

Changeover Cam Switches, Type B, 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	
Protection class	control terminals	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	
Material group		EN 60947-1	II			II			II	
Pollution grade		EN 60947-1	3			3			3	
Flammability		UL94	VO (Live Electrical parts)			VO (Live Electrical parts)			VO (Live Electrical parts)	
Ambient temperature		°C	Operating: -40 +85 Storage: -40 +70			Operating: -40 +85 Storage: -40 +70			Operating: -40 +70 Storage: -40 +70	
Climate Withstand		IEC 68 part 2-3 IEC 68 part 2-30	Hot damp Unsettled hot damp			Hot damp Unsettled hot damp			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	
	Screwing torque	EN60947-1 UL508	0,8 Nm (7,2 lb. in.) 7,5 lb. in. (0,85 Nm)			1,2 Nm (10,6 lb. in.) 12 lb. in. (1,4 Nm)			1,2 Nm (10,6 lb. in.) 10,62 lb. in. (1,2 Nm)	
Connectable section	Flexible conductors min/max	mm ² AWG	1x0,75/4 - 2x0,75/2,5 10 - 18			2x2,5/10 14 - 6			2,5/35 14 - 3	
	Solid conductors min/max	mm ² AWG	1x0,75/4 - 2x0,75/2,5 10 - 18			2x2,5/10 14 - 6			2,5/35 14 - 3	
Contacts			Double breaking			Double breaking			Double breaking	
Opening angles			30° - 45° - 60° - 90°			30° - 45° - 60° - 90°			45° - 60° - 90°	
Mechanical lifetime at 120 operations for hour		mil./cl	1	1	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	0,5	0,25
CERTIFICATIONS			P012 PX12	P016 PX16	P020 PX20	C025 CX25	C032 CX32	C040 CX40	C063	C080
CE	CE mark - Europe		■	■	■	■	■	■	■	■
cUL	cUL Listed - USA and Canada		●	●	●	●	●	●	●	●
IMQ	IMQ Istituto Marchio Qualità - Italy		●	●	●	●	●	●	●	●
CCC	CCC Cina		●	●	●	●	●	●	●	●
EAC	EAC Russia		●	●	●	●	●	●	●	●

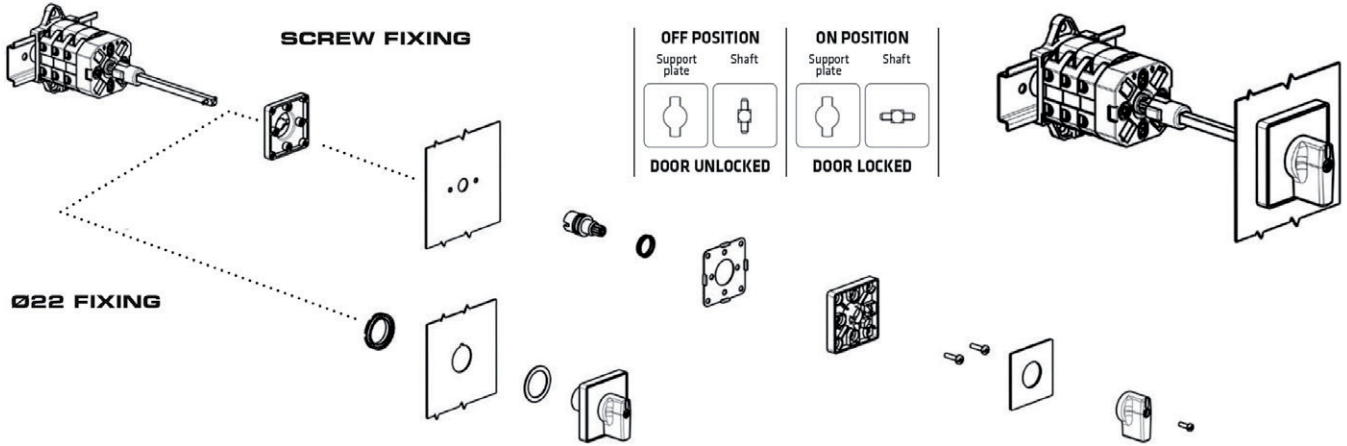
■ Comply to the requirements by passed test. ● Approved.

