

Ammeter and Voltmeter Cam Switches, Type R, Door or Thru Panel Mounting

COMPLY WITH RULES

IEC 947-3, EN 60947-3, UL508



SERIES			P012-P016-P020 PX12-PX16-PX20			C025-C032-C040 CX25-CX32-CX40			C063-C080		G125	G200
Protection class	control	EN 60529 (UL50) NEMA 4X	IP65 (Type 1 - 4 -4X) IP40 IP20 (P0) - IP10 (PX)			IP65 (Type 1 - 4 -4X) IP40 IP20 (P0) - IP10 (PX)			IP65 IP40 IP00		IP65 - IP00	IP65 - IP00
	control with knob only terminals											
Material group		EN 60947-1	II			II			II		IIIA	IIIA
Pollution grade		EN 60947-1	3			3			3		3	3
Flammability		UL94	VO (Live Electrical parts)			VO (Live Electrical parts)			VO (Live Electrical parts)		VO (Live Electrical parts)	VO (Live Electrical parts)
Ambient temperature		°C	Operating: -40 +85			Operating: -40 +85			Operating: -40 +70		Operating: -15 +55	Operating: -15 +55
		°C	Storage: -40 +70			Storage: -40 +70			Storage: -40 +70		Storage: -25 +70	Storage: -25 +70
Climate Withstand		IEC 68 part 2-3	Hot damp			Hot damp			Hot damp		-	-
		IEC 68 part 2-30	Unsettled hot damp			Unsettled hot damp			Unsettled hot damp		-	-
Terminal screw identification			EN50013			EN50013			EN50013		-	-
Connections	Terminal block caliber	EN60947-1	A3			A5			A7		-	-
	Terminal screw		M3,5			M4			2xM4		Hex. screw M8 for bars and cable lugs	
	Screwing torque	EN60947-1	0,8 Nm (7,2 lb. in.)			1,2 Nm (10,6 lb. in.)			1,2 Nm (10,6 lb. in.)		-	-
		UL508	7,5 lb. in. (0,85 Nm)			12 lb. in. (1,4 Nm)			10,62 lb. in. (1,2 Nm)		-	-
Connectable section	Flexible conductors min/max	mm ²	1x0,75/4 - 2x0,75/2,5			2x2,5/10			2,5/35		-	-
		AWG	10 - 18			14 - 6			14 - 3		-	-
	Solid conductors min/max	mm ²	1x0,75/4 - 2x0,75/2,5			2x2,5/10			2,5/35		-	-
		AWG	10 - 18			14 - 6			14 - 3		-	-
Contacts			Double breaking			Double breaking			Double breaking		Double breaking	Double breaking
Opening angles			30° - 45° - 60° - 90°			30° - 45° - 60° - 90°			45° - 60° - 90°		60° - 90°	60° - 90°
Mechanical lifetime at 120 operations for hour		mil./cl	1	1	1	1	1	1	1	1	0,1	0,1
Electrical lifetime at 120 operations for hour		mil./cl	1	0,75	0,75	1	0,75	0,75	0,5	0,25	0,01	0,01
CERTIFICATIONS			P012 PX12	P016 PX16	P020 PX20	C025 CX25	C032 CX32	C040 CX40	C063	C080	G125	G200
CE	CE mark - Europe		■	■	■	■	■	■	■	■	■	■
cUL	cUL Listed - USA and Canada		●	●	●	●	●	●	●	●	●	●
IMQ	IMQ Istituto Marchio Qualità - Italy		●	●	●	●	●	●	●	●	●	●
CCC	CCC Cina		●	●	●	●	●	●	●	●	●	●
EAC	EAC Russia		●	●	●	●	●	●	●	●	●	●

