

# ADVANCE-GRP SYSTEM

SWITCHED INTERLOCKED  
SOCKET OUTLETS





## SWITCHED INTERLOCKED SOCKET OUTLETS 16A-32A-63A



ADVANCE-GRP is a complete range of industrial interlocked socket outlets from 16 up to 125A. The industrial electrical sockets of this series, thanks to the body made of GRP (Glass fiber Reinforced Polyester) thermosetting material, guarantee maximum resistance to impacts (IK10 at temperatures between -40 and + 60 °C), to heat and fire (GW 960 °C), proving also to be insensitive to corrosion and atmospheric and chemical agents.

ADVANCE-GRP is the ideal solution in extreme environmental conditions, such as steel and chemical industries, shipyards, container terminals, ports or mines.

### VERSIONS WITH MECHANICAL INTERLOCK

	With switch-disconnector
	With switch-disconnector and fuse
	Molded case circuit breaker with thermal magnetic trip unit

### 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	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)

### 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.*

#### 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-63A</b>
Rated voltage:	<b>100÷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>
Minimum operating ambient temperature:	<b>-40°C</b>
Max. operating ambient temperature:	<b>+60°C</b>
Self-extinguishing GW test:	<b>960°C</b>
Self-extinguishing UL94:	<b>V0</b>
Material:	<b>Thermosetting</b>
IK degree at 20°C:	<b>IK10 (20J)</b>
Switch-disconnectors 16A-32A-63A:	<b>COMMAND Series</b>
Fuse:	
16A-32A	<b>gG 10,3x38mm</b>
63A	<b>gG 22x58mm</b>
Colour:	<b>Grey RAL7037</b>
Insulation class:	<b>Class II (double insulation) □</b>

## ■ CABLE ENTRY

Maximum entry with cable glands

Rated current (A)	Single socket		Socket with switchboard		
	Upper	Lower	Upper	Lower	Side
16A - 32A	M32	M32	M32	M32	M32
63A	M40	M40	M40	M40	M32

## ■ WIRING OPERATIONS

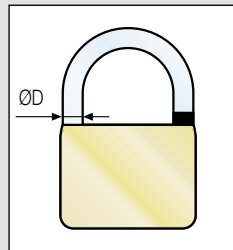
Wiring capacity of the terminals (mm<sup>2</sup>)

Rated current (A)	Socket outlets	
	Min	Max
16A	1,5	4
32A	2,5	10
63A	6	25

## ■ PADLOCK TO BE USED

Choice of padlock for socket knob, fuse door and switchboard door

Rated current (A)	Padlock arc diameter (mm)
16A - 32A	5
63A	6,3



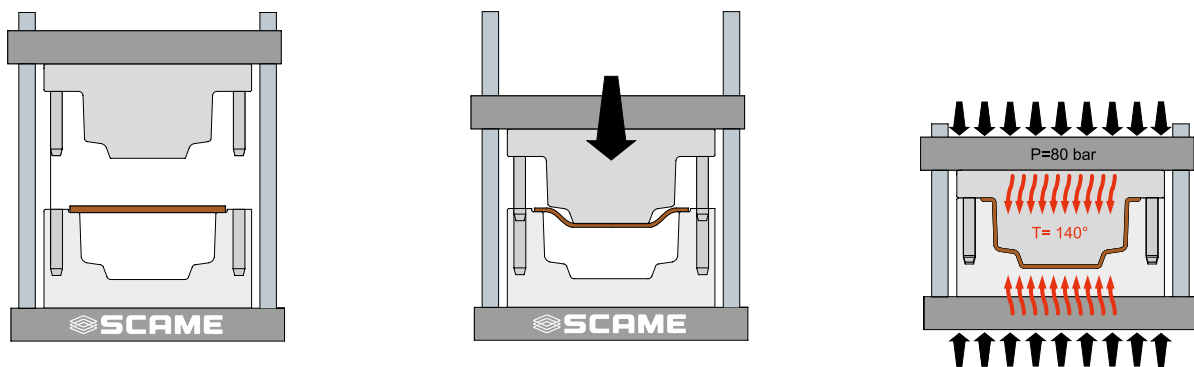
## SPECIAL CHARACTERISTICS

### ADVANCE-GRP CHARACTERISTICS

The **ADVANCE-GRP** product line includes a series of 16A, 32A, 63A, 125A interlocked sockets (compliant with EN60309-4 standards) and the casings to contain them. It's the most complete range of interlocked sockets produced in GRP (*Glass Reinforced Polyester*) thermosetting material.

A unique feature which enhances the exceptional mechanical strength of **ADVANCE-GRP** products is the **SMC** (*Sheet Moulding Compound*) production process used for the casings.

**SMC** is a technology which uses exclusively non-woven sheets, pre-impregnated with polyester resin. This method consists in preparing the sheet material inside a mould which, equipped with a negative mould, presses the composite so as to allow compaction.



**SMC** is an advanced technology which enhances the quality of the raw material without reducing the high-strength characteristics during transformation; it's a high-performing technology in terms of the mechanical performance of the resultant product (glass fibre length, homogeneity of the material, integrity of the fibres).

On the contrary, the **BMC** (*Bulk Moulding Compound*) technology is a technology for moulding composite materials which uses a raw material available in "blocks" (short, charged fibres) which are subjected to high thermomechanical stress during the transformation process, consequently diminishing the mechanical properties of the details, thereby reducing the impact strength and flexural strength.

The glass-fibre reinforced polyester used in **ADVANCE-GRP** guarantees excellent mechanical strength and a long lifetime: this material is highly resistant to contamination, completely corrosion resistant and suited for applications requiring the use of components with low smoke emission and no halogens, **LSOH** (*Low Smoke Zero Halogen*) components.

The outstanding properties of the material are also guaranteed over time, thanks to the high **RTI** value (*Relative Temperature Index*), measured to be 20,000h. Numerous verifications and tests have been carried out, even UV resistance tests, in order to guarantee the long duration of the material's initial performance.

The thickness of the walls is sufficient to offer an excellent alternative to aluminium, stainless steel or cast iron.



