

SELECTION

# INDUSTRIAL PLUGS AND SOCKETS

2020 - 2021





# INDUSTRIAL PLUGS AND SOCKETS

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2020 - 2021



[www.scame.com](http://www.scame.com)

Our fifty-year old history of continuous research and development, which started from an insulated nail, a product that is as simple as the winning idea that generated it, has led to the development of more than 20,000 products suited for meeting all kind of needs in any installation environment. In the following pages, you will find the wide range of IEC 60309 plugs, connectors and sockets offered by **SCAME**, suited to meeting all kinds of needs in the tertiary, industrial and construction site sectors, either as stand-alone products and as a natural addition to the distribution boards which are part of **SCAME**'s range.

**SCAME**'s complete offer can always be consulted through the comprehensive thematic catalogues as well as on the Internet at [www.scame.com](http://www.scame.com).

INDEX	PAGE 2
COMPANY	PAGE 4
<b>PRODUCTS CATALOGUE</b>	
<b>TECHNICAL SHEETS</b>	
INDEX BY PRODUCT NUMBER	PAGE 76

Plugs	page 6		
Flush mounting appliance inlets	page 10		
Surface mounting appliance inlets	page 12		
Connectors	page 14		
Flush mounting socket outlets	page 18		
Surface mounting socket outlets	page 22		
Surface mounting switched sockets O/I - L/O/R	page 28		
Plugs and inlets with phase inverter	page 31		
Heavy duty plugs and connectors	page 32		
Plugs and sockets <50V-	page 34		
Plugs and sockets for special applications	page 40		
OPTIMA Series	page 50	OPTIMA-MIL Series	page 64
OPTIMA-HD Series	page 55	EUREKA Series	page 66
OPTIMA-BASE-TOP-COMBI Series	page 56	IEC309 Series <50V	page 68
OPTIMA-REVERSE Series	page 58	OPTIMA-SEVEN Series	page 70
OPTIMA-TOP Series	page 60	XENIA Series	page 72
OPTIMA-COMBI Series	page 62		

## The company

“

In over  
**fifty years**  
we have built an  
**industrial reality**  
that has always  
maintained the spirit  
of its **origins**

”



Stefano Scainelli CEO



**THE CONCEPT OF QUALITY IS AN INTEGRAL PART OF OUR CULTURE IN ALL ASPECTS AND EVERY ACTIVITY OF OUR WORK.**

**SCAME PARRE S.p.A.** is an Italian manufacturer of components and systems for low voltage electrical installations, in the residential and industrial fields.

Since 1963, the year it was founded, SCAME has grown to be an international group with a workforce of 650 employees at the three facilities located in the province of Bergamo, Italy, where the company's headquarters and main production lines have always been. The company also operates abroad, with 18 sales offices and branches, three of which are also production facilities.

In over 50 years of activity, it has kept its original spirit intact, spreading its values and distributing its products on the domestic market and, starting in the early 1970s, in over 80 foreign countries spread over 5 continents, currently achieving a consolidated yearly turnover of more than € 100 million.





**SCAME ARGENTINA**  
Argentina

**SCAME BULGARIA**  
Bulgaria

**SCAME BRASIL**  
Brazil

**SCAME CHILE**  
Chile

**SCAME-TOP**  
China

**SCAME-CZ**  
Czech Republic

**SOBEM SCAME**  
France

**SCAME INDIA**  
India

**SCAME POLSKA**  
Poland

**SCAME PORTUGAL**  
Portugal

**SCAME-RO**  
Romania

**SCAME-SK**  
Slovakia

**SCAME IBERICA**  
Spain

**SCAME MIDDLE EAST**  
U.A.E.

**SCAME-UK**  
United Kingdom

**SCAME-UY**  
Uruguay

**SCAME-UA**  
Ukraine

# Industrial plugs and sockets

## PLUGS



Poles	Hz.	Volt	Colour	h.	IP44/IP54		FAST WIRING	
					16A cable gland	32A cable gland	16A cable gland	32A cable gland
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 (▲)(Δ)	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		
	100-300	<50		10	213.16331	213.32331		
	>300-500	>50		2	213.16332	213.32332		
	c.c.	>50-250		3	213.16334	213.32334		
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		
3P+N+E	100-300	<50		10	213.16371	213.32371		
	>300-500	>50		2	213.16372	213.32372		

= Screw terminals

= Spring terminals (fast wiring)

= Insulation perforating terminals (fast wiring)

= Mantle terminals



**(●) Phase inverter**  
Plugs and flush mounting appliance inlets with phase inverter, page 31



OPTIMA Series

XENIA Series

EUREKA Series



IP44/IP54



**63A**

cable gland

213.6330

213.6333

213.6338

213.6336

213.63333

213.63331

213.63332

213.63334

213.63338

213.6331

213.6334

213.6336

213.63365

213.63366

213.63367

213.63364

213.63361

213.63362

213.6332

213.6335

213.6337

213.63376

213.63377

213.63375

213.63374

213.63371

213.63372



IP44



**16A**

cable gland

214.1630

214.1633

214.1636

214.1637

**32A**

cable gland

214.3230

214.3233

214.3236

214.3237



IP44



**16A**

cable sleeve

221.1630

221.1633

221.1636

221.1637

**32A**

cable sleeve

221.3230

221.3233

221.3236

221.3237



**(▲) Black-coloured**

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



**(▲) 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

## PLUGS



IP66/IP67/IP69



IP66/IP67/IP69



Poles	Hz.	Volt	Colour	h.	IP66/IP67/IP69		IP66/IP67/IP69	
					16A cable gland	32A cable gland	63A cable gland	125A cable gland
<b>2P+E</b>	50/60	100-130		4	<b>218.1630</b> (Δ)	<b>218.3230</b>	<b>218.6330</b>	<b>218.12530</b>
	50/60	200-250		6	<b>218.1633</b> (Δ)(Δ)	<b>218.3233</b> (Δ)	<b>218.6333</b> (Δ)	<b>218.12533</b> (Δ)
	50/60	380-415		9	<b>218.1638</b>	<b>218.3238</b>	<b>218.6338</b>	<b>218.12538</b>
	50/60	480-500		7	<b>218.16336</b>	<b>218.32336</b>	<b>218.63336</b>	<b>218.125336</b>
	50/60	trasf.		12	<b>218.16333</b>	<b>218.32333</b>	<b>218.63333</b>	<b>218.125333</b>
	100-300	<50		10	<b>218.16331</b>	<b>218.32331</b>	<b>218.63331</b>	<b>218.125331</b>
	>300-500	>50		2	<b>218.16332</b>	<b>218.32332</b>	<b>218.63332</b>	<b>218.125332</b>
	c.c.	>50-250		3	<b>218.16334</b>	<b>218.32334</b>	<b>218.63334</b>	<b>218.125334</b>
	c.c.	>250		8	<b>218.16338</b>	<b>218.32338</b>	<b>218.63338</b>	<b>218.125338</b>
<b>3P+E</b>	50/60	100-130		4	<b>218.1631</b>	<b>218.3231</b>	<b>218.6331</b>	<b>218.12531</b>
	50/60	200-250		9	<b>218.1634</b>	<b>218.3234</b>	<b>218.6334</b>	<b>218.12534</b>
	50/60	380-415		6	<b>218.1636</b> (Δ)(●)	<b>218.3236</b> (Δ)(Δ)(●)	<b>218.6336</b> (Δ)	<b>218.12536</b> (Δ)
	60	440-460		11	<b>218.16365</b>	<b>218.32365</b>	<b>218.63365</b>	<b>218.125365</b>
	50/60	480-500		7	<b>218.16366</b>	<b>218.32366</b>	<b>218.63366</b>	<b>218.125366</b>
	50/60	600-690		5	<b>218.16367</b>	<b>218.32367</b>	<b>218.63367</b>	<b>218.125367</b>
	50 60	380 440		3	<b>218.16364</b>	<b>218.32364</b>	<b>218.63364</b>	<b>218.125364</b>
	100-300	>50		10	<b>218.16361</b>	<b>218.32361</b>	<b>218.63361</b>	<b>218.125361</b>
	>300-500	>50		2	<b>218.16362</b>	<b>218.32362</b>	<b>218.63362</b>	<b>218.125362</b>
<b>3P+N+E</b>	50/60	100-130		4	<b>218.1632</b>	<b>218.3232</b>	<b>218.6332</b>	<b>218.12532</b>
	50/60	208-250		9	<b>218.1635</b>	<b>218.3235</b>	<b>218.6335</b>	<b>218.12535</b>
	50/60	346-415		6	<b>218.1637</b> (Δ)(●)	<b>218.3237</b> (Δ)(●)	<b>218.6337</b> (Δ)	<b>218.12537</b> (Δ)
	50/60	480-500		7	<b>218.16376</b>	<b>218.32376</b>	<b>218.63376</b>	<b>218.125376</b>
	50/60	600-690		5	<b>218.16377</b>	<b>218.32377</b>	<b>218.63377</b>	<b>218.125377</b>
	60	440-460		11	<b>218.16375</b>	<b>218.32375</b>	<b>218.63375</b>	<b>218.125375</b>
	50 60	380 440		3	<b>218.16374</b>	<b>218.32374</b>	<b>218.63374</b>	<b>218.125374</b>
	100-300	<50		10	<b>218.16371</b>	<b>218.32371</b>	<b>218.63371</b>	<b>218.125371</b>
	>300-500	>50		2	<b>218.16372</b>	<b>218.32372</b>	<b>218.63372</b>	<b>218.125372</b>



= Screw terminals



= Spring terminals (fast wiring)



= Insulation perforating terminals (fast wiring)



= Mantle terminals



(●) Phase inverter

Plugs and flush mounting appliance inlets with phase inverter, page 31



**FAST WIRING**

**IP66/IP67**



**16A**

cable gland

**32A**

cable gland

**16A**

cable gland

**32A**

cable gland

**218.1630P** (Δ)

**218.3230F**

**226.1630**

**226.3230**

**218.1633P** (Δ)(Δ)

**218.3233F** (Δ)

**226.1633**

**226.3233**

**218.1638P**

**218.3238F**

**218.1634P**

**218.3234F**

**218.1636P** (Δ)

**218.3236F** (Δ)

**226.1636**

**226.3236**

**226.16367**

**218.32364F**

**226.32364**

**218.1637P** (Δ)

**218.3237F** (Δ)

**226.1637**

**226.3237**



**(Δ) Black-coloured**

Versions also available in black; just add ".K" at the end of the catalogue number.  
Example 218.1633.K



**(Δ) Transparent grip**

Version also available with transparent grip; just add ".TR" at the end of the catalogue number.  
Example 218.1633.TR

# Industrial plugs and sockets

## FLUSH MOUNTING APPLIANCE INLETS

OPTIMA Series



IP44/IP54



IP44/IP54

Poles	Hz.	Volt	Colour	h.	IP44/IP54		
					16A 75x75	32A 75x75	
					IP44/IP54		
					16A 75x75	32A 75x75	63A 100x110
2P+E	50/60	100-130		4	243.1690	243.3290	243.6390
	50/60	200-250		6	243.1693 (▲)	243.3293 (▲)	243.6393
	50/60	380-415		9	243.1698	243.3298	243.6398
	50/60	480-500		7			243.63936
	50/60	trasf.		12			243.63933
	100-300	<50		10			243.63931
	>300-500	>50		2			243.63932
	c.c.	>50-250		3			243.63934
	c.c.	>250		8			243.63938
3P+E	50/60	100-130		4	243.1691	243.3291	243.6391
	50/60	200-250		9	243.1694	243.3294	243.6394
	50/60	380-415		6	243.1696 (▲)(●)	243.3296 (▲)(●)	243.6396
	60	440-460		11	243.16965	243.32965	243.63965
	50/60	480-500		7			243.63966
	50/60	600-690		5			243.63967
	50 60	380 440		3	243.16964	243.32964	243.63964
	100-300	>50		10			243.63961
	>300-500	>50		2			243.63962
3P+N+E	50/60	100-130		4	243.1692	243.3292	243.6392
	50/60	208-250		9	243.1695	243.3295	243.6395
	50/60	346-415		6	243.1697 (▲)(●)	243.3297 (▲)(●)	243.6397
	50/60	480-500		7			243.63976
	50/60	600-690		5			243.63977
	60	440-460		11	243.16975	243.32975	243.63975
	50 60	380 440		3	243.16974	243.32974	243.63974
	100-300	<50		10			243.63971
	>300-500	>50		2			243.63972

= Screw terminals

= Mantle terminals

## EUREKA Series



IP44

90° ANGLED



16A 70x87	32A 70x87
242.1690	242.3290
242.1693	242.3293
242.1698	242.3298
242.16936	242.32936
242.16933	242.32933
242.16932	242.32932
242.16934	242.32934
242.16938	242.32938
242.1691	242.3291
242.1694	242.3294
242.1696	242.3296
242.16965	242.32965
242.16966	242.32966
242.16967	242.32967
242.16964	242.32964
242.16961	242.32961
242.16962	242.32962
242.1692	242.3292
242.1695	242.3295
242.1697	242.3297
242.16976	242.32976
242.16977	242.32977
242.16975	242.32975
242.16974	242.32974
242.16972	242.32972

## OPTIMA Series



IP66/IP67/IP69



16A 75x75	32A 75x75
248.1690	248.3290
248.1693 (▲)	248.3293 (▲)
248.1698	248.3298
248.16936	248.32936
248.16933	248.32933
248.16931	248.32931
248.16932	248.32932
248.16934	248.32934
248.16938	248.32938
248.1691	248.3291
248.1694	248.3294
248.1696 (▲)(●)	248.3296 (▲)(●)
248.16965	248.32965
248.16966	248.32966
248.16967	248.32967
248.16964	248.32964
248.16961	248.32961
248.16962	248.32962
248.1692	248.3292
248.1695	248.3295
248.1697 (▲)(●)	248.3297 (▲)(●)
248.16976	248.32976
248.16977	248.32977
248.16975	248.32975
248.16974	248.32974
248.16971	248.32971
248.16972	248.32972

IP66/IP67/IP69



63A 100x110	125A 114x114
248.6390	248.12590
248.6393	248.12593
248.6398	248.12598
248.63936	248.125936
248.63933	248.125933
248.63931	248.125931
248.63932	248.125932
248.63934	248.125934
248.63938	248.125938
248.6391	248.12591
248.6394	248.12594
248.6396	248.12596
248.63965	248.125965
248.63966	248.125966
248.63967	248.125967
248.63964	248.125964
248.63961	248.125961
248.63962	248.125962
248.6392	248.12592
248.6395	248.12595
248.6397 (▲)	248.12597 (▲)
248.63976	248.125976
248.63977	248.125977
248.63975	248.125975
248.63974	248.125974
248.63971	248.125971
248.63972	248.125972

## EUREKA Series



IP66/IP67

90° ANGLED



16A 70x87	32A 70x87
247.1690	247.3290
247.1693	247.3293
247.1698	247.3298
247.16936	247.32936
247.16933	247.32933
247.16932	247.32932
247.16934	247.32934
247.16938	247.32938
247.1691	247.3291
247.1694	247.3294
247.1696	247.3296
247.16965	247.32965
247.16966	247.32966
247.16967	247.32967
247.16964	247.32964
247.16961	247.32961
247.16962	247.32962
247.1692	247.3292
247.1695	247.3295
247.1697	247.3297
247.16976	247.32976
247.16977	247.32977
247.16975	247.32975
247.16974	247.32974
247.16972	247.32972


**(●) Phase inverter**

Plugs and flush mounting appliance inlets with phase inverter, page 31


**(▲) Black-coloured**

Versions also available in black; just add ".K" at the end of the catalogue number. Example 243.1693.K

# Industrial plugs and sockets

## ■ SURFACE MOUNTING APPLIANCE INLETS

OPTIMA Series

OPTIMA-TOP Series



IP44/IP54

METRIC ENTRY 






























METRIC ENTRY 



IP44/IP54

METRIC ENTRY 

Poles	Hz.	Volt	Colour	h.	IP44/IP54		OPTIMA Series		OPTIMA-TOP Series
					16A M25	32A M32	16A M25	32A M32	63A M40
<b>2P+E</b>	50/60	100-130		4	<b>240.1690</b>	<b>240.3290</b>			<b>240.6390T</b>
	50/60	200-250		6	<b>240.1693</b>	<b>240.3293</b>	<b>240.1693-C</b>	<b>240.3293-C</b>	<b>240.6393T</b>
	50/60	380-415		9	<b>240.1698</b>	<b>240.3298</b>			<b>240.6398T</b>
	50/60	480-500		7					<b>240.63936T</b>
	50/60	trasf.		12					<b>240.63933T</b>
	100-300	<50		10					<b>240.63931T</b>
	>300-500	>50		2					<b>240.63932T</b>
	c.c.	>50-250		3					<b>240.63934T</b>
	c.c.	>250		8					<b>240.63938T</b>
<b>3P+E</b>	50/60	100-130		4	<b>240.1691</b>	<b>240.3291</b>			<b>240.6391T</b>
	50/60	200-250		9	<b>240.1694</b>	<b>240.3294</b>			<b>240.6394T</b>
	50/60	380-415		6	<b>240.1696</b>	<b>240.3296</b>	<b>240.1696-C</b>	<b>240.3296-C</b>	<b>240.6396T</b>
	60	440-460		11	<b>240.16965</b>	<b>240.32965</b>			<b>240.63965T</b>
	50/60	480-500		7					<b>240.63966T</b>
	50/60	600-690		5					<b>240.63967T</b>
	50 60	380 440		3	<b>240.16964</b>	<b>240.32964</b>			<b>240.63964T</b>
	100-300	>50		10					<b>240.63961T</b>
>300-500	>50		2					<b>240.63962T</b>	
<b>3P+N+E</b>	50/60	100-130		4	<b>240.1692</b>	<b>240.3292</b>			<b>240.6392T</b>
	50/60	208-250		9	<b>240.1695</b>	<b>240.3295</b>			<b>240.6395T</b>
	50/60	346-415		6	<b>240.1697</b>	<b>240.3297</b>	<b>240.1697-C</b>	<b>240.3297-C</b>	<b>240.6397T</b>
	50/60	480-500		7					<b>240.63976T</b>
	50/60	600-690		5					<b>240.63977T</b>
	60	440-460		11	<b>240.16975</b>	<b>240.32975</b>			<b>240.63975T</b>
	50 60	380 440		3	<b>240.16974</b>	<b>240.32974</b>			<b>240.63974T</b>
	100-300	<50		10					<b>240.63971T</b>
	>300-500	>50		2					<b>240.63972T</b>

 = Screw terminals

 = Mantle terminals

OPTIMA Series: open threaded cable entry on top side.  
IP44 Cable sleeve provided.

OPTIMA-TOP Series: open threaded cable entry/reversible base.  
Cable gland provided.

OPTIMA Series



IP66/IP67/IP69

METRIC ENTRY

**16A**  
M25

**32A**  
M32

245.1690	245.3290
245.1693	245.3293
245.1698	245.3298
245.16936	245.32936
245.16933	245.32933
245.16931	245.32931
245.16932	245.32932
245.16934	245.32934
245.16938	245.32938
245.1691	245.3291
245.1694	245.3294
245.1696	245.3296
245.16965	245.32965
245.16966	245.32966
245.16967	245.32967
245.16964	245.32964
245.16961	245.32961
245.16962	245.32962
245.1692	245.3292
245.1695	245.3295
245.1697	245.3297
245.16976	245.32976
245.16977	245.32977
245.16975	245.32975
245.16974	245.32974
245.16971	245.32971
245.16972	245.32972

OPTIMA-TOP Series



IP66/IP67/IP69

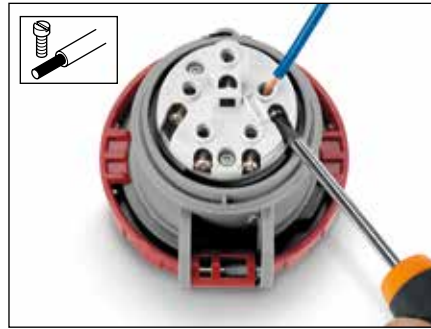
METRIC ENTRY

**63A**  
M40

**125A**  
M63

245.6390T	245.12590T
245.6393T	245.12593T
245.6398T	245.12598T
245.63936T	245.125936T
245.63933T	245.125933T
245.63931T	245.125931T
245.63932T	245.125932T
245.63934T	245.125934T
245.63938T	245.125938T
245.6391T	245.12591T
245.6394T	245.12594T
245.6396T	245.12596T
245.63965T	245.125965T
245.63966T	245.125966T
245.63967T	245.125967T
245.63964T	245.125964T
245.63961T	245.125961T
245.63962T	245.125962T
245.6392T	245.12592T
245.6395T	245.12595T
245.6397T	245.12597T
245.63976T	245.125976T
245.63977T	245.125977T
245.63975T	245.125975T
245.63974T	245.125974T
245.63971T	245.125971T
245.63972T	245.125972T

■ SCREW TERMINALS - CONVENTIONAL WIRING



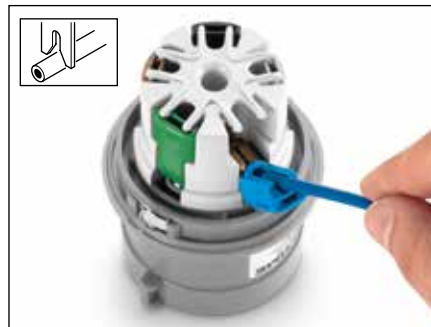
Versions: 16A-32A  
Plugs and connectors  
16A-32A  
Flush mounting plugs  
and sockets – 16-32A  
TOP version surface  
mounting sockets.

