

IP66/IP67/IP68/IP69



GW 61 053 H

**LOW VOLTAGE HIGH CURRENT WATERTIGHT STRAIGHT PLUGS WITH MANTLE TERMINAL
HIGH PERFORMANCE**



Code	No. of poles	Rated voltage	Colour	Frequency	Reference h	Pack Carton
Rated current (A): 63						
GW 61 045 H	2P+E	100 - 130 V	■	50/60 Hz	4	1/4
GW 61 046 H	3P+E	100 - 130 V	■	50/60 Hz	4	1/4
GW 61 047 H	3P+N+E	100 - 130 V	■	50/60 Hz	4	1/4
GW 61 048 H	2P+E	200 - 250 V	■	50/60 Hz	6	1/4
GW 61 049 H	3P+E	200 - 250 V	■	50/60 Hz	9	1/4
GW 61 050 H	3P+N+E	200 - 250 V	■	50/60 Hz	9	1/4
GW 61 051 H	2P+E	380 - 415 V	■	50/60 Hz	9	1/4
GW 61 052 H	3P+E	380 - 415 V	■	50/60 Hz	6	1/4
GW 61 053 H	3P+N+E	346 - 415 V	■	50/60 Hz	6	1/4
GW 61 056 H	2P+E	480 - 500 V	■	50/60 Hz	7	1/4
GW 61 054 H	3P+E	480 - 500 V	■	50/60 Hz	7	1/4
GW 61 055 H	3P+N+E	480 - 500 V	■	50/60 Hz	7	1/4
GW 61 057 H	3P+E	600 - 690 V	■	50/60 Hz	5	1/4
GW 61 058 H	3P+N+E	600 - 690 V	■	50/60 Hz	5	1/4
GW 61 059 H	2P+E	>50 V	■	100 - 300 Hz	10	1/4
GW 61 059 H	2P+E	>50 V	■	100 - 300 Hz	10	1/4
GW 61 060 H	3P+E	>50 V	■	100 - 300 Hz	10	1/4
GW 61 060 H	3P+E	>50 V	■	100 - 300 Hz	10	1/4
GW 61 061 H	3P+N+E	>50 V	■	100 - 300 Hz	10	1/4
GW 61 061 H	3P+N+E	>50 V	■	100 - 300 Hz	10	1/4
GW 61 062 H	2P+E	>50 V	■	>300 - 500 Hz	2	1/4
GW 61 063 H	3P+E	>50 V	■	>300 - 500 Hz	2	1/4
GW 61 064 H	3P+N+E	>50 V	■	>300 - 500 Hz	2	1/4
GW 61 065 H	3P+E	440 - 460 V	■	60 Hz	11	1/4
GW 61 066 H	3P+N+E	440 - 460 V	■	60 Hz	11	1/4
GW 61 067 H	2P+E	>50 - 250 V	■	d.c.	3	1/4
GW 61 068 H	2P+E	>250 V	■	d.c.	8	1/4
Rated current (A): 125						
GW 60 664 H	2P+E	100 - 130 V	■	50/60 Hz	4	1/2
GW 60 056 H	3P+E	100 - 130 V	■	50/60 Hz	4	1/2
GW 60 057 H	3P+N+E	100 - 130 V	■	50/60 Hz	4	1/2
GW 60 665 H	2P+E	200 - 250 V	■	50/60 Hz	6	1/2
GW 60 058 H	3P+E	200 - 250 V	■	50/60 Hz	9	1/2
GW 60 059 H	3P+N+E	200 - 250 V	■	50/60 Hz	9	1/2
GW 60 666 H	2P+E	380 - 415 V	■	50/60 Hz	9	1/2
GW 60 060 H	3P+E	380 - 415 V	■	50/60 Hz	6	1/2
GW 60 061 H	3P+N+E	346 - 415 V	■	50/60 Hz	6	1/2
GW 60 667 H	2P+E	480 - 500 V	■	50/60 Hz	7	1/2
GW 60 062 H	3P+E	480 - 500 V	■	50/60 Hz	7	1/2
GW 60 063 H	3P+N+E	480 - 500 V	■	50/60 Hz	7	1/2
GW 60 668 H	3P+E	600 - 690 V	■	50/60 Hz	5	1/2
GW 60 669 H	3P+N+E	600 - 690 V	■	50/60 Hz	5	1/2
GW 60 670 H	2P+E	>50 V	■	100 - 300 Hz	10	1/2
GW 60 670 H	2P+E	>50 V	■	100 - 300 Hz	10	1/2
GW 60 671 H	3P+E	>50 V	■	100 - 300 Hz	10	1/2
GW 60 671 H	3P+E	>50 V	■	100 - 300 Hz	10	1/2
GW 60 672 H	3P+N+E	>50 V	■	100 - 300 Hz	10	1/2
GW 60 672 H	3P+N+E	>50 V	■	100 - 300 Hz	10	1/2
GW 60 673 H	2P+E	>50 V	■	>300 - 500 Hz	2	1/2
GW 60 674 H	3P+E	>50 V	■	>300 - 500 Hz	2	1/2
GW 60 675 H	3P+N+E	>50 V	■	>300 - 500 Hz	2	1/2
GW 60 676 H	3P+E	440 - 460 V	■	60 Hz	11	1/2
GW 60 677 H	3P+N+E	440 - 460 V	■	60 Hz	11	1/2

