



EXB9



EXB0

P0/PX...EXB9/EXB0 C0/CX...EXB9/EXB0

EXPLOSION PROOF EQUIPMENT

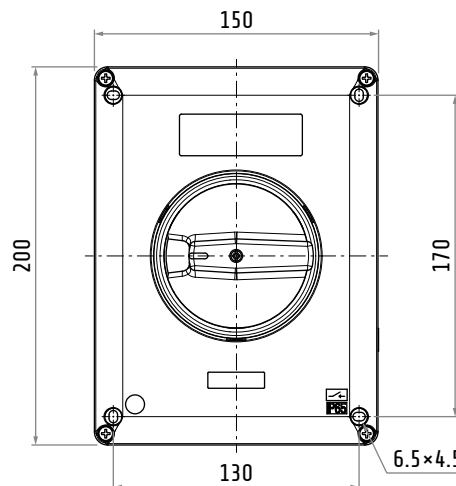
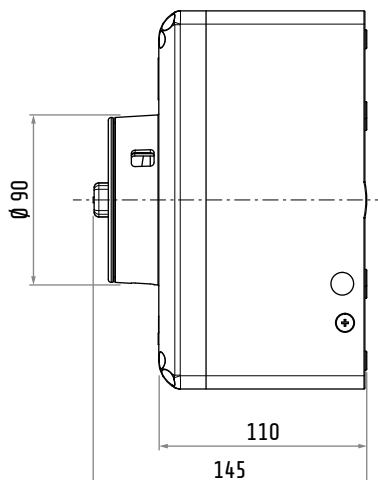
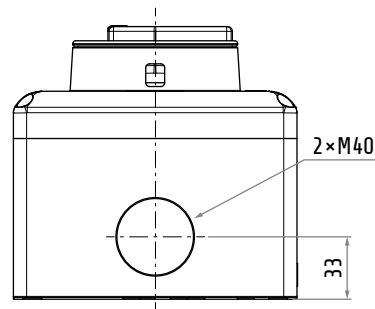
PHOENIX EX CAM SWITCHES
(P0/PX: 12 A / 16 A / 20 A)
(C0/CX: 25 A / 32 A / 40 A)

Series	6 poles	4 poles	2 poles	AC-21A (690 V)	AC-23A (400 V)
P012... / PX12...	x	x	x	12 A	10 A
P016... / PX16...	x	x	x	16 A	14 A
P020... / PX20...	x	x	x	20 A	16 A
C025... / CX25...	-	x	x	25 A	22 A
C032... / CX32...	-	x	x	32 A	24 A
C040... / CX40...	-	x	x	40 A	32 A

Marking





**AVAILABLE ONLY WITH CONFIGURATION ON REQUEST
SEE "CAM SWITCH CONFIGURATOR" ON THIS DATASHEET**




Dimensions in mm / illustrations NOT in scale

EQUIPMENT CLASSIFICATION IN ACCORDANCE WITH UTILIZATION ZONES

ATEX	2014/34/EU European Directive						
	 0051  II 2D Ex tb IIC T85°C Db						
	All the models of the series are verified to be in compliance with the follows: Apparatus Category 2 D, suitable for installation hazardous areas: Zone 21 and 22 (dust) according to EN/IEC 60079-10-2.						
IECEX	EN IEC 60079-0 EN IEC 60079-31						
	<table border="1"> <tr> <td>Ex tb</td> <td>IIC</td> <td>T85°C</td> <td>Db</td> <td>Dust</td> </tr> </table>		Ex tb	IIC	T85°C	Db	Dust
Ex tb	IIC	T85°C	Db	Dust			
EAC Ex	TR TS 012/2011 GOST 31610.0 GOST R MEK 60079-31	TP TC 012/2011 ГОСТ 31610.0 ГОСТ Р МЭК 60079-31					
	See IECEx scheme reference						
INMETRO	Certificate issued in according to Brazilian requirements attached to INMETRO's Rule n°. 179 issued on May 18th, 2010 n°. 270 issued on May 21th, 2011 n°. 89 issued on May 23th, 2012	Certificado emitido conforme requisitos da avaliação da conformidade de equipamentos elétricos para atmosferas explosivas, anexo às Portarias Inmetro n°. 179 de 18 de maio de 2010 n°. 270 de 21 de junho de 2011 n°. 89 de 23 de fevereiro de 2012					
	See IECEx scheme reference						

ENCLOSURE SPECIFICATIONS

Material		aluminium
Color	...EXB9	black box, grey cover and black knob
	...EXB0	black box, yellow cover and black knob
Dimensions		150 × 200 × 110 mm
IP rating		IP65
Appliance class		class II (double insulation) 
Operating temperature		-20 ... +55°C
Locking facility	max 3 padlocks	in "0 - OFF" position
Opening		in "0 - OFF" position
Cable entry		2 × hole for M40 cable gland

