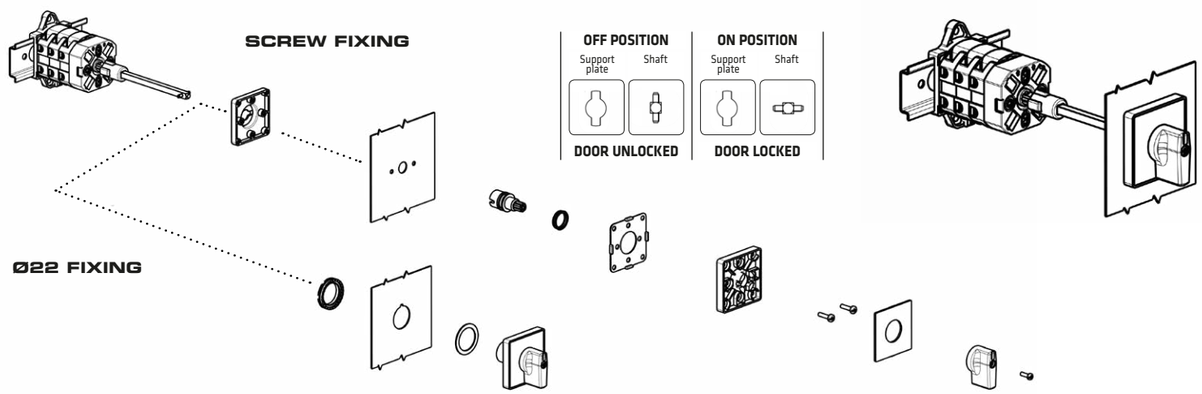
GIOVENZANA
INTERNATIONAL B.V.



