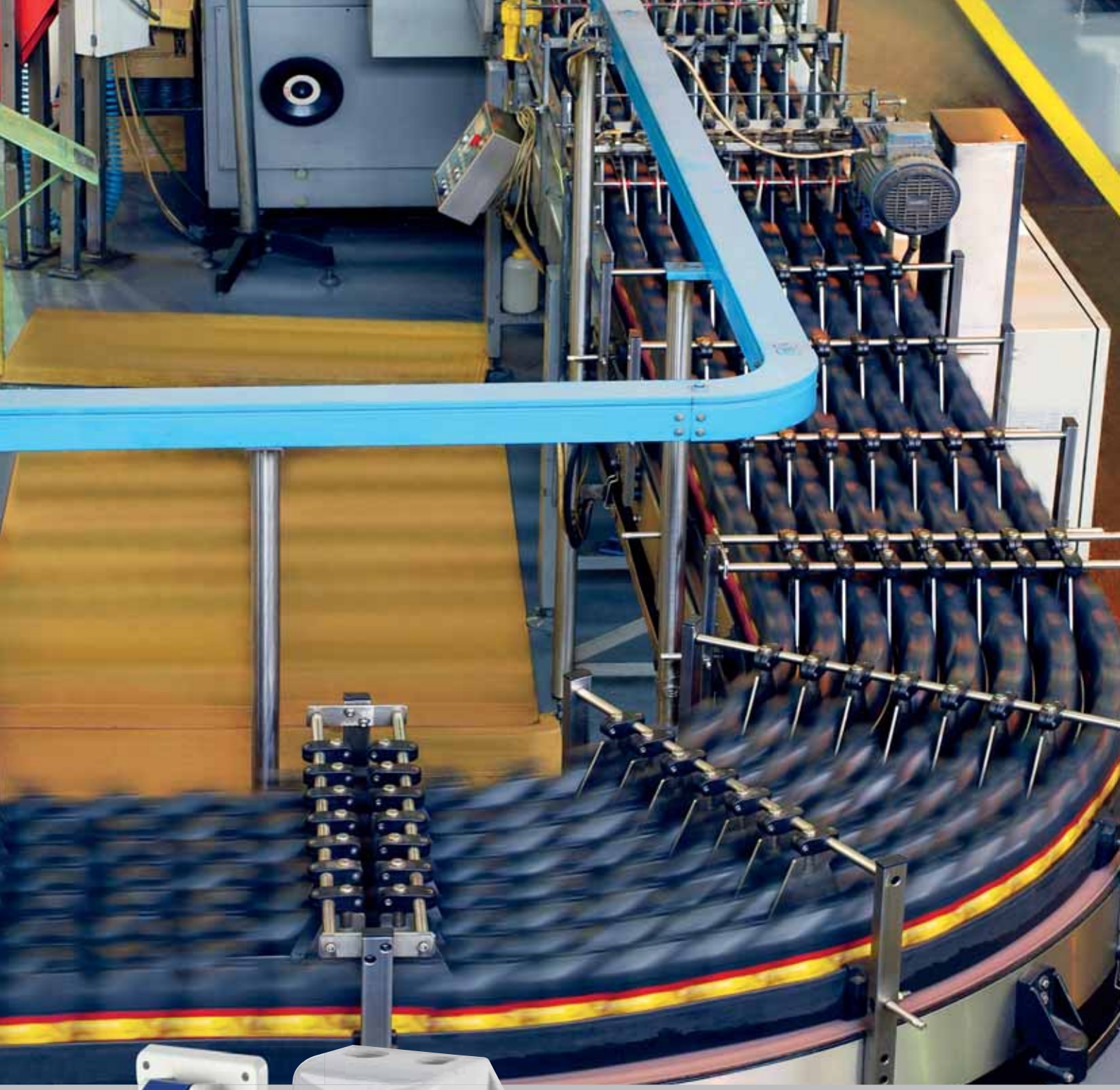




OPTIMA Series

Industrial plugs
and sockets

PDI[®]
Power Dynamics, Inc.

 **SCAME**
electrical solutions

OPTIMA Series

> INDUSTRIAL PLUGS AND SOCKETS



> VERSIONS

	Plugs
	Connectors
	Appliance inlets
	Flush mounting socket outlets

> NICKEL-PLATED PINS



> 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) Spring (32A mobile) Spring (16A-32A flush/surface mounting)
Safe-in device:	16A
Snap-on device:	16A-32A
Nickel-plated pins:	16A-32A-63A-125A

Nickel-plated brass pins to guarantee long-lasting efficiency of the electrical contact.

> 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

For specific substances please contact our technical service.

> 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



OPTIMA Series



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).



16A plugs and connectors with insulation perforating terminals which allow wiring without stripping the conductor.



Insulation piercing terminal made in highly elastic phosphor bronze.



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



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



32A plugs and connectors with screwless spring terminal. Requires cable stripping, but not the tightening of the screws.



16-32A plugs, flush mounting sockets and surface mounting sockets with spring terminals.

> 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.

> APPLICATION EXAMPLES



> POTENTIALLY DANGEROUS SITUATIONS



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

OPTIMA Series

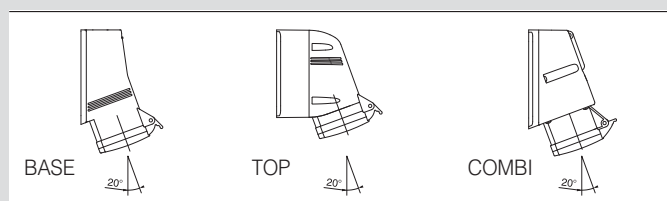
> INDUSTRIAL SURFACE MOUNTING SOCKET OUTLETS



> VERSIONS

	BASE version
	TOP version
	COMBI version

> SURFACE MOUNTING INSTALLATION AXIS



> 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
Rated voltage:	100÷690V~
Frequency:	d.c - 50÷500Hz
Insulating voltage:	500/690V~
Protection degree:	Base and top: IP44 - IP66/IP67 COMBI: IP44 closed cover
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 sleeve IP44 Cable gland IP66/IP67
Halogen free:	Yes
Terminals:	Screw (16A-32A) Spring (32A)
Safe-in device:	16A
Fuses: (COMBI version)	Max 10A - 5x20mm H: high power cutoff (1500A) T: delayed action

> 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

For specific substances please contact our technical service.



Fastening to exterior wall.



TOP version: threaded knockout hole inlets, version IP66/IP67, for quick fastening of the cable entry device. IP44 versions supplied with cable gland.