### OUTSTANDING HEAT AND FIRE RESISTANCE

The glass-fibre reinforced polyester used in **ADVANCE-GRP** guarantees excellent heat and fire resistance: it does not propagate flames, emit halogens or smoke.

This material has outstanding flame retardancy: Glow Wire 960°C according to EN 60695-2-1; V0 according to UL94. It's suited for applications requiring the use of components with low smoke emission and no halogens, LSOH (*Low Smoke Zero Halogen*).



### OUTSTANDING IMPACT RESISTANCE

The glass-fibre reinforced polyester used in **ADVANCE-GRP** and the high thickness of the casing walls guarantee an excellent mechanical resistance to impacts.

The **SMC** technology used to produce the casings makes **ADVANCE-GRP** an indestructible product.

The impact resistance of the casings is higher than 20J (IK10) according to EN50102, even under limit temperature conditions (-40°C +60°C).



### RESISTANCE TO CHEMICAL AGENTS

The **ADVANCE-GRP** interlocked sockets and casings, thanks to the glass-fibre reinforced polyester with which they are produced, have excellent resistance to aggressive chemical substances, saline solutions, diluted acids, hydrocarbons, mineral oils, alcoholic substances. They are ideal for use in highly corrosive atmospheres.



### RESISTANCE TO ATMOSPHERIC AGENTS

The structure and materials used also make **ADVANCE-GRP** a product suited for the most extreme environmental conditions. The triple degree of protection IP66, IP67 and IP69 (IP66 for 125A), guarantees an excellent seal against the entry of solid objects or liquids into the casings.

Outstanding resistance to UV radiation, exceptional reliability under environmental stress and use at both low and high ambient temperatures (-40°C +60°C).



APPLICATION EXAMPLES



## ■ TECHNICAL DATA SWITCH DISCONNECTORS (EN60947-3)

Rated current $I_n$			with and without fuse				
			16A	32A	63A	125A	
Rated insulation voltage	$U_i$	VAC	690	690	690	750	
		VDC	400	400	-	750	
Rated impulse withstand voltage	$U_{imp}$	KV	4	4	8	12	
Thermal current	$I_{th}$	A	30	40	63	200	
Thermal current	$I_{the}$	A	30	40	63	-	
Rated operational current – $I_e$	<b>AC21A</b> Resistive loads, including moderate overloads	415V	A	16	32	63	200
		500V	A	16	32	63	-
		690V	A	16	32	63	160
	<b>AC22A</b> Mixed resistive and inductive loads, including moderate overloads	415V	A	16	32	63	200
		500V	A	16	32	63	-
		690V	A	16	32	63	160
	<b>AC23A</b> Switching of motor loads or other highly inductive loads (3 phase / 3 pole)	415V	A	16	32	63	135
		500V	A	16	32	40	125
		690V	A	16	25	30	80
	<b>AC3</b> Squirrel-cage motor: starting, switching off motor during running (3 phase/ 3 pole)	400V	A	16	28,5	40	-
		690V	A	12	20	25	-
	<b>DC21A</b> Resistive loads, including moderate overloads	300V	A	20(*)	32(*)	-	160(*)
<b>DC22A</b> Mixed resistive and inductive loads, including moderate overloads		250V	A	25(*)	32(*)	-	160(*)
	600V	A	10(*)	10(*)	-	-	
Rated short-time withstand current $I_{cw}$ (1s)		A	400	400	1500	4000	
Rated operational current – $I_e$	Conditional short-circuit current	KA <sub>eff</sub>	10	10	10	24	
	Associate fuse size for conditional short-circuit current - Type gG	A	16	32	63	-	
	Rated short-circuit making capacity $I_{cm}$	A	1500	1500	2850	24000	
Cable section	Flexible wire	mm <sup>2</sup>	1,5-10	1,5-10	10-35	10-70	
		AWG	16-8	16-8	10-2	8-1/10	
	Rigid wire	mm <sup>2</sup>	1,5-16	1,5-16	10-35	10-70	
		AWG	16-8	16-8	10-2	8-1/10	

(\*) 2+2 poles in series



## TECHNICAL CHARACTERISTICS 16A-32A-63A VERSIONS

### WITH FUSES

Ample space for easy wiring

Switch-disconnector with mechanical lock that can be accessorized with auxiliary contacts

Easily extractable support



### WITH MCB

Outdoor wall fastening

Under-plate cable runway

Threaded metal inserts

Indicator light

Possibility for plug-inserted control microswitch assembly



### BOTTOM VIEW

Module in high-temperature resistant engineering polymer



Possible entry from bottom side (input-output also)

### TOP VIEW



Self-centering punch marks to facilitate drilling



Single-piece waterproof gasket



Dual mechanical lock

High-strength material with superior UV and chemical resistance



Ergonomic knob which can be padlocked in position 0 and 1, manoeuvrable even with gloves

Fuse inspection door, tamper-proof, lockable, with assisted opening

Cover entirely separate from the base for easy installation

Captive stainless steel closing screws



### I-Device

An electronic device controls (*Intelligence Device*) the status of the interlocked socket, monitoring the electrical functionality:

- operation of the signalling and control card is guaranteed even when the load is not connected;

● **INDICATOR LIGHT ON**

- indicates that the fuses are not open and all the phases are present;
- indicates that the socket outlet is powered correctly;

⦿ **INDICATOR LIGHT FLASHING**

- signals the interruption of one or more fuses;
- signals the absence of a phase\*;

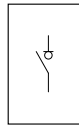
○ **INDICATOR LIGHT OFF**

- indicates that the socket outlet is not powered.

\* for single-phase products in the event of phase/neutral loss led signalling appears off.