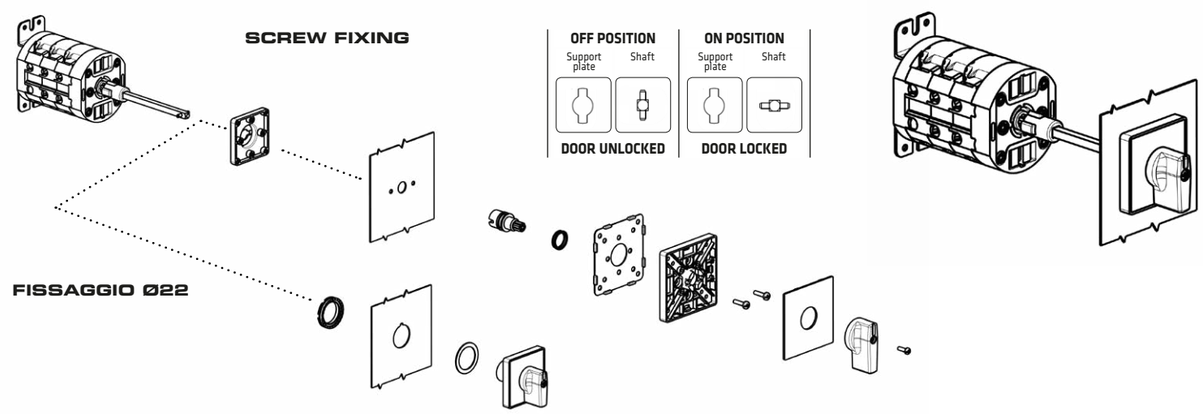
PHOENIX CAM SWITCHES
BASE MOUNTING - B

BASE MOUNTING

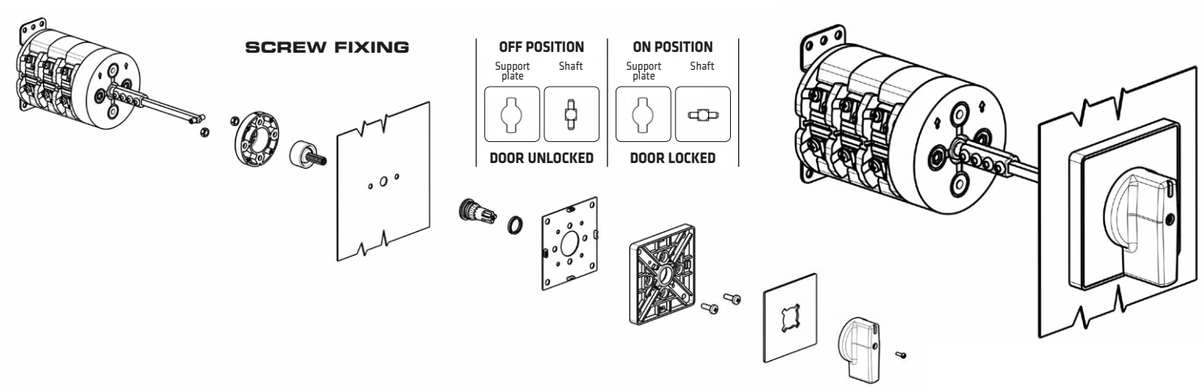
| RANGE AC21A | 12A - 16A - 20A |



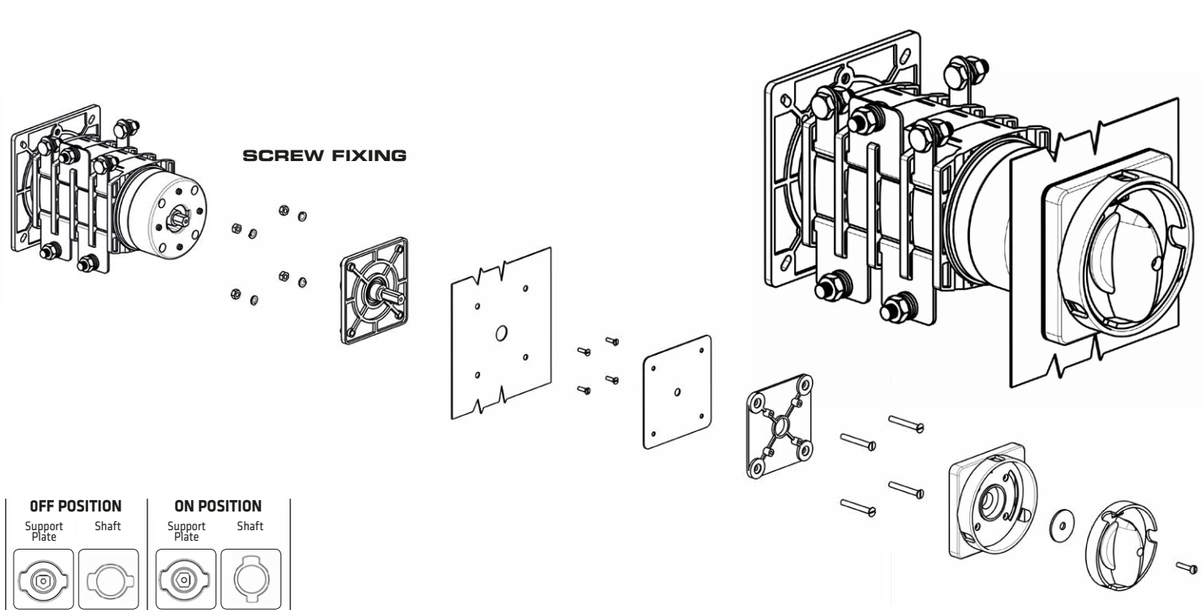
| RANGE AC21A | 25A - 32A - 40A |



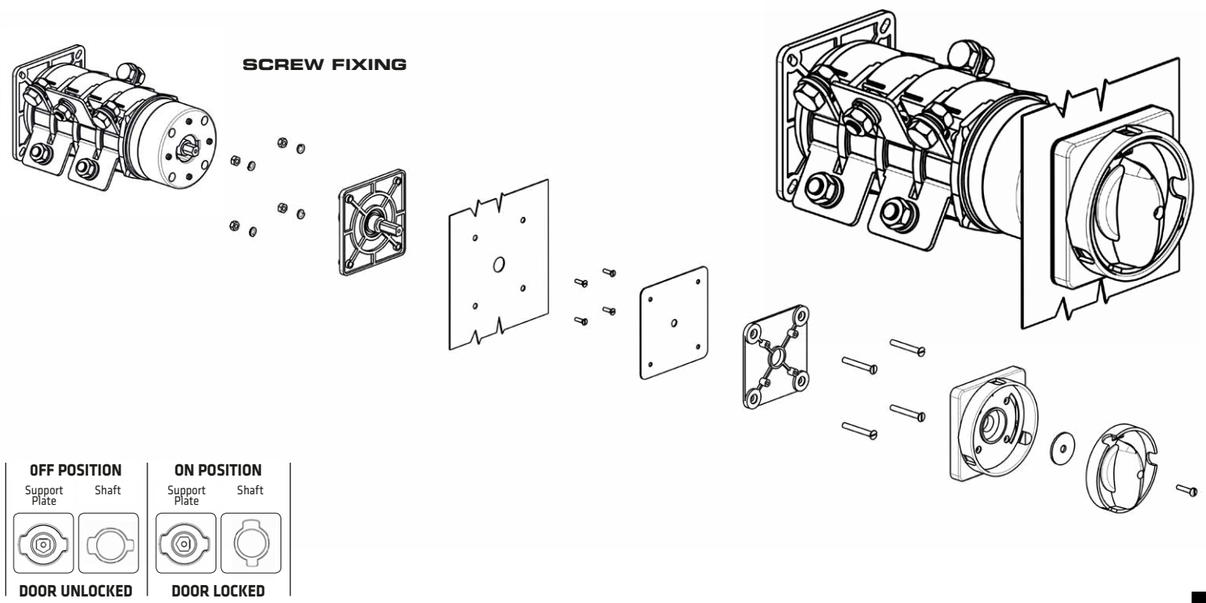
| RANGE AC21A | 63A - 80A |



| RANGE AC21A | 125A |



| RANGE AC21A | 200A |



BASE MOUNTING

PROTECTION CLASS EN60529 - IP65 UL50 NEMA TYPE 1-4-4X-12







	90°	90°	90°	90°
12-16-20A	1 0	1 0	1 0	1 0
25-32-40A	1 0	1 0	1 0	1 0
63-80A	1 3 / 2 4	1 3 5 / 2 4 6	1 3 5 7 / 2 4 6 8	1 3 5 7 9 11 / 2 4 6 8 10 12
125A	1: 3-4, 1-2 — WAY. 0, CONT. 1	2: 5-6; 1: 3-4, 1-2 — WAY. 0, CONT. 1	2: 7-8, 5-6; 1: 3-4, 1-2 — WAY. 0, CONT. 1	3: 11-12, 9-10; 2: 7-8, 5-6; 1: 3-4, 1-2 — WAY. 0, CONT. 1
200A				

SERIES	AC21A	1 POLE	2 POLES	3 POLES	4 POLES
P012	12A	P0120002B	P0120003B	P0120004B	P0120006B
P016	16A	P0160002B	P0160003B	P0160004B	P0160006B
P020	20A	P0200002B	P0200003B	P0200004B	P0200006B
C025	25A	C0250002B	C0250003B	C0250004B	C0250006B
C032	32A	C0320002B	C0320003B	C0320004B	C0320006B
C040	40A	C0400002B	C0400003B	C0400004B	C0400006B
C063	63A	C0630002B	C0630003B	C0630004B	C0630006B
C080	80A	C0800002B	C0800003B	C0800004B	C0800006B
G125	125A	G1250002B	G1250003B	G1250004B	G1250006B
G200	200A	G2000002B	G2000003B	G2000004B	G2000006B