NOTES: all products are packaged individually.

Halogen-free according to EN 60754-2.

IP68: 2 bar/ 6 h in accordance with EN 60529 after ageing according to Standard EN 60309.

IP69: in accordance with EN 60529 after ageing according to Standard EN 60309.

CHARACTERISTICS: connection technology with mantle terminals. Nickel-plated plugs.

Versions with pilot contact.

IEC 309 HP



4 IP DEGREES FOR TOTAL PROTECTION



The HP straight plugs and socket-outlets are the first and only on the electrotechnical field with IP68 and IP69 degrees of protection. Nickel plating of pins and sleeves also offers the best protection against corrosion, oxidation and abrasion, even in critical environmental conditions.

EXCELLENT RESISTANCE TO STRESS



The use of high-performance technopolymers and the inness of rubberised surfaces to protect the areas most at risk of knocks (in all 63-125 A versions) offer excellent resistance to mechanical stress (IK09, equivalent to 10 J), also at low temperatures (down to -25 °C).

SAFE AND INTUITIVE ASSEMBLY



The 16-32 A versions are distinguished by their patented closure with ¼ turn SAFE-LOCK system, whereas the 63-125 A versions have captive screws on brass inserts with a wider contrast flange "embedded" in the straight connectors/plugs body.

New range of plugs and socket-outlets meeting the dimensional, construction/performance and safety requisites defined by the international Standards IEC 60309-1 and IEC 60309-2, subsequently assimilated at European level as EN 60309-1 and EN 60309-2.

Technical data and compliance with Standards

ELECTRICAL CHARACTERISTICS						
Rated current (In) (A)	Rated frequency (Hz)	Rated voltage Un (V)	Permissible overload (A)	No. of operations carried out	Breaking capacity at 1.1 Un (A)	Insulation resistance (MΩ)
16	50/60 100 ÷ 300 > 300 ÷ 500 direct current	> 50 ÷ 690 transformer	22	> 5000	20	> 10
32			42	> 2000	40	
63	50/60 100 ÷ 300 > 300 ÷ 500 direct current	> 50 ÷ 690	-	> 2000	79	> 10
125			> 500	156		

MECHANICAL AND PHYSICAL CHARACTERISTICS					
Operating temperature (°C)	Degree of protection (IP)	Impact resistance (IK)	Heat resistance	Resistance to abnormal heat and fire	
			Thermo-pressure with ball (°C)	Glow wire test (°C)	
-25 ÷ +55	Straight plugs and sockets HP*: IP44/IP54 e IP66/IP67/IP68/IP69	Straight plugs and sockets HP: IK 09	125 (active parts) 80 (passive parts)	850 (active parts) 650 (passive parts)	
	10° flush-mounting sockets HP: IP44/IP54 e IP66/IP67	10° flush-mounting sockets HP: IK 09			
	Other: IP44 e IP67	Other: IK 08			

(* Although the international product standard EN 60309 does not currently require it, these products have been voluntarily subjected to tests with degrees of protection higher than IP66/IP67.

IP68: 2 bar/6 h according to EN 60529 standard after aging test in conformity with EN 60309 standards.

IP69: according to IEC 60529 standard after aging test in conformity with EN 60309 standards.

