SQ032006R	SQ032033B	SQ032033R

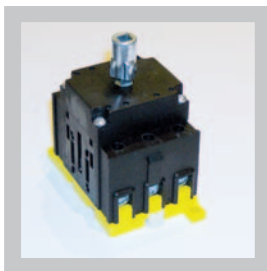


# Regolus

## Switch - Disconnectors

SQ Series - Switch body - Complete devices

### BASE MOUNTING



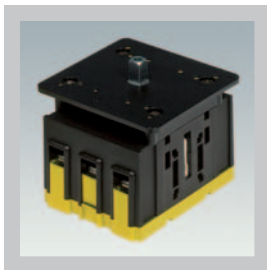
#### Box mounting

- Type B
- Din rail  
DIN-EN 50022-35
- Standard Enclosures for door locking devices



SERIES	AC-21A AMP. 690V	AC-23A AMP. 400V	DIAGRAMS		EXECUTION TYPE B	
			2 POLES	3 POLES	2 POLES	3 POLES
SQ040	63	50			SQ040002B	SQ040003B
SQ063	80	67			SQ063002B	SQ063003B

### PANEL MOUNTING FOR REAR FIXING



#### Panel mounting

- Type R
- Fixing with screws



SERIES	AC-21A AMP. 690V	AC-23A AMP. 400V	DIAGRAMS		EXECUTION TYPE R	
			2 POLES	3 POLES	2 POLES	3 POLES
SQ040	63	50			SQ040002R	SQ040003R
SQ063	80	67			SQ063002R	SQ063003R

### BASE FIXING WITH DIRECT COMMAND - Complete devices



#### Direct command

- Type D - L1N
- Box fixing or DIN RAIL  
DIN-EN 50022-35
- Black Knob locking in O/OFF position

SQ025 - SQ032 Series



#### Direct command

- Type D - L2N
- Box fixing or Din rail  
DIN-EN 50022-35 for 46 mm din panel
- Black Knob locking in O/OFF position

SQ040 - SQ063 Series

SERIES	AC-21A AMP. 690V	AC-23A AMP. 400V	DIAGRAMS		EXECUTION TYPE D...	
			2 POLES	3 POLES	2 POLES	3 POLES
SQ025	32	25			SQ025002DL1N	SQ025003DL1N
SQ032	40	32			SQ032002DL1N	SQ032003DL1N
SQ040	63	50			SQ040002DL2N	SQ040003DL2N
SQ063	80	67			SQ063002DL2N	SQ063003DL2N

# Regolus

## Switch - Disconnectors

### SQ125 - SQ160 Series



AUTOMATION TECHNOLOGIES

#### BASE FIXING WITH DIRECT COMMAND



##### Direct command

- Type D - L2N
- Box fixing or DIN RAIL  
DIN-EN 50022-35
- Black Knob locking (1 lck) in O/OFF position



SQ125 - SQ160 Series

SERIES	AC-21A	AC-23A	DIAGRAMS		ENCLOSURE TYPE D - L2N	
	AMP. 690V	AMP. 400V	3 POLES	4 POLES	3 POLES	4 POLES
SQ125	125	125			SQ125003DL2N	SQ125004DL2N
SQ160	160	160			SQ160003DL2N	SQ160004DL2N

#### DOOR INTERLOCKS COMMAND



- 67
- Locking knob (max.3)
- Black front plate - black knob:  
230/0001
- Yellow front plate - red knob:  
231/0001



- 92
- Locking knob (max.3)
- Black front flange - black knob:  
232/0001
- Yellow front flange - red knob:  
233/0001

SQ125 - SQ160		230/0001	SQ125 - SQ160		232/001
		231/0001			233/001

#### ELECTRICAL CHARACTERISTIC

CHARACTERISTICS IEC/EN60947-3		SQ125	SQ160	Aux.
Rated insulation voltage $U_i$	V	800	800	250
Rated impulse withstand voltage $U_{imp}$	kV	8	8	-
Rated Thermal current $40^\circ$ I <sub>th</sub> -I <sub>the</sub>	A	125	160 (200*)	12
<b>RATED OPERATING CURRENT I<sub>e</sub>: alternate current</b>				
AC-21A Switching resistive loads with light overloads	690V A	125	160 (200*)	AC-15 415V - 3A
AC-22A Switching mixed resistive and inductive loads with light overloads	690V A	125	160	
AC-23A Periodic Switching of motors	3 phase - 3 pole			
	415V A/kW	125/55	160/75	
	500V A/kW	100/63	125/80	
	690V A/kW	80/75	100/90	
DC-23	48V A	125	160	-
2 pole serial connection	110V A	125	125	-
	220V A	100	100	-
Reated breaking capacity AC-23A (cosφ 0,35)	415V A	1000	1280	-
Conditional rated short circuit	kA	10,5	10,5	-
Fuse rating gG	A	125	125	-
Rated short-time short circuit withstand current I <sub>cw</sub> (1s)	kA	3	3	-
Power dissipated for pole	W	2,5	3	-
Connectable section	mm <sup>2</sup>	10÷70	10÷70	2,5
Mechanical life	Nr. of cycles	15.000	15.000	500.000

\* with add terminals 95 mm

# Regolus

## Switch - Disconnectors

### SQ Series - Complete devices

#### IP65 □ THERMOPLASTIC ENCLOSURES



**C01** (120X100X85)

- Open cover in "O" position
- For n°8 cable gland Pg 16 + n°2 closed holes down
- Heat-resistant material
- Box in black - grey cover RAL 7035



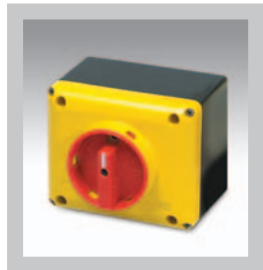
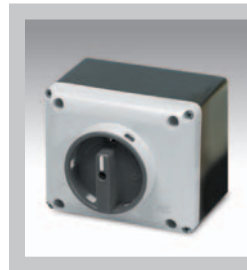
**E01** (130X180X106)

- Open cover in "O" position
- For n°4 cable gland M25/M32 + n°2 closed holes down ø 22,5
- Heat-resistant material
- Box in black - grey cover RAL 7035

SERIES	DIAGRAMS		C01		E01		
	AC-21A AMP. 690V	AC-23A AMP. 400V	3 POLES	3 POLES	3 POLES	6 POLES	
SQ025	32	25			SQ025003BC01	-	SQ025006BE01
SQ032	40	32			SQ032003BC01	-	SQ032006BE01
SQ040	63	50			-	SQ040003BE01	-
SQ063	80	67	-	-	SQ063003BE01	-	

**C09 - C10** (120X100X85)

- Open cover in "O" position
- For n°8 cable gland Pg 16 + n°2 closed holes down
- Heat-resistant material
- Locking in O/OFF (max 3 lock)
- Black front flange - Grey cover - Black knob: **C09**
- Yellow front flange - Red knob: **C10**



SERIES	DIAGRAMS		C09		C10	
	AC-21A AMP. 690V	AC-23A AMP. 400V	3 POLES	3 POLES	3 POLES	3 POLES
SQ025	32	25			SQ025003BC09	SQ025003BC10
SQ032	40	32	-	-	SQ032003BC09	SQ032003BC10

**E09 - E10** (130X180X106)

- Open cover in "O" position
- For n°4 cable gland M25/M32 + n°2 closed holes down ø 22,5
- Heat-resistant material
- Locking in O/OFF (max 3 lock)
- Black front flange - Black knob: **E09**
- Yellow front flange - Red knob: **E10**



SERIES	DIAGRAMS		E09		E10			
	AC-21A AMP. 690V	AC-23A AMP. 400V	3 POLES	6 POLES	3 POLES	6 POLES		
SQ025	32	25			-	SQ025006BE09	-	SQ025006BE10
SQ032	40	32			-	SQ032006BE09	-	SQ032006BE10
SQ040	63	50			SQ040003BE09	-	SQ040003BE10	-
SQ063	80	67	-	-	SQ063003BE09	-	SQ063003BE10	

# Regolus

## Switch - Disconnectors

SQ Series - Complete devices



AUTOMATION TECHNOLOGIES

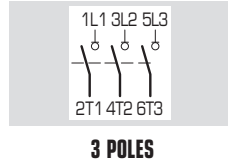
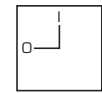
### IP65 - METAL - BOX ENCLOSURES

#### A09 - A10 (105X140X85)

- Open cover in "O" position
- For n°4 cable glands M25/M32 + n°2 hole plugs M20 and M25
- Material Zn - Al
- Locking in O/OFF (max 3 lock)
- Black Box - Grey front flange - Black knob: **A09**
- Black Box - Yellow front flange - Red knob: **A10**



SERIES	DIAGRAMS		A09	A10
	AC-21A AMP. 690V	AC-23A AMP. 400V	3 POLES	3 POLES
SQ025	32	25	SQ025003DA09	SQ025003DA10
SQ032	40	32	SQ032003DA09	SQ032003DA10

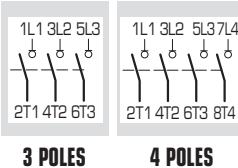
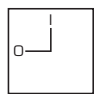


#### AB9 - ABO (150X200X110)

- Open cover in "O" position
- N°2 hole plugs M40
- Material Zn - Al
- Locking in O/OFF (max 3 lock)
- Black Box - Grey front flange - Black knob: **AB9**
- Black Box - Yellow front flange - Red knob: **ABO**



SERIES	DIAGRAMS		AB9		ABO	
	AC-21A AMP. 690V	AC-23A AMP. 400V	3 POLES	4 POLES	3 POLES	4 POLES
SQ040	63	50	SQ040003DAB9	SQ040004DAB9	SQ040003DAB0	SQ040004DAB0
SQ063	80	63	SQ063003DAB9	SQ063004DAB9	SQ063003DAB0	SQ063004DAB0



# Regolus

## Switch - Disconnectors

SE Series - Switch body

### BASE FIXING



**Base fixing**  
 Type B  
 Base fixing or Din rail  
 DIN-EN 50022-35  
 Door locking execution  
**SE16 - SE32**



**Base fixing**  
 Type B  
 Base fixing or Din rail  
 DIN-EN 50022-35 or with screws  
 Door locking execution  
**SE63 - SE80 - SE100**

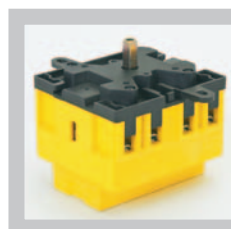
### DIAGRAMS

SERIES	AC-21A AMP. 690V	AC-23A AMP. 400V		EXECUTION TYPE B				
				2 POLES	3 POLES	4 POLES		
SE16	32	25				SE1610F2B	SE163003B	SE163004B
SE32	40	32				SE3210F2B	SE323003B	SE323004B
SE63	63	50				SE630002B	SE630003B	SE630004B
SE80	80	60				SE800002B	SE800003B	SE800004B
SE100	100	67				SE1000002B	SE1000003B	SE1000004B

### PANEL MOUNTING



**Panel mounting**  
 Type R  
 Fixing with screws  
**SE16 - SE32**



**Panel mounting**  
 Type R  
 Fixing with screws  
**SE63 - SE80 - SE100**

### DIAGRAMS

SERIES	AC-21A AMP. 690V	AC-23A AMP. 400V		EXECUTION TYPE R				
				2 POLES	3 POLES	4 POLES		
SE16	32	25				SE1610F2R	SE163003R	SE163004R
SE32	40	32				SE3210F2R	SE323003R	SE323004R
SE63	63	50				SE630002R	SE630003R	SE630004R
SE80	80	60				SE800002R	SE800003R	SE800004R
SE100	100	67				SE1000002R	SE1000003R	SE1000004R



**Panel mounting**  
 Type S  
 Central fixing hole  $\varnothing$  22.5  
**SE16 - SE32**

### DIAGRAMS

SERIES	AC-21A AMP. 690V	AC-23A AMP. 400V		EXECUTION TYPE S				
				2 POLES	3 POLES	4 POLES		
SE16	32	25				SE1610F2S	SE163003S	SE163004S
SE32	40	32				SE3210F2S	SE323003S	SE323004S

# Regolus

## Switches - Disconnectors with fuses holders

SE Series - Panel mounting bases



AUTOMATION TECHNOLOGIES

### PANEL MOUNTING BASES FOR ENCLOSURES



#### DISCONNECTOR WITH FUSE-HOLDERS

Type B box  
DIN EN 50022-35  
rail mounting for door  
interlocks knobs  
Sectionable fuses holders  
For cylindrical fuses  
10.3x3 8mm UL

FS20 - FS30



#### SECTIONABLE FUSES HOLDER

For disconnectors series  
SE16-SE32 2-3-4 poles type B box  
For cylindrical fuses 10.3x38  
mm max. 32A  
IP20 terminals protection

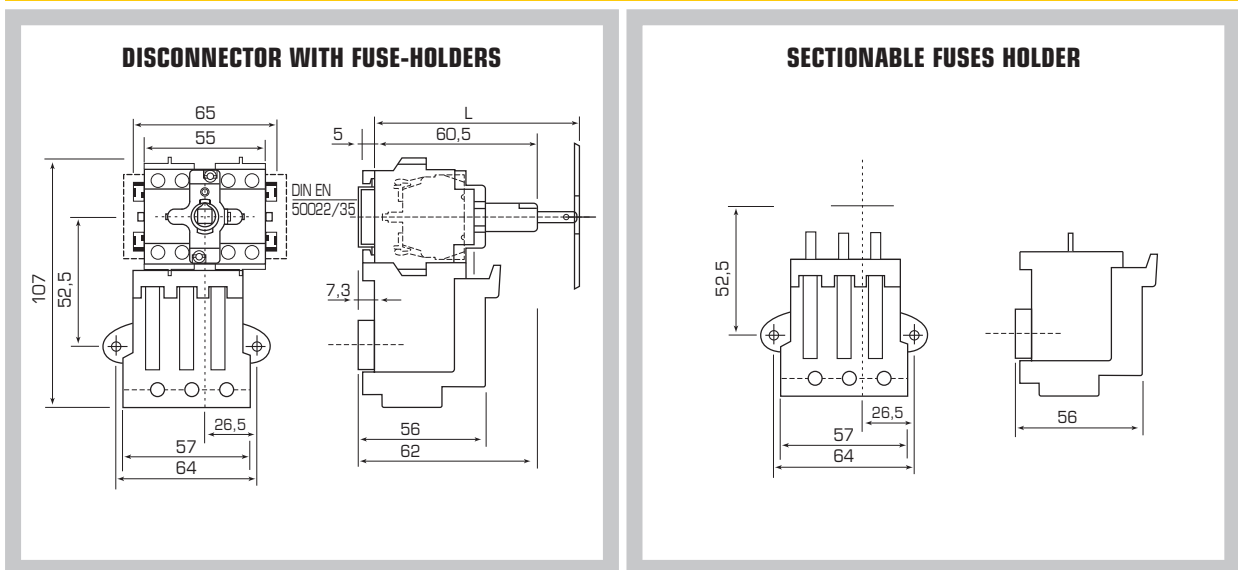
TF322 - TF323

### DISCONNECTOR WITH FUSE-HOLDERS

### FUSE-HOLDERS

SERIES	AC-21A AMP. 690V	UL GENERAL USE AMP./600V	2 POLES		3 POLES		4 POLES		2 POLES		3 POLES	
			Diagram 1	Diagram 2	Diagram 1	Diagram 2	Diagram 1	Diagram 2	Diagram 1	Diagram 2	Diagram 1	Diagram 2
FS20	25	20	FS2010F2B	FS203003B	FS203004B	TF322	TF323					
FS30	32	30	FS3010F2B	FS303003B	FS303004B							

### OVERALL DIMENSIONS



### MOUNTING DEPTH

	WITH STANDARD SHAFT	WITH SHAFT EXECUTION 20401089
L min.	80	80
L max.	120	220



# Regolus

## Switches - Disconnectors

SE Series - Complete devices

### IP65 □ THERMOPLASTIC ENCLOSURES



#### C01 (120X100X85)

- Opening in "O" position
- Nr. 8 Pg16 knock-outs of which nr. 2 on the bottom
- Heat-resistant material
- Black box - Grey cover  
RAL 7035



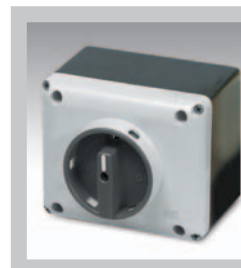
#### E01 (130X180X106)

- Opening in "O" position
- Nr. 4 knock-outs M25/M32 + nr. 2 ø 22 mm closed hole on the bottom
- Heat-resistant material
- Black box - Grey cover  
RAL 7035

SERIES	AC-21A AMP. 690V	AC-23A AMP. 400V	DIAGRAMS		C01		E01	
			3 POLES	4 POLES	3 POLES	4 POLES		
SE16	32	25			SE160003BC01	SE160004BC01	-	-
SE32	40	32			SE320003BC01	SE320004BC01	-	-
SE63	63	50			-	-	SE630003BE01	SE630004BE01
SE80	80	60			-	-	SE800003BE01	SE800004BE01

#### C09 - C10 (120X100X85)

- Opening in "O" position
- Nr. 8 Pg16 cable glands of which nr. 2 on the bottom
- Heat-resistant material
- With locking facility in O/OFF (max 3 padlocks)
- Black box - Grey cover - Black knob: **C09**
- Black box - Yellow cover - Red knob: **C10**



SERIES	AC-21A AMP. 690V	AC-23A AMP. 400V	DIAGRAMS		C09		C10		
			3 POLES	4 POLES	3 POLES	4 POLES			
SE16	32	25			SE160003BC09	SE160004BC09	SE160003BC10	SE160004BC10	
SE32	40	32			SE320003BC09	SE320004BC09	SE320003BC10	SE320004BC10	

#### E09 - E10 (130X180X106)

- Opening in "O" position
- Nr. 4 M25/M32 cable glands + nr. 2 ø 22 mm closed hole on the bottom
- Heat-resistant material
- With locking facility in O/OFF (max 3 padlocks)
- Black box - Grey cover - Black knob: **E09**
- Black box - Yellow cover - Red knob: **E10**



SERIES	AC-21A AMP. 690V	AC-23A AMP. 400V	DIAGRAMS		E09		E10		
			3 POLES	4 POLES	3 POLES	4 POLES			
SE63	63	50			SE630003BE09	SE630004BE09	SE630003BE10	SE630004BE10	
SE80	80	60			SE800003BE09	SE800004BE09	SE800003BE10	SE800004BE10	



# Regolus

## Switches - Disconnectors

SE Series - Complete devices



AUTOMATION TECHNOLOGIES

### IP65 □ THERMOPLASTIC ENCLOSURES

#### C41 - C42 (140X230X114)

- Opening in "O" position
- Complete with nr.2 M32 and nr. 2 M40 hole plugs
- Heat-resistant material
- With locking facility in O/OFF (max 3 padlocks)
- Black box - Yellow cover - Red knob: **C41**
- Black box - Grey cover - Black knob: **C42**



SERIES	DIAGRAMS		C41		C42	
	AC-21A AMP. 690V	AC-23A AMP. 400V	3 POLES	4 POLES	3 POLES	4 POLES
SE100	100	67			SE1000003BC41	SE1000004BC41
			3 POLES	4 POLES	SE1000003BC42	SE1000004BC42

### IP65 METAL ENCLOSURES

#### A09 - A10 (105X140X85)

- Opening in "O" position
- Complete with nr. 2 M20 and nr. 2 M25 hole plugs
- Zn - Al material
- With locking facility in O/OFF (max 3 padlocks)
- Black box - Grey cover - Black knob: **A09**
- Black box - Yellow cover - Red knob: **A10**



SERIES	DIAGRAMS		A09		A10	
	AC-21A AMP. 690V	AC-23A AMP. 400V	3 POLES	4 POLES	3 POLES	4 POLES
SE16	32	25			SE160003BA09	SE160004BA09
SE32	40	32	3 POLES	4 POLES	SE160003BA10	SE160004BA10
			SE320003BA09	SE320004BA09	SE320003BA10	SE320004BA10

#### AB9 - ABO (150X200X110)

- Opening in "O" position
- Complete with nr.2 M40 hole plugs
- Zn - Al material
- With locking facility in O/OFF (max 3 padlocks)
- Black box - Grey cover - Black knob: **AB9**
- Black box - Yellow cover - Red knob: **ABO**









SERIES	DIAGRAMS		AB9		ABO	
	AC-21A AMP. 690V	AC-23A AMP. 400V	3 POLES	4 POLES	3 POLES	4 POLES
SE63	63	50			SE630003BA09	SE630004BA09
SE80	80	60	3 POLES	4 POLES	SE630003BABA	SE630004BABA
SE100	100	67	SE800003BA09	SE800004BA09	SE800003BABA	SE800004BABA
			SE1000003BA09	SE1000004BA09	SE1000003BABA	SE1000004BABA

# Regolus

## Plates - screw fixing

Panel mounting bases Type R - door interlock for Type B and K bases

### EN60529 IP65 - UL50 Type 1 - 4 - 4x (\*) NEMA 4X PROTECTION

	DESCRIPTION	FOR SERIES	PANEL MOUNTING	DOOR INTERLOCK	
			FOR TYPE R BASES	FOR TYPE B BASES	FOR TYPE K BASES
	Grey plate Black knob	SQ025 - SQ032	001/0001	020/0001	-
		SE16 - SE32			-
□48					
	Grey plate Black knob With locking facility	SQ025 - SQ032	♦003/0001	♦005/0001	-
		SE16 - SE32			-
□48					
	Grey plate Black knob With locking facility (Max3)	SQ025 - SQ032	♦009/0001	♦011/0001	-
		SE16 - SE32			091/0001
		SQ040 - SQ063	♦049/0001	♦041/0001	-
		SE63.....SE100			-
□67					
	Yellow plate Red knob	SQ025 - SQ032	002/0001	030/0001	-
		SE16 - SE32			-
□48					
	Yellow plate Red knob With locking facility	SQ025 - SQ032	♦004/0001	♦006/0001	-
		SE16 - SE32			-
□48					
	Yellow plate Red knob With locking facility (Max3)	SQ025 - SQ032	♦010/0001	♦012/0001	-
		SE16 - SE32			-
		SQ040 - SQ063	♦050/0001	♦042/0001	-
		SE63.....SE100			-
□67					

♦ See p/n devices

# Regolus



## Plates - ø 22 hole central fixing

Panel mounting bases S Type - door interlock for B Type



AUTOMATION TECHNOLOGIES

### EN60529 IP65 - UL50 Type 1 - 4 - 4x (\*) NEMA 4X PROTECTION

	DESCRIPTION	FOR SERIES	PANEL MOUNTING	DOOR INTERLOCK
			FOR TYPE S BASES	FOR TYPE B BASES
	Grey plate Black knob  □48	SQ025 - SQ032	079/0001	095/0001
		SE16 - SE32	079/0001	
	Grey plate Black knob With locking facility  □48	SQ025 - SQ032	♦087/0001	♦077/0001
		SE16 - SE32	♦087/00E1	
	Grey plate Black knob With locking facility (Max3) □67	SQ025 - SQ032	♦089/0001	♦063/0001
		SE16 - SE32	♦089/00E1	
		SQ040 - SQ063	-	♦065/0001
		SE63.....SE100	-	
	Yellow plate Red knob  □48	SQ025 - SQ032	080/0001	070/0001
		SE16 - SE32	080/0001	
	Yellow plate Red knob With locking facility  □48	SQ025 - SQ032	♦088/0001	♦069/0001
		SE16 - SE32	♦088/00E1	
	Yellow plate Red knob With locking facility (Max3) □67	SQ025 - SQ032	♦090/0001	♦064/0001
		SE16 - SE32	♦090/00E1	
		SQ040 - SQ063	-	♦066/0001
		SE63.....SE100	-	

♦ See p/n devices

# Regolus

## Switch - Disconnectors

SQ025 - SQ032 Series - Accessories

### IP65 - THERMOPLASTIC BOX

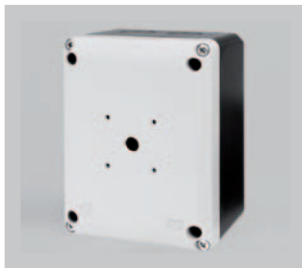


For SQ025 - SQ032 Series  
For Panel mounting basis type "R"  
Black Box - Grey Cover  
RAL 7035  
Dimensions: 120X100X85 mm  
For nr. 8 M20 cable glands  
M20



SQ025 - SQ032 Series **4 Poles Max.** **BF3/FNGO**

### IP65 - THERMOPLASTIC BOX

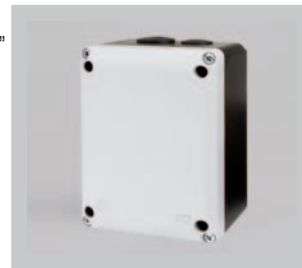


For SQ025-SQ032 Series  
For Bodies-Panel mounting type "R"  
Black Box - Grey Cover  
RAL 7035  
Dimensions: 130X180X106 mm  
For n°4 cable glands  
M25/M32



SQ025 - SQ032 Series **6 Poles Max.** **BF4/DNGO**

### IP65 - METAL BOX - CLOSED

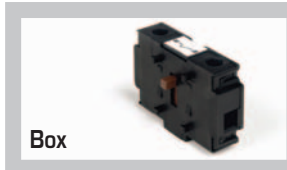


For SQ025-SQ032 Series  
For Bodies-Panel mounting type  
"B" and "R"  
Black Box - Grey Cover  
RAL 7035  
Dimensions: 105X140X85 mm  
For n°2 M20 and  
n°2 M25 cable glands



SQ025 - SQ032 Series **4 Poles Max.** **BFA/ONGA**

### ADDITIONAL POLES



SERIES	DIAGRAM	CODE - BOX	CODE - PANEL MOUNTING
SQ025		SQ025AFPB	SQ025AFPR
		SQ032AFPB	SQ032AFPR
SQ032		SQ025ANIB	SQ025ANIR
		SQ032ANIB	SQ032ANIR
		SQ025ANPB	SQ025ANPR
		SQ032ANPB	SQ032ANPR
		SQ025APEB	SQ025APER
		SQ032APEB	SQ032APER

### AUXILIARY CONTACTS



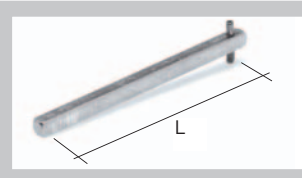
SERIES	DIAGRAM	CODE - BOX	CODE - PANEL MOUNTING
SQ025		SQ010AS1B	SQ010AS1R
			SQ010AS2B
SQ032			

### TERMINAL PROTECTION



BOX	PANEL MOUNTING	BOX AND PANEL MOUNTING
20900023	20900024	20900025

### SHAFT EXTENSION 5 DOOR INTERLOCK BASIS TYPE B



FOR INTERLOCK BASIS TYPE B	
L 185 mm	20401089
L 300 mm	20401164

### FIXING KEY



PCF
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# Regolus

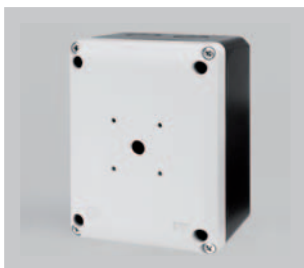
## Switch - Disconnectors

SQ040 - SQ063 Series - Accessories



AUTOMATION TECHNOLOGIES

### IP65 - THERMOPLASTIC BOX

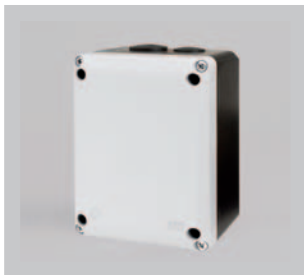


For SQ040 - SQ063 Series  
For Panel mounting basis type "R"  
Black Box - Grey Cover  
RAL 7035  
Dimensions: 130x180x106 mm.  
For nr. 4 M25/M32 cable glands



SQ040 - SQ063 Series **4 Poles Max.** BFA/DNGO

### IP 65 - METAL BOX - CLOSED

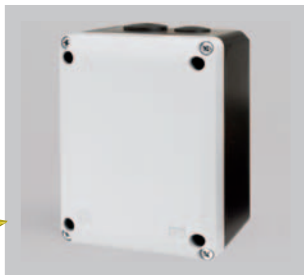


For SQ040 - SQ063 Series  
For Bodies-Panel mounting type "R"  
Black Box - Grey Cover  
RAL 7035  
Dimensions: 105x140x85 mm.  
Complete with nr. 2 M40 cable glands