P0... / PX... CAM SWITCHES SPECIFICATIONS

P0... / PX... cam switch • General characteristics

Material group		EN 60947-1	II
Pollution grade		EN 60947-1	3
Flammability		UL94	V0 (live electrical parts)
Ambient temperature	operating		-40 ... +85°C
	storage		-40 ... +70°C
Climate withstand		IEC 68 part 2-3 IEC 68 part 2-30	damp heat, steady state damp heat, cyclic
Terminal screw identification	conforming to		EN50013
Connections	terminal block caliber	EN60947-1	A3
	terminal screw		M3.5
	tightening torque	EN60947-1 UL508	0.8 N·m (7.2 lb·in) 7.5 lb·in (0.85 N·m)
Connectable section	flexible conductors		1 × 0.75 ... 4 mm ² or 2 × 0.75 ... 2.5 mm ² AWG 18 ... 10
	solid conductors		1 × 0.75 ... 4 mm ² or 2 × 0.75 ... 2.5 mm ² AWG 18 ... 10
Contacts			double breaking
Opening angles			30° - 45° - 60° - 90°
Mechanical lifetime	@ 120 operations / hour		1 million cycles
Electrical lifetime	@ 120 operations / hour		P012... / PX12... 1 million cycles P016... / PX16... 0.75 million cycles P020... / PX20... 0.75 million cycles

P0... / PX... cam switch • EN 60947-3 characteristics

		P012... / PX12...	P016... / PX16...	P020... / PX20...
Rated operating voltage	U _e	690 V	690 V	690 V
Rated insulation voltage	U _i	690 V	690 V	690 V
Rated impulse withstand voltage (sectionable)	U _{imp}	4 kV	4 kV	4 kV
Rated thermal current	I _{th}	16 A	20 A	25 A
Rated enclosed thermal current	I _{the}	12 A	16 A	20 A
Frequency		50/60 Hz	50/60 Hz	50/60 Hz

P0... / PX... cam switch • Alternate current

Rated operating current		le		P012... / PX12...	P016... / PX16...	P020... / PX20...			
AC-21A	Switching of resistive loads, including moderate overloads		690 V	12 A	16 A	20 A			
AC-22A	Switching of mixed resistive and inductive loads, including moderate overloads		690 V	12 A	16 A	20 A			
AC-23A	Switching of motor loads or other highly inductive loads	1 phase - 1 pole	110 V	12 A	1.1 kW	14 A	1.5 kW	18 A	2 kW
			230 V	12 A	2.2 kW	14 A	3 kW	18 A	4 kW
		3 phases - 3 poles	230 V	10 A	3 kW	14 A	3 kW	16 A	5 kW
			400 V	10 A	5.5 kW	14 A	7.5 kW	16 A	9 kW
			500 V	10 A	7.5 kW	14 A	10 kW	16 A	11 kW
		690 V	10 A	7.5 kW	14 A	10 kW	16 A	12.5 kW	
AC-3	Squirrel-cage motors: starting, switches off motors during running time	1 phase - 1 pole	110 V	10 A	0.75 kW	12 A	1.1 kW	16 A	1.5 kW
			230 V	10 A	2 kW	12 A	2.2 kW	16 A	3.5 kW
		3 phases - 3 poles	230 V	8 A	2.2 kW	10 A	3 kW	12 A	4 kW
			400 V	8 A	4 kW	10 A	5 kW	12 A	6 kW
			500 V	8 A	5.5 kW	10 A	7.5 kW	12 A	8 kW
		690 V	6 A	5.5 kW	8 A	7.5 kW	10 A	9 kW	
AC-23A	Nominal breaking capacity (cosφ 0.45)		230 V	80 A	104 A	128 A			
			400 V	80 A	104 A	128 A			
			500 V	80 A	112 A	128 A			
			690 V	80 A	112 A	128 A			
Power dissipation for each pole				0.3 W	0.35 W	0.4 W			

P0... / PX... cam switch • Direct current

Rated operating current		le		P012... / PX12...	P016... / PX16...	P020... / PX20...
DC-21A	Switching resistive loads with light overloads	1 phase	50 V	10 A	12 A	16 A
DC-22A	Switching resistive loads with light overloads	1 phase	30 V	8 A	10 A	12 A