BEHAVIOUR WITH CHEMICAL AND ATMOSPHERIC AGENTS										
Saline solution	Acids		Bases		Solvents				Mineral oil	UV rays
	Concentrated	Diluted	Concentrated	Diluted	Hexane	Benzol	Acetone	Alcohol		
Resistant	Not resistant	Limited resistance	Limited resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant

IEC 309 HP

Wiring information - Plugs and sockets IEC 309 HP

TIGHTENING CAPACITY OF THE TERMINALS (mm ²)				
Rated current (In) (A)	Flexible cables		Rigid or stranded cables	
	MIN.	MAX.	MIN.	MAX.
16	1	2.5	1.5	4
32	2.5	6	2.5	10
63	6	16	6	25
125	16	50	25	70

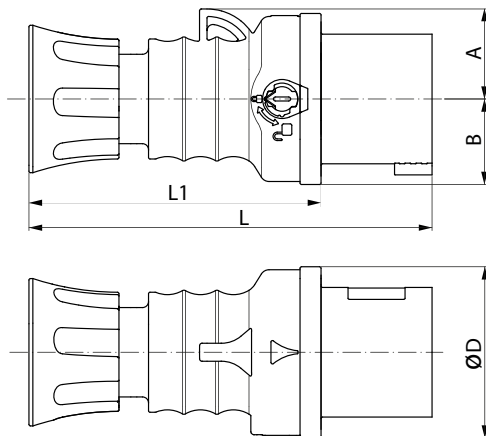
TIGHTENING CAPACITY OF THE CABLE FASTENER CLAMP * (mm)			
Rated current (In) (A)	No. poles	MIN.	MAX.
16	2P + \perp	7.5	13.8
	3P + \perp	7.5	13.8
	3P + N + \perp	9.2	19.9
32	2P + \perp	9.2	19.9
	3P + \perp	9.2	19.9
	3P + N + \perp	9.2	19.9
63**	2P + \perp	16.1	37
	3P + \perp	17.9	37
	3P + N + \perp	19.9	37
125**	2P + \perp	24.7	38.5
	3P + \perp	27	49
	3P + N + \perp	29.9	49

(*) NB: these values refer to flexible, rigid and stranded cables.

(**) Contact SAT customer service for indications of the cable size to be used in order to maintain the IPX8 degree

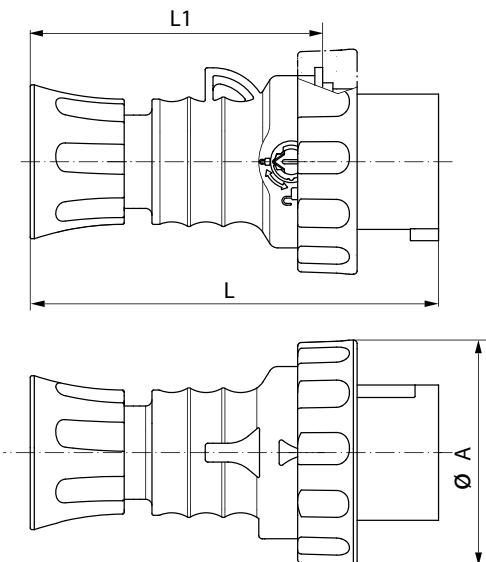
Dimension tables - Plugs and sockets IEC 309 HP 16-32A

STRAIGHT PLUGS - IP44/IP54



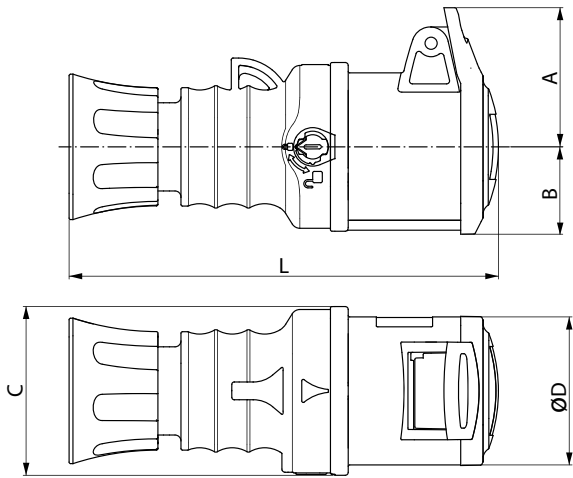
TYPE		A	B	D	L	L1
16A	2P + \perp	30	28.5	57	134	97
	3P + \perp	34	32	62	134	97
	3P+N+ \perp	38	36	68	153	115
32A	2P + \perp	40	41.5	71	162	115
	3P + \perp	40	41.5	71	162	115
	3P+N+ \perp	45	42	75	176	130