SQ040 - SQ063 Series **3 Poles Max.** BNA/ONGA

### IP 65 - METAL BOX - CLOSED



For SQ040 - SQ063 Series  
For Bodies-Panel mounting type "B" and "R"  
Black Box - Grey Cover  
RAL 7035  
Dimensions: 150x200x110 mm.  
Complete with nr. 2 cable glands M40

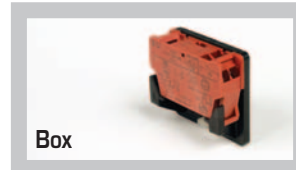


SQ040 - SQ063 Series **4 Poles Max.** BNA/ENGA

### ADDITIONAL POLES



### AUXILIARY CONTACTS



SERIES	DIAGRAM	CODE - BOX	CODE - PANEL MOUNTING
SQ040		SQ040AFPB	SQ040AFPR
		SQ063AFPB	SQ063AFPR
SQ063		SQ040ANIB	SQ040ANIR
		SQ063ANIB	SQ063ANIR
		SQ040ANPB	SQ040ANPR
		SQ063ANPB	SQ063ANPR
		SQ040APEB	SQ040APER
		SQ063APEB	SQ063APER

SERIES	DIAGRAM	CODE - BOX	CODE - PANEL MOUNTING
SQ040		SQ010AS3B	SQ010AS3R
SQ063		SQ010AS4B	SQ010AS4R

### TERMINAL PROTECTION



SQ040 - SQ063 SERIES  
3 POLES

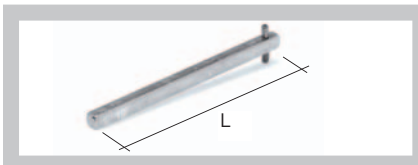
BOX AND PANEL MOUNTING  
20900041



SQ040 - SQ063 SERIES  
1 POLE

BOX AND PANEL MOUNTING  
20900040

### SHAFT EXTENSION 6 FOR DOOR INTELLOCK



SQ040 - SQ063 SERIES

L 185 mm	20900010
L 300 mm	20900011



# Regolus

## Switch - Disconnectors

SQ125 - SQ160 Series - Accessories

### ADDITIONAL POLES



SERIES	DIAGRAM	CODE
SQ125	7 — 8	SQ160AFPB
SQ160	N — N	SQ160ANPB
	PE — PE	SQ160APEB



### AUXILIARIES CONTACTS



SERIES	DIAGRAM	CODE
SQ125	1 — 2	SQ003AS5B
SQ160	1 — 4	

### COVER-CLAMP



3 POLES

20900034

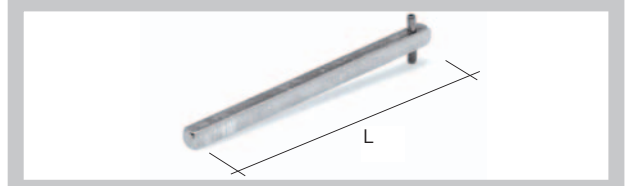


1 POLE

20900035



### SHAFT EXTENTION 6 FOR DOOR INTELOCK



SQ040 - SQ063 SERIES

L 185 mm

20900010

L 300 mm

20900011

### CLAMP 95 mm<sup>2</sup>



20900036





# Regolus

## Switch - Disconnectors

SE16 - SE100 Series - Accessories



AUTOMATION TECHNOLOGIES

### IP65 - THERMOPLASTIC BOX



For SE16 - SE32 Series  
For Panel mounting basis type "B"  
Black Box - Grey Cover  
RAL 7035  
Dimensions: 120X100X85 mm  
For nr. 8 M20 cable glands  
Order also:  
Shaft 11706237  
Plate support 11814005

SE16 - SE32...B SERIES  
BF1/1NGO



For SE16 - SE32 Series  
For Panel mounting basis type "R"  
Black Box - Grey Cover  
RAL 7035  
Dimensions: 120X100X85 mm  
For nr. 8 M20 cable glands

SE16 - SE32...R SERIES  
BF1/2NGO

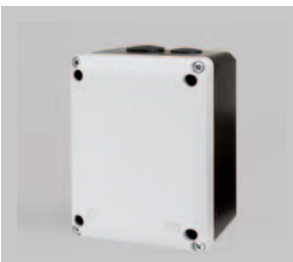
### IP65 - THERMOPLASTIC BOX - CLOSED



For SE16 - SE32 Series  
For Panel mounting basis type "R"  
Black Box - Grey Cover  
RAL 7035  
Dimensions: 120X100X85 mm  
For nr. 8 M20 cable glands

SE16 - SE32...R SERIES  
BN1/ONGO

### IP65 - ALUMINIUM BOX - CLOSED



For SE16 - SE32 Series  
For Panel mounting basis  
type B and R  
Black Box - Grey Cover  
RAL 7035  
Dimensions: 105X140X85 mm  
Complete with nr. 2 M20  
and M25 cable glands taps

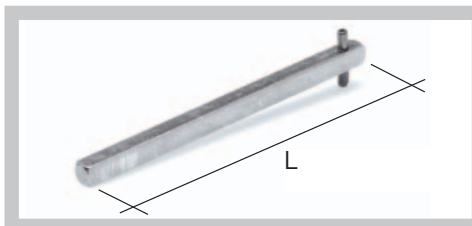
SE16 - SE32 SERIES  
BNA/ONGA

### BOX FIXING PLATE



SE16-SE32 SERIES  
11814005

### SHAFT EXTENTION FOR BOX EXECUTION



	SE16-SE32	SE63...SE100
L 185 mm	20401089	20900010
L 300 mm	20401164	20900011

### BOX SHAFT BF1/1NGO



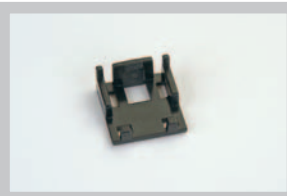
SE16-SE32 SERIES  
11706237

### AUXILIARIES CONTACTS



SE16 - SE32 SERIES  
1 NC PLO04001  
1 NO PLO04002

### AUXILIARY CONTACT FIXING PLATE



SE16 - SE32 SERIES  
11814021

### COVER-CLAMP



SE63...SE100 SERIES  
4 POLES BOX AND PANEL MOUNTING  
20900003



# Regolus

## Switch - Disconnectors - SQ Series

### Electrical characteristics

EN 60947-3 CHARACTERISTICS			SQ025	SQ032	SQ040	SQ063	AUXILIARIES CONTACTS
Rated operating voltage Ue	V		690	690	690	690	690
Rated insulation voltage Ui	V		690	690	690	690	690
Rated impulse withstand voltage Uimp (sectionable)	kV		8	8	8	8	4
Rated thermal current Ith	A		32	40	63	80	16
Rated thermal current in enclosed Ithe	A		32	40	63	80	10
Frequency	Hz		50/60	50/60	50/60	50/60	50/60
<b>RATED OPERATING CURRENT Ie: alternate current</b>							
AC-21A Switching resistive loads with light overloads	690V	A	32	40	63	80	AC-15 240V - 5A
AC-22A Switching mixed resistive and inductive loads at light overloads	500V	A	-	-	-	-	DC-13 250V-0,44A
	690V	A	25	32	63	80	
AC-23A Periodic switching of motors 3 phase - 3 poles	230V	A/kW	25/7,5	32/10	63/20	80/25	-
	400V	A/kW	25/15	32/18,5	50/28	75/42	-
	500V	A/kW	25/15	32/22	50/35	75/52	-
	690V	A/kW	16/15	20/18,5	26/25	32/31	-
AC3 Starting of cage motors (interruption while running) 3 phase - 3 poles	230V	A/kW	22/5,5	27/7,5	45/14	60/19	-
	400V	A/kW	22/11	27/15	40/22	55/30	-
	500V	A/kW	22/11	27/18,5	35/24	45/31	-
	690V	A/kW	16/11	20/15	22/21	25/24	-
Nominal interruption power AC-23A (cosφ 0,45)	230V	A	200	256	360	600	-
	400V	A	200	256	320	536	-
	500V	A	200	256	280	536	-
	690V	A	128	160	176	256	-
<b>SHORT CIRCUIT CHARACTERISTICS</b>							
Rated short-time short circuit withstand current Icw (1s)	A		800	800	1200	1500	-
Rated short circuit making capacity Icm	A		1500	1500	2200	2800	-
Conditional rated short circuit withstand current	kA		10	10	10   5	10   5	1
Fuse rating gG	500V	A	-	-	-	-	10
	690V	A	40	40	63   80	63   80	-
<b>UL 508 CHARACTERISTICS</b>							
General use	600V ac	A	32	40	60	80	HD A600 ac G600 dc
Standard motors load	Single phase - 2 poles	120V ac HP(FLA)	1,5 (20)	2 (24)	-	-	-
		200: 208V ac HP	2	3	-	-	-
		240V ac HP(FLA)	3 (17)	5 (28)	-	-	-
		200: 208V ac HP	7,5	10	15	20	-
	3 phase - 3 poles	240V ac HP(FLA)	7,5 (22)	10 (28)	15	20	-
		480V ac HP(FLA)	10 (14)	15 (21)	30	40	-
		600V ac HP(FLA)	15 (17)	20 (22)	30	40	-



# Regolus

## Switch - Disconnectors - SE Series

### Electrical characteristics

#### EN 60947-3 CHARACTERISTICS

		SE16	SE32	SE63	SE80	SE100
Rated operating voltage U <sub>e</sub>	V	690*	690*	690	690	690
Rated insulation voltage U <sub>i</sub>	V	690*	690*	690	690	690
Rated impulse withstand voltage U <sub>imp</sub> (sectionable)	kV	4*	4*	8	8	8
Rated thermal current I <sub>th</sub>	A	(30*) 32	40*	63*	86*	100
Rated thermal current in enclosed I <sub>the</sub>	A	(30*) 32	40*	63*	86*	86
Frequency	Hz	50	50	50	50	50

#### RATED OPERATING CURRENT I<sub>e</sub>: alternate current

AC-21A Switching resistive loads with light overloads	690V	A	(30*) 32	(32*) 40	63*	80*	100
AC-22A Switching mixed resistive and inductive loads at light overloads	500V	A	-	-	-	-	100
	690V	A	(20*) 25	32*	63*	80*	86
AC-23A Periodic switching of motors 3 phase - 3 poles	230V	A/kW	25/7.5	32/10	50/15	63/18,5	70/22
	400V	A/kW	25/15	32/18,5	50/30	60/33	67/37
	500V	A/kW	25/15	32/22	50/37	60/40	67/45
	690V	A/kW	(16A*) 20/18,5	25*/22	32/30	35/33	38/37
AC3 Starting of cage motors (interruption while running) 3 phase - 3 poles	230V	A/kW	22/7.5	30/9	40/11	50/15	60/18,5
	400V	A/kW	22/11	30/15	40/22	50/25	55/30
	500V	A/kW	22/11	30/18,5	40/30	50/33	55/37
	690V	A/kW	(12A*) 22/11	(20A*) 22/18,5	25/22	27/25	32/30
Nominal interruption power AC-23A (cosφ 0,45)	230V	A	200	256	400	504	560
	400V	A	200	256	400	480	536
	500V	A	200	256	400	480	536
	690V	A	160	200	256	280	304

#### SHORT CIRCUIT CHARACTERISTICS

Rated short-time short circuit withstand current I <sub>cw</sub> (1s)	A	400*	400*	1500	1500	1500
Rated short circuit making capacity I <sub>cm</sub>	A	1500*	1500*	2840	2840	2840
Conditional rated short circuit withstand current	kA	10*	10*	10*	10*	10
Fuse rating gG	500V	A	-	-	-	100
	690V	A	40*	40*	(80*) 63	80*

#### UL 508 CHARACTERISTICS

General use	600V ac	A	32	40	63	80	100
Standard motors load	Single phase - 2 poles	120V ac HP(FLA)	1,5 (20)	2 (24)	3 (34)	3(34)	3 (34)
		240V ac HP(FLA)	3 (17)	5 (28)	7,5 (40)	7,5 (40)	10 (50)
	3 phase - 3 poles	240V ac HP(FLA)	7,5 (22)	10 (28)	10 (28)	10 (28)	10 (28)
		480V ac HP(FLA)	10 (14)	15 (21)	20 (27)	25 (34)	25 (34)
		600V ac HP(FLA)	15 (17)	20 (22)	25 (27)	30 (32)	30 (32)

\* IMQ values

# Regolus

## Switch - Disconnectors - SE Series

General characteristics



AUTOMATION TECHNOLOGIES

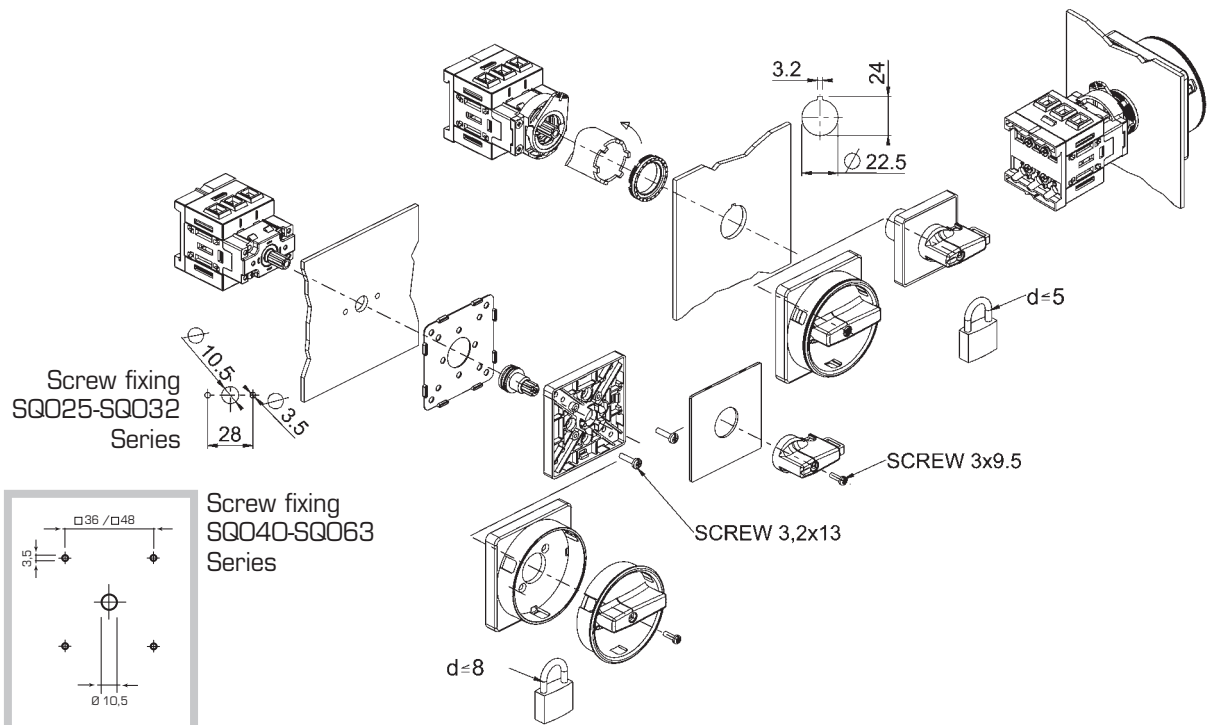
			IEC947-3, EN60947-3, UL508				
			SE16 - SE32		SE63 - SE80 - SE100		
■ <b>Comply with rules</b>	Protection class	control	EN60529 (UL 50♦)				
		terminals	EN60529				
■ Material group	EN60947-1						
■ Pollution grade	EN60947-1						
■ Flammability	UL94						
■ Ambient temperature	°C						
	°C						
■ Climate withstand	IEC68 part 2-3						
	IEC68 part 2-30						
■ Switching force (3 poles)			0,6 Nm (5,3 lb.in.)		1,5 Nm (13,3 lb.in.)		
■ Connections:							
Terminal block caliber	EN60947-1						
Terminal screw			A6		A8		
Screwing torque			M4		M5		
			1,2 Nm		3 Nm		
			UL 508		11,5 lb.in. (1,3 Nm)		
■ Connectable section:							
Flexible conductors	n°. 1 min/max	mm <sup>2</sup>	1,5-10		6-25		
			AWG		16-8		
Solid conductors	n°. 1 min/max	mm <sup>2</sup>	1,5-16		10-2		
			AWG		16-8		
■ Contacts	Slow opening double-break - Positive opening						
■ Opening angles			90°		90°		
■ Mechanical lifetime at 120 operations per hour mil/cl	nr. of cycles		0,1		0,1		
<b>CERTIFICATIONS</b>							
■	CE mark – Europa						
■	cUL Listed - Usa and Canada						
■	IMG Istituto Marchio Qualità - Italia						
■	CCC Cina						
■	GOST Russia						
♦ See p/n devices			■ Comply to the requirements by passed test		● Approved		

# Regolus

## Switch - Disconnectors

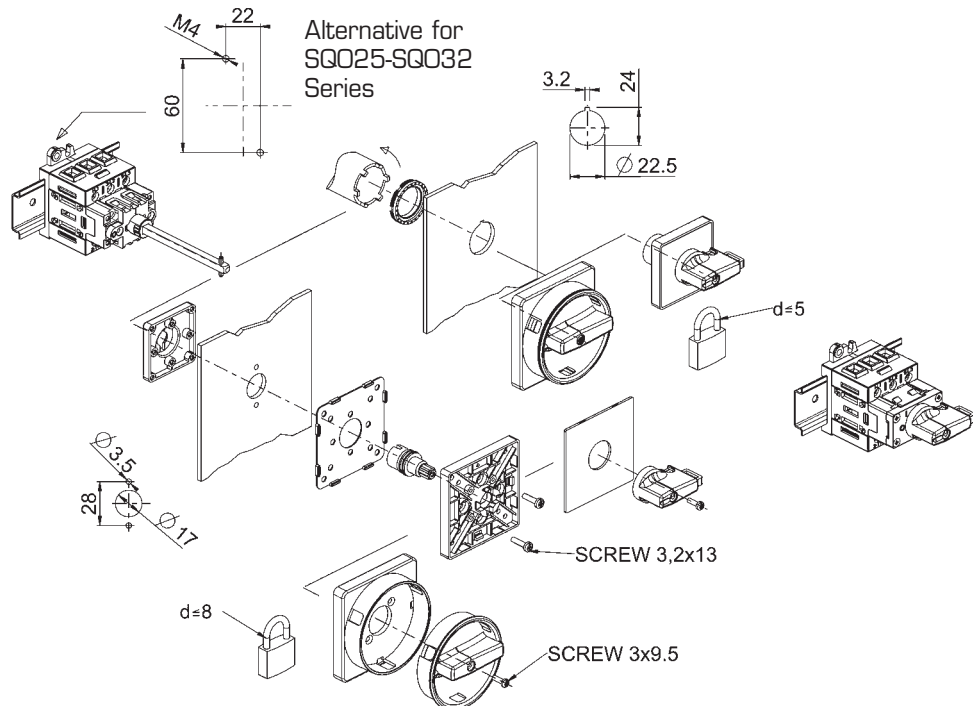
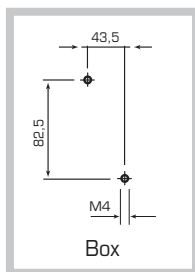
SQ025-SQ063 Series - Mounting instructions

### PANEL MOUNTING EXECUTION



### BOX EXECUTION

Alternative for SQ040-SQ063 Series



# Regolus

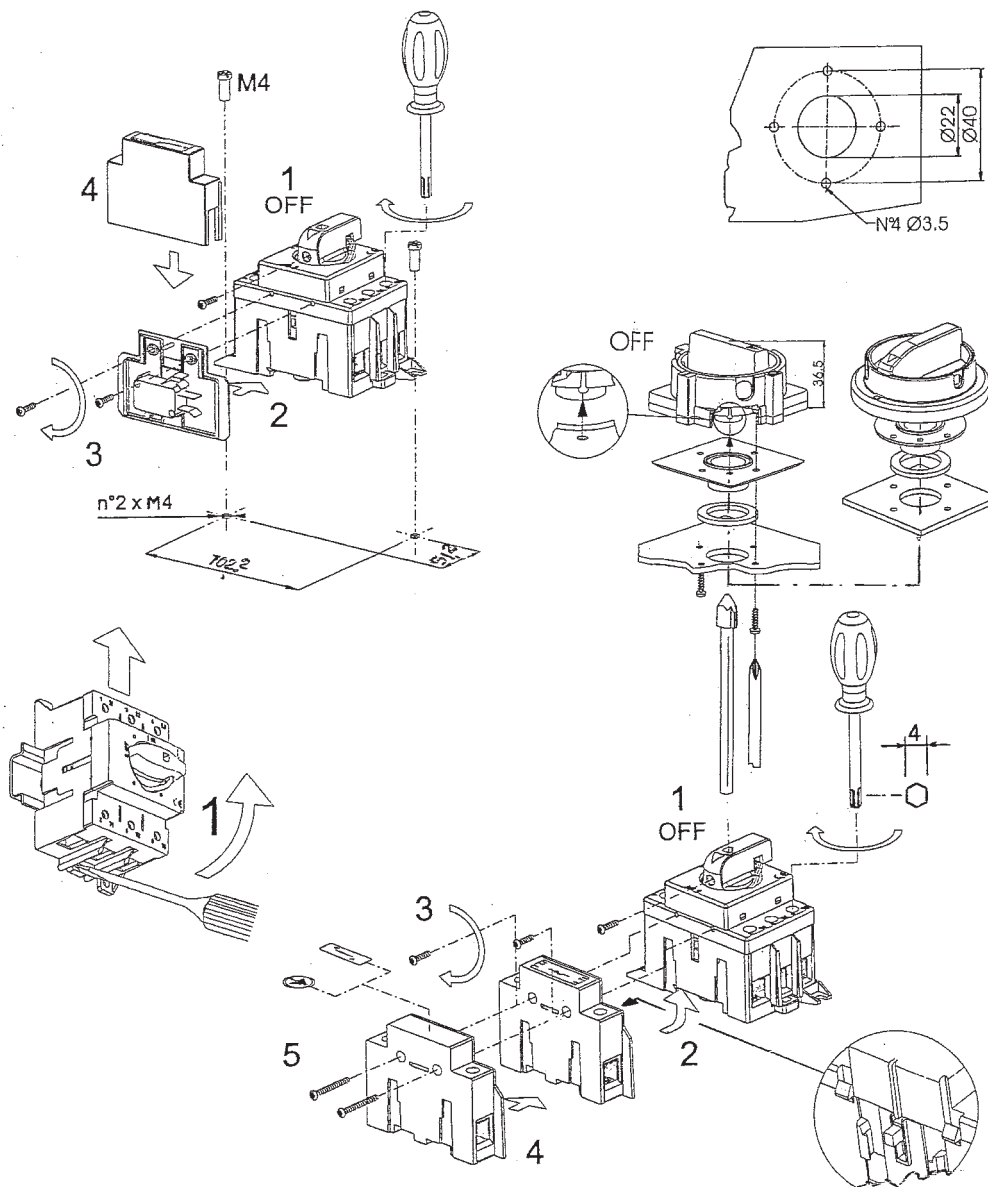
## Switch - Disconnectors

SQ125-SQ160 Series - Mounting instructions



AUTOMATION TECHNOLOGIES

### PANEL MOUNTING EXECUTION

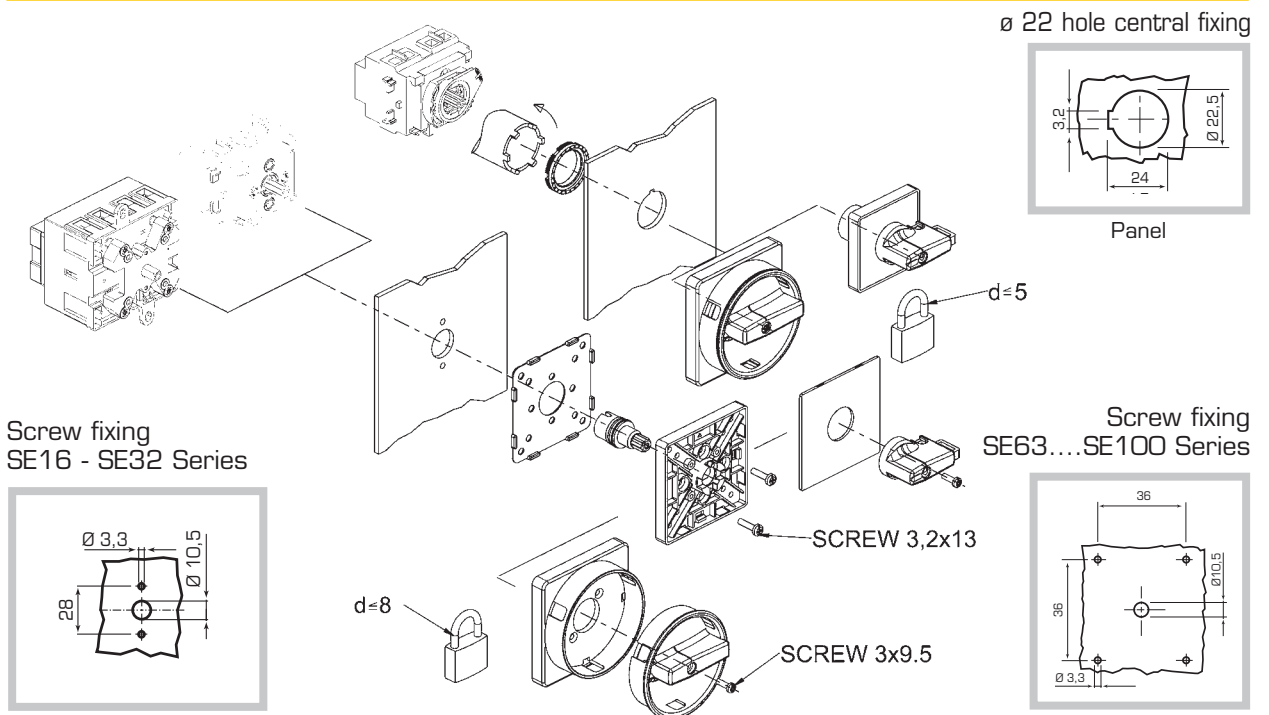


# Regolus

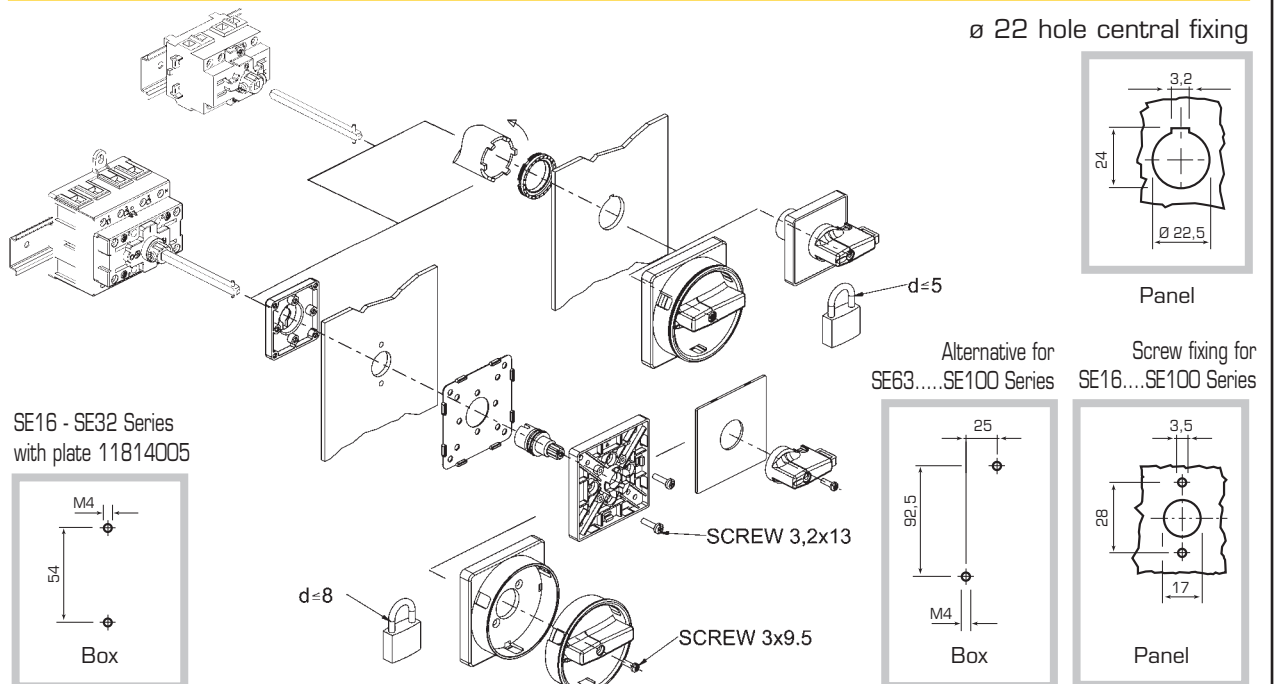
## Switch - Disconnectors

SE Series - Mounting instructions

### PANEL MOUNTING EXECUTION



### ENCLOSURE EXECUTION





# Regolus

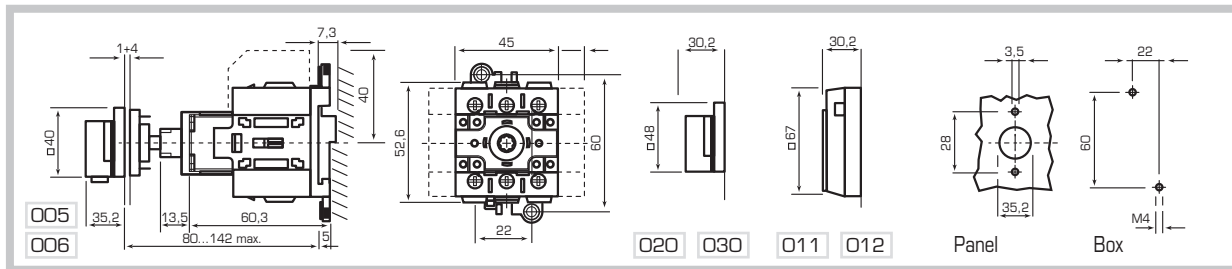
## Switch - Disconnectors

SQ025 SQ032 Series - Dimensions

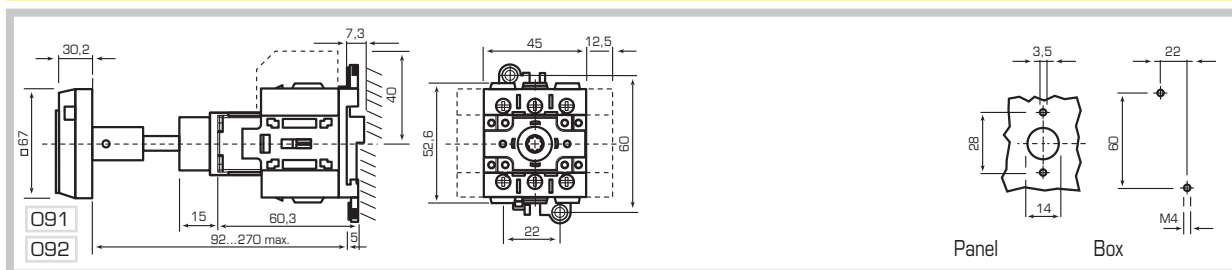


AUTOMATION TECHNOLOGIES

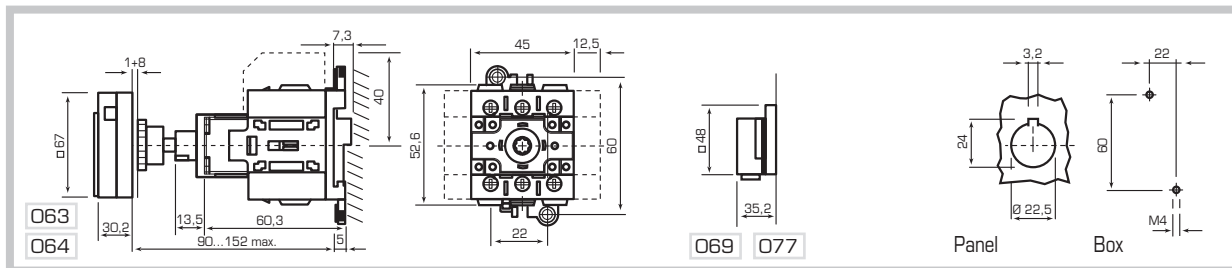
### Type B box fixing for door interlock - Command with screws fixing