## ■ IP66/IP67/IP69 WITHOUT BASE VERSION - VOLTAGE >50V



WITHOUT FUSE HOLDER

Poles	Hz.	Volt	Colour	h.	16A	32A	63A
					⊞ 1	⊞ 1	⊞ 1
2P+E	50/60	100-130		4	402.1670	402.3270	402.6370
	50/60	200-250		6	402.1683	402.3283	402.6383
	50/60	380-415		9	402.1678	402.3278	402.6378
	50/60	480-500		7	402.16836	402.32836	402.63836
	50/60	trasf.		12	402.16833	402.32833	402.63833
	>300-500	>50	(1)	2	402.16832	402.32832	402.63832
	c.c.	>50-250		3	on request	on request	-
	c.c.	>250		8	on request	on request	-
3P+E	50/60	100-130		4	402.1672	402.3272	402.6372
	50/60	200-250		9	402.1674	402.3274	402.6374
	50/60	380-415		6	402.1686	402.3286	402.6386
	60	440-460		11	402.16865	402.32865	402.63865
	50/60	480-500		7	402.16866	402.32866	402.63866
	50/60	600-690	(2)	5	402.16867	402.32867	402.63867
	50...60	380...440		3	402.16864	402.32864	402.63864
	100-300	>50	(1)	10	402.16861	402.32861	402.63861
>300-500	>50	(1)	2	402.16862	402.32862	402.63862	
3P+N+E	50/60	100-130		4	402.1679	402.3279	402.6379
	50/60	208-250		9	402.1675	402.3275	402.6375
	50/60	346-415		6	402.1687	402.3287	402.6387
	50/60	480-500		7	402.16876	402.32876	402.63876
	50/60	600-690	(2)	5	402.16877	402.32877	402.63877
	60	440-460		11	402.16875	402.32875	402.63875
	50...60	380...440		3	402.16874	402.32874	402.63874
	>300-500	>50	(1)	2	402.16872	402.32872	402.63872

(1) Versions >60Hz = 25% Reduced current.

(2) Particular attention is required in selecting the fuse suited to the system's voltage.

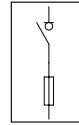
⊞ Pack Quantity

**BASES AND SWITCHBOARDS**

available on page 16



WITHOUT FUSE HOLDER



16A 1	32A 1	63A 1
402.1670-F	402.3270-F	402.6370-F
402.1683-F	402.3283-F	402.6383-F
402.1678-F	402.3278-F	402.6378-F
402.16836-F	402.32836-F	402.63836-F
402.16833-F	402.32833-F	402.63833-F
402.16832-F	402.32832-F	402.63832-F
on request	on request	-
on request	on request	-
402.1672-F	402.3272-F	402.6372-F
402.1674-F	402.3274-F	402.6374-F
402.1686-F	402.3286-F	402.6386-F
402.16865-F	402.32865-F	402.63865-F
402.16866-F	402.32866-F	402.63866-F
402.16867-F	402.32867-F	402.63867-F
402.16864-F	402.32864-F	402.63864-F
402.16861-F	402.32861-F	402.63861-F
402.16862-F	402.32862-F	402.63862-F
402.1679-F	402.3279-F	402.6379-F
402.1675-F	402.3275-F	402.6375-F
402.1687-F	402.3287-F	402.6387-F
402.16876-F	402.32876-F	402.63876-F
402.16877-F	402.32877-F	402.63877-F
402.16875-F	402.32875-F	402.63875-F
402.16874-F	402.32874-F	402.63874-F
402.16872-F	402.32872-F	402.63872-F



Base



Base with consumer unit



Base with derivation box



## ■ IP66/IP67/IP69 WITHOUT BASE VERSION I-Device - VOLTAGE >50V

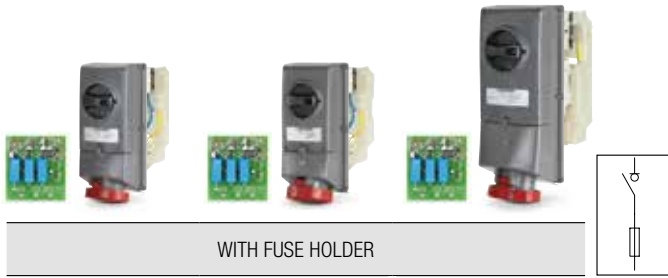


Poles	Hz.	Volt	Colour	h.	16A	32A	63A
					☐ 1	☐ 1	☐ 1
<b>2P+E</b>	50/60	100-130		4	<b>403.1670</b>	<b>403.3270</b>	<b>403.6370</b>
	50/60	200-250		6	<b>403.1683</b>	<b>403.3283</b>	<b>403.6383</b>
	50/60	380-415		9	<b>403.1678</b>	<b>403.3278</b>	<b>403.6378</b>
	50/60	480-500		7	<b>403.16836</b>	<b>403.32836</b>	<b>403.63836</b>
	50/60	trasf.		12	<b>403.16833</b>	<b>403.32833</b>	<b>403.63833</b>
	>300-500	>50	(1)	2	<b>on request</b>	<b>on request</b>	<b>on request</b>
	c.c.	>50-250		3	-	-	-
c.c.	>250		8	-	-	-	
<b>3P+E</b>	50/60	100-130		4	<b>403.1672</b>	<b>403.3272</b>	<b>403.6372</b>
	50/60	200-250		9	<b>403.1674</b>	<b>403.3274</b>	<b>403.6374</b>
	50/60	380-415		6	<b>403.1686</b>	<b>403.3286</b>	<b>403.6386</b>
	60	440-460		11	<b>403.16865</b>	<b>403.32865</b>	<b>403.63865</b>
	50/60	480-500		7	<b>403.16866</b>	<b>403.32866</b>	<b>403.63866</b>
	50/60	600-690	(2)	5	<b>403.16867</b>	<b>403.32867</b>	<b>403.63867</b>
	50...60	380...440		3	<b>403.16864</b>	<b>403.32864</b>	<b>403.63864</b>
100-300	>50	(1)	10	<b>on request</b>	<b>on request</b>	<b>on request</b>	
>300-500	>50	(1)	2	<b>on request</b>	<b>on request</b>	<b>on request</b>	
<b>3P+N+E</b>	50/60	100-130		4	<b>403.1679</b>	<b>403.3279</b>	<b>403.6379</b>
	50/60	208-250		9	<b>403.1675</b>	<b>403.3275</b>	<b>403.6375</b>
	50/60	346-415		6	<b>403.1687</b>	<b>403.3287</b>	<b>403.6387</b>
	50/60	480-500		7	<b>403.16876</b>	<b>403.32876</b>	<b>403.63876</b>
	50/60	600-690	(2)	5	<b>403.16877</b>	<b>403.32877</b>	<b>403.63877</b>
	60	440-460		11	<b>403.16875</b>	<b>403.32875</b>	<b>403.63875</b>
	50...60	380...440		3	<b>403.16874</b>	<b>403.32874</b>	<b>403.63874</b>
>300-500	>50	(1)	2	<b>on request</b>	<b>on request</b>	<b>on request</b>	

(1) Versions >60Hz = 25% Reduced current.

