

General characteristics

This chapter illustrates the technical characteristics of SQ interlocked socket-outlets available in horizontal (SQ), vertical (SQE, SQV and SQA with circuit breaker) and SQT configuration (with toroid safety transformer).

These socket-outlets offer tested reliability and can be used, along with PLUSO plugs and FM and FC enclosures for industrial use, as modular solutions to configure distribution boards for industrial socket-outlets. ILME socket-outlets are designed to be used for:

- Industrial applications
- Services applications (commercial, exhibitions, etc.)
- Agricultural and livestock breeding applications
- Residential and similar applications (i.e. common areas of condominiums, cellars, garages, community buildings, kitchens, etc.)

Socket-outlets are supplied in models for board-mounting and without base box (optional). All models have a compact modular design that enables them to be installed in the following four types of installations:

- In FM and FC enclosures for distribution boards
- On machinery with a suitable fixing window
- On walls by means of the optional single box
- Flush-mounted by means of the optional single box

The following types of socket-outlets are available:

Horizontal 15 x 115 mm socket-outlets

- **SQ types** with interlock and without fuse carrier ¹⁾, IP44

Vertical 231 x 89 mm socket outlets

- **SQE** and **SQE.5** types with interlock and without fuse carrier¹⁾, IP44 and IP55
- **SQV** and **SQV.5** with interlock and fuse carrier ²⁾, IP44 and IP55
- **SQA** and **SQA.5** types with interlock and magnetothermal circuit breaker ³⁾ (Siemens), IP44 and IP55
- **SQT 16220** types with safety transformer⁴⁾ IP44 and IP55

Electrical Features

Rated frequency:

0 Hz (direct current), and from 50 Hz to 500 Hz

Rated operating voltage:

the standard identifies two main types of use:

- Extra-low voltage socket-outlets (and related plugs), (SELV safety requirements, in accordance with CEI 64-8 installation standard), for max. rms voltage values of 50V
- Low voltage socket-outlets (and plugs) for rms voltage values above 50V and up to a maximum of 690V

Polarity:

models are designed with:

- 2 poles (for extra-low voltage, 2P)
- 3, 4 e 5 poles (low voltage, 2P+⊕, 3P+⊕, 3P+N+⊕)

Rated current:

16A (extra-low voltage)

16A, 32A (low voltage)

Rated insulating voltage:

- **690V** for low voltage interlocked socket-outlets (types SQ, SQE)
- **500V** for interlocked socket-outlets (SQV types), limited by the fuse cartridge installed
- **440V** for low voltage socket-outlets with magnetothermal circuit breaker (SQA types), limited by the latter
- **50V** for extra-low voltage (SQT 16220 type), limited by extra-low voltage socket-outlets and safety transformer

Minimum surface insulation distance: 10 mm (EN 60309-1)

Minimum air insulation distance: 8 mm (for rated operating voltages higher than 500V)

- 1) The switchgear linked to the interlock is a series Z switch-disconnector (ZG 32)
- 2) The switchgear linked to the interlock is an ILME switch-disconnector with Z fuses, code ZF 32, for industrial fuses (not supplied) sized 10x38, in accordance with EN 60269-3-1, type gG, up to 25A.
- 3) The switchgear linked to the interlock is a magnetothermal Siemens circuit breaker, series 5SX2, compliant with standard EN 60898-1.
- 4) The 24V output is interlocked by means of a microswitch that disconnects the primary circuit of the transformer if the plug is not inserted. The safety transformer is automatically protected by a self-resetting device and must be used to supply Class III portable lamps only.

Breaking capacity:

Socket-outlets have mechanical interlocks that prevent the plug being removed while voltage is present or from being inserted when the socket-outlet is live. This explains why no breaking capacity is required. The socket-outlets parts (inserts and holes) are the same as those of the PLUSO series and have therefore a breaking power 1.25 times the rated current and 1.1 times the rated operating voltage.

Mechanical features

- Mechanical resistance

Verified with the provisions of Clause 24 of standard EN 60309-1 (IEC 60309-1)

- Resistance to chemical agents

See table on page 8

- Degree of protection

IP44 and IP55, in accordance with EN 60529 (see information note on page 7)

- Resistance to glow-fire

Compliant with IEC 60695 -1 -2: 850 °C for enclosures; 960 °C for inserts

- Temperature

ambient: -25 °C - +40 °C; limit of materials: -40 °C - +125 °C

- Self-extinguishing capacity

UL 94 classification: V2 for enclosures and inserts

- ILME ZG 32 switches-disconnectors

(on SQ and SQE socket-outlets) and ILME ZF 32 switches-disconnectors with 10x38 fuses (on SQV socket-outlets). Compliant with EN 60947-3, AC-22A category of use.

- Magnetothermal circuit breakers, curve C, compliant with EN 60898-1

Siemens series 5SX2 (IMQ, VDE certification, etc. - on SQA socket-outlets)

Materials

- Enclosures and inserts in insulating thermoplastic material
- Anti-aging elastomer gaskets
- Self-centring holes in brass with galvanised steel pressure spring
- Zinc-plated fixing screws
- Terminals with zinc-plated screws retained in their seats when unscrewed
- 32A socket-outlets with two fixing screws on terminals provided as protection against accidental loosening

The package

The socket-outlets are supplied with:

- Oil-proof and anti-aging gaskets
- Self-threading fixing screws for flush-mounting

The following may be supplied on request:

- Single box for wall- or flush-mounting, with cable gland, gaskets, lock nuts, sealing plugs and self-threading screws
- Rubber frame for flush-mounting on boxes (SQC 923 CS) of SQE, SQV, SQA and SQT socket-outlets
- ILME enclosures for FC and FM distribution boards



Selecting socket-outlets

Socket-outlets should be selecting taking into account the following parameters:

- Rated frequency of the device to supply with the plug and socket-outlet coupling
- Rated supply voltage and type of distribution (single or three-phase, with or without neutral) to determine the number of poles and hour position.
The 1 hour position is available for all 50V voltages and voltage ranges > and for frequencies and frequency ranges not covered by standards.
- Site of installation for the determination of the protection class (IP44 or IP55) and voltage (in some areas installation standards require an extra-low safety voltage).

SQ and SQ... socket-outlets have an IP44 and IP55 protection class. Socket-outlets with IP55 class of protection have a bayonet fastening cover, traditionally defined as “water-tight”, and must be used with with IP67 plugs (with locking ring and gasket) to guarantee a high protection of the connected equipment (IP55). All equipment must be installed following state-of-the-art procedures and in compliance with the manufacturer’s assembly instructions. If components with varying classes of protections are installed, the protection class of the resulting distribution board corresponds to that of the unit with the lowest class of protection.