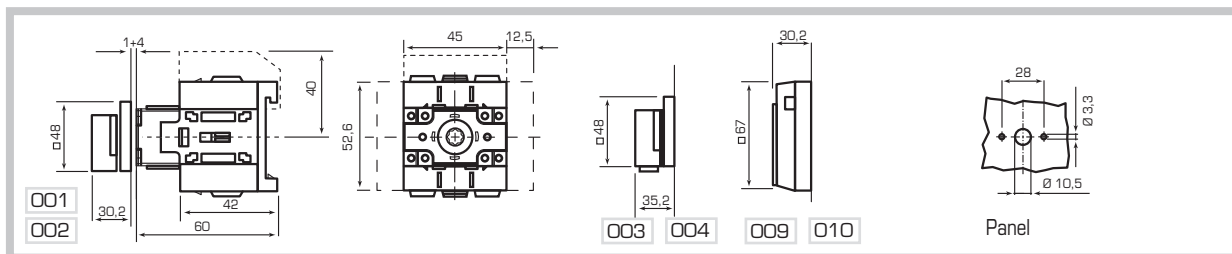
### Type K box fixing for door interlock - Command with screws fixing



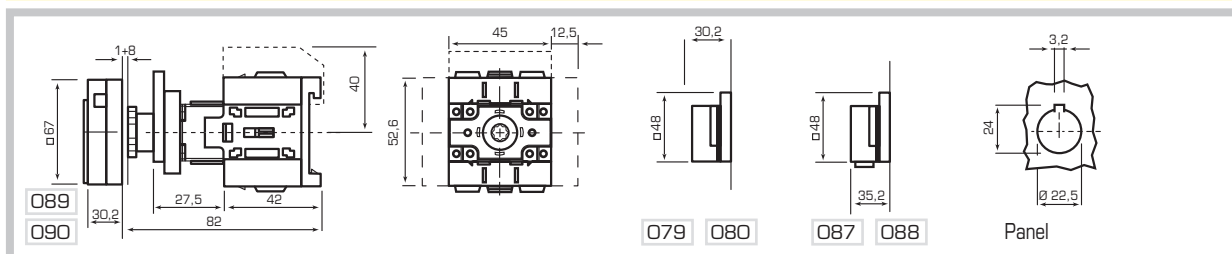
### Type B box fixing for door interlock - Command central fixing ø 22



### Type R rear panel mounting - Command with screws fixing



### Type S rear panel mounting - Command central fixing ø 22

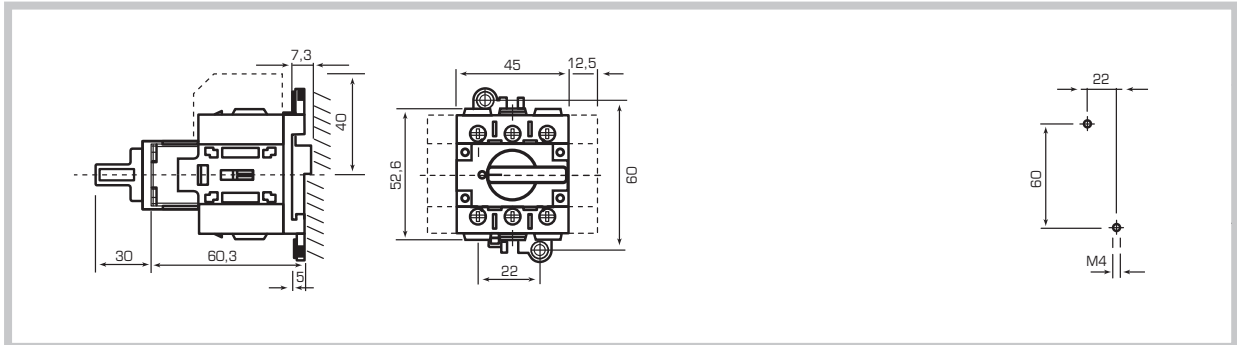


# Regolus

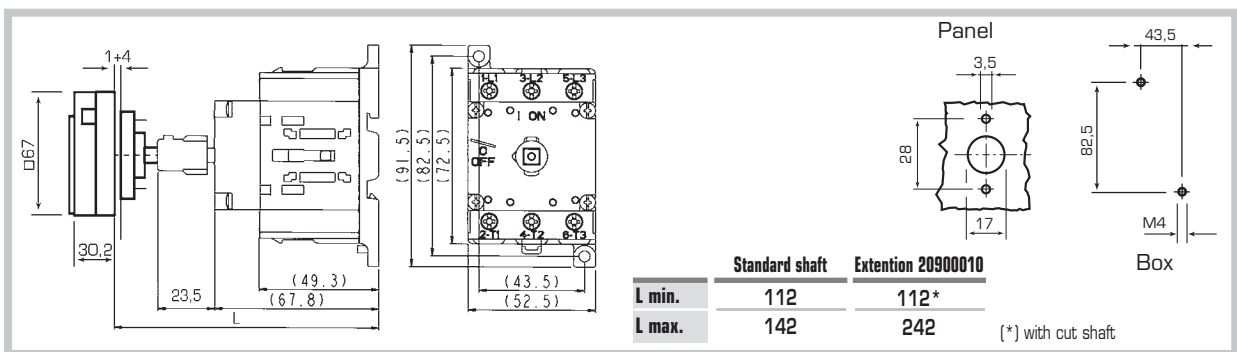
## Switch - Disconnectors

SQ025-SQ032 SQ040-SQ063 Series - Dimensions

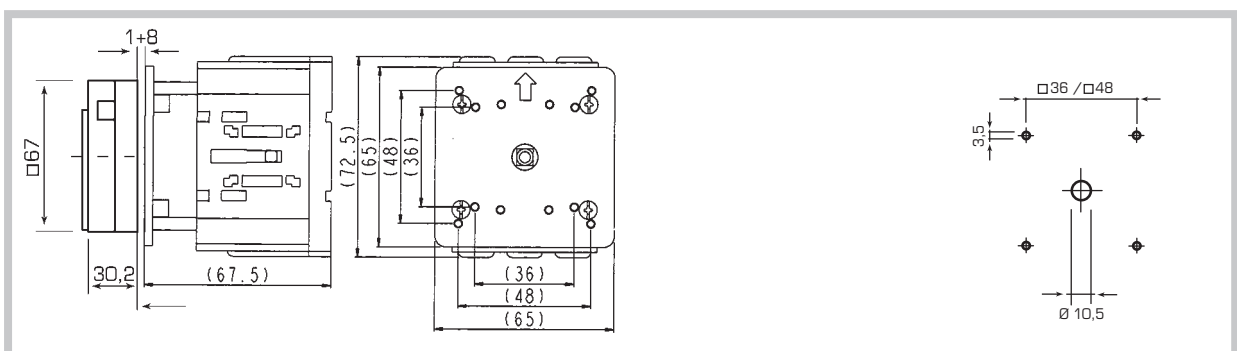
### Type D-L1N direct command box fixing - SQ025 SQ032 Series



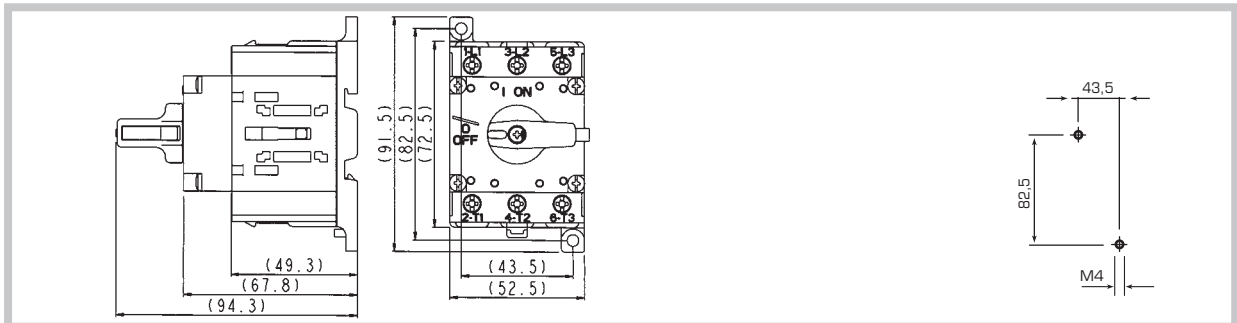
### Type B box fixing for door interlock - SQ040-SQ063 Series



### Type R rear panel mounting - SQ040-SQ063 Series



### Type D-L2N direct command box fixing - SQ040-SQ063 Series



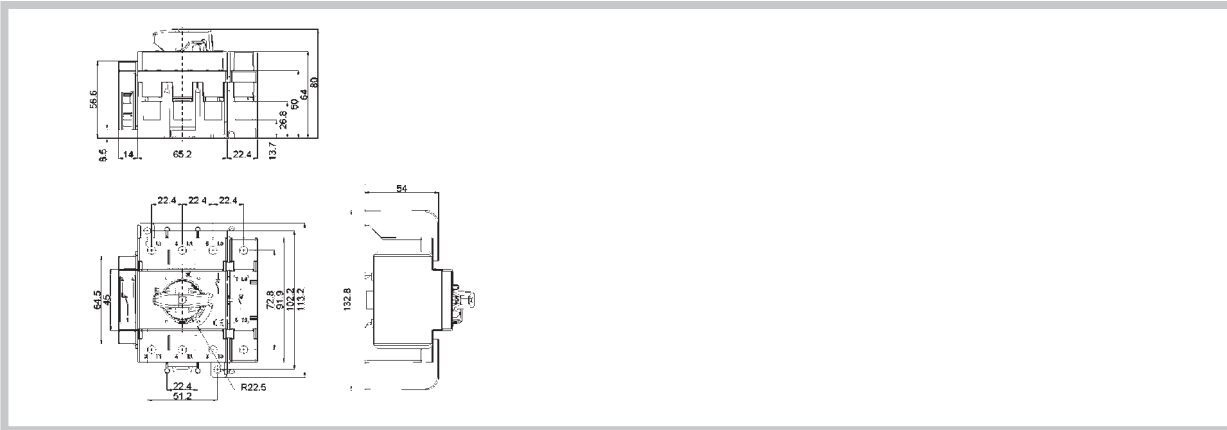
# Regolus

## Switch - Disconnectors SQ125-SQ160 Series - Dimensions

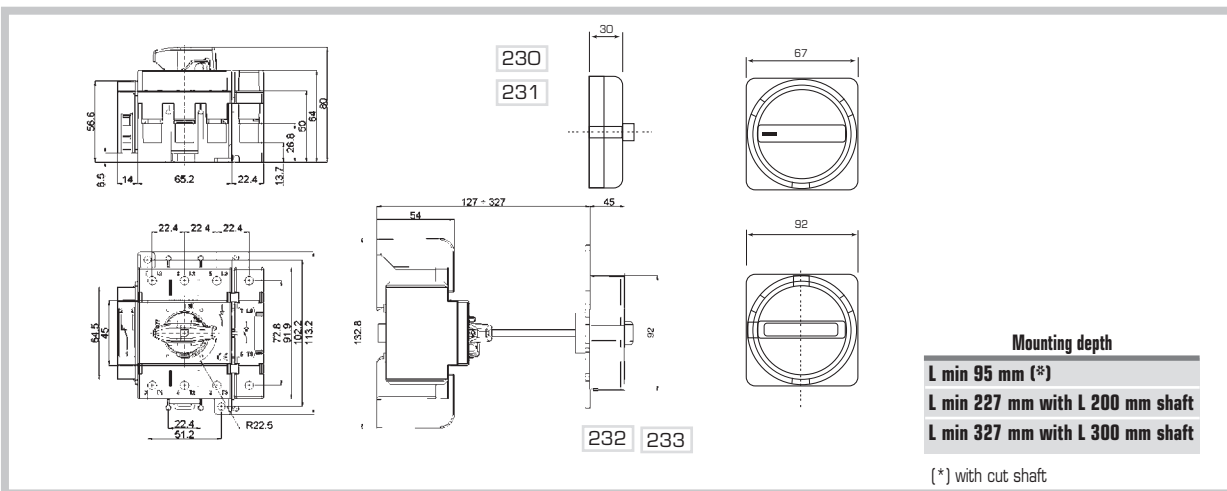


AUTOMATION TECHNOLOGIES

### Type D-L2N direct command box fixing



### Box fixing for door interlock



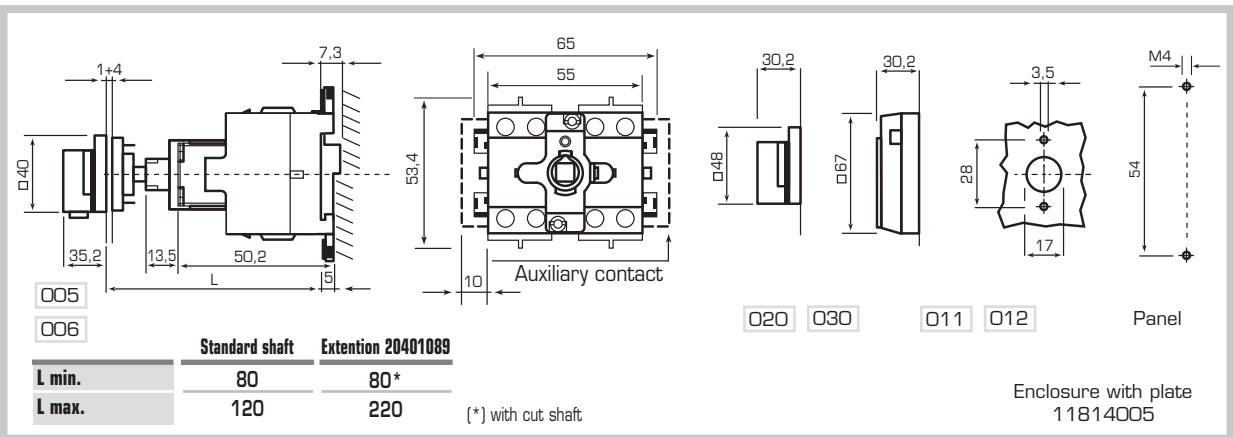
# Regolus

## Switch - Disconnectors

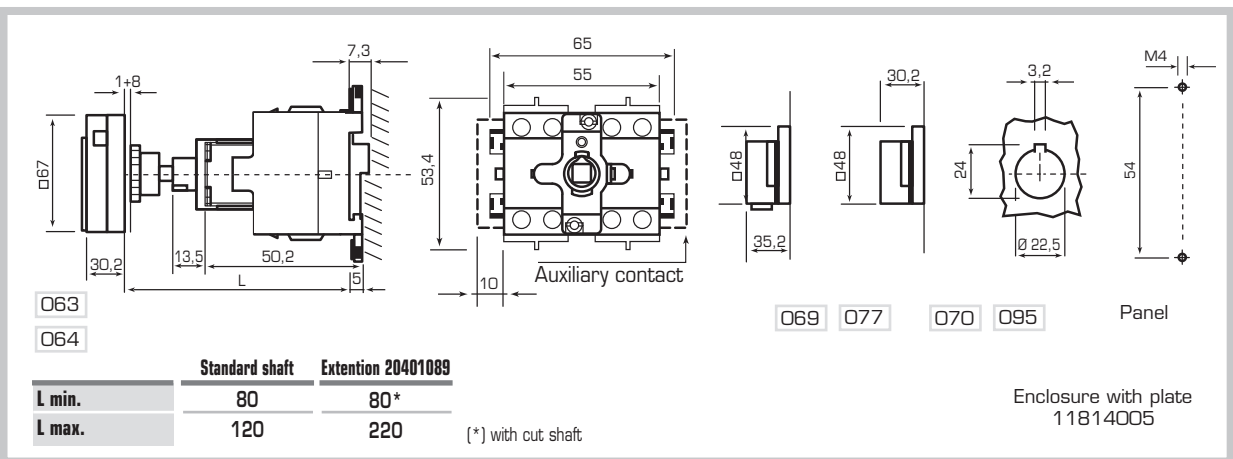
### SE16 - SE100 Series - Dimensions

#### TYPE B BOX FIXING FOR DOOR INTERLOCK

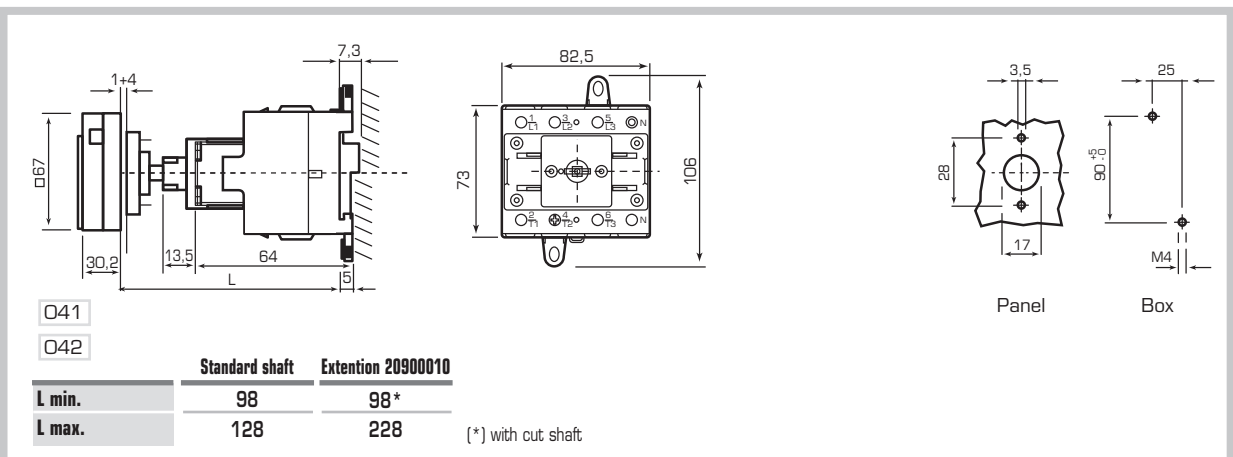
##### SE16 - SE32 Series with screws fixing



##### SE16 - SE32 Series with central fixing $\varnothing 22$



##### SE63 - SE100 Series with screws fixing



# Regolus

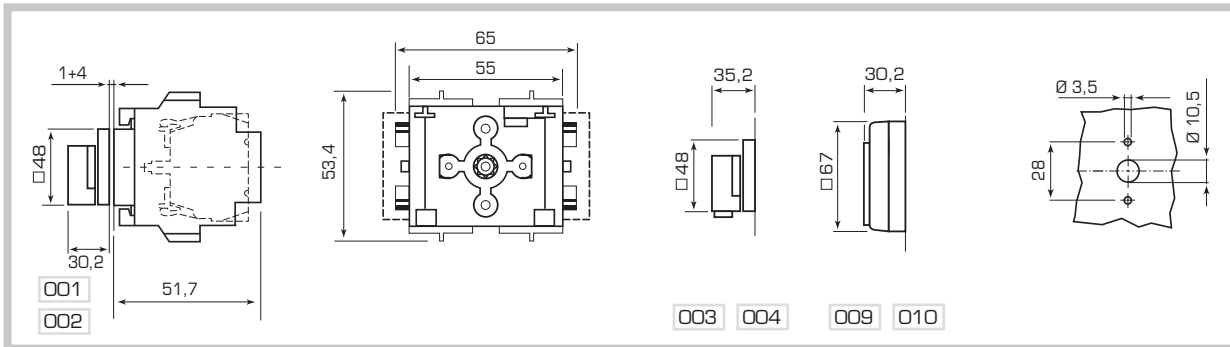
## Switch - Disconnectors

SE16 - SE100 Series - Dimensions

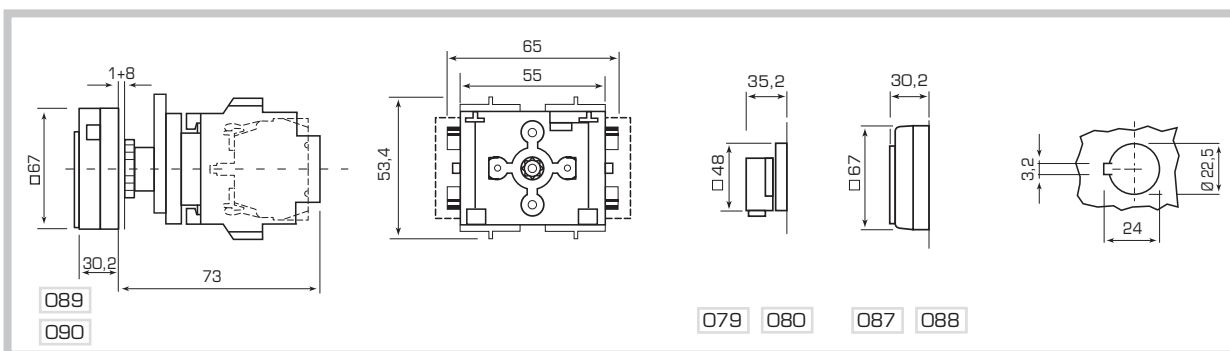


AUTOMATION TECHNOLOGIES

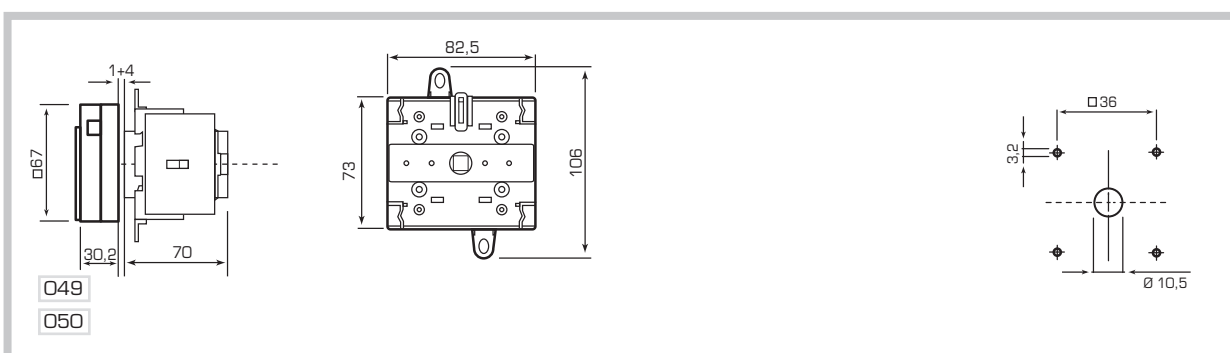
### Type R rear panel mounting - Command with screws fixing SE16-SE32 Series



### Type S rear panel mounting - Command central fixing $\varnothing 22$ SE16-SE32 Series



### Type S rear panel mounting - Command central fixing $\varnothing 22$ SE16-SE32 Series



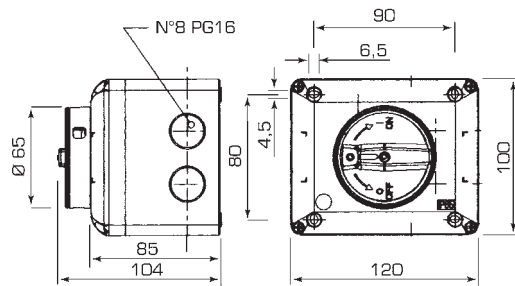
# Regolus

## Switch - Disconnectors

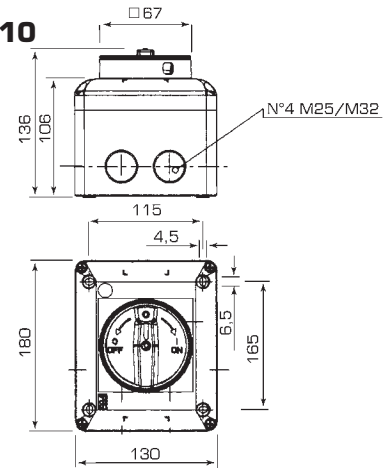
Enclosure installation - Dimensions

### ENCLOSURE INSTALLATION

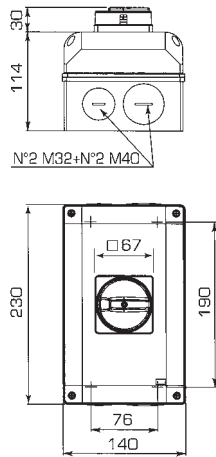
#### C01 - C09 - C10



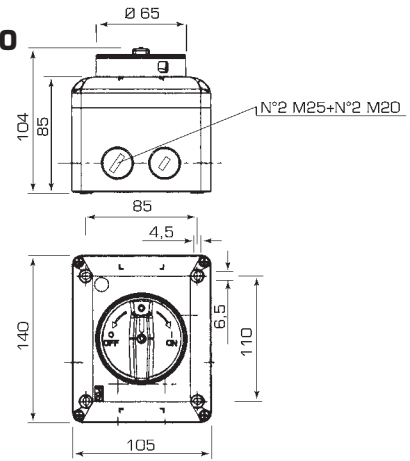
#### E01 - E09 - E10



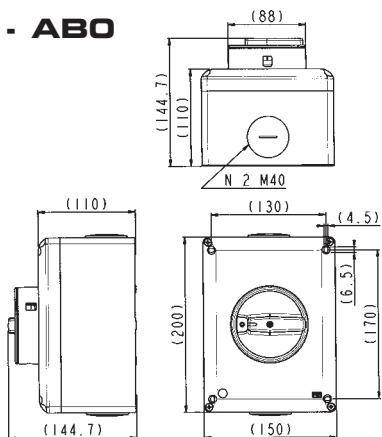
#### C41 - C42



#### A09 - A10



#### AB9 - ABO



# Pegasus

## Control auxiliaries Ø 22

### Table of contents



AUTOMATION TECHNOLOGIES



Panel mounting on Ø 22,5 mm holes, IP65 protection rating, available with “Black line” or “Nickel line” frames, EN ISO 13850 emergency mushrooms, terminals with screws, spring loaded or for printed circuit boards. Push button stations up to 3 gang or empty enclosures up to 6 gang. Version for pneumatic systems.

