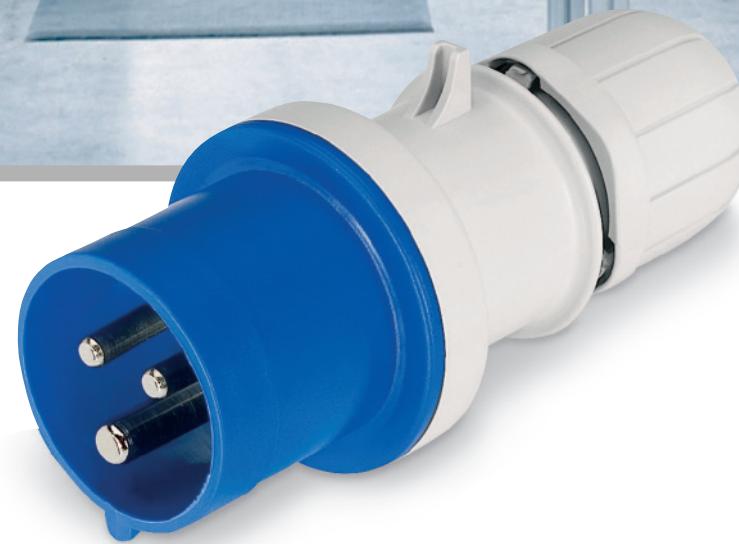
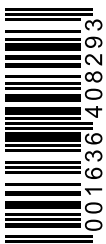


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OPTIMA Series

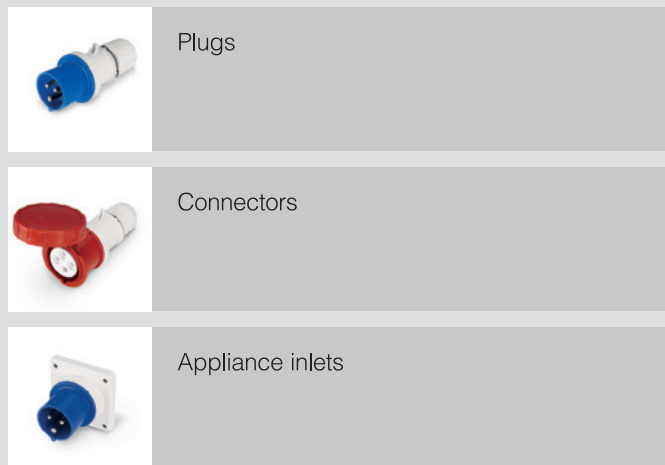
Industrial plugs and sockets



> INDUSTRIAL PLUGS AND SOCKETS



> VERSIONS



> REFERENCE STANDARDS

EN 60309-1
Plugs, socket-outlets and couplers for industrial purposes
Part 1: general requirements

EN 60309-2
Plugs, socket-outlets and couplers for industrial purposes
Part 2: dimensional interchangeability requirements for pin and contact-tube accessories.

> QUALITY MARKS



> TECHNICAL CHARACTERISTICS

Rated current:	16A - 32A - 63A - 125A
Rated voltage:	100÷690V~
Frequency:	d.c - 50÷500Hz
Insulating voltage:	500/690V~
Protection degree:	IP44 - IP66/IP67
Operating temperature according to the reference standard:	-25°C+40°C
Max operating temperature:	60°C
Glow Wire test:	650°C/850°C
Material:	Engineering plastic
IK degree at 20°C:	IK08
Cable inlets:	Cable gland
Halogen free:	Yes
Terminals:	Screw (16A-32A-63A-125A) Insulation perforating (16A)
Safe-in device:	16A
Snap-on device:	16A-32A

> BEHAVIOUR WITH CHEMICAL AND ATMOSPHERIC AGENTS

Saline solution	Acids		Bases		Solvents				Mineral oil	UV rays
	Concentrated	Diluted	Concentrated	Diluted	Hexane	Benzol	Acetone	Alcohol		
Resistant	Limited Resistance	Resistant	Resistant	Resistant	Not Resistant	Not Resistant	Not Resistant	Limited Resistance	Resistant	Limited Resistance

> WIRING AND INSTALLATION

Wiring capacity of the terminals (mm²)

Rated voltage	Rated current (A)	Plugs, connectors and appliance inlets		Socket outlets	
		Min	Max	Min	Max
Over 50V	16A	1	2,5	1,5	4
	32A	2,5	6	2,5	10
	63A	6	16	6	25
	125A	16	50	25	70

Max. cable size accepted by the cable clamp:

Rated current (A)	Outside Ø mm	
	Min	Max
16A	8	15
32A	11,5	21
63A	17	31
125A	26	48

> APPLICATION EXAMPLES





Lid equipped with special tab to facilitate single-hand opening (IP44 products).