■ SPRING TERMINALS - FAST WIRING



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

■ INSULATION PERFORATING TERMINALS - FAST WIRING



Versions: 16A  
Plugs and connectors.

■ MANTLE TERMINALS



Versions: 63 - 125A  
Plugs and connectors.

# Industrial plugs and sockets

## CONNECTORS



IP44/IP54

SAFE-IN

Poles	Hz.	Volt	Colour	h.	IP44/IP54		SAFE-IN
					16A cable gland	32A cable gland	16A cable gland
2P+E	50/60	100-130		4	313.1640 (Δ)	313.3240	313.1640H
	50/60	200-250		6	313.1643 (▲) (Δ)	313.3243 (▲) (Δ)	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	
	100-300	<50		10	313.16431	313.32431	
	>300-500	>50		2	313.16432	313.32432	
	c.c.	>50-250		3	313.16434	313.32434	
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	
3P+N+E	>300-500	>50		2	313.16462	313.32462	
	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	
3P+N+E	100-300	<50		10	313.16471	313.32471	
	>300-500	>50		2	313.16472	313.32472	



= Screw terminals



= Spring terminals (fast wiring)



= Insulation perforating terminals (fast wiring)



= Mantle terminals





# Industrial plugs and sockets

## CONNECTORS



IP66/IP67/IP69



IP66/IP67/IP69

Poles	Hz.	Volt	Colour	h.	IP66/IP67/IP69		IP66/IP67/IP69	
					16A cable gland	32A cable gland	63A cable gland	125A cable gland
<b>2P+E</b>	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	318.125436
	50/60	trasf.		12	318.16433	318.32433	318.63433	318.125433
	100-300	<50		10	318.16431	318.32431	318.63431	318.125431
	>300-500	>50		2	318.16432	318.32432	318.63432	318.125432
	c.c.	>50-250		3	318.16434	318.32434	318.63434	318.125434
	c.c.	>250		8	318.16438	318.32438	318.63438	318.125438
<b>3P+E</b>	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 (▲) (Δ)	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	318.63464	318.125464
	100-300	>50		10	318.16461	318.32461	318.63461	318.125461
	>300-500	>50		2	318.16462	318.32462	318.63462	318.125462
	<b>3P+N+E</b>	50/60	100-130		4	318.1642	318.3242	318.6342
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	318.63474	318.125474
100-300		<50		10	318.16471	318.32471	318.63471	318.125471
>300-500		>50		2	318.16472	318.32472	318.63472	318.125472



= Screw terminals



= Spring terminals (fast wiring)








= Insulation perforating terminals (fast wiring)



= Mantle terminals



SAFE-IN 	FAST WIRING	
		
<b>16A</b> cable gland	<b>16A</b> cable gland	<b>32A</b> cable gland
<b>318.1640H</b>	<b>318.1640P</b> (Δ)	<b>318.3240F</b>
<b>318.1643H</b> (▲)	<b>318.1643P</b> (▲) (Δ)	<b>318.3243F</b> (▲)
<b>318.1648H</b>	<b>318.1648P</b>	<b>318.3248F</b>
<b>318.1644H</b>	<b>318.1644P</b>	<b>318.3244F</b>
<b>318.1646H</b> (▲)	<b>318.1646P</b> (▲)	<b>318.3246F</b> (▲)
		<b>318.32464F</b>
<b>318.1647H</b> (▲)	<b>318.1647P</b> (▲)	<b>318.3247F</b> (▲)

IP66/IP67	
ANGLED OUTLET 	
<b>16A</b> cable gland	<b>32A</b> cable gland
<b>326.1640</b>	<b>326.3240</b>
<b>326.1643</b>	<b>326.3243</b>
<b>326.1646</b>	<b>326.3246</b>
	<b>326.32464</b>
<b>326.1647</b>	<b>326.3247</b>



**(▲) 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/IP54

ANGLED OUTLET  
STANDARD FLANGE



SAFE-IN





FAST WIRING



Poles	Hz.	Volt	Colour	h.	IP44/IP54		SAFE-IN	FAST WIRING	
					16A 70x87	32A 84x106	16A 70x87	16A 70x87	32A 84x106
2P+E	50/60	100-130	Yellow	4	413.1660	413.3260	413.1660H	413.1660F	413.3260F
	50/60	200-250	Blue	6	413.1663 (▲)	413.3263 (▲)	413.1663H (▲)	413.1663F (▲)	413.3263F (▲)
	50/60	380-415	Red	9	413.1668	413.3268	413.1668H	413.1668F	413.3268F
	50/60	480-500	Black	7	413.16636	413.32636			
	50/60	trasf.	Grey	12	413.16633	413.32633			
	100-300	<50	Green	10	413.16631	413.32631			
	>300-500	>50	Green	2	413.16632	413.32632			
	c.c.	>50-250	Grey	3	413.16634	413.32634			
c.c.	>250	Grey	8	413.16638	413.32638				
3P+E	50/60	100-130	Yellow	4	413.1661	413.3261			
	50/60	200-250	Blue	9	413.1664	413.3264	413.1664H	413.1664F	413.3264F
	50/60	380-415	Red	6	413.1666 (▲)	413.3266 (▲)	413.1666H (▲)	413.1666F (▲)	413.3266F (▲)
	60	440-460	Red	11	413.16665	413.32665			
	50/60	480-500	Black	7	413.16666	413.32666			
	50/60	600-690	Black	5	413.16667	413.32667			
	50 60	380 440	Red	3	413.16664	413.32664			
	100-300	>50	Green	10	413.16661	413.32661			
>300-500	>50	Green	2	413.16662	413.32662				
3P+N+E	50/60	100-130	Yellow	4	413.1662	413.3262			
	50/60	208-250	Blue	9	413.1665	413.3265			
	50/60	346-415	Red	6	413.1667 (▲)	413.3267 (▲)	413.1667H (▲)	413.1667F (▲)	413.3267F (▲)
	50/60	480-500	Black	7	413.16676	413.32676			
	50/60	600-690	Black	5	413.16677	413.32677			
	60	440-460	Red	11	413.16675	413.32675			
	50 60	380 440	Red	3	413.16674	413.32674			
	100-300	<50	Green	10	413.16671	413.32671			
>300-500	>50	Green	2	413.16672	413.32672				

 = Screw terminals

 = Spring terminals (fast wiring)

 = Mantle terminals



**(▲) Black-coloured**

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


**IP44/IP54**

STRAIGHT OUTLET


**IP44/IP54**

 ANGLED OUTLET  
STANDARD FLANGE

**IP44/IP54**

 STRAIGHT OUTLET  
STANDARD FLANGE

**IP44**

90° ANGLED



IP44/IP54 STRAIGHT OUTLET				IP44/IP54 ANGLED OUTLET STANDARD FLANGE	IP44/IP54 STRAIGHT OUTLET STANDARD FLANGE	IP44 90° ANGLED	
16A 75x75	16A 62x62	16A 55x55	32A 75x75	63A 100x110	63A 100x110	16A 70x87	32A 70x87
423.1660	423.1660/R	423.1660/RR	423.3260	413.6360	423.6360	452.1660	452.3260
423.1663 (▲)	423.1663/R (▲)	423.1663/RR	423.3263 (▲)	413.6363	423.6363	452.1663	452.3263
423.1668	423.1668/R	423.1668/RR	423.3268	413.6368	423.6368	452.1668	452.3268
423.16636			423.32636	413.63636	423.63636	452.16636	452.32636
423.16633			423.32633	413.63633	423.63633	452.16633	452.32633
423.16631			423.32631	413.63631	423.63631		
423.16632			423.32632	413.63632	423.63632	452.16632	452.32632
423.16634			423.32634	413.63634	423.63634	452.16634	452.32634
423.16638			423.32638	413.63638	423.63638	452.16638	452.32638
423.1661	423.1661/R		423.3261	413.6361	423.6361	452.1661	452.3261
423.1664	423.1664/R		423.3264	413.6364	423.6364	452.1664	452.3264
423.1666 (▲)	423.1666/R (▲)		423.3266 (▲)	413.6366	423.6366	452.1666	452.3266
423.16665			423.32665	413.63665	423.63665	452.16665	452.32665
423.16666			423.32666	413.63666	423.63666	452.16666	452.32666
423.16667			423.32667	413.63667	423.63667	452.16667	452.32667
423.16664			423.32664	413.63664	423.63664	452.16664	452.32664
423.16661			423.32661	413.63661	423.63661	452.16661	452.32661
423.16662			423.32662	413.63662	423.63662	452.16662	452.32662
423.1662			423.3262	413.6362	423.6362	452.1662	452.3262
423.1665			423.3265	413.6365	423.6365	452.1665	452.3265
423.1667 (▲)			423.3267 (▲)	413.6367	423.6367	452.1667	452.3267
423.16676			423.32676	413.63676	423.63676	452.16676	452.32676
423.16677			423.32677	413.63677	423.63677	452.16677	452.32677
423.16675			423.32675	413.63675	423.63675	452.16675	452.32675
423.16674			423.32674	413.63674	423.63674	452.16674	452.32674
423.16671			423.32671	413.63671	423.63671		
423.16672			423.32672	413.63672	423.63672	452.16672	452.32672


**Accessories**

Empty boxes for creating surface mounting versions, page 33


**Auxiliary contact**

For flush mounting sockets angled outlet.

# Industrial plugs and sockets

## FLUSH MOUNTING SOCKET OUTLETS



IP66/IP67/IP69

ANGLED OUTLET  
STANDARD FLANGE



SAFE-IN





FAST WIRING



Poles	Hz.	Volt	Colour	h.	IP66/IP67/IP69		SAFE-IN	FAST WIRING	
					16A 70x87	32A 84x106	16A 70x87	16A 70x87	32A 84x106
2P+E	50/60	100-130	Yellow	4	418.1660	418.3260	418.1660H	418.1660F	418.3260F
	50/60	200-250	Blue	6	418.1663 (▲)	418.3263 (▲)	418.1663H (▲)	418.1663F (▲)	418.3263F (▲)
	50/60	380-415	Red	9	418.1668	418.3268	418.1668H	418.1668F	418.3268F
	50/60	480-500	Black	7	418.16636	418.32636			
	50/60	trasf.	Grey	12	418.16633	418.32633			
	100-300	<50	Green	10	418.16631	418.32631			
	>300-500	>50	Green	2	418.16632	418.32632			
	c.c.	>50-250	Grey	3	418.16634	418.32634			
c.c.	>250	Grey	8	418.16638	418.32638				
3P+E	50/60	100-130	Yellow	4	418.1661	418.3261			
	50/60	200-250	Blue	9	418.1664	418.3264	418.1664H	418.1664F	418.3264F
	50/60	380-415	Red	6	418.1666 (▲)	418.3266 (▲)	418.1666H (▲)	418.1666F (▲)	418.3266F (▲)
	60	440-460	Red	11	418.16665	418.32665			
	50/60	480-500	Black	7	418.16666	418.32666			
	50/60	600-690	Black	5	418.16667	418.32667			
	50 60	380 440	Red	3	418.16664	418.32664			
	100-300	>50	Green	10	418.16661	418.32661			
>300-500	>50	Green	2	418.16662	418.32662				
3P+N+E	50/60	100-130	Yellow	4	418.1662	418.3262			
	50/60	208-250	Blue	9	418.1665	418.3265			
	50/60	346-415	Red	6	418.1667 (▲)	418.3267 (▲)	418.1667H (▲)	418.1667F (▲)	418.3267F (▲)
	50/60	480-500	Black	7	418.16676	418.32676			
	50/60	600-690	Black	5	418.16677	418.32677			
	60	440-460	Red	11	418.16675	418.32675			
	50 60	380 440	Red	3	418.16674	418.32674			
	100-300	<50	Green	10	418.16671	418.32671			
>300-500	>50	Green	2	418.16672	418.32672				

 = Screw terminals

 = Spring terminals (fast wiring)

 = Mantle terminals



**(▲) Black-coloured**

Version also available in black; just add ".K"  
at the end of the catalogue number.  
Example 418.1663.K


**IP66/IP67/IP69**

STRAIGHT OUTLET

**IP66/IP67/IP69**

 ANGLED OUTLET  
STANDARD FLANGE 

**IP66/IP67/IP69**

 STRAIGHT OUTLET  
STANDARD FLANGE 

**IP66/IP67**

90° ANGLED

STRAIGHT OUTLET				ANGLED OUTLET STANDARD FLANGE		STRAIGHT OUTLET STANDARD FLANGE		90° ANGLED	
16A 75x75	16A 62x62	16A 55x55	32A 75x75	63A 100x110	125A 114x114	63A 100x110	125A 114x114	16A 70x87	32A 70x87
428.1660	428.1660/R	428.1660/RR	428.3260	418.6360	418.12560	428.6360	428.12560	457.1660	457.3260
428.1663 (▲)	428.1663/R (▲)	428.1663/RR	428.3263 (▲)	418.6363	418.12563	428.6363	428.12563	457.1663	457.3263
428.1668	428.1668/R	428.1668/RR	428.3268	418.6368	418.12568	428.6368	428.12568	457.1668	457.3268
428.16636			428.32636	418.63636	418.125636	428.63636	428.125636	457.16636	457.32636
428.16633			428.32633	418.63633	418.125633	428.63633	428.125633	457.16633	457.32633
428.16631			428.32631	418.63631	418.125631	428.63631	428.125631		
428.16632			428.32632	418.63632	418.125632	428.63632	428.125632	457.16632	457.32632
428.16634			428.32634	418.63634	418.125634	428.63634	428.125634	457.16634	457.32634
428.16638			428.32638	418.63638	418.125638	428.63638	428.125638	457.16638	457.32638
428.1661	428.1661/R		428.3261	418.6361	418.12561	428.6361	428.12561	457.1661	457.3261
428.1664	428.1664/R		428.3264	418.6364	418.12564	428.6364	428.12564	457.1664	457.3264
428.1666 (▲)	428.1666/R (▲)		428.3266 (▲)	418.6366	418.12566	428.6366	428.12566	457.1666	457.3266
428.16665			428.32665	418.63665	418.125665	428.63665	428.125665	457.16665	457.32665
428.16666			428.32666	418.63666	418.125666	428.63666	428.125666	457.16666	457.32666
428.16667			428.32667	418.63667	418.125667	428.63667	428.125667	457.16667	457.32667
428.16664			428.32664	418.63664	418.125664	428.63664	428.125664	457.16664	457.32664
428.16661			428.32661	418.63661	418.125661	428.63661	428.125661	457.16661	457.32661
428.16662			428.32662	418.63662	418.125662	428.63662	428.125662	457.16662	457.32662
428.1662			428.3262	418.6362	418.12562	428.6362	428.12562	457.1662	457.3262
428.1665			428.3265	418.6365	418.12565	428.6365	428.12565	457.1665	457.3265
428.1667 (▲)			428.3267 (▲)	418.6367 (▲)	418.12567 (▲)	428.6367	428.12567	457.1667	457.3267
428.16676			428.32676	418.63676	418.125676	428.63676	428.125676	457.16676	457.32676
428.16677			428.32677	418.63677	418.125677	428.63677	428.125677	457.16677	457.32677
428.16675			428.32675	418.63675	418.125675	428.63675	428.125675	457.16675	457.32675
428.16674			428.32674	418.63674	418.125674	428.63674	428.125674	457.16674	457.32674
428.16671			428.32671	418.63671	418.125671	428.63671	428.125671		
428.16672			428.32672	418.63672	418.125672	428.63672	428.125672	457.16672	457.32672


**Accessories**

Empty boxes for creating surface mounting versions, page 33


**Auxiliary contact**

For flush mounting sockets angled outlet.

# Industrial plugs and sockets

## ■ SURFACE MOUNTING SOCKET OUTLETS

OPTIMA-TOP Series



Poles	Hz.	Volt	Colour	h.	IP44		SAFE-IN	FAST WIRING	
					16A M20/M25	32A M32	16A M20/M25	16A M20/M25	32A M32
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			
	100-300	<50		10	513.16531T (◇)	513.32531T			
	>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			
	100-300	<50		10	513.16571T	513.32571T			
	>300-500	>50		2	513.16572T	513.32572T			



= Screw terminals



= Spring terminals (fast wiring)

(◇) = 2P+E 16A only M20

OPTIMA-TOP Series: 2+1 blind threaded knockout/reversible base.

OPTIMA-BASE Series: open threaded cable entry on top side.

IP44 version: cable sleeve provided.





# Industrial plugs and sockets

## ■ SURFACE MOUNTING SOCKET OUTLETS



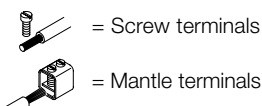
IP44/IP54

IP44/IP54

STRAIGHT BOX 

ANGLED BOX 

Poles	Hz.	Volt	Colour	h.	STRAIGHT BOX		ANGLED BOX	
					16A Drilling point mark	32A Drilling point mark	16A M20/M25	32A M32
2P+E	50/60	100-130		4	522.1650	522.3250	512.1650	512.3250
	50/60	200-250		6	522.1653	522.3253	512.1653	512.3253
	50/60	380-415		9	522.1658	522.3258	512.1658	512.3258
	50/60	480-500		7				
	50/60	trasf.		12				
	100-300	<50		10				
	>300-500	>50		2				
	c.c.	>50-250		3				
	c.c.	>250		8				
	3P+E	50/60	100-130		4	522.1651	522.3251	512.1651
50/60		200-250		9	522.1654	522.3254	512.1654	512.3254
50/60		380-415		6	522.1656	522.3256	512.1656	512.3256
60		440-460		11				
50/60		480-500		7				
50/60		600-690		5				
50		380		3				
60		440		3				
3P+N+E	100-300	>50		10				
	>300-500	>50		2				
	50/60	100-130		4	522.1652	522.3252	512.1652	512.3252
	50/60	208-250		9	522.1655	522.3255	512.1655	512.3255
	50/60	346-415		6	522.1657	522.3257	512.1657	512.3257
	50/60	480-500		7				
	50/60	600-690		5				
	60	440-460		11				
	50	380		3				
	60	440		3				
	100-300	<50		10				
	>300-500	>50		2				



OPTIMA Series IP44/IP54: cable sleeve provided.

OPTIMA-TOP Series: open threaded cable entry/reversible base. Cable gland provided.

ANGLED BOX: open threaded cable entry on top side.







STRAIGHT BOX: blank side and drilling point mark.



# Industrial plugs and sockets






## ■ SURFACE MOUNTING SOCKET OUTLETS

IP44/IP54

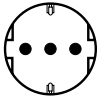





Industrial socket	Poles	Volt	Colour	h.	Cable Inlet		
<b>16A</b>	2P+E	200-250		6	M32x1,5	<b>513.1653-PN</b>	<b>513.1653-BN</b>
	3P+E	380-415		6	M32x1,5	<b>513.1656-PN</b>	<b>513.1656-BN</b>
	3P+N+E	346-415		6	M32x1,5	<b>513.1657-PN</b>	<b>513.1657-BN</b>
	3P+N+E	346-415		6	M32x1,5		

- (\*) BS standard sockets provided with 10A fuse protection.  
 - Available in further domestic sockets standard (contact technical service).  
 (▲) Household Swiss socket 3P+N+E.  
 - Solution already wired up to the power supply terminal board.  
 - Open threaded cable entry on top side.  
 - Cable sleeve provided.

IP44/IP54

Industrial socket	Poles	Volt	Colour	h.	Cable Inlet		
<b>32A</b>	2P+E	200-250		6	M32x1,5	<b>513.3253-PF</b>	<b>513.3253-BF</b>
	3P+E	380-415		6	M32x1,5	<b>513.3256-PF</b>	<b>513.3256-BF</b>
	3P+N+E	346-415		6	M32x1,5	<b>513.3257-PF</b>	<b>513.3257-BF</b>









- Household socket protected by 10A fuse (time-delay).  
 - Available in further domestic sockets standard (contact technical service).  
 - Solution already wired up to the power supply terminal board.  
 - Open threaded cable entry on top side.  
 - Cable sleeve provided.