This has been assessed and applies:

- To socket-outlets when a plug with equivalent class is inserted or the cover is closed
- To enclosures, when all covers are closed

ILME accessories for SQ and SQ.. socket-outlets

ILME offers the following range of socket-outlets and plugs for SQ and SQ socket-outlets:

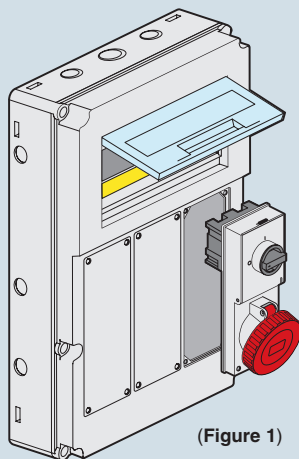
- Simple socket-outlets for industrial use in two versions with **IP44** and **IP67 protection class** (**PE** and **PEW** types)
- Enclosures for distribution boards for groups with **IP55 protection class** (**FM** and **FC** types)
- Simple enclosures for the individual assembly of socket-outlets with **IP55 protection class** (**SQC 1114 CS** and **SQC 923 CS** types)

All enclosures and socket-outlets cover the installation requirements specified in standard CEI 64-8 (series Cenelec HD 384, IEC 60364).

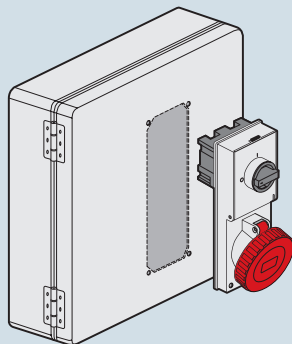
Type of installation

The structure of SQ and SQ... socket-outlets is designed to allow them to be mounted in four different configurations as illustrated below:

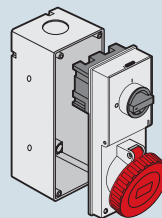
- In FM and FC enclosures (**Figure 1**)
- On equipment or pre-assembled enclosures (**Figure 2**)
- In boxes for wall-mounting (**Figure 3**)
- In boxes for flush-mounting (**Figure 4**)



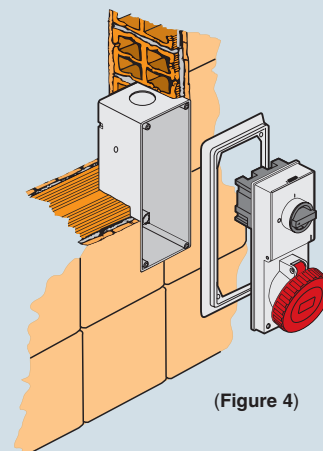
(Figure 1)



(Figure 2)



(Figure 3)



(Figure 4)

Protection against indirect contact through complete insulation¹⁾ □

Article 7.4 of standard EN 60439-1 (class. 17-13/1) defines the protection measures against electric shocks that have to be incorporated in the boards. Protection against indirect contacts can be guaranteed only by completely insulating the installation □ (Art.7.4.3.2.2), which implies complying with the following:

- Units should be completely enclosed in insulated material. Enclosures should be marked with the □ symbol, which must always be visible from the outside.
- Enclosures must be made in insulating material suitable to withstand the mechanical, electric and thermal stresses to which they may be exposed during ordinary or extraordinary operating conditions and must be age-proof and flame resistant.
- Enclosures should have no conducting parts to prevent fault voltages from being transmitted outside the unit.
- Enclosures should have at least an IP3XD class of protection
- Exposed conductive parts inside the unit should not be connected to the protective earth conductor. These parts must always be connected to a protection system that implies the use of a protective conductor. This also applies to built-in units, even if they have a connection terminal for the protective earth circuit.
- If doors and covers of the enclosure can be opened without wrenches or other tools, it is necessary to install a safety barrier in insulating material to guarantee the necessary protection against accidental contacts not only with life accessible parts, but also with components that become accessible only after the removal of the covers. The barrier must be removable with the use of a tool only.

The metal screws used for the assembly of socket-outlets of enclosures for FM and FC distribution boards are not connected with the interior of the board. If the units are wall-mounted using the blanking plugs supplied and in accordance with the above provisions, the assembled equipment will provide protection against indirect contacts.

¹⁾ According to sub-clause 413.2.1.1 of standard IEC 60364-4-41, it is equal to that of equipment of class II, see standard IEC 60536.

Enclosures for SQ and SQ... socket-outlets

To allow the configuration of practical and functional distribution systems with SQ and SQ.. interlocked socket-outlets, ILME has developed a special range of enclosures specifically designed to satisfy all possible installation needs.

Three series of enclosures are illustrated in this catalogue:

- Single boxes (for the individual assembly of socket-outlets) and back plates for boxes with socket-outlets
- FC series (extremely compact and robust medium-sized enclosures)
- FM series (small, medium and large-sized enclosures)

The sections that follow illustrate all the possible assembly combinations of socket-outlets on currently available enclosures.

Single boxes with support plate

- ① SQC 1114 CS (see page 143)
- ② SQC 923 CS (see page 143)
- ③ FC 1453 TB (see page 84)

FC series enclosures (BM and QV types)

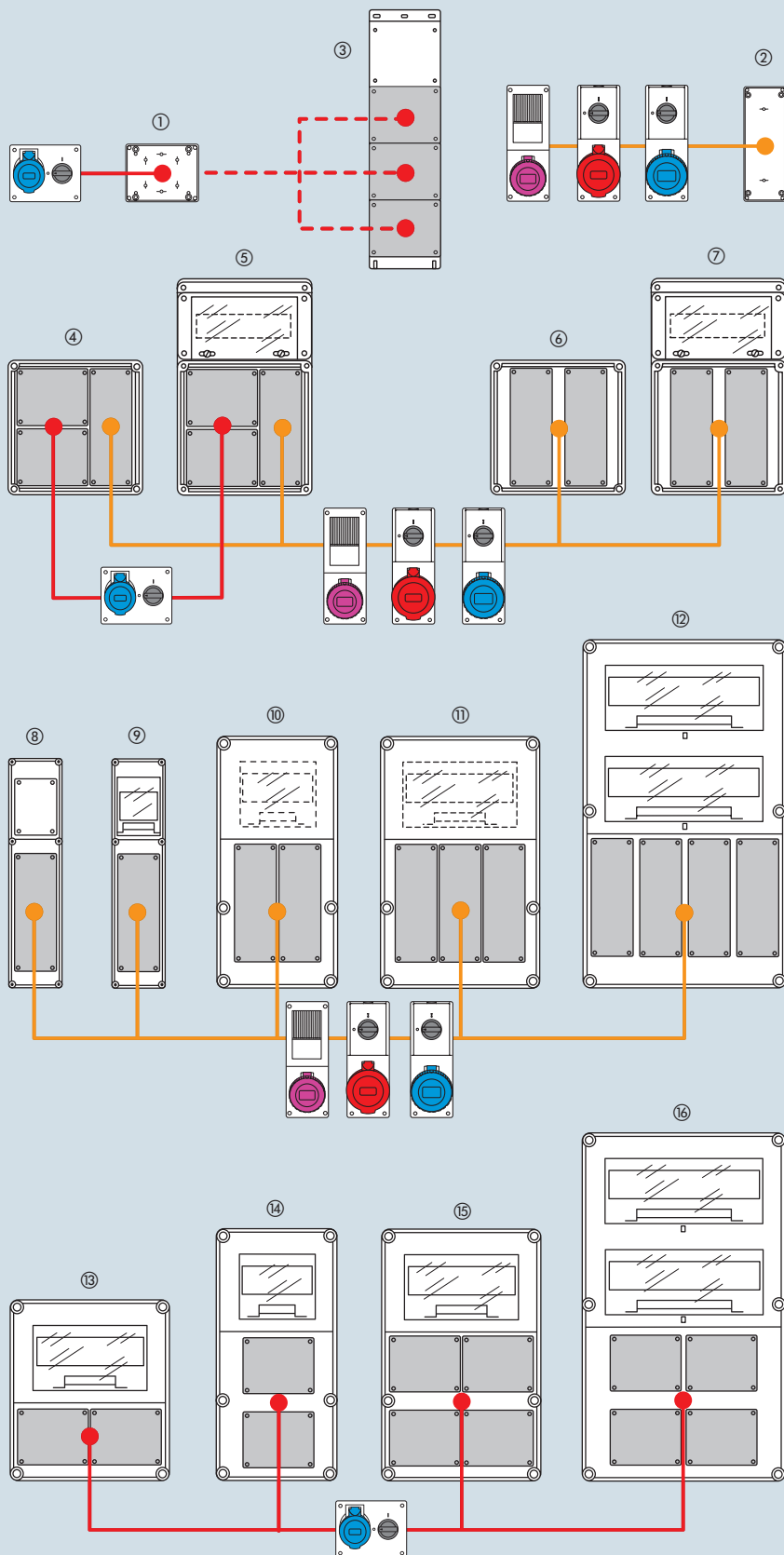
- ④ FC 2525 BM (see page 97)
- ⑤ FC 2542 BM and FC 2542 BMT (see page 97)
- ⑥ FC 2525 QV (see page 96)
- ⑦ FC 2542 QV and FC 2542 QVT (see page 96)

