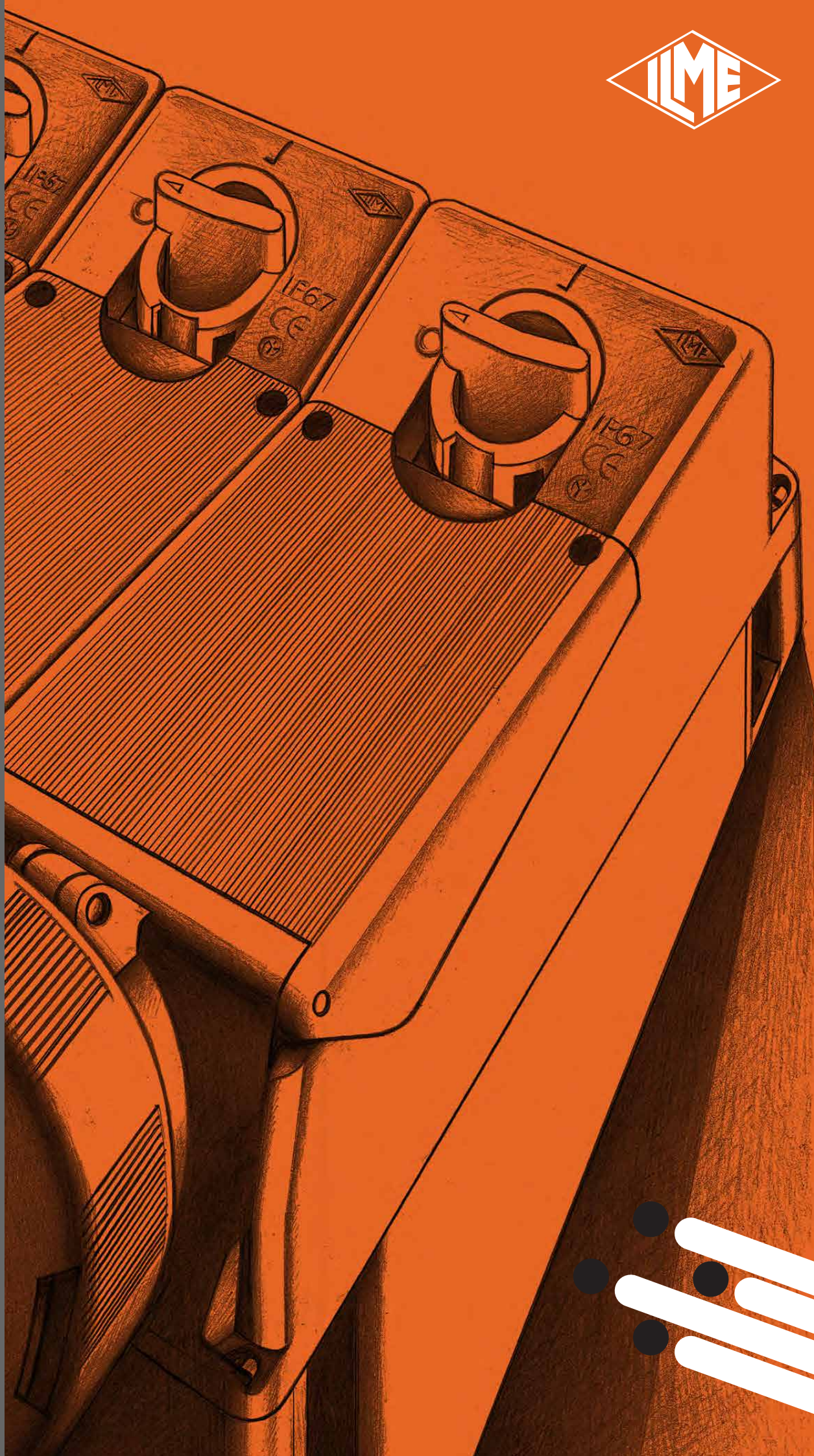
TM interlocked switched socket-outlets, for industrial use

ENGLISH

TM.17



The company and the product

I.L.M.E. SpA - **INDUSTRIA LOMBARDA MATERIALE ELETTRICO** - has been operating **in Milan since 1938** , in particular in the electrotechnical sector for the manufacture of equipment for industrial installations.
ILME reflects the traditional **entrepreneurial spirit of Lombardy,** and has enjoyed continuous expansion for over half a century. The company has carved an important role for itself in the principal world markets, also operating directly in the countries that have assumed world leadership in the field of automation, including Germany and Japan.
In the **electrical connection** sector with applications in industrial automation, characterised by **top performance** and utmost **reliability** needs**,** ILME is today the acknowledged partner of many leading companies worldwide.

The company's fundamental values are: **Product innovation**, original solutions, excellent **price-quality ratio,** acustomer-oriented **service,** ethical behaviour and respect for the environment.

To promote the continuing improvement of its qualitative **results,** ILME has always encouraged its collaborators to work with maximum **responsibility and participation.**

The company focuses on a series of benefits to the user, including research into the most suitable materials, high quality and safe cabling, a rapid turnaround and readily available services.

ISO 9001 certification: 2008
Design, manufacture and distribution
of industrial electrical equipment (IAF 19)
Certificate No. 50 100 11133 - Rev. 01

CE marking

As from 1st January 1997, in order to launch electrical products on the European market the manufacturer must ensure these bear the relevant CE mark, in line with the Low Voltage Directive 73/23/ EEC * (implemented in Italy as L. D. 18-10-1977 no. 791) and its modification 93/68/EEC * (implemented in Italy as L.D 25-11-1996 no. 626/96, published in the supplement to the Gazzetta Ufficiale of 14-12-1996).
The mark must be visible on the product or, if this is not possible, on the packaging, the instructions for use or on the warranty certificate. It acts as a declaration by the manufacturer that the product complies with all relevant EU directives regarding its field of application.

ILME products bear the CE mark on the actual product or its packaging.

Almost all ILME products fall within the field of application of the Low Voltage Directive. A declaration of conformity is required in order to be able to apply the CE mark. This declaration, to which the market is not directly entitled, must be made available to the controlling authorities (in Italy, the Ministry for Industry, Commerce and Handicraft) at all times. In it, the manufacturer declares the technical safety standard(s) followed in the manufacture of the product. These standards must be, in decreasing order of preference:

- a European standard (EN prefix)
- a European harmonisation document (HD prefix)
- an international IEC standard
- a national standard
- in the absence of reference standards, the manufacturer's internal specifications guaranteeing compliance with the basic safety requirements of the directive.

Compliance with harmonised technical standards (i.e. ratified by CENELEC) also constitutes presumption of compliance with the basic safety requirements of the directives.
The CE marking of ILME products results from the declaration of conformity of the product to harmonised standards or international IEC standards.

Through the CE mark, ILME declares full compliance, not merely with the directive's basic safety requirements, but also with those international or national EU standards on which voluntary safety certification markings are based (e.g. IMQ and VDE). In this way, ILME intends to give the CE mark the value of self-certification in terms of safety, given the loss in legal value of voluntary certifications issued by third parties, ratified by directive 93/68/EEC*.

Notwithstanding the above, practically all ILME products still bear voluntary conformity markings.

This EC declaration of conformity becomes null and void when the assembly of products includes one or more components not manufactured by us and without EC approval.

***Note:** The next legal reference for the Low Voltage Directive was 2006/95/EC, as consolidation of the original Directive 73/23/EEC + Directive 93/68/EEC.

On 29th March 2014, the Official Journal of the European Union published the new Low Voltage directive 2014/35/EU dd. 26th February 2014, a recast version of directive 2006/95/EC, which is in force since on 20th April 2016.

The information contained in this catalogue is not binding and may be changed without notice.

TM

Interlocked switched socket-outlets for industrial use

Summary

TM SERIES

Extremely robust

TM 125A

Interlocked switched socket-outlets for industrial use

NEW

What's new in the TM range

More space for wiring:
available in the socket outlet.

Cable entry:
top or bottom entry.

IP66/IP67 degree of protection:
improved protection against dust and water compared to the previous models.

125A versions
with or without fuse carrier base

For aggressive enviroments

The TM Series has been developed using innovative design ideas and the latest production technology methods (patented BC-MUL System) characterizing the ILME solution to satisfy the latest market needs.

New 125A version

IP66/IP67 degree of protection

Insulating version

Microswicth indicating status

Features of the TM range

The new range has the following features:

– insulating material
– up to 125A
– polarity 2P+PE, 3P+PE, 3P+N+PE
– with or without fuse protection, mechanical interlock
– with automatic moulded case (optionally with RCD 30 mA) circuit breaker and electrical interlock.

New wall-mounting plate
for housing two socket-outlets ***and a compartment*** for junction box or modular units (height 185 mm).

TM interlocked socket-outlets for industrial use

The optimum quality/price relationship combined with an **easy-to-use system**, offers a wide **range of installation solutions**.

TM Series uses electrical components (switch-disconnectors automatic MCCBS, RCUS, fuse carriers, female inserts) of **tested quality**, fixed on a **robust supporting frame** with **safety interblocks to provide reliability in service**.

TM SERIES
HALOGEN FREE

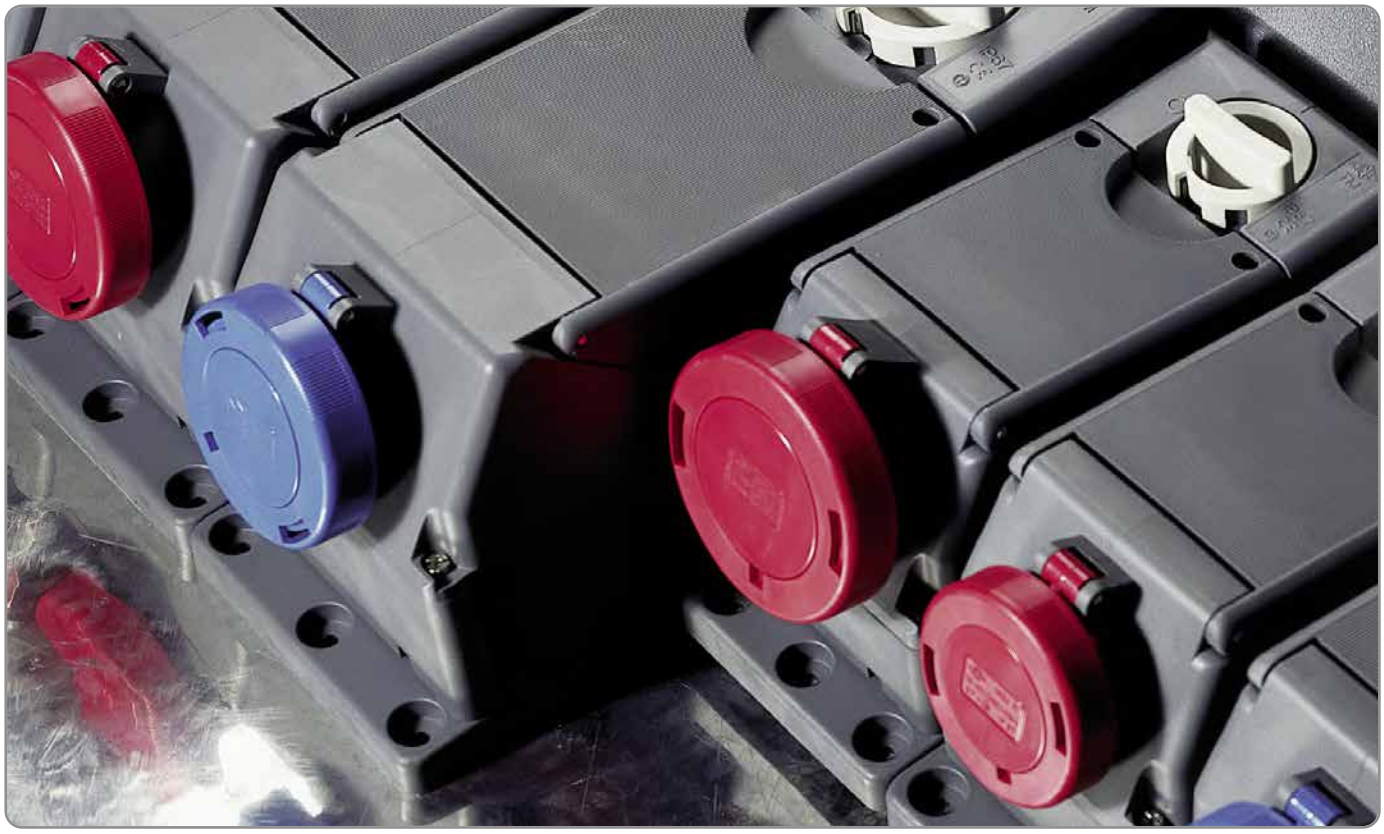
TM SERIES
IP66 / IP67
EN 60529

Innovative technology

Stability, rigid sections and high mechanical resistance to shocks up to 20 J are some of the main features of cases.