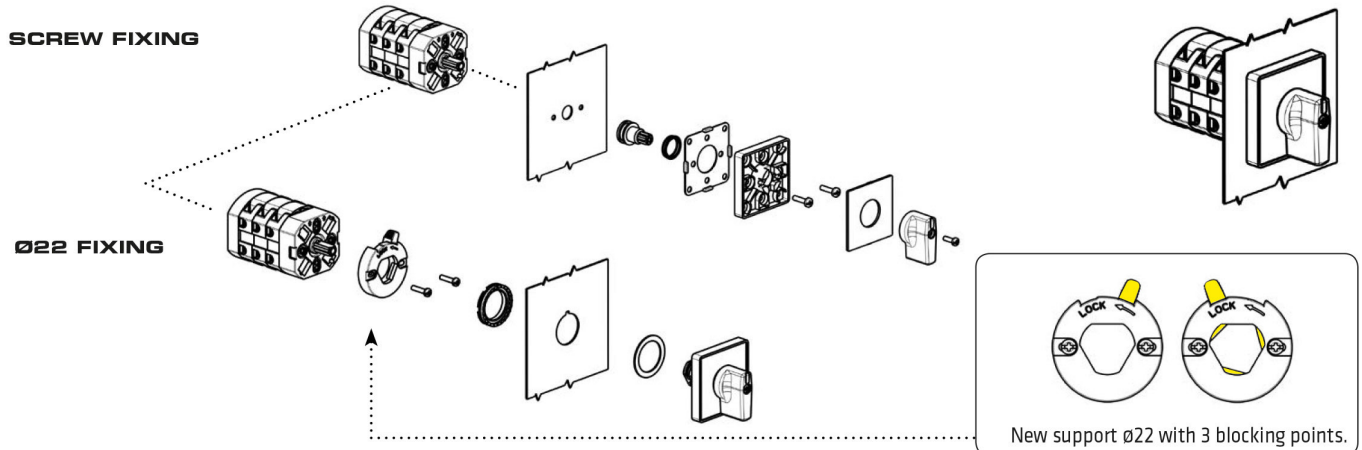
■ Comply to the requirements by passed test. ● Approved.

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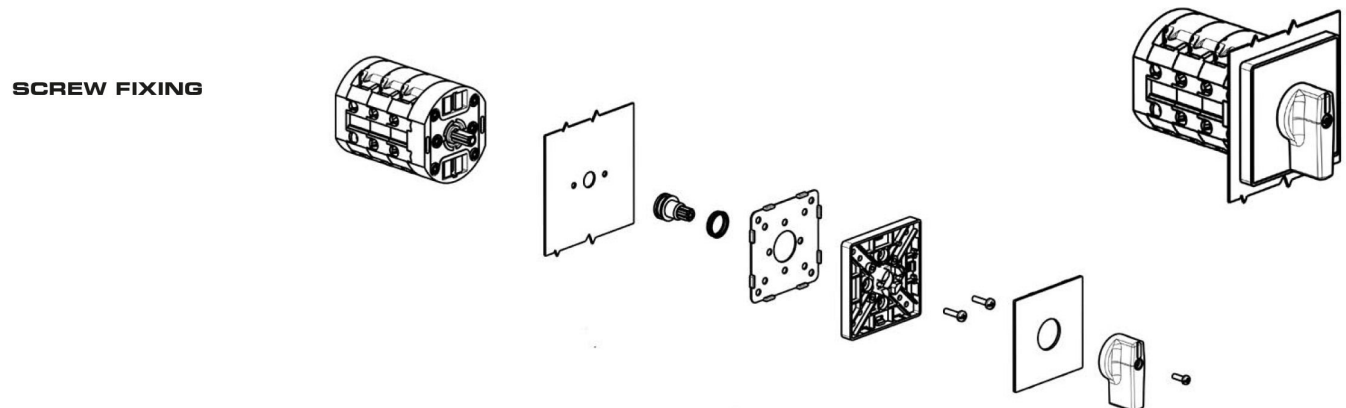
EN 60947-3 CHARACTERISTICS			P012 - PX12	P016 - PX16	P020 - PX20	C025 - CX25	C032 - CX32	C040 - CX40	C063	C080	G125	G200
Rated operating voltage Ue	V		690	690	690	690	690	690	690	690	690	690
Rated insulation voltage Ui	V		690	690	690	690	690	690	690	690	690	690
Rated impulse withstand voltage Uimp (sectionable)	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 (cosφ 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