#### TABLE OF CONTENTS

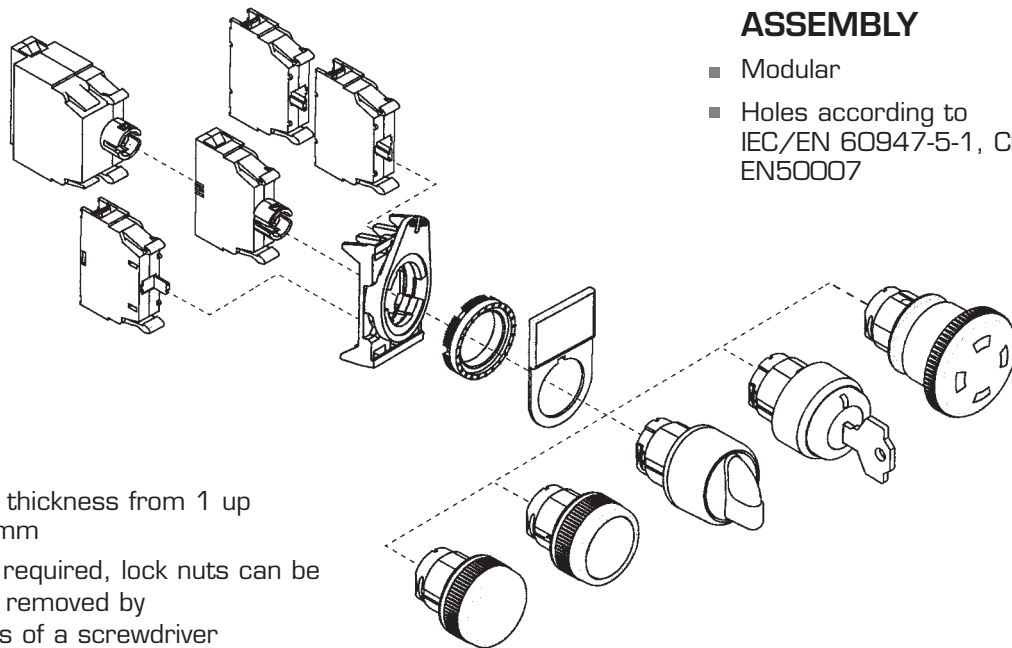
■ Assembly	pag. 72	■ Pegasus Series	pag. 81
■ Pegasus Series - Black line		■ Multi function push buttons Ø 22	pag. 84
■ Push buttons Ø 22	pag. 73	■ Contacts Blocks	pag. 85
■ Rotary Switch Ø 22	pag. 74	■ Push buttons station	pag. 88
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■ Single light Ø 22	pag. 76	■ pneumatic valve adapters	
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■ Push buttons Ø 22	pag. 78	■ Push buttons Ø 22	pag. 95
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■ Multi function push buttons Ø 22	pag. 81	■ Electrical characteristics	pag. 96
■ Emergency Push buttons Ø 22	pag. 82	■ Caratteristiche Generali	pag. 97



# Pegasus

## Control auxiliaries

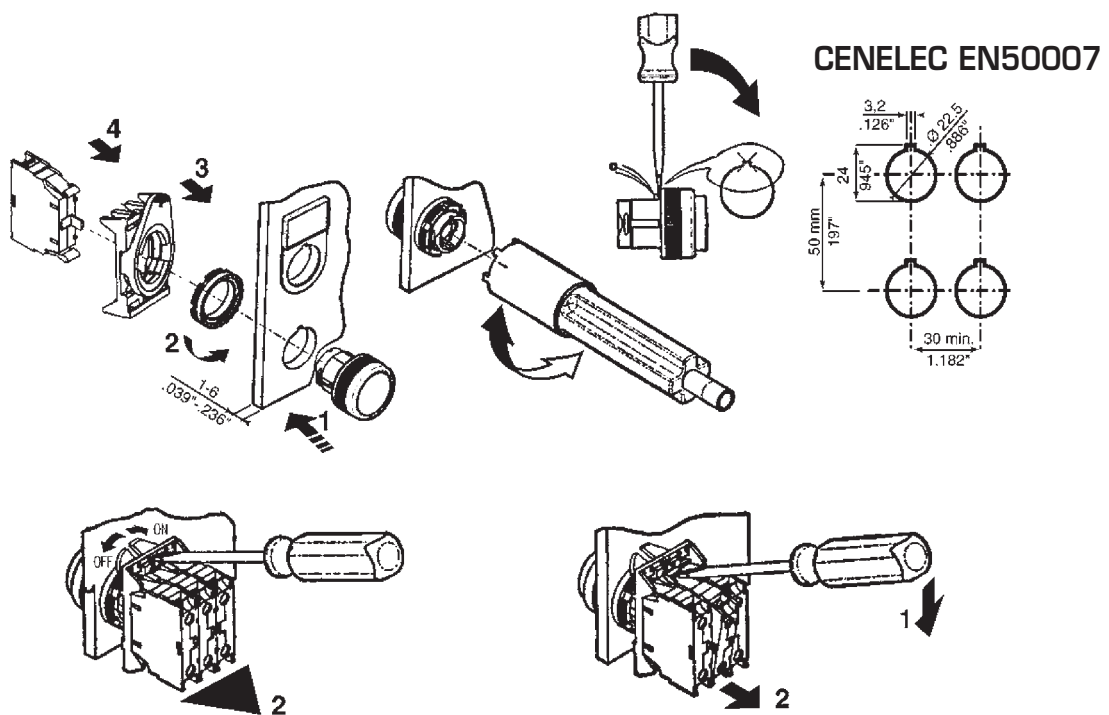
### Assembly instructions



#### ASSEMBLY

- Modular
- Holes according to IEC/EN 60947-5-1, CENELEC EN50007

- Panel thickness from 1 up to 6 mm
- If not required, lock nuts can be easily removed by means of a screwdriver



# Pegasus

## Push buttons $\varnothing 22$

With colour cap - Black line



AUTOMATION TECHNOLOGIES

MOMENTARY	DESCRIPTION	COL. INDEX	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS
	Flush push button		PPRN1	30	10	
			PPRN2	30	10	
			PPRN3	30	10	
			PPRN4	30	10	
			PPRN5	30	10	
			PPRN8	30	10	
	Extended push button		PPSN1	31	10	
			PPSN2	31	10	
			PPSN3	31	10	
			PPSN4	31	10	
			PPSN5	31	10	
			PPSN8	31	10	
	Flush reset push button		PPRN4R	43	10	
	Mushroom $\varnothing 40$		PPFN1M4N	35	10	
			PPFN2M4N	35	10	
			PPFN3M4N	35	10	
	Mushroom $\varnothing 60$		PPFN1M6N	40	10	
LATCHED						
	Flush push button		PPPN1	32	10	
			PPPN2	32	10	
			PPPN3	32	10	
			PPPN4	32	10	
			PPPN5	32	10	
			PPPN8	32	10	
	Mushroom operator $\varnothing 40$		PPFN1S4N	35	10	
			PPFN2S4N	35	10	
			PPFN3S4N	35	10	

# Pegasus

## Rotary switches ø 22

Standard and with lens - Black line

### WITH SHORT OPERATOR



### WITH LONG OPERATOR



### WITH KEY



POSITIONS	WITH SHORT OPERATOR		WITH LONG OPERATOR		KEY REMOVAL			CODE
	COL. INDEX	CODE	COL. INDEX	CODE	L	O	R	
		PSMB1DO		PSLB1DO		*		PSCR8DOC
		PSMB2DO		PSLB2DO				
		PSMB3DO		PSLB3DO				
		PSMB4DO		PSLB4DO			*	PSCR8DOE
		PSMB5DO		PSLB5DO		*	*	PSCR8DON
		PSMB8DO		PSLB8DO				
		PSMB1D2		PSLB1D2				PSCR8D2C
		PSMB2D2		PSLB2D2		*		
		PSMB3D2		PSLB3D2				
		PSMB4D2		PSLB4D2				
		PSMB5D2		PSLB5D2				
		PSMB8D2		PSLB8D2				
		PSMB1T0		PSLB1T0	*	*		PSCR8TOC
		PSMB2T0		PSLB2T0				PSCR8TOA
		PSMB3T0		PSLB3T0			*	PSCR8TOE
		PSMB4T0		PSLB4T0	*	*	*	PSCR8TOG
		PSMB5T0		PSLB5T0	*	*	*	PSCR8TOH
		PSMB8T0		PSLB8T0	*	*	*	PSCR8TOK
								PSCR8TON
		PSMB1T3		PSLB1T3				PSCR8T3C
		PSMB2T3		PSLB2T3				
		PSMB3T3		PSLB3T3		*		
		PSMB4T3		PSLB4T3				
		PSMB5T3		PSLB5T3				
		PSMB8T3		PSLB8T3				
		PSMB1T2		PSLB1T2		*		PSCR8T2C
		PSMB2T2		PSLB2T2				
		PSMB3T2		PSLB3T2	*			PSCR8T2A
		PSMB4T2		PSLB4T2				
		PSMB5T2		PSLB5T2	*	*		PSCR8T2H
		PSMB8T2		PSLB8T2				
		PSMB1T1		PSLB1T1		*		PSCR8T1C
		PSMB2T1		PSLB2T1				
		PSMB3T1		PSLB3T1			*	PSCR8T1E
		PSMB4T1		PSLB4T1				
		PSMB5T1		PSLB5T1		*	*	PSCR8T1N
		PSMB8T1		PSLB8T1				

**1** For standard rotary switches suitable to operate a central contact, replace the letter "B" with the letter "C": PSMC...

**2** For rotary switches with Left-Right operating angles replace the letter "DO" with "SD" PSMB1DO or PSCR8SDE...  
For key removal, see position 45° and relative final codes.

\* Key removal position

# Pegasus


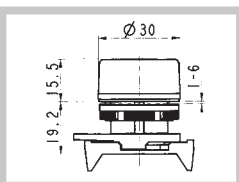

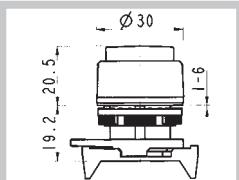

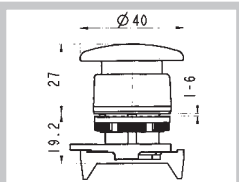
## Push buttons $\varnothing 22$

With lens cap - Black line


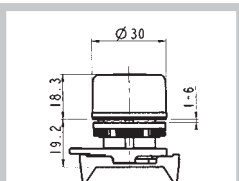

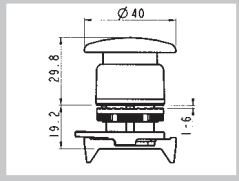


AUTOMATION TECHNOLOGIES


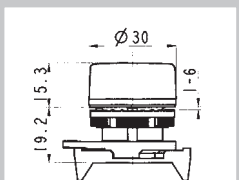
### MOMENTARY PUSH BUTTONS

	DESCRIPTION	COL. INDEX	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS
	Flush push button	<span style="color: red;">■</span>	PPRL1	30	10	
		<span style="color: green;">■</span>	PPRL2	30	10	
		<span style="color: yellow;">■</span>	PPRL3	30	10	
		<span style="color: blue;">■</span>	PPRL4	30	10	
		<span style="color: white;">■</span>	PPRL5	30	10	
	Extended push button	<span style="color: red;">■</span>	PPSL1	31	10	
		<span style="color: green;">■</span>	PPSL2	31	10	
		<span style="color: yellow;">■</span>	PPSL3	31	10	
		<span style="color: blue;">■</span>	PPSL4	31	10	
		<span style="color: white;">■</span>	PPSL5	31	10	
	Mushroom operator $\varnothing 40$	<span style="color: red;">■</span>	PPFL1M4N	35	10	

### LATCHED PUSH BUTTONS

	Flush push button	<span style="color: red;">■</span>	PPPL1	32	10	
		<span style="color: green;">■</span>	PPPL2	32	10	
		<span style="color: yellow;">■</span>	PPPL3	32	10	
		<span style="color: blue;">■</span>	PPPL4	32	10	
		<span style="color: white;">■</span>	PPPL5	32	10	
	Mushroom operator $\varnothing 40$	<span style="color: red;">■</span>	PPFL1S4N	35	10	
		<span style="color: green;">■</span>	PPFL2S4N	35	10	
		<span style="color: yellow;">■</span>	PPFL3S4N	35	10	

### INDICATOR LIGHT

	Flat cap	<span style="color: red;">■</span>	PLSL1	30	10	
		<span style="color: green;">■</span>	PLSL2	30	10	
		<span style="color: yellow;">■</span>	PLSL3	30	10	
		<span style="color: blue;">■</span>	PLSL4	30	10	
		<span style="color: white;">■</span>	PLSL5	30	10	

# Pegasus

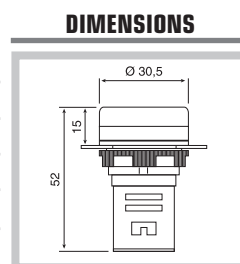
## LED pilot lights $\varnothing 22$

With colour caps - Black line

### LED PILOT LIGHTS



DESCRIPTION	POWER SUPPLY	CODE	WEIGHT gr	MIN. PACK QTY.
Single LED indicator X1 — ⊗ — X2	AC/DC 6V <b>1</b>	PLML <b>2</b> L6	15	10
	AC/DC 12V <b>1</b>	PLML <b>2</b> L12	15	10
	AC/DC 24V	PLML <b>2</b> L24	15	10
	AC/DC 48V	PLML <b>2</b> L48	15	10
	AC/DC 110V	PLML <b>2</b> L110	15	10
	AC 220V	PLML <b>2</b> L220	15	10
	AC 380V <b>1</b>	PLML <b>2</b> L380	15	10

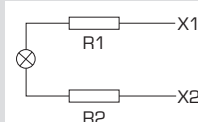


### MAIN TECHNICAL DATAS

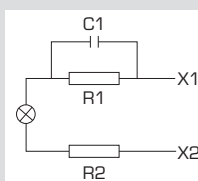
Comply with rules		EN60947-5-1 - GB14048.5
Operational temperature	C°	-5 +40
Operational umidity		45% .....90%
AC rated frequency	Hz	50/60
Rated insulation voltage	1 min. V	2500V
Over voltage category	EN60947.1	III
Pollution grade	EN60947.1	3
Protection degree	EN60529	IP65, IP2X terminals
Connection:		
Terminal block caliber		A2
Terminal screw		M3,5
Flexible and solid conductors section	min./max.	n.1 1/2,5 mm <sup>2</sup> - n.2 1/2,5 mm <sup>2</sup>
Rated operational voltage Ue	AC/DC V	6 12, 24, 48, 110
	AC V	220 - 380
Rated operating current Ie	mA	≤ 80 6,12V
	mA	≤ 20 24, 48, 110, 220, 380
Electrical life	h	≥ 30.000
Brightness	cd/m <sup>2</sup>	≥ 60
Mounting		∅ 22,5

### DIAGRAM

Resistance



Capacity resistance

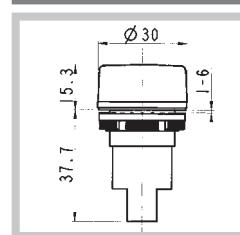


AC 220....380V

### PILOT LIGHT



DESCRIPTION	COL. INDEX	CODE	WEIGHT gr	MIN. PACK QTY.
Single lampholder indicator BA9s Lamp not included X1 — ⊗ — X2 AC/DC 250V max. 2W	<span style="color: red;">■</span>	PLML1	15	10
	<span style="color: green;">■</span>	PLML2	15	10
	<span style="color: yellow;">■</span>	PLML3	15	10
	<span style="color: blue;">■</span>	PLML4	15	10
	<span style="color: white;">□</span>	PLML5	15	10



**1** On demand execution

**2** Insert lens colour code: 1 - red, 2 - green, 3 - yellow, 4 - blue, 5 - white

# Pegasus

## Multifunction push button $\varnothing$ 22

Light and lens=multifunction push button light-lens - Black line



AUTOMATION TECHNOLOGIES

### MULTIFUNCTION PUSH BUTTON - NOT LIGHT

	DESCRIPTION	COL. - SYMBOL	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS
	Dual push button		PPDN	38	10	
	Flush dual push button		PPDNR	38	10	
			PPDNR.3	38	10	
	Triple push button		PPMN	40	10	

### MULTIFUNCTION PUSH BUTTON - LIGHT

	Dual push button		PPDL	30	10	
			PPDL.1	30	10	
	Flush dual push button		PPDLR	30	10	
			PPDLR.3	30	10	

Multi-function push buttons - Special symbols and text for horizontal assembly/identification are available on request



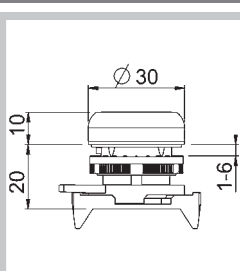







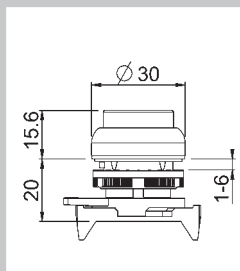





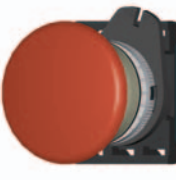

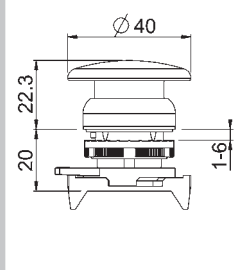


# Pegasus

## Push buttons $\varnothing$ 22



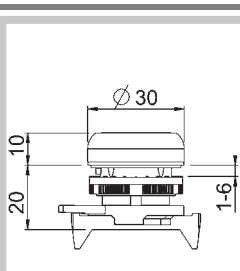





Not light - Nickel line - IP67



### MOMENTARY PUSH BUTTONS

	DESCRIPTION	COL. INDEX	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS
	Flush Push Button		PPRN1NL	30	10	
			PPRN2NL	30	10	
			PPRN3NL	30	10	
			PPRN4NL	30	10	
			PPRN5NL	30	10	
			PPRN8NL	30	10	
	Extended Push Button		PPSN1NL	31	10	
			PPSN2NL	31	10	
			PPSN3NL	31	10	
			PPSN4NL	31	10	
			PPSN5NL	31	10	
			PPSN8NL	31	10	
	Mushroom $\varnothing$ 40		PPFN1M4NNL	45	10	
			PPFN2M4NNL	45	10	
			PPFN3M4NNL	45	10	

### LATCHED PUSH BUTTONS

	DESCRIPTION	COL. INDEX	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS
	Flush Push Button		PPPN1NL	31	10	
			PPPN2NL	31	10	
			PPPN3NL	31	10	
			PPPN4NL	31	10	
			PPPN5NL	31	10	
			PPPN8NL	31	10	



# Pegasus

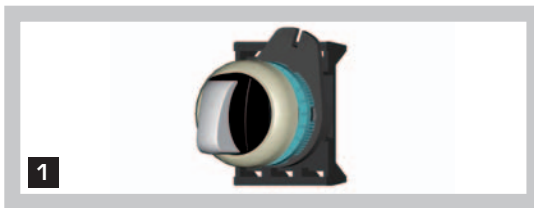
## Rotary Switches $\varnothing$ 22

Not Light and Light - Nickel line - IP66

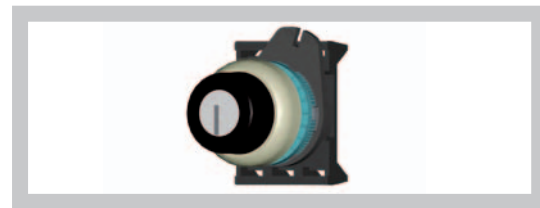


AUTOMATION TECHNOLOGIES

### WITH SHORT OPERATOR



### WITH KEY



POSITIONS	COL. INDEX	CODE	KEY REMOVAL			CODE
			L	O	R	
 90°		PSMB1DONL		*		PSCR8DOCNL
		PSMB2DONL				
		PSMB3DONL				
		PSMB4DONL			*	PSCR8DOENL
		PSMB5DONL		*	*	PSCR8DONNL
		PSMB8DONL				
 45°		PSMB1D2NL				PSCR8D2CNL
		PSMB2D2NL		*		
		PSMB3D2NL				
		PSMB4D2NL				
		PSMB5D2NL				
		PSMB8D2NL				
 45°		PSMB1TONL		*		PSCR8TOCNL
		PSMB2TONL	*			PSCR8TOANL
		PSMB3TONL			*	PSCR8TOENL
		PSMB4TONL	*	*	*	PSCR8TOGNL
		PSMB5TONL	*	*	*	PSCR8TOHNL
		PSMB8TONL	*	*	*	PSCR8TOKNL
 45°		PSMB1T3NL				PSCR8T3CNL
		PSMB2T3NL		*		
		PSMB3T3NL				
		PSMB4T3NL				
		PSMB5T3NL				
		PSMB8T3NL				
 45°		PSMB1T2NL		*		PSCR8T2CNL
		PSMB2T2NL				
		PSMB3T2NL	*			PSCR8T2ANL
		PSMB4T2NL				
		PSMB5T2NL	*	*		PSCR8T2HNL
		PSMB8T2NL				
 45°		PSMB1T1NL		*		PSCR8T1CNL
		PSMB2T1NL				
		PSMB3T1NL			*	PSCR8T1ENL
		PSMB4T1NL				
		PSMB5T1NL		*	*	PSCR8T1NNL
		PSMB8T1NL				

**1** The rotary switches with out light suitable to operate a central contact, replace the letter "B" with the letter "C": PSMC....

**2** For rotary switches with Left-Right operating angles replace the letter "DO" with "SD" PSMB1DO or PSCR8SDE...  
For key removal, see position 45° and relative final codes.

\* Key removal position



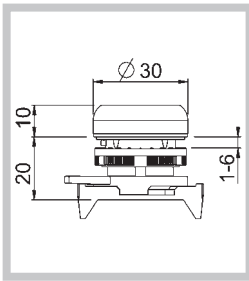






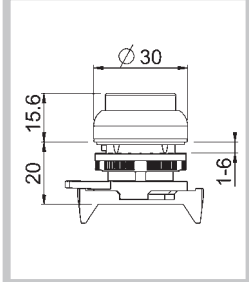




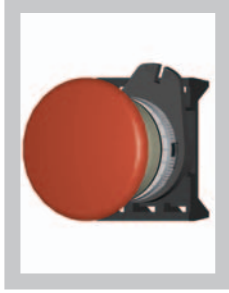

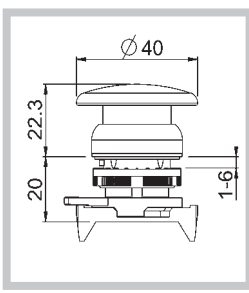
# Pegasus

## Push buttons ø 22

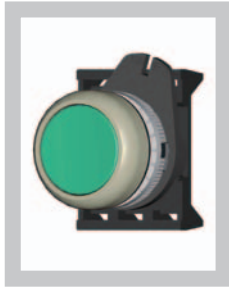

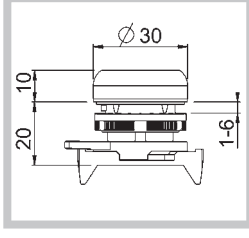




With lens cap - Nickel line - IP67



### MOMENTARY PUSH BUTTONS

	DESCRIPTION	COL. INDEX	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS
	Flush Push Button		PPRL1NL	30	10	
			PPRL2NL	30	10	
			PPRL3NL	30	10	
			PPRL4NL	30	10	
			PPRL5NL	30	10	
	Extended Push Button		PPSL1NL	31	10	
			PPSL2NL	31	10	
			PPSL3NL	31	10	
			PPSL4NL	31	10	
			PPSL5NL	31	10	
	Mushroom ø 40		PPFL1M4NNL	43	10	

### LATCHED PUSH BUTTONS

	DESCRIPTION	COL. INDEX	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS
	Flush Push Button		PPPL1NL	31	10	
			PPPL2NL	31	10	
			PPPL3NL	31	10	
			PPPL4NL	31	10	
			PPPL5NL	31	10	



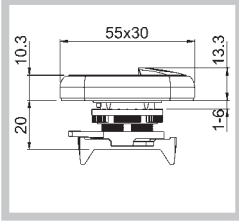


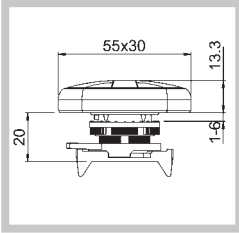


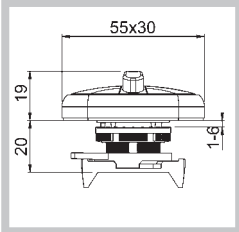
# Pegasus

Multi function push buttons ø 22  
Nickel line - IP67



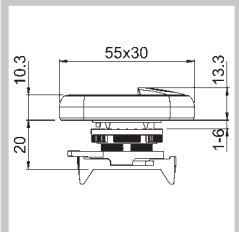



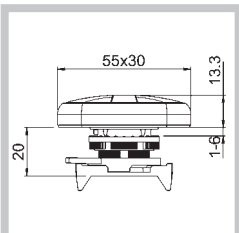


AUTOMATION TECHNOLOGIES

## MULTI FUNCTION PUSH BUTTONS

	DESCRIPTION	COL. - SYMBOL	CODE	WEIGHT gr	Min. Pack Qty.	DIMENSIONS
	Dual Push Button		PPDNNL	38	10	
	Extended Push Button		PPDNSNL	38	10	
	Triple multi function		PPMNSNL	40	10	

## MULTI FUNCTION PUSH BUTTONS - WITH LIGHT-LENS

	Dual Push Button		PPDLNL	38	10	
			PPDLNL.1	38	10	
	Extended double push button		PPDLSNL	38	10	



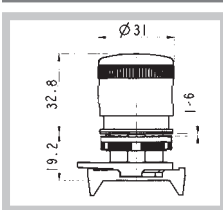


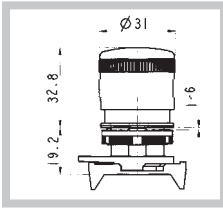


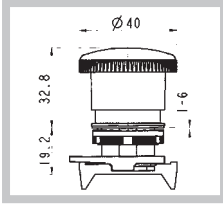


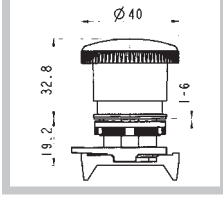
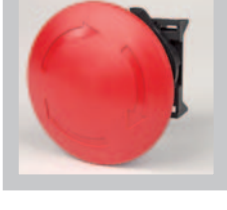

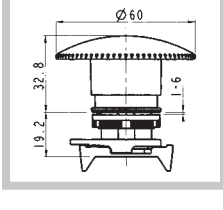


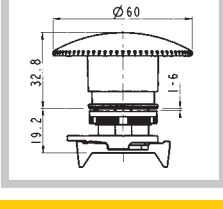
1 On demand execution

Multifunction push buttons - On demand we can provide special symbol or writings for horizontal mounting/reading

# Pegasus

## Emergency push buttons $\varnothing$ 22

EN ISO 13850

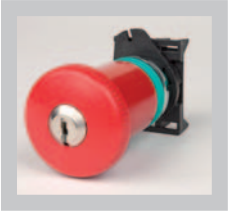

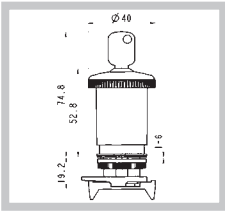


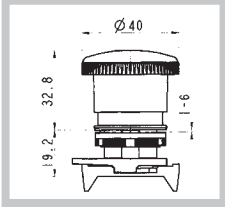


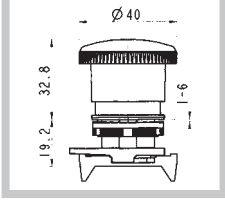


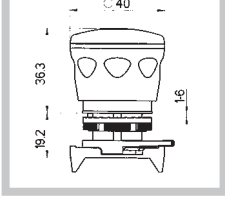

	DESCRIPTION	COLOUR	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS
	Mushroom operator $\varnothing$ 30 twist to release		PPFN1R3N	42	10	
	Mushroom operator with vision $\varnothing$ 30 twist to release		PPFN1R3S	44	10	
	Mushroom operator $\varnothing$ 40 twist to release		PPFN1R4N	44	10	
	Mushroom operator with vision $\varnothing$ 40 twist to release		PPFN1R4S	46	10	
	Mushroom operator $\varnothing$ 60 twist to release		PPFN1R6N	50	10	
	Mushroom operator with vision $\varnothing$ 60 twist to release		PPFN1R6S	52	10	

# Pegasus

## Emergency push buttons ø 22 EN ISO 13850



AUTOMATION TECHNOLOGIES

	DESCRIPTION	COLOUR	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS
	Mushroom operator ø 40 with key release		PPFN1C4N	76	10	
	Mushroom operator ø 40 push-pull		PPFN1P4N	44	10	
	Mushroom operator ø 40 push-pull with vision		PPFN1P4S	46	10	
	Mushroom operator ø 40 push-pull with colour cap		PPFN1P4C	45	10	
	Mushroom operator ø 40 push-pull with lens cap		PPFL1P4N	45	10	

### TECHNICAL NOTES

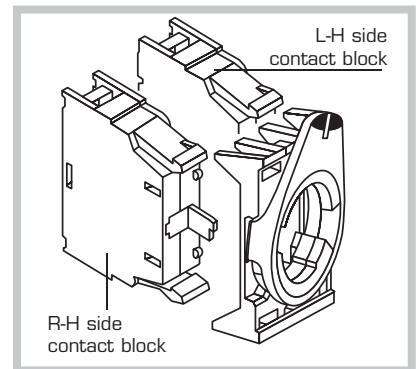
- All operators comply with the relevant European standard
- EN ISO 13850 Machine safety Emergency stop operators, functional characteristics - Design guidelines
- IEC/EN60947-5-1
- Comply with the standard IEC/EN60204-1: Machine safety Machine electrical circuits General guidelines
- The push buttons are designed with a load charge mechanism to ensure a reliable operation and stoppage, or blockage, in the activated position. The combination with positive switching NC  $\ominus$  contacts and the presence of the "status" indicator on some models, guarantee a high degree of reliability and effectiveness.