FM series enclosures (SQV and DSQV types)

- ⑧ FM 1043 DSQV (see page 113)
- ⑨ FM 1043 SQV (see page 113)
- ⑩ FM 2451 SQV and FM 2451 DSQV (see page 117)
- ⑪ FM 3251 SQV and FM 3251 DSQV (see page 119)
- ⑫ FM 4272 SQV (see page 121)

FM enclosures (SQ types)

- ⑬ FM 3236 SQ (see page 115)
- ⑭ FM 2451 SQ (see page 117)
- ⑮ FM 3251 SQ (see page 119)
- ⑯ FM 4272 SQ (see page 121)



- Compliant with Italian standard EN 60309-1 and -2
- Enclosures, inserts and box in insulating, self-extinguishing thermoplastic material, RAL 7035 grey
- Spring lid colour coded according to operating voltage
- Switch knob, padlockable
- Mechanical interlock that prevents:
The plug from being removed when the switch is off
The socket-outlet from being removed from the board when the plug is inserted
- Degree of protection (EN 60529) IP44
- Suitable for pre-assembled FC and FM enclosures (or for SQC 1114 CS single boxes)
- With Italian Quality Mark

Without box - 16A
IP44 degree of protection



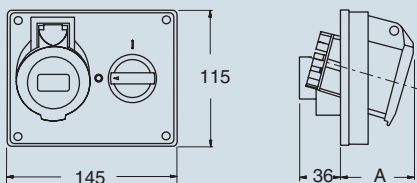
Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour
2P+⊕	50 and 60	100 - 130	4	SQ 1643	
	50 and 60	200 - 250	6	SQ 1663	
	50 and 60	380 - 415	9	SQ 1693	
	50 and 60	480 - 500	7	SQ 1673	
	50 and 60	ins. transformer	12	SQ 16123	A.V.
	> 300 - 500	> 50	2	SQ 1623	*)
	d.c.	> 50 - 250	3	SQ 1633	A.V.
3P+⊕	50 and 60	100 - 130	4	SQ 1644	
	50 and 60	200 - 250	9	SQ 1694	
	50 and 60	380 - 415	6	SQ 1664	
	60	440 - 460	11	SQ 16114	
	50 and 60	480 - 500	7	SQ 1674	
	50	380	3	SQ 1634	
	60	440	3	SQ 1634	
	100 - 300	> 50	10	SQ 16104	*)
	> 300 - 500	> 50	2	SQ 1624	*)
3P+N+⊕	50 and 60	57/100 - 75/130	4	SQ 1645	
	50 and 60	120/208 - 144/250	9	SQ 1695	
	50 and 60	200/346 - 240/415	6	SQ 1665	
	50 and 60	277/480 - 288/500	7	SQ 1675	
	60	250/440 - 265/460	11	SQ 16115	
	50	220/380	3	SQ 1635	
	60	250/440	3	SQ 1635	
	> 300 - 500	> 50	2	SQ 1625	*)

Legend

A.V. = Colour according to voltage

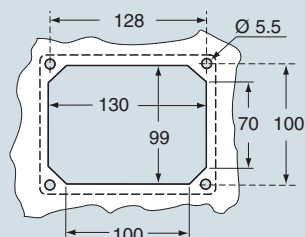
*) Green may be used together with the colour of the operating range for frequencies above 60 Hz and up to a maximum of 500 Hz

Dimensions in mm



SQ	A
16A 2P+⊕	59
3P + ⊕	63
3P+N+⊕	63

Panel cut-out in mm
(flush-mounting on panel)



Dimensions indicated are not binding and may be changed without prior notice.

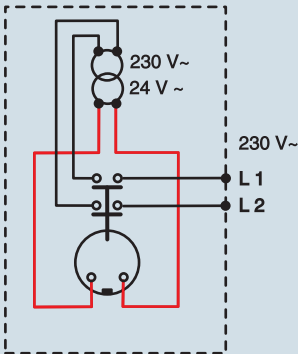
- Compliant with EN 60309 -1 and -2
- Enclosures, inserts and box in insulating, self-extinguishing thermoplastic material, RAL 7035 grey
- Bayonet fastening cover colour coded according to operating voltage
- Toroid self-protected safety transformer for the supply of Class III portable lighting equipment, compliant with EN 61558-2-9
- Degree of protection (EN 60529) IP55
- Suitable for pre-assembled FC and FM enclosures (or for SQC 923 CS single boxes)
- ® With Italian Quality Mark

Without box - 16A
IP55 degree of protection

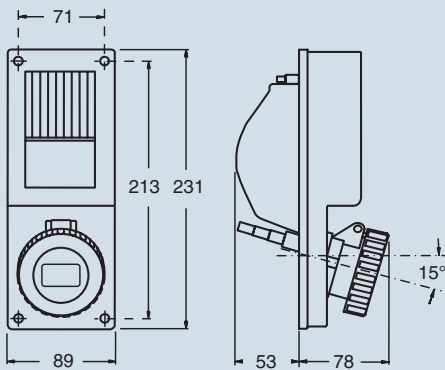


Description	Part No.	Colour
Socket-outlet without box 16A - 2P - 230/24V ~ - 144VA - Continuous duty	SQT 16220 ®	

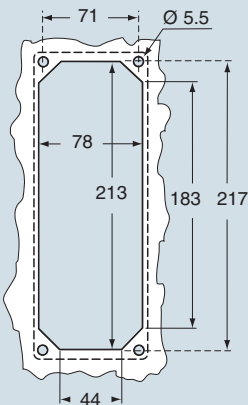
Wiring diagram



Dimensions in mm



Panel cut-out in mm
(flush-mounting on panel)



Dimensions indicated are not binding and may be changed without prior notice.