ITALIAN STANDARD P30 - 16A	BRITISH STANDARD 13A	FRENCH STANDARD 16A	PLURISTANDARD STANDARD P40-16A	BRAZILIAN-SWISS STANDARD 10A	DANISH STANDARD 10A
					


 = Screw terminals











WITHOUT PROTECTION 

				 WITHOUT SHUTTERS	 WITH SHUTTERS		
513.1653-FN	513.1653-LN	513.1653-CF	513.1653-KN	513.1653-DN	513.1653-GN	513.1653-SN	513.1653-AF
513.1656-FN	513.1656-LN	513.1656-CF	513.1656-KN	513.1656-DN	513.1656-GN	513.1656-SN	513.1656-AF
513.1657-FN	513.1657-LN	513.1657-CF	513.1657-KN	513.1657-DN	513.1657-GN	513.1657-SN	513.1657-AF
							513.1657-S5N (▲)



WITH FUSE PROTECTION 

				 WITHOUT SHUTTERS	 WITH SHUTTERS		
513.3253-FF	513.3253-LF	513.3253-CF	513.3253-KF	513.3253-DF	513.3253-GF	513.3253-SF	513.3253-AF
513.3256-FF	513.3256-LF	513.3256-CF	513.3256-KF	513.3256-DF	513.3256-GF	513.3256-SF	513.3256-AF
513.3257-FF	513.3257-LF	513.3257-CF	513.3257-KF	513.3257-DF	513.3257-GF	513.3257-SF	513.3257-AF

ARGENTINIAN STANDARD 10A



GERMAN STANDARD 16A



# Industrial plugs and sockets

## ■ SURFACE MOUNTING SWITCHED SOCKETS 0/I

OPTIMA-COMBI Series



IP44/IP54



Industrial socket	Poles	Volt	Colour	h.	Cable Inlet	
16A	2P+E	200-250		6	M25	513.1653TS
	3P+E	380-415		6	M25	513.1656TS
	3P+N+E	346-415		6	M25	513.1657TS
32A	2P+E	200-250		6	M25	513.3253TS.A
	2P+E	200-250		6	M32	513.3253TS
	3P+E	380-415		6	M25	513.3256TS.A
	3P+E	380-415		6	M32	513.3256TS
	3P+N+E	346-415		6	M25	513.3257TS.A
	3P+N+E	346-415		6	M32	513.3257TS

- M25: 2+1 open threaded cable entry/reversible base.  
- M32: 2+1 blind threaded knockout/reversible base.

- Cable sleeve provided.

## ■ SURFACE MOUNTING SWITCHED SOCKETS 0/I

OPTIMA-COMBI Series



IP66/IP67/IP69



Industrial socket	Poles	Volt	Colour	h.	Cable Inlet	
16A	2P+E	200-250		6	M25	518.1653TS
	3P+E	380-415		6	M25	518.1656TS
	3P+N+E	346-415		6	M25	518.1657TS
32A	2P+E	200-250		6	M25	518.3253TS.A
	2P+E	200-250		6	M32	518.3253TS
	3P+E	380-415		6	M25	518.3256TS.A
	3P+E	380-415		6	M32	518.3256TS
	3P+N+E	346-415		6	M25	518.3257TS.A
	3P+N+E	346-415		6	M32	518.3257TS

- M25: 2+1 open threaded cable entry/reversible base.  
- M32: 2+1 blind threaded knock out/reversible base.

= Screw terminals

■ SURFACE MOUNTING SWITCHED SOCKETS 0/I

OPTIMA-COMBI Series



IP44/IP54

WITHOUT PROTECTION

Industrial socket	Poles	Volt	Colour	h.	Cable Inlet	Domestic sockets				
16A	2P+E	200-250		6	M32	1	513.1653-1DNS	513.1653-1FNS		
	2P+E	200-250		6	M32	2	513.1653-2DNS	513.1653-2FNS	513.1653-2AFS	
	3P+E	380-415		6	M32	1	513.1656-1DNS	513.1656-1FNS		
	3P+E	380-415		6	M32	2	513.1656-2DNS	513.1656-2FNS	513.1656-2AFS	513.1656-2KNS
	3P+N+E	346-415		6	M32	1	513.1657-1DNS	513.1657-1FNS		
	3P+N+E	346-415		6	M32	2	513.1657-2DNS	513.1657-2FNS	513.1657-2AFS	513.1657-2KNS

- Open threaded cable entry on top side.
- Cable sleeve provided.

- Available in further domestic sockets standard (contact technical service).



IP44/IP54

WITH FUSE PROTECTION

Industrial socket	Poles	Volt	Colour	h.	Cable Inlet	Domestic sockets			
32A	2P+E	200-250		6	M32	1	513.3253-1DFS	513.3253-1FFS	
	2P+E	200-250		6	M32	2	513.3253-2DFS	513.3253-2FFS	513.3253-2AFS
	3P+E	380-415		6	M32	1	513.3256-1DFS	513.3256-1FFS	
	3P+E	380-415		6	M32	2	513.3256-2DFS	513.3256-2FFS	513.3256-2AFS
	3P+N+E	346-415		6	M32	1	513.3257-1DFS	513.3257-1FFS	
	3P+N+E	346-415		6	M32	2	513.3257-2DFS	513.3257-2FFS	513.3257-2AFS

- Household socket protected by 10A fuse (time-delay).
- Open threaded cable entry on top side.

- Cable sleeve provided.  
- Available in further domestic sockets standard (contact technical service).

<p><b>GERMAN STANDARD 16A</b></p>	<p><b>FRENCH STANDARD 16A</b></p>	<p><b>ARGENTINIAN STANDARD 10A</b></p>	<p><b>DANISH STANDARD 10A</b></p>
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# Industrial plugs and sockets

## ■ SURFACE MOUNTING SWITCHED SOCKETS L/O/R (WITH REVERSING SWITCH)







OPTIMA-COMBI Series



IP44/IP54

WITHOUT PROTECTION



Industrial socket	Poles	Volt	Colour	h.	Cable Inlet	Domestic sockets		
<b>16A</b>	3P+E	380-415		6	M32	1	<b>513.1656-1DNR</b>	<b>513.1656-1FNR</b>
	3P+E	380-415		6	M32	2	<b>513.1656-2DNR</b>	<b>513.1656-2FNR</b>
	3P+N+E	346-415		6	M32	1	<b>513.1657-1DNR</b>	<b>513.1657-1FNR</b>
	3P+N+E	346-415		6	M32	2	<b>513.1657-2DNR</b>	<b>513.1657-2FNR</b>

- Open threaded cable entry on top side.
- Cable sleeve provided.







- Available in further domestic sockets standard (contact technical service).



IP44/IP54

WITH FUSE PROTECTION

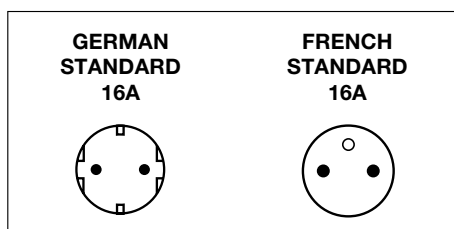


Industrial socket	Poles	Volt	Colour	h.	Cable Inlet	Domestic sockets		
<b>32A</b>	3P+E	380-415		6	M32	1	<b>513.3256-1DFR</b>	<b>513.3256-1FFR</b>
	3P+E	380-415		6	M32	2	<b>513.3256-2DFR</b>	<b>513.3256-2FFR</b>
	3P+N+E	346-415		6	M32	1	<b>513.3257-1DFR</b>	<b>513.3257-1FFR</b>
	3P+N+E	346-415		6	M32	2	<b>513.3257-2DFR</b>	<b>513.3257-2FFR</b>

- Household socket protected by 10A fuse (time-delay).
- Open threaded cable entry on top side.

- Cable sleeve provided.

- Available in further domestic sockets standard (contact technical service).

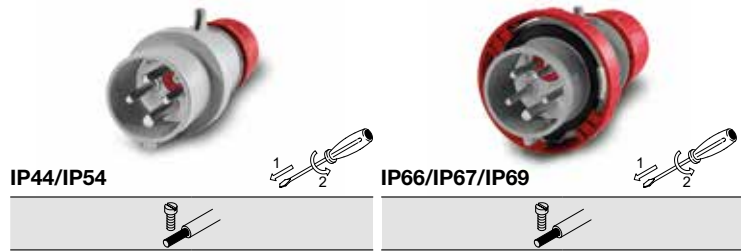


 = Screw terminals



**PLUGS WITH PHASE INVERTER**

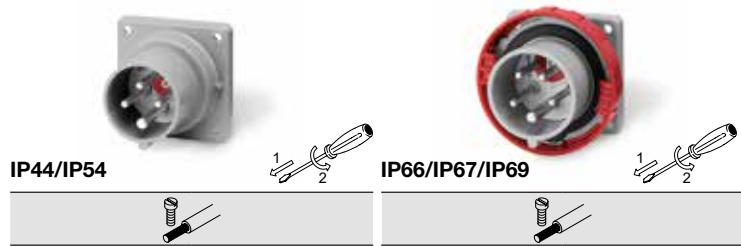
OPTIMA-REVERSE Series



Poles	Hz.	Volt	Colour	h.	IP44/IP54		IP66/IP67/IP69	
					16A cable gland	32A cable gland	16A cable gland	32A cable gland
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**

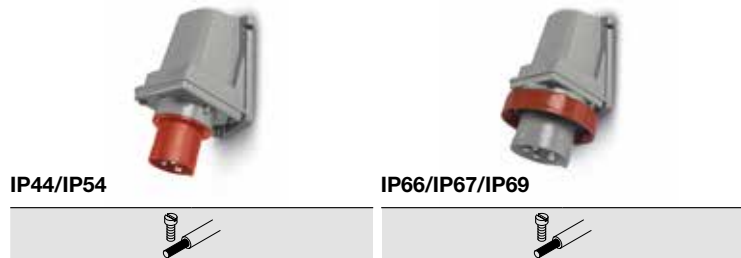
OPTIMA-REVERSE Series



Poles	Hz.	Volt	Colour	h.	IP44/IP54		IP66/IP67/IP69	
					16A 75x75	32A 75x75	16A 75x75	32A 75x75
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

**SURFACE MOUNTING APPLIANCE INLET WITH PHASE INVERTER**

OPTIMA-REVERSE Series



Poles	Hz.	Volt	Colour	h.	IP44/IP54		IP66/IP67/IP69	
					16A M25	32A M32	16A M25	32A M32
3P+E	50/60	380-415		6	240.1696RV	240.3296RV	245.1696RV	245.3296RV
3P+N+E	50/60	346-415		6	240.1697RV	240.3297RV	245.1697RV	245.3297RV

- Open threaded cable entry on top side.  
 - IP44/IP54: cable sleeve provided.

# Industrial plugs and sockets

## PLUGS - HEAVY DUTY

OPTIMA-HD Series



IP66/IP67/IP69



Poles	Hz.	Volt	Colour	h.	16A	32A	63A	125A
					cable gland	cable gland	cable gland	cable gland
2P+E	50/60	200-250		6	218.1633.KX	218.3233.KX	218.6333.KX	218.12533.KX
	50/60	380-415		6	218.1636.KX	218.3236.KX	218.6336.KX	218.12536.KX
3P+E	50...60	380...440		3	218.32364.KX			
	60	440-460		11			218.63365.KX	218.125365.KX
	60	208-250		9	218.1634.KX			
3P+N+E	50/60	346-415		6	218.1637.KX	218.3237.KX	218.6337.KX	218.12537.KX
	50/60	208-250		9	218.1635.KX	218.3235.KX	218.6335.KX	218.12535.KX

- Other earth clock positions (h) available on request.
- Available special versions with twisted cable entries.

## CONNECTORS - HEAVY DUTY

OPTIMA-HD Series



IP66/IP67/IP69



Poles	Hz.	Volt	Colour	h.	16A	32A	63A	125A
					cable gland	cable gland	cable gland	cable gland
2P+E	50/60	200-250		6	318.1643.KX	318.3243.KX	318.6343.KX	318.12543.KX
3P+E	50/60	380-415		6	318.1646.KX	318.3246.KX	318.6346.KX	318.12546.KX
	50...60	380...440		3	318.32464.KX			
3P+N+E	50/60	346-415		6	318.1647.KX	318.3247.KX	318.6347.KX	318.12547.KX

- Other earth clock positions (h) available on request.
- Available special versions with twisted cable entries.

= Screw terminals

**ACCESSORIES**


Description		
Plug caps 16/20A - 2P+E		<b>570.90163</b>
Plug caps 16/20A - 3P+E		<b>570.90164</b>
Plug caps 16/20A - 3P+N+E		<b>570.90165</b>
Plug caps 32/30A - 2P+E & 3P+E		<b>570.90324</b>
Plug caps 32/30A - 3P+N+E		<b>570.90325</b>
Plug caps 63/60A - all polarity		<b>570.9063</b>
Plug caps 125/100A - all polarity		<b>570.9125</b>
Loop in/out terminal block - 5 poles 6mm <sup>2</sup>		<b>654.0382</b>
Threaded cable sleeve IP55	M20	<b>805.5020</b>
	M25	<b>805.5025</b>
	M32	<b>805.5032</b>
Microswitch kit 16/32 NO		<b>654.0391 (▲)</b>
Microswitch kit 16/32 NC		<b>654.0392 (▲)</b>
Microswitch kit 63/125 NO		<b>654.0393 (▲)</b>
Microswitch kit 63/125 NC		<b>654.0394 (▲)</b>
Cover for surface mounting appliance inlet 16A 2P+E / 3P+E		<b>570.9001</b>
Cover for surface mounting appliance inlet 16A 3P+N+E / 32A all poles		<b>570.9002</b>

(▲) For plug inserted detection. Suited for flush mounting angled outlet versions only.

**EMPTY SURFACE MOUNTING BOXES - IP67**


Description	Cable Inlet	Suitable for sockets	Flange (mm)	Cable Inlet	
Straight box	Blank side with drilling point (cable sleeve)	<b>16A</b>	70x87	-	<b>570.0016</b>
		<b>32A</b>	84x106	-	<b>570.0032</b>
Angled box	Blank side with drilling point (cable sleeve)	<b>16A</b>	70x87	M20/M25	<b>570.0116</b>
		<b>32A</b>	84x106	M32	<b>570.0132</b>
	Threaded entry (cap/cable sleeve)	<b>16A</b>	70x87	M20x1,5	<b>570.0116.20</b>
		<b>16A</b>	70x87	M25x1,5	<b>570.0116.25</b>
		<b>32A</b>	84x106	M32x1,5	<b>570.0132.32</b>
		<b>63A</b>	100x110	M40x1,5	<b>570.M0163 (●)</b>
	<b>125A</b>	114x114	M63x1,5	<b>570.M0125 (●)</b>	
	Flange adaptor 75x75mm on 84x106mm				

- Supplied with socket fastening screws.

(●) Cable gland provided.

# Industrial plugs and sockets <50V

## ■ PLUGS AND CONNECTORS <50V



Poles	Hz.	Volt	Colour	h.	IP44		IP66/IP67	
					16A cable sleeve	32A cable sleeve	16A cable gland	32A cable gland
2P	50/60	20-25		-	<b>230.1600</b>	<b>230.3200</b>	<b>235.1600</b>	<b>235.3200</b>
	50/60	40-50		12	<b>230.1601</b>	<b>230.3201</b>	<b>235.1601</b>	<b>235.3201</b>
	100-200	20-25 40-50		4	<b>230.16010</b>	<b>230.32010</b>	<b>235.16010</b>	<b>235.32010</b>
	300	20-25 40-50		2	<b>230.16012</b>	<b>230.32012</b>	<b>235.16012</b>	<b>235.32012</b>
	400	20-25 40-50		3	<b>230.16014</b>	<b>230.32014</b>	<b>235.16014</b>	<b>235.32014</b>
	>400-500	20-25 40-50		11	<b>230.16015</b>	<b>230.32015</b>	<b>235.16015</b>	<b>235.32015</b>
	c.c.	20-25 40-50		10	<b>230.1602</b>	<b>230.3202</b>	<b>235.1602</b>	<b>235.3202</b>
3P	50/60	20-25		-	<b>230.1604</b>	<b>230.3204</b>	<b>235.1604</b>	<b>235.3204</b>
	50/60	40-50		12	<b>230.1603</b>	<b>230.3203</b>	<b>235.1603</b>	<b>235.3203</b>
	100-200	20-25 40-50		4	<b>230.16030</b>	<b>230.32030</b>	<b>235.16030</b>	<b>235.32030</b>
	300	20-25 40-50		2	<b>230.16032</b>	<b>230.32032</b>	<b>235.16032</b>	<b>235.32032</b>
	400	20-25 40-50		3	<b>230.16034</b>	<b>230.32034</b>	<b>235.16034</b>	<b>235.32034</b>
	>400-500	20-25 40-50		11	<b>230.16035</b>	<b>230.32035</b>	<b>235.16035</b>	<b>235.32035</b>

= Screw terminals



IP44


**16A**

cable sleeve

**32A**

cable sleeve

**330.1605**
**330.3205**
**330.1606**
**330.3206**
**330.16060**
**330.32060**
**330.16062**
**330.32062**
**330.16064**
**330.32064**
**330.16065**
**330.32065**
**330.1607**
**330.3207**
**330.1609**
**330.3209**
**330.1608**
**330.3208**
**330.16080**
**330.32080**
**330.16082**
**330.32082**
**330.16084**
**330.32084**
**330.16085**
**330.32085**


IP66/IP67


**16A**

cable gland

**32A**

cable gland

**335.1605**
**335.3205**
**335.1606**
**335.3206**
**335.16060**
**335.32060**
**335.16062**
**335.32062**
**335.16064**
**335.32064**
**335.16065**
**335.32065**
**335.1607**
**335.3207**
**335.1609**
**335.3209**
**335.1608**
**335.3208**
**335.16080**
**335.32080**
**335.16082**
**335.32082**
**335.16084**
**335.32084**
**335.16085**
**335.32085**

# Industrial plugs and sockets <50V

## FLUSH MOUNTING SOCKET OUTLETS <50V



IP44

IP66/IP67

ANGLED OUTLET  
STANDARD FLANGE

ANGLED OUTLET  
STANDARD FLANGE



Poles	Hz.	Volt	Colour	h.	IP44		IP66/IP67	
					16A 70x87	32A 70x87	16A 70x87	32A 70x87
2P	50/60	20-25		-	430.1615	430.3215	435.1615	435.3215
	50/60	40-50		12	430.1616	430.3216	435.1616	435.3216
	100-200	20-25		4	430.16160	430.32160	435.16160	435.32160
		40-50		2	430.16162	430.32162	435.16162	435.32162
	300	20-25		3	430.16164	430.32164	435.16164	435.32164
	400	20-25		11	430.16165	430.32165	435.16165	435.32165
		40-50		10	430.1617	430.3217	435.1617	435.3217
>400-500	20-25		-	430.1619	430.3219	435.1619	435.3219	
3P	50/60	40-50		12	430.1618	430.3218	435.1618	435.3218
	100-200	20-25		4	430.16180	430.32180	435.16180	435.32180
		40-50		2	430.16182	430.32182	435.16182	435.32182
	300	20-25		3	430.16184	430.32184	435.16184	435.32184
	400	20-25		11	430.16185	430.32185	435.16185	435.32185
		40-50		10	430.16185	430.32185	435.16185	435.32185
	>400-500	20-25		-	430.1619	430.3219	435.1619	435.3219

= Screw terminals


**IP44**

 STRAIGHT OUTLET  
REDUCED FLANGE

**16A**

55x55

**32A**

55x55

**IP66/IP67**

 STRAIGHT OUTLET  
REDUCED FLANGE

**16A**

55x55

**32A**

55x55

<b>430.1615/R</b>	<b>430.3215/R</b>	<b>435.1615/R</b>	<b>435.3215/R</b>
<b>430.1616/R</b>	<b>430.3216/R</b>	<b>435.1616/R</b>	<b>435.3216/R</b>
<b>430.16160/R</b>	<b>430.32160/R</b>	<b>435.16160/R</b>	<b>435.32160/R</b>
<b>430.16162/R</b>	<b>430.32162/R</b>	<b>435.16162/R</b>	<b>435.32162/R</b>
<b>430.16164/R</b>	<b>430.32164/R</b>	<b>435.16164/R</b>	<b>435.32164/R</b>
<b>430.16165/R</b>	<b>430.32165/R</b>	<b>435.16165/R</b>	<b>435.32165/R</b>
<b>430.1617/R</b>	<b>430.3217/R</b>	<b>435.1617/R</b>	<b>435.3217/R</b>
<b>430.1619/R</b>	<b>430.3219/R</b>	<b>435.1619/R</b>	<b>435.3219/R</b>
<b>430.1618/R</b>	<b>430.3218/R</b>	<b>435.1618/R</b>	<b>435.3218/R</b>
<b>430.16180/R</b>	<b>430.32180/R</b>	<b>435.16180/R</b>	<b>435.32180/R</b>
<b>430.16182/R</b>	<b>430.32182/R</b>	<b>435.16182/R</b>	<b>435.32182/R</b>
<b>430.16184/R</b>	<b>430.32184/R</b>	<b>435.16184/R</b>	<b>435.32184/R</b>
<b>430.16185/R</b>	<b>430.32185/R</b>	<b>435.16185/R</b>	<b>435.32185/R</b>

# Industrial plugs and sockets <50V

## ■ SURFACE MOUNTING SOCKET OUTLETS <50V



Poles	Hz.	Volt	Colour	h.	IP44		IP66/IP67	
					16A M20	32A M32	16A M20	32A M32
2P	50/60	20-25		-	530.01610	530.03210	535.01610	535.03210
	50/60	40-50		12	530.01611	530.03211	535.01611	535.03211
	100-200	20-25 40-50		4	530.016110	530.032110	535.016110	535.032110
	300	20-25 40-50		2	530.016112	530.032112	535.016112	535.032112
	400	20-25 40-50		3	530.016114	530.032114	535.016114	535.032114
	>400-500	20-25 40-50		11	530.016115	530.032115	535.016115	535.032115
	c.c.	20-25 40-50		10	530.01612	530.03212	535.01612	535.03212
3P	50/60	20-25		-	530.01614	530.03214	535.01614	535.03214
	50/60	40-50		12	530.01613	530.03213	535.01613	535.03213
	100-200	20-25 40-50		4	530.016130	530.032130	535.016130	535.032130
	300	20-25 40-50		2	530.016132	530.032132	535.016132	535.032132
	400	20-25 40-50		3	530.016134	530.032134	535.016134	535.032134
	>400-500	20-25 40-50		11	530.016135	530.032135	535.016135	535.032135

- STRAIGHT BOX: blank side and drilling point mark.
- ANGLED BOX: open threaded cable entry on top side.
- IP44: cable sleeve provided.