(2) Particular attention is required in selecting the fuse suited to the system's voltage.

☐ Pack Quantity



WITH FUSE HOLDER

16A 	32A 	63A 
403.1670-F	403.3270-F	403.6370-F
403.1683-F	403.3283-F	403.6383-F
403.1678-F	403.3278-F	403.6378-F
403.16836-F	403.32836-F	403.63836-F
403.16833-F	403.32833-F	403.63833-F
on request	on request	on request
-	-	-
-	-	-
403.1672-F	403.3272-F	403.6372-F
403.1674-F	403.3274-F	403.6374-F
403.1686-F	403.3286-F	403.6386-F
403.16865-F	403.32865-F	403.63865-F
403.16866-F	403.32866-F	403.63866-F
403.16867-F	403.32867-F	403.63867-F
403.16864-F	403.32864-F	403.63864-F
on request	on request	on request
on request	on request	on request
403.1679-F	403.3279-F	403.6379-F
403.1675-F	403.3275-F	403.6375-F
403.1687-F	403.3287-F	403.6387-F
403.16876-F	403.32876-F	403.63876-F
403.16877-F	403.32877-F	403.63877-F
403.16875-F	403.32875-F	403.63875-F
403.16874-F	403.32874-F	403.63874-F
on request	on request	on request



WITH MCB

16A 	32A 	63A 
403.1670-M	403.3270-M	403.6370-M
403.1683-M	403.3283-M	403.6383-M
403.1678-M	403.3278-M	403.6378-M
-	-	-
-	-	-
-	-	-
-	-	-
403.1672-M	403.3272-M	403.6372-M
403.1674-M	403.3274-M	403.6374-M
403.1686-M	403.3286-M	403.6386-M
403.16865-M	403.32865-M	403.63865-M
-	-	-
-	-	-
403.16864-M	403.32864-M	403.63864-M
-	-	-
-	-	-
403.1679-M	403.3279-M	403.6379-M
403.1675-M	403.3275-M	403.6375-M
403.1687-M	403.3287-M	403.6387-M
-	-	-
-	-	-
403.16875-M	403.32875-M	403.63875-M
403.16874-M	403.32874-M	403.63874-M
-	-	-

**BASES AND SWITCHBOARDS**

available on page 16



Base



Base with consumer unit



Base with derivation box



## EXTRA LOW VOLTAGE SWITCHED INTERLOCKED SOCKET OUTLETS <50V 16A-32A



ADVANCE-GRP includes a range of extra low voltage interlocked socket outlets 2P 16A always enclosed in a casing in GRP thermo-setting material (glass fiber reinforced polyester).

## VERSIONS



Version with transformer.  
SELV transformer 230/24V~ 150VA



Version without transformer.

## 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.*

## TECHNICAL CHARACTERISTICS

Rated current:	<b>16A-32A</b>
Rated voltage:	<b>20÷50V~</b>
Frequency:	<b>50÷60Hz</b>
SELV transformer 220/24V:	<b>150VA</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>
Minimum operating ambient temperature:	<b>-40°C</b>
Max. operating ambient temperature:	<b>+60°C</b>
Self-extinguishing GW test:	<b>850°C (socket housing) 960°C (enclosure)</b>
Material:	<b>Thermosetting</b>
IK degree at 20°C:	<b>IK10</b>
Colour:	<b>Grey RAL 7037</b>
Insulation class:	<b>Class III</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>Resistant</b>	<b>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)

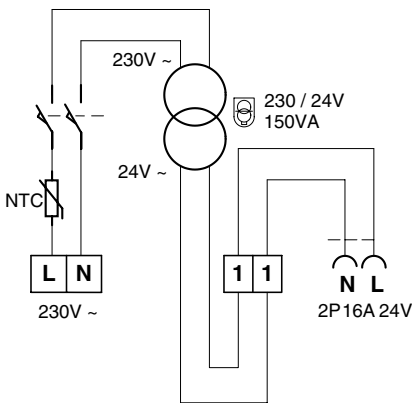
## ■ WIRING OPERATIONS

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

Rated current (A)	Socket outlets	
	Min	Max
16A	4	4
32A	4	10

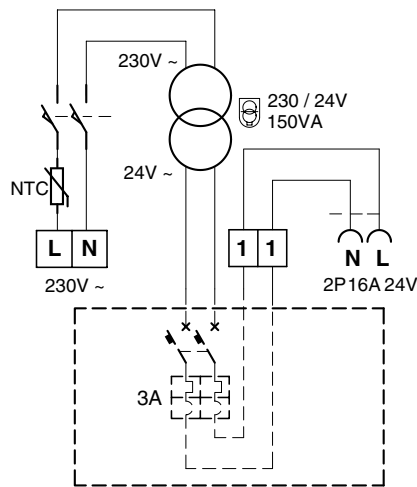
### VERSION WITH TRANSFORMER

Unprotected socket diagram (standard)



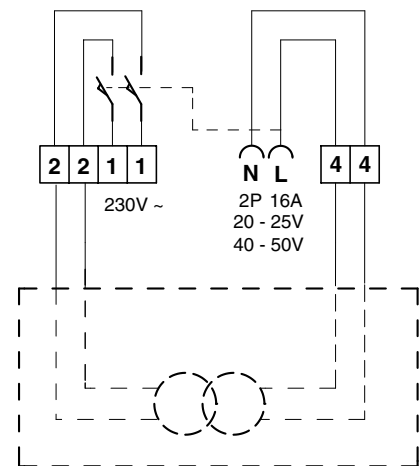
L-N 230V supply  
1-1 24V secondary transformer