- Compliant with Italian standards EN 60309-1 and -2
- Enclosures and inserts in insulating, self-extinguishing thermoplastic material, RAL 7035 grey
- Spring lid colour coded according to operating voltage, simple fastening
- Circuit breaker knob, lockable
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted, the plug from being removed while the switch is turned on, and the socket-outlet from being removed from the board when the plug is inserted
- IP44 degree of protection (EN 60529)
- Suitable for mounting on FC and FM enclosures or on SQC 923 CS single boxes
- With Italian Quality Mark

Without box - 16A IP44 degree of protection



Without box - 32A IP44 degree of protection



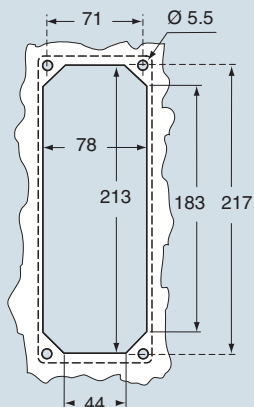
Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour	Part No.	Colour
2P+⊕	50 and 60	100 - 130	4	SQE 1643	Yellow	SQE 3243	Yellow
	50 and 60	200 - 250	6	SQE 1663	Blue	SQE 3263	Blue
	50 and 60	380 - 415	9	SQE 1693	Red	SQE 3293	Red
	50 and 60	480 - 500	7	SQE 1673	Black	SQE 3273	Black
	50 and 60	ins. transformer	12	SQE 16123	A.V.	SQE 32123	A.V.
	> 300 - 500	> 50	2	SQE 1623	*) Green	SQE 3223	*) Green
	d.c.	> 50 - 250	3	SQE 1633	A.V.		
3P+⊕	50 and 60	100 - 130	4	SQE 1644	Yellow	SQE 3244	Yellow
	50 and 60	200 - 250	9	SQE 1694	Blue	SQE 3294	Blue
	50 and 60	380 - 415	6	SQE 1664	Red	SQE 3264	Red
	60	440 - 460	11	SQE 16114	Red	SQE 32114	Red
	50 and 60	480 - 500	7	SQE 1674	Black	SQE 3274	Black
	50	380	3	SQE 1634	Red	SQE 3234	Red
	60	440	3	SQE 1634	Red	SQE 3234	Red
	100 - 300	> 50	10	SQE 16104	*) Green	SQE 32104	*) Green
	> 300 - 500	> 50	2	SQE 1624	*) Green	SQE 3224	*) Green
3P+N+⊕	50 and 60	57/100 - 75/130	4	SQE 1645	Yellow	SQE 3245	Yellow
	50 and 60	120/208 - 144/250	9	SQE 1695	Blue	SQE 3295	Blue
	50 and 60	200/346 - 240/415	6	SQE 1665	Red	SQE 3265	Red
	50 and 60	277/480 - 288/500	7	SQE 1675	Black	SQE 3275	Black
	60	250/440 - 265/460	11	SQE 16115	Red	SQE 32115	Red
	50	220/380	3	SQE 1635	Red	SQE 3235	Red
	60	250/440	3	SQE 1635	Red	SQE 3235	Red
	> 300 - 500	> 50	2	SQE 1625	*) Green	SQE 3225	*) Green

Legend

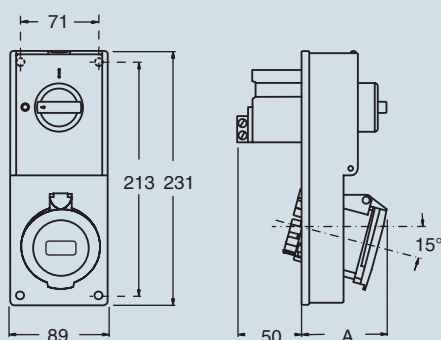
A.V. = Colour according to voltage

*) Green may be used together with the colour of the operating range for frequencies above 60 Hz and up to a maximum of 500 Hz

Panel cut-out in mm
(flush-mounting on panel)

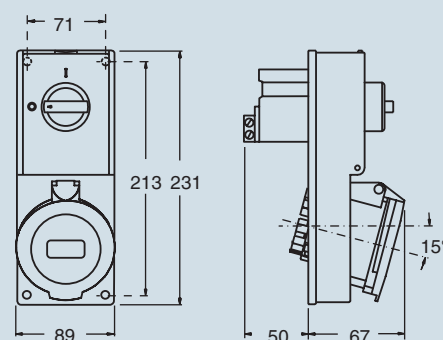


Dimensions in mm



SQE	A
16A 2P+⊕	64
3P + ⊕	65
3P+N+⊕	67

Dimensions in mm



Dimensions indicated are not binding and may be changed without prior notice.

- Compliant with Italian standards EN 60309-1 and -2
- Enclosures and inserts in insulating, self-extinguishing thermoplastic material, RAL 7035 grey
- Spring lid colour coded according to operating voltage, with bayonet fastening and gasket
- Circuit breaker knob, lockable
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted, the plug from being removed while the switch is turned on, and the socket-outlet from being removed from the board when the plug is inserted
- IP55 degree of protection (EN 60529)
- Suitable for mounting on FC and FM enclosures or on SQC 923 CS single boxes
- With Italian Quality Mark

Without box - 16A
IP55 degree of protection



Without box - 32A
IP55 degree of protection



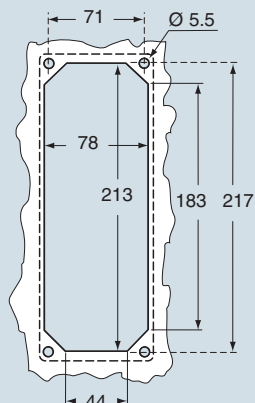
Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour	Part No.	Colour
2P+⊕	50 and 60	100 - 130	4	SQE 1643.5	Yellow	SQE 3243.5	Yellow
	50 and 60	200 - 250	6	SQE 1663.5	Blue	SQE 3263.5	Blue
	50 and 60	380 - 415	9	SQE 1693.5	Red	SQE 3293.5	Red
	50 and 60	480 - 500	7	SQE 1673.5	Black	SQE 3273.5	Black
	50 and 60	ins. transformer	12	SQE 16123.5	A.V.	SQE 32123.5	A.V.
	> 300 - 500	> 50	2	SQE 1623.5	*) Green	SQE 3223.5	*) Green
	d.c.	> 50 - 250	3	SQE 1633.5	A.V.		
3P+⊕	50 and 60	100 - 130	4	SQE 1644.5	Yellow	SQE 3244.5	Yellow
	50 and 60	200 - 250	9	SQE 1694.5	Blue	SQE 3294.5	Blue
	50 and 60	380 - 415	6	SQE 1664.5	Red	SQE 3264.5	Red
	60	440 - 460	11	SQE 16114.5	Red	SQE 32114.5	Red
	50 and 60	480 - 500	7	SQE 1674.5	Black	SQE 3274.5	Black
	50	380	3	SQE 1634.5	Red	SQE 3234.5	Red
	60	440	3	SQE 1634.5	Red	SQE 3234.5	Red
	100 - 300	> 50	10	SQE 16104.5	*) Green	SQE 32104.5	*) Green
	> 300 - 500	> 50	2	SQE 1624.5	*) Green	SQE 3224.5	*) Green
3P+N+⊕	50 and 60	57/100 - 75/130	4	SQE 1645.5	Yellow	SQE 3245.5	Yellow
	50 and 60	120/208 - 144/250	9	SQE 1695.5	Blue	SQE 3295.5	Blue
	50 and 60	200/346 - 240/415	6	SQE 1665.5	Red	SQE 3265.5	Red
	50 and 60	277/480 - 288/500	7	SQE 1675.5	Black	SQE 3275.5	Black
	60	250/440 - 265/460	11	SQE 16115.5	Red	SQE 32115.5	Red
	50	220/380	3	SQE 1635.5	Red	SQE 3235.5	Red
	60	250/440	3	SQE 1635.5	Red	SQE 3235.5	Red
	> 300 - 500	> 50	2	SQE 1625.5	*) Green	SQE 3225.5	*) Green