ACTUATOR	FIXING	P012 - P016 - P020		C025 - C032 - C040		C063 - C080		G125	G200
		1 0 90°	0 1 90°	1 0 90°	0 1 90°	1 0 90°	0 1 90°	1 0 90°	1 0 90°
	screw	020/0001	-	021/0001	-	220/0001	-	-	-
	ø22	095/0001	-	095/0001	-	-	-	-	-
	screw	030/0001	-	-	-	-	-	-	-
	ø22	070/0001	-	070/0001	-	-	-	-	-
	screw	005/0001	-	005/0001	-	-	-	-	-
	ø22	077/0001	-	077/0001	-	-	-	-	-
	screw	006/0001	-	006/0001	-	-	-	-	-
	ø22	069/0001	-	069/0001	-	-	-	-	-
	screw	011/0001	011/0001-A	011/0001	011/0001-A	211/0001	211/0001-1	451/0001	451/0001
	ø22	063/0001	063/0001-1	063/0001	063/0001-1	-	-	-	-
	screw	012/0001	012/0001-2	012/0001	012/0001-2	212/0001	212/0001-1	452/0001	452/0001
	ø22	064/0001	064/0001-1	064/0001	064/0001-1	-	-	-	-
DOORLOCK SHAFT									
		Metallic □5x85mm				Metallic □6x100mm		Direct doorlock coupling (no metallic shaft)	

All base mounting's actuators are equipped with doorlock function that permits to open the door only in "0" position.

Switches from 12A to 40A: replace the number "0" with letter "X" to order the open terminal protection (es. P012... > PX12...). See to page 8.

UL50 NEMA Type 1-4-4X

Metallic shaft can be cut according customer needs. Longer metallic shaft are available in accessories to page 77.

BASE MOUNTING

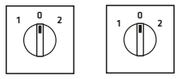
PROTECTION CLASS EN60529 - IP65 UL50 NEMA TYPE 1-4-4X-12