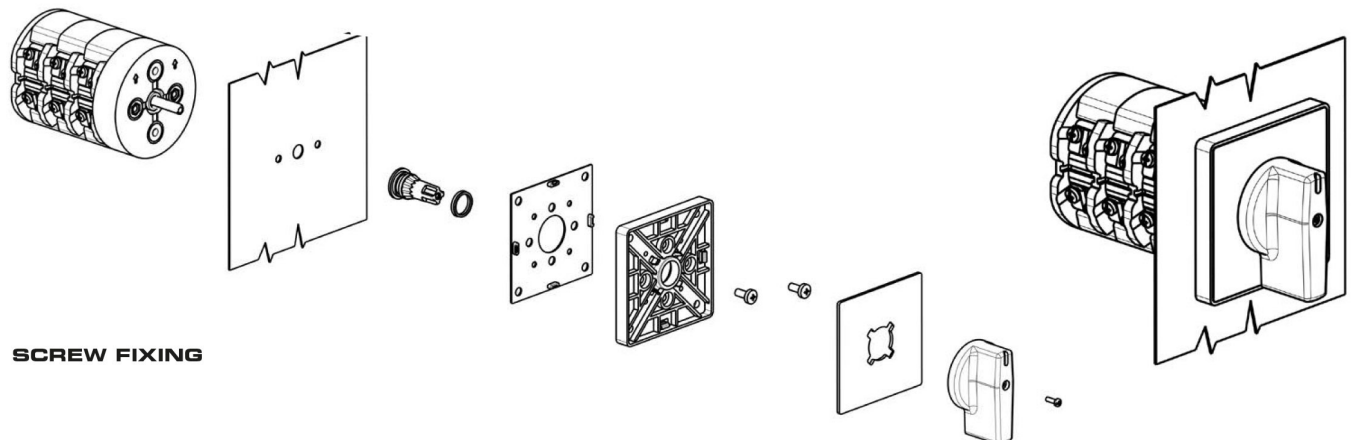
| RANGE AC21A | 12A - 16A - 20A |



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

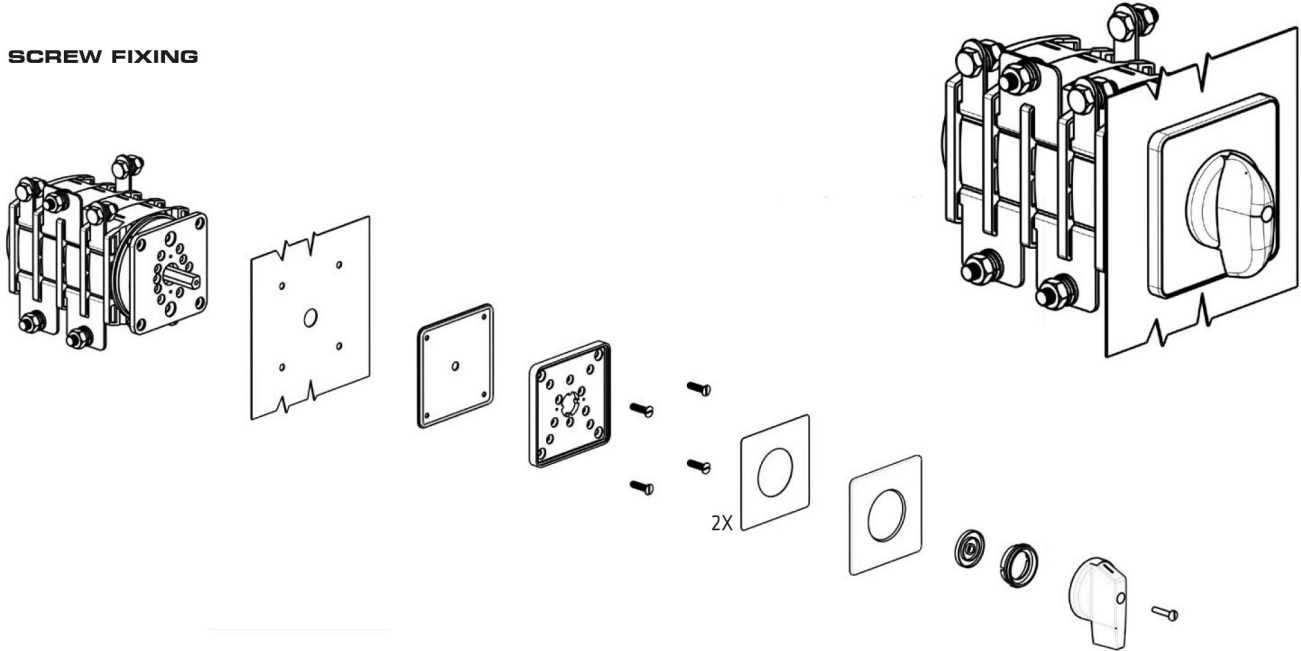


| RANGE AC21A | 63A - 80A |