Legend

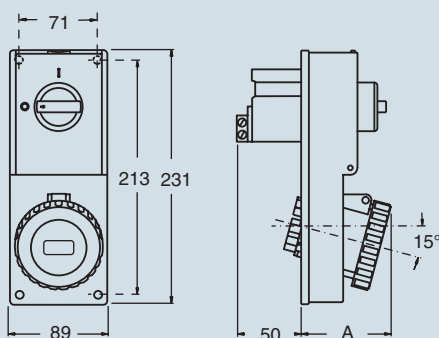
A.V. = Colour according to voltage

*) Green may be used together with the colour of the operating range for frequencies above 60 Hz and up to a maximum of 500 Hz

Panel cut-out in mm
(flush-mounting on panel)

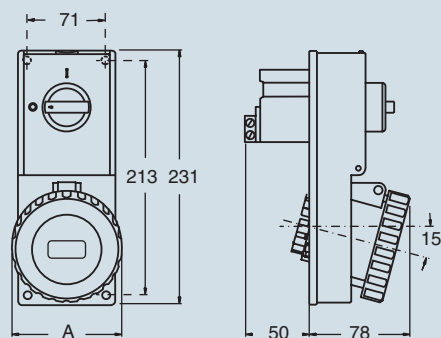


Dimensions in mm



SQE.5	A
16A 2P+⊕	67
3P + ⊕	67
3P+N+⊕	70

Dimensions in mm



SQE.5	A
32A 2P+⊕	92
3P + ⊕	92
3P+N+⊕	100

Dimensions indicated are not binding and may be changed without prior notice.

- Compliant with Italian standards EN 60309-1 and -2
- Enclosures and inserts in insulating, self-extinguishing thermoplastic material, RAL 7035 grey
- Spring lid colour coded according to operating voltage, simple fastening
- Circuit breaker knob, lockable
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted, the plug from being removed while the switch is turned on, and the socket-outlet from being removed from the board when the plug is inserted
- IP44 degree of protection (EN 60529)
- Plug-type fuse carrier for cylindrical cartridges 10 x 38 mm (not included), accessed via a panel that opens only with the switch off
- Suitable for mounting on FC and FM enclosures or on SQC 923 CS single boxes
- With Italian Quality Mark

Without box - 16A IP44 degree of protection



Without box - 32A IP44 degree of protection



Poles	Frequency Hz	Voltage V	Earthing contact position h
2P+⊕	50 and 60	100 - 130	4
	50 and 60	200 - 250	6
	50 and 60	380 - 415	9
	50 and 60	480 - 500	7
	50 and 60	ins. transformer	12
	> 300 - 500	> 50	2
	d.c.	> 50 - 250	3
3P+⊕	50 and 60	100 - 130	4
	50 and 60	200 - 250	9
	50 and 60	380 - 415	6
	60	440 - 460	11
	50 and 60	480 - 500	7
	50	380	3
	60	440	3
	100 - 300	> 50	10
	> 300 - 500	> 50	2
3P+N+⊕	50 and 60	57/100 - 75/130	4
	50 and 60	120/208 - 144/250	9
	50 and 60	200/346 - 240/415	6
	50 and 60	277/480 - 288/500	7
	60	250/440 - 265/460	11
	50	220/380	3
	60	250/440	3
	> 300 - 500	> 50	2

Part No.	Colour
SQV 1643	Yellow
SQV 1663	Blue
SQV 1693	Red
SQV 1673	Black
SQV 16123	A.V.
SQV 1623	*) Green
	White
SQV 1644	Yellow
SQV 1694	Blue
SQV 1664	Red
SQV 16114	Red
SQV 1674	Black
SQV 1634	Red
SQV 1634	Red
SQV 16104	*) Green
SQV 1624	*) Green
SQV 1645	Yellow
SQV 1695	Blue
SQV 1665	Red
SQV 1675	Black
SQV 16115	Red
SQV 1635	Red
SQV 1635	Red
SQV 1625	*) Green

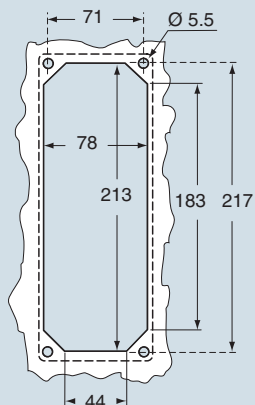
Part No.	Colour
SQV 3243	Yellow
SQV 3263	Blue
SQV 3293	Red
SQV 3273	Black
SQV 32123	A.V.
SQV 3223	*) Green
	White
SQV 3244	Yellow
SQV 3294	Blue
SQV 3264	Red
SQV 32114	Red
SQV 3274	Black
SQV 3234	Red
SQV 3234	Red
SQV 32104	*) Green
SQV 3224	*) Green
SQV 3245	Yellow
SQV 3295	Blue
SQV 3265	Red
SQV 3275	Black
SQV 32115	Red
SQV 3235	Red
SQV 3235	Red
SQV 3225	*) Green

Legend

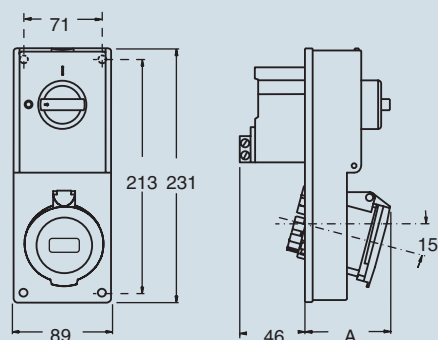
A.V. = Colour according to voltage

*) Green may be used together with the colour of the operating range for frequencies above 60 Hz and up to a maximum of 500 Hz

Panel cut-out in mm
(flush-mounting on panel)

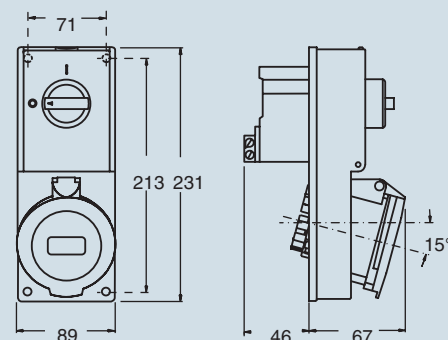


Dimensions in mm



SQV	A
16A 2P+⊕	64
3P + ⊕	65
3P+N+⊕	67

Dimensions in mm



Dimensions indicated are not binding and may be changed without prior notice.