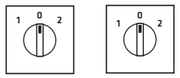


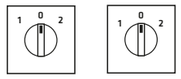


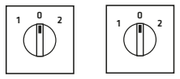


12-16-20A

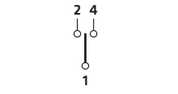


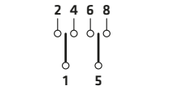


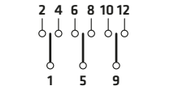


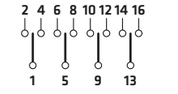


25-32-40A

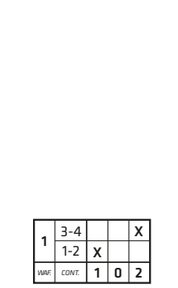


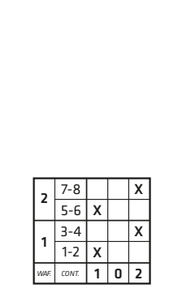


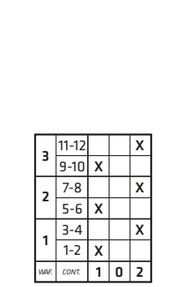


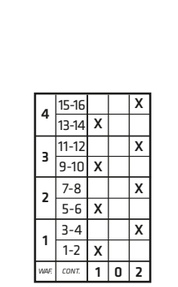


63-80A









SERIES	AC21A	1 POLE	2 POLES	3 POLES	4 POLES
P012	12A	P0120008B	P0120009B	P0120010B	P0120011B
P016	16A	P0160008B	P0160009B	P0160010B	P0160011B
P020	20A	P0200008B	P0200009B	P0200010B	P0200011B
C025	25A	C0250008B	C0250009B	C0250010B	C0250011B
C032	32A	C0320008B	C0320009B	C0320010B	C0320011B
C040	40A	C0400008B	C0400009B	C0400010B	C0400011B
C063	63A	C0630008B	C0630009B	C0630010B	C0630011B
C080	80A	C0800008B	C0800009B	C0800010B	C0800011B
G125	125A	-	-	-	-
G200	200A	-	-	-	-

ACTUATOR	FIXING	P012 P016 P020	C025 C032 C040	C063 - C080	G125	G200
		45°	45°	45°	60°	60°
	screw	020/0008	021/0008	220/0008	-	-
	ø22	095/0008	095/0008	-	-	-
	screw	030/0008	-	-	-	-
	ø22	070/0008	070/0008	-	-	-
	screw	005/0008	005/0008	-	-	-
	ø22	077/0008	077/0008	-	-	-
	screw	006/0008	006/0008	-	-	-
	ø22	069/0008	069/0008	-	-	-
	screw	011/0008	011/0008	211/0008	-	-
	ø22	063/0008	063/0008	-	-	-
	screw	012/0008	012/0008	212/0008	-	-
	ø22	064/0008	064/0008	-	-	-
DOORLOCK SHAFT						
		Metallic □5x85mm		Metallic □6x100mm	Direct doorlock coupling (no metallic shaft)	

All base mounting's actuators are equipped with Doorlock function that permits to open the door only in "0" position.

Switches from 12A to 40A: replace the number "0" with letter "X" to order the open terminal protection (es. P012... > PX12...). See to page 8.

◢ UL50 NEMA Type 1-4-4X

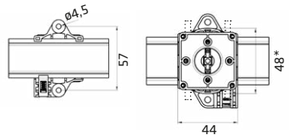
◢ Metallic shaft can be cut according customer needs. Longer metallic shaft are available in accessories to page 77.

DIMENSIONS AND DRILLING PLAN | TYPE B

BASE MOUNTING | ACTUATORS SCREW FIXING

12-16-20A





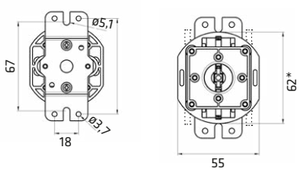
WAFER GAP	L x WAFER N°	1	2	3	4	5	6
12,7	min*	80,4	93,1	105,8	118,5	131,2	143,9
	max	138,4	151,1	163,8	176,5	189,2	201,9

* Minimum lenght with cut shaft.

* If cam switch is provided of external bridge (wafer to wafer) the height will be increased of ~ 2 mm for the lower and upper sides.

25-32-40A

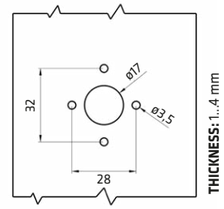




WAFER GAP	L x WAFER N°	1	2	3	4	5	6
17,5	min*	96	113,5	131	148,5	166	183,5
	max	154	171,5	189	206,5	224	241,5

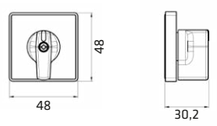
* Minimum lenght with cut shaft.

* If cam switch is provided of external bridge (wafer to wafer) the height will be increased of ~ 1 mm for the lower and upper sides.

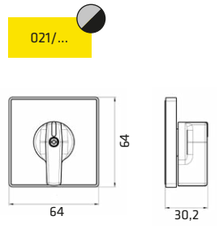


FIXING:
Screwplast 28 or 32 mm

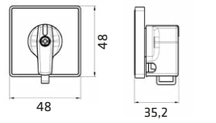
020/... 030/...



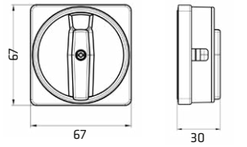
021/...



005/... 006/...

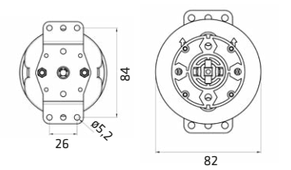


011/... 012/...



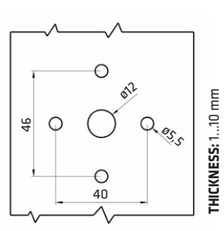
63-80A





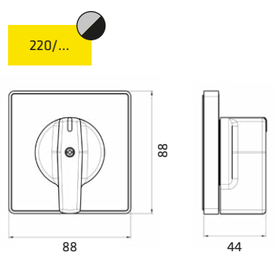
WAFER GAP	L x WAFER N°	1	2	3	4	5	6
26	min*	148	174	200	226	252	278
	max	196	222	248	274	300	376

* Minimum lenght with cut shaft.