IP66/IP67 socket cover equipped with slots to facilitate and improve closure of the socket.



On the 16A and 32A "Snap-on" device with stainless steel spring to guarantee frequent opening/closing (possibility to inspect the terminals).



External cable stay with tulip clamping having IP66/IP67 cable gland functions (the device is used on both IP44 and IP66/IP67 products).



Insertion of the conductor with insulation into the perforating terminal.



16A products with Insulation piercing terminal made in highly elastic phosphor bronze.



Socket/plug module with screw terminals (16A - 32A - 63A - 125A).



Internal profile of the handle which avoids the accidental opening of the contact.

> THE "SAFE-IN" SAFETY DEVICE

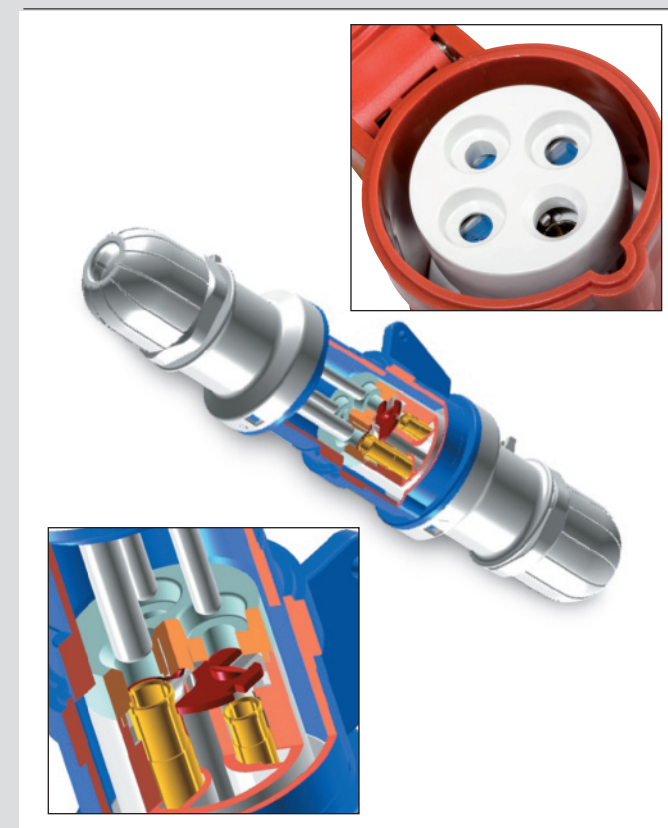
The "SAFE-IN" safety device assembled on the 16A industrial sockets is the most innovative element of the new OPTIMA Series. The "SAFE-IN" device works like the protection installed on household sockets, i.e., by means of an appropriate shutter, it closes the input of the socket contact tubes and prevents accidental and voluntary contact of live parts of the socket with slim objects, such as screwdrivers or wires. This protection offers an additional safety guarantee, in addition to that already provided by the spring-loaded cover assembled on the mobile sockets.

> SAFETY LEVEL OF THE OPTIMA SERIES SOCKETS

The OPTIMA Series sockets with the "SAFE-IN" safety device guarantee a higher level of safety in comparison with ordinary industrial sockets, especially in environments where there may be children present or people who have not been trained about electrical dangers (public areas, amusement parks, campgrounds, open markets, etc.).

Dangerous situations, such as the important examples illustrated in the figure to the side, can be resolved thanks to the new OPTIMA Series sockets equipped with the "SAFE-IN" safety device.

> POTENTIALLY DANGEROUS SITUATIONS



Connector tube protective shutter for greater safety against direct contacts. (The SAFE-IN safety device).