Secondary protected socket diagram (protection by the installer)



### VERSION WITHOUT TRANSFORMER

Socket without transformer diagram (standard)



1-1 230V supply  
2-2 Primary transformer  
4-4 20 - 25V~ /40 - 50V~ socket outlet

## ■ EXTRA LOW VOLTAGE SOCKET OUTLETS <50V - IP66/IP67/IP69

Description	Plug	Colour	Rated voltage			Part number
With transformer (*)	2P-16A		20-25V~	1		403.2416
Without transformer	2P-16A		20-25V~	1		403.2420
	2P-16A		40-50V~	1		403.2421
	2P-32A		20-25V~	1		403.2620
	2P-32A		40-50V~	1		403.2621
With transformer with fuse holder (*)	2P-16A		20-25V~	1		503.2416-F


(\*) SELV transformer 220/24V~ 150VA.


For the choice of bottoms, refer to the 16A-32A module.


Pack Quantity





## ■ IP66/IP67/IP69 BASES AND CONSUMER UNIT

Description	Module	DIN modules	HxB (mm)	Power dissipation (W)	☐		
						16A - 32A	63A
Base for one socket	16A-32A	-	260x130	-	1	<b>579.5100</b>	
	63A	-	380x170	-	1	<b>579.5200</b>	

Description	Module	DIN modules	HxB (mm)	Power dissipation (W)	☐		
						16A - 32A	63A
Base for one socket with derivation box	16A-32A	-	460x130	9	1	<b>579.5110</b>	
	63A	-	580x170	13	1	<b>579.5210</b>	

Description	Module	DIN modules	HxB (mm)	Power dissipation (W)	☐				
						16A - 32A	63A	16A - 32A	63A
Base for one socket + consumer units	16A-32A	6	460x130	9	1	<b>579.5111</b>			
	63A	8	580x170	13	1	<b>579.5211</b>			
Base for one socket + consumer units with transparent window	16A-32A	6	460x130	9	1	<b>579.5112.D</b>			
	63A	8	580x170	13	1	<b>579.5212.D</b>			

Description	Module	DIN modules	HxB (mm)	Power dissipation (W)	☐	
						16A - 32A
Base for two sockets with derivation box	16A-32A	-	460x260	16	1	<b>579.5120</b>

Description	Module	DIN modules	HxB (mm)	Power dissipation (W)	☐		
						16A - 32A	16A - 32A
Base for two sockets + consumer units	16A-32A	13	460x260	16	1	<b>579.5121</b>	
Base for two sockets + consumer units with transparent window	16A-32A	12	460x260	16	1	<b>579.5122.D</b>	

Power dissipation in conformity with CEI 23-48 CEI 23-49.  
IP66/IP67/IP69 when coupled with the respective component.

☐ Pack Quantity.



**■ GALVANIZED STEEL SUPPORTS**

Description	HxB (mm)			
3 x 16A-32A	555x390	1	<b>579.0030</b>	
4 x 16A-32A	555x520	1		<b>579.0040</b>

Description	HxB (mm)				
2 x 16A-32A + 1 x 63A	685x430	1	<b>579.0021</b>		
3 x 16A-32A + 1 x 63A	685x560	1		<b>579.0031</b>	
2 x 16A-32A + 2 x 63A	685x610	1			<b>579.0022</b>

Pack Quantity.

**COMPOSITION EXAMPLES**

**579.0030**

**579.0040**

M32 bottom jointing Kit (page 24)

**579.0021**

**579.0031**

**579.0022**



## SWITCHED INTERLOCKED SOCKET OUTLETS 125A



ADVANCE-GRP 125A is a complete range of 125A industrial interlocked socket outlets with mechanical interlock. ADVANCE-GRP is the ideal solution in extreme environmental conditions, such as steel and chemical industries, shipyards, container terminals, ports or mines.

## VERSIONS WITH MECHANICAL INTERLOCK

	With switch-disconnector
	With switch-disconnector and fuse
	With fuse and switch-disconnector
	With molded case circuit breaker with thermal magnetic trip unit
	With molded case circuit breaker with thermal magnetic and residual current release trip units
	With contactor

## 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*

### 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>125A</b>
Rated voltage:	<b>100÷690V~</b>
Frequency	<b>50÷60Hz</b>
Insulating voltage:	<b>500/690V~</b>
Protection degree:	<b>IP66</b>
Minimum operating ambient temperature:	<b>-40°C</b>
Maximum operating ambient temperature:	<b>+60°C</b>
Self-extinguishing GW test:	<b>960°C</b>
Self-extinguishing UL94:	<b>V0</b>
Switched socket outlets with interlock material:	<b>Thermosetting</b>
Impact Resistance:	<b>IK10 (20J)</b>
Switch-disconnectors:	<b>Switch ABB OT 160</b>
MCCB:	<b>ABB T-MAX XT 1B 160</b>
Fuse:	<b>gG 10,3x38mm</b>
16A-32A	<b>gG 22x58mm</b>
63A	<b>NH00</b>
125A	
Sockets colour:	<b>Grey RAL7037</b>
Insulation class:	<b>Class II (double insulation) □</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	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant

Resistance values to chemical agents have to be considered indicative.

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

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

## ■ CABLE ENTRY

Maximum entry with cable glands

Rated current (A)	Single socket	
	Upper	Lower
125A	M63	M63

## ■ WIRING OPERATIONS

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

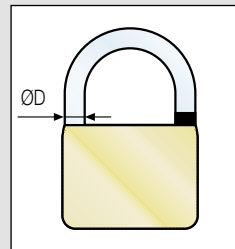
Rated current (A)	Socket outlets		Plugs	
	Min	Max	Min	Max
125A	50	95 (*)	25	50

(\*) In case of flexible cable max 70 mm<sup>2</sup>.