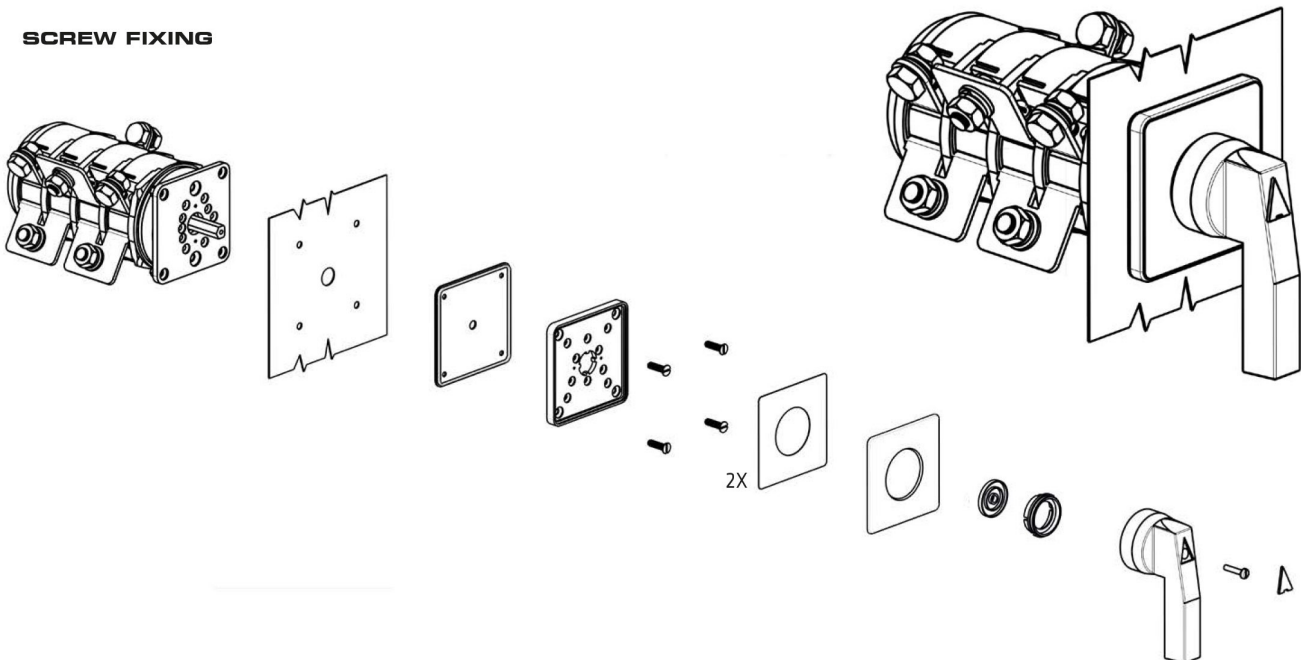
| RANGE AC21A | 125A |

SCREW FIXING



| RANGE AC21A | 200A |

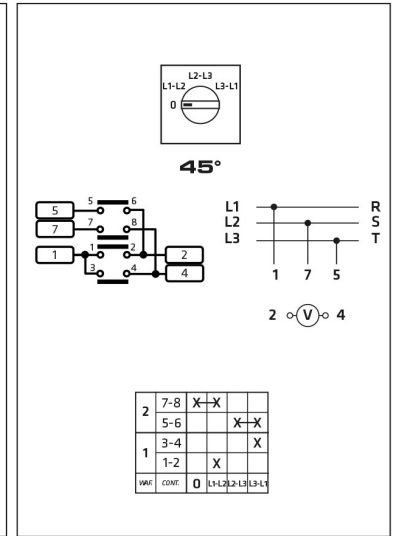
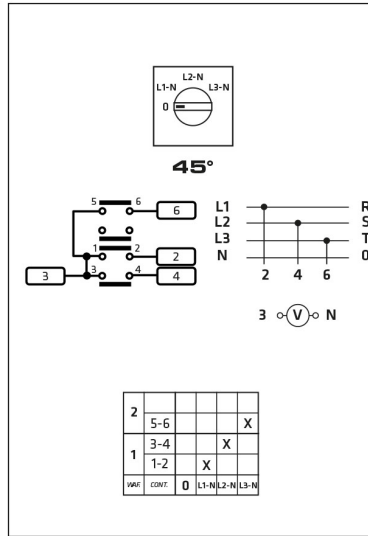
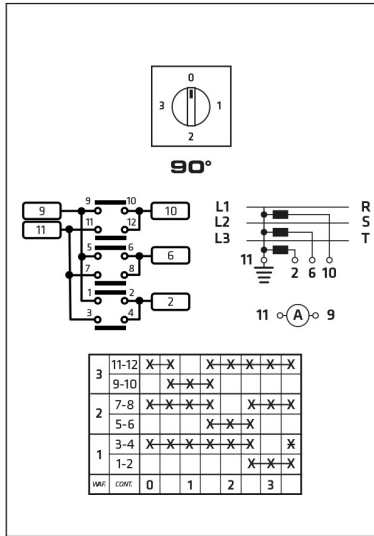
SCREW FIXING