STRAIGHT PLUGS - IP66 / IP67 / IP68 / IP69



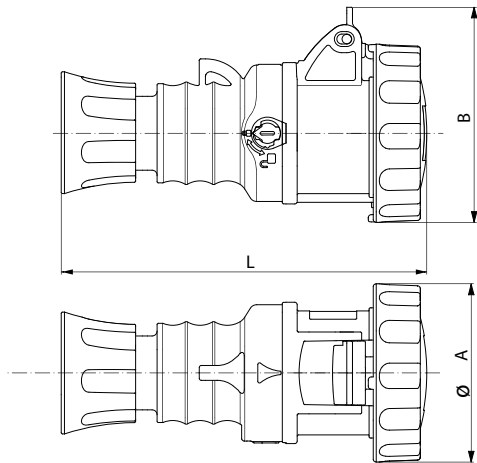
TYPE		A	L	L1
16A	2P + \perp	72	130	96
	3P + \perp	81	130.5	96.5
	3P+N+ \perp	88	150	116
32A	2P + \perp	93	158	114
	3P + \perp	93	158	114
	3P+N+ \perp	101	170	127

STRAIGHT CONNECTORS - IP44/IP54



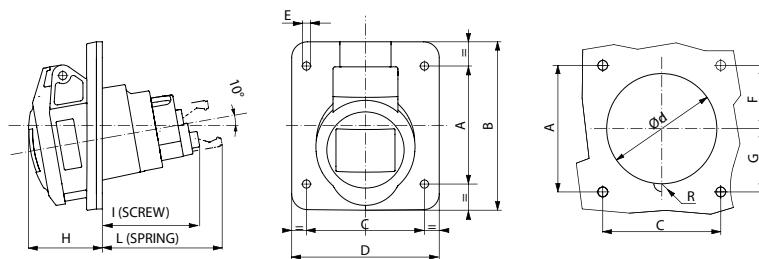
TYPE		A	B	C	D	L
16A	2P+ \pm	47	29.5	57	50	148
	3P+ \pm	50	32	62	55.5	148
	3P+N+ \pm	56.5	35.5	68	62.5	165
32A	2P+ \pm	59	39	71	64.5	176
	3P+ \pm	59	39	71	64.5	176
	3P+N+ \pm	62	42	75	70.5	190

STRAIGHT CONNECTORS - IP66 / IP67 / IP68 / IP69



TYPE		A	B	L
16A	2P+ \pm	72	87	148
	3P+ \pm	81	95	148
	3P+N+ \pm	88	102.5	167
32A	2P+ \pm	93	108	178
	3P+ \pm	93	108	178
	3P+N+ \pm	101	116	189

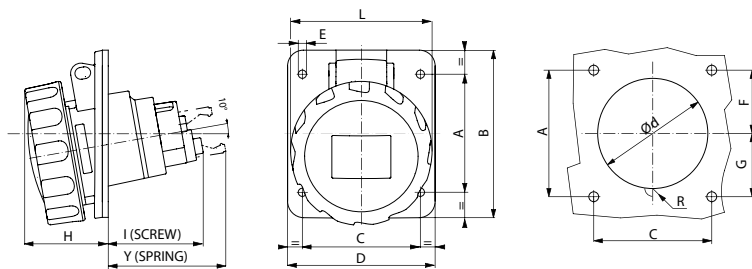
10° FLUSH-MOUNTING SOCKET-OUTLETS - IP44/IP54



TYPE		A	B	C	D	E	F	G	H	I	L	Ød	R
16A	2P+ \pm	60	85	60	75	4.2	38	22	37.5	49.5	61	56	-
	3P+ \pm	60	85	60	75	4.2	35	25	37	51.5	61	62	-
	3P+N+ \pm	60	85	60	75	4.2	29	31	39.5	49	60	65	8
32A	2P+ \pm	70	95	60	80	4.2	32	38	46.5	60	68	68	8
	3P+ \pm	70	95	60	80	4.2	32	38	46.5	60	68	68	8
	3P+N+ \pm	70	95	60	80	4.2	29.5	40.5	48.5	60	68	74	8