EN 60947-3 CHARACTERISTICS				P012 - PX12	P016 - PX16	P020 - PX20	C025 - CX25	C032 - CX32	C040 - CX40	C063	C080
Rated operating voltage Ue	V		690	690	690	690	690	690	690	690	690
Rated insulation voltage Ui	V		690	690	690	690	690	690	690	690	690
Rated impulse withstand voltage Uimp (sectionable)	kV		4	4	4	6	6	6	6	8	8
Rated thermal current Ith	A		16	20	25	32	40	50	50	85	100
Rated thermal current in enclosed Ithe	A		12	16	20	25	32	40	40	85	100
Frequency	Hz		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
AC-21A Switching resistive loads with light overloads	690V	A	12	16	20	25	25	32	40	63	80
AC-22A Switching mixed resistive and inductive loads at light overloads	690V	A	12	16	20	25	25	32	40	63	80
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	80/7,5
		230V A/kW	12/2,2	14/3	18/4	25/4	30/5,5	35/6,5	45/7,5	63/11	80/15
	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	80/22,5
		400V A/kW	10/5,5	14/7,5	16/9	22/11	24/15	32/18,5	40/22	54/30	72/37,5
		500V A/kW	10/7,5	14/10	16/11	22/11	27/18,5	32/22	40/30	54/37	72/45
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	63/5,5
		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	63/11
	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	63/22,5
		400V A/kW	8/4	10/5	12/6	18/7,5	23/11	27/15	35/18,5	44/22	63/30
		500V A/kW	8/5,5	10/7,5	12/8	18/11	23/15	27/18,5	35/22	44/30	63/37,5
Nominal interruption power AC-23A (cosfi 0,45)	230V	A	80	104	128	200	240	280	400	464	630
		A	80	104	128	176	216	256	320	432	600
		A	80	112	128	176	216	256	320	432	600
		A	80	112	128	160	176	200	256	320	432
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
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
Rated short-time short circuit withstand current Icw (1 s)	A		300	300	300	500	500	500	500	1200	1200
Rated short circuit making capacity Icm	A		1200	1200	1200	2840	2840	2840	2840	2000	2000
Conditional rated short circuit withstand current	kA		5	5	5	10	10	10	10	10	10
Fuse rating gG	690V	A	20	20	20	40 ■	40 ■	40 ■	100	100	100
UL 508 CHARACTERISTICS				P012 - PX12	P016 - PX16	P020 - PX20	C025 - CX25	C032 - CX32	C040 - CX40	C063	C080
General Use	600V AC	A	12	16	20	25	32	40	63	85	100
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)	10 (100)
		240V AC HP (FLA)	1 (8)	1,5 (10)	2 (12)	3 (17)	5 (28)	5 (28)	7,5 (40)	10 (50)	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)	-	-	-
		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)
		480V AC HP (FLA)	5 (7,6)	7,5 (11)	10 (14)	15 (21)	20 (27)	20 (27)	30 (40)	40 (52)	40 (52)
		600V AC HP (FLA)	5 (6,1)	7,5 (9)	10 (11)	15 (17)	20 (22)	20 (22)	40 (41)	50 (52)	50 (52)