The **double degree of protection IP66/IP67**, together with the thermoplastic material used (MIL.BOX) and the external stainless steel screws, ensures a **high protection against atmospheric and aggressive chemical agents, as well as against UV rays.**

The 5 mm thick case walls, captive metric screws to be screwed into brass threaded holes, unpierced cases walls marked with the cutting position, colour grey RAL 7012 are some of the exclusive features of the series.



Frame

The frame supporting the electrical components **can be removed from the cases and allows the easy installation** of the empty cases and external wiring accessories.

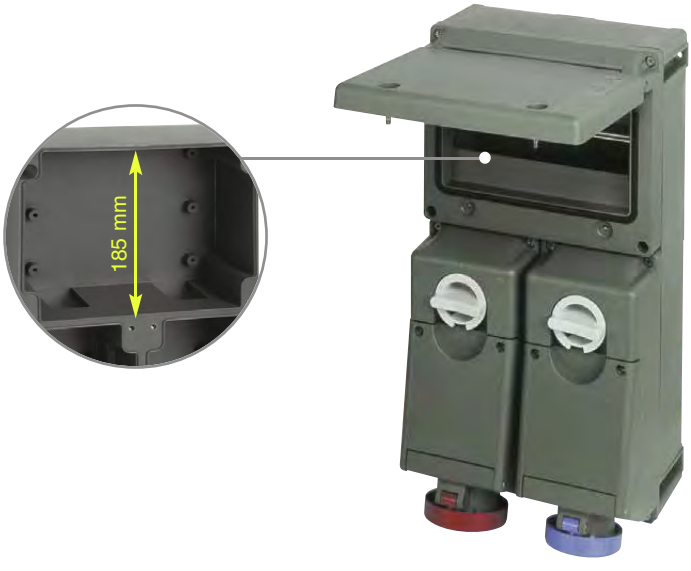
Once the cases are installed, it is very easy to fix the frame by means of a hinge and then proceed with the wiring operation.

TM Covers for the PLUSO series flush-mounting socket-outlets

The new TM...PI covers used with the PLUSO series flush-mounting socket-outlets allow distribution boards to be installed in settings prone to impacts and mechanical stresses.

TM boxes

Higher dimension of modular compartment: 185 mm



Features of the series

The TM Series offers many innovative design features for safety and practical applications.

Design features:

– non deformable blocks (die cast)
– double insulating (*)
– brass threaded holes
– safety interlock system on fuse carrier cover
– padlockable handle in open/closed position
– cover for fuse carrier with seats for spare fuses
– pre-wired conductors to allow the mounting of automatic devices
– 32A/63A controls with pre-load (that ensure a greater robustness in case of improper use without plug)
– external screws available in two sizes, in stainless steel.

Metal locking lever

Padlockable handle in open/closed position ❱

Seats for spare fuses

Facility to mount modular unit devices ❱

32A - 63A controls with pre-load

Threaded seats

* The double insulation is maintained only by using insulated cable glands or conduit fittings. In case of use of metal glands or fittings, these shall be duly connected to PE.

Range

The wide range of interlocked socket-outlets and accessories (boxes and plates for set mounting) allows several combinations.
A complete series of interlocked switched sockets (16-32-63-125A). Are available in the following versions:

– with sectionable fuse carriers TM IS/KIS - SIS/KSIS
– with NH fuse carriers TM...IH
– with DIN-rail for modular equipment TM IR/KIR - SIR/KSIR
– without short-circuit/overload protection, direct wiring: TM SP/KSP - SSP/KSSP
– moulded case circuit braker, electrical interlock: TM...IA - TM...IAD (with RCD 30 mA)
– with safety transformer 24V.

The socket-outlet with transformer is a very compact unit and can be mounted either in double or triple boxes.

EN 60309-1 and EN 60309-2 standards

In 1990, **CENELEC** (European Electrotechnical Standards Committee) introduced the provisions of the international publications IEC 60309-1 and IEC 60309-2 into the two corresponding European standards EN 60309-1 and EN 60309-2 (classification CEI 23-12/1 and 23-12/2). **IEC** (*International Electrotechnical Commission*), the worldwide organisation for electrotechnical standardisation, had adopted these publications basing them almost entirely on the EEC 17 Publication of 1958, now withdrawn, issued by the now dissolved organisation **CEEél**. This is why still today this system of industrial sockets and plugs is traditionally called "EEC" by many. The European standards EN 60309-1 and -2 were then compulsorily adopted as national standards by all the CENELEC member states (which as from 1 May 2004, with the expansion of the EU, include Austria, Belgium, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Iceland, Iceland, Italy, Latvia, Lithuania, Luxembourg, Malta, Norway, Holland, Poland, Portugal, United Kingdom, Czech Republic, Slovakia, Slovenia, Spain, Sweden, Switzerland and Hungary). All conflicting national standards have at the same time been abolished.
Today, therefore, the manufacture of plugs and socket-outlets for industrial use has been harmonised throughout Europe. Before its termination, CEEel's members also included Bulgaria, Israel, former Yugoslavia (today Bosnia, Croatia, Macedonia, Serbia with Montenegro, Slovenia) and the former Soviet Union (today the Russian Federation).

In virtue of the correspondence with the IEC publications, this industrial plugs and socket-outlets system is widely known and appreciated in leading non-European countries such as Argentina, Australia, Brazil, Canada, China, Korea, Egypt, Japan, India, South Africa, Turkey and the USA.
In Italy the above harmonisation is regulated by standards CEI EN 60309-1 and CEI EN 60309-2. In 1999, the fourth editions of the IEC publications were adopted as EN by CENELEC and published in Italy in 2000.

In 2007, Amendment EN 60309-1/A1 (IEC 60309-1 Amd 1, implemented by CEI in February 2008 and in force as from 1st November 2009) introduced technical updates, such as:
- addition of construction and test requirements for terminals and screwless terminals (spring type) and IDC terminals for 16 A accessories (prior to their development) and compliance with the requirements of SC 23F standards (EN 60999-1, EN 60999-2);
- cancellation of the "drop" and "triangle" symbols and the confirmed use of only IP degrees of protection provided for by standard EN 60529;
- introduction of possible alternative nominal current values to the classic 16A, 32A, 63A, 125A and 250A: 6A, 10A, 25A, 40A, 50A, 80A, 90A, 150A, 160A and updating, where necessary, of all test requirements in order to take into account the new nominal capacities;
- restriction on sizes of metric cables and conductors with ban on North American AWG/MCM sizes.

Again in 2007, the Amendment EN 60309-2/A1 extended the construction requirements and tests regarding accessories with screwless terminals (springs) or IDC terminals up to 32A nominal current, though only for Italy and Germany. A "versatile" degree of protection has been introduced, IP66/IP67 (fastenings, covers, retainers with degree of protection IP67), and for very low voltage ≤ 50V socket-outlets and plugs, the 8h position for accessories at 25V - 32A for portable electric incubators has been standardised, for use at 12V d.c. or 24V d.c. aboard ambulances or helicopters (covered by the relative ISO standard).

In 2012, Amendment EN 60309-1/A2 (IEC 60309-1 Amd 2) implemented by CEI in November 2012, in force as from 1st December 2012 – for existing products as from 13-07-2015, introduced further technical modifications in numerous points, the more important being: an increase in the max nominal voltage from 690V d.c. or a.c. to 1 000V d.c. or a.c.; an increase in the max nominal voltage from 250A to 800A, with the relative extensions regarding the sizes of the connectable conductors for the new preferential nominal current values of 315A, 400A, 630A and 800A; the restriction as regards the installation of these devices exclusively by informed personnel (IEV 60050-195:1998, Amendment 1:2001, definition 195-04-02) or appropriately trained personnel (IEC 60050-195:1998, Amendment 1:2001, definition 195-04-01); the extension of the usability of the screwless terminals (spring or IDC type) from 16A up to 32A for the series (that allowed in the EU by CENELEC); update of all test methods required to cover the above amendments.
Still in 2012, Amendment EN 60309-2/A2 2012-04, published by CEI in August 2012 and in force as from 1st September 2012, introduced an amendment to art. 1 "Field of application", in particular to raise the max voltage to 1 000 V a.c. or d.c., art. 3 "Reference standards", Table 104, introducing a supplementary paragraph 16.101 and modifying standardisation Sheets 2-I, 2-II, 2-III and 2-IIIa, 2-IVa, as well as Attachment ZA.

The technical notes below and the products illustrated in the present booklet refer to series 1 versions, used in Europe on the basis of said European Standards and in countries of European technical-cultural origin (e.g. most of Latin America, Australia, South Africa). A series 2 also exists, which differs for its rated current, voltage and frequency values and for its polarity and pole marking, adapting to North American installation standards and those of countries that have adopted this system (e.g. Mexico, Japan).

The provisions of standards

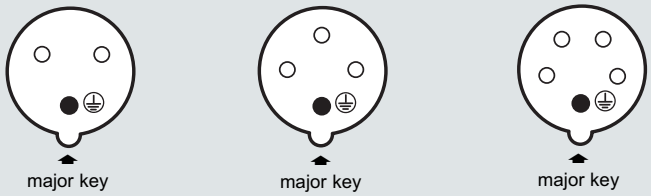
Each model of plug and socket is unique and has a specific use. Each model has safety devices that make it impossible to insert a plug into a socket made for a different capacity, voltage, frequency and number of poles. In the "low voltage" versions, the safety system is based on two references:
- a guiding groove on the socket that corresponds to a nib on the plug;
- an earthing contact of increased capacity with respect to the other contacts, and located in different hour positions according to the voltages used.

The 63A and 125A plugs have a pilot contact for operating an electric interlock.

Hour position (h)

This position is determined by looking at the front of the socket and placing the major guiding groove at the 6 o'clock position and noting the hour position of the earthing contact. Following are examples of three different polarities with the earthing contact at the 6 o'clock position.

Socket - front view



Low voltage over 50V up to 1000V

Number of poles	*Frequency (Hz)*	*Rated operating voltage (V)*	*Hour position (h) earthing contact* [1] *16A and 32A*	*63A and 125A*	*Colour*
2P+⏚	50 and 60	100 ÷ 130	4	4	yellow
		200 ÷ 250	6	6	blue
		380 ÷ 415	9	9	red
	50 and 60	480 ÷ 500	7	7	black
		supply from ins. transf.	12	12	[5]
	100 ÷ 300	> 50	10	10	[4]
	> 300 ÷ 500	> 50	2	2	[4]
	direct current	> 50 ÷ 250 [6]	3	3	[5]
		> 250	8	8	[5]
3P+⏚		supply from ins. transf.	12	12	[5]
	50 and 60	100 ÷ 130	4	4	yellow
		200 ÷ 250	9	9	blue
		380 ÷ 415	6	6	red
	60	440 ÷ 460 [2]	11	11	red
	50 and 60	480 ÷ 500	7	7	black
		600 ÷ 690	5	5	black
	50	380	3	3	red
	60	440 [3]	3	3	red
	50 and 60	1000	—	8	black
	100 ÷ 300	> 50	10	10	[4]
	> 300 ÷ 500	> 50	2	2	[4]
3P+N+⏚		57/100 ÷ 75/130	4	4	yellow
		120/208 ÷ 144/250	9	9	blue
	50 and 60	200/346 ÷ 240/415	6	6	red
		277/480 ÷ 288/500	7	7	black
		347/600 ÷ 400/690	5	5	black
	60	250/440 ÷ 265/460 [2]	11	11	red
	50	220/380	3	3	red
	60	250/440 [3]	3	3	red
	50 and 60	supply with insul. transf.	12	12	[5]
	100 ÷ 300	> 50	10	10	[4]
	> 300 ÷ 500	> 50	2	2	[4]
all types	All rated operating voltages and/or frequencies not covered by other configurations. In addition, this hour position can be used in special applications where a distinction is required with respect to the other standardised positions.		1	1	[5]

[1] The positions indicated with dashes "-" are not standardised.
[2] Mainly for marine installations.
[3] Only for refrigerated containers (standardised by ISO 1496-2).
[4] If necessary, green may be used together with the colour of the operating voltage for frequencies of over 60 Hz up to 500 Hz inclusive.
[5] Colour according to voltage.
[6] This configuration must have an earthing contact as it covers voltages higher than the upper limits of the ELV (d.c.) according to IEC 60364-4-41.