IEC 309 HP

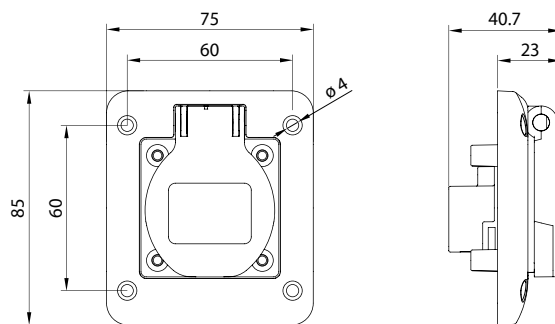
10° FLUSH-MOUNTING SOCKET-OUTLETS - IP66 / IP67



	TYPE	A	B	C	D	E	F	G	H	I	L	Y	ød	R
16A	2P+ $\frac{1}{2}$	60	85	60	75	4.2	38	22	42.5	48	72	60	56	-
	3P+ $\frac{1}{2}$	60	85	60	75	4.2	35	25	43	50.5	81	60	62	-
	3P+N+ $\frac{1}{2}$	60	85	60	75	4.2	29	31	44.5	48.5	88	60	66	5
32A	2P+ $\frac{1}{2}$	70	95	60	80	4.2	32	38	51	60.5	93	68.5	68	7
	3P+ $\frac{1}{2}$	70	95	60	80	4.2	32	38	51	60.5	93	68.5	68	7
	3P+N+ $\frac{1}{2}$	70	95	60	80	4.2	29.5	40.5	53	60.5	101	68.5	74	7

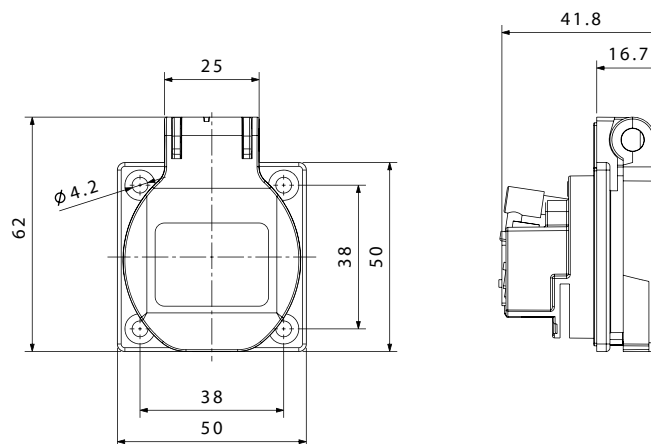
Dimension tables - Flush-mounting domestic socket-outlets

FLUSH-MOUNTING SOCKET-OUTLETS GERMAN STD 85X75 MM - IP54



GW62392

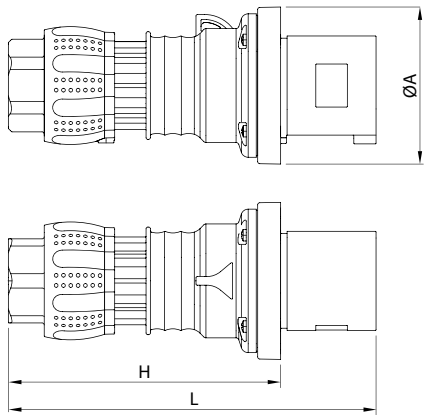
FLUSH-MOUNTING SOCKET-OUTLETS GERMAN OR FRENCH STD 50X50 MM - IP54



GW62393 and GW62394

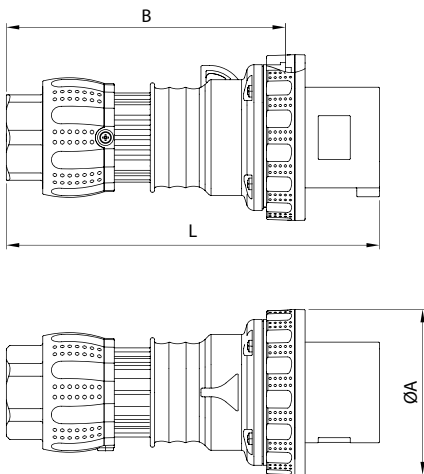
Dimension tables - Plugs and sockets IEC 309 HP 63-125A