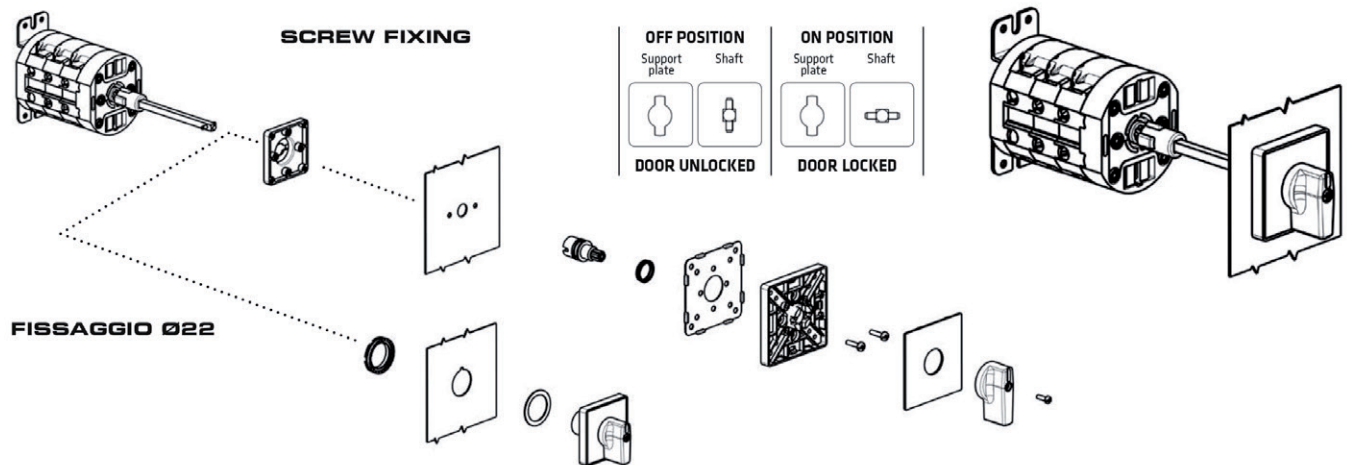
▼ Values not reported on the IMQ files. ■ Fuses type gG 40a 500V ▲ Fuses type gG/Gm

Changeover Cam Switches, Type B, Panel Mounting

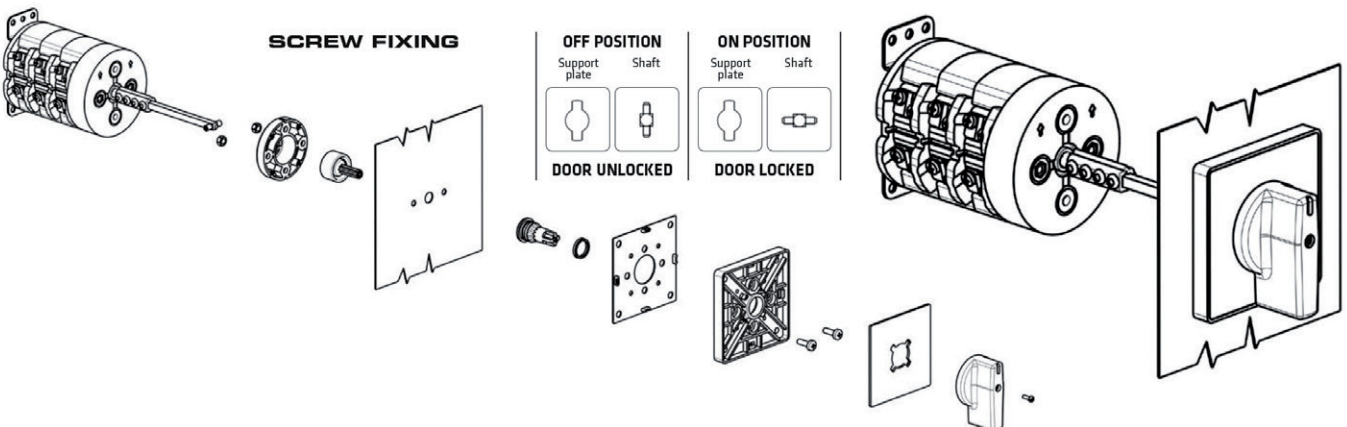
| RANGE AC21A | 12A - 16A - 20A |



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



| RANGE AC21A | 63A - 80A |



Changeover Cam Switches, Type B, Panel Mounting



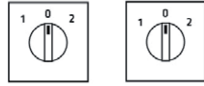
12-16-20A



25-32-40A



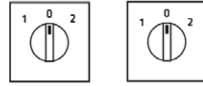
63-80A



45° 60°
G125 G200



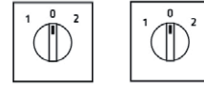
1	3-4		X
	1-2	X	
WAVE	CONV.	1 0 2	



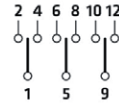
45° 60°
G125 G200



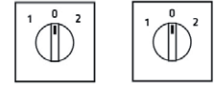
2	7-8		X
	5-6	X	
1	3-4		X
	1-2	X	
WAVE	CONV.	1 0 2	