Normal service conditions for electrical equipment

The standard EN 60439-1 applies to low-voltage switchgear and control gear assemblies, commonly known as low-voltage boards, with rated voltage not exceeding 1000V eff. a.c. (with frequency not exceeding 1 kHz, although boards for greater frequencies are allowed under further specific prescriptions) or 1500V in d.c. This standard defines the equipment (boards) for indoor and outdoor use in accordance with the installation conditions. The normal service conditions are in fact defined for indoor and outdoor use.
These normal conditions are also used as reference in standard EN 60664-1 (basic safety publication) for the coordination of insulation. This coordination consists of the definition of the rated insulation values (the air and surface distances between conductors of different voltages) of electrical equipment and the corresponding components relating to:

- dielectric characteristics of the insulating materials used
- degree of pollution in the environment where they are to be used
- overvoltage category of the point at which they are connected to the network (distance from the generating centres).

1. Ambient air temperature
In normal indoor service conditions, the temperature should not be lower than -5 ˚C or greater than +40 ˚C and the average value over 24 h should not exceed +35 ˚C. For outdoor installations the minimum value is -25 ˚C in mild climates and -50 ˚C in Arctic climates (with the possibility of an agreement between manufacturer and user in the latter case).

2. **Altitude**
The altitude of the installation site should not exceed 2000 m. For equipment to be used at higher altitudes, it is necessary to consider the reduction of dielectric rigidity and the cooling effect of the air. For installations in different conditions, refer to the manufacturer.

3. Atmospheric conditions:

Humidity and pollution
The relative humidity of the air should not exceed 50% at a maximum temperature of 40 ˚C. Higher relative humidity values are allowed at lower temperatures, for example: 90% at +20 °C. For outdoor installations, the relative humidity may reach 100% at a maximum temperature of +25 ˚C.

Degrees of pollution

The pollution degrees define the environmental conditions. To go in more detail, standard IEC 60664-1 clarifies that pollution is defined as any contribution of foreign matter, whether a solid, liquid or gaseous (ionised gas), that may negatively affect the dielectric strength of the surface resistivity of the insulating material.
Four degrees of pollution are defined and are described by conventional numbers based on the quantity of polluting agent or on the frequency with which the phenomenon occurs that reduces the dielectric strength and/or the surface resistivity.

- **pollution degree 1**: no pollution or only dry non-conductive pollution. The pollution has no influence.
- **pollution degree 2**: only non-conductive pollution except that occasionally a temporary conductivity caused by condensation is to be expected.
- **pollution degree 3**: conductive pollution occurs or dry non conductive pollution occurs which becomes conductive due to condensation [7].

The **pollution degree 2** refers to a household or similar environment.
The **pollution degree 3** refers to an industrial or similar environment.

The third edition and the forthcoming fourth edition of EN 60309-1 standard (IEC 60309-1) specifies that the normal use environment for the industrial plugs and socket-outlets complying with this standard has a pollution degree 3 according to standard IEC 60664-1.

[7] Pollution degree 4 was eliminated in the new standard edition as clearly illogical: conditions of persistent conductivity caused for example by conductive dust, rain or snow are definitely to be avoided throughout the project, and no isolating distance is capable of withstanding them.

[8] The **IP66/IP67** degree of protection has been introduced in the Amendment 1 of standards EN 60309-1 and EN 60309-2 (and of the relating IEC standards). It is already accounted for in the IP degree of protection standard EN 60529 as a "versatile" form of protection, covering the fact that the temporary immersion resistance test (protection IPX7) does not automatically comply with the two lower degrees of protection IPX6 and IPX5, tested with the respective jet tests. If the end user requires the equipment to resist both against temporary immersions and pressurized water jets, declaredly IP66/IP67 devices with double marking must be selected.

IP degree of protection and the EN 60529 standard

The minimum IP degree of protection is regulated by the CEI 64-8 installation standards (inclusion of the harmonisation documents of the CENELEC HD 384 series and the IEC 60364 publication) which, in part 7, cover a number of special environments: construction and demolition sites, structures designed for agricultural or livestock breeding use, restricted conductor areas, caravans and caravan sites, environments with a greater risk in case of fire, public performance and entertainment areas, pools and, in the future, fountains, marinas and harbour areas. The standard is applicable to enclosures for electric materials with a rated power no greater than 72.5 kW. All the equipment must be installed according to state of the art rules and must comply with any manufacturer's assembly instructions. When components of different degrees of protection are assembled, the resulting board or distribution system will assume the lowest degree of protection of the mounted components. This has been assessed and applies to:
- socket-outlets, when a plug of the same degree of protection is inserted or when the cover is closed (with counternuts tightened for IP67).
- plugs (with counternuts tightened for IP67).
- enclosures, when all covers are closed

The range of ILME products presented in this catalogue offers the following range of protection:

IP44: protection against the *penetration of solid foreign objects* with a diameter equal to or greater than 1 mm for protection against the intrusion of dangerous parts with an access calibre of Ø 1 mm (1st digit), and protected against the *dangerous effects of water spray* from all directions (2nd digit).
IP55: Protection against the *penetration of harmful quantities* of powder and against *access to dangerous* parts with an access calibre of Ø 1 mm (1st digit) and protected against the *dangerous effects of water jets* with a nozzle from all directions (2nd digit).
IP66: total protection against *dust* and access to *dangerous parts* with an accessibility calibre of Ø 1 mm (1st digit), and protected against powerful *water jets* such as sea waves (2nd digit).
IP67: total protection against *powder* and against *access to dangerous parts* with an access calibre of Ø 1 mm (1st digit) and protected against the *effects of temporary immersion* (30') in water at a maximum depth of 1 metre (2nd digit).
IP69: total protection against *dust* and access to *dangerous parts* with an accessibility calibre of Ø 1 mm (1st digit), and protected against powerful *water jets, such as sea waves, and high temperatures* (2nd digit).

The socket-outlets with IP55 degree of protection and those with double degree of protection IP66/IP67 [8] have a bayonet jointed lid, traditionally defined as "water-tight" and require plugs with IP67 degree of protection (with counternut and gasket) to preserve the degree of protection marked on the apparatus.

1st digit
Personal protection against contact with hazardous parts

IP	External solid objects	Protection
0		none
1		against solid foreign objects with Ø greater or equal to 50 mm (e.g. hand)
2		against solid foreign objects with Ø greater or equal to 12 mm (e.g. finger)
3		against solid foreign objects with Ø greater or equal to 2.5 mm (e.g. tools and wires)
4		against solid foreign objects with Ø greater or equal to 1 mm (e.g. fine tools and wires)
5		against dust (no harmful deposit)
6		total against dust

2nd digit
Protection of materials against harmful penetration of water

IP	Tests	Protection
0		none
1		against vertical drops of water
2		against drops of water with an inclination of 15° from the vertical
3		against drops of water with an inclination of 60° from the vertical
4		against splashing water from all directions
5		against jets of water from all directions
6		against powerful jets of water (such as sea waves)
7		against the effect of temporary immersion in water at a depth of 1 metre
8		against the effect of prolonged immersion in water (duration and/or depth according to requirements)
9		against jets of water at high pressure and high temperature

General characteristics

This chapter illustrates the characteristics of TM series interlocked socket-outlets.
These socket-outlets offer tested reliability and can be used, in combination with special complementary parts and PLUSO industrial plugs, as modular integrated systems to configure distribution systems with industrial socket-outlets.
These socket-outlets are designed to be used for:
- Industrial applications
- Service applications (trade fairs, 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 and plugs for industrial use should be selected according to the following parameters:
• Rated current of the device to supply with the plug and socket-outlet coupling
• Rated supply voltage, type of current (AC or CD), rated frequency, 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
• Type of installation (fixed or mobile) to determine the construction type of plugs and socket-outlets (flush-mounting, straight or inclined, wall-mounting, mobile, mobile angled)
• The site of installation to determine the degree of protection (IP44 or IP67) and voltage (in some areas installation standards require very low safety voltage) TM socket-outlets come with base box for flush- or wall-mounting or without box for the assembly on single or multiple TM ILME boxes (available on request). This enables to configure distribution boards at a later stage. The following types of socket-outlets are available:

with insulating enclosure with base box:
- **TM..IS/KIS** types with interlock and sectionable fuse carrier
- **TM..IR/KIR** types with interlock and compartment for modular units
- **TM..SP/KSP** types with interlock (without fuse carrier)
- **TM..T1** types with safety transformer (for extra-low voltage, SELV 24V AC)

with insulating enclosure without base box (only for 16A and 32A socket-outlets):
- **TM..SIS/KSIS** types with interlock and sectionable fuse carrier
- **TM..SIR/KSIR** types with interlock and compartment for modular units
- **TM..SSP/KSSP** types with interlock (without fuse carrier)
- **TM..ST1** types with safety transformer (for extra-low voltage, SELV 24V AC)

The type references of these last types is the same as those of models with boxes.
Types with base box can be wall-mounted or flush-mounted, if required.
The high solidity of boxes and materials used enable these products to be installed in reinforced concrete casts.
Installers shall be responsible for performing the electric connections, preparing the entry holes on the boxes using the centering points on the sides, and for completing the installation using hardware with a suitable degree of protection.
The class of IP protection of the equipment will be equivalent to that resulting from the compliance with workmanship procedures and from the use of cable entries with an equivalent or higher IP degree of protection.
The degree of protection of the equipment is always equivalent to the lowest one of the installed units.
Types without base boxes can be mounted on existing and installed single or multiple boxes or on new ones, which can be purchased separately.
Socket-outlets can also be fitted with specifically designed complementary parts to configure group distribution systems suitable to meet all possible installation needs.
Socket-outlets can be fitted with:
- Back plates in two sizes (depending on the size of the socket-outlet enclosure), suitable for the assembly of socket-outlets with boxes or boxes for future expansion
- Boxes for modular units like protection and control equipment
- Junction boxes for socket-outlets or boxes
- Modular pre-assembled bases
- Single or multiple boxes for the subsequent installation of TM socket-outlets for board mounting

Socket-outlets and boxes for modular units (boxes with compartment for modular units) are suitable to be used to spring-lock modular units (17.5 mm base modules) with sized DIN-rail EN 60715 TH 35-7.5.
For information on the number of modules and maximum power that can be dissipated, see Table 1.

Socket-outlet electric characteristics

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 the CEI 64-8 installation standard), for max. rms voltage values of 50V
- Low voltage socket-outlets (plugs) for rms voltage values above 50V, up to a maximum of 690V

polarity:
models are designed with:
- 2 poles (extra-low voltage, 2P)
- 3, 4 and 5 poles (low voltage, 2P+⏚, 3P+⏚, 3P+N+⏚);

63A socket-outlets (and related plugs) also have an additional pilot contact
rated current:
with 16A, 32A and 63A values (low voltage)
rated insulation voltage:
- **690V** for low voltage socket-outlets parts. The rated insulating voltage of the whole assembly generally corresponds to that of the lowest component and is limited to 500V thanks to the presence of IS/SIS and IT/SIT fuse carriers.
- **50V** for extra-low voltage parts (T1/ST1 types always have an insulated transformer with a rated insulation voltage of 230V on the primary circuit)

minimum surface insulation distance:
6 mm for max. rated operating voltages of 500V (EN 60309-1)
minimum air insulation distance:
6 mm for maximum rated operating voltages of 500V
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.
rated shortcircuit current based on fuse:
10kA
electromagnetic compatibility:
these units do not fall within the field of application of the EMC Directive, except for socket-outlets with safety transformer (T1/ST1 types).
- Immunity: in ordinary operating conditions, these units are not affected by electromagnetic noise. This may not apply if the installer has fitted devices that are sensitive to electromagnetic noise in ordinary operating conditions.
- Emissions: all units are designed for continuous use and do not generate electromagnetic noise in ordinary operating conditions. This may not apply if the installer has fitted devices that generate electromagnetic noise in ordinary operating conditions.

