

# ADVANCE-GRP[EX] Series



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ATEX [Ex II 2 D]  
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## SWITCHED INTERLOCKED SOCKET OUTLETS



## VERSIONS WITH MECHANICAL INTERLOCK

	With switch-disconnector	16A-32A 63A
	With switch-disconnector and fuse	16A-32A 63A

## PRODUCTS FOR USE IN A POTENTIALLY EXPLOSIVE ENVIRONMENT

Scame offers products suitable for installation into environments under potential risk of explosion identified as Zone 21/22 Db-Dc and that enter into the field of application for the ATEX Directive (European Directive 94/9/CE).



**SOCKET LABEL  
ADVANCE-GRP[EX] SERIES**

Via Costa Erta 15 Parre BG ITALY 2014

503.6387.F	 	  		3P+N+PE 63A - 6h
IMQ 11 ATEX 010				346-415V~
Ex tb IIIC T90°C Db IP66				
T90°C Ta -25 +60°C				

DO NOT OPEN WHEN ENERGIZED ENCLOSURE AND WAIT AT LEAST 15 MINUTES AFTER HAVING DISCONNECTED POWER  
WARNING THE CABLE ENTRY POINT CAN BE EXCEED 85°C

## REFERENCE STANDARDS

**ATEX**

**EN 60079-0**  
Electrical apparatus for use in the presence of combustible dust.  
*Part 0: General requirements.*

**ATEX**

**EN 60079-31**  
Electrical apparatus for use in the presence of combustible dust.  
*Part 31: Protection by enclosures 'tD'.*

**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.*

## 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

For specific substances please contact our technical service.

## 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>
Self-extinguishing GW test:	<b>960°C</b>
Self-extinguishing UL94:	<b>V0</b>
Switch-disconnectors: 16A-32A-63A	<b>COMMAND Series Category AC22A</b>
Fuse: 16A-32A 63A	<b>gG 10,3x38mm gG 22x58mm</b>
ATEX Code:	<b>Ex II 2 D</b>
Ex Protection type:	<b>Ex tb IIIC T90°C Db IP66 Ta -25°C +60°C</b>
Maximum permissible surface temperature:	<b>T90°C</b>
Protection degree:	<b>IP66</b>
Impact Resistance:	<b>7J</b>
Colour:	<b>grey RAL 7037</b>

## ATEX CERTIFICATE

Interlocked switch sockets: **IMQ 11 ATEX 010**  
16A-32A-63A

## CABLE ENTRY

Maximum entry with cable glands

Rated current (A)	Single socket	
	Upper	Upper
16A-32A	M32	M32
63A	KIT 579.EX0201 (*)	KIT 579.EX0201 (*)

(\*) Cable entry in the 63A version must be done through the relevant junction box equipped with a single cable entry type M50x1.5 (Junction box Kit art. 579.EX0201).

## WIRING OPERATIONS

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

Rated current (A)	Socket outlets	
	Min	Max
16A	4	4
32A	10	10
63A	25	25

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

# ADVANCE-GRP[EX] Series



## SPECIAL FEATURES

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ATEX [Ex] II 2 D]

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### OUTSTANDING IMPACT RESISTANCE

The glass-fibre reinforced polyester used in **ADVANCE-GRP[EX]** 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[EX]** 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[EX]** 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[EX]** a product suited for the most extreme environmental conditions. The double degree of protection IP66, 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 (-25°C +60°C).



### EX VERSIONS

The **ADVANCE-GRP[EX]** Series includes a series of 16A, 32A, 63A interlocked sockets for installation in environments with a potential risk of explosion identified as zone 21/22 Db-Dc (Dust) which fall under the area of application of the Atex Directive (European Directive 94/9/EC), compliant with the standards EN60079-31.