> PLUGS



IP44

Poles	Hz.	Volt	Colour	h.	Screw		Insulation performing
					16A cable gland 10/50	32A cable gland 10/40	16A cable gland 10/50
2P+E	50/60	100-130	Yellow	4	213.1630 (Δ)	213.3230	213.1630P (Δ)
	50/60	200-250	Blue	6	213.1633 (▲) (Δ)	213.3233 (▲)	213.1633P (▲) (Δ)
	50/60	380-415	Red	9	213.1638	213.3238	213.1638P
	50/60	480-500	Grey	7			
	50/60	trasf.	Grey	12			
	>300-500	>50	Green	2			
	d.c.	>50-250	Grey	3			
	d.c.	>250	Grey	8			
3P+E	50/60	100-130	Yellow	4			
	50/60	200-250	Blue	9	213.1634	213.3234	213.1634P
	50/60	380-415	Red	6	213.1636 (▲)	213.3236 (▲)	213.1636P (▲)
	60	440-460	Red	11			
	50/60	480-500	Grey	7			
	50/60	600-690	Black	5			
	50/60	380/440	Red	3			
	100-300	>50	Green	10			
>300-500	>50	Green	2				
3P+N+E	50/60	100-130	Yellow	4			
	50/60	208-250	Blue	9			
	50/60	346-415	Red	6	213.1637 (▲)	213.3237 (▲)	213.1637P (▲)
	50/60	480-500	Grey	7			
	50/60	600-690	Black	5			
	60	440-460	Red	11			
	50/60	380/440	Red	3			
	>300-500	>50	Green	2			

Rated operating voltage >50V
- □ = Pack Qty.



(▲) Black-coloured
Versions also available in black; just add ".K" at the end of the catalogue number. Example 213.1633.K



IP66/IP67

Poles	Hz.	Volt	Colour	h.	Screw				Insulation performing
					16A cable gland 10/40	32A cable gland 10/40	63A cable gland 6/24	125A cable gland 1/8	16A cable gland 10/40
2P+E	50/60	100-130	Yellow	4	218.1630 (Δ)	218.3230	218.6330	218.12530	218.1630P (Δ)
	50/60	200-250	Blue	6	218.1633 (▲) (Δ)	218.3233 (▲)	218.6333	218.12533	218.1633P (▲) (Δ)
	50/60	380-415	Red	9	218.1638	218.3238	218.6338	218.12538	218.1638P
	50/60	480-500	Grey	7					
	50/60	trasf.	Grey	12					
	>300-500	>50	Green	2					
	d.c.	>50-250	Grey	3					
	d.c.	>250	Grey	8					
3P+E	50/60	100-130	Yellow	4					
	50/60	200-250	Blue	9	218.1634	218.3234	218.6334	218.12534	218.1634P
	50/60	380-415	Red	6	218.1636 (▲)	218.3236 (▲)	218.6336	218.12536	218.1636P (▲)
	60	440-460	Red	11					
	50/60	480-500	Grey	7					
	50/60	600-690	Black	5					
	50/60	380/440	Red	3					
	100-300	>50	Green	10					
>300-500	>50	Green	2						
3P+N+E	50/60	100-130	Yellow	4					
	50/60	208-250	Blue	9					
	50/60	346-415	Red	6	218.1637 (▲)	218.3237 (▲)	218.6337	218.12537	218.1637P (▲)
	50/60	480-500	Grey	7					
	50/60	600-690	Black	5					
	60	440-460	Red	11					
	50/60	380/440	Red	3					
	>300-500	>50	Green	2					