Mechanical characteristics

- **mechanical resistance to impacts**
  20J (IK10 in accordance with EN 50102)
- **resistance to chemical agents**
  see Table on page 35
- **degree of protection**
  IP66/IP67 according to EN 60529 (see information note on pages 9)
- **maximum dissipating power of the enclosure**
  see table on page 9
- **resistance to glow-wire**
  self-extinguishing capacity compliant with IEC 695-2-1 (glow-wire) for enclosures 650 °C; for inserts 960 °C (value specified in standard: 850 °C)
- **temperature**
  ambient: -25 °C - +40 °C; limit of materials: -40 °C - +90 °C
- **self-extinguishing capacity**
  UL 94 classification
  - for enclosures (boxes and/or covers of fixed socket-outlets, enclosures of mobile plugs and socket-outlets): **94V-2** and **94HB**
  - for 16A and 32A inserts (socket-outlet and plug): **94V-2**
  - for 63A inserts (socket-outlet and plug): **94-5VA** and **94V-0**

Materials

- Inserts in insulating self-extinguishing thermoplastic material
- Enclosures in insulating self-extinguishing thermoplastic material MIL.BOX®, printed with BC-MUL® system, RAL 7012 grey
- Anti-aging elastomer gaskets
- Self-centering elastic brass contact tubes with zinc-plated steel spring
- Fixing retainer screws in stainless steel with cylindrical head and mixed slots for 8x1 screwdrivers and Ph2 cross screwdrivers
- Terminals with zinc-plated screws retained in their seats when unscrewed
- 32A and 63A socket-outlets with two fixing screws in the terminals as protection against accidental loss
- Terminals of 63A socket-outlets fitted with lead protection plate in zinc-plated steel TM socket-outlets, compliant with the European harmonized safety standards EN 60309-1 and EN 60309-2 satisfy the law requirements of applicable directives (73/23/EEC and subsequent amendments). Types for low voltage (V>50V), that fall within the field of application of the above-mentioned directives, are marked EC. This marking was introduced as compulsory on January 1st 1997.

Supply extension

Socket-outlets without box can be supplied with:
- Boxes for the assembly of simple, double or triple socket-outlets (purchasable separately), insulating separators for the entry/shunting area and a panel with alveolated base

Socket-outlets with boxes can be supplied with:
- Standard back plates
- Junction boxes
- Boxes for modular units
- Modular pre-assembled bases (with box for modular units)

Degree of protection

The degree of protection should be chosen according to installation standard **CEI 64-8** (that implements harmonized documents CENELEC series HD 384 and IEC 60364), whose section 7 refers to specific types of installations, such as: construction and demolition sites, structures designed for agricultural or livestock breeding use, restricted conductor areas, caravans and caravan sites, environments with higher fire hazards, public performance and entertainment areas, pools and, in the future, fountains and marinas and harbour areas.
TM interlocked socket-outlets have a double **IP6/IP67 degree of protection**. Socket-outlets with IP66/IP67 degree 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. To be able to perform the required electric connections, it is necessary to drill holes on the boxes, using the centering holes, and use appropriate hardware for assembly purposes.
The class of IP protection of the equipment will be equivalent to that resulting from the compliance with workmanship procedures and from the use of cable entries with an equivalent or higher IP degree of protection. If components with different degrees of protection are installed, the degree of protection of the distribution board or system shall be equivalent to that of the component with the lowest degree of protection. If the degree of protection of cable entries (cable, pipe and gasket glands) is equivalent or above the one marked on the socket-outlets, the IP degree of protection shall be 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 TM socket-outlets

TM socket-outlets can be used with the following range of plugs, back plates and enclosures:
- Pluso industrial socket-outlets in two standard versions with IP44 and IP67 degree of protection: PE and PEW, SIP and SIPW (phase inverters), PEM types (monobloc with 5 poles)
- Ordinary back plates (TM 1145 TB and TM 1456 TB types)
- Junction boxes (TM…DB types) in 5 sizes
- Boxes for modular units (TM…GB types) in 5 sizes
- Modular pre-assembled bases with two back plates and box for modular units (TM…DT types)
- Boxes for single socket-outlets (TM 1125 CS types), double boxes (TM 2344 T2 types) and triple boxes (TM 3444 T3 types).

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

Application of "*draft*" standard CEI 23-49, CEI EN 60670-24

The maximum power that can be dissipated, $\mathbf{P_{inv}}$ has been tested for each box in the most severe operating conditions using the method described in draft standard CEI 23-49, CEI EN 60670-24. Results are shown in **Table 1 below**.

Table 1 - Max. dissipating power P_{inv} available in enclosure (CEI 23-49, CEI EN 60670-24)

Item	Description	Number of modules	P_{inv}[1] (W) wall-mounting	P_{inv} (W) flush-mounting
TM 1114 GB	115 x 144 mm box	4 units	8	10
TM 1414 GB	144 x 144 mm box	5,5 units	10	13
TM 2314 GB	230 x 144 mm box	10 units	13	16
TM 2614 GB	260 x 144 mm box	12 units	15	19
TM 2914 GB	290 x 144 mm box	13,5 units	17	22
TM 2344 T2	double box	10 units	13	18
TM 3444 T3	triple box	16,5 units	20	26

NOTE: the maximum power that can be dissipated, P_{inv}, is identified with suffix GB "box for modular units", specifically designed to house modular units that can be assessed from the hinged door. The same amount of power can also be dissipated in models with DB suffix "junction box".

[1] Determined for each enclosure size under the most severe load conditions provided for in the standard.

Resistance to chemical agents*

Ammonium acetate	●	Cresol	○	Potassium persulphate	○
Fatty acids	●	Potassium di-chromate	○	Petroleum	●
Boric acid	●	Di-exyl Phtalate	●	Kitchen salt, aqueous solution	●
Boric acid, 10% aqueous solution	●	Di-isononyl Phtalate	●	Tallow	●
Lactic acid	●	Sulphur dioxide (sulphurous anhydride)	○	Sodium silicate	●
Oleic acid	●	Di-optyl Phtalate	●	Ammonium sulphate	●
Oxalic acid	●	Epthane	○	Calcium sulphate	●
Stearic acid	●	Hexane	○	Potassium sulphate	○
Succinic acid (butanedioic acid)	●	Petrol ether	○	Copper sulphate 10% aqueous solution	●
Tartaric acid	●	Diluted Phenol	○	Sodium sulphate	●
Water	●	Ammonium phosphate	●	Sodium sulphide	●
Boric water	●	Sodium phosphate	●	Cresolic solution	○
Sea water	●	Diesel Oil	○	Solution for photographic processing	●
Amyl alcohol	○	Gypsum (see calcium sulphate)	●	Soap solution	○
White alcohol (isopropanol + ethanol)	○	Glycerine	●	Fruit juices	●
Ethyl alcohol	●	Diluted Glycerine	●	Sodium Thiosulphate (photographic fixer)	●
Isopropyl alcohol	○	Ethylene-glycol or propylene-glycol	●	Trichresyl phosphate	●
Methyl alcohol, diluted 50%	○	Diluted Glycol	●	Diluted urea	●
Alum	●	Diluted Glucose	●	Urine	●
Aqueous amid	●	Hydrogen sulphide	○	Sulphur	●
Gaseous ammonia	○	Sodium hydroxide 12,5% (liscivia)	○		
Ammonia, 10% aqueous solution	●	Ink	●		
Aniline	○	Potassium iodide	○		
Mothballs (naphthalene, paradichlorobenzene)	○	Mercury	●		
Asphalt	○	Naphthalene	○		
Normal (low octane) gasoline (petrol)	○	N-Butanol (butyl alcohol)	●		
Petroleum spirit (dry cleaning)	○	Ammonium nitrate	●		
Sodium bicarbonate (oxide)	●	Calcium nitrate	●		
Beer	●	Potassium nitrate	○		
Sodium disulphate, aqueous solution	●	Sodium nitrate	●		
Borax	○	Sodium nitrite	○		
Butane, gas	○	Fuel oils	○		
Butane, liquid	○	Mineral oils (un-tasteful)	●		
Ammonium carbonate	●	Lubricating engine oil	○		
Potassium carbonate	●	Mineral based oil	●		
Sodium carbonate (washing soda)	●	Grinding oil	○		
Tar	○	Cutting oil	○		
Potassium cyanide, aqueous solution	●	Linseed oil	●		
Cyclo-hexane	○	Paraffin oil	●		
Potassium chlorate	●	Silicon oil	●		
Sodium chlorate	●	IRM oil 901, 20 °C	●		
Ammonium chloride	●	IRM oil 902, 20 °C	○		
Calcium chloride, diluted suspension	●	Lubricating oil	●		
Calcium chloride	●	Transformer oil (dielectric)	●		
Calcium chloride, 10% aqueous solution	●	Vegetal oil	●		
Potassium chloride	●	Octane	○		
Sodium chloride (kitchen salt)	●	Sodium perborate	●		

● = resistant ○ = limited resistance

* The classification herewith provided is only a generic reference guidance in order to enable a first selection. It is based on literature data provided by the suppliers of the raw materials used, which are related to tests made on specimens under test conditions which are not always homogeneous and involving accelerating techniques, therefore not necessarily describing real operational conditions. The actual behaviour of products in the field may therefore be positively or negatively influenced by several variable environmental parameters like temperature, relative humidity, presence at the same time of a plurality of substances and their concentration, exposure time, dynamic or static application condition, and so on. The accuracy of transferring the indications given herein to the actual conditions of use is therefore merely indicative and does not imply any guarantee or responsibility by ILME.