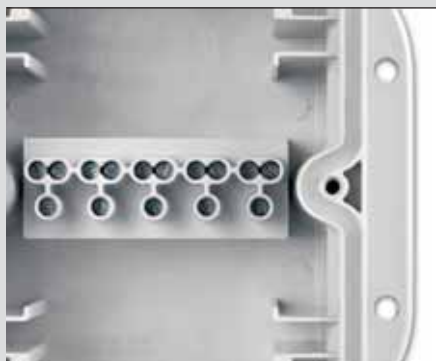
16-32A Surface mounting sockets with spring terminals.



TOP version: ability to create entry-exit.



TOP version: reversible base and removable socket for easy wiring.



TOP IP66/IP67 version: integrated, one-piece gasket, fastening screws outside the gasket.



TOP version: entry-exit terminal board accessory.



TOP version: versions with SAFE-IN (16A) safety device available.



COMBI version: combined versions, industrial and household socket.



BASE version: simplified wiring. Socket fixed to the base, open terminals orientated in the same direction and easily accessible.

OPTIMA-REVERSE Series

> PLUGS WITH PHASE INVERTER



> 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.

> VERSIONS



Plugs



Appliance inlets

> PHASE INVERTER



Fixed and movable plugs which rapidly invert two phases in order to return to the correct direction of rotation of three-phase motors for movable and fixed applications.

> TECHNICAL CHARACTERISTICS

Rated current:	16A-32A
Rated voltage:	346÷415V~
Frequency:	50÷60Hz
Insulating voltage:	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
Snap-on device:	16A-32A
Polarity:	3P+E / 3P+N+E
Connectable cables:	Flexible class 5 or 6

> 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

For specific substances please contact our technical service.

> WIRING AND INSTALLATION

Wiring capacity of the terminals (mm²)

Rated voltage	Rated current (A)	Plugs Appliance inlets	
		Min	Max
Over 50V	16A	1	2,5
	32A	2,5	6

Max. cable size accepted by the cable clamp:

Rated current (A)	Outside Ø mm	
	Min	Max
16A	8	15
32A	11,5	21

> OPERATING PRINCIPLE OF THE PHASE INVERTER



The phases are inverted by simply pushing and turning the phase pin support with a screwdriver.

OPTIMA-EX Series

> PLUGS FOR USE IN EXPLOSIVE ATMOSPHERES



> 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.

EN 61241-0

Electrical apparatus for use in the presence of combustible dust.
Part 0: general requirements.

EN 61241-1

Electrical apparatus for use in the presence of combustible dust.
Part 1: protection by enclosures "tD".

> TECHNICAL CHARACTERISTICS

ATEX Code:	 II 2D
Ex Protection type:	Ex tD A21 IP66 T90°C U
Protection degree:	IP66
Ambient temperature:	-25°C +60°C
Maximum permissible surface temperature:	T90°C
Impact resistance:	7J
Glow wire test:	850°C/960°C
Self extinguishing UL94:	5VA
Material:	Thermoplastic
Colour:	Grey
Rated current:	16A-32A-63A-125A
Rated voltage:	200÷415V~
Frequency:	50÷60Hz
Insulating voltage:	500/690V~
Terminals:	Screw

> PRODUCTS FOR USE IN EXPLOSIVE ATMOSPHERES

Scame offers products for installation in environments with a potential risk of explosion identified as zone 21 and which fall under the area of application of the ATEX Directive (European Directive 94/9/EC).

 **SCAME**

3P+N+⊕ - 125A - 6h / 346-415V~

218.EX12537

ICEPI 10 ATEX 03C010

Ex tD A21 Ta -25 +60°C

IP66 T95°C





II 2D

> 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

For specific substances please contact our technical service.

> PLUGS AND CONNECTORS FOR DEMANDING APPLICATIONS



Specifically designed for
cold-storage containers and shipyards

**380-440V
3h-3P+⊕**

> 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.*

> TECHNICAL CHARACTERISTICS

Rated current: **16A-32A-63A-125A**

Rated voltage: **48÷440V~**

Frequency: **50÷60Hz**

Insulating voltage: **500/690V~**

Protection degree: **IP66/IP67**

Operating temperature
according to the reference
standard: **-25°C +40°C**

Max operating temperature: **60°C**

Glow wire test: **850°C/960°C**

Self extinguishing UL94: **5VA**

Material: **Thermoplastic**

Colour: **Grey**

Terminals: **Screw**

> 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

For specific substances please contact our technical service.

Industrial plugs and sockets

> PLUGS



					IP44		FAST WIRING	
								
					16A cable gland 10/50	32A cable gland 10/40	16A cable gland 10/50	32A cable gland 10/40
2P+E	50/60	100-130		4	213.1630 (Δ)	213.3230	213.1630P (Δ)	213.3230F
	50/60	200-250		6	213.1633 (▲) (Δ)	213.3233 (▲)	213.1633P (▲) (Δ)	213.3233F (▲)
	50/60	380-415		9	213.1638	213.3238	213.1638P	213.3238F
	50/60	480-500		7	213.16336	213.32336		
	50/60	trasf.		12	213.16333	213.32333		
	>300-500	>50		2	213.16332	213.32332		
	c.c.	>50-250		3	213.16334	213.32334		
	c.c.	>250		8	213.16338	213.32338		
3P+E	50/60	100-130		4	213.1631	213.3231		
	50/60	200-250		9	213.1634	213.3234	213.1634P	213.3234F
	50/60	380-415		6	213.1636 (▲)(•)	213.3236 (▲)(•)	213.1636P (▲) (Δ)	213.3236F (▲)
	60	440-460		11	213.16365	213.32365		
	50/60	480-500		7	213.16366	213.32366		
	50/60	600-690		5	213.16367	213.32367		
	50/60	380/440		3	213.16364	213.32364		
	100-300	>50		10	213.16361	213.32361		
3P+N+E	>300-500	>50		2	213.16362	213.32362		
	50/60	100-130		4	213.1632	213.3232		
	50/60	208-250		9	213.1635	213.3235		
	50/60	346-415		6	213.1637 (▲)(•)	213.3237 (▲)(•)	213.1637P (▲) (Δ)	213.3237F (▲)
	50/60	480-500		7	213.16376	213.32376		
	50/60	600-690		5	213.16377	213.32377		
	60	440-460		11	213.16375	213.32375		
	50/60	380/440		3	213.16374	213.32374		
	>300-500	>50		2	213.16372	213.32372		

 Package/Bulk Pack.