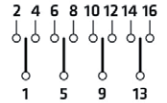
45° 60°
G125 G200



3	11-12		X
	9-10	X	
2	7-8		X
	5-6	X	
1	3-4		X
	1-2	X	
WAVE	CONV.	1 0 2	















45° 60°
G125 G200



4	15-16		X
	13-14	X	
3	11-12		X
	9-10	X	
2	7-8		X
	5-6	X	
1	3-4		X
	1-2	X	
WAVE	CONV.	1 0 2	

SERIES	AC21A	1 POLE	2 POLES	3 POLES	4 POLES
P012	12A	PO120008B	PO120009B	PO120010B	PO120011B
P016	16A	PO160008B	PO160009B	PO160010B	PO160011B
P020	20A	PO200008B	PO200009B	PO200010B	PO200011B
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	-	-	-	-

Changeover Cam Switches, Type B, Panel Mounting

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.

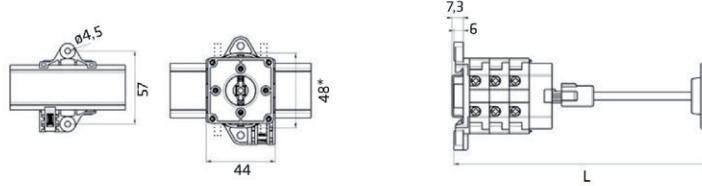
▲ UL50 NEMA Type 1-4-4X

▲ Metallic shaft can be cut according customer needs. Longer metallic shaft are available in accessories.

Changeover Cam Switches, Type B, Panel Mounting



12-16-20A



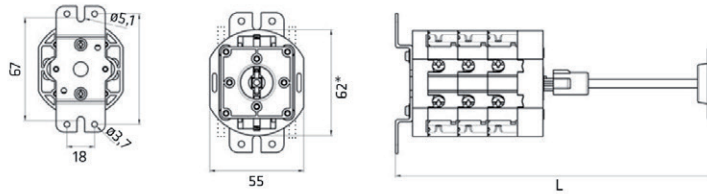
WAFER GAP	L x WAFER N*						
	1	2	3	4	5	6	
12,7	min*	80,4	93,1	105,8	118,5	131,2	143,9
	max	138,4	151,1	163,8	176,5	189,2	201,9

* Minimum length 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



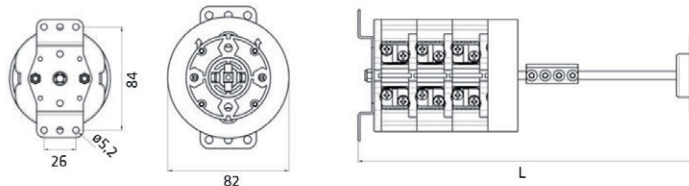
WAFER GAP	L x WAFER N*						
	1	2	3	4	5	6	
17,5	min*	96	113,5	131	148,5	166	183,5
	max	154	171,5	189	206,5	224	241,5

* Minimum length 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.



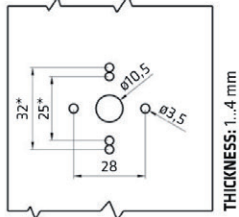
66-80A



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

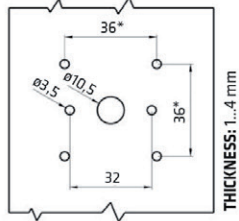
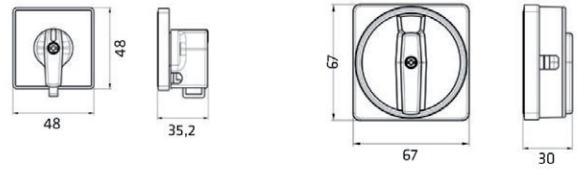
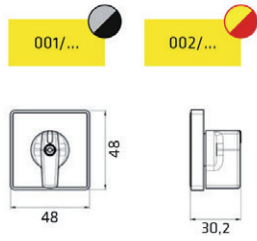
* Minimum length with cut shaft.