NEW

AVAILABLE IN
TM ATEX

For further information please contact **ILME SpA**

w w w . i l m e . c o m

Wall-mounting, with single box

TM...IS
32A / 63A

TM...IS/KIS
16A / 32A

TM...IR
32A / 63A

TM...IR/KIR
16A / 32A

TM...SP
32A / 63A

TM...SP/KSP
16A / 32A

TM...IA
TM...IAD
63A

TM...SP
TM...IH
TM...IA
TM...IAD
125A

TM...T1
with transformer

For assembly, in single or multiple boxes

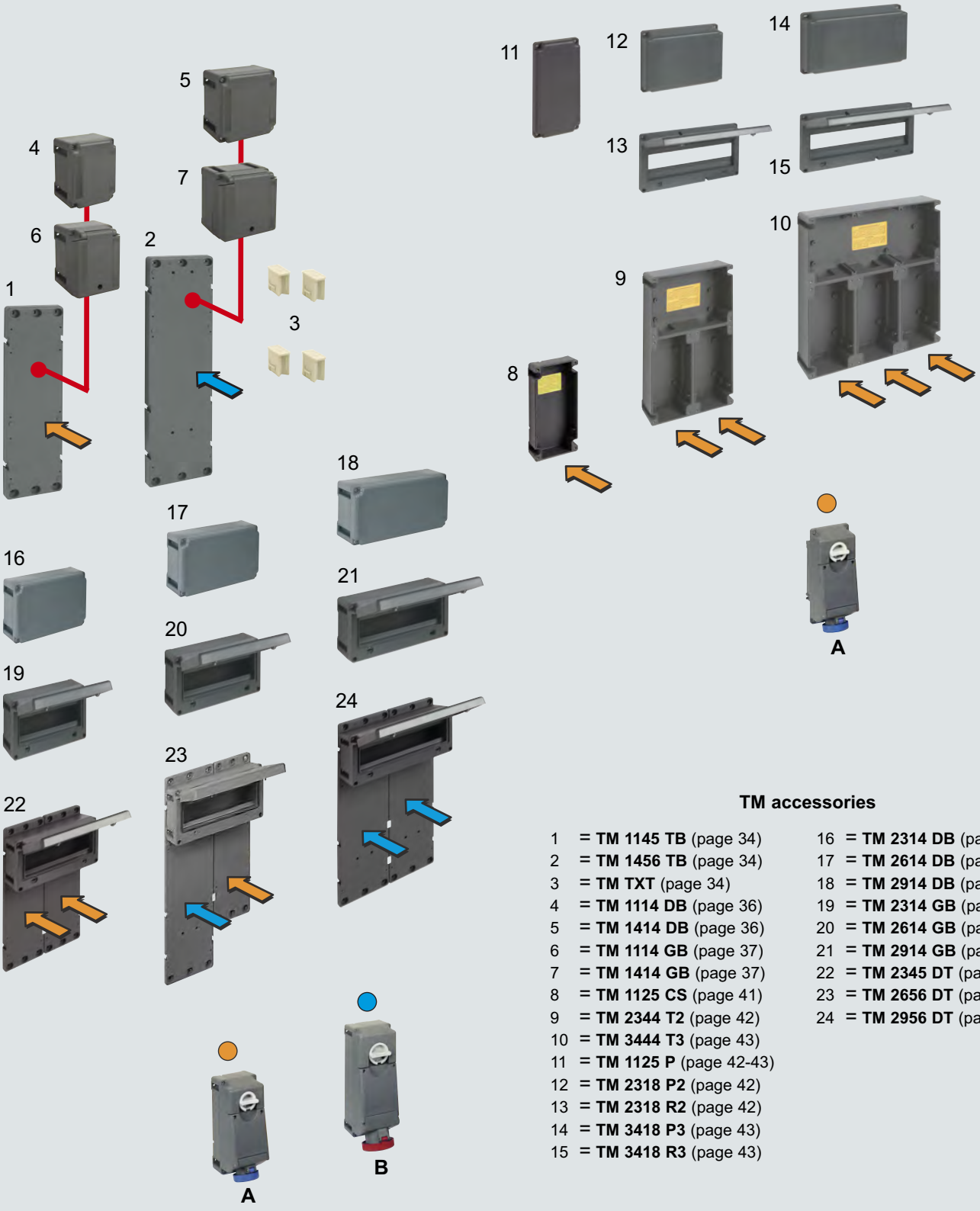
TM...SIS/KSIS
16A / 32A

TM...SIR/KSIR
16A / 32A

TM...SSP/KSSP
16A / 32A

TM...ST1
with transformer

TM...K.. = 32A socket-outlets with 255 x 114 mm fixing base



TM accessories

1 = **TM 1145 TB** (page 34)
2 = **TM 1456 TB** (page 34)
3 = **TM TXT** (page 34)
4 = **TM 1114 DB** (page 36)
5 = **TM 1414 DB** (page 36)
6 = **TM 1114 GB** (page 37)
7 = **TM 1414 GB** (page 37)
8 = **TM 1125 CS** (page 41)
9 = **TM 2344 T2** (page 42)
10 = **TM 3444 T3** (page 43)
11 = **TM 1125 P** (page 42-43)
12 = **TM 2318 P2** (page 42)
13 = **TM 2318 R2** (page 42)
14 = **TM 3418 P3** (page 43)
15 = **TM 3418 R3** (page 43)
16 = **TM 2314 DB** (page 36)
17 = **TM 2614 DB** (page 36)
18 = **TM 2914 DB** (page 36)
19 = **TM 2314 GB** (page 37)
20 = **TM 2614 GB** (page 37)
21 = **TM 2914 GB** (page 37)
22 = **TM 2345 DT** (page 34)
23 = **TM 2656 DT** (page 35)
24 = **TM 2956 DT** (page 35)

Legend

The list above shows all the possible combinations of socket-outlets, back plates and enclosures that can be used to configure distribution systems. The coloured point near to the socket-outlets indicates their size, while the arrows (in the matching colour) indicate the assembly options.

A = Socket-outlets with 255 x 114 mm fixing base
B = Socket-outlets with 370 x 144 mm fixing base

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- 125A types with pilot contact
- Factory installed internal wiring
- Cable entry with drilling template
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted and the plug from being removed while the switch is on
- Knob lockable in positions O and I
- Compartment with fuse carrier (fuses not supplied) for NH fuse-links with blade contacts
- Microswitch indicating insertion status of plug for TM 125 IH/SP only: **TM 125 MPL**
- Auxiliary switch indicating status of socket-outlet switch for TM 125 IH/SP only: **TM 125 MSO**
- Padlock for switch of socket outlets TM: **TM BLC**

Rated current	Fuse carrier type
125A	NH 00

125A
IP66/IP67 degree of protection

AVAILABLE END 2017

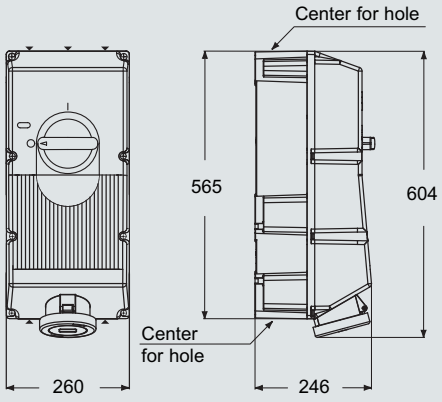
Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour
2P+⏚	50 and 60	100 - 130	4	**TM 12543 IH**	
	50 and 60	200 - 250	6	**TM 12563 IH**	
	50 and 60	380 - 415	9	**TM 12593 IH**	
	50 and 60	480 - 500	7	**TM 12573 IH**	
3P+⏚	50 and 60	100 - 130	4	**TM 12544 IH**	
	50 and 60	200 - 250	9	**TM 12594 IH**	
	50 and 60	380 - 415	6	**TM 12564 IH**	
	60	440 - 460	11	**TM 125114 IH**	
	50 and 60	480 - 500	7	**TM 12574 IH**	
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 12545 IH**	
	50 and 60	120/208 - 144/250	9	**TM 12595 IH**	
	50 and 60	200/346 - 240/415	6	**TM 12565 IH**	
	50 and 60	277/480 - 288/500	7	**TM 12575 IH**	
	60	250/440 - 265/460	11	**TM 125115 IH**	

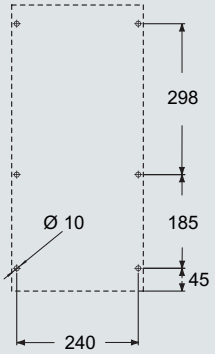
Legend

A.V. = Colour according to voltage

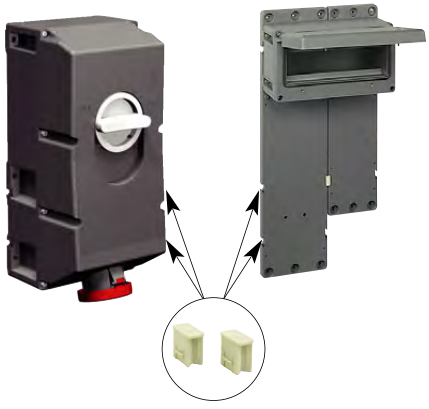
***)** Green may be used together with the colour of the operating range for frequencies above 60 Hz and up to a maximum of 500 Hz

dimensions in mm





Socket-outlets combinations



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

AUXILIARY SWITCH
(page 51)

PADLOCK
(page 51)

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- 125A types with pilot contact
- Factory installed internal wiring
- Cable entry with drilling template
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted and the plug from being removed while the switch is on
- Knob lockable in positions O and I
- Microswitch indicating insertion status of plug for TM 125 IH/SP only: **TM 125 MPL**
- Auxiliary switch indicating status of socket-outlet switch for TM 125 IH/SP only: **TM 125 MSO**
- Padlock for switch of socket outlets TM: **TM BLC**

125A
IP66/IP67 degree of protection

AVAILABLE END 2017

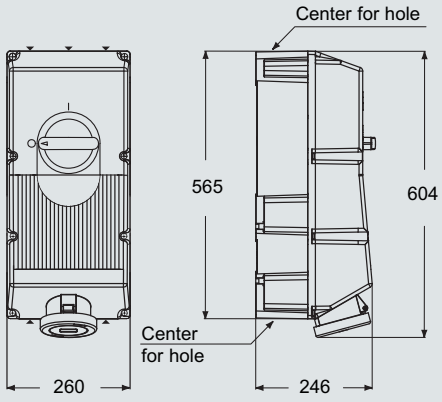
Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour
2P+⏚	50 and 60	100 - 130	4	**TM 12543 SP**	
	50 and 60	200 - 250	6	**TM 12563 SP**	
	50 and 60	380 - 415	9	**TM 12593 SP**	
	50 and 60	480 - 500	7	**TM 12573 SP**	
3P+⏚	50 and 60	100 - 130	4	**TM 12544 SP**	
	50 and 60	200 - 250	9	**TM 12594 SP**	
	50 and 60	380 - 415	6	**TM 12564 SP**	
	60	440 - 460	11	**TM 125114 SP**	
	50 and 60	480 - 500	7	**TM 12574 SP**	
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 12545 SP**	
	50 and 60	120/208 - 144/250	9	**TM 12595 SP**	
	50 and 60	200/346 - 240/415	6	**TM 12565 SP**	
	50 and 60	277/480 - 288/500	7	**TM 12575 SP**	
	60	250/440 - 265/460	11	**TM 125115 SP**	

Legend

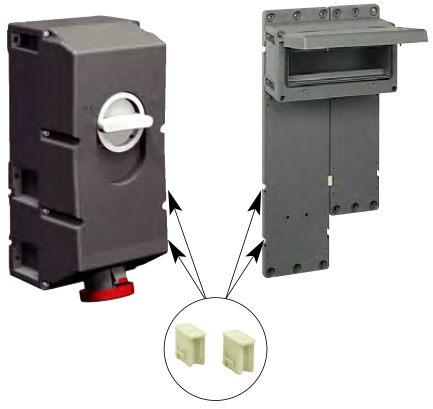
A.V. = Colour according to voltage

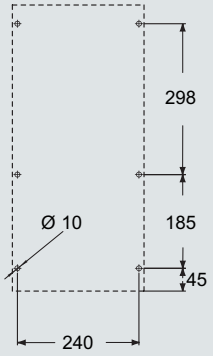
***)** Green may be used together with the colour of the operating range for frequencies above 60 Hz and up to a maximum of 500 Hz

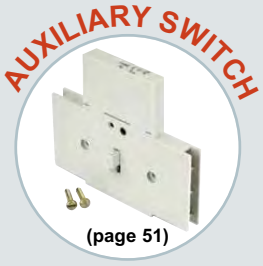
dimensions in mm



Socket-outlets combinations







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

TM.. IA socket-outlets with moulded case circuit breaker, electrical interlock

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- 63A/125A types with pilot contact
- Factory installed internal wiring
- Cable entry with drilling template
- Moulded case magnetothermal circuit-breaker with undervoltage relay, compliant with EN 60947-2
- Electrical interlock based on pilot contact that prevents underload operations and monitors the earthing contact continuity (see diagram)
- Plug-type fuse carriers on the primary and secondary circuits of the transformer

63A
IP66 degree of protection

AVAILABLE END 2017

125A
IP66 degree of protection

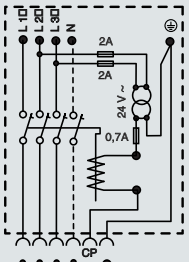
AVAILABLE END 2017

Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour	Part No.	Colour
2P+⏚	50 and 60	100 - 130	4	**TM 6343 IA**		**TM 12543 IA**	
	50 and 60	200 - 250	6	**TM 6363 IA**		**TM 12563 IA**	
	50 and 60	380 - 415	9	**TM 6393 IA**		**TM 12593 IA**	
	50 and 60	480 - 500	7	**TM 6373 IA**		**TM 12573 IA**	
	50 and 60	ins. transformer	12	**TM 63123 IA**	A.V.	**TM 125123 IA**	A.V.
	d.c.	> 50 - 250	3	**TM 6333 IA**	A.V.	**TM 12533 IA**	A.V.
3P+⏚	50 and 60	100 - 130	4	**TM 6344 IA**		**TM 12544 IA**	
	50 and 60	200 - 250	9	**TM 6394 IA**		**TM 12594 IA**	
	50 and 60	380 - 415	6	**TM 6364 IA**		**TM 12564 IA**	
	60	440 - 460	11	**TM 63114 IA**		**TM 125114 IA**	
	50 and 60	480 - 500	7	**TM 6374 IA**		**TM 12574 IA**	
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 6345 IA**		**TM 12545 IA**	
	50 and 60	120/208 - 144/250	9	**TM 6395 IA**		**TM 12595 IA**	
	50 and 60	200/346 - 240/415	6	**TM 6365 IA**		**TM 12565 IA**	
	50 and 60	277/480 - 288/500	7	**TM 6375 IA**		**TM 12575 IA**	
	60	250/440 - 265/460	11	**TM 63115 IA**		**TM 125115 IA**	