- Compliant with Italian standards EN 60309-1 and -2
- Enclosures and inserts in insulating, self-extinguishing thermoplastic material, RAL 7035 grey
- Spring lid colour coded according to operating voltage, with bayonet fastening and gasket
- Circuit breaker knob, lockable
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted, the plug from being removed while the switch is turned on, and the socket-outlet from being removed from the board when the plug is inserted
- IP55 degree of protection (EN 60529)
- Plug-type fuse carrier for cylindrical cartridges 10 x 38 mm (not included), accessed via a panel that opens only with the switch off
- Suitable for mounting on FC and FM enclosures or on SQC 923 CS single boxes
- With Italian Quality Mark

Without box - 16A IP55 degree of protection



Without box - 32A IP55 degree of protection



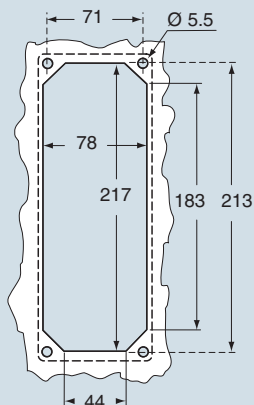
Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour	Part No.	Colour
2P+⊕	50 and 60	100 - 130	4	SQV 1643.5	Yellow	SQV 3243.5	Yellow
	50 and 60	200 - 250	6	SQV 1663.5	Blue	SQV 3263.5	Blue
	50 and 60	380 - 415	9	SQV 1693.5	Red	SQV 3293.5	Red
	50 and 60	480 - 500	7	SQV 1673.5	Black	SQV 3273.5	Black
	50 and 60	ins. transformer	12	SQV 16123.5	A.V.	SQV 32123.5	A.V.
	> 300 - 500	> 50	2	SQV 1623.5	*) Green	SQV 3223.5	*) Green
	d.c.	> 50 - 250	3		White		White
3P+⊕	50 and 60	100 - 130	4	SQV 1644.5	Yellow	SQV 3244.5	Yellow
	50 and 60	200 - 250	9	SQV 1694.5	Blue	SQV 3294.5	Blue
	50 and 60	380 - 415	6	SQV 1664.5	Red	SQV 3264.5	Red
	60	440 - 460	11	SQV 16114.5	Red	SQV 32114.5	Red
	50 and 60	480 - 500	7	SQV 1674.5	Black	SQV 3274.5	Black
	50	380	3	SQV 1634.5	Red	SQV 3234.5	Red
	60	440	3	SQV 1634.5	Red	SQV 3234.5	Red
	100 - 300	> 50	10	SQV 16104.5	*) Green	SQV 32104.5	*) Green
	> 300 - 500	> 50	2	SQV 1624.5	*) Green	SQV 3224.5	*) Green
	50 and 60	57/100 - 75/130	4	SQV 1645.5	Yellow	SQV 3245.5	Yellow
	50 and 60	120/208 - 144/250	9	SQV 1695.5	Blue	SQV 3295.5	Blue
3P+N+⊕	50 and 60	200/346 - 240/415	6	SQV 1665.5	Red	SQV 3265.5	Red
	50 and 60	277/480 - 288/500	7	SQV 1675.5	Black	SQV 3275.5	Black
	60	250/440 - 265/460	11	SQV 16115.5	Red	SQV 32115.5	Red
	50	220/380	3	SQV 1635.5	Red	SQV 3235.5	Red
	60	250/440	3	SQV 1635.5	Red	SQV 3235.5	Red
	> 300 - 500	> 50	2	SQV 1625.5	*) Green	SQV 3225.5	*) Green

Legend

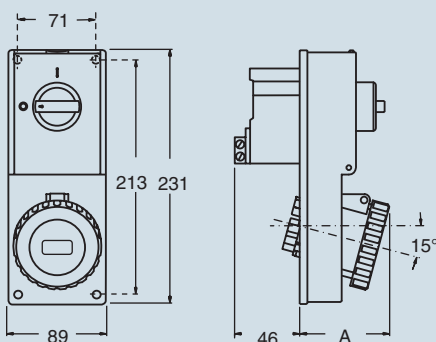
A.V. = Colour according to voltage

*) Green may be used together with the colour of the operating range for frequencies above 60 Hz and up to a maximum of 500 Hz

Panel cut-out in mm
(flush-mounting on panel)

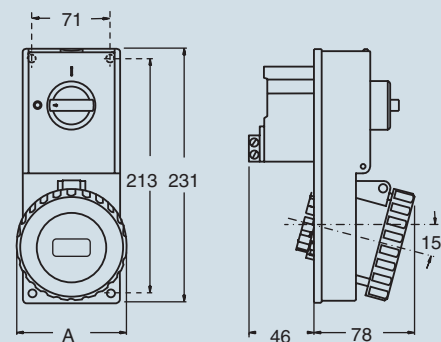


Dimensions in mm



SQV.5	A
16A 2P+⊕	67
3P + ⊕	67
3P+N+⊕	70

Dimensions in mm



SQV.5	A
32A 2P+⊕	92
3P + ⊕	92
3P+N+⊕	100

Dimensions indicated are not binding and may be changed without prior notice.

- Compliant with Italian standards EN 60309-1 and -2
- Enclosures and inserts in self-extinguishing insulating thermoplastic material, RAL 7035 grey
- Spring lid colour coded according to operating voltage, simple fastening
- Circuit breaker knob, lockable
- Siemens series 5SX2 circuit breaker with C tripping characteristics (see page 142)
- Operating status indicator light
- Mechanical interlock that prevents:
 - the switch from being turned on without the plug inserted, the plug from being removed while the switch is turned on, and the socket-outlet from being removed from the board when the plug is inserted
- IP44 degree of protection (EN 60529)
- Suitable for mounting on FC and FM series enclosures or on SQC 923 CS single boxes