## ■ PADLOCK TO BE USED

Choice of padlock for socket knob, fuse door and switchboard door

Rated current (A)	Padlock arc diameter (mm)
125A	6,3





## ■ TECHNICAL CHARACTERISTICS VERSION 125A

### WITH FUSES

Ample space for easy wiring

Switch-disconnector with mechanical lock that can be accessorized with auxiliary contacts

Punched marks for easy closure of the cover



### WITH MCCB + RCD

Outdoor wall fastening

Under-plate cable runway

Threaded metal inserts

Easily extractable bottom plate

Possibility to assemble microswitch



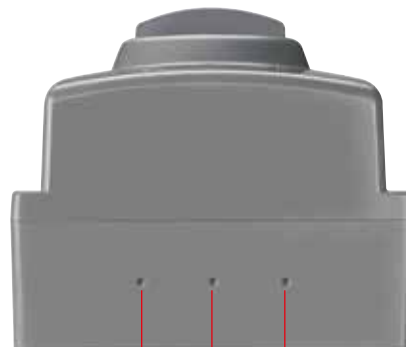
### BOTTOM VIEW

Module in high-temperature resistant engineering polymer



Possible entry from bottom side (input-output also)

### TOP VIEW



Self-centering punch marks to facilitate drilling

Single-piece waterproof gasket



Dual mechanical lock

Rating on metal plate

Captive stainless steel closing screws

Ergonomic knob which can be padlocked in position 0 and 1, manoeuvrable even with gloves

High-strength material with superior UV and chemical resistance



Cover entirely separate from the base for easy installation

Thermal magnetic protection:

**Molded case circuit breaker ABB T-MAX XT 1B 160 (18kA) with thermal magnetic trip unit TMD (adjustable thermal threshold 0,7...1 x In fixed magnetic threshold 10 x In)**

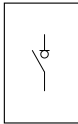




Thermal-magnetic and residual current protection:

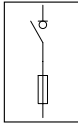




**Molded case circuit breaker ABB T-MAX XT 1B 160 (18kA) with thermal magnetic trip unit TMD (adjustable thermal threshold 0,7...1 x In fixed magnetic threshold 10 x In) + residual current release trip units RC221/1 (adjustable residual current trip 0,03 - 0,1 - 3A and time limit for non-trip instantaneous)**

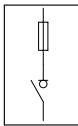




Version with contactor: **Contactors CL09 GE POWER CONTROL**

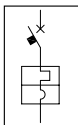






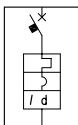




## MECHANICALLY INTERLOCKED SOCKET OUTLETS 125A - IP66

Description	Plug	Hz	Volt	Colour	h	☐		
Switch-disconnector	2P+E 125A	50/60	200-250V		6	1		<b>503.12583</b>
	3P+E 125A	50/60	380-415V		6	1		<b>503.12586</b>
	3P+N+E 125A	50/60	346-415V		6	1		<b>503.12587</b>

Description	Plug	Hz	Volt	Colour	h	☐		
Switch-disconnector and fuse (*)	2P+E 125A	50/60	200-250V		6	1		<b>503.12583-F</b>
	3P+E 125A	50/60	380-415V		6	1		<b>503.12586-F</b>
	3P+N+E 125A	50/60	346-415V		6	1		<b>503.12587-F</b>

Description	Plug	Hz	Volt	Colour	h	☐		
Fuse (*) and switch-disconnector	2P+E 125A	50/60	200-250V		6	1		<b>503.12583-FS</b>
	3P+E 125A	50/60	380-415V		6	1		<b>503.12586-FS</b>
	3P+N+E 125A	50/60	346-415V		6	1		<b>503.12587-FS</b>

Description	Plug	Hz	Volt	Colour	h	☐		
Molded case circuit breaker with thermal magnetic trip unit	2P+E 125A	50/60	200-250V		6	1		<b>503.12583-M</b>
	3P+E 125A	50/60	380-415V		6	1		<b>503.12586-M</b>
	3P+N+E 125A	50/60	346-415V		6	1		<b>503.12587-M</b>

Description	Plug	Hz	Volt	Colour	h	☐		
Molded case circuit breaker with thermal magnetic and residual current release trip units	2P+E 125A	50/60	200-250V		6	1		<b>503.12583-RM</b>
	3P+E 125A	50/60	380-415V		6	1		<b>503.12586-RM</b>
	3P+N+E 125A	50/60	346-415V		6	1		<b>503.12587-RM</b>

(\*) Fuses not included

- Other clock position configurations available on demand.  
☐ Pack Quantity.

## ■ ELECTRICALLY INTERLOCKED SOCKET OUTLETS - IP66

Description	Plug	Hz	Volt	Colour	h		
Contactor (*)	2P+E 125A	50/60	200-250V		6	1	
	3P+E 125A	50/60	380-415V		6	1	<b>503.12586-T</b>
	3P+N+E 125A	50/60	346-415V		6	1	<b>503.12587-T</b>

(\*) Microswitch already provided.  
 Contactor operated by microswitch.

Pack Quantity

## ■ ACCESSORIES

Description	Contacts		
Microswitch kit 400V 10A (microswitch + terminal block) 125A for plug-inserted control (*)	1NO+1NC		<b>579.0125</b>
Microswitch Kit for Advance-GRP 16A-32A-63A for plug-inserted control	1NO/1NC		<b>579.0100</b>

Max 2 kit. for 125A and 63A sockets. Max 1 kit for 16A-32A sockets.

Pack Quantity

(\*) Not suitable for electrically interlocked socket.

## ■ AUXILIARY CONTACTS

Description	For switches		
NC contact	16A-32A	10	<b>590.PL004001</b>
	63A	10	<b>590.PL004003</b>
NO contact	16A-32A	10	<b>590.PL004002</b>
	63A	10	<b>590.PL004004</b>

For auxiliary contact suitable for 125A socket contact technical support.  
 NC= normally closed. NO= normally open.

Pack Quantity.