= Screw terminals




**IP44**

 STRAIGHT  
BOX

**16A**

Drilling point mark

**32A**

Drilling point mark


**IP66/IP67**

 STRAIGHT  
BOX

**16A**

Drilling point mark

**32A**






Drilling point mark

<b>530.1610</b>	<b>530.3210</b>	<b>535.1610</b>	<b>535.3210</b>
530.1611	530.3211	535.1611	535.3211
530.16110	530.32110	535.16110	535.32110
530.16112	530.32112	535.16112	535.32112
530.16114	530.32114	535.16114	535.32114
530.16115	530.32115	535.16115	535.32115
530.1612	530.3212	535.1612	535.3212
<b>530.1614</b>	<b>530.3214</b>	<b>535.1614</b>	<b>535.3214</b>
530.1613	530.3213	535.1613	535.3213
530.16130	530.32130	535.16130	535.32130
530.16132	530.32132	535.16132	535.32132
530.16134	530.32134	535.16134	535.32134
530.16135	530.32135	535.16135	535.32135

# Plugs and sockets for special applications






## PLUGS

OPTIMA-SEVEN Series

Poles	Hz.	Volt	Colour	h.	IP44		IP66/IP67	
					16A cable gland	32A cable gland	16A cable gland	32A cable gland
6P+E	50/60	380-415		6				
					<b>213.1637-7</b>	<b>213.3237-7</b>	<b>218.1637-7</b>	<b>218.3237-7</b>






## FLUSH MOUNTING APPLIANCE INLETS

OPTIMA-SEVEN Series

Poles	Hz.	Volt	Colour	h.	IP44		IP66/IP67	
					16A 75x75	32A 75x75	16A 75x75	32A 75x75
6P+E	50/60	380-415		6				
					<b>243.1697-7</b>	<b>243.3297-7</b>	<b>248.1697-7</b>	<b>248.3297-7</b>

## SURFACE MOUNTING APPLIANCE INLETS

OPTIMA-SEVEN Series

Poles	Hz.	Volt	Colour	h.	IP44		IP66/IP67	
					16A M25	32A M25	16A M25	32A M25
6P+E	50/60	380-415		6				
					<b>240.1697-7</b>	<b>240.3297-7</b>	<b>245.1697-7</b>	<b>245.3297-7</b>

- Open threaded cable entry on top side.

 = Screw terminals

**CONNECTORS**

OPTIMA-SEVEN Series


**IP44**

**IP66/IP67**

Poles	Hz.	Volt	Colour	h.	IP44		IP66/IP67	
					16A cable gland	32A cable gland	16A cable gland	32A cable gland
6P+E	50/60	380-415		6	313.1647-7	313.3247-7	318.1647-7	318.3247-7

**FLUSH MOUNTING SOCKET OUTLETS**

OPTIMA-SEVEN Series


**IP44**

**IP66/IP67**

Poles	Hz.	Volt	Colour	h.	IP44		IP66/IP67	
					16A 75x75	32A 75x75	16A 75x75	32A 75x75
6P+E	50/60	380-415		6	413.1667-7	413.3267-7	418.1667-7	418.3267-7

**SURFACE MOUNTING SOCKET OUTLETS**

OPTIMA-SEVEN Series


**IP44**

**IP66/IP67**

Poles	Hz.	Volt	Colour	h.	IP44		IP66/IP67	
					16A M25	32A M25	16A M25	32A M25
6P+E	50/60	380-415		6	512.1657-7	512.3257-7	517.1657-7	517.3257-7

- Open threaded cable entry on top side.

# Plugs and sockets for special applications

## PLUGS

OPTIMA-MIL Series



IP66/IP67/IP69



Poles	Hz.	Volt	Colour	h.	16A	32A	63A	125A
					cable gland	cable gland	cable gland	cable gland
2P+E	50/60	200-250		6	218.1633.MIL	218.3233.MIL	218.6333.MIL	218.12533.MIL
3P+E	50/60	380-415		6	218.1636.MIL	218.3236.MIL	218.6336.MIL	218.12536.MIL
3P+N+E	50/60	346-415		6	218.1637.MIL	218.3237.MIL	218.6337.MIL	218.12537.MIL

## FLUSH MOUNTING APPLIANCE INLET

OPTIMA-MIL Series



IP66/IP67/IP69



Poles	Hz.	Volt	Colour	h.	16A	32A	63A	125A
					75x75	75x75	100x110	114x114
2P+E	50/60	200-250		6	248.1693.MIL	248.3293.MIL	248.6393.MIL	248.12593.MIL
3P+E	50/60	380-415		6	248.1696.MIL	248.3296.MIL	248.6396.MIL	248.12596.MIL
3P+N+E	50/60	346-415		6	248.1697.MIL	248.3297.MIL	248.6397.MIL	248.12597.MIL

## CONNECTORS

OPTIMA-MIL Series



IP66/IP67/IP69



Poles	Hz.	Volt	Colour	h.	16A	32A	63A	125A
					cable gland	cable gland	cable gland	cable gland
2P+E	50/60	200-250		6	318.1643.MIL	318.3243.MIL	318.6343.MIL	318.12543.MIL
3P+E	50/60	380-415		6	318.1646.MIL	318.3246.MIL	318.6346.MIL	318.12546.MIL
3P+N+E	50/60	346-415		6	318.1647.MIL	318.3247.MIL	318.6347.MIL	318.12547.MIL

= Screw terminals




## ■ FLUSH MOUNTING SOCKET OUTLET

OPTIMA-MIL Series



IP66/IP67/IP69



Poles	Hz.	Volt	Colour	h.	16A	32A	63A	125A
					75X75	75x75	100X110	114x114
2P+E	50/60	200-250		6	428.1663.MIL	428.3263.MIL	428.6363.MIL	428.12563.MIL
3P+E	50/60	380-415		6	428.1666.MIL	428.3266.MIL	428.6366.MIL	428.12566.MIL
3P+N+E	50/60	346-415		6	428.1667.MIL	428.3267.MIL	428.6367.MIL	428.12567.MIL

## ■ PLUG CAPS

OPTIMA-MIL Series



### Description

Plug caps 16/20A - 2P+E	570.90163.MIL
Plug caps 16/20A - 3P+E	570.90164.MIL
Plug caps 16/20A - 3P+N+E	570.90165.MIL
Plug caps 32/30A - 2P+E & 3P+E	570.90324.MIL
Plug caps 32/30A - 3P+N+E	570.90325.MIL
Plug caps 63/60A - all polarity	570.9063.MIL
Plug caps 125/100A - all polarity	570.9125.MIL





**INDUSTRIAL  
PLUGS AND  
SOCKETS**  
technical sheets

# General technical informations

## INDUSTRIAL PLUGS AND SOCKETS TO IEC 60309 RATED OPERATING VOLTAGE >50 V

### Clock face position

Viewing the socket from the front, the clock face position **h** is established by observing the position of the earth contact with respect to the major keyway, which is always situated at 6 o'clock. The different voltages are identified by conventional colour codes.

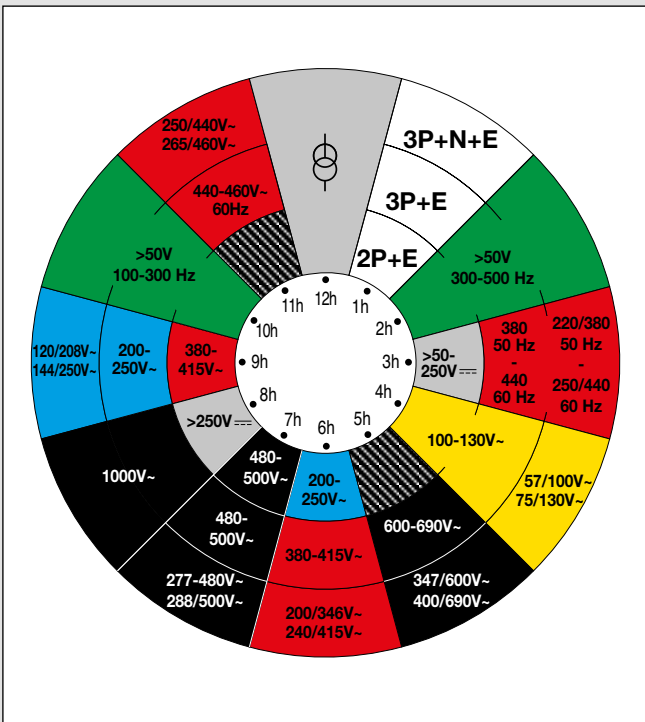
### Clock reference:

All the versions required by the IEC 60309 standard are available, including the more specific:

### Examples:

- standard use ..... **h 6**
- refrigerated container ..... **h 3**
- marine, port or ship installation ..... **h 11**
- direct current (2P + E) ..... **h 3 and 8**
- supply by isolation transformer (TST) ..... **h 12**
- high frequency, from 100 to 300 Hz ..... **h 10**
- high frequency, from 300 to 500 Hz ..... **h 2**
- specific voltages 100 - 130V ..... **h 4**
- 480 - 500V ..... **h 7**
- 600 - 690V ..... **h 5**

### Clock position - IEC ratings - Series I



### CLOCK DIAGRAM

Clock face position (**h**) of the earth pole of low voltage (>50 V) industrial plugs and sockets to IEC 60309-2 for different applications (polarity, voltage, frequency, current)

= Supply from isolation transformer

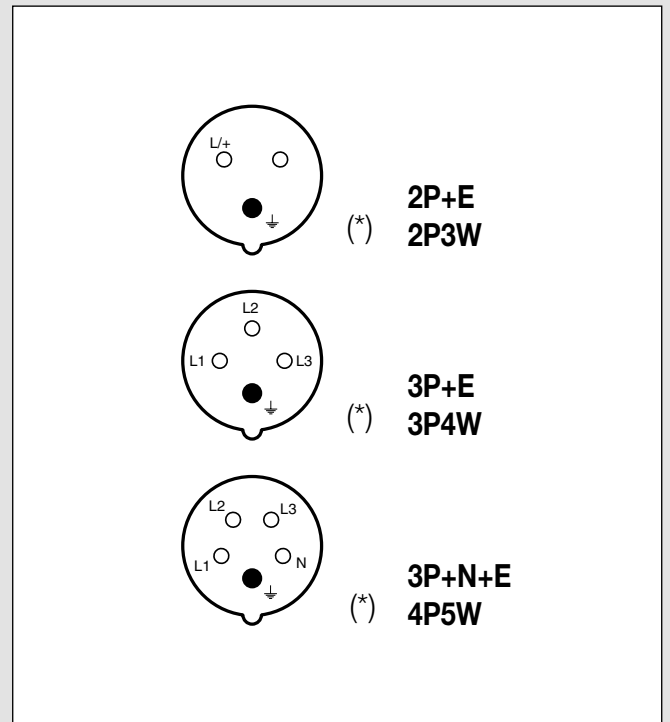
## COLOUR CODE

The operating voltages are identified by conventional colours as shown in the table:

Rated operating voltage V	Colour (1)
from 20 to 25	Violet
from 40 to 50	White
from 100 to 130	Yellow
from 200 to 250	Blue
from 380 to 480	Red
from 500 to 1000	Black

(1) Combinations of green with the colour of the rated operating voltage can be used to identify frequencies between 60 Hz and 500 Hz inclusive.

### SOCKET (front view)


































(\*) Major keyway



■ **SYNOPTIC TABLE OF STANDARD INDUSTRIAL PLUGS AND SOCKETS TO IEC 60309-2**

Rated operating voltage > 50 V (LV)

Number of contact	Poles	Frequency Hz	Rated operating voltage V	Clock face pos. (h) Earth contact (1)		Colour code
				16/20A 32/30A	63/60A 125/100A	
3 Contact 2P3W	1P+N+E II Series	50 and 60	100÷130	4	4	
		60	277	5	5	
	2P+E I and II Series	50 and 60	100÷130	4	4	
			200÷250	6	6	
			380÷415	9	9	
			480÷500	7	7	
			suppl. by isol. transf.	12	12	- (5)
		100÷300	> 50	10	10	 (4)
		>300÷500	> 50	2	2	 (4)
		d.c.	>50÷250	3	3	- (5)
> 250	8		8	- (5)		
4 Contact 3P4W	2P+N+E II Series	50 and 60	125/250	12	12	 
		50 and 60	100÷130	4	4	
	200÷250		9	9		
	380÷415		6	6		
	3P+E I and II Series	60	440÷460 (4)	11	11	
			480÷500	7	7	
		50 and 60	600÷690	5	5	
			suppl. by isol. transf.	12	12	
		50	380	3	3	
			60	440 (3)		
		50 and 60	1000	8	8	
		100÷300	> 50	10	-	 (4)
	>300÷500	> 50	2	-	 (4)	
	5 Contact 4P5W	3P+N+E I and II Series	50 and 60	57/100÷75/130	4	4
120/208÷144/250				9	9	
200/346÷240/415				6	6	
277/480÷288/500				7	7	
347/600÷400/690				5	5	
60			250/440÷265/460 (4)	11	11	
50			220/380	3	3	
			60	250/440 (3)		
50 and 60			1000	8	8	
50 and 60			suppl. by isol. transf.	12	12	
100÷300			> 50	10	10	 (4)
>300÷500	> 50	2	2	 (4)		
<b>ALL TYPES</b>	All types of voltage and/or frequency not within these standardised configurations		1	1	-	

- (1) The positions shown by a dash (-) are not standardised
- (2) For ISO standard refrigerated containers
- (3) Mainly for shipboard installations
- (4) Combinations of green with the colour of the rated operating voltage can be used to identify frequencies between 60 Hz and 500 Hz inclusive.
- (5) Plugs and sockets for which the IEC 60309-2 standard sets only the clock face position (h) of the earth contact and not the colour, are supplied by SCAME in RAL 7035 grey

**SERIES I AND SERIES II**

Series I and Series II have more or less the same dimensions, but are classified according to different rated currents. For Series I, currents are 16A, 32A, 63A, and 125A and for Series II, rated currents are 20A, 30A, 60A and 100A. Series I products are used in all European countries and some countries in South America, Asia, Australia and Africa. On the contrary, Series II products are mainly marketed in North America (USA, Mexico and Canada) and some countries in South America.















**NOTE**

- SCAME plugs and sockets for specific uses other than 4 - 6 - 9 h are available only on demand and are therefore not kept in stock. Minimum order quantities: 50 pieces.

# General technical informations

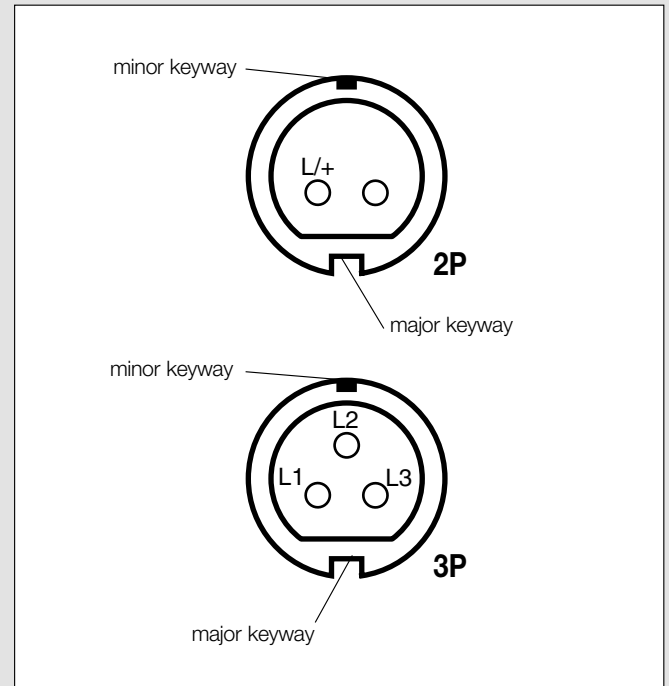
## ■ SYNOPTIC TABLE OF STANDARD INDUSTRIAL PLUGS AND SOCKETS TO IEC 60309-2

Rated operating voltage > 50 V (LV)

Poles	Frequency Hz	Rated operating voltage V	Minor keyway (1) clock face position (h) 16A and 32A without reference	Colour code
2P	50 and 60	20÷25	without ref.	
	50 and 60	40÷50	12	
	100÷200	20÷25 and 40÷50	4	 (2)
	300		2	 (2)
	400		3	 (2)
	>400÷500		11	 (2)
	c.c.		10	
3P	50 and 60	20÷25	without ref.	
	50 and 60	40÷50	12	
	100÷200	20÷25 and 40÷50	4	 (2)
	300		2	 (2)
	400		3	 (2)
	>400÷500		11	 (2)
	c.c.		25	 (3)

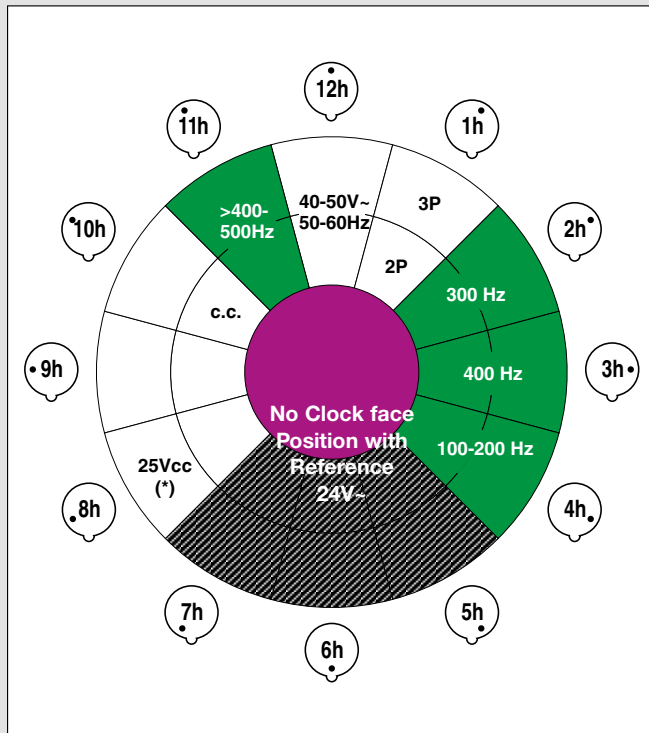
- (1) 1, 8 and 9 h positions are reserved for future standards; 5, 6 and 7 h positions cannot be used for reasons connected with the design.
- (2) Combinations of green with the colour of the rated operating voltage can be used to identify frequencies between 60 Hz and 500 Hz inclusive.
- (3) Portable electric incubators - use at 12 Vd.c. or 24 Vd.c. on ambulances or helicopters.