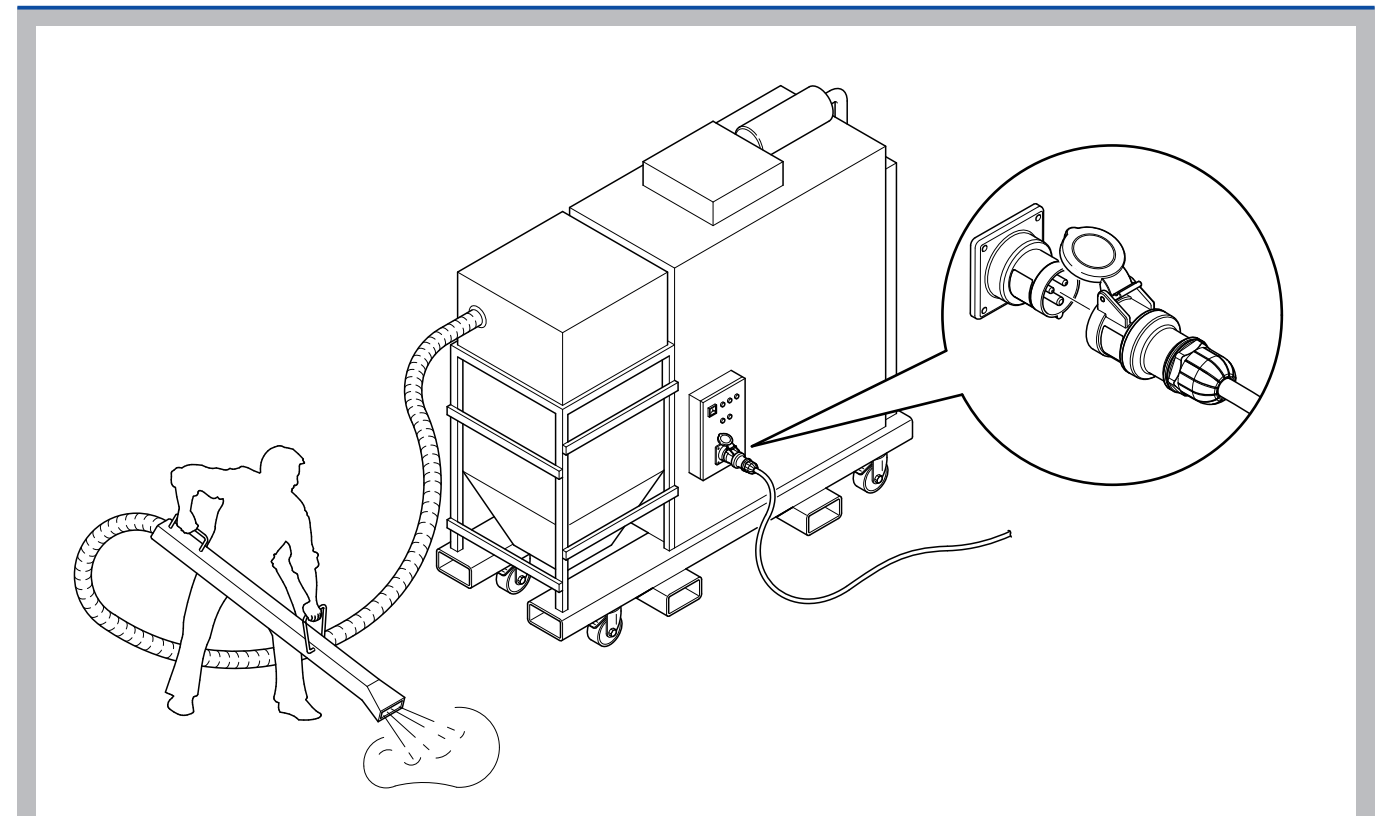


(Δ) Transparent grip
Version also available with transparent grip; just add ".TR" at the end of the catalogue number. Example 213.1633.TR.