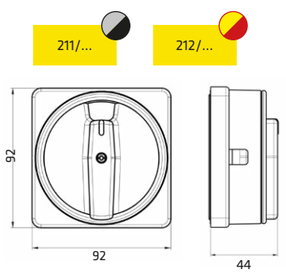


FIXING:
Screwplast 40 or 46 mm

220/...

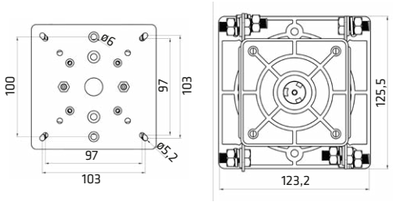


211/... 212/...



125A





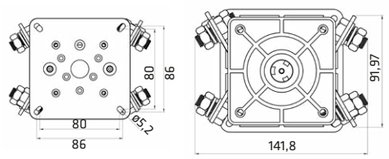
WAFER GAP	L x WAFER N°	1	2	3	4	5	6
26		125	151	177	203	229	255

* Direct doorlock coupling bloccoporta (no metallic shaft).

451/... 452/...

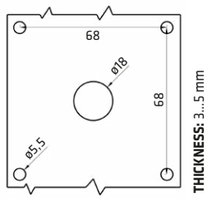
200A



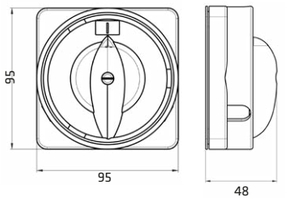


WAFER GAP	L x WAFER N°	1	2	3	4	5	6
32		131	163	195	227	259	291

* Direct doorlock coupling bloccoporta (no metallic shaft).



FIXING:
M5 bolt □68 mm

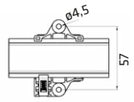


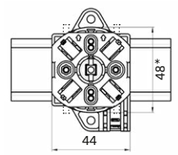
DIMENSIONS AND DRILLING PLAN | TYPE B

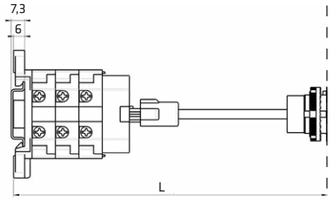
BASE MOUNTING | ACTUATORS Ø22 FIXING

12-16-20A





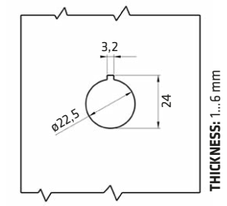




WAFER GAP	PANEL THICKNESS	L x WAFER N°						
			1	2	3	4	5	6
12,7	1 mm	min*	84,2	96,9	109,6	122,3	135	147,7
		max	143,7	156,4	169,1	181,8	194,5	207,2
	2 mm	min*	83,2	95,9	108,6	121,3	134	146,7
		max	142,7	155,4	168,1	180,8	193,5	206,2
	3 mm	min*	82,2	94,9	107,6	120,3	133	145,7
		max	141,7	154,4	167,1	179,8	192,5	205,2
	4 mm	min*	81,2	93,9	106,6	119,3	132	144,7
		max	140,7	153,4	166,1	178,8	191,5	204,2
	5 mm	min*	80,2	92,9	105,6	118,3	131	143,7
		max	139,7	152,4	165,1	177,8	190,5	203,2
	6 mm	min*	78,2	91,9	104,6	117,3	130	142,7
		max	138,7	151,4	164,1	176,8	189,5	202,2

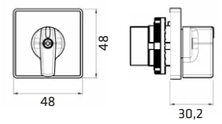
* Minimum lenght with cut shaft.

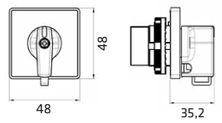
* If cam switch is provided of external bridge (wafer to wafer) the height will be increased of ~ 2 mm for the lower and upper sides.

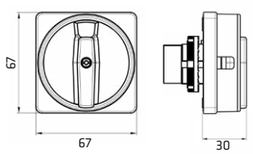


FIXING:
ø22,5 mm

095X/...
070X/...
077X/...
069X/...
063X/...
064X/...