SOCKET (front view)



### Clock face position

Viewing the socket from the front, the clock face position h is established by observing the position of the minor keyway with respect to the major keyway, which is always situated at 6 o'clock. The different voltages are identified by conventional colour codes.



### Clock diagram

Clock face position (h) of the minor keyway of extra-low voltage (<50 V) industrial plugs and sockets to IEC 309-2 for different applications (polarity, voltage, frequency, current).

- (\*) Portable electric incubators - use at 12 Vd.c. or 24 Vd.c. on ambulances or helicopters.

## ■ APPLICATIONS OF INDUSTRIAL PLUGS AND SOCKETS

	IP44	IP67
<b>Agriculture</b>	Mobile or portable equipment or appliances used or stored on sheltered premises.	Outdoor installation of pumping, ventilation, drying equipment.
<b>Chemical industry</b>	Indoors on premises for storage and maintenance purposes where connections are not exposed to the risk of immersion or chemicals.	On premises without risk of explosions but where the connections are exposed to chemicals and subject to possible immersion.
<b>Construction sites and shipyards</b>	On covered construction sites sheltered against weathering but exposed to splashing with water.	On outdoor construction sites where the connections are left on damp ground exposed to freezing, dust and weathering.
<b>Sports complexes and other places of public entertainment, TV and film studios</b>	On sheltered premises protected against the weather, though exposed to splashing, without high connected loads.	Outdoor connections exposed to rain, snow, mud, freezing and other critical weather conditions. Where mated safety is required. Where high voltage for lighting installations, T.V. and audio are foreseen.
<b>Food industry</b>	In sheltered locations, on indoor premises used for storage and maintenance.	In locations subject to washing by hosing down and where connections are subject to heavy duty.
<b>Heavy industry</b>	In sheltered warehouses, maintenance workshops, assembly and moulding areas.	In rolling mills, foundries, blast furnaces, etc., where the connections are exposed to dust, metallic shavings, coolants and are subject to vibrations and impact.
<b>Light industry</b>	Locations without high humidity or ambient pollution serving for assembly, moulding, maintenance and storage	On premises subject to cleaning by means of chemical solvents. Also where heavy loads require high safety in connections.
<b>Installations for IT centres</b>	For electrical connections executed above floor level.	For electrical connections under raised floors with risk of immersion. Where heavy loads require high safety in connections.
<b>Ports</b>	In sheltered locations such as docks, repair shops, offices, etc.	Quays, docks, piers, etc. where there is risk of high waves and partial flooding.
<b>Airports</b>	In sheltered locations, hangars, repair shops, warehouses.	Outdoors for connection between mobile or portable appliances and aircraft.
<b>Water treatment plants</b>	Indoor use in repair shops, etc.	In all locations with risk of flooding and for outdoor use with pumps, aeration and ventilation systems.

# OPTIMA Series

## INDUSTRIAL PLUGS AND SOCKETS



OPTIMA Series is a complete range of industrial plugs and socket outlets from 16 up to 125A. Robust and safe industrial plugs, thanks to the use of high performance technopolymers bodies and to the external cable gland with cable clamp function.

## VERSIONS

	Plugs
	Connectors
	Appliance inlets
	Flush mounting socket outlets
	Surface mounting socket outlets

## 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:	<b>16A-32A-63A-125A</b>
Rated voltage:	<b>50÷690V~</b>
Frequency:	<b>d.c - 50÷500Hz</b>
Insulating voltage:	<b>500/690V~</b>
Protection degree:	<b>IP44/IP54 - IP66/IP67/IP69</b>
Operating ambient temperature according to the reference standard:	<b>-25°C +40°C</b>
Max operating ambient temperature:	<b>60°C</b>
Glow Wire test:	<b>650°C/850°C</b>
Material:	<b>Thermoplastic</b>
IK degree at 20°C:	<b>IK08</b>
Halogen free:	<b>Yes</b>
Terminals:	<b>Screw (16A-32A) Insulation perforating (16A mobile) Spring (32A mobile) Spring (16A-32A flush/surface mounting) Mantle (63A-125A)</b>
Safe-in device:	<b>16A</b>
Snap-on device:	<b>16A-32A</b>
Nickel-plated pins:	<b>16A-32A-63A-125A</b>

## ■ 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	Limited Resistance	Limited Resistance

Resistance values to chemical agents have to be considered indicative.  
For further information and specific substances, contact the technical service.

Dimensional drawings: [www.scame.com](http://www.scame.com)

## ■ WIRING AND INSTALLATION

### Wiring capacity of the terminals (mm<sup>2</sup>)

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 EXAMPLE



## 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/IP69 cable gland functions (the device is used on both IP44/IP54 and IP66/IP67/IP69 products).



16A plugs and connectors with insulation piercing 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).

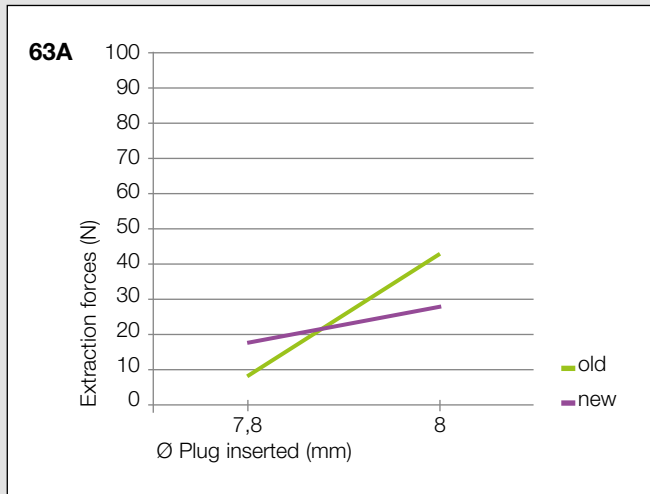


32A plugs and connectors with screwless spring terminal. Requires cable stripping, but not the tightening of the screws.

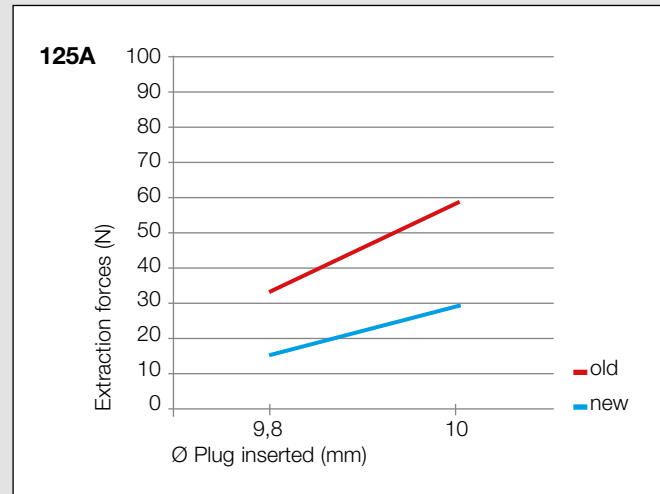


16-32A plugs, flush mounting sockets and surface mounting sockets with spring terminals.

## ■ EXTRACTION FORCES



The reduction in plug-socket insertion and extraction forces was obtained thanks to the study of a new compression spring of the socket contact. As illustrated in this graph, the reduction in the force was an average of 30% compared to the previous versions, in any event guaranteeing low contact resistance.



The materials of the pin and contact tube have different surface hardness so as to eliminate, during insertion and extraction operations, the layer of oxide that forms on the surface, thus improving contact smoothness and resistance while keeping them unchanged over time.



The axial incisions and the new compression spring of the socket contact with elasticity coefficient such as to keep insertion and extraction forces constant.



The nickel-plating of the socket contact combined with the special drawing and polishing process increase smoothness and ensure a higher number of contact points.



Thanks to their characteristic geometry, the new mantle terminals are suited to all types of conductors and terminals. They increase cable accessibility and contact surface, thus allowing higher tightening torques to benefit contact resistance and seal.



All gaskets are moulded directly on the cover and at the coupling point with the grip. Grip closing is by means of metric screws and metal inserts, making tightening easier and allowing for unlimited inspections and closings.



Contact holder in special technopolymer with fibreglass, featuring high heat resistance. Pilot contacts available as standard equipment on both plugs and sockets.



Entirely made with halogen-free materials, with excellent mechanical resistance to impacts, chemical substances and UV rays.

# Increased safety “SAFE-IN”



## ■ 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.



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

### APPLICATION EXAMPLES



### POTENTIALLY DANGEROUS SITUATIONS







## PLUGS AND CONNECTORS FOR DEMANDING APPLICATIONS



OPTIMA-HD is a range of industrial plugs from 16 to 125A characterized by the use of specific technopolymers that give maximum resistance to impacts (IK10), to heat and fire (GW 960 ° C according to EN 60695-2-1 ), to atmospheric agents and UV rays. The OPTIMA-HD electric plugs are therefore suitable for use in harsh environments such as iron and steel industries, ports and mines.

The efficiency of the contacts over time is also guaranteed by the use of nickel-plated brass pins, resistant to oxidation and aging.

Fast to wire thanks to the opening of the body by means of a snap-on steel spring mechanism and screw terminals.

## VERSIONS



Plugs and connectors

## 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

Resistance values to chemical agents have to be considered indicative.

For further information and specific substances, contact the technical service.

Dimensional drawings: [www.scame.com](http://www.scame.com)

## 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:	<b>16A-32A-63A-125A</b>
Rated voltage:	<b>50÷690V~</b>
Frequency:	<b>50÷60Hz</b>
Insulating voltage:	<b>500/690V~</b>
Protection degree:	<b>IP66/IP67/IP69</b>
Operating ambient temperature according to the reference standard:	<b>-25°C +40°C</b>
Max operating ambient temperature:	<b>-40°C +60°C</b>
Glow wire test:	<b>960°C</b>
Self extinguishing UL94:	<b>5VA</b>
Material:	<b>High performance thermoplastic</b>
IK degree:	<b>IK10</b>
Terminals:	<b>Screw</b>
Snap-on:	<b>16A-32A</b>
Nickel plated pins:	<b>16A-32A-63A-125A</b>

# OPTIMA-BASE-TOP-COMBI Series

## INDUSTRIAL SURFACE MOUNTING SOCKET OUTLETS AND APPLIANCE INLET



Complete range of industrial electrical socket outlets with switch for surface mounting fixed installation, able to satisfy any need for electrical connection in the industrial field.

Robust and versatile, they boast a high degree of IP protection, guaranteeing maximum installation flexibility and total safety for the user, even in the COMBI versions with a domestic standard socket outlet for powering small single-phase devices.

### VERSIONS

	BASE version
	TOP version
	COMBI version

### 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:	<b>16A-32A-63A-125A</b>
Rated voltage:	<b>50÷690V~</b>
Frequency:	<b>d.c - 50÷500Hz</b>
Insulating voltage:	<b>500/690V~</b>
Protection degree:	<b>Base: IP44 Top: IP44 - IP66/IP67/IP69 Combi: IP44/IP54 closed cover</b>
Operating ambient temperature according to the reference standard:	<b>-25°C +40°C</b>
Max operating ambient temperature:	<b>60°C</b>
Glow Wire test:	<b>650°C (housing) 850°C (contact carrier)</b>
Material:	<b>Thermoplastic</b>
IK degree at 20°C:	<b>IK08</b>
Halogen free:	<b>Yes</b>
Terminals:	<b>Screw (16A-32A) Spring (16A-32A) Mantle (63A-125A)</b>
Safe-in device:	<b>16A</b>
Fuses: (COMBI version)	<b>Max 10A - 5x20mm H: high power cutoff (1500A) T: delayed action</b>

### 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	Limited Resistance	Limited Resistance

Resistance values to chemical agents have to be considered indicative.  
For further information and specific substances, contact the technical service.

Dimensional drawings: [www.scame.com](http://www.scame.com)



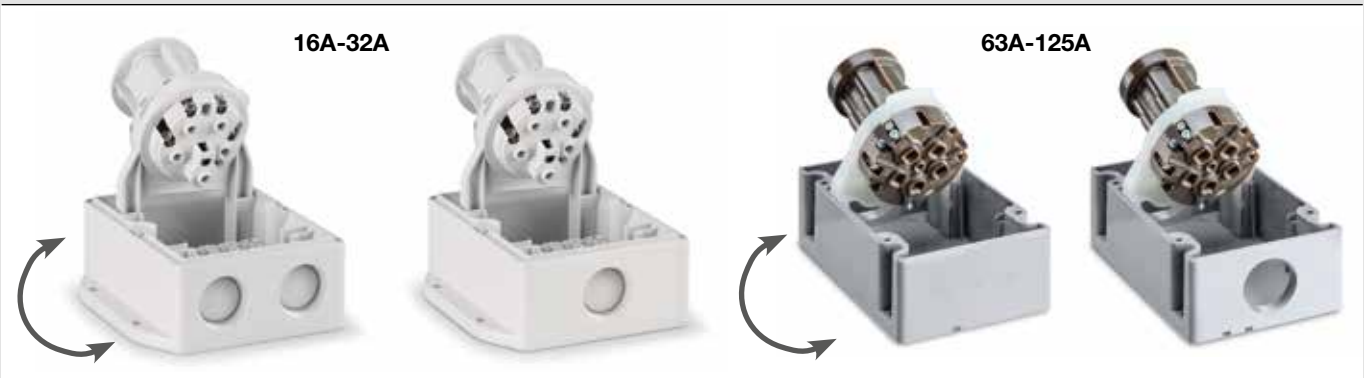
Fastening to exterior wall.



TOP version: blind threaded knockout hole inlets, for quick fastening of the cable entry device. IP44 versions supplied with cable sleeve.



16-32A Surface mounting sockets with spring terminals.



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



TOP IP66/IP67/IP69 version: integrated, one-piece gasket, fastening screws outside the gasket.



TOP version: loop in - loop out 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



OPTIMA-REVERSE is a range of 16 and 32A industrial plugs, which allow the rapid reversal of two phases to restore the correct direction of rotation for three-phase motors of mobile and fixed loads. The inversion of the phases is done simply by pushing and turning by a screwdriver the support where the two phase pins are mounted. Robust and safe industrial plugs, thanks to the use of high performance technopolymer bodies and to the external cable gland with cable clamp function.

## VERSIONS

	Plugs
	Flush mounting appliance inlets
	Surface mounting appliance inlet

## 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.

## 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:	<b>16A-32A</b>
Rated voltage:	<b>346÷415V~</b>
Frequency:	<b>50÷60Hz</b>
Insulating voltage:	<b>690V~</b>
Protection degree:	<b>IP44/IP54 - IP66/IP67/IP69</b>
Operating ambient temperature according to the reference standard:	<b>-25°C +40°C</b>
Max operating ambient temperature:	<b>60°C</b>
Glow wire test:	<b>650°C (housing) 850°C (contact carrier)</b>
Material:	<b>Thermoplastic</b>
IK degree at 20°C:	<b>IK08</b>
Halogen free:	<b>Yes</b>
Terminals:	<b>Screw</b>
Snap-on device:	<b>16A-32A</b>
Polarity:	<b>3P+E / 3P+N+E</b>
Connectable cables:	<b>Flexible class 5 or 6</b>

## ■ 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	Limited Resistance	Limited Resistance

Resistance values to chemical agents have to be considered indicative.  
For further information and specific substances, contact the technical service.

Dimensional drawings: [www.scame.com](http://www.scame.com)

## ■ WIRING AND INSTALLATION

### Wiring capacity of the terminals (mm<sup>2</sup>)

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.

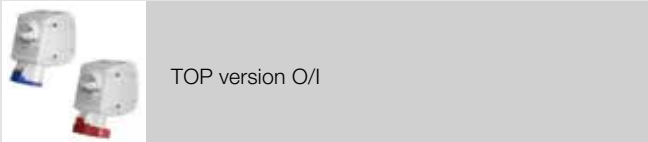
# OPTIMA-TOP Series

## ■ SURFACE MOUNTING SWITCHED SOCKETS O/I

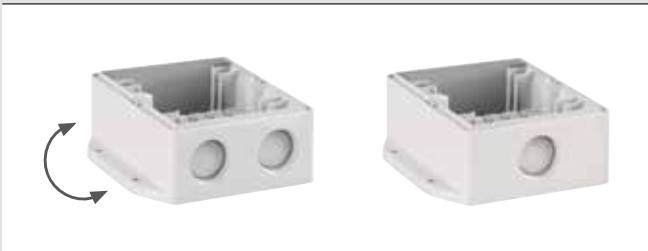


OPTIMA-TOP SWITCH is a range of 16 and 32A surface mounting industrial socket outlets with integrated switch without interlock. Robust and secure industrial sockets thanks to the use of high performance technopolymer enclosures. Practical thanks to the reversible base and to the extractable socket to facilitate wiring operations. The unlosable co-molded gasket guarantees a constant seal of the IP protection degree. The electrical sockets of the OPTIMA-TOP SWITCH Series do not neglect the environmental aspect, being produced with halogen-free materials.

## ■ VERSIONS



## ■ DOUBLE ENTRIES M25 OR M32 (TOP/BOTTOM) WITH REVERSIBLE BASE



## ■ 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	Limited Resistance	Limited Resistance

Resistance values to chemical agents have to be considered indicative. For further information and specific substances, contact the technical service.

Dimensional drawings: [www.scame.com](http://www.scame.com)

## ■ 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 60309-4

Plugs, socket-outlets and couplers for industrial purposes.  
*Part 4: Switched socket-outlets and connectors with or without interlock.*

## ■ TECHNICAL CHARACTERISTICS

Rated current:	<b>16A-32A</b>
Rated voltage:	<b>50÷690V~</b>
Frequency:	<b>d.c - 50÷500Hz</b>
Insulating voltage:	<b>500/690V~</b>
Protection degree:	<b>IP44/IP54-IP66/IP67/IP69</b>
Operating ambient temperature according to the reference standard:	<b>-25°C +40°C</b>
Max operating ambient temperature:	<b>60°C</b>
Glow Wire test:	<b>650°C housing 850°C contact carrier</b>
Material:	<b>Thermoplastic</b>
IK degree at 20°C:	<b>IK08</b>
Halogen free:	<b>Yes</b>
Terminals:	<b>Screw (16A-32A)</b>
Safe-in device:	<b>16A (on request)</b>

■ TECHNICAL DATA SWITCH DISCONNECTORS

			OPTIMA TOP 0/I		
			16A	32A	
Rated insulation voltage	<b>Ui</b>	VAC	690	690	
Rated impulse withstand voltage	<b>Uimp</b>	kV	4	4	
Thermal current	<b>Ith/Ithe</b>	A	30	40	
Rated operational current - Ie	<b>AC21A</b> Resistive loads, including moderate overloads	500V	A	-	-
		690V	A	30	32
	<b>AC22A</b> Mixed resistive and inductive loads, including moderate overloads	415V	A	-	-
		500V	A	-	-
		690V	A	20	32
	<b>AC23A</b> Switching of motor loads or other highly inductive loads (3 phase / 3 pole)	415V	A	20	32
		500V	A	-	-
		690V	A	16	25
	<b>AC3</b> Squirrel-cage motor: starting, switching off motor during running (3 phase / 3 pole)	415V	A	-	28.5
		500V	A	12	20
Flexible wire		mm <sup>2</sup>	1.5-10	1.5-10	
Rigid wire		mm <sup>2</sup>	1.5-16	1.5-16	

# OPTIMA-COMBI Series

## ■ SURFACE MOUNTING SWITCHED SOCKETS O/I AND L/O/R



OPTIMA-COMBI SWITCH and OPTIMA-COMBI REVERSE L-O-R are a range of surface mounting industrial socket outlets with integrated domestic sockets in the main international standards and switch without interlock or change over switch integrated. Available in 16 and 32A versions with fuse as protection of the domestic sockets. The change over switch allows the inversion of the phases of a three-phase motor allowing the easy reversal of the motion direction.

## ■ VERSIONS



COMBI version O/I



COMBI version L/O/R reverse

## ■ CABLE INLETS M32 (THREADED). QUICK ENTRY THREADED CABLE SLEEVE M32 IP55



## ■ 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 60309-4

Plugs, socket-outlets and couplers for industrial purposes.  
*Part 4: Switched socket-outlets and connectors with or without interlock.*

## ■ TECHNICAL CHARACTERISTICS

Rated current:	<b>16A-32A</b>
Rated voltage:	<b>50÷690V~</b>
Frequency:	<b>d.c - 50÷500Hz</b>
Insulating voltage:	<b>500/690V~</b>
Protection degree:	<b>IP44/IP54</b>
Operating ambient temperature according to the reference standard:	<b>-25°C +40°C</b>
Max operating ambient temperature:	<b>60°C</b>
Glow Wire test:	<b>650°C (housing) 850°C (switch and contact carrier)</b>
Material:	<b>Thermoplastic</b>
IK degree at 20°C:	<b>IK08</b>
Terminals:	<b>Screw (16A-32A)</b>
Fuses:	<b>Max 10A - 5x20mm H: high power cutoff (1500A) T: delayed action</b>



## ■ 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	Limited Resistance	Limited Resistance

Resistance values to chemical agents have to be considered indicative.  
For further information and specific substances, contact the technical service.