> FLUSH MOUNTING APPLIANCE INLETS



Poles	Hz.	Volt	Colour	h.	Screw		Screw	
					16A 75x75 □ 10/40	32A 75x75 □ 10/40	16A 75x75 □ 10/40	32A 75x75 □ 10/40
2P+E	50/60	100-130	Yellow	4	243.1690	243.3290	248.1690	248.3290
	50/60	200-250	Blue	6	243.1693 (▲)	243.3293 (▲)	248.1693 (▲)	248.3293 (▲)
	50/60	380-415	Red	9	243.1698	243.3298	248.1698	248.3298
	50/60	480-500	Grey	7	243.16936	243.32936	248.16936	248.32936
	50/60	trasf.	Grey	12	243.16933	243.32933	248.16933	248.32933
	>300-500	>50	Green	2	243.16932	243.32932	248.16932	248.32932
	d.c.	>50-250	Grey	3	243.16934	243.32934	248.16934	248.32934
	d.c.	>250	Grey	8	243.16938	243.32938	248.16938	248.32938
3P+E	50/60	100-130	Yellow	4	243.1691	243.3291	248.1691	248.3291
	50/60	200-250	Blue	9	243.1694	243.3294	248.1694	248.3294
	50/60	380-415	Red	6	243.1696 (▲)	243.3296 (▲)	248.1696 (▲)	248.3296 (▲)
	60	440-460	Red	11	243.16965	243.32965	248.16965	248.32965
	50/60	480-500	Grey	7	243.16966	243.32966	248.16966	248.32966
	50/60	600-690	Black	5	243.16967	243.32967	248.16967	248.32967
	50/60	380/440	Red	3	243.16964	243.32964	248.16964	248.32964
	100-300	>50	Green	10	243.16961	243.32961	248.16961	248.32961
>300-500	>50	Green	2	243.16962	243.32962	248.16962	248.32962	
3P+N+E	50/60	100-130	Yellow	4	243.1692	243.3292	248.1692	248.3292
	50/60	208-250	Blue	9	243.1695	243.3295	248.1695	248.3295
	50/60	346-415	Red	6	243.1697 (▲)	243.3297 (▲)	248.1697 (▲)	248.3297 (▲)
	50/60	480-500	Grey	7	243.16976	243.32976	248.16976	248.32976
	50/60	600-690	Black	5	243.16977	243.32977	248.16977	248.32977
	60	440-460	Red	11	243.16975	243.32975	248.16975	248.32975
	50/60	380/440	Red	3	243.16974	243.32974	248.16974	248.32974
	>300-500	>50	Green	2	243.16972	243.32972	248.16972	248.32972



OPTIMA Series flush mounting appliance inlets: particularly suitable for supplying mobile or transportable machines.

Rated operating voltage >50V
- □ = Pack Qty.



(▲) Black-coloured
Versions also available in black;
just add ".K" at the end of the catalogue number.
Example 243.1693.K.

> CONNECTORS - IP66/IP67



Poles	Hz.	Volt	Colour	h.	Screw				Insulation perforating
					16A cable gland □ 10/40	32A cable gland □ 10/40	63A cable gland □ 6/24	125A cable gland □ 1/8	16A cable gland □ 10/40
2P+E	50/60	100-130		4	318.1640 (Δ)	318.3240	318.6340	318.12540	318.1640P (Δ)
	50/60	200-250		6	318.1643 (▲)(Δ)	318.3243 (▲)	318.6343	318.12543	318.1643P (▲)(Δ)
	50/60	380-415		9	318.1648	318.3248	318.6348	318.12548	318.1648P
	50/60	480-500		7					
	50/60	trasf.		12					
	>300-500	>50		2					
	d.c.	>50-250		3					
	d.c.	>250		8					
3P+E	50/60	100-130		4					
	50/60	200-250		9	318.1644	318.3244	318.6344	318.12544	318.1644P
	50/60	380-415		6	318.1646 (▲)	318.3246 (▲)	318.6346	318.12546	318.1646P (▲)
	60	440-460		11					
	50/60	480-500		7					
	50/60	600-690		5					
	50 60	380 440		3		318.32464			
	100-300	>50		10					
>300-500	>50		2						
3P+N+E	50/60	100-130		4					
	50/60	208-250		9					
	50/60	346-415		6	318.1647 (▲)	318.3247 (▲)	318.6347	318.12547	318.1647P (▲)
	50/60	480-500		7					
	50/60	600-690		5					
	60	440-460		11					
	50 60	380 440		3					
	>300-500	>50		2					

Safe-in device

Screw

16A

cable gland
□ 10/40

318.1640H

318.1643H (▲)

318.1648H

318.1644H

318.1646H (▲)

318.1647H (▲)



Rated operating voltage >50V

- □ = Pack Qty.



(▲) Black-coloured

Versions also available in black; just add ".K" at the end of the catalogue number. Example 318.1643.K.