Without box - 16A IP44 degree of protection



Without box - 32A IP44 degree of protection



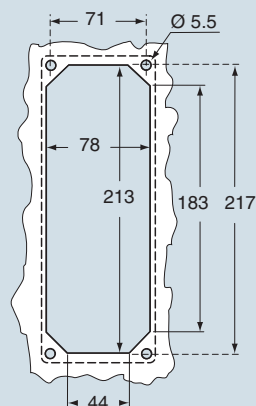
oles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour	Part No.	Colou
2P+⊕	50 and 60	100 - 130	4	SQA 1643		SQA 3243	
	50 and 60	200 - 250	6	SQA 1663		SQA 3263	
	50 and 60	380 - 415	9	SQA 1693		SQA 3293	
	50 and 60	ins. transformer	12	SQA 16123		SQA 32123	
	> 300 - 500	> 50	2	SQA 1623		SQA 3223	
3P+⊕	50 and 60	100 - 130	4	SQA 1644		SQA 3244	
	50 and 60	200 - 250	9	SQA 1694		SQA 3294	
	50 and 60	380 - 415	6	SQA 1664		SQA 3264	
	50	380	3	SQA 1634		SQA 3234	
	60	440	3	SQA 1634		SQA 3234	
	100 - 300	> 50	10	SQA 16104		SQA 32104	
	> 300 - 500	> 50	2	SQA 1624		SQA 3224	
3P+N+⊕	50 and 60	57/100 - 75/130	4	SQA 1645		SQA 3245	
	50 and 60	120/208 - 144/250	9	SQA 1695		SQA 3295	
	50 and 60	200/346 - 240/415	6	SQA 1665		SQA 3265	
	50	220/380	3	SQA 1635		SQA 3235	
	60	250/440	3	SQA 1635		SQA 3235	
	> 300 - 500	> 50	2	SQA 1625		SQA 3225	

Legend

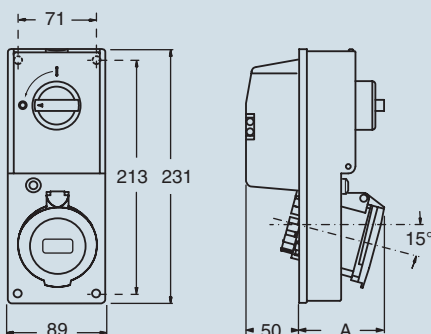
A.V. = Colour according to voltage

*) Green may be used together with the colour of the operating range for frequencies above 60 Hz and up to a maximum of 500 Hz

Panel cut-out in mm
(flush-mounting on panel)

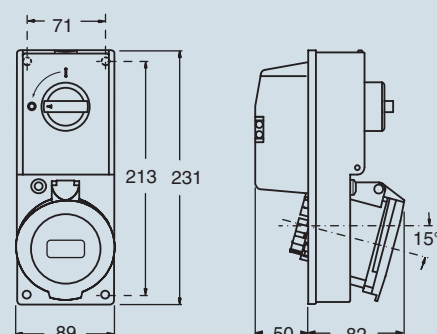


Dimensions in mm



SQA	A
16A 2P+⊕	79
3P + ⊕	80
3P+N+⊕	82

Dimensions in mm



Dimensions indicated are not binding and may be changed without prior notice.

- Compliant with Italian standards EN 60309-1 and -2
- Enclosures and inserts in self-extinguishing insulating thermoplastic material, RAL 7035 grey
- Spring lid colour coded according to operating voltage, with bayonet insert and gasket
- Circuit breaker knob, lockable
- Siemens series 5SX2 circuit breaker with C tripping characteristics (see page 142)
- Operating status indicator light
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted, the plug from being removed while the switch is turned on, and the socket-outlet from being removed from the board when the plug is inserted
- IP55 degree of protection (EN 60529)
- Suitable for mounting on FC and FM series enclosures or on SQC 923 CS single boxes

Without box - 16A IP55 degree of protection



Without box - 32A IP55 degree of protection



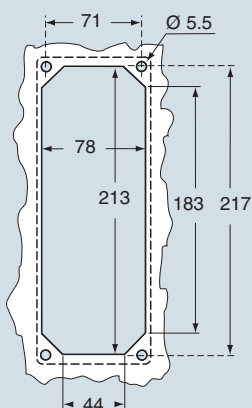
Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour	Part No.	Colour
2P+⊕	50 and 60	100 - 130	4	SQA 1643.5		SQA 3243.5	
	50 and 60	200 - 250	6	SQA 1663.5		SQA 3263.5	
	50 and 60	380 - 415	9	SQA 1693.5		SQA 3293.5	
	50 and 60	ins. transformer	12	SQA 16123.5		SQA 32123.5	
	> 300 - 500	> 50	2	SQA 1623.5		SQA 3223.5	
3P+⊕	50 and 60	100 - 130	4	SQA 1644.5		SQA 3244.5	
	50 and 60	200 - 250	9	SQA 1694.5		SQA 3294.5	
	50 and 60	380 - 415	6	SQA 1664.5		SQA 3264.5	
	50	380	3	SQA 1634.5		SQA 3234.5	
	60	440	3	SQA 1634.5		SQA 3234.5	
	100 - 300	> 50	10	SQA 16104.5		SQA 32104.5	
	> 300 - 500	> 50	2	SQA 1624.5		SQA 3224.5	
3P+N+⊕	50 and 60	57/100 - 75/130	4	SQA 1645.5		SQA 3245.5	
	50 and 60	120/208 - 144/250	9	SQA 1695.5		SQA 3295.5	
	50 and 60	200/346 - 240/415	6	SQA 1665.5		SQA 3265.5	
	50	220/380	3	SQA 1635.5		SQA 3235.5	
	60	250/440	3	SQA 1635.5		SQA 3235.5	
	> 300 - 500	> 50	2	SQA 1625.5		SQA 3225.5	

Legend

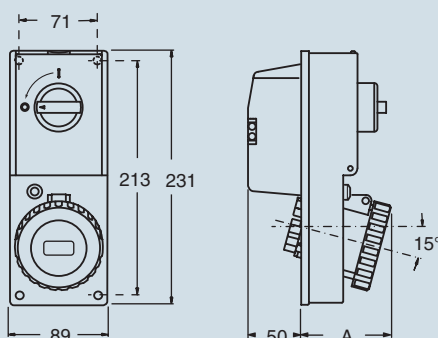
A.V. = Colour according to voltage

*) Green may be used together with the colour of the operating range for frequencies above 60 Hz and up to a maximum of 500 Hz

Panel cut-out in mm
(flush-mounting on panel)

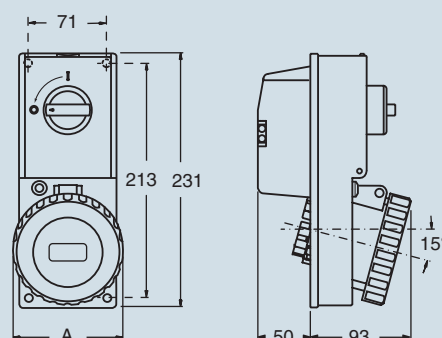


Dimensions in mm



SQA.5	A
16A 2P+⊕	82
3P + ⊕	82
3P+N+⊕	85

Dimensions in mm



SQA.5	A
32A 2P+⊕	92
3P + ⊕	92
3P+N+⊕	100



Functions

Socket-outlets have an indicator light, which is on in ordinary operating conditions and “off” when the switch is in “open” position or if a circuit breaker trips. If the circuit breaker trips (fault), it is possible to reset the system by turning the switch to the “open” position and back to the “closed” position, after eliminating the cause of the fault.