Dimensional drawings: [www.scame.com](http://www.scame.com)

## ■ TECHNICAL DATA SWITCH DISCONNECTORS

				OPTIMA COMBI O/I		OPTIMA COMBI L/O/R	
				16A	32A	16A	32A
Rated insulation voltage	<b>Ui</b>	VAC	690	690	500	500	
Rated impulse withstand voltage	<b>Uimp</b>	kV	4	4	6	6	
Thermal current	<b>Ith/Ithe</b>	A	30	40	40	40	
Rated operational current - Ie	<b>AC21A</b> Resistive loads, including moderate overloads	500V	A	-	-	30	32
		690V	A	30	32	-	-
	<b>AC22A</b> Mixed resistive and inductive loads, including moderate overloads	415V	A	-	-	30	32
		500V	A	-	-	30	32
		690V	A	20	32	-	-
	<b>AC23A</b> Switching of motor loads or other highly inductive loads (3 phase / 3 pole)	415V	A	20	32	20	32
		500V	A	-	-	20	32
		690V	A	16	25	-	-
	<b>AC3</b> Squirrel-cage motor: starting, switching off motor during running (3 phase / 3 pole)	415V	A	-	28.5	11	11
		500V	A	12	20	14	14
Flexible wire		mm <sup>2</sup>	1.5-10	1.5-10	4-16	4-16	
Rigid wire		mm <sup>2</sup>	1.5-16	1.5-16	4-16	4-16	

# OPTIMA-MIL Series

## PLUGS AND CONNECTORS FOR MILITARY APPLICATIONS



**OPTIMA-MIL** is a complete range of industrial plugs and socket outlets from 16 up to 125A in military green color, with NCAGE registration. Robust and safe industrial plugs and sockets thanks to the use of high performance technopolymer enclosures and to the external cable gland with cable clamp function in the mobile versions. Functional thanks to the adoption of screw terminals.

## VERSIONS

	Plugs
	Connectors
	Appliance inlets
	Flush mounting socket outlets

## 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.*

**SCAME complies NCAGE identification number**

## TECHNICAL CHARACTERISTICS

Rated current:	<b>16A-32A-63A-125A</b>
Rated voltage:	<b>50÷690V~</b>
Frequency:	<b>d.c - 50÷500Hz</b>
Insulating voltage:	<b>500/690V~</b>
Protection degree:	<b>IP66/IP67/IP69</b>
Operating ambient temperature according to the reference standard:	<b>-25°C +40°C</b>
Max operating ambient temperature:	<b>60°C</b>
Glow Wire test:	<b>650°C/850°C</b>
Material:	<b>Thermoplastic</b>
IK degree at 20°C:	<b>IK08</b>
Halogen free:	<b>Yes</b>
Terminals:	<b>Screw</b>
Snap-on device:	<b>16A-32A</b>
Nickel-plated pins:	<b>16A-32A-63A-125A</b>

## ■ 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	Limited Resistance	Limited Resistance

Resistance values to chemical agents have to be considered indicative.  
For further information and specific substances, contact the technical service.

Dimensional drawings: [www.scame.com](http://www.scame.com)

## ■ WIRING AND INSTALLATION

### Wiring capacity of the terminals (mm<sup>2</sup>)

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 EXAMPLE



## INDUSTRIAL PLUGS AND SOCKETS



EUREKA Series is a range of 16 and 32A industrial plugs with 90° cable outlet.

The efficiency of the contacts over time is also guaranteed by the use of nickel-plated brass pins, resistant to oxidation and aging.

Quick to wire thanks to the opening of the body by means of a snap-on steel spring mechanism and screw terminals.

## VERSIONS



Plugs and connectors  
90° angled



Panel mounting socket outlets  
90° angled outlet

## NO. OF CYCLES

Rated current (A)	Under load	Without load
16A	5.000	-
32A	1.000	1.000

## 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	Limited Resistance	Resistant	Not Resistant	Not Resistant	Not Resistant	Limited Resistance	Limited Resistance	Resistant

Resistance values to chemical agents have to be considered indicative.  
For further information and specific substances, contact the technical service.

Dimensional drawings: [www.scame.com](http://www.scame.com)

## 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 of harmonised configurations.*

## QUALITY MARKS



## TECHNICAL CHARACTERISTICS

Rated current:	<b>16A-32A</b>
Rated voltage:	<b>50÷690V~</b>
Frequency:	<b>c.c. - 50÷500Hz</b>
Insulating voltage:	<b>500/690V~</b>
Protection degree:	<b>IP44-IP66/IP67</b>
Operating ambient temperature according to the reference standard:	<b>-25°C +40°C</b>
Max. operating ambient temperature:	<b>60°C</b>
Glow Wire test:	<b>650°C/850°C</b>
Material:	<b>Thermoplastic</b>
IK degree at 20°C:	<b>IK07 (plugs and connectors 90° angled) IK09 (panel mounting socket outlets 90° angled outlet)</b>

## ■ WIRING AND INSTALLATION

Wiring capacity of the terminals

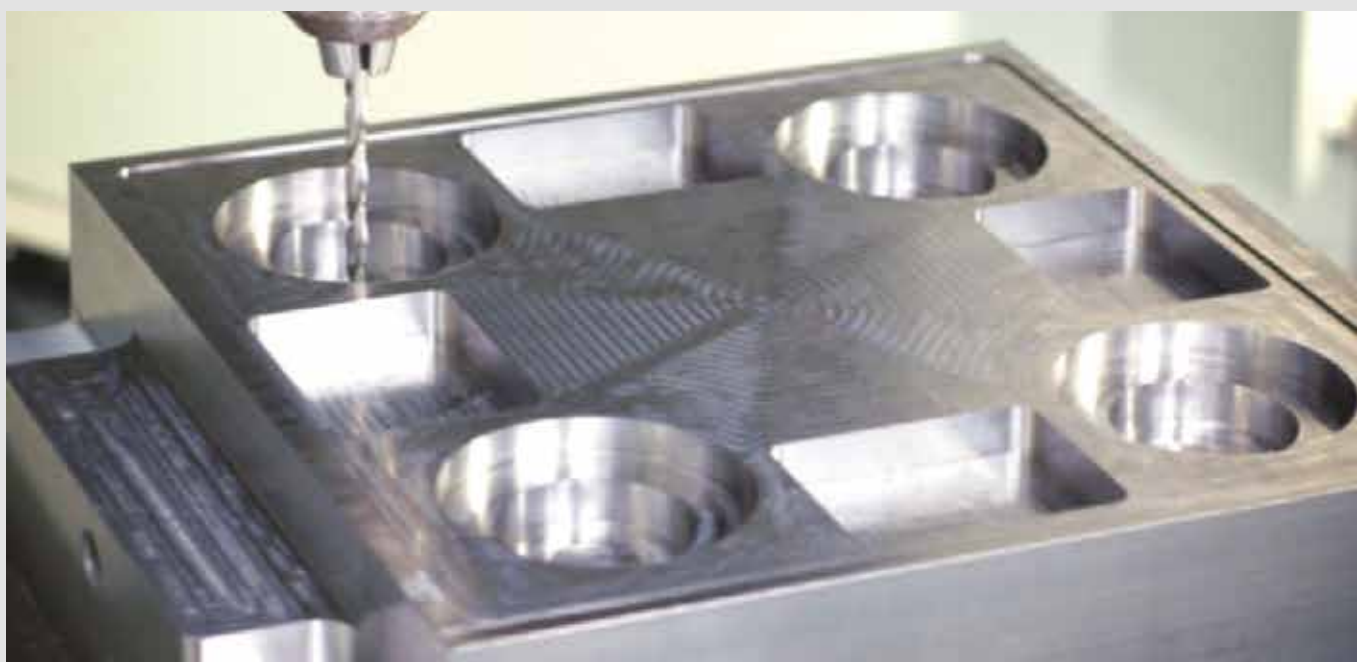
Cross-section of connectable conductors (mm<sup>2</sup>)

Rated voltage	Rated current (A)	Plugs and connectors		Socket outlets	
		Min	Max	Min	Max
>50V	16A	1,5	2,5	1,5	4
	32A	2,5	6	2,5	10

Max. cable size accepted by the cable clamp

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

## APPLICATION EXAMPLE



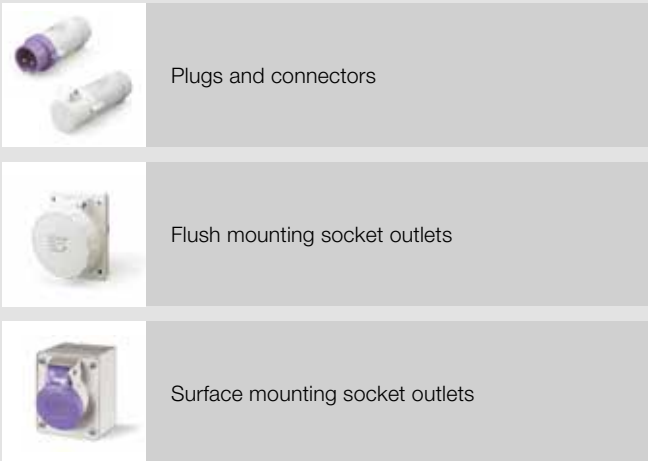
# IEC309 Series <50V

## INDUSTRIAL PLUGS AND SOCKETS



IEC 309 is a range of industrial plugs and sockets for mobile, surface or flush mounting installation for very low voltage applications of less than 50V. Functional thanks to the adoption of screw terminals.

## 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 of harmonised configurations.*

## QUALITY MARKS



## TECHNICAL CHARACTERISTICS

Rated current:	<b>16A-32A</b>
Rated voltage:	<b>&lt;50V~</b>
Frequency:	<b>c.c. - 50÷500Hz</b>
Insulating voltage:	<b>500/690V~</b>
Protection degree:	<b>IP44-IP66/IP67</b>
Operating ambient temperature according to the reference standard:	<b>-25°C +40°C</b>
Max. operating ambient temperature:	<b>60°C</b>
Glow Wire test:	<b>650°C/850°C</b>
Material:	<b>Thermoplastic</b>
IK degree at 20°C:	<b>IK08 - IK10</b>

## BEHAVIOUR WITH CHEMICAL AND ATMOSPHERIC AGENTS

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

Resistance values to chemical agents have to be considered indicative. For further information and specific substances, contact the technical service.

Dimensional drawings: [www.scame.com](http://www.scame.com)

## ■ WIRING AND INSTALLATION

Wiring capacity of the terminals

Cross-section of connectable conductors (mm<sup>2</sup>)

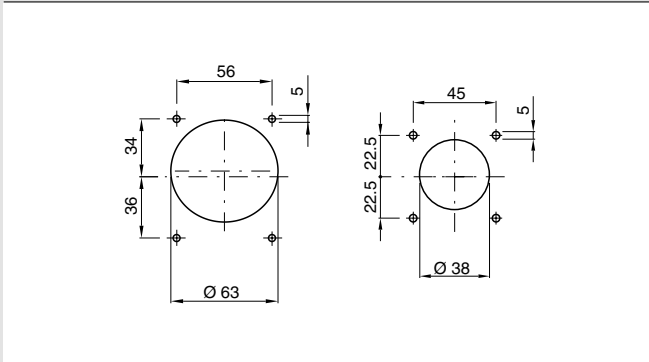
Rated voltage	Rated current (A)	Plugs and connectors		Socket outlets	
		Min	Max	Min	Max
>50V	16A	4	10	4	10
	32A	4	10	4	10

Max. cable size accepted by the cable clamp

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

## ■ FIXING

SCAME sockets for voltage < 50V can be surface mounted or panel mounted on panel boards, or where the surface is set up with the following perforation.



(Dimensions in mm)

## APPLICATION EXAMPLE









# OPTIMA-SEVEN Series

## INDUSTRIAL PLUGS AND SOCKETS



OPTIMA-SEVEN is a range of industrial 7 poles plugs and socket outlets rated 16 and 32A. Robust and safe industrial electrical plugs and sockets thanks to the use of high performance technopolymer enclosures and to the external cable gland with cable clamp function in the mobile versions.

## VERSIONS

	Plugs
	Connectors
	Flush mounting appliance inlets
	Flush mounting socket outlets
	Surface mounting socket outlets
	Surface mounting appliance inlets

## REFERENCE STANDARDS

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

## QUALITY MARKS



## TECHNICAL CHARACTERISTICS

Rated current:	<b>16A-32A</b>
Rated voltage:	<b>100÷500V~</b>
Frequency:	<b>50÷600Hz</b>
Insulating voltage:	<b>500/690V~</b>
Protection degree:	<b>IP44 - IP66/IP67</b>
Operating ambient temperature according to the reference standard:	<b>-25°C +40°C</b>
Max operating ambient temperature:	<b>60°C</b>
Glow Wire test:	<b>650°C/850°C</b>
Material:	<b>Thermoplastic</b>
IK degree at 20°C:	<b>IK08</b>
Halogen free:	<b>Yes</b>
Snap-on device:	<b>16A-32A</b>
Nickel-plated pins:	<b>16A-32A</b>

## APPLICATION

- Star delta connections
- Tapped winding connections
- Monitoring
- Controlling and actuation
- Electrical interlocks



## ■ 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	Limited Resistance	Limited Resistance

Resistance values to chemical agents have to be considered indicative.  
For further information and specific substances, contact the technical service.

Dimensional drawings: [www.scame.com](http://www.scame.com)

## ■ WIRING AND INSTALLATION

### Wiring capacity of the terminals (mm<sup>2</sup>)

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

### Max. cable size accepted by the cable clamp

Rated current (A)	Outside Ø mm	
	Min	Max
16A	8	16
32A	11,5	22

## APPLICATION EXAMPLE



# XENIA Series

## INDUSTRIAL PLUGS AND SOCKETS



The XENIA Series is a range of mobile industrial plugs with technopolymer monobloc body, screw terminals and external cable clamp.

## VERSIONS

	Plugs
	Connectors
	Surface mounting socket outlets

## REFERENCE STANDARDS

### EN 60309-1

Plugs, socket outlets and couples for industrial purposes.  
Part 1: general requirements.

### EN 60309-2

Plugs, socket outlets and couples for industrial purposes.  
Part 2: dimensional interchangeability requirements for pin and contact-tube accessories of harmonised configurations.

## QUALITY MARKS



## TECHNICAL CHARACTERISTICS

Rated current:	<b>16A-32A</b>
Rated voltage:	<b>110-415V</b>
Frequency:	<b>50/60Hz</b>
Insulation voltage:	<b>500V</b>
Protection degree:	<b>IP44</b>
Operating ambient temperature according to the reference standard:	<b>-25°C +40°C</b>
Glow wire test:	<b>850°C contacts carrier 650°C handle</b>
IK degree:	<b>IK08</b>
Material:	<b>Thermoplastic</b>
Assembly:	<b>Monobloc body</b>

## 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 Resistance	Limited Resistance	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant

Resistance values to chemical agents have to be considered indicative.  
For further information and specific substances, contact the technical service.

Dimensional drawings: [www.scame.com](http://www.scame.com)

## ■ WIRING AND INSTALLATION

Wiring capacity of the terminals

Cross-section of connectable conductors (mm<sup>2</sup>)

Rated voltage	Rated current (A)	Plugs and connectors		Socket outlets	
		Min	Max	Min	Max
>50V	16A	1,5	2,5	1,5	4
	32A	2,5	6	2,5	10

Max. cable size accepted by the cable clamp

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

## APPLICATION EXAMPLE





INDEX BY  
PRODUCT  
NUMBER

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[www.scame.com](http://www.scame.com)

## Index by product number

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE	CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE	CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE	CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
<b>213</b>			213.1638P	10/50	6	213.63332	6/24	7	218.12536.K	1/8	8
213.1630	10/50	6	213.3230	10/40	6	213.63333	6/24	7	218.12536.KX	1/8	32
213.1630.TR	10/50	6	213.3230F	10/40	6	213.63334	6/24	7	218.12536.MIL	1/8	42
213.1630P	10/50	6	213.3231	10/40	6	213.63336	6/24	7	218.125361	1/8	8
213.1630P.TR	10/50	6	213.3232	10/40	6	213.63338	6/24	7	218.125362	1/8	8
213.1631	10/50	6	213.3233	10/40	6	213.6334	6/24	7	218.125364	1/8	8
213.1632	10/50	6	213.3233.K	10/40	6	213.6335	6/24	7	218.125365	1/8	8
213.1633	10/50	6	213.3233.TR	10/40	6	213.6336	6/24	7	218.125365.KX	1/8	32
213.1633.K	10/50	6	213.32331	10/40	6	213.63361	6/24	7	218.125366	1/8	8
213.1633.TR	10/50	6	213.32332	10/40	6	213.63362	6/24	7	218.125367	1/8	8
213.16331	10/50	6	213.32333	10/40	6	213.63364	6/24	7	218.12537	1/8	8
213.16332	10/50	6	213.32334	10/40	6	213.63365	6/24	7	218.12537.K	1/8	8
213.16333	10/50	6	213.32336	10/40	6	213.63366	6/24	7	218.12537.KX	1/8	32
213.16334	10/50	6	213.32338	10/40	6	213.63367	6/24	7	218.12537.MIL	1/8	42
213.16336	10/50	6	213.3233F	10/40	6	213.6337	6/24	7	218.125371	1/8	8
213.16338	10/50	6	213.3233F.K	10/40	6	213.63371	6/24	7	218.125372	1/8	8
213.1633P	10/50	6	213.3234	10/40	6	213.63372	6/24	7	218.125374	1/8	8
213.1633P.K	10/50	6	213.3234F	10/40	6	213.63374	6/24	7	218.125375	1/8	8
213.1633P.TR	10/50	6	213.3235	10/40	6	213.63375	6/24	7	218.125376	1/8	8
213.1634	10/50	6	213.3235.K	10/40	6	213.63376	6/24	7	218.125377	1/8	8
213.1634P	10/50	6	213.3236	10/40	6	213.63377	6/24	7	218.12538	1/8	8
213.1635	10/50	6	213.3236.K	10/40	6	213.6338	6/24	7	218.1630	10/40	8
213.1635.K	10/50	6	213.32361	10/40	6	<b>214</b>			218.1630.TR	10/40	8
213.1636	10/50	6	213.32362	10/40	6	214.1630	50	7	218.1630P	10/40	9
213.1636.K	10/50	6	213.32364	10/40	6	214.1633	50	7	218.1630P.TR	10/40	9
213.16361	10/50	6	213.32365	10/40	6	214.1636	40	7	218.1631	10/40	8
213.16362	10/50	6	213.32366	10/40	6	214.1637	30	7	218.1632	10/40	8
213.16364	10/50	6	213.32367	10/40	6	214.3230	25	7	218.1633	10/40	8
213.16365	10/50	6	213.3236F	10/40	6	214.3233	25	7	218.1633.K	10/40	8
213.16366	10/50	6	213.3236F.K	10/40	6	214.3236	25	7	218.1633.KX	10/40	32
213.16367	10/50	6	213.3236RV	10/40	31	214.3237	20	7	218.1633.MIL	10/40	42
213.16367P	10/50	6	213.3237	10/40	6	<b>218</b>			218.1633.TR	10/40	8
213.1636P	10/50	6	213.3237-7	10	40	218.12530	1/8	8	218.16331	10/40	8
213.1636P.K	10/50	6	213.3237.K	10/40	6	218.12531	1/8	8	218.16332	10/40	8
213.1636P.TR	10/50	6	213.32371	10/40	6	218.12532	1/8	8	218.16333	10/40	8
213.1636RV	10/50	31	213.32372	10/40	6	218.12533	1/8	8	218.16334	10/40	8
213.1637	10/50	6	213.32374	10/40	6	218.12533.K	1/8	8	218.16336	10/40	8
213.1637-7	10	40	213.32375	10/40	6	218.12533.KX	1/8	32	218.16338	10/40	8
213.1637.K	10/50	6	213.32376	10/40	6	218.12533.MIL	1/8	42	218.1633P	10/40	9
213.16371	10/50	6	213.32377	10/40	6	218.125331	1/8	8	218.1633P.K	10/40	9
213.16372	10/50	6	213.3237F	10/40	6	218.125332	1/8	8	218.1633P.TR	10/40	9
213.16374	10/50	6	213.3237F.K	10/40	6	218.125333	1/8	8	218.1634	10/40	8
213.16375	10/50	6	213.3237RV	10/40	31	218.125334	1/8	8	218.1634.KX	10/40	32
213.16376	10/50	6	213.3238	10/40	6	218.125336	1/8	8	218.1634P	10/40	9
213.16377	10/50	6	213.3238F	10/40	6	218.125338	1/8	8	218.1635	10/40	8
213.1637P	10/50	6	213.6330	6/24	7	218.12534	1/8	8	218.1635.KX	10/40	32
213.1637P.K	10/50	6	213.6331	6/24	7	218.12535	1/8	8	218.1636	10/40	8
213.1637P.TR	10/50	6	213.6332	6/24	7	218.12535.KX	1/8	32	218.1636.K	10/40	8
213.1637RV	10/50	31	213.6333	6/24	7	218.12536	1/8	8	218.1636.KX	10/40	32
213.1638	10/50	6	213.63331	6/24	7				218.1636.MIL	10/40	42