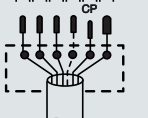
Legend

A.V. = Colour according to voltage

Electric wiring diagram

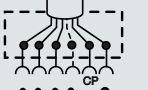


Socket-outlet with electric interlock

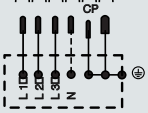


Plug

Cable



Coupler socket-outlet



Fixed plug

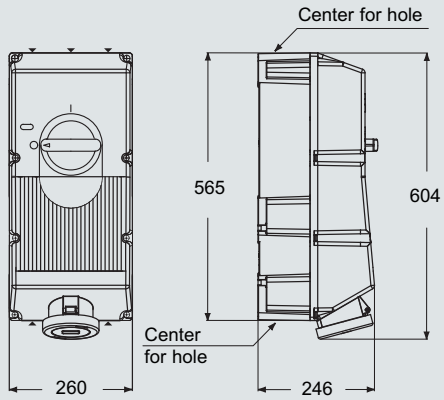
Appliance

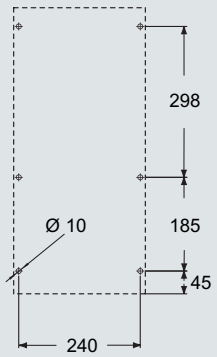
Characteristics of circuit breakers

Type	Thermal relay	Magnetic relay	Breaking capacity (cosfi 0.3) 220-230V	380-415V	500V
63A	63A	630A	40kA	25kA	10kA
125A	125A	1.250A	40kA	25kA	10kA

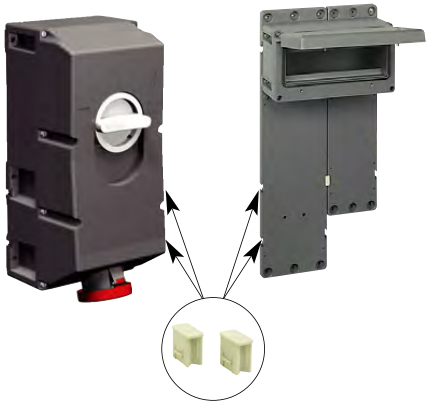
dimensions indicated are not binding and may be changed without prior notice.

dimensions in mm





Socket-outlets combinations



TM.. IAD socket-outlets with moulded case circuit breaker and residual current device, electrical interlock

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- 63A types with pilot contact
- Factory installed internal wiring
- Cable entry with drilling template
- Moulded case magnetothermal circuit breaker with undervoltage relay, compliant with EN 60947-2
- RCD 30 mA
- Electrical interlock based on pilot contact that prevents underload operations and monitors the earthing contact continuity (see diagram)
- Plug-type fuse carriers on the primary and secondary circuits of the transformer

63A
IP66 degree of protection

AVAILABLE END 2017

125A
IP66 degree of protection

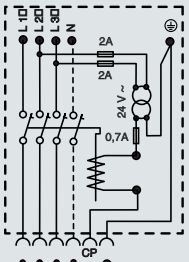
AVAILABLE END 2017

Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour	Part No.	Colour
2P+⏚	50 and 60	100 - 130	4	**TM 6343 IAD**		**TM 12543 IAD**	
	50 and 60	200 - 250	6	**TM 6363 IAD**		**TM 12563 IAD**	
	50 and 60	380 - 415	9	**TM 6393 IAD**		**TM 12593 IAD**	
	50 and 60	480 - 500	7	**TM 6373 IAD**		**TM 12573 IAD**	
	50 and 60	ins. transformer	12	**TM 63123 IAD**	A.V.	**TM 125123 IAD**	A.V.
	d.c.	> 50 - 250	3	**TM 6333 IAD**	A.V.	**TM 12533 IAD**	A.V.
3P+⏚	50 and 60	100 - 130	4	**TM 6344 IAD**		**TM 12544 IAD**	
	50 and 60	200 - 250	9	**TM 6394 IAD**		**TM 12594 IAD**	
	50 and 60	380 - 415	6	**TM 6364 IAD**		**TM 12564 IAD**	
	60	440 - 460	11	**TM 63114 IAD**		**TM 125114 IAD**	
	50 and 60	480 - 500	7	**TM 6374 IAD**		**TM 12574 IAD**	
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 6345 IAD**		**TM 12545 IAD**	
	50 and 60	120/208 - 144/250	9	**TM 6395 IAD**		**TM 12595 IAD**	
	50 and 60	200/346 - 240/415	6	**TM 6365 IAD**		**TM 12565 IAD**	
	50 and 60	277/480 - 288/500	7	**TM 6375 IAD**		**TM 12575 IAD**	
	60	250/440 - 265/460	11	**TM 63115 IAD**		**TM 125115 IAD**	

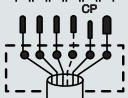
Legend

A.V. = Colour according to voltage

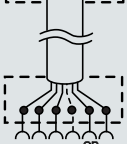
Electric wiring diagram



Socket-outlet with electric interlock

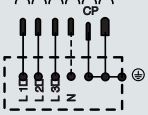


Plug



Cable

Coupler socket-outlet



Fixed plug

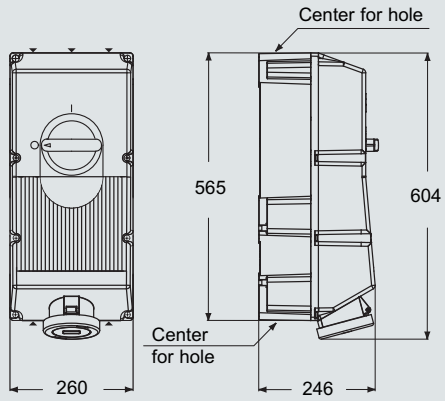
Appliance

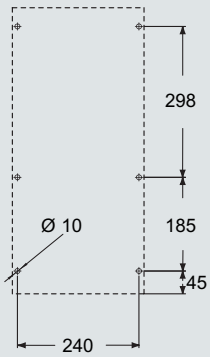
Characteristics of circuit breakers

Type	Thermal relay	Magnetic relay	Breaking capacity (cosfi 0.3) 220-230V	380-415V	500V
63A	63A	630A	40kA	25kA	10kA
125A	125A	1.250A	40kA	25kA	10kA

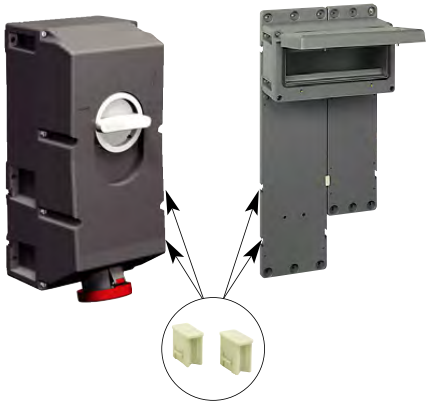
dimensions indicated are not binding and may be changed without prior notice.

dimensions in mm





Socket-outlets combinations



TM.. IS/KIS interlocked socket-outlets and sectionable fuse carrier

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- Factory installed internal wiring
- Cable entry with drilling template
- "Zeta" switch with I_{th}= 32A rating for 16A and 32A socket-outlets
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted and the plug from being removed while the switch is on
- Knob lockable in positions O and I
- Compartment with sectionable fuse carrier (fuses not supplied) and inspection panel openable only when the switch is off
- ⓜ With Italian Quality Mark

Rated current socket part	Maximum operating current	Fuse carrier CH type
16A	16A	10 x 38
32A	32A	10 x 38

16A
IP66/IP67 degree of protection

32A
IP66/IP67 degree of protection

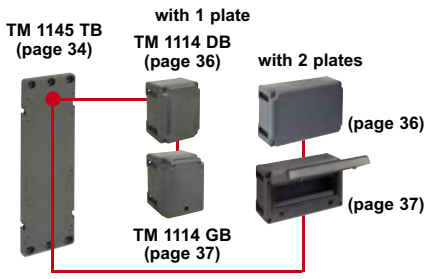
Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour	Part No.	Colour
2P+⏚	50 and 60	100 - 130	4	**TM 1643 IS** ⓜ		**TM 3243KIS** ⓜ	
	50 and 60	200 - 250	6	**TM 1663 IS** ⓜ		**TM 3263KIS** ⓜ	
	50 and 60	380 - 415	9	**TM 1693 IS** ⓜ		**TM 3293KIS** ⓜ	
	50 and 60	480 - 500	7	**TM 1673 IS** ⓜ			
	50 and 60	ins. transformer	12	**TM 16123 IS** ⓜ	A.V.	**TM 32123KIS** ⓜ	A.V.
	> 300 - 500	> 50	2	**TM 1623 IS** ⓜ	*)	**TM 3223KIS** ⓜ **(up to 400V)**	*)
	d.c.	> 50 - 250	3	**TM 1633 IS** ⓜ	A.V.	**TM 3233KIS** ⓜ	A.V.
3P+⏚	50 and 60	100 - 130	4	**TM 1644 IS** ⓜ		**TM 3244KIS** ⓜ	
	50 and 60	200 - 250	9	**TM 1694 IS** ⓜ		**TM 3294KIS** ⓜ	
	50 and 60	380 - 415	6	**TM 1664 IS** ⓜ		**TM 3264KIS** ⓜ	
	60	440 - 460	11	**TM 16114 IS** ⓜ			
	50 and 60	480 - 500	7	**TM 1674 IS** ⓜ			
	50	380	3	**TM 1634 IS** ⓜ		**TM 3234KIS** ⓜ	
	60	440	3	**TM 1634 IS** ⓜ			
	100 - 300	> 50	10	**TM 16104 IS** ⓜ	*)	**TM 32104KIS** ⓜ **(up to 400V)**	*)
	> 300 - 500	> 50	2	**TM 1624 IS** ⓜ	*)	**TM 3224KIS** ⓜ **(up to 400V)**	*)
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 1645 IS** ⓜ		**TM 3245KIS** ⓜ	
	50 and 60	120/208 - 144/250	9	**TM 1695 IS** ⓜ		**TM 3295KIS** ⓜ	
	50 and 60	200/346 - 240/415	6	**TM 1665 IS** ⓜ		**TM 3265KIS** ⓜ	
	50 and 60	277/480 - 288/500	7	**TM 1675 IS** ⓜ			
	60	250/440 - 265/460	11	**TM 16115 IS** ⓜ			
	50	220/380	3	**TM 1635 IS** ⓜ		**TM 3235KIS** ⓜ	
	60	250/440	3	**TM 1635 IS** ⓜ			
	> 300 - 500	> 50	2	**TM 1625 IS** ⓜ	*)	**TM 3225KIS** ⓜ **(up to 400V)**	*)

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

Accessories for socket-outlets combinations



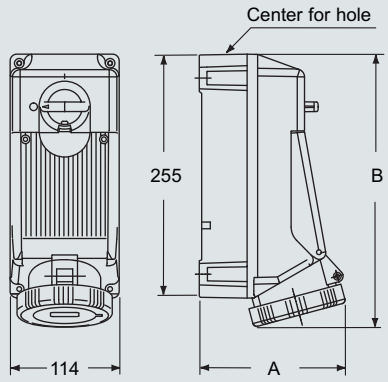
Accessories for assembly on control panels

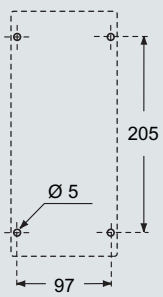
QP V - QG V

(page 39)