# Pegasus

## Joystick operators $\varnothing 22$ IP65

### JOYSTICK OPERATORS

CONTACT BLOCKS		2 POSITIONS						4 POSITIONS				
		HORIZONTAL			VERTICAL			3	1	0	2	4
		1	0	2	1	0	2					
Left-hand side contact block	NO	X	0	0	0	0	X	X	0	0	0	0
	NC	0	0	X	X	0	0	0	0	0	0	X
Right-hand side contact block	NO	0	0	X	X	0	0	0	X	0	0	0
	NC	X	0	0	0	0	X	0	0	0	X	0



**X** Contact close  
**0** Contact open

### POSITIONS

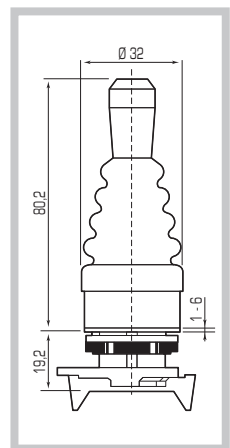


1	0	2	1	0	2	1	0	2	3	0	4	1	0	2	3	0	4
1	0	2	1	0	2	1	0	2	3	0	4	1	0	2	3	0	4
CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE
PMJN8T0	PMJN8T3	PMJN8Q0	PMJN8Q4	PMJN8T0	PMJN8T3	PMJN8Q0	PMJN8Q4	PMJN8T0S	PMJN8T3S	PMJN8Q0S	PMJN8Q4S	PMJN8T0S1	PMJN8T3S1	PMJN8Q0S1	PMJN8Q4S1	PMJN8T0S1	PMJN8T3S1

WEIGHT gr

MIN. PACK QTY.

### DIMENSIONS



54

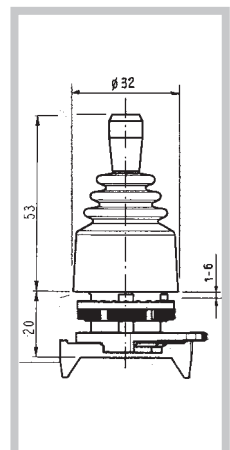
5



1	0	2	1	0	2	1	0	2	3	0	4	1	0	2	3	0	4
1	0	2	1	0	2	1	0	2	3	0	4	1	0	2	3	0	4
CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE
PMJN8T01	PMJN8T31	PMJN8Q01	PMJN8Q41	PMJN8T01	PMJN8T31	PMJN8Q01	PMJN8Q41	PMJN8T0S1	PMJN8T3S1	PMJN8Q0S1	PMJN8Q4S1	PMJN8T0S1	PMJN8T3S1	PMJN8Q0S1	PMJN8Q4S1	PMJN8T0S1	PMJN8T3S1

54

5



# Pegasus

## Contact blocks

Spring loaded Terminals



AUTOMATION TECHNOLOGIES

### SPRING LOADED TERMINALS

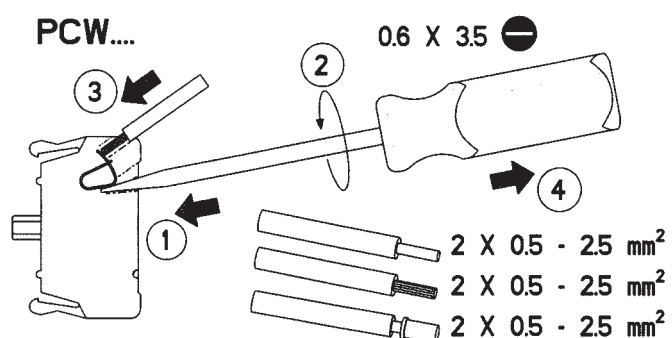
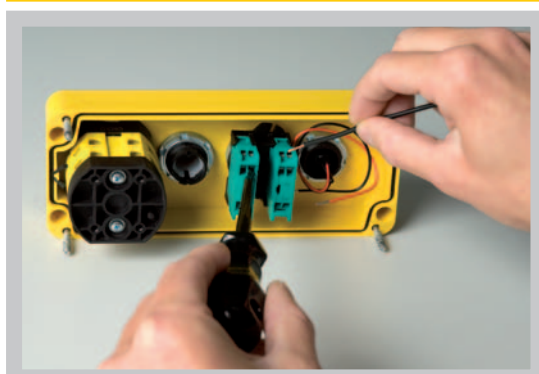
		CONTACT BLOCKS			
	DESIGNATION	FUNCTIONS	CODE	DIMENSIONS	
		 0 1,5 6 mm	PCW01		
		 0 3,5 6 mm	PCW10		

### LAMPHOLDER BA9s

	DESIGNATION	POWER SUPPLY	CODE	DIMENSIONS
		BA9s lamp socket 250V 2,4 w max bulb not included	PCWAD	

### LAMPHOLDER WITH BUILT-IN LED

	DESIGNATION	POWER SUPPLY	CODE	DIMENSIONS
		AC/DC 12V	PCW5L12	
		AC/DC 24V	PCW5L24	
		AC/DC 48V	PCW5L48	
		AC/DC 110V	PCW5L110	
		AC 220V	PCW5L220	





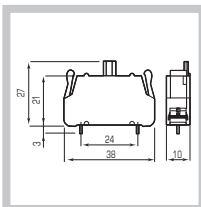
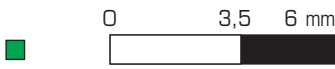


# Pegasus



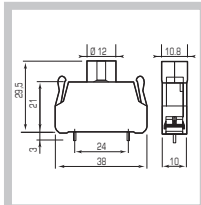
## Contact blocks

Welding terminals



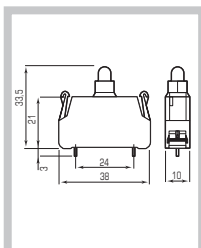
### CONTACT BLOCKS

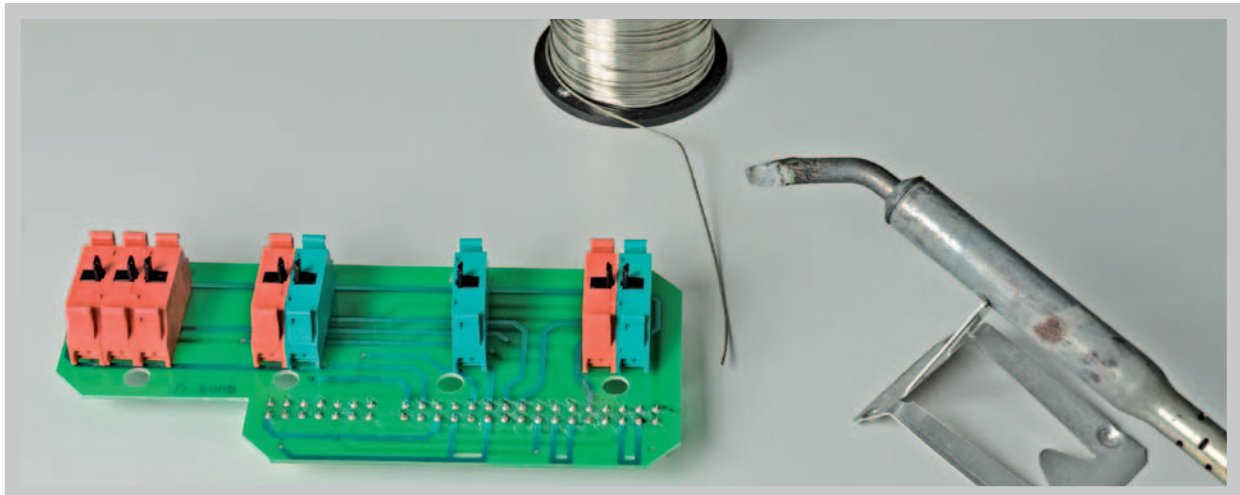
		CONTACT BLOCKS			
DESIGNATION		FUNCTIONS		CODE	DIMENSIONS
	<p>NC</p> <p>1 — 2</p>	<p>0 1,5 6 mm</p> 		PSC01	
	<p>NO</p> <p>3 — 4</p>	<p>0 3,5 6 mm</p> 		PSC10	

### LAMPHOLDER BA9s

DESIGNATION	POWER SUPPLY	CODE	DIMENSIONS
 <p>X1 —  — X2</p>	<p>BA9s lamp socket</p> <p>250V 2,4 w max</p> <p>bulb not included</p>	PSCAD	

### LAMPHOLDER WITH BUILT-IN LED

DESIGNATION	POWER SUPPLY	CODE	DIMENSIONS
 <p>X1 —  — X2</p>	AC/DC 12V	PSC5L12	
	AC/DC 24V	PSC5L24	
	AC/DC 48V	PSC5L48	
	AC/DC 110V	PSC5L110	
	AC 220V	PSC5L220	



# Pegasus


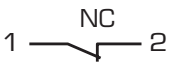


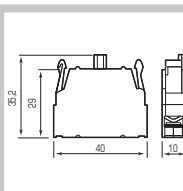
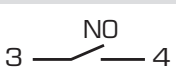

## Contact blocks

Screw terminals



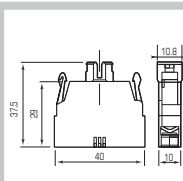


AUTOMATION TECHNOLOGIES


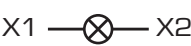
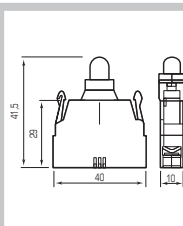
### CONTACT BLOCKS

CONTACT BLOCKS			
DESIGNATION	FUNCTIONS	CODE	DIMENSIONS
 1  2	  0 1,5 6 mm	PL004001	
3  4	 0 3,5 6 mm	PL004002	

### LAMPHOLDER BA9s

DESIGNATION	POWER SUPPLY	CODE	DIMENSIONS
 X1  X2	BA9s lamp socket 250V 2,4 w max bulb not included	PL004007	


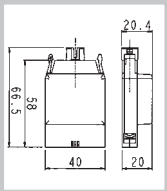

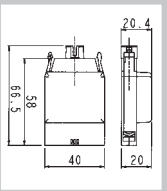

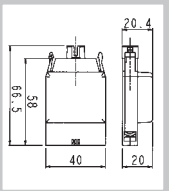
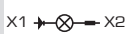
### LAMPHOLDER WITH BUILT-IN LED

DESIGNATION	POWER SUPPLY	CODE	DIMENSIONS
 X1  X2	AC/DC 12V	PL0045L12	
	AC/DC 24V	PL0045L24	
	AC/DC 48V	PL0045L48	
	AC/DC 110V	PL0045L110	
	AC 220V	PL0045L220	

### POWER SUPPLY WITH DIODE AND RESISTORS

### POWER SUPPLY WITH TRANSFORMER

### POWER SUPPLY WITH FLASHING LIGHT



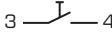
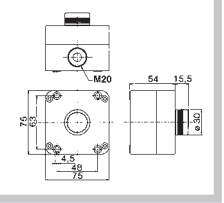

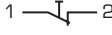


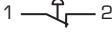
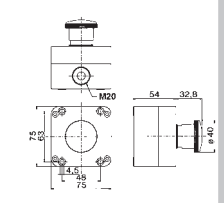



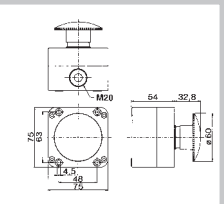



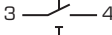

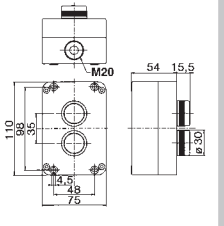



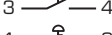

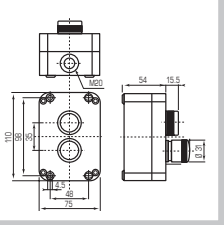







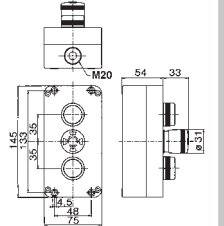
 	<b>DESIGNATION</b> <b>POWER SUPPLY</b> <b>CODE</b>	<b>DESIGNATION</b> <b>POWER SUPPLY</b> <b>CODE</b>	 	<b>DESIGNATION</b> <b>POWER SUPPLY</b> <b>CODE</b>	 
<b>1</b> BA9s  Lamp 48/60V -2W max  X1  X2  Lamp 110/130V -2W max	110/130V PL004RD1  220/240V PL004RD2	<b>1</b> BA9s  Input 110/130V Output 24V PL004TR1  Input 220/240V Output 24V PL004TR2  Input 380/440V Output 24V PL004TR3	<b>1</b> BA9s  24V Lamp 24V-2,6 max PL004LA1  110/130V Lamp 110/130V-2,6 max PL004LA2		

**1** Lamp supply separately

# Pegasus

## Push button stations

IP65 □ - Screw terminal contact blocks





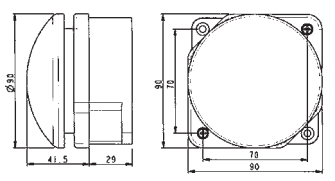



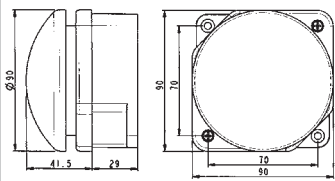




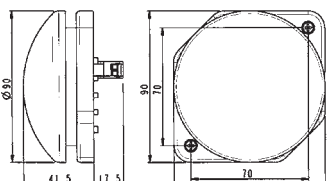
	DESCRIPTION	COL.	DESIGNATION	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS
	Flush push button			PQ01RN2	176	1	
				PQ01RN1	176	1	
	Emergency stop Ø 40 not latching			PQ01M4N	192	1	
	Emergency stop Ø 60 not latching			PQ01M6N	198	1	
	With nr.2 push buttons	 	 	PQ02B	264	1	
	With nr.1 push button and nr.1 emergency EN ISO 13850	 	 	PQ02A	264	1	
	With nr.2 push button and nr.1 emergency EN ISO 13850	  	  	PQ03B	362	1	



# Pegasus

## Control station with mushroom $\varnothing$ 90

IP 66  Contact blocks spring loaded terminals

	DESCRIPTION	COLOUR	CONTACT BLOCK	CODE	DIMENSIONS
	Mushroom head momentary		.1  .2 	PG1M9W01	
	Mushroom head momentary		.3  .4	PG8M9W10	
	Mushroom head momentary flush mounting		.1  .2 	PR1M9W01	

### ELECTRICAL CHARACTERISTICS

- Protectione EN60529 IP 66
- Double insulated
- Number contact capacity max.3 contact blocks
- Cable entry with 3 holes Pg 13,5/M20
- Ambient temperature: operating -25 +70°C  
storage -30 +70°C
- Climate protection: IEC 68 2-3 , 2-30
- Terminals referencing: EN 50013
- Colors: Red mushroom RAL 3000,  
Giovenzana yellow cover,  
Black box RAL 9005,  
Black mushroom RAL 3000,  
Grey cover RAL 7035,  
Black box RAL 3000




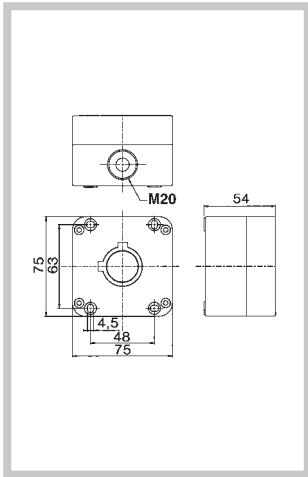

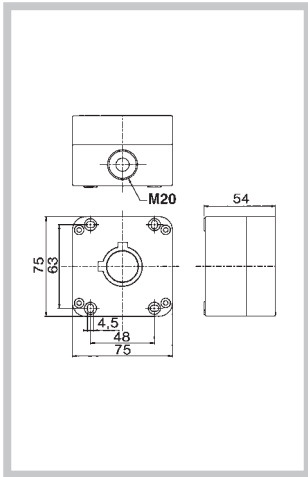

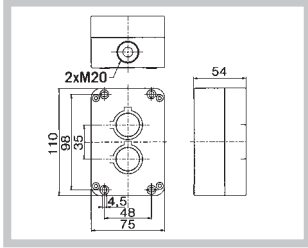

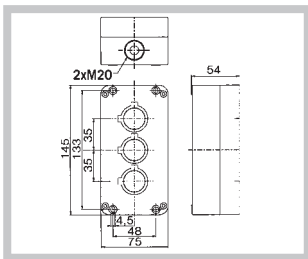

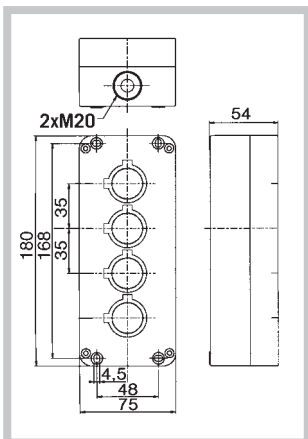
# Pegasus

## Push button station enclosures

IP65  Push button station enclosures



AUTOMATION TECHNOLOGIES

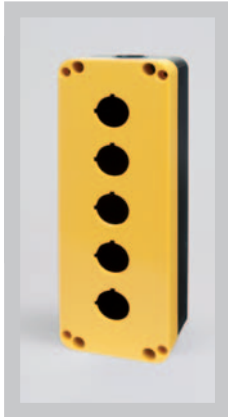
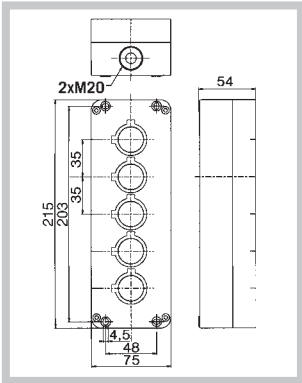
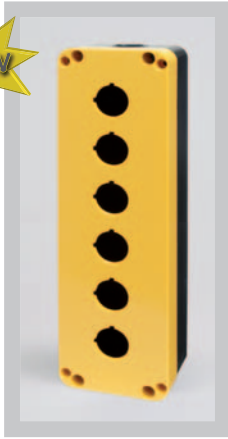
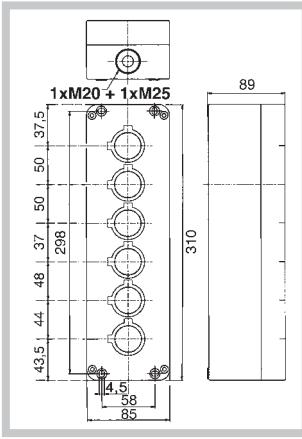
DESCRIPTION	CODE		WEIGHT gr	MIN. PACK QTY.	DIMENSIONS
	FRONT COVER COLOUR				
	<input checked="" type="checkbox"/> Yellow	<input type="checkbox"/> Grey	134	1	
1 hole enclosure	PQ01K	-			
	<input type="checkbox"/> Yellow	<input checked="" type="checkbox"/> Grey	134	1	
1 hole enclosure	-	PQ01KGN			
	<input checked="" type="checkbox"/> Yellow	<input type="checkbox"/> Grey	174	1	
2 holes enclosure	PQ02K	PQ02KGN			
	<input checked="" type="checkbox"/> Yellow	<input type="checkbox"/> Grey	214	1	
3 holes enclosure	PQ03K	PQ03KGN			
	<input checked="" type="checkbox"/> Yellow	<input type="checkbox"/> Grey	256	1	
4 holes enclosure	PQ04K	PQ04KGN			



# Pegasus

## Push button station enclosures

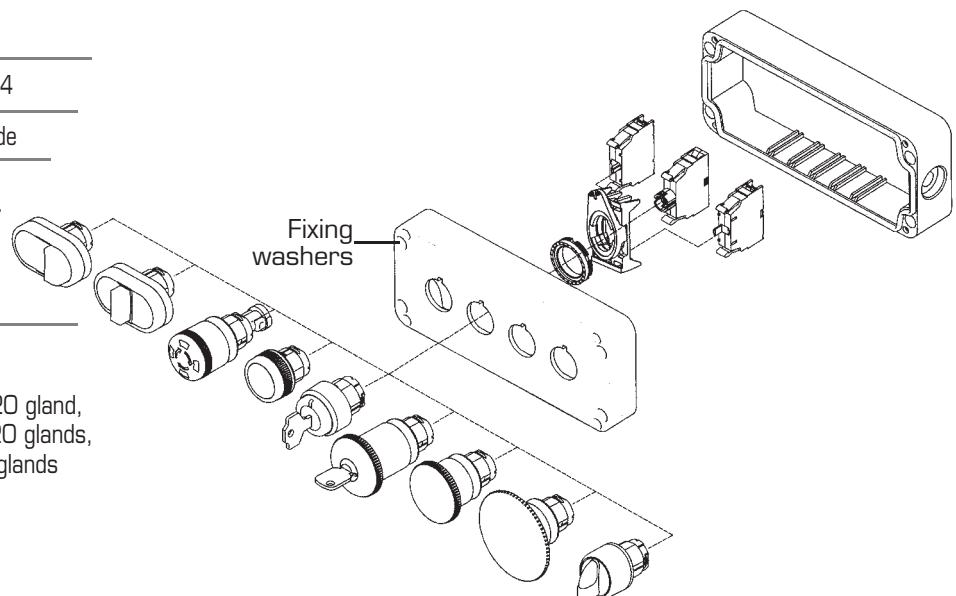
IP65  Push button station enclosures

	DESCRIPTION	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS
	5 holes enclosure	FRONT COVER COLOUR		296	
		PQ05K	PQ05KGN		
	6 holes enclosure	FRONT COVER COLOUR		386	
		PQ06K	PQ06KGN		

### CHARACTERISTICS

### ASSEMBLING

- ABS self-extinguishing material
- Self-extinguishing class VO UL94
- EN60529 IP65 protection grade
- Double insulation
- Black box RAL9005  
yellow cover GGT  
and grey cover RAL7035
- Threaded cable entry with membrane conduit knock:  
1 hole box nr.1 M16 + 1 M20 gland,  
from 2 upto 5 holes nr.2 M20 glands,  
6 holes nr.1 M20 + 1 M25 glands





# Pegasus

## Control auxiliaries $\varnothing$ 22

Pneumatic valve adapters



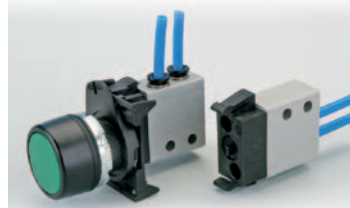
AUTOMATION TECHNOLOGIES

Pegasus control auxiliaries are suitable for operating certain type of pneumatic or micro valves. Push buttons can be used for such applications using a set of adapters and supports.


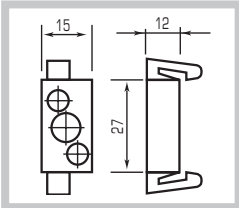

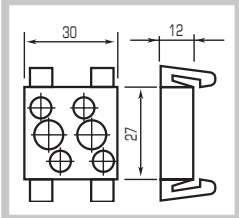
The operators suitable for this use are the following:

- Standard push buttons with colour cap
- Mushroom operators
- Rotary and key operators




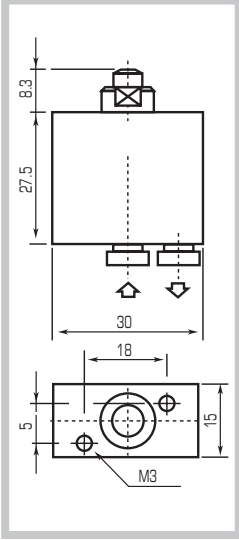
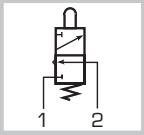
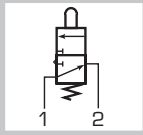
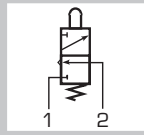
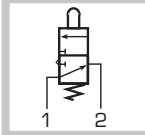
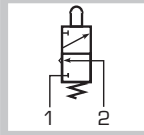
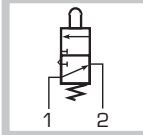
Adapters are supplied with an actuator to operate the pneumatic valve.