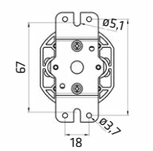


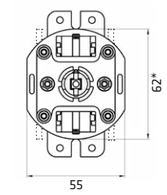


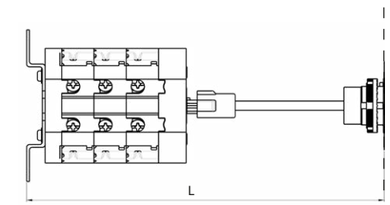


25-32-40A









WAFER GAP	PANEL THICKNESS	L x WAFER N°						
			1	2	3	4	5	6
17,5	1 mm	min*	93,8	115,8	133,3	150,8	168,3	185,8
		max	157,8	175,3	192,8	210,3	227,8	245,3
	2 mm	min*	97,3	114,8	132,3	149,8	167,3	184,8
		max	156,8	174,3	191,8	209,3	226,8	244,3
	3 mm	min*	96,3	113,8	131,3	148,8	166,3	183,8
		max	155,8	173,3	190,8	208,3	225,8	243,3
	4 mm	min*	95,3	112,8	130,3	147,8	165,3	182,8
		max	154,8	172,3	189,8	207,3	224,8	242,3
	5 mm	min*	94,3	111,8	129,3	146,8	164,3	181,8
		max	153,8	171,8	188,8	206,3	223,8	241,3
	6 mm	min*	93,3	110,8	128,3	145,8	163,3	180,8
		max	152,8	170,3	187,8	205,3	222,8	240,3

* Minimum lenght with cut shaft.

* If cam switch is provided of external bridge (wafer to wafer) the height will be increased of ~ 1 mm for the lower and upper sides.

PHOENIX CAM SWITCHES

RANGE OVERVIEW AND GENERAL CHARACTERISTICS







COMPLY WITH RULES

IEC 947-3, EN 60947-3, UL508











SERIES			P012-P016-P020 PX12-PX16-PX20			C025-C032-C040 CX25-CX32-CX40		
Protection class	control	**EN 60529 (UL50) NEMA 4X**	IP65 (Type 1 - 4 -4X)			IP65 (Type 1 - 4 -4X)		
	control with knob only		IP40			IP40		
	terminals		IP20 (P0) - IP10 (PX)			IP20 (P0) - IP10 (PX)		
Material group		**EN 60947-1**	II			II		
Pollution grade		**EN 60947-1**	3			3		
Flammability		**UL94**	V0 (Live Electrical parts)			V0 (Live Electrical parts)		
Ambient temperature		**°C**	Operating: -40 +85			Operating: -40 +85		
		°C	Storage: -40 +70			Storage: -40 +70		
Climate Withstand		**IEC 68 part 2-3**	Hot damp			Hot damp		
		IEC 68 part 2-30	Unsettled hot damp			Unsettled hot damp		
Terminal screw identification			EN50013			EN50013		
Connections	Terminal block caliber	**EN60947-1**	A3			A5		
	Terminal screw		M3,5			M4		
	Screwing torque	**EN60947-1**	0,8 Nm (7,2 lb. in.)			1,2 Nm (10,6 lb. in.)		
		UL508	7,5 lb. in. (0,85 Nm)			12 lb. in. (1,4 Nm)		
Connectable section	Flexible conductors min/max	**mm²**	1x0,75/4 - 2x0,75/2,5			2x2,5/10		
		AWG	10 - 18			14 - 6		
	Solid conductors min/max	**mm²**	1x0,75/4 - 2x0,75/2,5			2x2,5/10		
		AWG	10 - 18			14 - 6		
Contacts			Double breaking			Double breaking		
Opening angles			30° - 45° - 60° - 90°			30° - 45° - 60° - 90°		
Mechanical lifetime at 120 operations for hour		**mil./cl**	1	1	1	1	1	1
Electrical lifetime at 120 operations for hour		**mil./cl**	1	0,75	0,75	1	0,75	0,75

CERTIFICATIONS		P012 PX12	P016 PX16	P020 PX20	C025 CX25	C032 CX32	C040 CX40
CE	CE mark - Europe	■	■	■	■	■	■
cULus	cUL Listed - USA and Canada	●	●	●	●	●	●
IMQ	IMQ Istituto Marchio Qualità - Italy	●	●	●	●	●	●
CCC	CCC Cina	●	●	●	●	●	●
EAC	EAC Russia	●	●	●	●	●	●

	C063-C080		G125	G200
Protection class	IP65		IP65	IP65
	IP40		-	-
	IP00		IP00	IP00
Material group	II		IIIA	IIIA
Pollution grade	3		3	3
Flammability	V0 (Live Electrical parts)		V0 (Live Electrical parts)	V0 (Live Electrical parts)
Ambient temperature	Operating: -40 +70		Operating: -15 +55	Operating: -15 +55
	Storage: -40 +70		Storage: -25 +70	Storage: -25 +70
Climate Withstand	Hot damp		-	-
	Unsettled hot damp		-	-
Terminal screw identification	EN50013		-	-
Connections Terminal block caliber	A7		-	-
Terminal screw	2xM4		Hex. screw M8 for bars and cable lugs	Hex. screw M10 for bars and cable lugs
Screwing torque	1,2 Nm (10,6 lb. in.)		-	-
	10,62 lb. in. (1,2 Nm)		-	-
Connectable section Flexible conductors min/max	2,5/35		-	-
	14 - 3		-	-
Solid conductors min/max	2,5/35		-	-
	14 - 3		-	-
Contacts	Double breaking		Double breaking	Double breaking
Opening angles	45° - 60° - 90°		60° - 90°	60° - 90°
Mechanical lifetime at 120 operations for hour	1	1	0,1	0,1
Electrical lifetime at 120 operations for hour	0,5	0,25	0,01	0,01

C063	C080	G125	G200
■	■	■	■
●	●	●	●
●	●		

■ Comply to the requirements by passed test. ● Approved.