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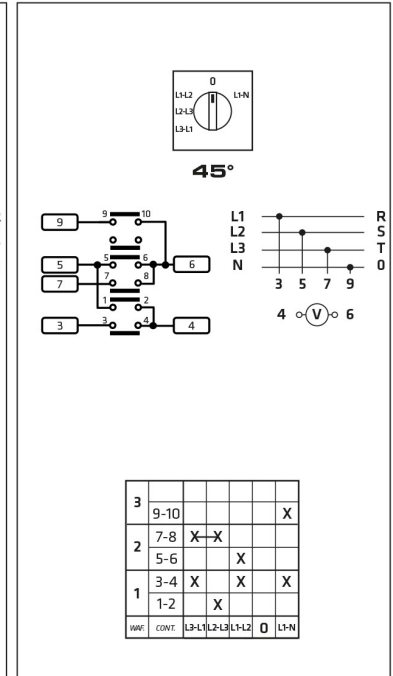
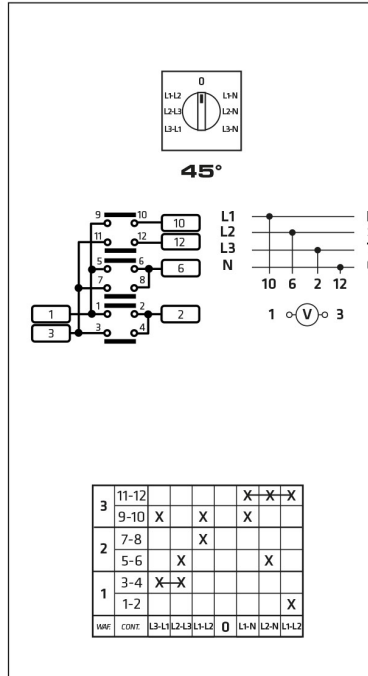
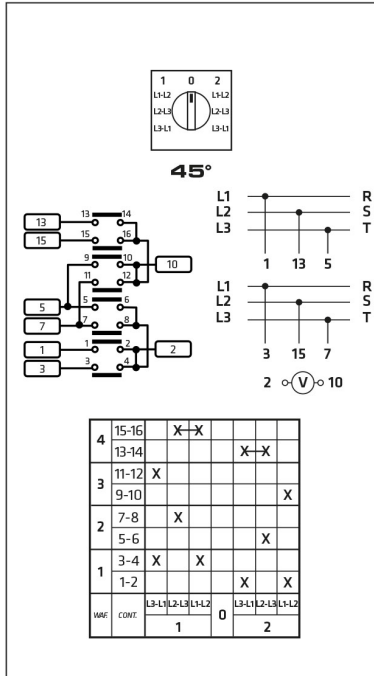
12-16-20A



SERIES	AC21A	AMMETER SELECTOR SWITCH 1 POLE FOR 3 CURRENT TRANSFORMERS	VOLTMETER SELECTOR SWITCH PHASE-NEUTRAL	VOLTMETER SELECTOR SWITCH PHASE-PHASE
P012	12A	P0120019R	P0120020R	P0120021R
P016	16A	P0160019R	P0160020R	P0160021R
P020	20A	P0200019R	P0200020R	P0200021R