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
218.16361	10/40	8
218.16362	10/40	8
218.16364	10/40	8
218.16365	10/40	8
218.16366	10/40	8
218.16367	10/40	8
218.1636P	10/40	9
218.1636P.K	10/40	9
218.1636RV	10/40	31
218.1637	10/40	8
218.1637-7	10	40
218.1637.K	10/40	8
218.1637.KX	10/40	32
218.1637.MIL	10/40	42
218.16371	10/40	8
218.16372	10/40	8
218.16374	10/40	8
218.16375	10/40	8
218.16376	10/40	8
218.16377	10/40	8
218.1637P	10/40	9
218.1637P.K	10/40	9
218.1637RV	10/40	31
218.1638	10/40	8
218.1638P	10/40	9
218.3230	10/40	8
218.3230F	10/40	9
218.3231	10/40	8
218.3232	10/40	8
218.3233	10/40	8
218.3233.K	10/40	8
218.3233.KX	10/40	32
218.3233.MIL	10/40	42
218.3233.TR	10/40	8
218.32331	10/40	8
218.32332	10/40	8
218.32333	10/40	8
218.32334	10/40	8
218.32336	10/40	8
218.32338	10/40	8
218.3233F	10/40	9
218.3233F.K	10/40	9
218.3234	10/40	8
218.3234F	10/40	9
218.3235	10/40	8
218.3235.KX	10/40	32
218.3236	10/40	8
218.3236.K	10/40	8
218.3236.KX	10/40	32
218.3236.MIL	10/40	42

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
218.32361	10/40	8
218.32362	10/40	8
218.32364	10/40	8
218.32364.KX	1/12	32
218.32364F	10/40	9
218.32365	10/40	8
218.32366	10/40	8
218.32367	10/40	8
218.3236F	10/40	9
218.3236FK	10/40	9
218.3236RV	10/40	31
218.3237	10/40	8
218.3237-7	10	40
218.3237.K	10/40	8
218.3237.KX	10/40	32
218.3237.MIL	10/40	42
218.32371	10/40	8
218.32372	10/40	8
218.32374	10/40	8
218.32375	10/40	8
218.32376	10/40	8
218.32377	10/40	8
218.3237F	10/40	9
218.3237F.K	10/40	9
218.3237RV	10/40	31
218.3238	10/40	8
218.3238F	10/40	9
218.6330	6/24	8
218.6331	6/24	8
218.6332	6/24	8
218.6333	6/24	8
218.6333.K	6/24	8
218.6333.KX	6/24	32
218.6333.MIL	6/24	42
218.63331	6/24	8
218.63332	6/24	8
218.63333	6/24	8
218.63334	6/24	8
218.63336	6/24	8
218.63338	6/24	8
218.6334	6/24	8
218.6335	6/24	8
218.6335.KX	6/24	32
218.6336	6/24	8
218.6336.K	6/24	8
218.6336.KX	6/24	32
218.6336.MIL	6/24	42
218.63361	6/24	8
218.63362	6/24	8
218.63364	6/24	8

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
218.63365	6/24	8
218.63365.KX	6/24	32
218.63366	6/24	8
218.63367	6/24	8
218.6337	6/24	8
218.6337.K	6/24	8
218.6337.KX	6/24	32
218.6337.MIL	6/24	42
218.63371	6/24	8
218.63372	6/24	8
218.63374	6/24	8
218.63375	6/24	8
218.63376	6/24	8
218.63377	6/24	8
218.6338	6/24	8
<b>221</b>		
221.1630	10/100	7
221.1633	10/100	7
221.1636	10/100	7
221.1637	10/100	7
221.3230	10/60	7
221.3233	10/60	7
221.3236	10/60	7
221.3237	10/50	7
<b>226</b>		
226.1630	10/100	9
226.1633	10/100	9
226.1636	10/100	9
226.16367	10/100	9
226.1637	10/50	9
226.3230	10/40	9
226.3233	10/40	9
226.3236	10/40	9
226.32364	10/40	9
226.3237	10/40	9
<b>230</b>		
230.1600	10/100	34
230.1601	10/100	34
230.16010	10/100	34
230.16012	10/100	34
230.16014	10/100	34
230.16015	10/100	34
230.1602	10/100	34
230.1603	10/100	34
230.16030	10/100	34
230.16032	10/100	34
230.16034	10/100	34
230.16035	10/100	34

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
230.1604	10/100	34
230.3200	10/100	34
230.3201	10/100	34
230.32010	10/100	34
230.32012	10/100	34
230.32014	10/100	34
230.32015	10/100	34
230.3202	10/100	34
230.3203	10/100	34
230.32030	10/100	34
230.32032	10/100	34
230.32034	10/100	34
230.32035	10/100	34
230.3204	10/100	34
<b>235</b>		
235.1600	10/100	34
235.1601	10/100	34
235.16010	10/100	34
235.16012	10/100	34
235.16014	10/100	34
235.16015	10/100	34
235.1602	10/100	34
235.1603	10/100	34
235.16030	10/100	34
235.16032	10/100	34
235.16034	10/100	34
235.16035	10/100	34
235.1604	10/100	34
235.3200	10/100	34
235.3201	10/100	34
235.32010	10/100	34
235.32012	10/100	34
235.32014	10/100	34
235.32015	10/100	34
235.3202	10/100	34
235.3203	10/100	34
235.32030	10/100	34
235.32032	10/100	34
235.32034	10/100	34
235.32035	10/100	34
235.3204	10/100	34
<b>240</b>		
240.1690	10	12
240.1690-C	10	12
240.1691	10	12
240.1692	10	12
240.1693	10	12
240.1693-C	10	12
240.1694	10	12





CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
245.125974T	1/4	13
245.125975T	1/4	13
245.125976T	1/4	13
245.125977T	1/4	13
245.12598T	1/4	13
245.1690	10	13
245.1691	10	13
245.1692	10	13
245.1693	10	13
245.16931	10	13
245.16932	10	13
245.16933	10	13
245.16934	10	13
245.16936	10	13
245.16938	10	13
245.1694	10	13
245.1695	10	13
245.1696	10	13
245.16961	10	13
245.16962	10	13
245.16967	10	13
245.1696RV	10	31
245.1697	10	13
245.16971	10	13
245.16972	10	13
245.16974	10	13
245.16975	10	13
245.16976	10	13
245.16977	10	13
245.1697-7	5	40
245.1697RV	10	31
245.1698	10	13
245.3290	10	13
245.3291	10	13
245.3292	10	13
245.3293	10	13
245.32931	10	13
245.32932	10	13
245.32933	10	13
245.32934	10	13
245.32936	10	13
245.32938	10	13
245.3294	10	13
245.3295	10	13
245.3296	10	13
245.32961	10	13
245.32962	10	13

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
245.32964	10	13
245.32965	10	13
245.32966	10	13
245.32967	10	13
245.3296RV	10	31
245.3297	10	13
245.32971	10	13
245.32972	10	13
245.32974	10	13
245.32975	10	13
245.32976	10	13
245.32977	10	13
245.3297-7	5	40
245.3297RV	10	31
245.3298	10	13
245.6390T	4	13
245.6391T	4	13
245.6392T	4	13
245.6393T	4	13
245.63931T	4	13
245.63932T	4	13
245.63933T	4	13
245.63934T	4	13
245.63936T	4	13
245.63938T	4	13
245.6394T	4	13
245.6395T	4	13
245.6396T	4	13
245.63961T	4	13
245.63962T	4	13
245.63964T	4	13
245.63965T	4	13
245.63966T	4	13
245.63967T	4	13
245.6397T	4	13
245.63971T	4	13
245.63972T	4	13
245.63974T	4	13
245.63975T	4	13
245.63976T	4	13
245.63977T	4	13
245.6398T	4	13
<b>247</b>		
247.1690	10/100	11
247.1691	10/60	11
247.1692	10/50	11
247.1693	10/100	11
247.16932	10/100	11
247.16933	10/100	11
247.16934	10/100	11

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
247.16936	10/100	11
247.16938	10/100	11
247.1694	10/60	11
247.1695	10/50	11
247.1696	10/60	11
247.16961	10/60	11
247.16962	10/60	11
247.16964	10/60	11
247.16965	10/60	11
247.16966	10/60	11
247.16967	10/60	11
247.1697	10/50	11
247.16972	10/50	11
247.16974	10/50	11
247.16975	10/50	11
247.16976	10/50	11
247.16977	10/50	11
247.1698	10/100	11
247.3290	10/40	11
247.3291	10/40	11
247.3292	10/40	11
247.3293	10/40	11
247.32932	10/40	11
247.32933	10/40	11
247.32934	10/40	11
247.32936	10/40	11
247.32938	10/40	11
247.3294	10/40	11
247.3295	10/40	11
247.3296	10/40	11
247.32961	10/40	11
247.32962	10/40	11
247.32964	10/40	11
247.32965	10/40	11
247.32966	10/40	11
247.32967	10/40	11
247.3297	10/40	11
247.32972	10/40	11
247.32974	10/40	11
247.32975	10/40	11
247.32976	10/40	11
247.32977	10/40	11
247.3298	10/40	11
<b>248</b>		
248.12590	10	11
248.12591	10	11
248.12592	10	11
248.12593	10	11
248.12593.MIL	10	42
248.125931	10	11

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
248.125932	10	11
248.125933	10	11
248.125934	10	11
248.125936	10	11
248.125938	10	11
248.12594	10	11
248.12595	10	11
248.12596	10	11
248.12596.MIL	10	42
248.125961	10	11
248.125962	10	11
248.125964	10	11
248.125965	10	11
248.125966	10	11
248.125967	10	11
248.12597	10	11
248.12597.K	10	11
248.12597.MIL	10	42
248.125971	10	11
248.125972	10	11
248.125974	10	11
248.125975	10	11
248.125976	10	11
248.125977	10	11
248.12598	10	11
248.1690	10/50	11
248.1691	10/50	11
248.1692	10/50	11
248.1693	10/50	11
248.1693.K	10/50	11
248.1693.MIL	10/50	42
248.16931	10/50	11
248.16932	10/50	11
248.16933	10/50	11
248.16934	10/50	11
248.16936	10/50	11
248.16938	10/50	11
248.1694	10/50	11
248.1695	10/50	11
248.1696	10/50	11
248.1696.K	10/50	11
248.1696.MIL	10/50	42
248.16961	10/50	11
248.16962	10/50	11
248.16964	10/50	11
248.16965	10/50	11
248.16966	10/50	11
248.16967	10/50	11
248.1696RV	10/50	31
248.1697	10/50	11



CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
313.63477	6/24	15
313.6348	6/24	15
<b>314</b>		
314.1640	40	15
314.1643	40	15
314.1646	30	15
314.1647	25	15
314.3240	20	15
314.3243	20	15
314.3246	20	15
314.3247	15	15
<b>318</b>		
318.12540	1/8	16
318.12541	1/8	16
318.12542	1/8	16
318.12543	1/8	16
318.12543.K	1/8	16
318.12543.KX	1/8	32
318.12543.MIL	1/8	42
318.125431	1/8	16
318.125432	1/8	16
318.125433	1/8	16
318.125434	1/8	16
318.125436	1/8	16
318.125438	1/8	16
318.12544	1/8	16
318.12545	1/8	16
318.12546	1/8	16
318.12546.K	1/8	16
318.12546.KX	1/8	32
318.12546.MIL	1/8	42
318.125461	1/8	16
318.125462	1/8	16
318.125464	1/8	16
318.125465	1/8	16
318.125466	1/8	16
318.125467	1/8	16
318.12547	1/8	16
318.12547.K	1/8	16
318.12547.KX	1/8	32
318.12547.MIL	1/8	42
318.125471	1/8	16
318.125472	1/8	16
318.125474	1/8	16
318.125475	1/8	16
318.125476	1/8	16
318.125477	1/8	16
318.12548	1/8	16
318.1640	10/40	16

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
318.1640.TR	10/40	16
318.1640H	10/40	17
318.1640P	10/40	17
318.1640P.TR	10/40	17
318.1641	10/40	16
318.1642	10/40	16
318.1643	10/40	16
318.1643.K	10/40	16
318.1643.KX	10/40	32
318.1643.TR	10/40	16
318.16431	10/40	16
318.16432	10/40	16
318.16433	10/40	16
318.16434	10/40	16
318.16436	10/40	16
318.16438	10/40	16
318.1643H	10/40	17
318.1643H.K	10/40	17
318.1643.MIL	10/40	42
318.1643P	10/40	17
318.1643P.K	10/40	17
318.1643P.TR	10/40	17
318.1644	10/40	16
318.1644H	10/40	17
318.1644P	10/40	17
318.1645	10/40	16
318.1646	10/40	16
318.1646.K	10/40	16
318.1646.KX	10/40	32
318.1646.MIL	10/40	42
318.16461	10/40	16
318.16462	10/40	16
318.16464	10/40	16
318.16465	10/40	16
318.16466	10/40	16
318.16467	10/40	16
318.1646H	10/40	17
318.1646H.K	10/40	17
318.1646P	10/40	17
318.1646P.K	10/40	17
318.1647	10/40	17
318.1647-7	10	41
318.1647.K	10/40	16
318.1647.KX	10/40	32
318.1647.MIL	10/40	42
318.16471	10/40	16
318.16472	10/40	16
318.16474	10/40	16
318.16475	10/40	16
318.16476	10/40	16

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
318.16477	10/40	16
318.1647H	10/40	17
318.1647H.K	10/40	17
318.1647P	10/40	17
318.1647P.K	10/40	17
318.1648	10/40	16
318.1648H	10/40	17
318.1648P	10/40	17
318.3240	10/40	16
318.3240F	10/40	17
318.3241	10/40	16
318.3242	10/40	16
318.3243	10/40	16
318.3243.K	10/40	16
318.3243.KX	10/40	32
318.3243.MIL	10/40	42
318.3243.TR	10/40	16
318.32431	10/40	16
318.32432	10/40	16
318.32433	10/40	16
318.32434	10/40	16
318.32436	10/40	16
318.32438	10/40	16
318.3243F	10/40	17
318.3243F.K	10/40	17
318.3244	10/40	16
318.3244F	10/40	17
318.3245	10/40	16
318.3246	10/40	16
318.3246.K	10/40	16
318.3246.KX	10/40	32
318.3246.MIL	10/40	42
318.32461	10/40	16
318.32462	10/40	16
318.32464	10/40	16
318.32465	10/40	16
318.32466	10/40	16
318.32467	10/40	16
318.3246F	10/40	17
318.3246F.K	10/40	17
318.3247	10/40	16
318.3247-7	10	41
318.3247.K	10/40	16
318.3247.KX	10/40	32
318.3247.MIL	10/40	42
318.32471	10/40	16
318.32472	10/40	16
318.32474	10/40	16

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
318.32475	10/40	16
318.32476	10/40	16
318.32477	10/40	16
318.3247F	10/40	17
318.3247F.K	10/40	17
318.3248	10/40	16
318.3248F	10/40	17
318.6340	6/24	16
318.6341	6/24	16
318.6342	6/24	16
318.6343	6/24	16
318.6343.K	6/24	16
318.6343.KX	6/24	32
318.6343.MIL	6/24	42
318.63431	6/24	16
318.63432	6/24	16
318.63433	6/24	16
318.63434	6/24	16
318.63436	6/24	16
318.63438	6/24	16
318.6344	6/24	16
318.6345	6/24	16
318.6346	6/24	16
318.6346.K	6/24	16
318.6346.KX	6/24	32
318.6346.MIL	6/24	42
318.63461	6/24	16
318.63462	6/24	16
318.63464	6/24	16
318.63465	6/24	16
318.63466	6/24	16
318.63467	6/24	16
318.6347	6/24	16
318.6347.K	6/24	16
318.6347.KX	6/24	32
318.6347.MIL	6/24	42
318.63471	6/24	16
318.63472	6/24	16
318.63474	6/24	16
318.63475	6/24	16
318.63476	6/24	16
318.63477	6/24	16
318.6348	6/24	16
<b>321</b>		
321.1640	10/100	15
321.1643	10/100	15
321.1646	10/100	15
321.1647	10/100	15
321.3240	10/50	15
321.3243	10/50	15

# Index by product number

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE	CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE	CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE	CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
321.3246	10/50	15	335.16080	10/100	35	413.1666H	10/100	18	413.32674	10/50	18
321.3247	10/50	15	335.16082	10/100	35	413.1666H.K	10/100	18	413.32675	10/50	18
<b>326</b>			335.16084	10/100	35	413.1667	10/100	18	413.32676	10/50	18
326.1640	10/100	17	335.16085	10/100	35	413.1667-7	10	41	413.32677	10/50	18
326.1643	10/100	17	335.1609	10/100	35	413.1667.K	10/100	18	413.3267F	10/50	18
326.1646	10/100	17	335.3205	10/50	35	413.16671	10/100	18	413.3267F.K	10/50	18
326.1647	10/50	17	335.3206	10/50	35	413.16672	10/100	18	413.3268	10/50	18
326.3240	10/40	17	335.32060	10/50	35	413.16674	10/100	18	413.3268F	10/50	18
326.3243	10/40	17	335.32062	10/50	35	413.16675	10/100	18	413.6360	6/30	19
326.3246	10/40	17	335.32064	10/50	35	413.16676	10/100	18	413.6361	6/30	19
326.32464	10/40	17	335.32065	10/50	35	413.16677	10/100	18	413.6362	6/30	19
326.3247	10/40	17	335.3207	10/50	35	413.1667F	10/100	18	413.6363	6/30	19
<b>330</b>			335.3208	10/50	35	413.1667F.K	10/100	18	413.63631	6/30	19
330.1605	10/100	35	335.32080	10/50	35	413.1667H	10/100	18	413.63631	6/30	19
330.1606	10/100	35	335.32082	10/50	35	413.1667H.K	10/100	18	413.63632	6/30	19
330.16060	10/100	35	335.32084	10/50	35	413.1668	10/100	18	413.63633	6/30	19
330.16062	10/100	35	335.32085	10/50	35	413.1668F	10/100	18	413.63634	6/30	19
330.16064	10/100	35	335.3209	10/50	35	413.1668H	10/100	18	413.63636	6/30	19
330.16065	10/100	35	<b>413</b>			413.3260	10/50	18	413.63638	6/30	19
330.1607	10/100	35	413.1660	10/100	18	413.3260F	10/50	18	413.6364	6/30	19
330.1608	10/100	35	413.1660F	10/100	18	413.3261	10/50	18	413.6365	6/30	19
330.16080	10/100	35	413.1660H	10/100	18	413.3262	10/50	18	413.6366	6/30	19
330.16082	10/100	35	413.1661	10/100	18	413.3263	10/50	18	413.63661	6/30	19
330.16084	10/100	35	413.1662	10/100	18	413.3263.K	10/50	18	413.63662	6/30	19
330.16085	10/100	35	413.1663	10/100	18	413.32631	10/50	18	413.63664	6/30	19
330.1609	10/100	35	413.1663.K	10/100	18	413.32632	10/50	18	413.63665	6/30	19
330.3205	10/100	35	413.16631	10/100	18	413.32633	10/50	18	413.63666	6/30	19
330.3206	10/100	35	413.16632	10/100	18	413.32634	10/50	18	413.63667	6/30	19
330.32060	10/100	35	413.16633	10/100	18	413.32636	10/50	18	413.6367	6/30	19
330.32062	10/100	35	413.16634	10/100	18	413.32638	10/50	18	413.63671	6/30	19
330.32064	10/100	35	413.16636	10/100	18	413.3263F	10/50	18	413.63672	6/30	19
330.32065	10/100	35	413.16638	10/100	18	413.3263F.K	10/50	18	413.63674	6/30	19
330.3207	10/100	35	413.1663F	10/100	18	413.3264	10/50	18	413.63675	6/30	19
330.3208	10/100	35	413.1663F.K	10/100	18	413.3264F	10/50	18	413.63676	6/30	19
330.32080	10/100	35	413.1663H	10/100	18	413.3265	10/50	18	413.63677	6/30	19
330.32082	10/100	35	413.1663H.K	10/100	18	413.3266	10/50	18	413.6368	6/30	19
330.32084	10/100	35	413.1664	10/100	18	413.3266.K	10/50	18	<b>418</b>		
330.32085	10/100	35	413.1664F	10/100	18	413.32661	10/50	18	418.12560	1/10	21
330.3209	10/100	35	413.1664H	10/100	18	413.32662	10/50	18	418.12561	1/10	21
<b>335</b>			413.1665	10/100	18	413.32664	10/50	18	418.12562	1/10	21
335.1605	10/100	35	413.1666	10/100	18	413.32665	10/50	18	418.12563	1/10	21
335.1606	10/100	35	413.1666.K	10/100	18	413.32666	10/50	18	418.125631	1/10	21
335.16060	10/100	35	413.16661	10/100	18	413.32667	10/50	18	418.125632	1/10	21
335.16062	10/100	35	413.16662	10/100	18	413.3266F	10/50	18	418.125633	1/10	21
335.16064	10/100	35	413.16664	10/100	18	413.3266F.K	10/50	18	418.125634	1/10	21
335.16065	10/100	35	413.16665	10/100	18	413.3267	10/50	18	418.125636	1/10	21
335.16066	10/100	35	413.16666	10/100	18	413.3267-7	10	41	418.125638	1/10	21
335.16065	10/100	35	413.16667	10/100	18	413.3267.K	10/50	18	418.12564	1/10	21
335.1607	10/100	35	413.1666F	10/100	18	413.32671	10/50	18	418.12565	1/10	21
335.1608	10/100	35	413.1666F.K	10/100	18	413.32672	10/50	18	418.12566	1/10	21