= Screw terminals



= Insulation perforating terminals (fast wiring)



= Spring terminals (fast wiring)



(•) Phase inverter

Plugs and flush mounting appliance inlets with phase inverter, page 26



IP66/IP67

				FAST WIRING	
16A	32A	63A	125A	16A	32A
cable gland □ 10/40	cable gland □ 10/40	cable gland □ 6/24	cable gland □ 1/8	cable gland □ 10/40	cable gland □ 10/40
218.1630 (Δ)	218.3230	218.6330	218.12530	218.1630P (Δ)	218.3230F
218.1633 (▲)(Δ)	218.3233 (▲)	218.6333	218.12533	218.1633P (▲)(Δ)	218.3233F (▲)
218.1638	218.3238	218.6338	218.12538	218.1638P	218.3238F
218.16336	218.32336	218.63336			
218.16333	218.32333	218.63333			
218.16332	218.32332				
218.16334	218.32334	218.63334			
218.16338	218.32338	218.63338			
218.1631	218.3231	218.6331	218.12531		
218.1634	218.3234	218.6334	218.12534	218.1634P	218.3234F
218.1636 (▲)(◐)	218.3236 (▲)(◐)	218.6336	218.12536	218.1636P (▲)	218.3236F (▲)
218.16365	218.32365	218.63365	218.125365		
218.16366	218.32366	218.63366	218.125366		
218.16367	218.32367	218.63367	218.125367		
218.16364	218.32364				218.32364F
218.16361	218.32361				
218.16362	218.32362				
218.1632	218.3232	218.6332	218.12532		
218.1635	218.3235	218.6335	218.12535		
218.1637 (▲)(◐)	218.3237 (▲)(◐)	218.6337	218.12537	218.1637P (▲)	218.3237F (▲)
218.16376	218.32376	218.63376	218.125376		
218.16377	218.32377	218.63377	218.125377		
218.16375	218.32375	218.63375	218.125375		
218.16374	218.32374				
218.16372	218.32372				

**(▲) Black-coloured**

Versions also available in black; just add "K" at the end of the catalogue number. Example 213.1633.K

**(Δ) Transparent grip**

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

Industrial plugs and sockets

> FLUSH MOUNTING APPLIANCE INLETS

					IP44		IP66/IP67	
								
Poles	Hz.	Volt	Colour	h.	16A 75x75 □ 10/50	32A 75x75 □ 10/50 ⁽¹⁾	16A 75x75 □ 10/50	32A 75x75 □ 10/50 ⁽¹⁾
2P+E	50/60	100-130		4	243.1690	243.3290	248.1690	248.3290
	50/60	200-250		6	243.1693 (▲)	243.3293 (▲)	248.1693 (▲)	248.3293 (▲)
	50/60	380-415		9	243.1698	243.3298	248.1698	248.3298
	50/60	480-500		7	243.16936	243.32936	248.16936	248.32936
	50/60	trasf.		12	243.16933	243.32933	248.16933	248.32933
	>300-500	>50		2	243.16932	243.32932	248.16932	248.32932
	c.c.	>50-250		3	243.16934	243.32934	248.16934	248.32934
	c.c.	>250		8	243.16938	243.32938	248.16938	248.32938
3P+E	50/60	100-130		4	243.1691	243.3291	248.1691	248.3291
	50/60	200-250		9	243.1694	243.3294	248.1694	248.3294
	50/60	380-415		6	243.1696 (▲)(•)	243.3296 (▲)(•)	248.1696 (▲)(•)	248.3296 (▲)(•)
	60	440-460		11	243.16965	243.32965	248.16965	248.32965
	50/60	480-500		7	243.16966	243.32966	248.16966	248.32966
	50/60	600-690		5	243.16967	243.32967	248.16967	248.32967
	50/60	380/440		3	243.16964	243.32964	248.16964	248.32964
	100-300	>50		10	243.16961	243.32961	248.16961	248.32961
	>300-500	>50		2	243.16962	243.32962	248.16962	248.32962
3P+N+E	50/60	100-130		4	243.1692	243.3292	248.1692	248.3292
	50/60	208-250		9	243.1695	243.3295	248.1695	248.3295
	50/60	346-415		6	243.1697 (▲)(•)	243.3297 (▲)(•)	248.1697 (▲)(•)	248.3297 (▲)(•)
	50/60	480-500		7	243.16976	243.32976	248.16976	248.32976
	50/60	600-690		5	243.16977	243.32977	248.16977	248.32977
	60	440-460		11	243.16975	243.32975	248.16975	248.32975
	50/60	380/440		3	243.16974	243.32974	248.16974	248.32974
	>300-500	>50		2	243.16972	243.32972	248.16972	248.32972

□ Package/Bulk Pack.

⁽¹⁾ 3P+N+E= □ 10/40

 = Screw terminals

Industrial plugs and sockets

> CONNECTORS - IP44



Poles	Hz.	Volt	Colour	h.			SAFE-IN
					16A cable gland □ 10/50	32A cable gland □ 10/40	16A cable gland □ 10/50
2P+E	50/60	100-130		4	313.1640 (Δ)	313.3240	313.1640H
	50/60	200-250		6	313.1643 (▲)(Δ)	313.3243 (▲)	313.1643H (▲)
	50/60	380-415		9	313.1648	313.3248	313.1648H
	50/60	480-500		7	313.16436	313.32436	
	50/60	trasf.		12	313.16433	313.32433	
	>300-500	>50		2	313.16432	313.32432	
	c.c.	>50-250		3	313.16434	313.32434	
	c.c.	>250		8	313.16438	313.32438	
3P+E	50/60	100-130		4	313.1641	313.3241	
	50/60	200-250		9	313.1644	313.3244	313.1644H
	50/60	380-415		6	313.1646 (▲)	313.3246 (▲)	313.1646H (▲)
	60	440-460		11	313.16465	313.32465	
	50/60	480-500		7	313.16466	313.32466	
	50/60	600-690		5	313.16467	313.32467	
	50/60	380/440		3	313.16464	313.32464	
	100-300	>50		10	313.16461	313.32461	
	>300-500	>50		2	313.16462	313.32462	
3P+N+E	50/60	100-130		4	313.1642	313.3242	
	50/60	208-250		9	313.1645	313.3245	
	50/60	346-415		6	313.1647 (▲)	313.3247 (▲)	313.1647H (▲)
	50/60	480-500		7	313.16476	313.32476	
	50/60	600-690		5	313.16477	313.32477	
	60	440-460		11	313.16475	313.32475	
	50/60	380/440		3	313.16474	313.32474	
	>300-500	>50		2	313.16472	313.32472	

□ Package/Bulk Pack.



= Screw terminals



= Insulation perforating terminals (fast wiring)



= Spring terminals (fast wiring)

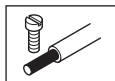
OPTIMA Series



FAST WIRING

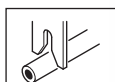
**16A**cable gland
10/50**32A**cable gland
10/40**313.1640P (Δ)****313.3240F****313.1643P (▲)(Δ)****313.3243F (▲)****313.1648P****313.3248F****313.1644P****313.3244F****313.1646P (▲)****313.3246F (▲)****313.1647P (▲)****313.3247F (▲)**

> SCREW TERMINALS – CONVENTIONAL WIRING



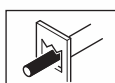
Versions: 16-32-63-125A Plugs and connectors – 16-32-63-125A Flush mounting plugs and sockets – 16-32A TOP version surface mounting sockets.