STRAIGHT PLUGS - IP44/IP54



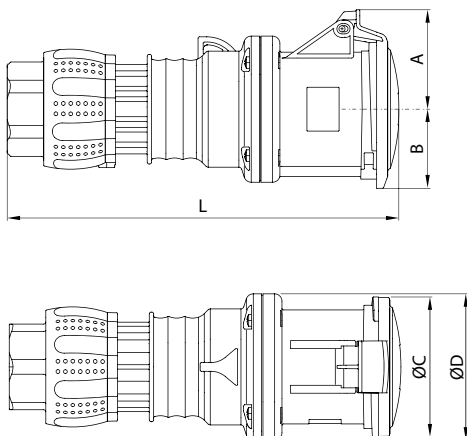
TYPE		A	L	H
63A	2P+ \pm	109	256	190
	3P+ \pm			
	3P+N+ \pm			

STRAIGHT PLUGS - IP66 / IP67 / IP68 / IP69



TYPE		A	B	L
63A	2P+ \pm	114	192	256
	3P+ \pm			
	3P+N+ \pm			
125A	2P+ \pm	131	241	313
	3P+ \pm			
	3P+N+ \pm			

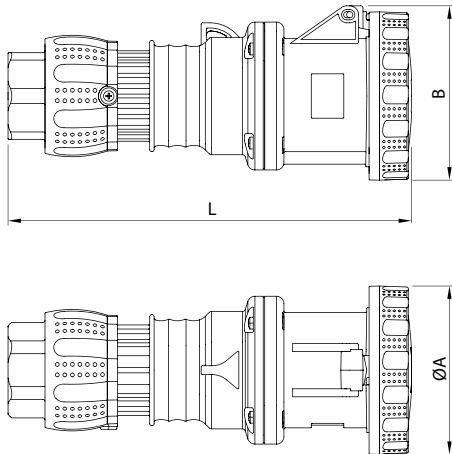
STRAIGHT CONNECTORS - IP44/IP54



TYPE		A	B	C	D	L
63A	2P+ \pm	68	54	96	100	268
	3P+ \pm					
	3P+N+ \pm					

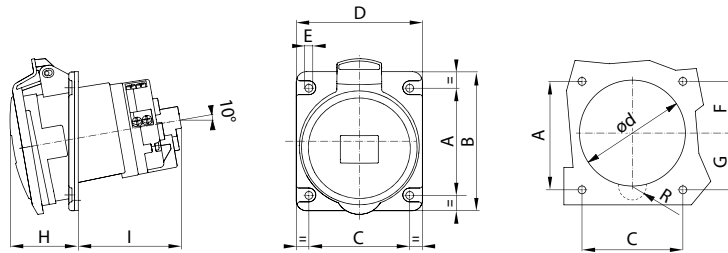
IEC 309 HP

STRAIGHT CONNECTORS - IP66 / IP67 / IP68 / IP69



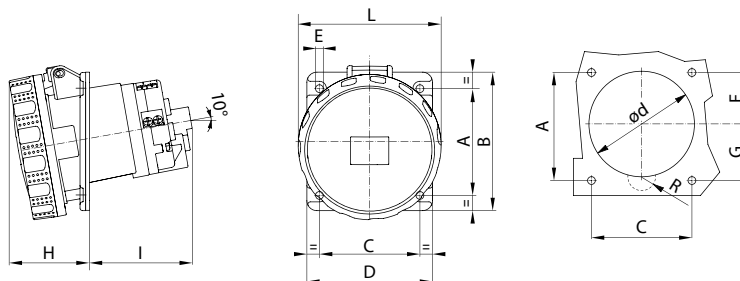
TYPE		A	B	L
63A	2P+ \pm	114	118	273
	3P+ \pm			
	3P+N+ \pm			
125A	2P+ \pm	130	131	335
	3P+ \pm			
	3P+N+ \pm			

10° FLUSH-MOUNTING SOCKET-OUTLETS - IP44/IP54



TYPE		A	B	C	D	E	F	G	H	I	Ød	R
63A	2P+ \pm	85	110	80	100	6	41	44	54	82	84	11
	3P+ \pm											
	3P+N+ \pm											

10° FLUSH-MOUNTING SOCKET-OUTLETS - IP66 / IP67



TYPE		A	B	C	D	E	F	G	H	I	L	Ød	R
63A	2P+ \pm	85	110	80	100	6	41	44	64	82	114	84	11
	3P+ \pm												
	3P+N+ \pm												
125A	2P+ \pm	90	114	90	114	6	43	47	76	108	131	95	13
	3P+ \pm												
	3P+N+ \pm												