12-16-20A



SERIES	AC21A	VOLTMETER SELECTOR SWITCH PHASE-PHASE FOR TWO CIRCUITS	VOLTMETER SELECTOR SWITCH PHASE-PHASE AND PHASE-NEUTRAL	VOLTMETER SELECTOR SWITCH PHASE-PHASE AND 1 PHASE-NEUTRAL
P012	12A	P0120022R	P0120023R	P0120024R
P016	16A	P0160022R	P0160023R	P0160024R
P020	20A	P0200022R	P0200023R	P0200024R

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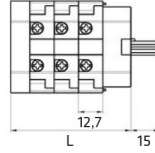
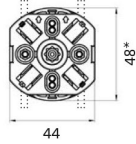
ACTUATOR		FIXING		P012 - P016 - P020						
										
				90°	45°	45°	45°	45°	45°	NO
	screw			001/0019	001/0020	001/0021	001/0022	001/0023	001/0024	-
	ø22			056X/0019	056X/0020	056X/0021	056X/0022	056X/0023	056X/0024	-
	screw			-	-	-	-	-	-	-
	ø22			-	-	-	-	-	-	-
	screw			-	-	-	-	-	-	-
	ø22			-	-	-	-	-	-	-
	screw			-	-	-	-	-	-	-
	ø22			-	-	-	-	-	-	-
	screw			-	-	-	-	-	-	-
	ø22			-	-	-	-	-	-	-
	screw			-	-	-	-	-	-	-
	ø22			-	-	-	-	-	-	-
	ø22			-	-	-	-	-	-	-
	ø22			-	-	-	-	-	-	028X
	ø22			-	-	-	-	-	-	029X

Key removable at 0° and 180°

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12-16-20A

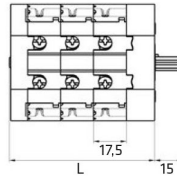
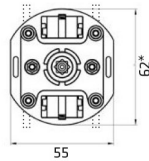


WAFER GAP	L x WAFER N°					
	1	2	3	4	5	6
12,7	37,4	50,1	62,8	75,5	88,2	100,9

* 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

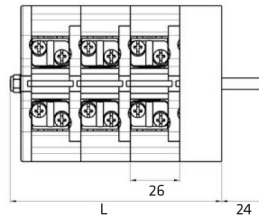
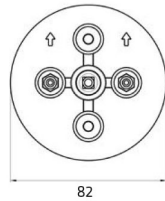


WAFER GAP	L x WAFER N°					
	1	2	3	4	5	6
17,5	42,2	59,7	77,2	94,7	112,2	129,7

* 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.



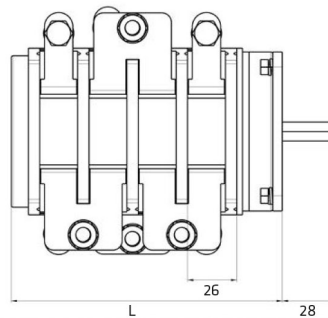
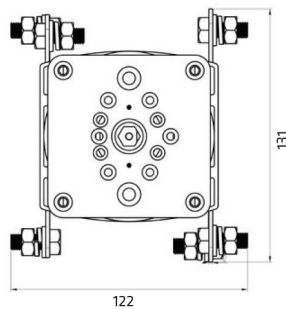
63-80A



WAFER GAP	L x WAFER N°					
	1	2	3	4	5	6
26	59,1	85,1	111,1	137,1	163	189,1



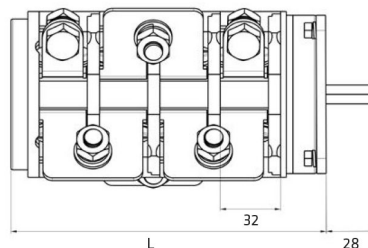
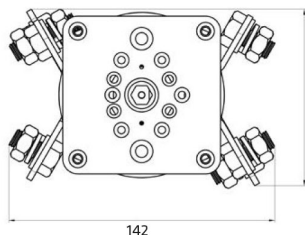
125A



WAFER GAP	L x WAFER N°					
	1	2	3	4	5	6
26	66	92	118	144	170	196



200A



WAFER GAP	L x WAFER N°					
	1	2	3	4	5	6
32	72	104	136	168	200	232



001/... 

002/... 

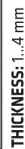


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30,2



007/... 

008/... 

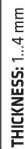


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30.2

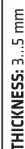


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441/...

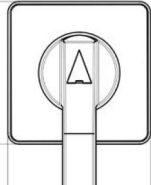


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441/...



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