# Index by product number

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
423.32676	10/50	19
423.32677	10/50	19
423.3268	10/50	19
423.6360	6/30	19
423.6361	6/30	19
423.6362	6/30	19
423.6363	6/30	19
423.63631	6/30	19
423.63632	6/30	19
423.63633	6/30	19
423.63634	6/30	19
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423.63664	6/30	19
423.63665	6/30	19
423.63666	6/30	19
423.63667	6/30	19
423.6367	6/30	19
423.63671	6/30	19
423.63672	6/30	19
423.63674	6/30	19
423.63675	6/30	19
423.63676	6/30	19
423.6368	6/30	19
423.63677	6/30	19

## 428

428.12560	1/10	21
428.12561	1/10	21
428.12562	1/10	21
428.12563	1/10	21
428.12563.MIL	1/10	43
428.125631	1/10	21
428.125632	1/10	21
428.125633	1/10	21
428.125634	1/10	21
428.125636	1/10	21
428.125638	1/10	21
428.12564	1/10	21
428.12565	1/10	21
428.12566	1/10	21
428.12566.MIL	1/10	43
428.125661	1/10	21
428.125662	1/10	21
428.125664	1/10	21
428.125665	1/10	21

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
428.125666	1/10	21
428.125667	1/10	21
428.12567	1/10	21
428.12567.MIL	1/10	43
428.125671	1/10	21
428.125672	1/10	21
428.125674	1/10	21
428.125675	1/10	21
428.125676	1/10	21
428.125677	1/10	21
428.12568	1/10	21
428.1660	10/100	21
428.1660/R	10/100	21
428.1660/RR	10/100	21
428.1661	10/100	21
428.1661/R	10/100	21
428.1662	10/100	21
428.1663	10/100	21
428.1663.K	10/100	21
428.1663.MIL	10/100	43
428.1663/R	10/100	21
428.1663/R.K	10/100	21
428.1663/RR	10/100	21
428.16631	10/100	21
428.16632	10/100	21
428.16633	10/100	21
428.16634	10/100	21
428.16636	10/100	21
428.16638	10/100	21
428.1664	10/100	21
428.1664/R	10/100	21

428.1665	10/100	21
428.1666	10/100	21
428.1666.K	10/100	21
428.1666.MIL	10/100	43
428.1666/R	10/100	21
428.1666/R.K	10/100	21
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428.16662	10/100	21
428.16664	10/100	21
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428.16666	10/100	21
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428.1667.K	10/100	21
428.1667.MIL	10/100	43
428.16671	10/100	21
428.16672	10/100	21
428.16674	10/100	21
428.16675	10/100	21

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
428.16676	10/100	21
428.16677	10/100	21
428.1668	10/100	21
428.1668/R	10/100	21
428.1668/RR	10/100	21
428.3260	10/50	21
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428.3266.K	10/50	21
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428.32666	10/50	21
428.32667	10/50	21
428.3267	10/50	21
428.3267.K	10/50	21
428.3267.MIL	10/50	43

428.32671	10/50	21
428.32672	10/50	21
428.32674	10/50	21
428.32675	10/50	21
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428.32677	10/50	21
428.3268	10/50	21
428.6360	6/30	21
428.6361	6/30	21
428.6362	6/30	21
428.6363	6/30	21
428.6363.MIL	6/30	43
428.63631	6/30	21
428.63632	6/30	21
428.63633	6/30	21
428.63634	6/30	21
428.63636	6/30	21
428.63638	6/30	21
428.6364	6/30	21

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
428.6365	6/30	21
428.6366	6/30	21
428.6366.MIL	6/30	43
428.63661	6/30	21
428.63662	6/30	21
428.63664	6/30	21
428.63665	6/30	21
428.63666	6/30	21
428.63667	6/30	21
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428.6367.MIL	6/30	43
428.63671	6/30	21
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428.63674	6/30	21
428.63675	6/30	21
428.63676	6/30	21
428.63677	6/30	21
428.6368	6/30	21

## 430

430.1615	10/100	36
430.1615/R	10/100	37
430.1616	10/100	36
430.1616/R	10/100	37
430.16160	10/100	36
430.16160/R	10/100	37
430.16162	10/100	36
430.16162/R	10/100	37
430.16164	10/100	36
430.16164/R	10/100	37
430.16165	10/100	36
430.16165/R	10/100	37
430.1617	10/100	36
430.1617/R	10/100	37
430.1618	10/100	36
430.1618/R	10/100	37
430.16180	10/100	36
430.16180/R	10/100	37
430.16182	10/100	36
430.16182/R	10/100	37
430.16184	10/100	36
430.16184/R	10/100	37
430.16185	10/100	36
430.16185/R	10/100	37
430.1619	10/100	36
430.1619/R	10/100	37
430.3215	10/100	36
430.3215/R	10/100	37
430.3216	10/100	36
430.3216/R	10/100	37
430.32160	10/100	36

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
430.32160/R	10/100	37
430.32162	10/100	36
430.32162/R	10/100	37
430.32164	10/100	36
430.32164/R	10/100	37
430.32165	10/100	36
430.32165/R	10/100	37
430.3217	10/100	36
430.3217/R	10/100	37
430.3218	10/100	36
430.3218/R	10/100	37
430.32180	10/100	36
430.32180/R	10/100	37
430.32182	10/100	36
430.32182/R	10/100	37
430.32184	10/100	36
430.32184/R	10/100	37
430.32185	10/100	36
430.32185/R	10/100	37
430.3219	10/100	36
430.3219/R	10/100	37
<b>435</b>		
435.1615	10/100	36
435.1615/R	10/100	37
435.1616	10/100	36
435.1616/R	10/100	37
435.16160	10/100	36
435.16160/R	10/100	37
435.16162	10/100	36
435.16162/R	10/100	37
435.16164	10/100	36
435.16164/R	10/100	37
435.16165	10/100	36
435.16165/R	10/100	37
435.1617	10/100	36
435.1617/R	10/100	37
435.1618	10/100	36
435.1618/R	10/100	37
435.16180	10/100	36
435.16180/R	10/100	37
435.16182	10/100	36
435.16182/R	10/100	37
435.16184	10/100	36
435.16184/R	10/100	37
435.16185	10/100	36
435.16185/R	10/100	37
435.1619	10/100	36
435.1619/R	10/100	37
435.3215	10/100	36
435.3215/R	10/100	37

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
435.3216	10/100	36
435.3216/R	10/100	37
435.32160	10/100	36
435.32160/R	10/100	37
435.32162	10/100	36
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435.32164	10/100	36
435.32164/R	10/100	37
435.32165	10/100	36
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435.32184/R	10/100	37
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435.32185/R	10/100	37
435.3219	10/100	36
435.3219/R	10/100	37
<b>452</b>		
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452.16676	10/60	19
452.16677	10/60	19
452.1668	10/100	19

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
452.3260	10/40	19
452.3261	10/40	19
452.3262	10/40	19
452.3263	10/40	19
452.32632	10/40	19
452.32633	10/40	19
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452.32672	10	19
452.32674	10	19
452.32675	10	19
452.32676	10	19
452.32677	10	19
452.3268	10/40	19
<b>457</b>		
457.1660	10/60	21
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457.16675	10/50	21
457.16676	10/50	21
457.16677	10/50	21

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
457.1668	10/60	21
457.3260	10/40	21
457.3261	10/40	21
457.3262	10/40	21
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457.32667	10/40	21
457.3267	10/40	21
457.32672	10/40	21
457.32674	10/40	21
457.32675	10/40	21
457.32676	10/40	21
457.32677	10/40	21
457.3268	10/40	21
<b>512</b>		
512.1650	10/50	24
512.1651	10/50	24
512.1652	10/50	24
512.1653	10/50	24
512.1654	10/50	24
512.1655	10/50	24
512.1656	10/50	24
512.1657	10/50	24
512.1657-7	10	41
512.1658	10/50	24
512.3250	10/40	24
512.3251	10/40	24
512.3252	10/40	24
512.3253	10/40	24
512.3254	10/40	24
512.3255	10/40	24
512.3256	10/40	24
512.3257	10/40	24
512.3257-7	10	41
512.3258	10/40	24
<b>513</b>		
513.1650	10/40	23

## Index by product number

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE	CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE	CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE	CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
513.1650T	10/40	22	513.1656-FN	10	27	513.1658TH	10/40	22	513.3256-GF	10	27
513.1650TF	10/40	22	513.1656-GN	10	27	513.3250	10	23	513.3256-KF	10	27
513.1650TH	10/40	22	513.1656-KN	10	27	513.3250T	10	22	513.3256-LF	10	27
513.1651T	10/40	22	513.1656-LN	10	27	513.3250TF	10	22	513.3256-PF	10	26
513.1652T	10/40	22	513.1656-PN	10	26	513.3251T	10	22	513.3256-SF	10	26
513.1653	10/40	23	513.1656-SN	10	27	513.3252T	10	22	513.32561T	10	22
513.1653-1DNS	6	29	513.16561T	10/40	22	513.3253	10	23	513.32562T	10	22
513.1653-1FNS	6	29	513.16562T	10/40	22	513.3253-1DFS	1/6	29	513.32564T	10	22
513.1653-2AFS	6	29	513.16564T	10/40	22	513.3253-1FFS	1/6	29	513.32565T	10	22
513.1653-2DNS	6	29	513.16565T	10/40	22	513.3253-2AFS	1/6	29	513.32566T	10	22
513.1653-2FNS	6	29	513.16566T	10/40	22	513.3253-2DFS	1/6	29	513.32567T	10	22
513.1653-AF	10	27	513.16567T	10/40	22	513.3253-2FFS	1/6	29	513.3256T	10	22
513.1653-BN	10	26	513.1656T	10/40	22	513.3253-AF	10	27	513.3256TF	10	22
513.1653-CF	10	27	513.1656TF	10/40	22	513.3253-BF	10	26	513.3256TS	1/6	28
513.1653-DN	10	27	513.1656TH	10/40	22	513.3253-CF	10	27	513.3256TS.A	1/6	28
513.1653-FN	10	27	513.1656TS	1/6	28	513.3253-DF	10	27	513.3257	10	23
513.1653-GN	10	27	513.1657	10/40	22	513.3253-FF	10	27	513.3257-1DFR	8	30
513.1653-KN	10	27	513.1657-1DNR	8	30	513.3253-GF	10	27	513.3257-1DFS	1/6	29
513.1653-LN	10	27	513.1657-1DNS	1/6	29	513.3253-KF	10	27	513.3257-1FFR	1/6	30
513.1653-PN	10	26	513.1657-1FNR	1/6	30	513.3253-LF	10	27	513.3257-1FFS	1/6	29
513.1653-SN	10	27	513.1657-1FNS	1/6	29	513.3253-PF	10	26	513.3257-2AFS	1/6	29
513.16531T	10/40	22	513.1657-2AFS	1/6	29	513.3253-SF	10	26	513.3257-2DFR	8	30
513.16532T	10/40	22	513.1657-2DNR	8	30	513.32531T	10	22	513.3257-2DFS	1/6	29
513.16533T	10/40	22	513.1657-2DNS	1/6	29	513.32532T	10	22	513.3257-2FFR	1/6	30
513.16534T	10/40	22	513.1657-2FNR	1/6	30	513.32533T	10	22	513.3257-2FFS	1/6	29
513.16536T	10/40	22	513.1657-2FNS	1/6	29	513.32534T	10	22	513.3257-AF	10	27
513.16538T	10/40	22	513.1657-2KNS	1/6	29	513.32536T	10	22	513.3257-BF	10	26
513.1653T	10/40	22	513.1657-AF	10	27	513.32538T	10	22	513.3257-CF	10	27
513.1653TF	10/40	22	513.1657-BN	10	26	513.3253T	10	22	513.3257-DF	10	27
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513.1653TS	1/6	28	513.1657-DN	10	27	513.3253TS	1/6	28	513.3257-GF	10	27
513.1654T	10/40	22	513.1657-FN	10	27	513.3253TS.A	1/6	28	513.3257-KF	10	27
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513.1655T	10/40	22	513.1657-LN	10	27	513.3255T	10	22	513.3257-SF	10	26
513.1656	10/40	23	513.1657-PN	10	26	513.3256	10	23	513.32571T	10	22
513.1656-1DNR	8	30	513.1657-S5N	10	27	513.3256-1DFR	8	30	513.32572T	10	22
513.1656-1DNS	1/6	29	513.1657-SN	10	27	513.3256-1DFS	1/6	29	513.32574T	10	22
513.1656-1FNR	1/6	30	513.16571T	10/40	22	513.3256-1FFR	1/6	30	513.32575T	10	22
513.1656-1FNS	1/6	29	513.16572T	10/40	22	513.3256-1FFS	1/6	29	513.32576T	10	22
513.1656-2AFS	1/6	29	513.16574T	10/40	22	513.3256-2AFS	1/6	29	513.32577T	10	22
513.1656-2DNR	8	30	513.16575T	10/40	22	513.3256-2DFR	8	30	513.3257T	10	22
513.1656-2DNS	1/6	29	513.16576T	10/40	22	513.3256-2DFS	1/6	29	513.3257TF	10	22
513.1656-2FNR	1/6	30	513.16577T	10/40	22	513.3256-2FFR	1/6	30	513.3257TS	1/6	28
513.1656-2FNS	1/6	29	513.1657T	10/40	22	513.3256-2FFS	1/6	29	513.3257TS.A	1/6	28
513.1656-2KNS	1/6	29	513.1657TF	10/40	22	513.3256-AF	10	27	513.3258T	10	22
513.1656-AF	10	27	513.1657TH	10/40	22	513.3256-BF	10	26	513.3258TF	10	22
513.1656-BN	10	26	513.1657TS	1/6	28	513.3256-CF	10	27	513.6350T	4	25
513.1656-CF	10	27	513.1658T	10/40	22	513.3256-DF	10	27	513.6351T	4	25
513.1656-DN	10	27	513.1658TF	10/40	22	513.3256-FF	10	27	513.6352T	4	25



CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
513.63531T	4	25
513.63532T	4	25
513.63533T	4	25
513.63534T	4	25
513.63536T	4	25
513.63538T	4	25
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513.6357T	4	25
513.6358T	4	25

**514**

514.1650	10/40	25
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514.3250	10/40	25
514.3253	10/40	25
514.3256	10/40	25
514.3257	10/40	25

**517**

517.1650	10/50	25
517.1651	10/50	25
517.1652	10/40	25
517.1653	10/50	25
517.1654	10/50	25
517.1655	10/40	25
517.1656	10/50	25
517.1657	10/40	25
517.1657-7	5	41
517.1658	10/50	25
517.3250	10/40	25
517.3251	10/40	25
517.3252	10/40	25
517.3253	10/40	25
517.3254	10/40	25

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
517.3255	10/40	25
517.3256	10/40	25
517.32564	10/40	25
517.3257	10/40	25
517.3257-7	5	41
517.3258	10/40	25

**518**

518.12550T	1/4	25
518.12551T	1/4	25
518.12552T	1/4	25
518.12553T	1/4	25
518.125531T	1/4	25
518.125532T	1/4	25
518.125533T	1/4	25
518.125534T	1/4	25
518.125536T	1/4	25
518.125538T	1/4	25
518.12554T	1/4	25
518.12555T	1/4	25
518.12556T	1/4	25
518.125561T	1/4	25
518.125562T	1/4	25
518.125564T	1/4	25
518.125565T	1/4	25
518.125566T	1/4	25
518.125567T	1/4	25
518.12557T	1/4	25
518.125571T	1/4	25
518.125572T	1/4	25
518.125574T	1/4	25
518.125575T	1/4	25
518.125576T	1/4	25
518.125577T	1/4	25
518.12558T	1/4	25
518.1650T	10/40	23
518.1650TF	10/40	23
518.1650TH	10/40	23
518.1651T	10/40	23
518.1652T	10/40	23
518.16531T	10/40	23
518.16532T	10/40	23
518.16533T	10/40	23
518.16534T	10/40	23
518.16536T	10/40	23
518.16538T	10/40	23
518.1653T	10/40	23
518.1653TF	10/40	23
518.1653TH	10/40	23
518.1653TS	1/6	28
518.1654T	10/40	23

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
518.1654TF	10/40	23
518.1654TH	10/40	23
518.1655T	10/40	23
518.16561T	10/40	23
518.16562T	10/40	23
518.16564T	10/40	23
518.16565T	10/40	23
518.16566T	10/40	23
518.16567T	10/40	23
518.1656T	10/40	23
518.1656TF	10/40	23
518.1656TH	10/40	23
518.1656TS	1/6	28
518.16571T	10/40	23
518.16572T	10/40	23
518.16574T	10/40	23
518.16575T	10/40	23
518.16576T	10/40	23
518.16577T	10/40	23
518.1657T	10/40	23
518.1657TF	10/40	23
518.1657TH	10/40	23
518.1657TS	1/6	28
518.1658T	10/40	23
518.1658TF	10/40	23
518.1658TH	10/40	23
518.3250T	10	23
518.3250TF	10	23
518.3251T	10	23
518.3252T	10	23
518.32531T	10	23
518.32532T	10	23
518.32533T	10	23
518.32534T	10	23
518.32536T	10	23
518.32538T	10	23
518.3253T	10	23
518.3253TF	10	23
518.3253TS	10	28
518.3253TS.A	10	28
518.3254T	10	23
518.3254TF	10	23
518.3255T	10	23
518.32561T	10	23
518.32562T	10	23
518.32564T	10	23
518.32564TF	10	23
518.32565T	10	23
518.32566T	10	23
518.32567T	10	23

CATALOGUE NUMBER	PACKAGE/ BULK PACK.	PAGE
518.3256T	10	23
518.3256TF	10	23
518.3256TS	10	28
518.3256TS.A	10	28
518.32571T	10	23
518.32572T	10	23
518.32574T	10	23
518.32575T	10	23
518.32576T	10	23
518.32577T	10	23
518.3257T	10	23
518.3257TF	10	23
518.3257TS	10	23
518.3257TS.A	10	23
518.3258T	10	23
518.3258TF	10	23
518.6350T	4	25
518.6351T	4	25
518.6352T	4	25
518.63531T	4	25
518.63532T	4	25
518.63533T	4	25
518.63534T	4	25
518.63536T	4	25
518.63538T	4	25
518.6353T	4	25
518.6354T	4	25
518.6355T	4	25
518.63561T	4	25
518.63562T	4	25
518.63564T	4	25
518.63565T	4	25
518.63566T	4	25
518.63567T	4	25
518.6356T	4	25
518.6357T	4	25
518.63571T	4	25
518.63572T	4	25
518.63574T	4	25
518.63575T	4	25
518.63576T	4	25
518.63577T	4	25
518.6357T	4	25

**522**

522.1650	10/50	24
522.1651	10/50	24
522.1652	10/50	24
522.1653	10/50	24
522.1654	10/50	24
522.1655	10/50	24





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