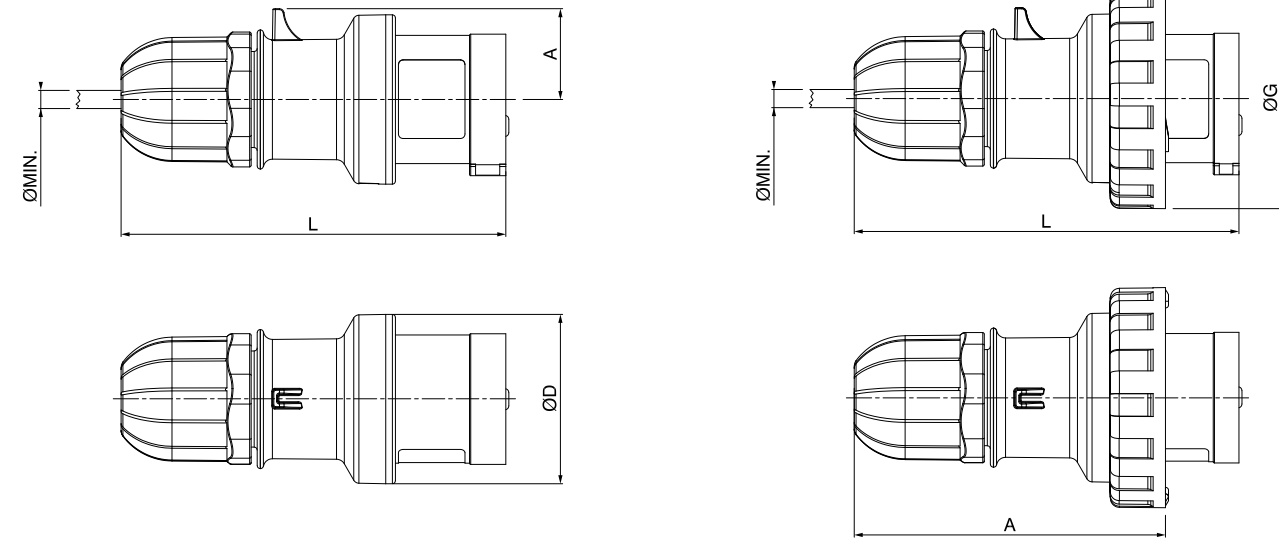


(Δ) Transparent grip

Version also available with transparent grip; just add ".TR" at the end of the catalogue number. Example 318.1643.TR.