ELECTRICAL CHARACTERISTICS

EN 60947-3 CHARACTERISTICS			P012 - PX12	P016 - PX16	P020 - PX20	C025 - CX25	C032 - CX32	C040 - CX40	C063	C080	G125	G200
Rated operating voltage Ue		V	690	690	690	690	690	690	690	690	690	690
Rated insulation voltage Ui		V	690	690	690	690	690	690	690	690	690	690
Rated impulse withstand voltage Uimp (sectionable)		kV	4	4	4	6	6	6	8	8	6	6
Rated thermal current Ith		A	16	20	25	32	40	50	85	100	150	225
Rated thermal current in enclosed Ithe		A	12	16	20	25	32	40	85	100	150	225
Frequency		Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
RATED OPERATING CURRENT Ie: alternate current			**P012 - PX12**	**P016 - PX16**	**P020 - PX20**	**C025 - CX25**	**C032 - CX32**	**C040 - CX40**	**C063**	**C080**	**G125**	**G200**
AC-21A Switching resistive loads with light overloads	**690V**	A	12	16	20	25	32	40	63	80	125	200
AC-22A Switching mixed resistive and inductive loads at light overloads	**690V**	A	12	16	20	25	32	40	63	80	125	200
AC-23A Periodic switching of motors — single phase - 1 pole	**110V**	A/kW	12/1,1	14/1,5	18/2	25/1,5	30/2,2	35/3	45/4	63/5,5	-	-
	230V	A/kW	12/2,2	14/3	18/4	25/4	30/5,5	35/6,5	45/7,5	63/11	-	-
3 phases - 3 poles	**230V**	A/kW	10/3	14/4	16/5	25/7,5	30/9	35/11	50/15	58/18,5	140/45	169/55
	400V	A/kW	10/5,5	14/7,5	16/9	22/11	24/15	32/18,5	40/22	54/30	78/45 (415V)	95/55 (415V)
	500V	A/kW	10/7,5	14/10	16/11	22/11	27/18,5	32/22	40/30	54/37	65/45	79/55
	690V	A/kW	10/7,5	14/10	16/12,5	20/15	22/18,5	25/22	32/30	40/37	47/45	57/55
AC3 Starting of cage motors (interruption hile running) — single phase - 2 poles	**110V**	A/kW	10/0,75	12/1,1	16/1,5	22/1,1	25/1,5	30/2,5	36/3,7	45/4	-	-
	230V	A/kW	10/2	12/2,2	16/3,5	22/3,7	25/4	30/5,5	36/6,5	45/7,5	-	-
3 phases - 3 poles	**230V**	A/kW	8/2,2	10/3	12/4	18/5,5	23/7,5	27/9	37/11	47/15	115/37	140/45
	400V	A/kW	8/4	10/5	12/6	18/7,5	23/11	27/15	35/18,5	44/22	64/37 (415V)	78/45 (415V)
	500V	A/kW	8/5,5	10/7,5	12/8	18/11	23/15	27/18,5	35/22	44/30	53/37	64/45
	690V	A/kW	6/5,5	8/7,5	10/9	14/11	18/15	20/18,5	25/22	32/30	39/37	47/45
Nominal interruption power AC-23A (cosfi 0,45)	**230V**	A	80	104	128	200	240	280	400	464	-	-
	400V	A	80	104	128	176	216	256	320	432	-	-
	500V	A	80	112	128	176	216	256	320	432	-	-
	690V	A	80	112	128	160	176	200	256	320	-	-
Power dissipation for each pole		W	0,3*	0,35*	0,4*	-	-	-	-	-	-	-
RATED OPERATING CURRENT Ie: direct current			**P012 - PX12**	**P016 - PX16**	**P020 - PX20**	**C025 - CX25**	**C032 - CX32**	**C040 - CX40**	**C063**	**C080**	**G125**	**G200**
DC-21A Switching resistive loads with light overloads	**50V** (1 phase)	A	10	12	16	20 ▼	25 ▼	32 ▼	-	-	-	-
DC-22A Switching mixed resistive and inductive loads at light overloads	**30V** (1 phase)	A	8	10	12	16 ▼	20 ▼	25 ▼	-	-	-	-
SHORT CIRCUIT CHARACTERISTICS			**P012 - PX12**	**P016 - PX16**	**P020 - PX20**	**C025 - CX25**	**C032 - CX32**	**C040 - CX40**	**C063**	**C080**	**G125**	**G200**
Rated short-time short circuit withstand current Icw (1 s)		A	300	300	300	500	500	500	1200	1200	-	-
Rated short circuit making capacity Icm		A	1200	1200	1200	2840	2840	2840	2000	2000	-	-
Conditional rated short circuit withstand current		kA	5	5	5	10	10	10	10	10	20	20
Fuse rating gG	**690V**	A	20	20	20	40 ■	40 ■	40 ■	100	100	125 ▲	200 ▲
UL 508 CHARACTERISTICS			**P012 - PX12**	**P016 - PX16**	**P020 - PX20**	**C025 - CX25**	**C032 - CX32**	**C040 - CX40**	**C063**	**C080**	**G125**	**G200**
General Use	**600V AC**	A	12	16	20	25	32	40	63	85	125	175
Standard motor load — single phase - 2 poles	**120V AC**	HP (FLA)	0,5 (9,8)	1 (16)	1,5 (20)	1,5 (20)	2 (24)	3 (34)	5 (56)	5 (56)	-	-
	240V AC	HP (FLA)	1 (8)	1,5 (10)	2 (12)	3 (17)	5 (28)	5 (28)	7,5 (40)	10 (50)	-	-
3 phases - 3 poles	**200V AC**	HP (FLA)	1,5 (6,9)	3 (11,04)	5 (17,5)	7,5 (25,3)	7,5 (25,3)	10 (32,2)	-	-	10 (56)	15 (84)
	240V AC	HP (FLA)	3 (9,6)	5 (15,2)	5 (15,2)	7,5 (22)	7,5 (22)	10 (28)	15 (42)	20 (54)	20 (54)	25 (68)
	480V AC	HP (FLA)	5 (7,6)	7,5 (11)	10 (14)	15 (21)	20 (27)	20 (27)	30 (40)	40 (52)	40 (52)	50 (65)
	600V AC	HP (FLA)	5 (6,1)	7,5 (9)	10 (11)	15 (17)	20 (22)	20 (22)	40 (41)	50 (52)	50 (52)	50 (52)