Type of protection (Ex) :

II 2D - Ex tb IIIC T90°C Db IP66

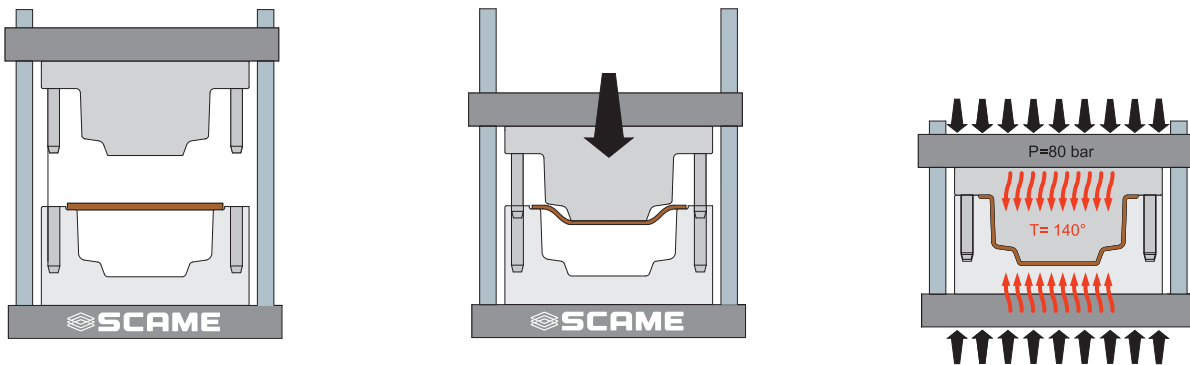
Ta -25°C +60°C.

## CHARACTERISTICS

The **ADVANCE-GRP[EX]** product line includes a series of 16A, 32A, 63A 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[EX]** 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[EX]** 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[EX]** 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*).



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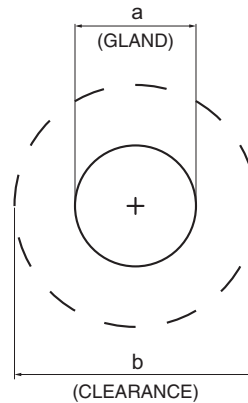
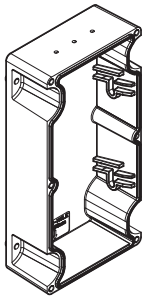


## TECHNICAL FEATURES, CROSS SECTIONAL AREA AND TORQUE

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RATED CURRENT			16A	32A	63A
Switch-command and/or fuse protection		Catalogue number	Terminals – Torque (Nm)		
Switch type serie Command (SCAME)		503.16... 503.32... 503.63...	0,8	0,8	3,6
Switch-Command & fuse 16-32A : 10:3 38 gG 63A : CH 22 X 58 63A gG		503.16...F 503.32...F 503.63...F	0,8	0,8	3,6
Earth terminals		503.16... 503.32... 503.63...	1,2	1,2	3,5

### CABLE ENTRY



16A/32A WxD (mm <sup>2</sup> )	63A WxD (mm <sup>2</sup> )
80x45	110x55

	Type cable entry M	Type cable entry PG	GLAND a (mm)	CLEARANCE b (mm)	Area A n°
16A/32A	M32	PG29	33	50	2
			37,5	50	2

#### NOTE:

NOTE: Use only Ex e and/or Ex tb IIIC approved glands (as relevant). Certified cable glands can only be fitted with a suitable IP rating commensurate with IP rating of the enclosure. Refer to the instructions of cable glands manufacturer.

**Cable entry for 63A socket have to be done with the only one cable entry type M50x1,5 (kit type, art. 579.EX0201).**

## ■ CROSS SECTIONAL AREAS AND CABLE TEMPERATURE

FINELY-STRANDED 16A: 4mm<sup>2</sup> - 32A: 10mm<sup>2</sup> - 63A: 25mm<sup>2</sup>

SINGLE-WIRE 16A: 4mm<sup>2</sup> - 32A: 10mm<sup>2</sup> - 63A: 25mm<sup>2</sup>

Rated current	Max. current			Optima-EX ΔT cable
	T. amb 40°C	T. amb 50°C	T. amb 60°C	
16A	-	-	16A	-
32A	-	-	25A	-
63A	55A	50A	45A	85°C