## ACCESSORIES



Description	☐	16A-32A-63A	63A	
Junction box Kit IP66/IP67/IP69 M40 (*)	1/12	<b>579.0200</b>		
Junction box Kit IP66/IP67/IP69 M50 (*)	1/12		<b>579.0201</b>	
M32 bottom jointing Kit M32	1/12			<b>579.0332</b>

(\*) Includes cable gland and gasket.  
IP66/IP67/IP69 when coupled with the respective component.

☐ Pack Quantity.



Description	☐			
4 DIN modules cover	10	<b>579.0450</b>		
Thumb Screws (°)	1/12		<b>579.0400</b>	
Base blank cover (Δ)	10			<b>579.5001</b>

(°) For bases with control units instead of screws for closing the doors.  
(Δ) Cover used to close the socket compartment; allows other devices to be installed.

☐ Pack Quantity.

## COVER KIT FOR SOCKET



Poles	Colour	☐	16A	32A	63A
2P+E		1/25	<b>654.12160</b>	<b>654.12320</b>	-
		1/25	<b>654.12163</b>	<b>654.12323</b>	<b>654.12633 (*)</b>
3P+E		1/25	<b>654.12164</b>	<b>654.12324</b>	-
3P+N+E		1/25	<b>654.12165</b>	<b>654.12325</b>	<b>654.12635 (*)</b>

(\*) All polarities  
☐ Pack Quantity



## ■ THE AMR SYSTEM

In response to the growing focus on energy efficiency, the AMR system guarantees data logger functions, measuring and recording over time the energy consumption of any user device, thus helping to comply with Directive 2012/27/EU on energy efficiency.

Moreover, energy is measured not only in quantitative terms, but also in terms of quality: through constant monitoring of the system status and real-time reporting of any phase-related malfunction, presence of earth, status of fuses and power factor, the AMR system guarantees the elimination of waste typical of supplied energy of poor quality and allows preventive maintenance to be carried out so as to zero out equipment repair costs and production downtimes.



There is no innovation if there is no user-friendliness.

The AMR managerial software, residing locally on the server or in cloud environment, makes it possible to receive alarms and manage events, which can be also conveniently scheduled through the calendar function in remote, from any connected PC.

The integrability of the devices and of the AMR software with PLC, SCADA or other third-party systems, allows the acquired data to be transferred to company ERP.

This is why the SCAME devices equipped with AMR functionality have obtained INDUSTRY 4.0 COMPLIANT certification.

## ■ FUNCTIONS AND FIELDS OF APPLICATION

The fields of application of the AMR system are endless, since the needs that the following AMR functions are able to meet are common to the most diverse applications:

- Data collection in terms of quantity and quality
- Consumption monitoring
- Monitoring from remote
- Load management
- Monitoring proper functioning of the socket
- Checking plug insertion
- Checking the presence of earth connection
- Checking the status of the fuses
- Sending of alarms

These are all relevant parameters related to safety and to energy efficiency, whether we are talking about industry, container terminals, harbours, airports, worksites, camping or marinas.





## MANAGERIAL SOFTWARE AND INTEGRATION WITH EXISTING SYSTEMS

The server has the function of monitoring the devices, processing their status and maintaining the latter for a set time, issuing notices in case of anomalous conditions.

Through the sampling of energy data, the PC will be able to process information related to the consumption profile, representing the data in graphic form.

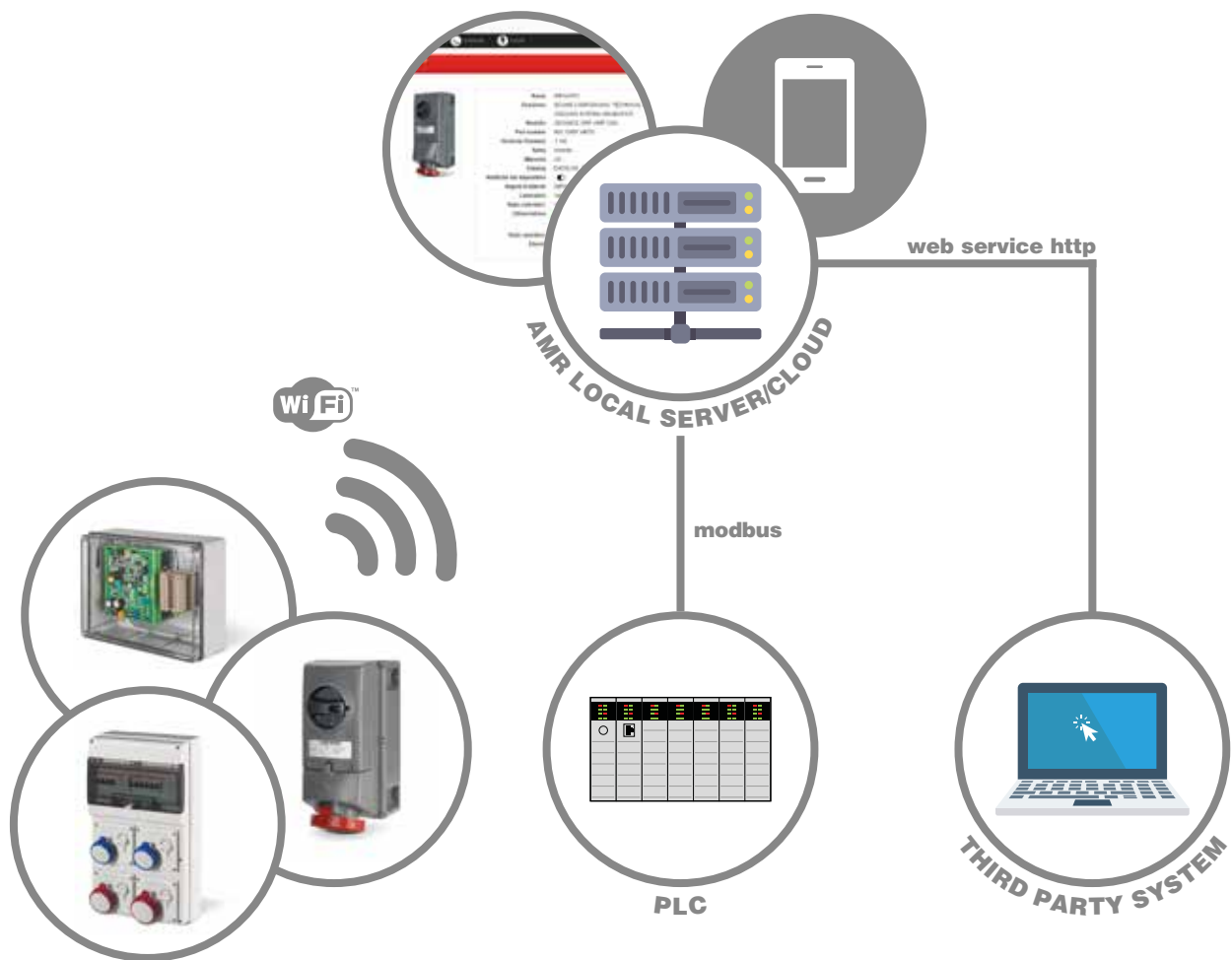
The software can be structured in relation to customer needs.