> INSULATION PERFORATING TERMINALS – FAST WIRING



Versions: 16A Plugs and connectors.

> SPRING TERMINALS – FAST WIRING



Versions: 32A Plugs and connectors – 16-32A Flush mounting sockets – 16-32A TOP version surface mounting sockets.

**(▲) 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 313.1643.TR

Industrial plugs and sockets

> CONNECTORS - IP66/IP67



Poles	Hz.	Volt	Colour	h.				
					16A cable gland □ 10/40	32A cable gland □ 10/40	63A cable gland □ 6/24	125A cable gland □ 1/8
2P+E	50/60	100-130		4	318.1640 (Δ)	318.3240	318.6340	318.12540
	50/60	200-250		6	318.1643 (▲)(Δ)	318.3243 (▲)	318.6343	318.12543
	50/60	380-415		9	318.1648	318.3248	318.6348	318.12548
	50/60	480-500		7	318.16436	318.32436	318.63436	
	50/60	trasf.		12	318.16433	318.32433	318.63433	
	>300-500	>50		2	318.16432	318.32432		
	c.c.	>50-250		3	318.16434	318.32434	318.63434	
	c.c.	>250		8	318.16438	318.32438	318.63438	
3P+E	50/60	100-130		4	318.1641	318.3241	318.6341	318.12541
	50/60	200-250		9	318.1644	318.3244	318.6344	318.12544
	50/60	380-415		6	318.1646 (▲)	318.3246 (▲)	318.6346	318.12546
	60	440-460		11	318.16465	318.32465	318.63465	318.125465
	50/60	480-500		7	318.16466	318.32466	318.63466	318.125466
	50/60	600-690		5	318.16467	318.32467	318.63467	318.125467
	50/60	380/440		3	318.16464	318.32464		
	100-300	>50		10	318.16461	318.32461		
	>300-500	>50		2	318.16462	318.32462		
3P+N+E	50/60	100-130		4	318.1642	318.3242	318.6342	318.12542
	50/60	208-250		9	318.1645	318.3245	318.6345	318.12545
	50/60	346-415		6	318.1647 (▲)	318.3247 (▲)	318.6347	318.12547
	50/60	480-500		7	318.16476	318.32476	318.63476	318.125476
	50/60	600-690		5	318.16477	318.32477	318.63477	318.125477
	60	440-460		11	318.16475	318.32475	318.63475	318.125475
	50/60	380/440		3	318.16474	318.32474		
	>300-500	>50		2	318.16472	318.32472		

□ Package/Bulk Pack.



= Screw terminals



= Insulation perforating terminals (fast wiring)



= Spring terminals (fast wiring)

OPTIMA Series



> SAFE-IN



16A Sockets available with shielded contact tubes to prevent direct contacts.

[illegible]

(▲) 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

Industrial plugs and sockets

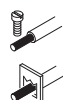
> FLUSH MOUNTING SOCKET OUTLETS - IP44

OPTIMA Series



Poles	Hz.	Volt	Colour	h.					
					16A	32A	16A	16A	32A
					70x87 □10/100	84x106 □10/50	70x87 □10/100	70x87 □10/100	84x106 □10/50
2P+E	50/60	100-130		4	413.1660	413.3260	413.1660H	413.1660F	413.3260F
	50/60	200-250		6	413.1663 (▲)	413.3263 (▲)	413.1663H (▲)	413.1663F (▲)	413.3263F (▲)
	50/60	380-415		9	413.1668	413.3268	413.1668H	413.1668F	413.3268F
	50/60	480-500		7	413.16636	413.32636			
	50/60	trasf.		12	413.16633	413.32633			
	>300-500	>50		2	413.16632	413.32632			
	c.c.	>50-250		3	413.16634	413.32634			
	c.c.	>250		8	413.16638	413.32638			
3P+E	50/60	100-130		4	413.1661	413.3261			
	50/60	200-250		9	413.1664	413.3264	413.1664H	413.1664F	413.3264F
	50/60	380-415		6	413.1666 (▲)	413.3266 (▲)	413.1666H (▲)	413.1666F (▲)	413.3266F (▲)
	60	440-460		11	413.16665	413.32665			
	50/60	480-500		7	413.16666	413.32666			
	50/60	600-690		5	413.16667	413.32667			
	50/60	380/440		3	413.16664	413.32664			
	100-300	>50		10	413.16661	413.32661			
	>300-500	>50		2	413.16662	413.32662			
3P+N+E	50/60	100-130		4	413.1662	413.3262			
	50/60	208-250		9	413.1665	413.3265			
	50/60	346-415		6	413.1667 (▲)	413.3267 (▲)	413.1667H (▲)	413.1667F (▲)	413.3267F (▲)
	50/60	480-500		7	413.16676	413.32676			
	50/60	600-690		5	413.16677	413.32677			
	60	440-460		11	413.16675	413.32675			
	50/60	380/440		3	413.16674	413.32674			
	>300-500	>50		2	413.16672	413.32672			

□ Package/Bulk Pack.



= Screw terminals

= Spring terminals (fast wiring)



(▲) Black-coloured

Version also available in black; just add ".K" at the end of the catalogue number.
Example 413.1663.K

> FLUSH MOUNTING SOCKET OUTLETS - IP66/IP67

OPTIMA Series



				SAFE-IN		FAST WIRING	
16A	32A	63A	125A	16A	16A	32A	
70x87 □ 10/100	84x106 □ 10/50	100x110 □ 6/30	114x114 □ 1/10	70x87 □ 10/100	70x87 □ 10/100	84x106 □ 10/50	
418.1660	418.3260	415.6360		418.1660H	418.1660F	418.3260F	
418.1663 (▲)	418.3263 (▲)	415.6363	415.12563	418.1663H (▲)	418.1663F (▲)	418.3263F (▲)	
418.1668	418.3268	415.6368		418.1668H	418.1668F	418.3268F	
418.16636	418.32636	415.63636					
418.16633	418.32633	415.63633					
418.16632	418.32632						
418.16634	418.32634	415.63634					
418.16638	418.32638	415.63638					
418.1661	418.3261	415.6361	415.12561				
418.1664	418.3264	415.6364	415.12564	418.1664H	418.1664F	418.3264F	
418.1666 (▲)	418.3266 (▲)	415.6366	415.12566	418.1666H (▲)	418.1666F (▲)	418.3266F (▲)	
418.16665	418.32665	415.63665	415.125665				
418.16666	418.32666	415.63666	415.125666				
418.16667	418.32667	415.63667	415.125667				
418.16664	418.32664						
418.16661	418.32661						
418.16662	418.32662						
418.1662	418.3262	415.6362	415.12562				
418.1665	418.3265	415.6365	415.12565				
418.1667 (▲)	418.3267 (▲)	415.6367	415.12567	418.1667H (▲)	418.1667F (▲)	418.3267F (▲)	
418.16676	418.32676	415.63676	415.125676				
418.16677	418.32677	415.63677	415.125677				
418.16675	418.32675	415.63675	415.125675				
418.16674	418.32674						
418.16672	418.32672						