P0... / PX... cam switch • Short circuit characteristics

		P012... / PX12...	P016... / PX16...	P020... / PX20...
Rated short-time short circuit withstand current (1 s)	lcw	300 A	300 A	300 A
Rated short circuit making capacity	lcm	1200 A	1200 A	1200 A
Conditional rated short circuit withstand current		5 kA	5 kA	5 kA
Fuse rating (type gG)	690 V	20 A	20 A	20 A

C0... / CX... CAM SWITCHES SPECIFICATIONS

C0... / CX... cam switch • General characteristics

Material group		EN 60947-1	II
Pollution grade		EN 60947-1	3
Flammability		UL94	V0 (live electrical parts)
Ambient temperature	operating		-40 ... +85°C
	storage		-40 ... +70°C
Climate withstand		IEC 68 part 2-3 IEC 68 part 2-30	damp heat, steady state damp heat, cyclic
Terminal screw identification	conforming to		EN50013
Connections	terminal block caliber	EN60947-1	A5
	terminal screw		M4
	tightening torque	EN60947-1 UL508	1.2 N·m (10.6 lb·in) 12 lb·in (1.4 N·m)
Connectable section	flexible conductors		2 × 2.5 ... 10 mm ² AWG 14 ... 6
	solid conductors		2 × 2.5 ... 10 mm ² AWG 14 ... 6
Contacts			double breaking
Opening angles			30° - 45° - 60° - 90°
Mechanical lifetime	@ 120 operations / hour		1 million cycles
Electrical lifetime	@ 120 operations / hour		C025... / CX25... 1 million cycles C032... / CX32... 0.75 million cycles C040... / CX40... 0.75 million cycles

C0... / CX... cam switch • EN 60947-3 characteristics

		C025... / CX25...	C032... / CX32...	C040... / CX40...
Rated operating voltage	U _e	690 V	690 V	690 V
Rated insulation voltage	U _i	690 V	690 V	690 V
Rated impulse withstand voltage (sectionable)	U _{imp}	6 kV	6 kV	6 kV
Rated thermal current	I _{th}	32 A	40 A	50 A
Rated enclosed thermal current	I _{the}	25 A	32 A	40 A
Frequency		50/60 Hz	50/60 Hz	50/60 Hz

C0... / CX... cam switch • Alternate current

Rated operating current		le		C025... / CX25...	C032... / CX32...	C040... / CX40...			
AC-21A	Switching of resistive loads, including moderate overloads		690 V	25 A	32 A	40 A			
AC-22A	Switching of mixed resistive and inductive loads, including moderate overloads		690 V	25 A	32 A	40 A			
AC-23A	Switching of motor loads or other highly inductive loads	1 phase - 1 pole	110 V	25 A	1.5 kW	30 A	2.2 kW	35 A	3 kW
			230 V	25 A	4 kW	30 A	5.5 kW	35 A	6.5 kW
		3 phases - 3 poles	230 V	25 A	7.5 kW	30 A	9 kW	35 A	11 kW
			400 V	22 A	11 kW	24 A	15 kW	32 A	18.5 kW
			500 V	22 A	11 kW	27 A	18.5 kW	32 A	22 kW
690 V	20 A	15 kW	22 A	18.5 kW	25 A	22 kW			
AC-3	Squirrel-cage motors: starting, switches off motors during running time	1 phase - 1 pole	110 V	22 A	1.1 kW	25 A	1.5 kW	30 A	2.5 kW
			230 V	22 A	3.7 kW	25 A	4 kW	30 A	5.5 kW
		3 phases - 3 poles	230 V	18 A	5.5 kW	23 A	7.5 kW	27 A	9 kW
			400 V	18 A	7.5 kW	23 A	11 kW	27 A	15 kW
			500 V	18 A	11 kW	23 A	15 kW	27 A	18.5 kW
690 V	14 A	11 kW	18 A	15 kW	20 A	18.5 kW			
AC-23A	Nominal breaking capacity (cosφ 0.45)		230 V	200 A	240 A	280 A			
			400 V	176 A	216 A	256 A			
			500 V	176 A	216 A	256 A			
			690 V	160 A	176 A	200 A			

C0... / CX... cam switch • Direct current

Rated operating current		le		C025... / CX25...	C032... / CX32...	C040... / CX40...
DC-21A	Switching resistive loads with light overloads	1 phase	50 V	20 A *	25 A *	32 A *
DC-22A	Switching resistive loads with light overloads	1 phase	30 V	16 A *	20 A *	25 A *

* Values not reported on the IMQ files.