The system is able to make qualitative measurements: it is also possible to monitor the power factor, avoiding penalties related to a low  $\cos\phi$ , as well as to eliminate waste by controlling motors, lighting, heating, air-conditioning, compressors, chillers, transformers, distribution lines and other utilities.

The AMR software can be integrated with PLC, SCADA or other third-party systems, thus overcoming the typical problems of incompatibility among different platforms, which cause dangerous slowdowns in company processes.

Instead, AMR guarantees data acquisition in the company's ERP systems for future strategic evaluations.

Lastly, allowing real remote monitoring to be truly remote, the managerial software is accessible, with all data and graphics available on line, via web by connecting to the company server, or by accessing the AMR Storage Cloud, in the latter mode further reducing overhead and maintenance costs tied to the presence of a physical server.



## ■ DATA LOGGER FUNCTIONALITY

The AMR functionality comes equipped with a precise and extremely versatile energy meter, specifically designed to adapt itself to the most sophisticated applications that monitor electrical parameters and energy consumption, allowing real-time reading of all the collected data via the Internet.



It is also possible to send, via e-mail or txt message, local alarms caused by any sort of anomalies, thus informing the Energy Manager in real time on the status of his system, through any device which can display a web page.



## ■ REMOTE LOAD MANAGEMENT FUNCTIONALITY

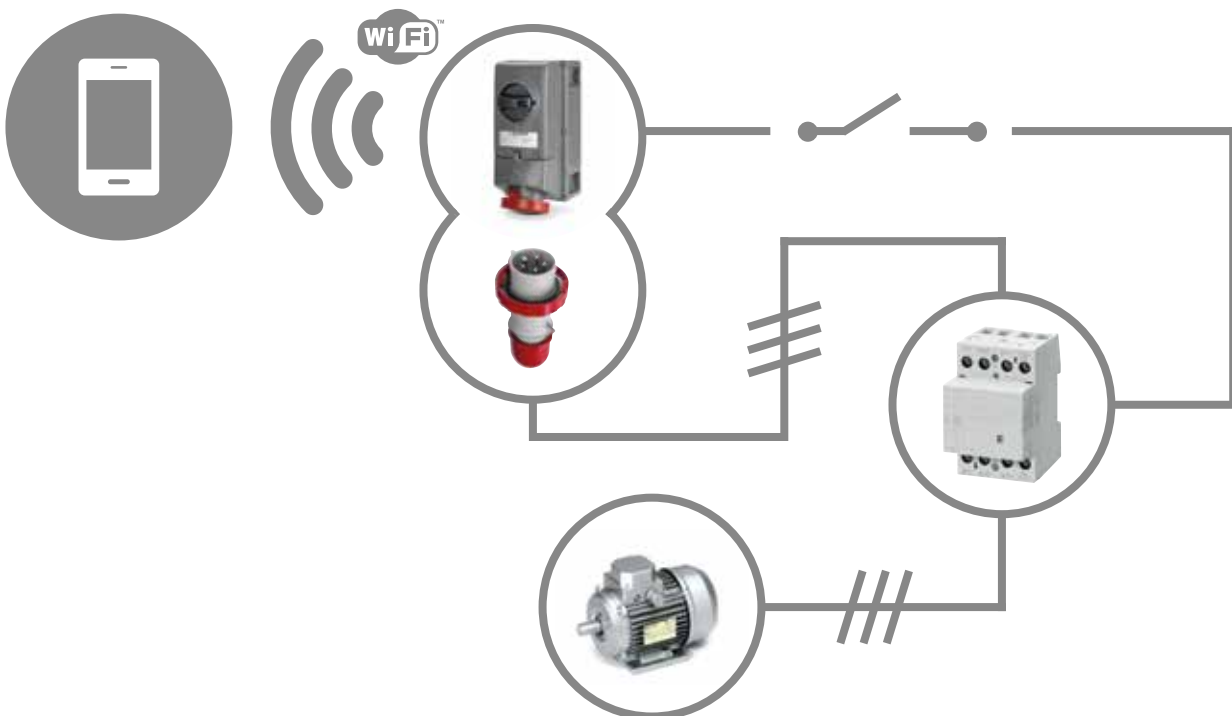
The AMR system is preset for load management, also from remote, either as a response to an alarm received or as the result of programming through the convenient calendar feature, which can be used to plan specific actions and activation/deactivation rules on a set day or at a set time.

This function is particularly useful for planning routine maintenance or for automatically modulating the energy supply in view of scheduled events. The user can thus set one or more calendars for each device equipped with AMR



function and associate alarm rules. During the activation phase, reports are generated on the start of calendar processing and on the true/false status of the calendar itself.

The remote load management function, precisely for the fact that it generates an alarm as soon as the system starts to malfunction, represents the best way for preventing overload risks through the subsequent operation of disconnecter switches and the disservice that would result from any machine downtime.



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