Accessories

Empty boxes for creating surface mounting versions, page 28

Industrial plugs and sockets

> SURFACE MOUNTING SOCKET OUTLETS

OPTIMA-TOP Series



					IP44		SAFE-IN	FAST WIRING	
									
Poles	Hz.	Volt	Colour	h.	16A	32A	16A	16A	32A
					M20/M25 □ 10/40	M32 □ 1/10	M20/M25 □ 10/40	M20/M25 □ 10/40	M32 □ 1/10
2P+E	50/60	100-130		4	513.1650T	513.3250T	513.1650TH	513.1650TF	513.3250TF
	50/60	200-250		6	513.1653T	513.3253T	513.1653TH	513.1653TF	513.3253TF
	50/60	380-415		9	513.1658T	513.3258T	513.1658TH	513.1658TF	513.3258TF
	50/60	480-500		7	513.16536T	513.32536T			
	50/60	trasf.		12	513.16533T	513.32533T			
	>300-500	>50		2	513.16532T	513.32532T			
	c.c.	>50-250		3	513.16534T	513.32534T			
	c.c.	>250		8	513.16538T	513.32538T			
3P+E	50/60	100-130		4	513.1651T	513.3251T			
	50/60	200-250		9	513.1654T	513.3254T	513.1654TH	513.1654TF	513.3254TF
	50/60	380-415		6	513.1656T	513.3256T	513.1656TH	513.1656TF	513.3256TF
	60	440-460		11	513.16565T	513.32565T			
	50/60	480-500		7	513.16566T	513.32566T			
	50/60	600-690		5	513.16567T	513.32567T			
	50/60	380/440		3	513.16564T	513.32564T			
	100-300	>50		10	513.16561T	513.32561T			
	>300-500	>50		2	513.16562T	513.32562T			
3P+N+E	50/60	100-130		4	513.1652T	513.3252T			
	50/60	208-250		9	513.1655T	513.3255T			
	50/60	346-415		6	513.1657T	513.3257T	513.1657TH	513.1657TF	513.3257TF
	50/60	480-500		7	513.16576T	513.32576T			
	50/60	600-690		5	513.16577T	513.32577T			
	60	440-460		11	513.16575T	513.32575T			
	50/60	380/440		3	513.16574T	513.32574T			
	>300-500	>50		2	513.16572T	513.32572T			

□ Package/Bulk Pack.

IP44 version: standard supply cable sleeve.



= Screw terminals



= Spring terminals (fast wiring)

OPTIMA-TOP Series

OPTIMA-BASE Series

IP66/IP67		SAFE-IN			FAST WIRING		IP44	
								
16A	32A	16A	16A	32A	16A	32A	16A	32A
M20/M25 □ 10/40	M32 □ 1/10	M20/M25 □ 10/40	M20/M25 □ 10/40	M32 □ 1/10	M20/M25 □ 10/40	M32 □ 1/10	M20/M25 □ 10/40	M32 □ 1/10
518.1650T	518.3250T	518.1650TH	518.1650TF	518.3250TF	513.1650	513.3250		
518.1653T	518.3253T	518.1653TH	518.1653TF	518.3253TF	513.1653	513.3253		
518.1658T	518.3258T	518.1658TH	518.1658TF	518.3258TF				
518.16536T	518.32536T							
518.16533T	518.32533T							
518.16532T	518.32532T							
518.16534T	518.32534T							
518.16538T	518.32538T							
518.1651T	518.3251T							
518.1654T	518.3254T	518.1654TH	518.1654TF	518.3254TF				
518.1656T	518.3256T	518.1656TH	518.1656TF	518.3256TF	513.1656	513.3256		
518.16565T	518.32565T							
518.16566T	518.32566T							
518.16567T	518.32567T							
518.16564T	518.32564T			518.32564TF				
518.16561T	518.32561T							
518.16562T	518.32562T							
518.1652T	518.3252T							
518.1655T	518.3255T							
518.1657T	518.3257T	518.1657TH	518.1657TF	518.3257TF	513.1657	513.3257		
518.16576T	518.32576T							
518.16577T	518.32577T							
518.16575T	518.32575T							
518.16574T	518.32574T							
518.16572T	518.32572T							

Industrial plugs and sockets

> SURFACE MOUNTING SOCKET OUTLETS WITH INCLINED ENCLOSURE – IP66/IP67

OPTIMA Series



Poles	Hz.	Volt	Colour	h.	PG entry		Metric entry	
					63A PG29 □ 6/12	125A PG48 □ 1/8	63A M32 □ 6/12	125A M63 □ 1/8
2P+E	50/60	100-130	Yellow	4	515.6350		515.M6350	
	50/60	200-250	Blue	6	515.6353	515.12553	515.M6353	515.M12553
	50/60	380-415	Red	9	515.6358		515.M6358	
	50/60	480-500	Grey	7	515.63536		515.M63536	
	50/60	trasf.	Grey	12	515.63533		515.M63533	
	>300-500	>50	Green	2				
	c.c.	>50-250	Grey	3	515.63534		515.M63534	
	c.c.	>250	Grey	8	515.63538		515.M63538	
3P+E	50/60	100-130	Yellow	4	515.6351	515.12551	515.M6351	515.M12551
	50/60	200-250	Blue	9	515.6354	515.12554	515.M6354	515.M12554
	50/60	380-415	Red	6	515.6356	515.12556	515.M6356	515.M12556
	60	440-460	Red	11	515.63565	515.125565	515.M63565	515.M125565
	50/60	480-500	Grey	7	515.63566	515.125566	515.M63566	515.M125566
	50/60	600-690	Black	5	515.63567	515.125567	515.M63567	515.M125567
	50/60	380/440	Red	3				
	100-300	>50	Green	10				
3P+N+E	>300-500	>50	Green	2				
	50/60	100-130	Yellow	4	515.6352	515.12552	515.M6352	515.M12552
	50/60	208-250	Blue	9	515.6355	515.12555	515.M6355	515.M12555
	50/60	346-415	Red	6	515.6357	515.12557	515.M6357	515.M12557
	50/60	480-500	Grey	7	515.63576	515.125576	515.M63576	515.M125576
	50/60	600-690	Black	5	515.63577	515.125577	515.M63577	515.M125577
	60	440-460	Red	11	515.63575	515.125575	515.M63575	515.M125575
	50/60	380/440	Red	3				
	>300-500	>50	Green	2				

□ Package/Bulk Pack.