▼ Values not reported on the IMQ files. ■ Fuses type gG 40a 500V ▲ Fuses type gG/Gm

EXECUTION ON DEMAND

ORDER FORM FOR SPECIAL SCHEME ON REQUEST

SPECIAL SHAFTS

- Length and shape on request.



FAST ON CONNECTIONS

- Flat fast on terminals.
- Single or double terminals.
- P012 ... P020 - C025 ... C040 Series.



AXIAL INTERLOCK

- "Push and turn" interlock in several positions.
- C025 ... C040 Series.



UNDIRECTIONAL ROTATION

- Unidirectional turn.
- C025 ... C040 Series.



PE SERIES - LOWERED CAM SWITCHES

- Only for 12 ... 20A Series.
- Only for few electrical schemes.
- Length 20mm less than an equivalent PO-PX Series.



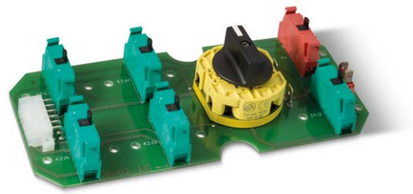
COAXIAL COUPLING

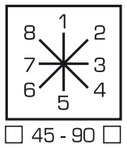
- Power Unit + Aux Unit.



CAM SWITCH

- Suitable for PCB connection.
- **PATENTED** product.

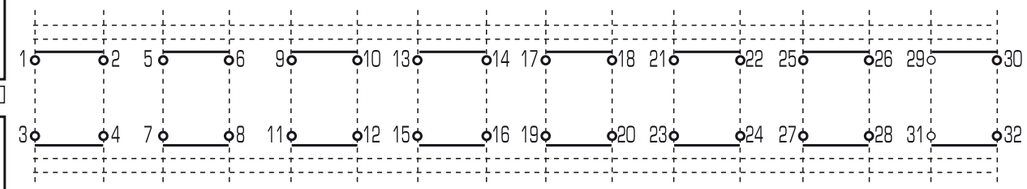




☐ 45 - 90 ☐

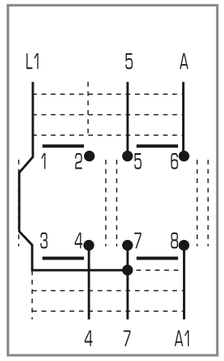


☐ 30 - 60 ☐



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

		POSITION
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	CONT.	



WAFER	CONT.	0	1	M
		POSITION		
2	7-8			X
	5-6		X	X
1	3-4	X	X	
	1-2		X	

☐ Open Contact
☒ Closed contact
☒ Break before make
☒ Contact closed: no interruption during changeover
1 / 2 Spring return
☒ Make before break
☒ Open contact early make

Rated current Ie
Operational rated voltage Ue

Category	Amp/kw		Volt
☐ AC-21A		A	V
☐ AC-22A		A	V
☐ AC-23A	1Ph	kW	V
	3Ph	kW	V
☐ AC-3	1Ph	kW	V
	3Ph	kW	V

Series

Mounting:
☐ Rear Panel mounting
☐ Base
☐ Din

Operating:

Notes:

Company:

Contact person:

Phone
Fax
E-mail
Quantity
Due date
Order Nr.