Standards

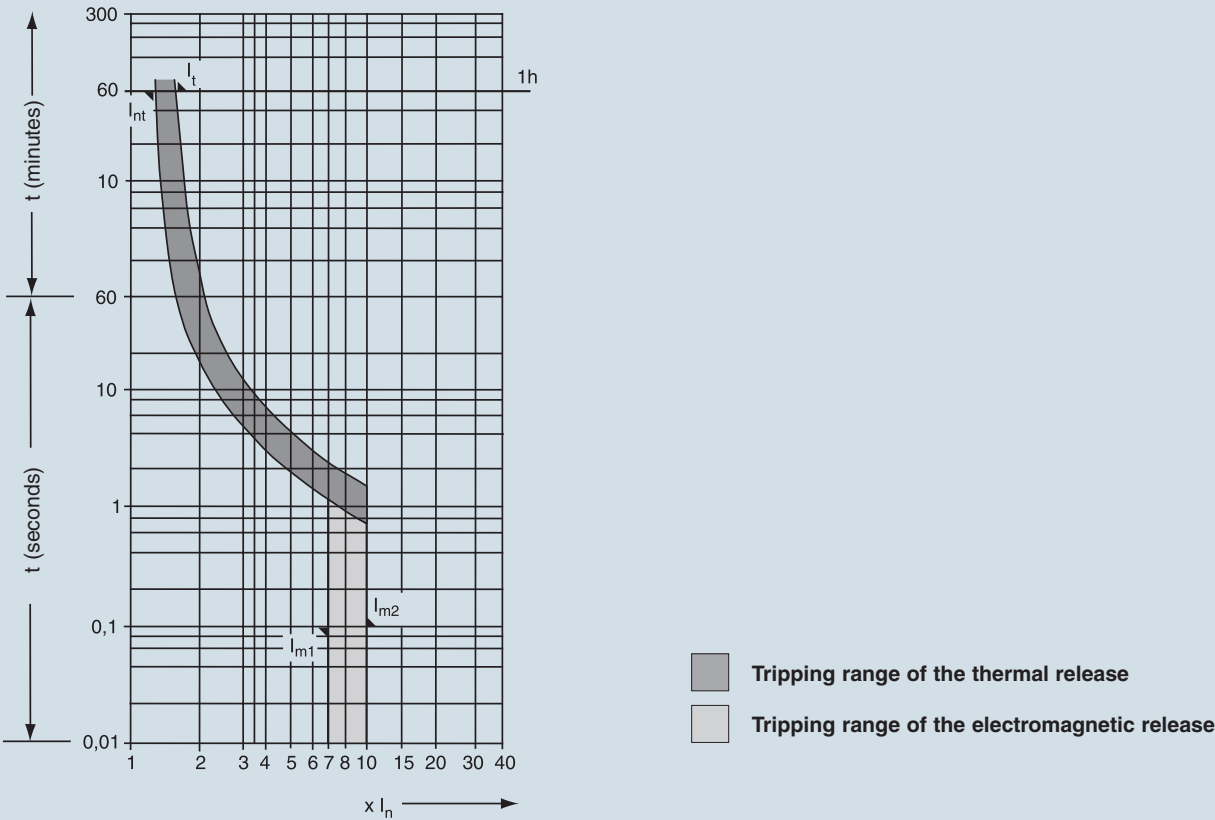
Tripping specifications of circuit breakers are defined in function of the following reference currents:

- I_n = Rated current:** value assigned by the manufacturer as the continuous duty current load for which the circuit breaker will be used, at a specific reference ambient temperature (30 °C).
- Currents that define the tripping of the thermal release:
- I_{nt} = Conventional non tripping current:** the specific value of the current that the circuit breaker can handle within a specific interval of time (conventional time) without tripping.
- I_t = Conventional tripping current:** the specific value of current that causes the circuit breaker to trip within a specific interval of time (conventional time).
- Currents that define the tripping of the electromagnetic release:
- Instant tripping current:** minimum current value that causes the automatic tripping of the device without intentional delay. It ranges between the I_{m1} tripping values at no less than 0.1 seconds and the I_{m2} tripping value at no less than 0.1 seconds.

Standard	Rated current	I_{nt}/I_n	I_t/I_n	Conventional time
EN 60898	Up to 63A	1.13	1.45	1h
EN 60947-2	Up to 63A	1.05	1.3	1h

SQA socket-outlets
Siemens series 5SX2 circuit breaker (tripping configuration C)

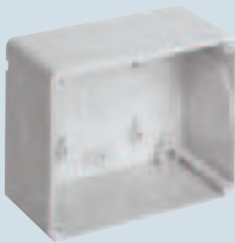
Rated breaking power I_{cn} : 6kA - EN 60898				
Rated current	Poles	Rated operating current	Maximum effective interruption power in d.c.	
			EN 60898 IEC 60898	EN 60947-2 IEC 60947-2
I_n (A)		U_e (V ~)	I_{cs} (kA)	I_{cu} (kA)
16	2P, 3P, 3P+N	400	8	12
40	2P, 3P, 3P+N	400	8	12





- Box in insulating self-extinguishing thermoplastic material, RAL 7035 grey
- IP55 (EN 60529) or IP44 degree of protection (the degree of protection of the box varies in function of the type of socket-outlet used)

SQC enclosures for wall-mounting SQ socket-outlets



SQC enclosures for wall-mounting SQE, SQV, SQA and SQT socket-outlets



Description

Part No.

Part No.

Enclosure for SQ socket-outlets

- With:
- Pg 21 cable gland, lock nut and gasket
 - Fixing screws and socket-outlet fixing screws

SQC 1114 CS

Enclosure for SQE, SQV, SQA and SQT sockets

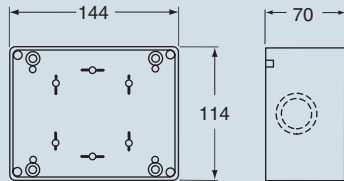
- With:
- Pg 21 and Pg 29 pipe glands, gaskets and lock nuts
 - Sealing plugs, fixing screws and socket-outlet fixing screws

SQC 923 CS

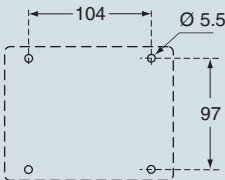
Rubber frame for SQC 923 CS enclosures for flush-mounted socket-outlets in niches with non uniform edges or on tiled surfaces

SQC 923 ME

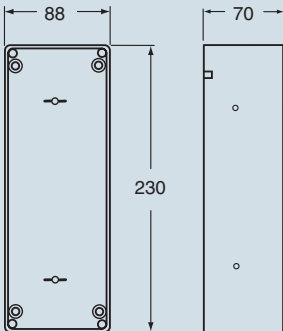
Dimensions in mm



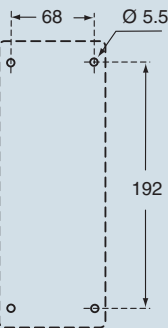
Panel cut-out in mm (wall-mounting)



Dimensions in mm



Panel cut-out in mm (wall-mounting)



Dimensions indicated are not binding and may be changed without prior notice.