> SURFACE MOUNTING SOCKET OUTLETS - IP44

OPTIMA-COMBI
Series

						Without protection			
Industrial socket	Poles	Volt	Colour	h					
16A	2P+E	200-250		6	1/10	513.1653-PN	513.1653-BN	513.1653-FN	513.1653-LN
	3P+E	380-415		6	1/10	513.1656-PN	513.1656-BN	513.1656-FN	513.1656-LN
	3P+N+E	346-415		6	1/10	513.1657-PN	513.1657-BN	513.1657-FN	513.1657-LN



						With protection: fuse			
Industrial socket	Poles	Volt	Colour	h					
32A	2P+E	200-250		6	1/10	513.3253-PF	513.3253-BF	513.3253-FF	513.3253-LF
	3P+E	380-415		6	1/10	513.3256-PF	513.3256-BF	513.3256-FF	513.3256-LF
	3P+N+T	346-415		6	1/10	513.3257-PF	513.3257-BF	513.3257-FF	513.3257-LF

- Package/Bulk Pack.

- Household sockets protected by standard supplied 16A fuse.

(*) 13A Sockets with standard supplied 10A fuse protection.

> AVAILABLE STANDARDS

ITALIAN STANDARD P30 - 16A	FRENCH STANDARD 16A	ENGLISH STANDARD 13A	PLURISTANDARD 16A
Shuttered socket CEI 23-50	Shuttered socket NFC 61-314	Shuttered socket BS 1363-2 BS 7288: 1990	Shuttered socket

- Standard supply cable sleeve.

- Solution already wired up to the power supply terminal board.

Industrial plugs and sockets

> PLUGS WITH PHASE INVERTER

OPTIMA-REVERSE Series



Poles	Hz.	Volt	Colour	h.	IP44		IP66/IP67	
					16A cable gland ⌀ 10/50	32A cable gland ⌀ 10/40	16A cable gland ⌀ 10/40	32A cable gland ⌀ 10/40
3P+E	50/60	380-415		6	213.1636RV	213.3236RV	218.1636RV	218.3236RV
3P+N+E	50/60	346-415		6	213.1637RV	213.3237RV	218.1637RV	218.3237RV

> FLUSH MOUNTING APPLIANCE INLETS WITH PHASE INVERTER

OPTIMA-REVERSE Series



Poles	Hz.	Volt	Colour	h.	IP44		IP66/IP67	
					16A 75x75 ⌀ 10/50	32A 75x75 ⌀ 10/50 ⁽¹⁾	16A 75x75 ⌀ 10/50	32A 75x75 ⌀ 10/50 ⁽¹⁾
3P+E	50/60	380-415		6	243.1696RV	243.3296RV	248.1696RV	248.3296RV
3P+N+E	50/60	346-415		6	243.1697RV	243.3297RV	248.1697RV	248.3297RV

⌀ Package/Bulk Pack.

⁽¹⁾ 3P+N+E = ⌀ 10/40

> PLUGS - IP66/IP67 - ATEX

OPTIMA-EX Series



Poles	Hz.	Volt	Colour	h	16A	32A	63A	125A
					cable gland 1/12	cable gland 1/12	cable gland 1/8	cable gland 1/8
2P+E	50/60	200-250		6	218.EX1633	218.EX3233	218.EX6333	218.EX12533
3P+E	50/60	380-415		6	218.EX1636	218.EX3236	218.EX6336	218.EX12536
3P+E	60	440-460		11			218.EX63365	
3P+N+E	50/60	346-415		6	218.EX1637	218.EX3237	218.EX6337	218.EX12537

Also available in the version 2P 16A 20-25V~ code 235.EX1600.

ATEX: For applications in potentially explosive atmospheres.

> PLUGS - IP66/IP67 - HEAVY DUTY

OPTIMA-HD Series



Poles	Hz.	Volt	Colour	h	Twisted cable		Standard cable	
					32A cable gland 10/40	63A cable gland 6/24	32A cable gland 10/40	125A cable gland 1/8
2P+E	50/60	48		12	218.32333.KXB		218.32333.KX	
	50/60	48		1	218.63339.KXB		218.125339.KX	
3P+E	50/60	380-440		3			218.32364.KX	

> CONNECTORS - IP66/IP67 - HEAVY DUTY

OPTIMA-HD Series



Poles	Hz.	Volt	Colour	h	Twisted cable		Standard cable	
					32A cable gland 10/40	63A cable gland 6/24	32A cable gland 1/12	125A cable gland 1/8
2P+E	50/60	48		12	318.32433.KXB			
	50/60	48		1	318.63439.KXB		318.125439.KX	
3P+E	50/60	380-440		3			318.32464.KX	

Package/Bulk Pack.

Industrial plugs and sockets

> ACCESSORIES



Description		Package/Bulk Pack	
Cap for 32A plugs – IP67	10/100	570.90324	
32A Ring nut spare part kit	1/25	654.11324	
63A Ring nut spare part kit	1	654.14635	
Entry-exit terminal board for TOP version - 5 poles 6mm ²	10/100	654.0352	
Threaded cable sleeve IP55	M20	100/1000	805.5020
	M25	100/1000	805.5025
	M32	100/1000	805.5032

Package/Bulk Pack.

> EMPTY SURFACE MOUNTING BOXES - IP67



Outlet	Cable Inlet	Suitable for sockets	Flange dim (mm)	Cable Inlet	Package/Bulk Pack	
Straight box	Knockout hole	16A IP44/IP67	70x87	PG16	10	570.0016 (*)
				M20	10	570.M0016 (*)
		32A IP44/IP67	84x106	PG21	10	570.0032 (*)
				M25	10	570.M0032 (*)
Angled box	Knockout hole	16A IP44/IP67	70x87	PG16	10	570.0116
				M20	10	570.M0116
		32A IP44/IP67	84x106	PG21	10	570.0132
				M25	10	570.M0132
	Threaded	63A IP67	100X110	PG29	6	570.0163
				M32	6	570.M0163
		125A IP67	114X114	PG48	6	570.0125
				M63	6	570.M0125

Package/Bulk Pack.

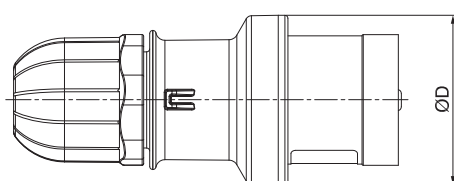
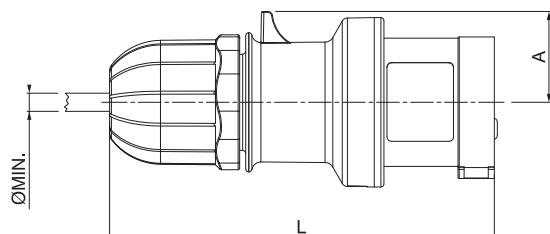
- Supplied with socket fastening screws.

- Screw cap with seal.