**ASSEMBLY:**  
Operator  
+Support  
+Valve

	DESCRIPTION	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS
	Single adapter (for 1 valve) <b>1</b>	AVP1	5	10	
	Twin adapter (for 2 valves) <b>1</b>	AVP2	10	10	

### 3/2 NC - 3/2 NO MICROVALVE - 2÷10 BAR

			
<b>BOTTOM</b> $\varnothing$ 4 CABLE ENTRY	<b>SIDE</b> $\varnothing$ 4 CABLE ENTRY	<b>TAPPED M5 BOTTOM</b> CABLE ENTRY	
3/2 NC    3/2 NA	3/2 NC    3/2 NA	3/2 NC    3/2 NA	
			
<b>CODE</b>	<b>CODE</b>	<b>CODE</b>	<b>CODE</b>
V304MA	V314MA	V304MAL	V314MAL
			
<b>CODE</b>	<b>CODE</b>		
V305MA	V315MA		

**1** Complete with actuator to operate the valve or valves/To be installed in the centre of the operator

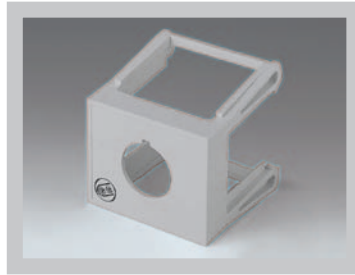
# Pegasus

## Control auxiliaries ø 22

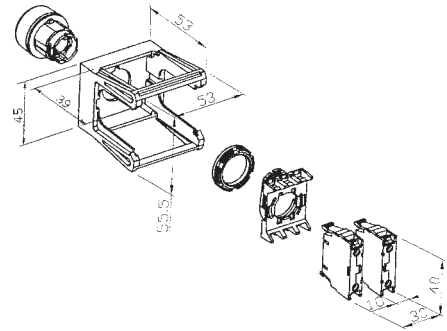
### Accessories

#### DIN RAIL MOUNTING ADAPTOR

DIN EN50022 rail mounting for 46 mm standardised enclosures grey RAL 7035



11708351



#### PROTECTION CAPS



FOR FLUSH PUSH BUTTON



FOR EXTENDED PUSH BUTTON



FOR MULTIFUNCTION - SERIES/TYPE

	Black line Type	CODE	Nickel line Type	CODE
Black line Series	PCR	PPDN-PPDL	PPDNNL-PPDLNL	PCDNL
Nickel line Series	PCRNL	PPMN	PPMNNL	PCMNL
		PPDNR-PPDLR	PPDNRNL-PPDLRNL	PCNNL
Black line Series	PCS			
Nickel line Series	PCSNL			

#### CENTRAL CONTACT OPERATION

(selectors excluded)



FOR PUSH BUTTONS STABLE-UNSTABLE  
Black Line Series

PAC

#### KEY FIXING BULB EXTRACTOR



PCF

#### STOPPER CLOSING HOLES ø 22,5



PTRN8

#### FASTON CONNECTORS AND FOR PCB



TO SCREW CONTACTS PL.  
FASTON 6,3x0,8 PCB

11708341

11708235

#### CONTACTS SUPPORT



TO CONTACT ELEMENTS PL., PCW, PSC. AND POWER SUPPLY

PPELN8

#### ON REQUEST

**SPECIAL FRAMES**  
The auxiliary control "Nickel line" Series can be supplied with seals in different types of galvanic treatment. When ordering in different types replace the letters "NL" code with the corresponding letters of execution request: PPRN1NL becomes PPRN1SL (Sahara line)



Sahara line

SL



Grey line

GL



Copper line

RL



# Pegasus

## Operator caps ø 22

Buttons with symbols - Tags

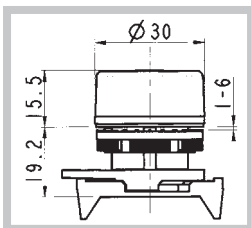


AUTOMATION TECHNOLOGIES

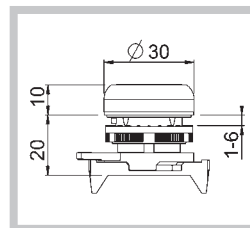
### MOMENTARY AND LATCHED, FLUSH PUSH BUTTONS



Black line



Nickel line



SYMBOL	COLOUR AND TYPE	CODE Black line	CODE Nickel line	SYMBOL	COLOUR AND TYPE	CODE Black line	CODE Nickel line
	GREEN	PPRN2/I	PPRN2NL/I		RED	PPRN1/OFF	PPRN1NL/OFF
	RED	PPRN1/O	PPRN1NL/O		WHITE	PPRN5/F	PPRN5NL/F
	GREEN	PPRN2/II	PPRN2NL/II		BLACK	PPRN8/F	PPRN8NL/F
	GREEN	PPRN2/START	PPRN2NL/START		GREEN	PPRN2/EIN	PPRN2NL/EIN
	RED	PPRN1/STOP	PPRN1NL/STOP		RED	PPRN1/AUS	PPRN1NL/AUS
	GREEN	PPRN2/ON	PPRN2NL/ON				

### EMERGENCY STOP RING



Ø 60 Made of aluminium  
Yellow background - black letters  
Weight 3.5 gr  
Min. packing qty. 10 pcs.

TEXT	CODE
Blank	PTE
STOP EMERGENZA	PTE/I
EMERGENCY STOP	PTE/A
NOT AUS	PTE/D

### LEGEND PLATE



PPTN8



TEXT	CODE
(Blank)	PTA00
MARCIA	PTA01
ARRESTO	PTA02

### LABEL

TEXT	CODE	TEXT	CODE
I O II	PTA03	EIN	PTA12
O I	PTA04	AUS	PTA13
I → O ← II	PTA17	STOP	PTA14
CHIUDE	PTA05	START	PTA15
APRE	PTA06	RESET	PTA16
EMERGENZA	PTA07	AUT O MAN	PTA18
MANUALE	PTA08	INS. - DISINS.	PTA26
AUTOMATICO	PTA09	HAND OFF AUTO	PTA27
AVANTI	PTA10	FORW OFF REV	PTA28
INDIETRO	PTA11	ON OFF	PTA29

# Pegasus

## Technical data

### Electrical characteristics

#### CONTACT BLOCKS

IEC/EN 60947-5-1 CHARACTERISTICS		PLO04001 - PLO04002								PCW01-PCW10 PSC01-PSC10							
Rated insulation voltage $U_i$	V	690 V*								690 V*							
Rated impulse withstand voltage $U_{imp}$	kV	4*								4*							
Operating frequency	Hz	50/60*								50/60*							
Rated thermal current $I_{th}$	A	16*								16*							
Rated thermal current enclosed $I_{the}$	A	10*								10*							
<b>RATED OPERATING CURRENT <math>I_e</math>:</b>																	
AC15: alternate current	V	24	60	110	230	400	440	500	690	24	60	110	240	400	440	500	690
	A	16*	12	8	6	4,5	3,5	1*	1	16*	12*	5	5*	4	4	4*	2*
DC13: direct current	V	24	48	60	110	220				24	48	60	110	250			
	A	2*	1,2	0,85	0,4	0,25*				2	2*	1*	0,4	0,4*			
Conditional short circuit withstand current	A	1000*								1000*							
Fuse rating gG	500 V	10A*								10A*							
Contact insulation resistance	m $\Omega$	<25								<25							
Switching mechanism		Slow break double gap contacts															
Contact duty		⊕ NC contact with positive opening															
Minimum tripping force		4N								4N							
Electrical life AC15	mil. cycles	1A/1,5 - 2A/0,5 - 3A/0,25								1A/1,5 - 2A/0,5 - 3A/0,25							
<b>UL 508 CHARACTERISTICS</b>																	
General use		10A-600V ac 2,5A-125V dc								10A-600V ac 2,5-125V dc							
Heavy Duty (HD) category		A600-Q600								A600-Q600							

#### LED PILOT LAMP

IEC/EN 60947-5-1 CHARACTERISTICS		LED PLML.L				BA9s - PLML.			
Rated insulation voltage $U_i$ AC/DC	V	6 - 12 - 24 - 48 - 110 - 220				250			
Rated insulation voltage $U_i$ AC	V	380				-			
Operating frequency	Hz	50/60				50/60			
Current $I_e$	mA	≤50 (6V - 12V) - ≤20 (24V...380V)				2 W max			
Brightness	cd/m <sup>2</sup>	≤40				-			
Electrical life	h	≤30.000				-			

#### POWER SUPPLIES

IEC/EN 60947-5-1 CHARACTERISTICS		DIRECT PLO04007 PCWAD-PSCAD	LED PLO04.L. PCW.L.-PSC.L.	RESISTOR PLO04RD.	TRANSFORMER PLO04TR.	FLASHING LIGHT PLO04LA.
Rated insulation voltage $U_i$	V	690*	400	400	440	400
Rated operating voltage $U_e$	V	400* 300 <sup>1</sup>	AC/DC 12-24	PRIMARY SECONDARY	PRIMARY SECONDARY	PRIMARY SECONDARY
	V	-	AC/DC 48	110/130 48/60	110/130 24	24 24
	V	-	AC/DC 110	220/240 110/130	220/240 24	110/130 110/130
	V	-	AC 220	- -	380/440 24	- -
Max rated power	W	2,4* 2,5 <sup>1</sup>	-	2	1,5	2,6
Power supply		AC/DC	-	-	AC	-
Lamp fixing system		BA9s	-	BA9s	BA9s	BA9s

<sup>1</sup> UL certified values

\* IMQ certified values

# Pegasus

## Technical data

### Electrical characteristics



AUTOMATION TECHNOLOGIES

#### STANDARD CONFORMITY

■	<b>Approvals</b>		UL, IMQ, CCC, GOST-R, R.I.NA
■	<b>Protection class</b>	<b>EN60529 Black line</b>	IEC/EN60947-5-1, UL508
		<b>EN60529 Nickel line</b>	IP65: Buttons and switches, joysticks, single-lamp, Mushroom emergency EN ISO 13850
		<b>Conforms to UL50</b>	IP40: Multi-Function push buttons
		<b>EN60529</b>	IP66: Switches
			IP67: Push buttons and multifunction push buttons
			Type 1,3R, 4, 4x,12,13, NEMA 4X
			IP65: Control stations, enclosures - IP66 mushroom pushbutton ø90
			IP20: Contacts / power PCW., PL. - IPOO; PSC.
■	<b>Material group</b>	<b>EN60947-1</b>	II
■	<b>Pollution grade</b>	<b>EN60947-1</b>	3
■	<b>Flammability</b>	<b>UL94</b>	VO: live parts
■	<b>Ambient temperature</b>	<b>°C</b>	Operating: -25 +70
		<b>°C</b>	Storage: -30 +70
■	<b>Climate protection</b>	<b>IEC68 part 2-3</b>	Hot damp
		<b>IEC68 part 2-30</b>	Unsettled hot damp
	<b>Terminals referencing:</b>		EN50013
■	<b>Terminals:</b>		
	Dimensions		A2
	Screw		M3,5
	Torque		1.2Nm - EN60947-1 - 12 lb.in. UL508
■	<b>Capacity:</b>		
	solid and flexible conductors	<b>n° 1 min/max mm<sup>2</sup></b>	1/2.5 screw terminals, 0.5-2.5 spring loaded terminals
		<b>n° 2 min/max mm<sup>2</sup></b>	1/2.5 screw terminals, 0.5-2.5 spring loaded terminals
		<b>AWG</b>	20-12 screw terminals
■	<b>Mechanical life:</b>		
	Mushroom operators and standard Push buttons with colour cap	mil./operations	3
	Standard push buttons with lens cap		1
	Latched push button with colour cap		1
	Standard rotary switches		1
	Rotary switches with lens, latched pushbutton with lens cap, joysticks		0.5
	Emergency stop push buttons with release		0.3



# Limit Switches

FA - FT - FT1R - Safety - FCT - FCM - Astra Series

Table of contents



AUTOMATION TECHNOLOGIES



Thermoplastic and die-cast aluminium limit switches



Limit switches with reset



Safety limit switches



Pre-wired thermoplastic limit switches

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■ Introduction	pag. 100	■ Installation and use	pag. 119
■ FA Series limit switches	pag. 102	■ Technical data	pag. 120
■ FT Series limit switches	pag. 108	■ FCT - FCM Series limit switches	pag. 121
■ Safety limit switches with reset	pag. 115	■ Pre-wired	
■ Safety limit switches	pag. 117	■ Astra universal limit switches	pag. 123



# Limit Switches

## FA - FT - FT1R - Safety - FCT - FCM - Astra Series

### Terminology

#### DOUBLE INSULATION □

Materials of group II, according to IEC536, are made with double insulation. This consists of doubling the insulation capability by means

of an additional divider in order to eliminate any electrical shock risk and avoid the need for any additional protections.

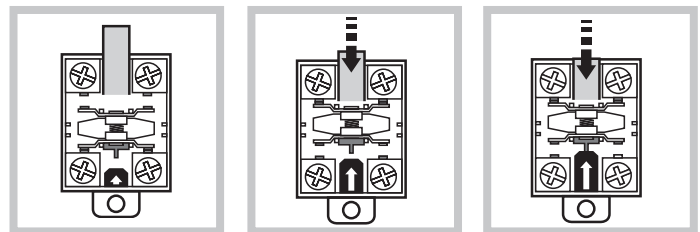
#### APERTURA POSITIVA ⊕

A limit switch complies to this specification when all the normally closed contact elements of the switch can be changed, with certainty, to the open position (no flexible link between the moving contacts and the operator of the switch, to which an actuating force is applied). Positive opening does not apply to NO contacts. Control switches

with positive opening operation can be equipped with either slow-break or snap-action contacts. In order to use different contacts on the same switch, it is necessary to electrically separate them; otherwise only one contact can be used. Every positive opening control switch must be marked on the external housing with the symbol. ⊕

#### CONTACT ELEMENTS ACTING INDEPENDENTLY (OR SNAP ACTION)

Is defined, under IEC947-5-1/EN6094-5-1, the contact element of a device for manual or automatic control circuits where the speed of motion of the contact is virtually independent of the speed of motion of the actuator. Commonly called "quick trigger" the electrical behavior of these elements means that the contact is in order even in the slow movements of the actuator. These contact elements have position does not coincide with the release of drive (differential stroke) See example page. 105.



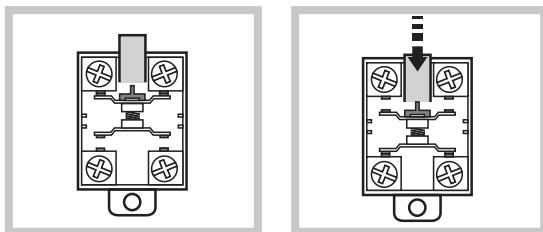
Contatto a riposo

Contatto azionato

Apertura positiva

#### CONTACT ELEMENTS DIRECT ACTING (OR SLOW ACTION)

Is defined, under IEC947-5-1/EN6094-5-1, the contact element of a device for manual or automatic control circuits where speed of movement of the contact depends on the speed of motion of the actuator. See example page. 105



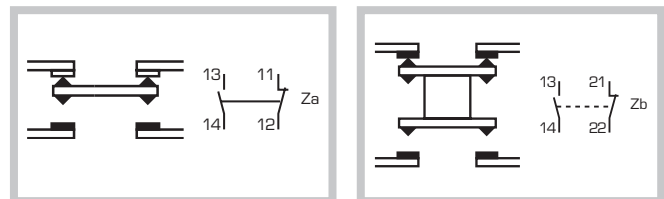
Contact in stand-by

Contact activated

#### CONTACT BLOCKS CONFIGURATION

##### ACCORDING TO IEC/EN60947-5-1

Contact blocks with 4 terminals must be marked with Za or Zb symbols as shown in the picture below.



Contacts with same polarity

The two moving contacts are electrically insulated

#### APPLICATIONS

**AC-15:** control of an electromagnet on a.c., test 10 le/le.

**AC-13:** control of an electromagnet on d.c., test le/le.

#### TERMINALS

For limit switches with metal housing, the fixing point of the earth conductor must be marked and must be positioned inside the housing next to the cable entry.

# Limit Switches

FA - FT - FT1R - Safety - FCT - FCM - Astra Series  
Terminology



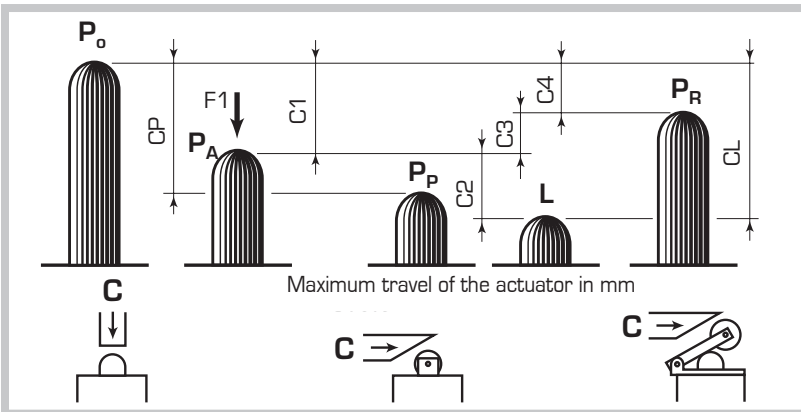
AUTOMATION TECHNOLOGIES

## MINIMUM OPENING FORCE/MOMENTUM

It is the minimum force/momentum that must be applied by the actuator for the contacts to trip.

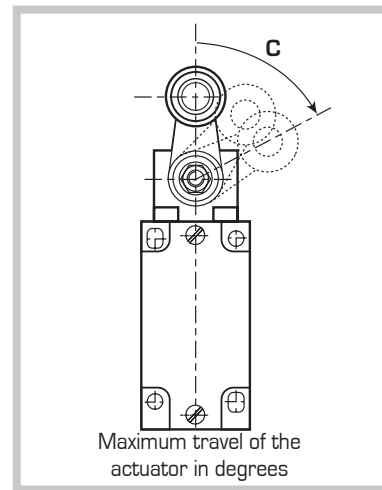
## MINIMUM POSITIVE OPENING FORCE/MOMENTUM

It is the minimum force/momentum that must be applied by the actuator to guarantee the positive opening of NC contacts.

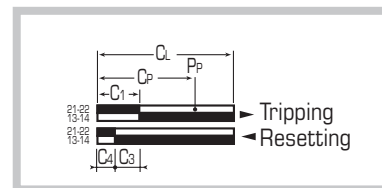


- P<sub>o</sub>** Rest position  
Position of the actuator when no external force is applied.
- P<sub>A</sub>** Tripping point of contact  
Position of the actuator, with force F<sub>1</sub> applied, in which the contacts leave the stand-by position.
- P<sub>p</sub>** Positive opening position  
Position of the actuator when there is positive opening.
- L** Maximum travel position  
Maximum travel of the actuator when the force F<sub>1</sub> is applied.
- P<sub>R</sub>** Resetting position  
Position of the actuator when the contacts are back in their non actuated position.

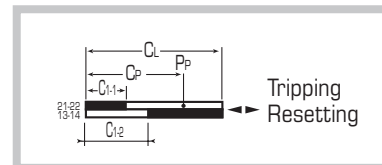
- C<sub>1</sub>** Tripping travel  
Distance between the P<sub>o</sub> and P<sub>A</sub> positions.
- C<sub>p</sub>** Positive opening tripping travel  
Minimum travel of the actuator from the P<sub>o</sub> position to guarantee positive opening of NC contacts.
- C<sub>2</sub>** Extra tripping travel  
Distance between P<sub>A</sub> and the maximum travel L.
- C<sub>3</sub>** Maximum travel  
Distance between P<sub>o</sub> and the maximum travel L.
- C<sub>4</sub>** Differential travel (C<sub>1</sub>-C<sub>4</sub>)  
Distance between P<sub>A</sub> and P<sub>R</sub>
- C<sub>4</sub>** Resetting travel  
Distance between P<sub>R</sub> and P<sub>o</sub>



Maximum travel of the actuator in degrees  
**Tripping travel for snap-action contacts**



**Tripping travel for slow-break contacts**



NOTE: for slow-break contacts, C<sub>3</sub>=01, C<sub>1</sub>-1=Tripping and resetting travel of contacts 21-22, C<sub>1</sub>-2= Tripping and resetting travel of contacts 13-14

### Examples

**FA134Z11**  
(snap-action contacts)



Tripping travel in mm/  
cam linear movement



**FA138Z11**  
(snap-action contacts)



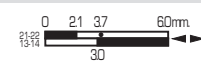
Tripping travel in degrees/  
lever rotary movement



**FA131X11**  
(slow break contacts)



Tripping travel in mm/  
plunger linear movement



# Limit Switches

## FA1 Series

IP66 die-cast aluminium type

1 cable entry  
M16x1.5



FA131



FA134



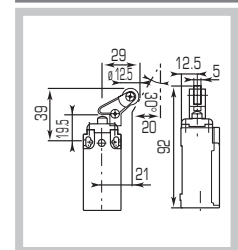
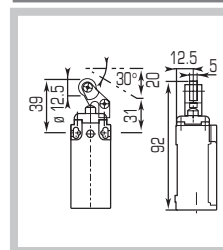
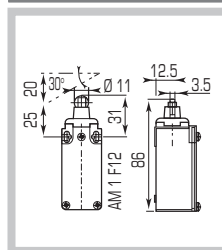
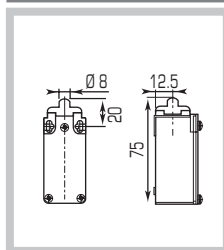
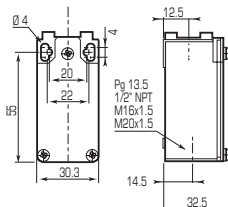
FA132



FA133

TYPE OF OPERATOR	SHORT STEEL END PLUNGER	STEEL ROLLER PLUNGER	ROLLER LEVER PLUNGER HORIZONTAL ACTUATION	ROLLER LEVER PLUNGER VERTICAL ACTUATION
Standard - Positive opening NC contacts	EN50047	EN50047	-	-
Minimum tripping force	15	12	7	7
Minimum positive opening force	30	30	24	24
<b>Z11</b> 1NC-1NO Snap action  Zb	FA131Z11  0 13 25 41 56 mm	FA134Z11  0 25 47 76 96 mm	FA132Z11  0 49 90 145 210 mm	FA133Z11  0 49 90 145 210 mm
<b>X11</b> 1NC-1NO Slow break  Zb	FA131X11  0 16 32 56 mm 2.5	FA134X11  0 32 60 96 mm 46	FA132X11  0 60 105 210 mm 86	FA133X11  0 60 105 210 mm 86
<b>Y11</b> 1NC-1NO overlapping Slow break  Zb	FA131Y11  0 29 45 56 mm 15	FA134Y11  0 53 82 96 mm 30	FA132Y11  0 102 146 210 mm 54	FA133Y11  0 102 146 210 mm 54
<b>Z02</b> 2NC Snap action  Zb	FA131Z02  0 13 24 40 56 mm	FA134Z02  0 25 45 74 96 mm	FA132Z02  0 51 86 131 210 mm	FA133Z02  0 51 86 131 210 mm
<b>W02</b> 2NC Slow break  Zb	FA131W02  0 15 31 56 mm	FA134W02  0 30 59 96 mm	FA132W02  0 57 102 210 mm	FA133W02  0 57 102 210 mm
<b>W20</b> 2NO Slow break  Zb	FA131W20  0 14 56 mm	FA134W20  0 28 96 mm	FA132W20  0 5.3 210 mm	FA133W20  0 5.3 210 mm
<b>WEIGHT gr - MIN. PACK QTY.</b>	168 gr 1 pcs	175 gr 1 pcs	186 gr 1 pcs	186 gr 1 pcs

### DIMENSIONS



# Limit Switches

## FA1 Series

IP66 die-cast aluminium type



AUTOMATION TECHNOLOGIES

1 cable entry  
M16x1.5



FA138



FA141



FA139



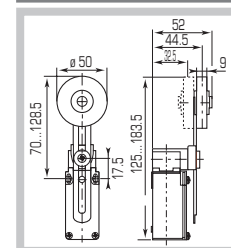
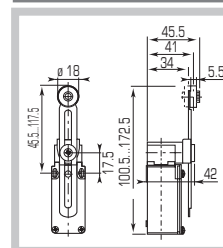
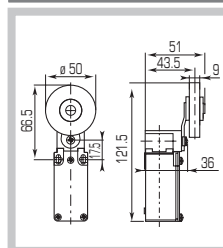
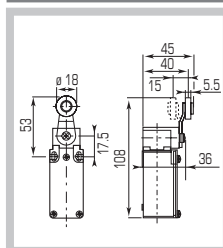
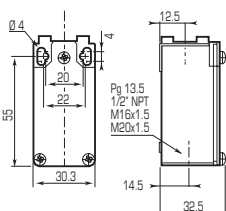
FA140

TYPE OF OPERATOR	ROLLER LEVER Ø 18	RUBBER ROLLER LEVER Ø 50	VARIABLE LENGTH ROLLER LEVER Ø 18	VARIABLE LENGTH RUBBER ROLLER LEVER Ø 50
Standard - Positive opening NC contacts	-	-	-	-
Minimum tripping force	0.10	0.10	0.10	0.10
Minimum positive opening force	0.32	-	-	-
<b>Z11</b> 1NC-1NO Zb	FA138Z11 	FA141Z11 	FA139Z11 	FA140Z11 
<b>X11</b> 1NC-1NO Zb	FA138X11 	FA141X11 	FA139X11 	FA140X11 
<b>Y11</b> 1NC-1NO overlapping Zb	FA138Y11 	FA141Y11 	FA139Y11 	FA140Y11 
<b>Z02</b> 2NC Zb	FA138Z02 	FA141Z02 	FA139Z02 	FA140Z02 
<b>W02</b> 2NC Zb	FA138W02 	FA141W02 	FA139W02 	FA140W02 
<b>W20</b> 2NO Zb	FA138W20 	FA141W20 	FA139W20 	FA140W20 

WEIGHT gr - MIN. PACK QTY.

235 gr 1 pcs 255 gr 1 pcs 245 gr 1 pcs 265 gr 1 pcs

DIMENSIONS



# Limit Switches

## FA1 Series

IP66 die-cast aluminium type

1 cable entry  
M16x1.5



FA135



FA136



FA137

TYPE OF OPERATOR	SPRING LEVER WITH TIP IN PA	"CAT'S WHISKER"	STEEL ROD LEVER Ø 3
Standard - Positive opening NC contacts	-	-	-
Minimum tripping force	0.10	0.10	0.10
Minimum positive opening force	-	-	-
<b>Z11</b> 1NC-1NO Snap action Zb	FA135Z11 	FA136Z11 	FA137Z11 
<b>X11</b> 1NC-1NO Slow break Zb	FA135X11 	FA136X11 	FA137X11 
<b>Y11</b> 1NC-1NO Slow break overlapping Zb	FA135Y11 	FA136Y11 	FA137Y11 
<b>Z02</b> 2NC Snap action Zb	FA135Z02 	FA136Z02 	FA137Z02 
<b>W02</b> 2NC Slow break Zb	FA135W02 	FA136W02 	FA137W02 
<b>W20</b> 2NO Slow break Zb	FA135W20 	FA136W20 	FA137W20 

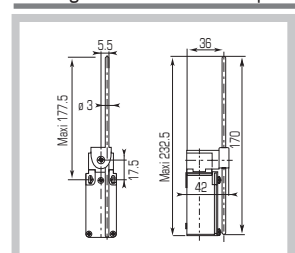
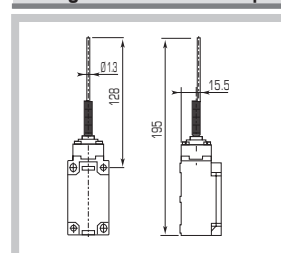
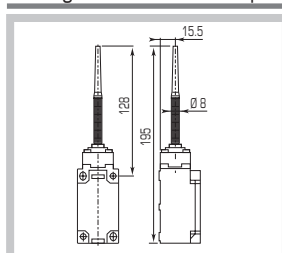
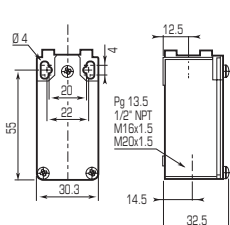
WEIGHT gr - MIN. PACK QTY.

235 gr 1 pcs

255 gr 1 pcs

245 gr 1 pcs

**DIMENSIONS**



# Limit Switches

## FA3 Series

IP66 die-cast aluminium type



AUTOMATION TECHNOLOGIES

3 cable entries  
M16x1.5



FA331



FA334



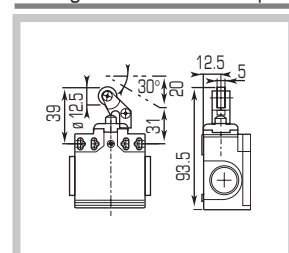
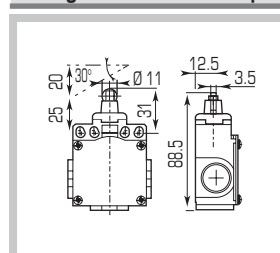
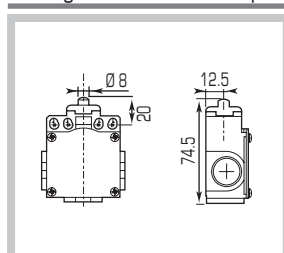
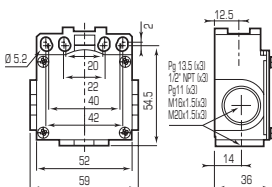
FA332

TYPE OF OPERATOR	SHORT STEEL END PLUNGER	SHORT STEEL ROLLER PLUNGER	ROLLER LEVER PLUNGER HORIZONTAL ACTUATION
Standard - Positive opening NC contacts	-	-	-
Minimum tripping force	15	12	7
Minimum positive opening force	30	30	24
Z11 1NC-1NO Snap action Zb	FA331Z11 	FA334Z11 	FA332Z11 
X11 1NC-1NO Slow break Zb	FA331X11 	FA334X11 	FA332X11 
Y11 1NC-1NO Slow break overlapping Zb	FA331Y11 	FA334Y11 	FA332Y11 
Z02 2NC Snap action Zb	FA331Z02 	FA334Z02 	FA332Z02 
W02 2NC Slow break Zb	FA331W02 	FA334W02 	FA332W02 
W20 2NO Slow break Zb	FA331W20 	FA334W20 	FA332W20 

WEIGHT gr - MIN. PACK QTY.