C0... / CX... cam switch • Short circuit characteristics

			C025... / CX25...	C032... / CX32...	C040... / CX40...
Rated short-time short circuit withstand current (1 s)		lcw	500 A	500 A	500 A
Rated short circuit making capacity		lcm	2840 A	2840 A	2840 A
Conditional rated short circuit withstand current			10 kA	10 kA	10 kA
Fuse rating (type gG)		500 V	40 A	40 A	40 A

CAM SWITCH CONFIGURATOR

Check the gray boxes () to configure your Regolus EX cam switch

Maximum number of poles:

• P0-PX: 6 poles (3 wafers)

• C0-CX: 4 poles (2 wafers)

Padlock only in 0/OFF position (max 3 padlocks)

[01] DESCRIPTION OF THE INTENDED USE

[02] CAM SWITCH

- P0... PX...
[CSP0] [CSPX]
- C0... CX...
[CSC0] [CSCX]

[03] ELECTRICAL DATA

- AC-21A
[ED1] A V

- AC-22A
[ED2] A V

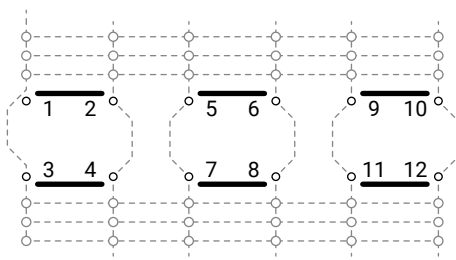
- AC-23A
[ED3]

- 1-PH 3-PH
[ED3a] [ED3b] kW V

- AC-3
[ED4]

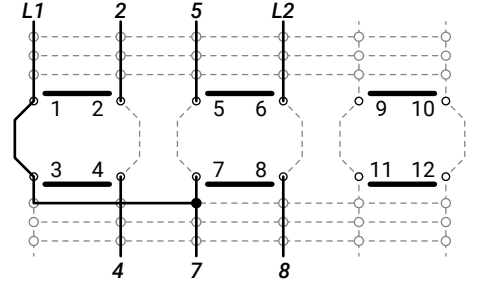
- 1-PH 3-PH
[ED4a] [ED4b] kW V

[04] ELECTRICAL SCHEME [ESC]



- wafer 1 [WA1] wafer 2 [WA2] wafer 3 [WA3]

Example



- wafer 1 wafer 2 wafer 3

[05] ACTUATION SCHEME [ASC]

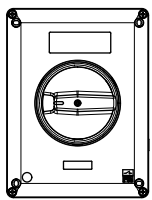
Wafer	Contacts	Positions
3	11 - 12	
	9 - 10	
	7 - 8	
2	5 - 6	
	3 - 4	
1	1 - 2	

- Open contact
 Closed contact
 Closed contact without continuity
 Closed contact with continuity
 Spring return
 Short-circuited contacts
 Early make open contact

Example

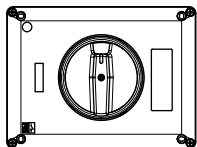
Wafer	Contacts	Positions
3	11 - 12	
	9 - 10	
	7 - 8	
2	5 - 6	
	3 - 4	
1	1 - 2	

[06] ORIENTATION



[ORV]

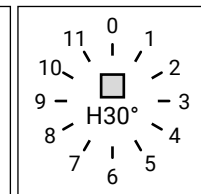
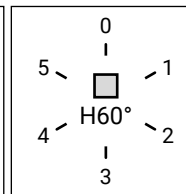
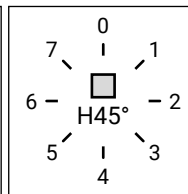
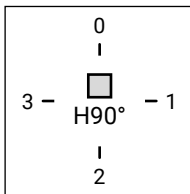
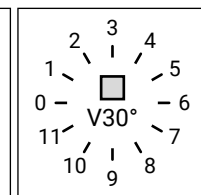
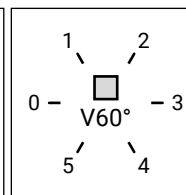
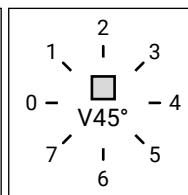
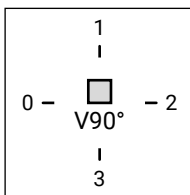
- Vertical
"0/Off" at 9 o'clock



[ORH]

- Horizontal
"0/Off" at 12 o'clock

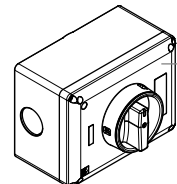
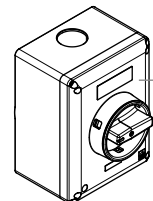
[07] WORDING



Description

0		6	
1		7	
2		8	
3		9	
4		10	
5		11	

[08] COVER COLOR



- Grey (B9) [COG]

- Yellow (B0) [COY]