> DIMENSIONS

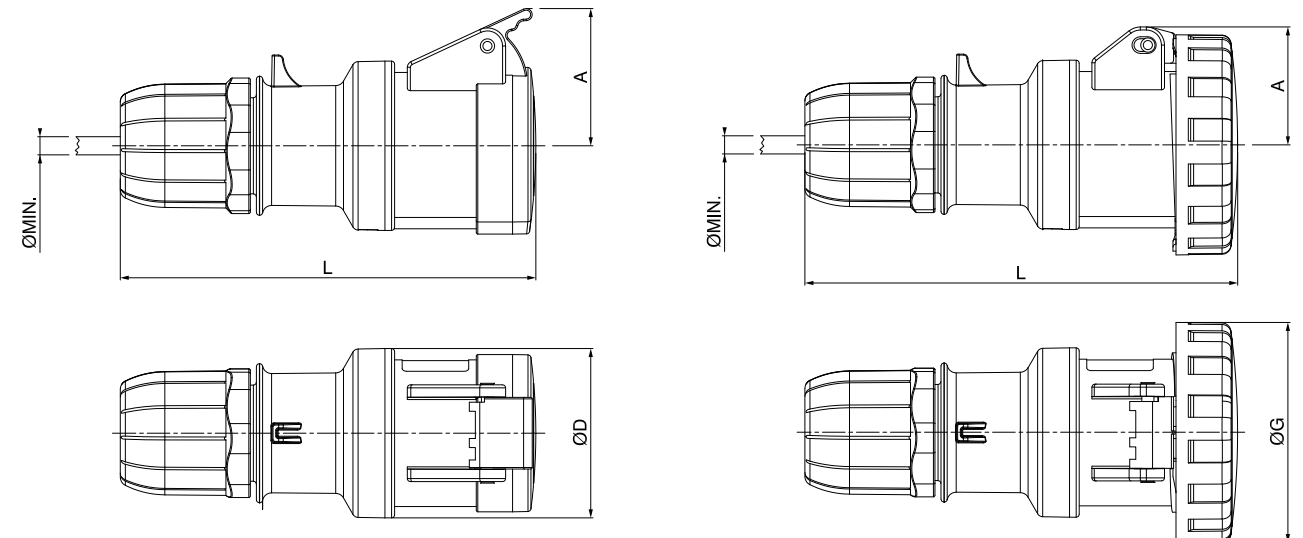
PLUGS



IP44		A	Ø D	L Min	Ø Min
	2P+E	30	56	128	6
16A	3P+E	34	60	135	6
	3P+N+E	38	65	153	9
32A	2P+E	40	65	162	9
	3P+E	40	65	162	9
	3P+N+E	45	73	176	13

IP66/IP67		A	Ø G	L Min	Ø Min
	2P+E	103	73	128	6
16A	3P+E	110	81	135	6
	3P+N+E	129	88	153	9
32A	2P+E	131	93	162	9
	3P+E	131	93	162	9
	3P+N+E	145	101	176	13
63A		160	112	220	17
125A		202	128	272	26

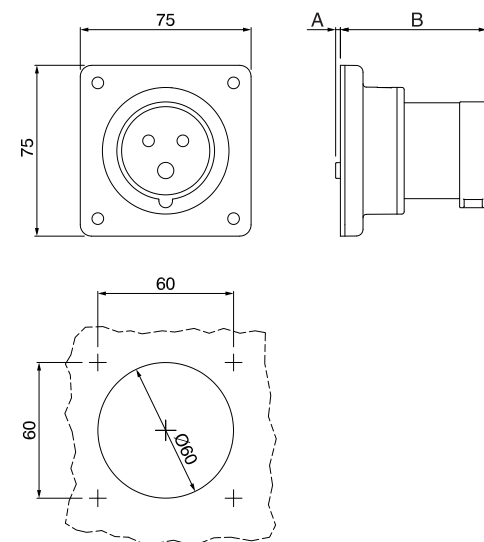
CONNECTORS



IP44		A	Ø D	L Min	Ø Min
	2P+E	46	56	138	6
16A	3P+E	49	60	145	6
	3P+N+E	54	65	165	9
32A	2P+E	54	65	175	9
	3P+E	54	65	175	9
	3P+N+E	59	73	190	13

IP66/IP67		A	Ø G	L Min	Ø Min
	2P+E	39	73	141	6
16A	3P+E	43	81	148	6
	3P+N+E	51	88	168	9
32A	2P+E	56	93	178	9
	3P+E	56	93	178	9
	3P+N+E	52	101	195	13
63A		57,5	112	230	17
125A		64,25	128	288	26

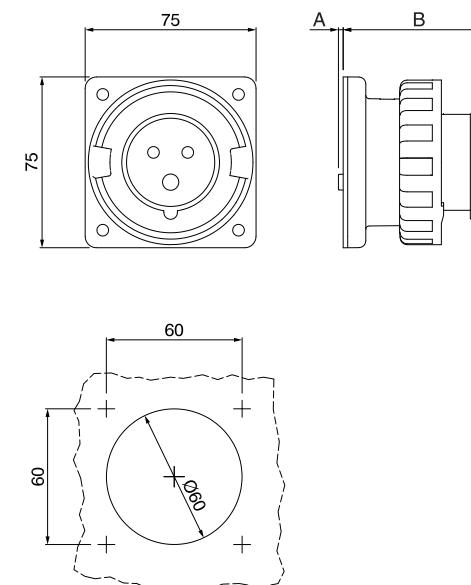
APPLIANCE INLETS - IP44



IP44		A	B
	2P+E	2	65
16A	3P+E	2	65
	3P+N+E	2	65
32A	2P+E	19	73
	3P+E	19	73
	3P+N+E	19	73

(Dimensions in mm)

APPLIANCE INLETS - IP66/IP67



IP66/IP67		A	B
	2P+E	2	65
16A	3P+E	2	65
	3P+N+E	2	65
32A	2P+E	19	73
	3P+E	19	73
	3P+N+E	19	73

(Dimensions in mm)