270 gr 1 pcs      280 gr 1 pcs      290 gr 1 pcs

DIMENSIONS



# Limit Switches

## FA3 Series

IP66 die-cast aluminium type

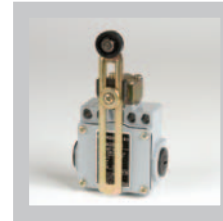
3 cable entries  
M16x1.5



FA338



FA341



FA339



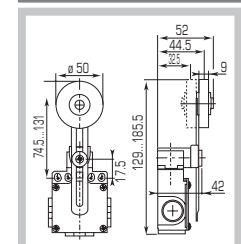
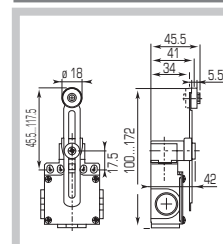
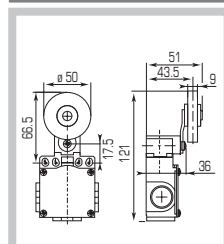
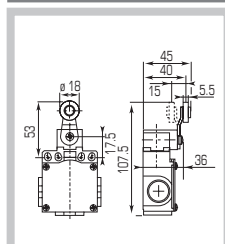
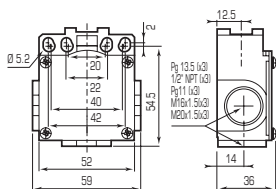
FA340

TYPE OF OPERATOR	ROLLER LEVER Ø 18	RUBBER ROLLER LEVER Ø 50	VARIABLE LENGTH ROLLER LEVER Ø 18	VARIABLE LENGTH RUBBER ROLLER LEVER Ø 50
Standard - Positive opening NC contacts	-	-	-	-
Minimum tripping force	0.10	0.10	0.10	0.10
Minimum positive opening force	0.32	-	-	-
<b>Z11</b> 1NC-1NO Snap action Zb	FA338Z11 	FA341Z11 	FA339Z11 	FA340Z11 
<b>X11</b> 1NC-1NO Slow break Zb	FA338X11 	FA341X11 	FA339X11 	FA340X11 
<b>Y11</b> 1NC-1NO Slow break overlapping Zb	FA338Y11 	FA341Y11 	FA339Y11 	FA340Y11 
<b>Z02</b> 2NC Snap action Zb	FA338Z02 	FA341Z02 	FA339Z02 	FA340Z02 
<b>W02</b> 2NC Slow break Zb	FA338W02 	FA341W02 	FA339W02 	FA340W02 
<b>W20</b> 2NO Slow break Zb	FA338W20 	FA341W20 	FA339W20 	FA340W20 

WEIGHT gr - MIN. PACK QTY.

325 gr 1 pcs 345 gr 1 pcs 335 gr 1 pcs 355 gr 1 pz

DIMENSIONS





# Limit Switches

## FA3 Series

IP66 die-cast aluminium type



AUTOMATION TECHNOLOGIES

3 cable entries  
M16x1.5



FA335



FA336



FA337

TYPE OF OPERATOR	SPRING LEVER WITH TIP IN PA	"CAT'S WHISKER"	VARIABLE LENGTH STEEL ROD LEVER Ø 3
Standard - Positive opening NC contacts	-	-	-
Minimum tripping force	0.10	0.10	0.10
Minimum positive opening force	-	-	-
<b>Z11</b> 1NC-1NO Snap action  Zb	FA335Z11 	FA336Z11 	FA337Z11 
<b>X11</b> 1NC-1NO Slow break  Zb	FA335X11 	FA336X11 	FA337X11 
<b>Y11</b> 1NC-1NO Slow break overlapping  Zb	FA335Y11 	FA336Y11 	FA337Y11 
<b>Z02</b> 2NC Snap action  Zb	FA335Z02 	FA336Z02 	FA337Z02 
<b>W02</b> 2NC Slow break  Zb	FA335W02 	FA336W02 	FA337W02 
<b>W20</b> 2NO Slow break  Zb	FA335W20 	FA336W20 	FA337W20 

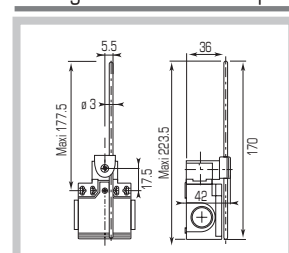
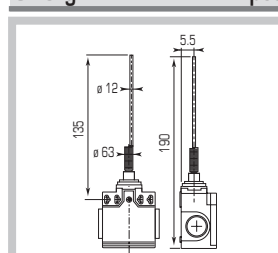
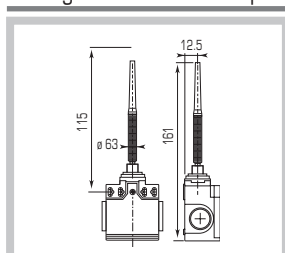
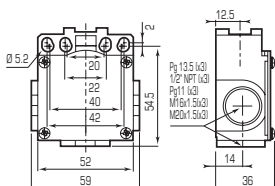
WEIGHT gr - MIN. PACK QTY.

305 gr 1 pcs

320 gr 1 pcs

380 gr 1 pcs

**DIMENSIONS**



# Limit Switches

## FT1 Series

IP65 □ thermoplastic type

1 cable entry  
M16x1.5



FT131



FT1P31



FT134



FT132

TYPE OF OPERATOR	SHORT STEEL END PLUNGER	SHORT STEEL END PLUNGER WITH PROTECTIVE BOOT	ROLLER LEVER PLUNGER	ROLLER LEVER PLUNGER HORIZONTAL ACTUATION
Standard - Positive opening NC contacts	EN50047	EN50047	EN50047	EN50047
Minimum tripping force	15	15	12	7
Minimum positive opening force	30	30	30	24
<b>Z11</b> Snap action 1NC-1NO Zb	FT131Z11 	FT1P31Z11 	FT134Z11 	FT132Z11 
<b>X11</b> Slow break 1NC-1NO Zb	FT131X11 	FT1P31X11 	FT134X11 	FT132X11 
<b>Y11</b> Slow break 1NC-1NO overlapping Zb	FT131Y11 	FT1P31Y11 	FT134Y11 	FT132Y11 
<b>Z02</b> Snap action 2NC Zb	FT131Z02 	FT1P31Z02 	FT134Z02 	FT132Z02 
<b>W02</b> Slow break 2NC Zb	FT131W02 	FT1P31W02 	FT134W02 	FT132W02 
<b>W20</b> Slow break 2NO Zb	FT131W20 	FT1P31W20 	FT134W20 	FT132W20 

WEIGHT gr - MIN. PACK QTY.

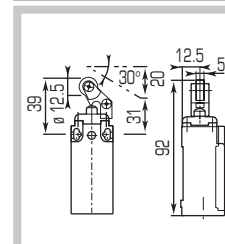
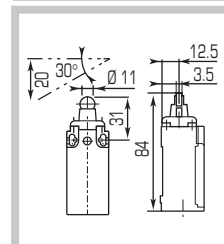
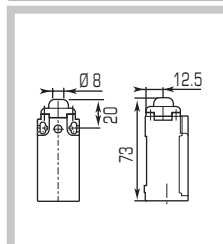
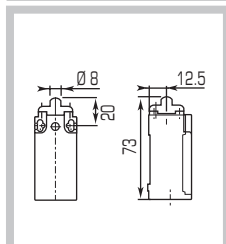
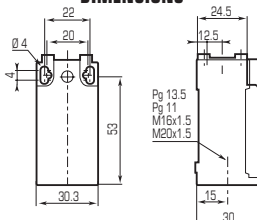
60 gr 1 pcs

60 gr 1 pcs

62 gr 1 pcs

65 gr 1 pcs

### DIMENSIONS



# Limit Switches

## FT1 Series

IP65 □ thermoplastic type



AUTOMATION TECHNOLOGIES

1 cable entry  
M16x1.5



FT1P32



FT133



FT1P33



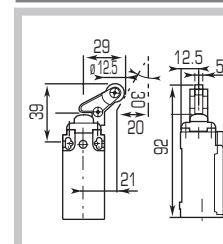
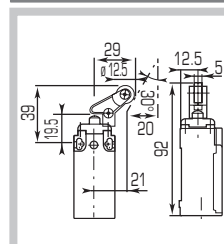
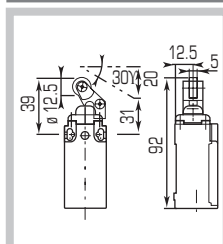
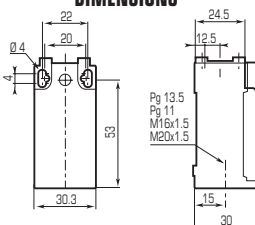
FT138

TYPE OF OPERATOR	ROLLER LEVER PLUNGER WITH PROTECTIVE BOOT HORIZONTAL ACTUATION	ROLLER LEVER PLUNGER VERTICAL ACTUATION	ROLLER LEVER PLUNGER WITH PROTECTIVE BOOT VERTICAL ACTUATION	ROLLER LEVER Ø 18
Standard - Positive opening NC contacts (→)	EN50047 (→)	EN50047 (→)	EN50047 (→)	EN50047 (→)
Minimum tripping force	N	7	7	0.10
Minimum positive opening force	N	24	24	0.32
<b>Z11</b> Snap action 1NC-1NO	FT1P32Z11 0 49 90 145 210 mm	FT133Z11 0 49 90 145 210 mm	FT1P33Z11 0 49 90 145 210 mm	FT138Z11 0 17Y 31Y 47Y 74Y
<b>X11</b> Slow break 1NC-1NO	FT1P32X11 0 60 105 210 mm 86	FT133X11 0 60 105 210 mm 86	FT1P33X11 0 60 105 210 mm 86	FT138X11 0 21Y 37Y 74Y 30Y
<b>Y11</b> Slow break 1NC-1NO overlapping	FT1P32Y11 0 102 146 210 mm 54	FT133Y11 0 102 146 210 mm 54	FT1P33Y11 0 102 146 210 mm 54	FT138Y11 0 35° 51° 74° 18°
<b>Z02</b> Snap action 2NC	FT1P32Z02 0 51 86 131 210 mm	FT133Z02 0 51 86 131 210 mm	FT1P33Z02 0 51 86 131 210 mm	FT138Z02 0 17 30 46 74
<b>W02</b> Slow break 2NC	FT1P32W02 0 57 102 210 mm	FT133W02 0 57 102 210 mm	FT1P33W02 0 57 102 210 mm	FT138W02 0 19 37 74
<b>W20</b> Slow break 2NO	FT1P32W20 0 5.3 210 mm	FT133W20 0 5.3 210 mm	FT1P33W20 0 5.3 210 mm	FT138W20 0 18Y 74Y

WEIGHT gr - MIN. PACK QTY.

65 gr 1 pcs 65 gr 1 pcs 65 gr 1 pcs 80 gr 1 pcs

DIMENSIONS



# Limit Switches

## FT1 Series

IP65 □ thermoplastic type

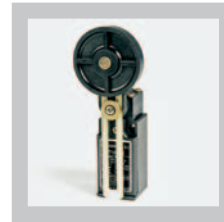
1 cable entry  
M16x1.5



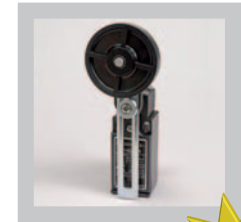
FT141



FT139



FT140



FT140R



TYPE OF OPERATOR	RUBBER ROLLER LEVER Ø 50	VARIABLE LENGTH ROLLER LEVER Ø 18	VARIABLE LENGTH RUBBER ROLLER LEVER Ø 50	VARIABLE LENGTH AND RUBBER ROLLER LEVER Ø 50
Standard - Positive opening NC contacts (→)	-	-	-	-
Minimum tripping force	N	0.10	0.10	0.10
Minimum positive opening force	N	-	-	-
<b>Z11</b> Snap action 1NC-1NO	FT141Z11 	FT139Z11 	FT140Z11 	FT140Z11R 
<b>X11</b> Slow break 1NC-1NO	FT141X11 	FT139X11 	FT140X11 	FT140X11R 
<b>Y11</b> Slow break 1NC-1NO overlapping	FT141Y11 	FT139Y11 	FT140Y11 	FT140Y11R 
<b>Z02</b> Snap action 2NC	FT141Z02 	FT139Z02 	FT140Z02 	FT140Z02R 
<b>W02</b> Slow break 2NC	FT141W02 	FT139W02 	FT140W02 	FT140W02R 
<b>W20</b> Slow break 2NO	FT141W20 	FT139W20 	FT140W20 	FT140W20R 

WEIGHT gr - MIN. PACK QTY.

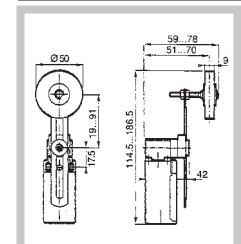
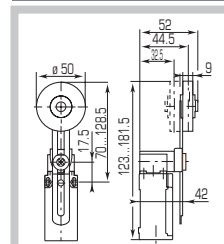
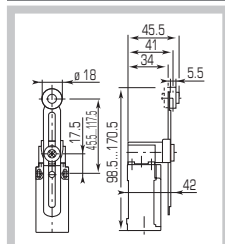
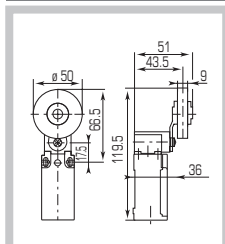
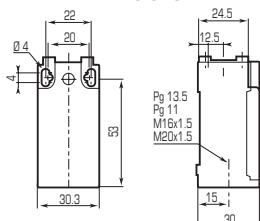
95 gr 1 pcs

105 gr 1 pcs

125 gr 1 pcs

125 gr 1 pcs

DIMENSIONS



# Limit Switches

## FT1 Series

IP65  thermoplastic type



AUTOMATION TECHNOLOGIES

1 cable entry  
M16x1.5



FT135



FT136



FT137

TYPE OF OPERATOR	SPRING LEVER WITH TIP IN PA	"CAT'S WHISKER"	VARIABLE LENGTH STEEL ROD LEVER Ø 3
Standard - Positive opening NC contacts	EN50047	-	-
Minimum tripping force	0.12	0.12	0.12
Minimum positive opening force	-	-	-
<b>Z11</b> Snap action 1NC-1NO	<b>FT135Z11</b> 	<b>FT136Z11</b> 	<b>FT137Z11</b> 
<b>X11</b> Slow break 1NC-1NO	<b>FT135X11</b> 	<b>FT136X11</b> 	<b>FT137X11</b> 
<b>Y11</b> Slow break 1NC-1NO overlapping	<b>FT135Y11</b> 	<b>FT136Y11</b> 	<b>FT137Y11</b> 
<b>Z02</b> Snap action 2NC	<b>FT135Z02</b> 	<b>FT136Z02</b> 	<b>FT137Z02</b> 
<b>W02</b> Slow break 2NC	<b>FT135W02</b> 	<b>FT136W02</b> 	<b>FT137W02</b> 
<b>W20</b> Slow break 2NO	<b>FT135W20</b> 	<b>FT136W20</b> 	<b>FT137W20</b> 

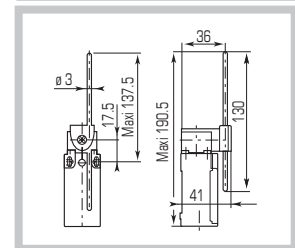
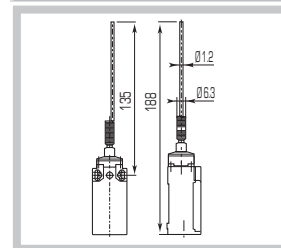
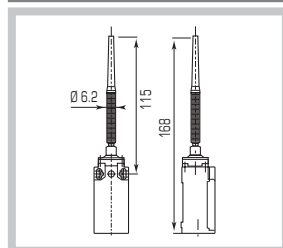
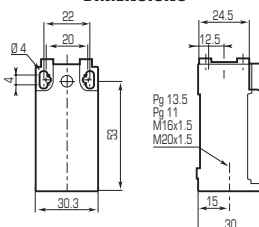
WEIGHT gr - MIN. PACK QTY.

70 gr 1 pcs

80 gr 1 pcs

105 gr 1 pcs

### DIMENSIONS



# Limit Switches

## FT2 Series

IP65 □ thermoplastic type

2 cable entry  
M16x1.5



FT231



FT2P31



FT234



FT232

TYPE OF OPERATOR	SHORT STEEL END PLUNGE	SHORT STEEL END PLUNGER WITH PROTECTIVE BOOT	ROLLER LEVER PLUNGER	ROLLER LEVER PLUNGER HORIZONTAL ACTUATION
Standard - Positive opening NC contacts (→)	- (→)	- (→)	- (→)	- (→)
Minimum tripping force N	15	15	12	7
Minimum positive opening force N	30	30	30	24
<b>Z11</b> Snap action 1NC-1NO	FT231Z11 0 13 25 41 56 mm	FT2P31Z11 0 13 25 41 56 mm	FT234Z11 0 25 47 76 96 mm	FT232Z11 0 49 90 145 210 mm
<b>X11</b> Slow break 1NC-1NO	FT231X11 0 16 32 56 mm 2.5	FT2P31X11 0 16 32 56 mm 2.5	FT234X11 0 32 60 96 mm 46	FT232X11 0 60 105 210 mm 86
<b>Y11</b> Slow break 1NC-1NO overlapping	FT231Y11 0 29 45 56 mm 1.5	FT2P31Y11 0 29 45 56 mm 1.5	FT234Y11 0 53 82 96 mm 30	FT232Y11 0 102 146 210 mm 54
<b>Z02</b> Snap action 2NC	FT231Z02 0 13 24 40 56 mm	FT2P31Z02 0 13 24 40 56 mm	FT234Z02 0 25 45 74 96 mm	FT232Z02 0 51 86 131 210 mm
<b>W02</b> Slow break 2NC	FT231W02 0 15 31 56 mm	FT2P31W02 0 15 31 56 mm	FT234W02 0 30 59 96 mm	FT232W02 0 57 102 210 mm
<b>W20</b> Slow break 2NO	FT231W20 0 14 56 mm	FT2P31W20 0 14 56 mm	FT234W20 0 28 96 mm	FT232W20 0 5.3 210 mm

WEIGHT gr - MIN. PACK QTY.

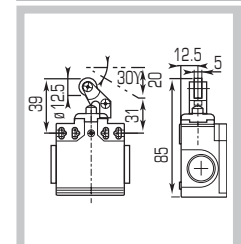
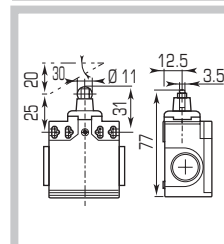
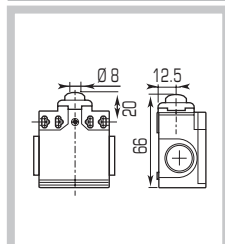
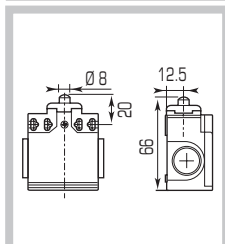
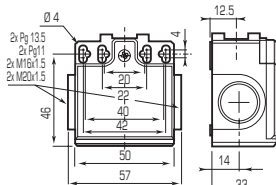
100 gr 1 pcs

100 gr 1 pcs

105 gr 1 pcs

105 gr 1 pcs

### DIMENSIONS



# Limit Switches

## FT2 Series

IP65 □ thermoplastic type



AUTOMATION TECHNOLOGIES

2 cable entry  
M16x1.5



FT2P32



FT238



FT239



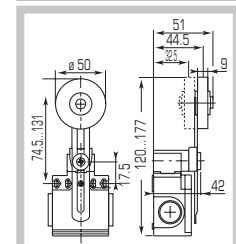
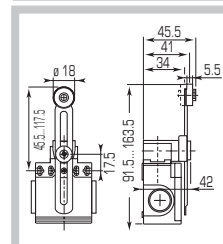
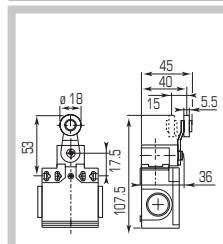
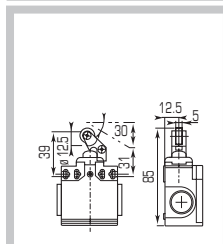
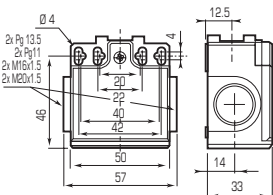
FT240

TYPE OF OPERATOR	ROLLER LEVER PLUNGER WITH PROTECTIVE BOOT HORIZONTAL ACTUATION	ROLLER LEVER Ø 18	VARIABLE LENGTH ROLLER LEVER Ø 18	VARIABLE LENGTH Ø 50 RUBBER ROLLER LEVER
Standard - Positive opening NC contacts	-	-	-	-
Minimum tripping force	N	0.10	0.10	0.10
Minimum positive opening force	N	0.32	-	-
<b>Z11</b> Snap action 1NC-1NO	FT2P32Z11 	FT238Z11 	FT239Z11 	FT240Z11 
<b>X11</b> Slow break 1NC-1NO	FT2P32X11 	FT238X11 	FT239X11 	FT240X11 
<b>Y11</b> Slow break 1NC-1NO overlapping	FT2P32Y11 	FT238Y11 	FT239Y11 	FT240Y11 
<b>Z02</b> Snap action 2NC	FT2P32Z02 	FT238Z02 	FT239Z02 	FT240Z02 
<b>W02</b> Slow break 2NC	FT2P32W02 	FT238W02 	FT239W02 	FT240W02 
<b>W20</b> Slow break 2NO	FT2P32W20 	FT238W20 	FT239W20 	FT240W20 

WEIGHT gr - MIN. PACK QTY.

105 gr 1 pcs 125 gr 1 pcs 125 gr 1 pcs 155 gr 1 pcs

DIMENSIONS





# Limit Switches

## Serie FT2

IP65 □ thermoplastic type

2 cable entries  
M16x1.5



FT241



FT235



FT236



FT237

TYPE OF OPERATOR	Ø 50 RUBBER ROLLER LEVER	SPRING LEVER WITH TIP IN PA	"CAT'S WHISKER"	VARIABLE LENGTH Ø 3 STEEL ROD LEVER
Standard - Positive opening NC contacts (→)	-	-	-	-
Minimum tripping force N	0.10	0.10	0.10	0.10
Minimum positive opening force N	-	0.32	-	-
<b>Snap action</b>	<b>FT241Z11</b>	<b>FT235Z11</b>	<b>FT236Z11</b>	<b>FT237Z11</b>
Z11 1NC-1NO 				
<b>Slow break</b>	<b>FT241X11</b>	<b>FT235X11</b>	<b>FT236X11</b>	<b>FT237X11</b>
X11 1NC-1NO 				
<b>Slow break overlapping</b>	<b>FT241ZY11</b>	<b>FT235Y11</b>	<b>FT236Y11</b>	<b>FT237Y11</b>
Y11 1NC-1NO 				
<b>Snap action</b>	<b>FT241Z02</b>	<b>FT235Z02</b>	<b>FT236Z02</b>	<b>FT237Z02</b>
Z02 2NC 				
<b>Slow break</b>	<b>FT241W02</b>	<b>FT235W02</b>	<b>FT236W02</b>	<b>FT237W02</b>
W02 2NC 				
<b>Slow break</b>	<b>FT241W20</b>	<b>FT235W20</b>	<b>FT236W20</b>	<b>FT237W20</b>
W20 2NO 				

WEIGHT gr - MIN. PACK QTY.

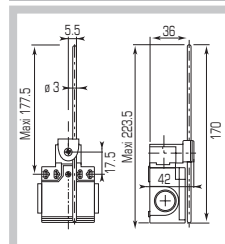
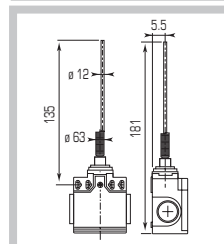
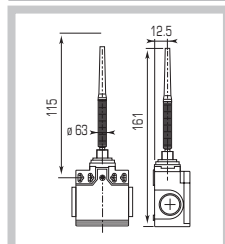
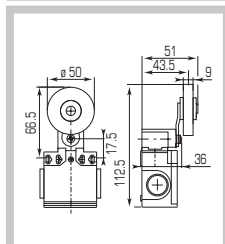
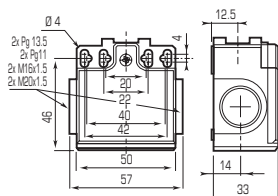
145 gr 1 pcs

135 gr 1 pcs

110 gr 1 pcs

130 gr 1 pcs

### DIMENSIONS



# Limit Switches

## FT1R Series with reset

IP65 □ thermoplastic type



AUTOMATION TECHNOLOGIES

1 cable entry  
M16x1.5



FT1R31



FT1R34



FT1R32



FT1R33

TYPE OF OPERATOR	SHORT STEEL END PLUNGER	PA ROLLER PLUNGER	PA ROLLER LEVER PLUNGER HORIZONTAL ACTUATION	PA ROLLER LEVER PLUNGER VERTICAL ACTUATION
Standard - Positive opening NC contacts (→)	- (→)	- (→)	- (→)	- (→)
Minimum tripping force N	15	12	7	7
Minimum positive opening force N	30	30	24	24
<b>Z11</b> Snap action 1NC-1NO	FT1R31Z11 0 13 25 41 56 mm	FT1R34Z11 0 25 47 76 96 mm	FT1R32Z11 0 49 90 145 210 mm	FT1R33Z11 0 49 90 145 210 mm
<b>X11</b> Slow break 1NC-1NO	FT1R31X11 0 16 32 56 mm 2.5	FT1R34X11 0 32 60 96 mm 46	FT1R32X11 0 60 105 210 mm 86	FT1R33X11 0 60 105 210 mm 86
<b>Y11</b> Slow break 1NC-1NO overlapping	FT1R31Y11 0 29 45 56 mm 15	FT1R34Y11 0 53 82 96 mm 30	FT1R32Y11 0 102 146 210 mm 54	FT1R33Y11 0 102 146 210 mm 54
<b>Z02</b> Snap action 2NC	FT1R31Z02 0 13 24 40 56 mm	FT1R34Z02 0 25 45 74 96 mm	FT1R32Z02 0 51 86 131 210 mm	FT1R33Z02 0 51 86 131 210 mm
<b>W02</b> Slow break 2NC	FT1R31W02 0 15 31 56 mm	FT1R34W02 0 30 59 96 mm	FT1R32W02 0 57 102 210 mm	FT1R33W02 0 57 102 210 mm

WEIGHT gr - MIN. PACK QTY.