Changeover Cam Switches, Type B, Panel Mounting



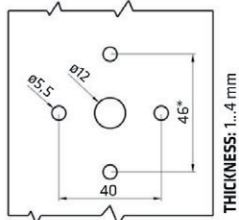
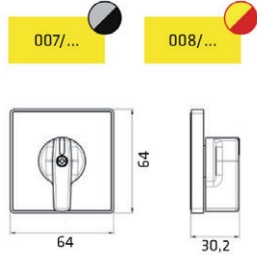
THICKNESS: 1...4 mm

FIXING:
Captive M3 bolt - 28 mm
* ALTERNATIVE FIXING
Screwplast 25 or 32 mm



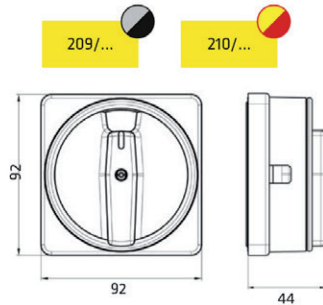
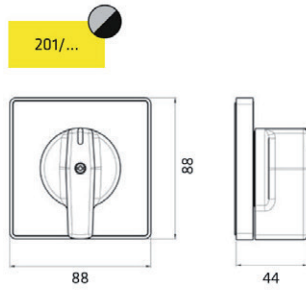
THICKNESS: 1...4 mm

FIXING:
Captive M3 bolt - 32 mm
* ALTERNATIVE FIXING
Screwplast □36 mm



THICKNESS: 1...4 mm

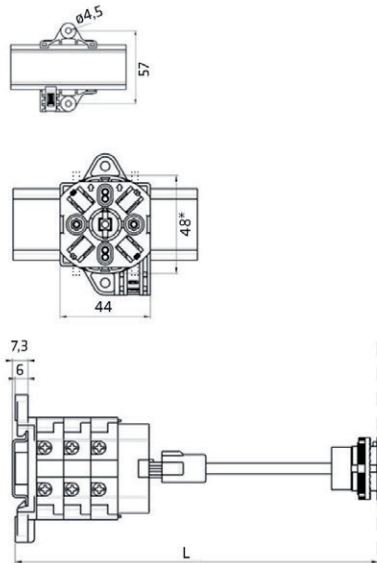
FIXING:
Captive M5 bolt - 40 mm
* ALTERNATIVE FIXING
M5 - 46 mm



Changeover Cam Switches, Type B, Panel Mounting



12-16-20A



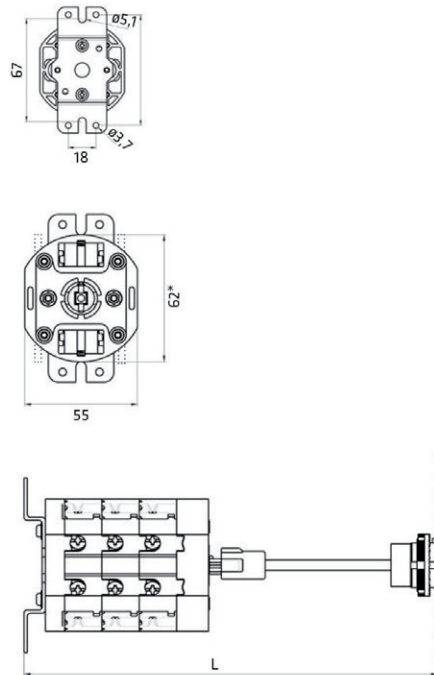
WAFER GAP	PANEL THICKNESS	L x WAFER N°						
		1	2	3	4	5	6	
12,7	1 mm	min*	84,2	96,9	109,6	122,3	135	147,7
		max	143,7	156,4	169,1	181,8	194,5	207,2
	2 mm	min*	83,2	95,9	108,6	121,3	134	146,7
		max	142,7	155,4	168,1	180,8	193,5	206,2
	3 mm	min*	82,2	94,9	107,6	120,3	133	145,7
		max	141,7	154,4	167,1	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 length 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	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 length 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.