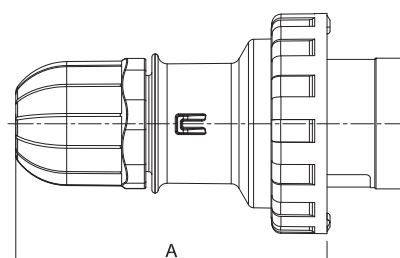
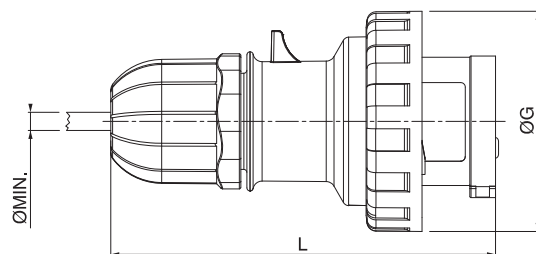
(*) Suitable for the sealing caps

> DIMENSIONS

PLUGS

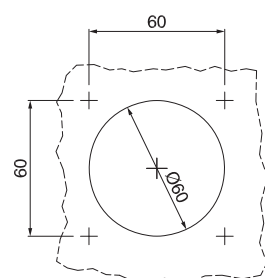
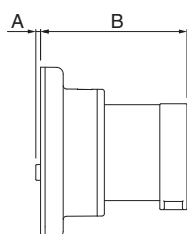
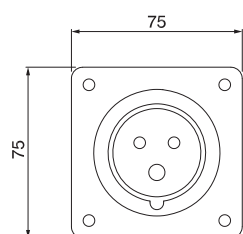


IP44		A	Ø D	L Min	Ø Min
16A	2P+E	30	56	128	6
	3P+E	34	60	135	6
	3P+N+E	38	65	153	9
32A	2P+E	40	65	162	9
	3P+E	40	65	162	9
	3P+N+E	45	73	176	13



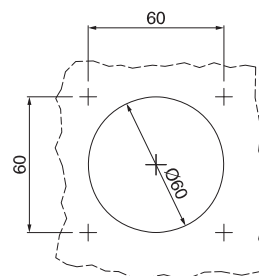
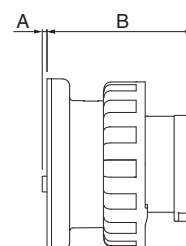
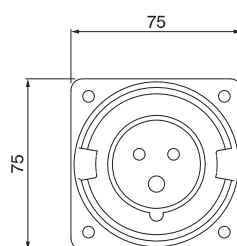
IP66/IP67		A	Ø G	L Min	Ø Min
16A	2P+E	103	73	128	6
	3P+E	110	81	135	6
	3P+N+E	129	88	153	9
32A	2P+E	131	93	162	9
	3P+E	131	93	162	9
	3P+N+E	145	101	176	13
63A		160	112	220	17
125A		202	128	272	26

APPLIANCE INLETS - IP44



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

APPLIANCE INLETS - IP66/IP67



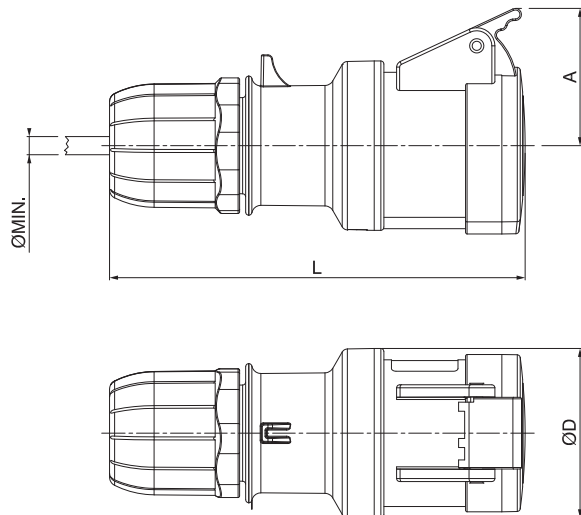
IP66/IP67		A	B
16A	2P+E	2	65
	3P+E	2	65
	3P+N+E	2	65
32A	2P+E	19	73
	3P+E	19	73
	3P+N+E	19	73

(Dimension in mm)

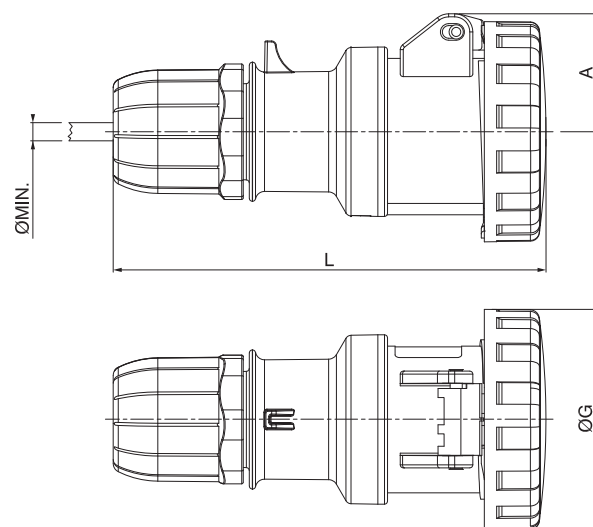
OPTIMA Series

> DIMENSIONS

CONNECTORS

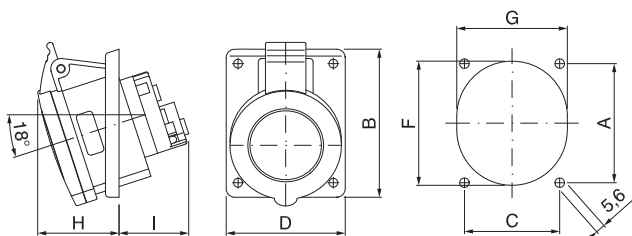


IP44		A	Ø D	L Min	Ø Min
16A	2P+E	46	56	138	6
	3P+E	49	60	145	6
	3P+N+E	54	65	165	9
32A	2P+E	54	65	175	9
	3P+E	54	65	175	9
	3P+N+E	59	73	190	13



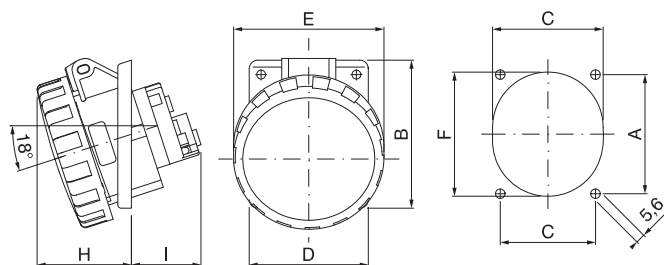
IP66/IP67		A	Ø G	L Min	Ø Min
16A	2P+E	39	73	141	6
	3P+E	43	81	148	6
	3P+N+E	51	88	168	9
32A	2P+E	56	93	178	9
	3P+E	56	93	178	9
	3P+N+E	52	101	195	13
63A		57,5	112	230	17
125A		64,25	128	288	26