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

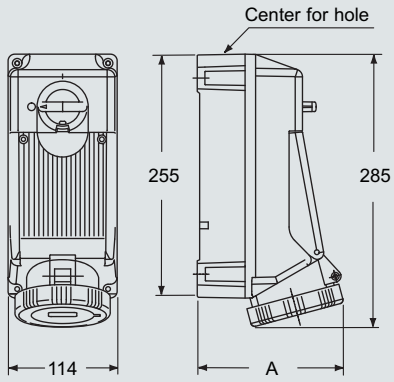
dimensions in mm

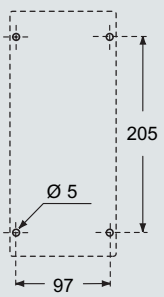




Poles	A	B
2P+⏚	133	276
3P+⏚	135	276
3P+N+⏚	140	277

dimensions in mm





Poles	A
2P+⏚	146
3P+⏚	146
3P+N+⏚	151

TM.. IS interlocked socket-outlets and sectionable fuse carrier

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- 63A types with pilot contact
- Factory installed internal wiring
- Cable entry with drilling template
- "Zeta" switch I_{th}= 80A (in air) and I_{the}= 63A (in enclosure) for 32A and 63A socket-outlets
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted and the plug from being removed while the switch is on
- Knob lockable in positions O and I
- Compartment with sectionable fuse carrier (fuses not supplied) and inspection panel openable only when the switch is off
- ⓜ With Italian Quality Mark

Rated current	Fuse carrier type CH
32A	14 x 51
63A	22 x 58

32A
IP66/IP67 degree of protection

63A
IP66/IP67 degree of protection

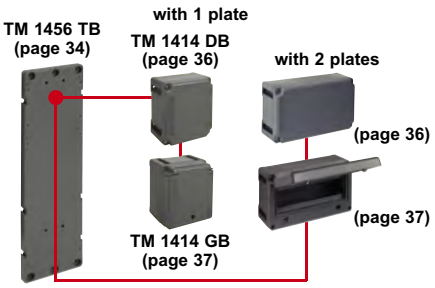
Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour	Part No.	Colour
2P+⏚	50 and 60	100 - 130	4	**TM 3243 IS** ⓜ		**TM 6343 IS** ⓜ	
	50 and 60	200 - 250	6	**TM 3263 IS** ⓜ		**TM 6363 IS** ⓜ	
	50 and 60	380 - 415	9	**TM 3293 IS** ⓜ		**TM 6393 IS** ⓜ	
	50 and 60	480 - 500	7	**TM 3273 IS** ⓜ		**TM 6373 IS** ⓜ	
	50 and 60	ins. transformer	12	**TM 32123 IS** ⓜ	A.V.	**TM 63123 IS** ⓜ	A.V.
	> 300 - 500	> 50	2	**TM 3223 IS** ⓜ	*)		
	d.c.	> 50 - 250	3	**TM 3233 IS** ⓜ	A.V.		
3P+⏚	50 and 60	100 - 130	4	**TM 3244 IS** ⓜ		**TM 6344 IS** ⓜ	
	50 and 60	200 - 250	9	**TM 3294 IS** ⓜ		**TM 6394 IS** ⓜ	
	50 and 60	380 - 415	6	**TM 3264 IS** ⓜ		**TM 6364 IS** ⓜ	
	60	440 - 460	11	**TM 32114 IS** ⓜ		**TM 63114 IS** ⓜ	
	50 and 60	480 - 500	7	**TM 3274 IS** ⓜ		**TM 6374 IS** ⓜ	
	50	380	3	**TM 3234 IS** ⓜ			
	60	440	3	**TM 3234 IS** ⓜ			
	100 - 300	> 50	10	**TM 32104 IS** ⓜ	*)		
	> 300 - 500	> 50	2	**TM 3224 IS** ⓜ	*)		
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 3245 IS** ⓜ		**TM 6345 IS** ⓜ	
	50 and 60	120/208 - 144/250	9	**TM 3295 IS** ⓜ		**TM 6395 IS** ⓜ	
	50 and 60	200/346 - 240/415	6	**TM 3265 IS** ⓜ		**TM 6365 IS** ⓜ	
	50 and 60	277/480 - 288/500	7	**TM 3275 IS** ⓜ		**TM 6375 IS** ⓜ	
	60	250/440 - 265/460	11	**TM 32115 IS** ⓜ		**TM 63115 IS** ⓜ	
	50	220/380	3	**TM 3235 IS** ⓜ			
	60	250/440	3	**TM 3235 IS** ⓜ			
	> 300 - 500	> 50	2	**TM 3225 IS** ⓜ	*)		

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

Accessories for socket-outlets combinations



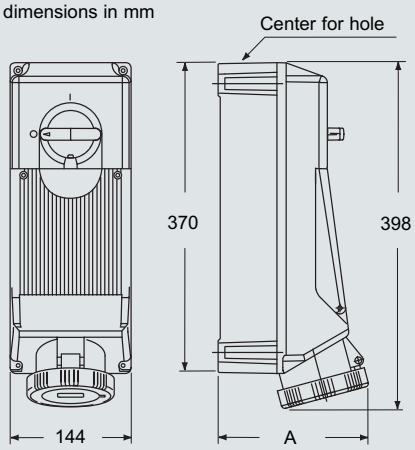
Accessories for assembly on control panels

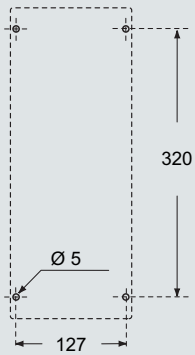
QP V - QG V

(page 39)

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

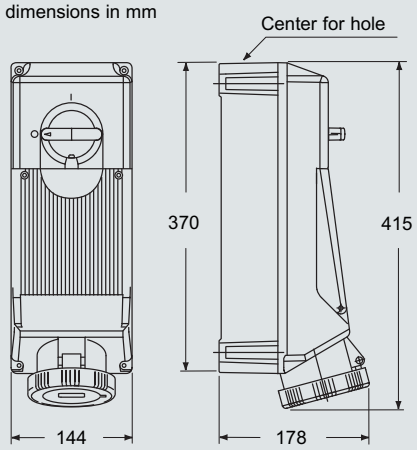
dimensions in mm

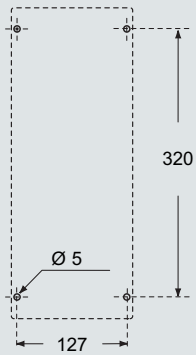




Poles	A
2P+⏚	162
3P+⏚	162
3P+N+⏚	169

dimensions in mm





TM.. IR/KIR interlocked socket-outlets with compartment for modular units

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- Factory installed internal wiring
- Cable entry with drilling template
- "Zeta" switch with I_{th}= 32A rating for 16A and 32A socket-outlets
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted and the plug from being removed while the switch is on
- Knob lockable in positions O and I
- Compartment for modular units with DIN-rail EN 60715 (CEI 17-78) TH 35-7,5 and inspection panel that can be opened only when the switch is off
- ⓜ With Italian Quality Mark

Rated of socket part	N. of modules for mounting on 17.5 DIN-rail	Dimensions of the modular compartment in mm
16A	4,5	82 x 45
32A	4,5	82 x 45

16A
IP66/IP67 degree of protection

32A
IP66/IP67 degree of protection

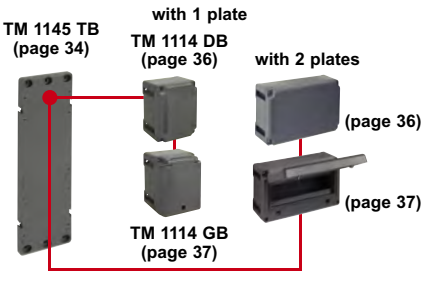
Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour	Part No.	Colour
2P+⏚	50 and 60	100 - 130	4	**TM 1643 IR** ⓜ		**TM 3243KIR** ⓜ	
	50 and 60	200 - 250	6	**TM 1663 IR** ⓜ		**TM 3263KIR** ⓜ	
	50 and 60	380 - 415	9	**TM 1693 IR** ⓜ		**TM 3293KIR** ⓜ	
	50 and 60	480 - 500	7	**TM 1673 IR** ⓜ		**TM 3273KIR** ⓜ	
	50 and 60	ins. transformer	12	**TM 16123 IR** ⓜ	A.V.	**TM 32123KIR** ⓜ	A.V.
	> 300 - 500	> 50	2	**TM 1623 IR** ⓜ	*)	**TM 3223KIR** ⓜ	*)
	d.c.	> 50 - 250	3	**TM 1633 IR** ⓜ	A.V.	**TM 3233KIR** ⓜ	A.V.
3P+⏚	50 and 60	100 - 130	4	**TM 1644 IR** ⓜ		**TM 3244KIR** ⓜ	
	50 and 60	200 - 250	9	**TM 1694 IR** ⓜ		**TM 3294KIR** ⓜ	
	50 and 60	380 - 415	6	**TM 1664 IR** ⓜ		**TM 3264KIR** ⓜ	
	60	440 - 460	11	**TM 16114 IR** ⓜ		**TM 32114KIR** ⓜ	
	50 and 60	480 - 500	7	**TM 1674 IR** ⓜ		**TM 3274KIR** ⓜ	
	50	380	3	**TM 1634 IR** ⓜ		**TM 3234KIR** ⓜ	
	60	440	3	**TM 1634 IR** ⓜ		**TM 3234KIR** ⓜ	
	100 - 300	> 50	10	**TM 16104 IR** ⓜ	*)	**TM 32104KIR** ⓜ	*)
	> 300 - 500	> 50	2	**TM 1624 IR** ⓜ	*)	**TM 3224KIR** ⓜ	*)
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 1645 IR** ⓜ		**TM 3245KIR** ⓜ	
	50 and 60	120/208 - 144/250	9	**TM 1695 IR** ⓜ		**TM 3295KIR** ⓜ	
	50 and 60	200/346 - 240/415	6	**TM 1665 IR** ⓜ		**TM 3265KIR** ⓜ	
	50 and 60	277/480 - 288/500	7	**TM 1675 IR** ⓜ		**TM 3275KIR** ⓜ	
	60	250/440 - 265/460	11	**TM 16115 IR** ⓜ		**TM 32115KIR** ⓜ	
	50	220/380	3	**TM 1635 IR** ⓜ		**TM 3235KIR** ⓜ	
	60	250/440	3	**TM 1635 IR** ⓜ		**TM 3235KIR** ⓜ	
	> 300 - 500	> 50	2	**TM 1625 IR** ⓜ	*)	**TM 3225KIR** ⓜ	*)

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

Accessories for socket-outlets combinations



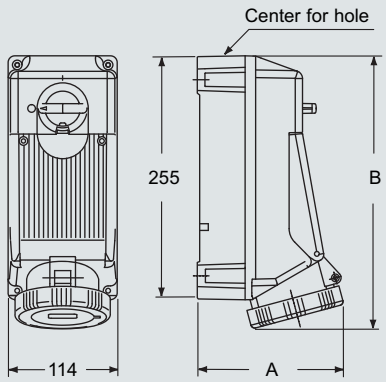
Accessories for assembly on control panels

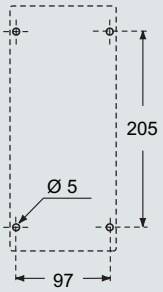
QP V - QG V

(page 39)

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

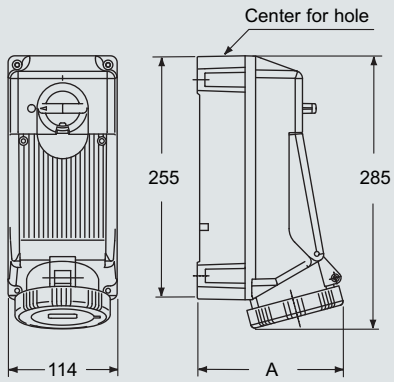
dimensions in mm

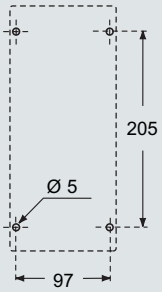




Poles	A	B
2P+⏚	133	276
3P+⏚	135	276
3P+N+⏚	140	277

dimensions in mm





Poles	A
2P+⏚	146
3P+⏚	146
3P+N+⏚	151

TM.. IR interlocked socket-outlets with compartment for modular units

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- 63A types with pilot contact
- Factory installed internal wiring
- Cable entry with drilling template
- "Zeta" switch I_{th}= 80A (in air) and I_{the}= 63A (in enclosure) for 32A and 63A socket-outlets
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted and the plug from being removed while the switch is on
- Knob lockable in positions O and I
- Compartment for modular units with DIN-rail EN 60715 (CEI 17-78) TH 35-7,5 and inspection panel that can be opened only when the switch is off
- ⓜ With Italian Quality Mark