75 gr

1 pcs

78 gr

1 pcs

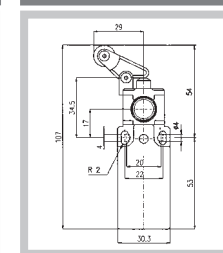
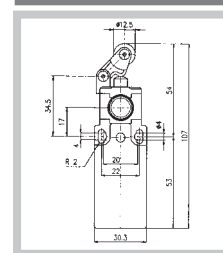
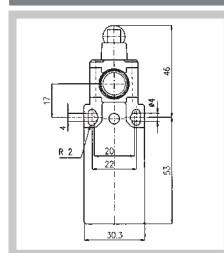
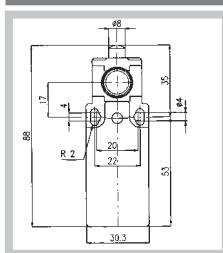
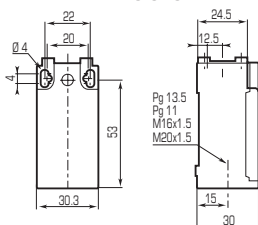
80 gr

1 pcs

80 gr

1 pcs

### DIMENSIONS





# Safety Limit Switches

## Safety Series - Limit Switches

IP65 □ thermoplastic type



AUTOMATION TECHNOLOGIES

1 cable entry  
M16x1.5



ST1K1








ST1K61



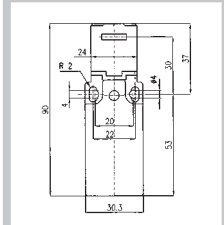
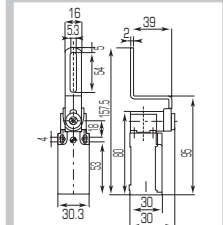
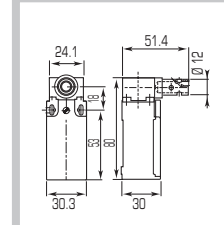
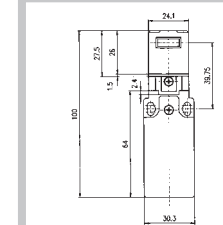
ST1K71 Zinc Plated Steel Spindle  
ST1K72 Stainless Steel Spindle



ST1K8

TYPE OF OPERATOR	90° ADJUSTABLE TURRET HEAD WITH ACTUATOR	ADJUSTABLE STEEL ROTARY LEVER	STEEL SPINDLE	360° ADJUSTABLE TURRET HEAD WITH ACTUATOR
Standard - Positive opening NC contacts (→)	- (→)	- (→)	- (→)	
Minimum tripping force N	-	-	-	-
Minimum positive opening force N	-	-	-	-
<b>Z11</b> <b>1NC-1NO</b> 	ST1K1 * Z11	ST1K61 Z11	Zinc Plated ST1K71 Z11 Stainless ST1K72 Z11	ST1K8 * Z11
<b>X11</b> <b>1NC-1NO</b> 	ST1K1 * X11	ST1K61 X11	Zinc Plated ST1K71 X11 Stainless ST1K72 X11	ST1K8 * X11
<b>Y11</b> <b>1NC-1NO overlapping</b> 	ST1K1 * Y11	ST1K61 Y11	Zinc Plated ST1K71 Y11 Stainless ST1K72 Y11	ST1K8 * Y11
<b>Z02</b> <b>2NC</b> 	ST1K1 * Z02	ST1K61 Z02	Zinc Plated ST1K71 Z02 Stainless ST1K72 Z02	ST1K8 * Z02
<b>W02</b> <b>2NC</b> 	ST1K1 * W02	ST1K61 W02	Zinc Plated ST1K71 W02 Stainless ST1K72 W02	ST1K8 * W02

**WEIGHT gr - MIN. PACK QTY.**    83 gr    1 pcs    96 gr    1 pcs    80 gr    1 pcs    90 gr    1 pcs

DIMENSIONS	83 gr	96 gr	80 gr	90 gr
				

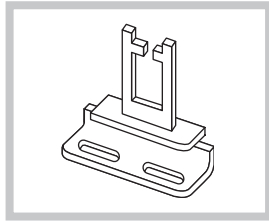
\* Include actuator type reference number i.e.: ST1K13Z11

# Safety Limit Switches

## Safety Series - Limit Switches

IP65 □ thermoplastic type

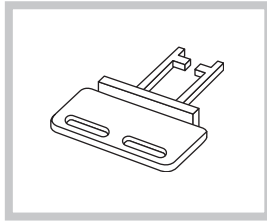
### ACTUATORS



22MM RIGHT-ANGLED ACTUATOR

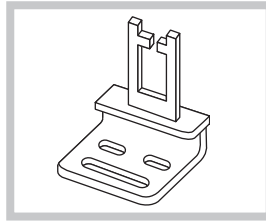
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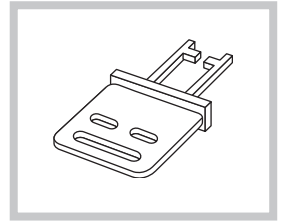
22MM STRAIGHT ACTUATOR

4



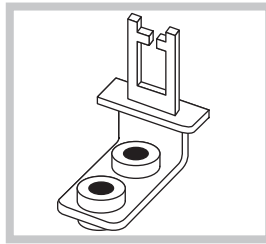
13MM RIGHT-ANGLED ACTUATOR

5



13MM STRAIGHT ACTUATOR

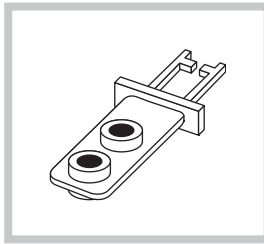
6



SHOCK ABSORBING RIGHT-ANGLED ACTUATOR

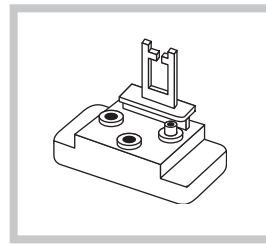
CODE

7



SHOCK ABSORBING STRAIGHT ACTUATOR

8



JOINTED KEY ACTUATOR

9

### GENERAL CHARACTERISTICS

Safety limit switches are suitable for stopping dangerous machinery movements on opening of machine guards or protective covers. Available with different type of actuators and controls and with adjustable turret heads which can be rotated through 360° in 90° steps, they can be installed with a wide variety of opening mechanisms.

■ Comply with		IEC/EN60947-5-1, UL508		
■ Rated insulation voltage $U_i$	V	690		
■ Rated impulse withstand voltage $U_{imp}$	kV	6		
■ Operating frequency	Hz	50		
■ Rated thermal current $I_{th}$	A	10		
■ Rated operating current $I_e$ :				
	V	24	230	380
AC15: alternate current	A	10	3.1	1.9
	V	24	250	-
DC13: direct current	A	2.8	0.27	-
■ Conditional short circuit withstand		10A gG fuse rating		
■ Electrical shocks withstand IEC 536		class II		
■ Protection rating IEC/EN 60529		IP65		
■ Operating temperature	°C	-25 +70		
■ Category of use UL 508		A600 - Q600		
■ Certifications		UL		

# Limit Switches

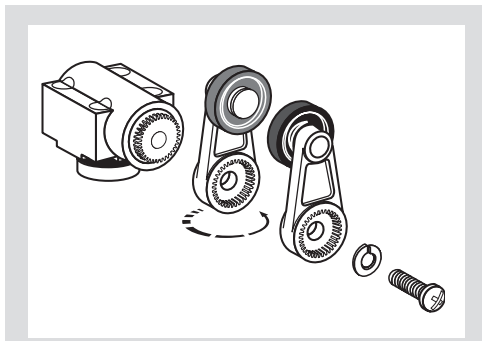
## FA - FT - FT1R Series

Installation and use



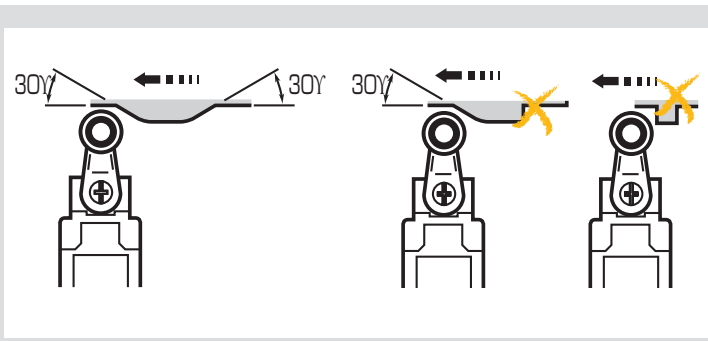
AUTOMATION TECHNOLOGIES

### REVERSE MOUNTING OF THE OPERATING LEVER



FA - FT - FT1R Series

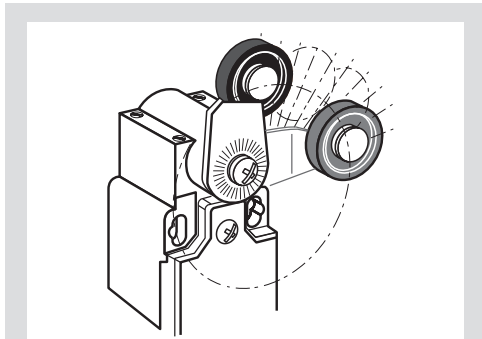
### PLUNGER OR ROLLER LEVER



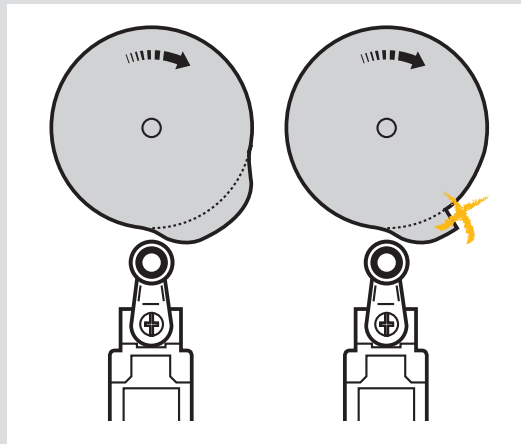
Right

Wrong

### REST POSITION SETTING THROUGH 10° STEPS



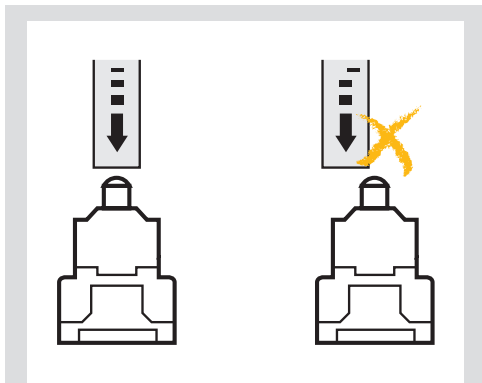
FA - FT - FT1R Series



Right

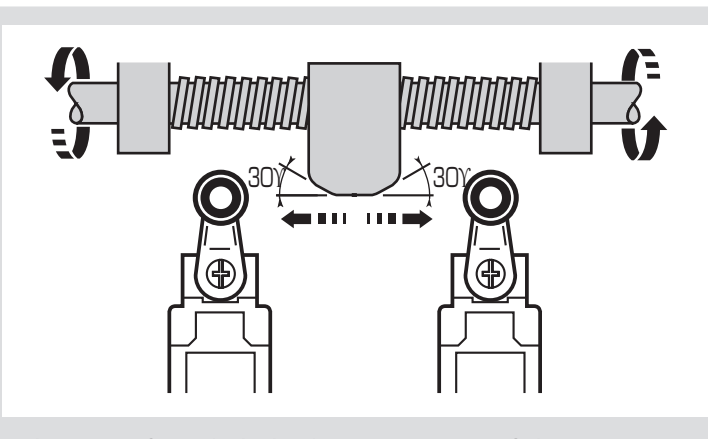
Wrong

### STEEL PLUNGER



Right

Wrong



In case of a relatively slow movement of the actuator, snap action contact are recommended

# Limit Switches

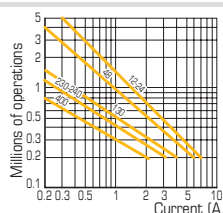
## FA - FT - FT1R Series

Technical data

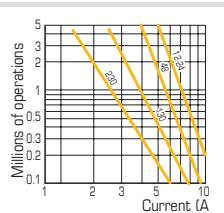
### GENERAL CHARACTERISTICS

Comply with	IEC947-5-1, EN60947-5-1, UL508, CSA 22.2 n° 14	
Certifications	cUL	
Ambient temperature	°C	Operating -25 +70
	°C	Storage -30 +80
Climate protection	IEC68 part 2-3	Hot damp
	IEC68 part 2-11	Saline fog
Installation positions	All positions	
Impact resistance	IEC68 part 2-27	50g* (1/2 sinusoidal shock for 11 msec) without replacing contacts
Vibration resistance	IEC68 part 2-6	25g (10...500 Hz) without replacing contacts >100 msec
Electrical shocks withstand	IEC536	Class II for FT series - Class I for FA series
Protection rating	EN60529	IP65 FT series - IP66 - FA series
Accuracy (measured after 1 million operations)	0.05 FA series - 0.1 FT series (on the making point)	
0.05 Minimum tripping force	m/s	Slow break 0.06 - snap action 0.001
Rated insulation voltage Ui (IEC/EN60947-1)	V	690 FT series - 400 FA series
according to UL508 and CSA C22-2 No. 14	V	(3 pollution grade)
Rated impulse withstand voltage Uimp (IEC/EN60947-1)	kV	600 (designation A600 - Q600)
Rated thermal current Ith (IEC/EN60947-1)	A	6
Short circuit protection <500 Va.c. - fuses type gG (gl7)	A	10
Rated operating current Ie:		
AC-15 (IEC/EN60947-5-1)	24 V - 50/60 Hz	A
	120 V - 50/60 Hz	A
	230 V - 50/60 Hz	A
	240 V - 50/60 Hz	A
	400 V - 50/60 Hz	A
DC-13 (IEC/EN60947-5-1)	24 V - 50/60 Hz	A
	125 V - 50/60 Hz	A
	250 V - 50/60 Hz	A
Changeover frequency	cycles/hour	3600
Load factor		0.5
Contact insulation resistance	m Ω	25
Termination type	M3.5 screw clamp terminals (+/-) pozidriv 2	
Earth terminal (FA series only)	M3.5 screw clamp terminals (+/-) pozidriv 2	
Terminal capacity solid/flexible conductor	n.1 o 2 x mm <sup>2</sup>	0.75...2.5
Terminal referencing	according to EN50013	
Mechanical life	milions of operations	15   FA.   31; 32; 33
		10   FT.   34; 37; 38...41
		>5   FT.   P31...P33; 35; 36
Electrical life (according to IEC/EN60947-5-1)	AC-15 and DC-13 categories of use (0.5 load factor according to the diagrams below)	

**AC-15  
Snap  
action**



**AC-15  
Slow  
break**



**DC-13    Snap action    Slow break**

Breaking capacity for a duration of 5 millions cycles

Voltage 24 V	9.5 W	12 W
Voltage 48 V	6.8 W	9 W
Voltage 110 V	3.6 W	6 W



# Limit Switches

## Pre-wired FCT series

IP67 □ thermoplastic type



AUTOMATION TECHNOLOGIES

Cable: PVC UL  
5x0.75 mm<sup>2</sup>  
2 m length  
Outlet: horizontal .L.  
vertical .V.



.01.



.02.



.03.



.04.

TYPE OF OPERATOR	CABLE OUTLET	STEEL END PLUNGER	ROLLER PLUNGER	90° ROLLER PLUNGER	ROLLER LEVER Ø 14
X11 1NC-1NO 		FCT2L01X11	FCT2L02X11	FCT2L03X11	FCT2L04X11
		FCT2V01X11	FCT2V02X11	FCT2V03X11	FCT2V04X11
<b>WEIGHT gr. - MIN. PACK QTY.</b>		75 gr 1 pz	78 gr 1 pz	80 gr 1 pz	80 gr 1 pz
<b>DIMENSIONS</b>					

Cable: PVC UL  
5x0.75 mm<sup>2</sup>  
2 m length  
Outlet: horizontal .L.  
vertical .V.



.06.



.07.



.08.

TYPE OF OPERATOR	CABLE OUTLET	STEEL END PLUNGER WITH THREADED FLANGE	ROLLER PLUNGER WITH THREADED FLANGE	90° ROLLER PLUNGER WITH THREADED FLANGE	CHARACTERISTICS
X11 1NC-1NO 		FCT2L06X11	FCT2L07X11	FCT2L08X11	IEC/EN60947-5-1 Rated insulation voltage U <sub>i</sub> /500V Rated thermal current I <sub>th</sub> 10A Rated operating current I <sub>e</sub> : AC15 U <sub>e</sub> V 120 250 400 I <sub>e</sub> A 6 4 3 DC13 U <sub>e</sub> V 24 125 250 I <sub>e</sub> A 2,5 0,55 0,27 UL508 General use Designation A300-Q300 Operating temperature -25 +70 °C Self extinguishing body VO
		FCT2V06X11	FCT2V07X11	FCT2V08X11	
<b>WEIGHT gr - MIN. PACK QTY.</b>		75 gr 1 pz	78 gr 1 pz	80 gr 1 pz	
<b>DIMENSIONS</b>					

# Limit Switches

## Pre-wired FCM series

IP67  Metal type



Cable: PVC UL  
5x0.75 mm<sup>2</sup>  
2 m length  
Outlet: horizontal .L.



.01.



.02.

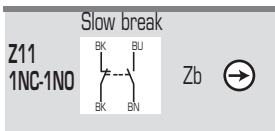


.03.



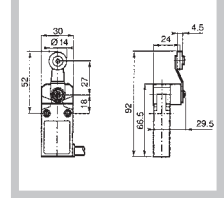
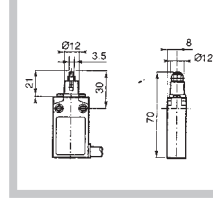
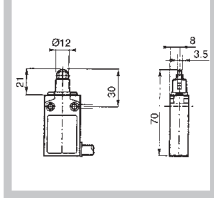
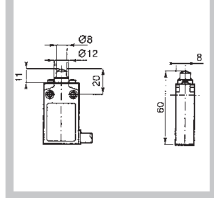
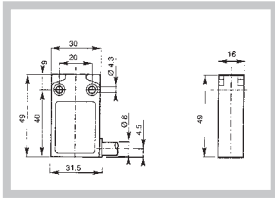
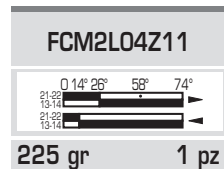
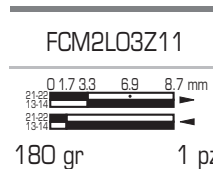
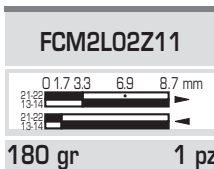
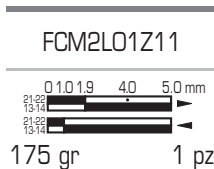
.04.

TYPE OF OPERATOR	STEEL END PLUNGER	ROLLER PLUNGER	90° ROLLER PLUNGER	14 Ø POM ROLLER LEVER
------------------	-------------------	----------------	--------------------	-----------------------



WEIGHT gr - MIN. PACK QTY.

DIMENSIONS



Cable: PVC UL  
5x0.75 mm<sup>2</sup>  
2 m length  
Outlet: horizontal .L.



.06.

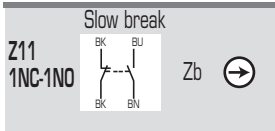


.07.



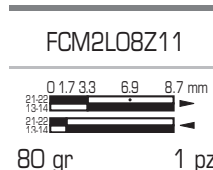
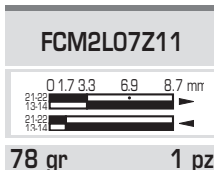
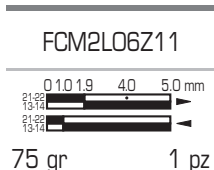
.08.

TYPE OF OPERATOR	STEEL END PLUNGER WITH THREADED FLANGE	ROLLER PLUNGER WITH THREADED FLANGE	90° ROLLER PLUNGER WITH THREADED FLANGE	CHARACTERISTICS
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WEIGHT gr - MIN. PACK QTY.

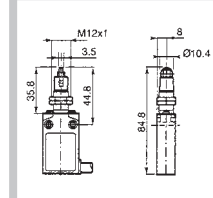
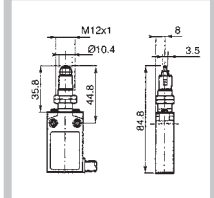
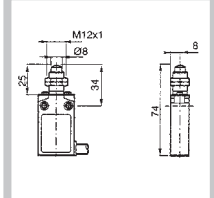
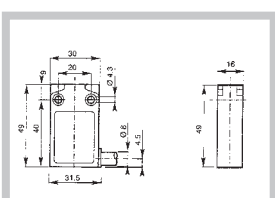
DIMENSIONS



IEC/EN60947-5-1  
Rated insulation voltage  
U<sub>i</sub>/500V  
Rated thermal current I<sub>th</sub> 5A  
Rated operating current I<sub>e</sub>:

AC15	U <sub>e</sub> V	24	120	240
	I <sub>e</sub> A	5	3	1,5
DC13	U <sub>e</sub> V	24	125	250
	I <sub>e</sub> A	1	0,22	0,1

Pollution class | 3  
Material group | I  
Operating temperatures | -25 +70 °C



# Limit Switches

## Astra Series IP54 universal type



AUTOMATION TECHNOLOGIES

2 cable entries  
with cable gland



TYPE OF OPERATOR	STEEL ROLLER PLUNGER	ROLLER LEVER Ø 20	ROLLER LEVER Ø 35	ROLLER PLUNGER AND LEVER WITH RESET
<b>1NC-1NO</b> Slow break 	30303061 	30303073 	30303025 	30303092 lever 
<b>1NC-1NO overlapping</b> Slow break 	30303062 	30303074 	30303026 	30303098 with plunger 
<b>WEIGHT gr - MIN. PACK QTY.</b>	130 gr      1 pz	160 gr      1 pz	200 gr      1 pz	180 gr      1 pz
<b>DIMENSIONS</b>				

### GENERAL CHARACTERISTICS

Comply with	IEC/EN60947-5-1						
Rated insulation voltage $U_i$	500 (pollution class 3)						
Rated impulse withstand voltage $U_{imp}$	4						
Operating frequency	50/60						
Rated thermal current $I_{th}$	10						
Rated operating current $I_e$ : AC-15 alterante current	<table border="1"> <tr> <td>110</td> <td>230</td> <td>380</td> </tr> <tr> <td>8</td> <td>8</td> <td>6</td> </tr> </table>	110	230	380	8	8	6
110	230	380					
8	8	6					
Contact type	Slow break double gap contacts						
Protection rating	IP54						
Ambient temperature	Operating -25 +55 Storage -30 +70						
Termination type	Screw clamp terminals						
Materials	Housing in reinforced PA - PC lid Nickel brass plunger - Reinforced PC lever						

# Micro Switches

## MFI Series

Table of contents



Standard micro switches with self cleaning contacts  
Supplied with operator.

### TABLE OF CONTENTS

- MFI Series

pag.125

# Micro Switches

## MFI Series

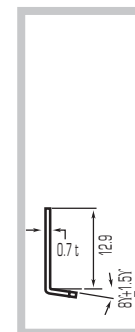
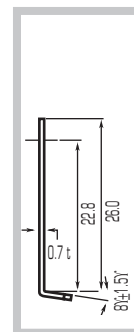
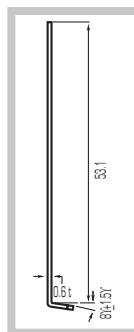
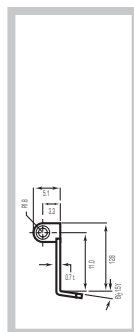
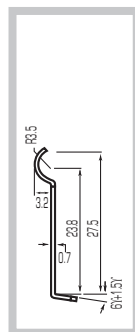
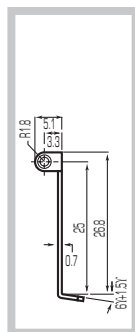
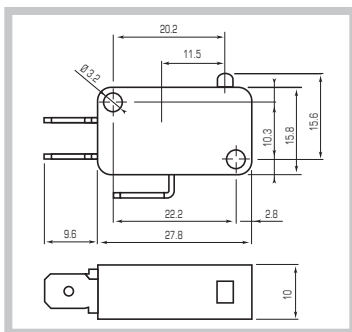
DIN 41635A - 6.3x0.8 connectors



AUTOMATION TECHNOLOGIES



- Changeover contacts
- High reliability snap action contacts
- Silver alloy self cleaning contacts
- Positive opening NC contact  $\odot$
- 7 versions available
- Certifications:



PIN PLUNGER

LONG ROLLER LEVER

SIMULATED ROLLER LEVER

ROLLER LEVER

LONG LEVER

LEVER

SHORT LEVER



MFI

MFI.1

MFI.2

MFI.3

MFI.4

MFI.5

MFI.6

Operating force	N	4,5	3,2	3,2	4,5	1,3	3,2	4,5
Resetting force	N	1,9	1,2	1,2	1,9	0,15	1,2	1,9
Max pre travel PT	mm	1,4	3,3	3,3	1,4	7,6	3,3	1,4
Min over travel	mm	0,8	0,8	0,8	0,6	2,2	0,8	0,6
Tripping position OP	mm	14,4±0,4	21,8±1,2	18,9±1,2	20±0,6	15,2±1,2	15,2±1,2	15,1±0,5

### GENERAL CHARACTERISTICS

■ Comply with	IEC/EN61058, UL1054
■ Rated insulation voltage $U_i$	250V
■ Rated impulse withstand voltage $U_{imp}$	1500
■ Rated thermal current $I_{th}$	8
■ Rated operating current $I_e$ :	8A - 250V resistive load, 3A - 250V inductive load
■ Ambient temperature	-25 +85
■ Electric shock protection	Class II
■ Pollution class	2
■ Life	Mechanical $10^6$ , electrical $5 \times 10^5$
■ Termination type	6.3x0.8 faston terminal

# Foot switches

## IP Series

Table of contents



Single or double foot switches with the EN ISO 13850 emergency stop option.  
Available with electric or pneumatic controls.

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# Foot switches

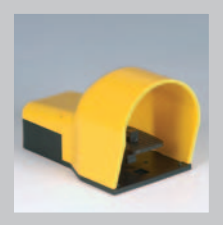
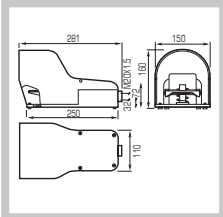
## IP Series

IP54 □ thermoplastic type - Single

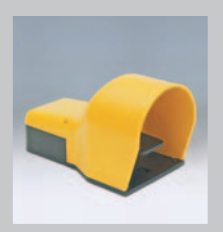
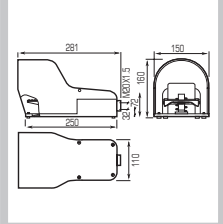


AUTOMATION TECHNOLOGIES


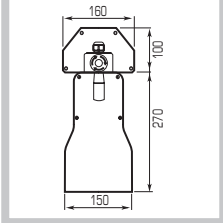
### SAFETY FOOT SWITCHES

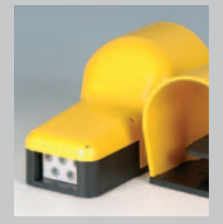
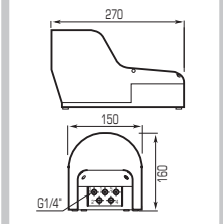
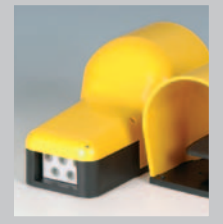
DESCRIPTION	CONTACTS	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS
 <p>With trigger mechanism requiring positive action to allow pedal operation</p>	Slow break *	IP7007	1.400	1	
	1NO				
	2NO				

### FOOT SWITCHES

DESCRIPTION	CONTACTS	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS
 <p>With pedal latching device and without trigger mechanism</p>	Slow break *	IP 7011	1.400	1	
	1NO				

 <p>Without rest position trigger mechanism</p>	Slow break *	1NC+1NO	IP7006I	1.300	1	
	1NC+1NO					

 <p>With trigger mechanism and EN ISO 13850 emergency stop</p>	Slow break *	IP7007EM	3.900	1	
	Slow break * Two speeds	IP7015EM	3.910		
	2NO				

 <p>Pneumatic with trigger mechanism</p>	With 1/4" 5 ways valve	IP7023	1.600	1	
		IP7024		1	
 <p>Pneumatic with pedal latching device and without trigger mechanism</p>					


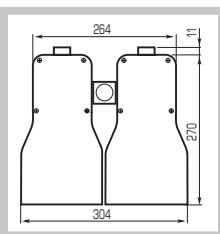
(\*) On request can be supplied with snap action contacts


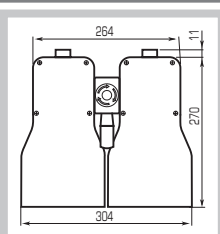


# Foot switches

## IP Series


IP54 □ thermoplastic type - Double

DOUBLE						
DESCRIPTION	CONTACTS	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS	
 <p>With trigger mechanism requiring positive action to allow pedal operation</p>	Slow break *		3.100	1		
	1NO	IP7018				
	2NO	IP7019				

DOUBLE WITH EN418 EMERGENCY STOP						
DESCRIPTION	CONTACTS	CODE	WEIGHT gr	MIN. PACK QTY.	DIMENSIONS	
 <p>With trigger mechanism requiring positive action to allow pedal operation</p>	Slow break *		5.300	1		
	1NO	IP7018EM				
	2NO	IP7019EM				

(\*) On request can be supplied with snap action contacts

### GENERAL CHARACTERISTICS

Comply with		IEC/EN60947-5-1
Rated insulation voltage $U_i$	V	690 (pollution class 3)
Rated impulse withstand voltage $U_{imp}$	kV	4
Operating frequency	Hz	50/60
Rated thermal current $I_{th}$	A	10
Rated operating current $I_e$ :		
AC-15 alterante current	V	24   60   110   230   400
	A	16   12   8   6   4,5
DC-13 continuous current	V	24   48   60   110   230
	A	2   1,2   0,85   0,4   0,25
Conditional short circuit withstand		1000A - 10A-500V class gG fuses
Contact impedance	m $\Omega$	$\leq 25$
Contact type		Slow break double gap contacts
Positive opening		NC contact with positive opening 
Electric shock protection	IEC 536	Class II
Protection rating	IEC 529	IP54
Ambient temperature	$^{\circ}\text{C}$	Operating -25 +70
Termination type	$^{\circ}\text{C}$	Storage -30 +70
Cable entry		Screw clamp terminals
		No. 1 M20x1.5

(\*) On request can be supplied with snap action contacts



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