PANEL MOUNTING SOCKET OUTLETS - ANGLED - IP44



	A	B	C	D	F	G	H	I
16A	2P+E	70	87	56	70	73	65	45
	3P+E	70	87	56	70	73	65	46
	3P+N+E	70	87	56	70	73	65	48
32A	2P+E	90	106	68	84	87	76	52
	3P+E	90	106	68	84	87	76	52
	3P+N+E	90	106	68	84	87	76	54

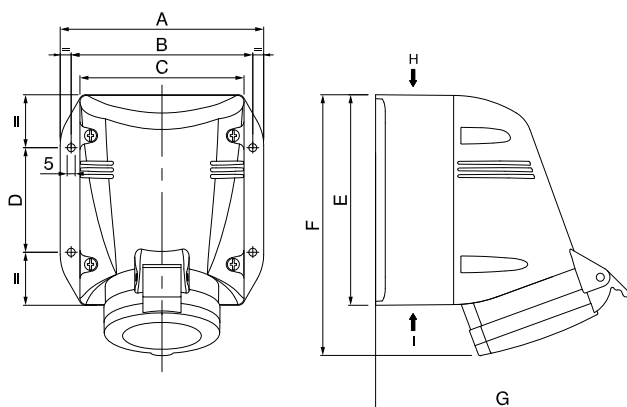
PANEL MOUNTING SOCKET OUTLETS - ANGLED - IP66/IP67



	A	B	C	D	E	F	G	H	I
16A	2P+E	70	87	56	70	73	73	65	52
	3P+E	70	87	56	70	81	73	65	54
	3P+N+E	70	87	56	70	88	73	65	55
32A	2P+E	90	106	68	84	93	87	76	61
	3P+E	90	106	68	84	93	87	76	61
	3P+N+E	90	106	68	84	101	87	76	63

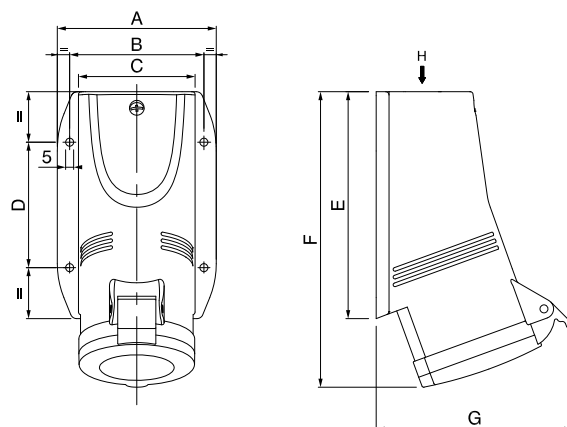
(Dimension in mm)

TOP VERSION - IP44



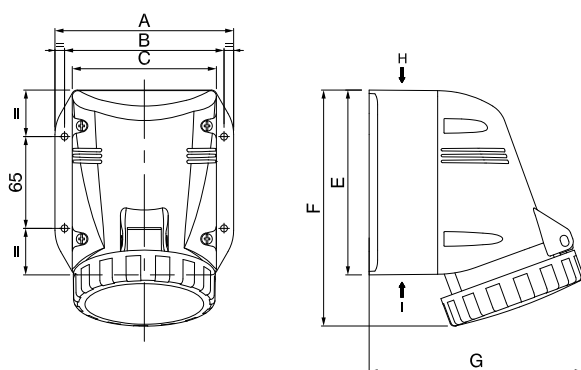
		A	B	C	D	E	F	G	H	I
	2P+E	94	80	70	/	96	126	119	M20X1.5	M20X1.5
16A	3P+E	109	97	85	51	112	140	140	M25X1.5	2X M25X1.5
	3P+N+E	109	97	85	51	112	143	141	M25X1.5	2X M25X1.5
	2P+E	126	113	102	65	130	159	156	M32X1.5	2X M32X1.5
32A	3P+E	126	113	102	65	130	159	156	M32X1.5	2X M32X1.5
	3P+N+E	126	113	102	65	130	162	158	M32X1.5	2X M32X1.5

TOP VERSION - IP66/IP67



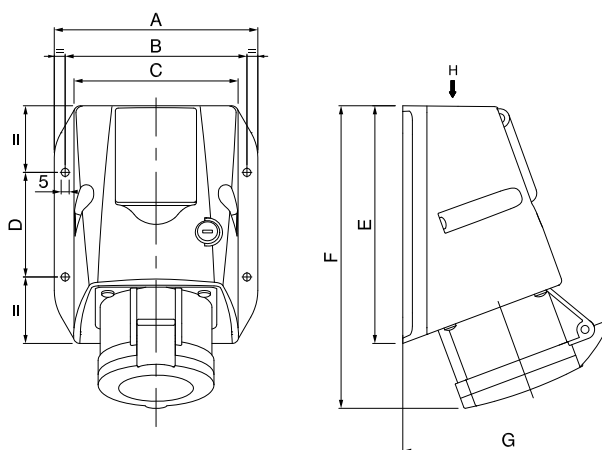
		A	B	C	D	E	F	G	H	I
	2P+E	94	80	70	/	96	131	110	M20X1.5	M20X1.5
16A	3P+E	109	97	85	51	112	146	134	M25X1.5	2X M25X1.5
	3P+N+E	109	97	85	51	112	150	135	M25X1.5	2X M25X1.5
	2P+E	126	113	102	65	130	166	151	M32X1.5	2X M32X1.5
32A	3P+E	126	113	102	65	130	166	151	M32X1.5	2X M32X1.5
	3P+N+E	126	113	102	65	130	167	152	M32X1.5	2X M32X1.5

BASE VERSION - IP44



		A	B	C	D	E	F	G	H
	2P+E	76	63	52	/	103	133	98	M20X1.5
16A	3P+E	91	76	65	60	123	155	103	M25X1.5
	3P+N+E	91	76	65	60	123	157	110	M25X1.5
	2P+E	99	84	72	78	141	182	115	M32X1.5
32A	3P+E	99	84	72	78	141	182	115	M32X1.5
	3P+N+E	99	84	72	78	141	184	122	M32X1.5

COMBI VERSION - IP44



		A	B	C	D	E	F	G	H
	2P+E	126	113	102	65	148	188	131	M32X1.5
16A	3P+E	126	113	102	65	148	188	131	M32X1.5
	3P+N+E	126	113	102	65	148	188	131	M32X1.5
	2P+E	126	113	102	65	148	188	131	M32X1.5
32A	3P+E	126	113	102	65	148	188	131	M32X1.5
	3P+N+E	126	113	102	65	148	188	131	M32X1.5