Rated of socket part	N. of modules for mounting on 17.5 DIN-rail	Dimensions of the modular compartment in mm
32A	6	108 x 45
63A	6	108 x 45

32A
IP66/IP67 degree of protection

63A
IP66/IP67 degree of protection

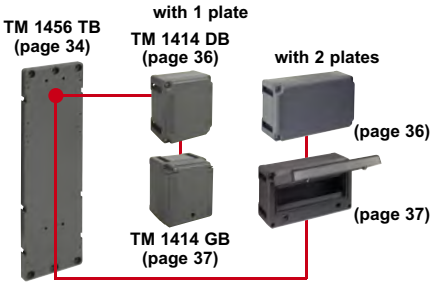
Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour	Part No.	Colour
2P+⏚	50 and 60	100 - 130	4	**TM 3243 IR** ⓜ		**TM 6343 IR** ⓜ	
	50 and 60	200 - 250	6	**TM 3263 IR** ⓜ		**TM 6363 IR** ⓜ	
	50 and 60	380 - 415	9	**TM 3293 IR** ⓜ		**TM 6393 IR** ⓜ	
	50 and 60	480 - 500	7	**TM 3273 IR** ⓜ		**TM 6373 IR** ⓜ	
	50 and 60	ins. transformer	12	**TM 32123 IR** ⓜ	A.V.	**TM 63123 IR** ⓜ	A.V.
	> 300 - 500	> 50	2	**TM 3223 IR** ⓜ	*)		
	d.c.	> 50 - 250	3	**TM 3233 IR** ⓜ	A.V.		
3P+⏚	50 and 60	100 - 130	4	**TM 3244 IR** ⓜ		**TM 6344 IR** ⓜ	
	50 and 60	200 - 250	9	**TM 3294 IR** ⓜ		**TM 6394 IR** ⓜ	
	50 and 60	380 - 415	6	**TM 3264 IR** ⓜ		**TM 6364 IR** ⓜ	
	60	440 - 460	11	**TM 32114 IR** ⓜ		**TM 63114 IR** ⓜ	
	50 and 60	480 - 500	7	**TM 3274 IR** ⓜ		**TM 6374 IR** ⓜ	
	50	380	3	**TM 3234 IR** ⓜ			
	60	440	3	**TM 3234 IR** ⓜ			
	100 - 300	> 50	10	**TM 32104 IR** ⓜ	*)		
	> 300 - 500	> 50	2	**TM 3224 IR** ⓜ	*)		
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 3245 IR** ⓜ		**TM 6345 IR** ⓜ	
	50 and 60	120/208 - 144/250	9	**TM 3295 IR** ⓜ		**TM 6395 IR** ⓜ	
	50 and 60	200/346 - 240/415	6	**TM 3265 IR** ⓜ		**TM 6365 IR** ⓜ	
	50 and 60	277/480 - 288/500	7	**TM 3275 IR** ⓜ		**TM 6375 IR** ⓜ	
	60	250/440 - 265/460	11	**TM 32115 IR** ⓜ		**TM 63115 IR** ⓜ	
	50	220/380	3	**TM 3235 IR** ⓜ			
	60	250/440	3	**TM 3235 IR** ⓜ			
	> 300 - 500	> 50	2	**TM 3225 IR** ⓜ	*)		

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

Accessories for socket-outlets combinations



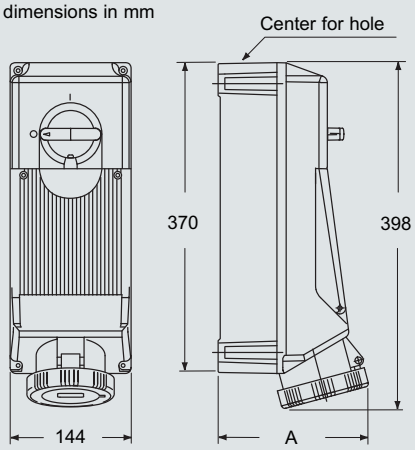
Accessories for assembly on control panels

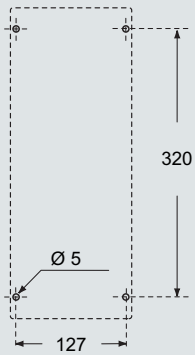
QP V - QG V

(page 39)

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

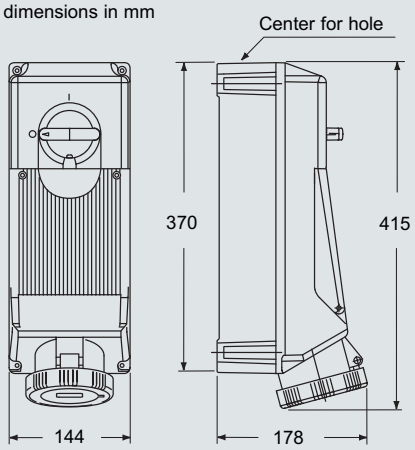
dimensions in mm

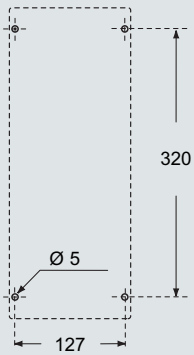




Poles	A
2P+⏚	162
3P+⏚	162
3P+N+⏚	169

dimensions in mm





TM.. SP/KSP interlocked socket-outlets

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- Factory installed internal wiring
- Cable entry with drilling template
- "Zeta" switch with I_{th}= 32A rating for 16A and 32A socket-outlets
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted and the plug from being removed while the switch is on
- Knob lockable in positions O and I
- ♆ With Italian Quality Mark

16A
IP66/IP67 degree of protection

32A
IP66/IP67 degree of protection

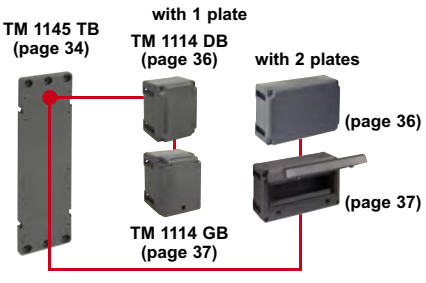
Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour	Part No.	Colour
2P+⏚	50 and 60	100 - 130	4	**TM 1643 SP** ♆		**TM 3243KSP** ♆	
	50 and 60	200 - 250	6	**TM 1663 SP** ♆		**TM 3263KSP** ♆	
	50 and 60	380 - 415	9	**TM 1693 SP** ♆		**TM 3293KSP** ♆	
	50 and 60	480 - 500	7	**TM 1673 SP** ♆		**TM 3273KSP** ♆	
	50 and 60	ins. transformer	12	**TM 16123 SP** ♆	A.V.	**TM 32123KSP** ♆	A.V.
	> 300 - 500	> 50	2	**TM 1623 SP** ♆	*)	**TM 3223KSP** ♆	*)
	d.c.	> 50 - 250	3	**TM 1633 SP** ♆	A.V.	**TM 3233KSP** ♆	A.V.
3P+⏚	50 and 60	100 - 130	4	**TM 1644 SP** ♆		**TM 3244KSP** ♆	
	50 and 60	200 - 250	9	**TM 1694 SP** ♆		**TM 3294KSP** ♆	
	50 and 60	380 - 415	6	**TM 1664 SP** ♆		**TM 3264KSP** ♆	
	60	440 - 460	11	**TM 16114 SP** ♆		**TM 32114KSP** ♆	
	50 and 60	480 - 500	7	**TM 1674 SP** ♆		**TM 3274KSP** ♆	
	50	380	3	**TM 1634 SP** ♆		**TM 3234KSP** ♆	
	60	440	3	**TM 1634 SP** ♆		**TM 3234KSP** ♆	
	100 - 300	> 50	10	**TM 16104 SP** ♆	*)	**TM 32104KSP** ♆	*)
	> 300 - 500	> 50	2	**TM 1624 SP** ♆	*)	**TM 3224KSP** ♆	*)
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 1645 SP** ♆		**TM 3245KSP** ♆	
	50 and 60	120/208 - 144/250	9	**TM 1695 SP** ♆		**TM 3295KSP** ♆	
	50 and 60	200/346 - 240/415	6	**TM 1665 SP** ♆		**TM 3265KSP** ♆	
	50 and 60	277/480 - 288/500	7	**TM 1675 SP** ♆		**TM 3275KSP** ♆	
	60	250/440 - 265/460	11	**TM 16115 SP** ♆		**TM 32115KSP** ♆	
	50	220/380	3	**TM 1635 SP** ♆		**TM 3235KSP** ♆	
	60	250/440	3	**TM 1635 SP** ♆		**TM 3235KSP** ♆	
	> 300 - 500	> 50	2	**TM 1625 SP** ♆	*)	**TM 3225KSP** ♆	*)

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

Accessories for socket-outlets combinations



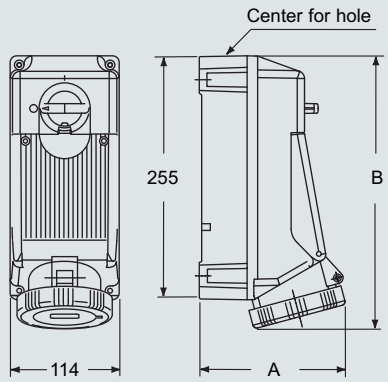
Accessories for assembly on control panels

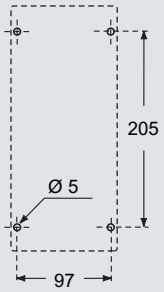
QP V - QG V

(page 39)

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

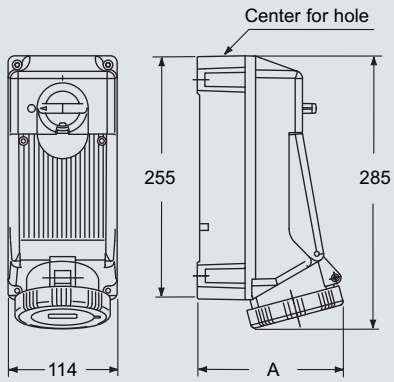
dimensions in mm

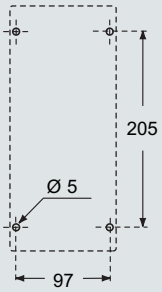




Poles	A	B
2P+⏚	133	276
3P+⏚	135	276
3P+N+⏚	140	277

dimensions in mm





Poles	A
2P + ⏚	146
3P + ⏚	146
3P+N+⏚	151

TM.. SP interlocked socket-outlets

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- 63A types with pilot contact
- Factory installed internal wiring
- Cable entry with drilling template
- "Zeta" switch I_{th}= 80A (in air) and I_{the}= 63A (in enclosure) for 32A and 63A socket-outlets
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted and the plug from being removed while the switch is on
- Knob lockable in positions O and I
- With Italian Quality Mark

32A
IP66/IP67 degree of protection

63A
IP66/IP67 degree of protection

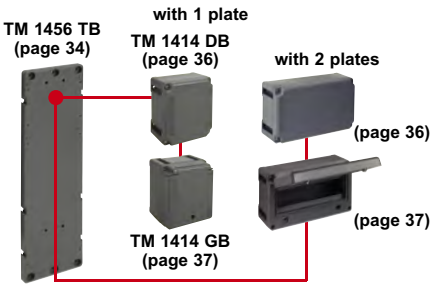
Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour	Part No.	Colour
2P+⏚	50 and 60	100 - 130	4	**TM 3243 SP** Ⓜ		**TM 6343 SP** Ⓜ	
	50 and 60	200 - 250	6	**TM 3263 SP** Ⓜ		**TM 6363 SP** Ⓜ	
	50 and 60	380 - 415	9	**TM 3293 SP** Ⓜ		**TM 6393 SP** Ⓜ	
	50 and 60	480 - 500	7	**TM 3273 SP** Ⓜ		**TM 6373 SP** Ⓜ	
	50 and 60	ins. transformer	12	**TM 32123 SP** Ⓜ	A.V.	**TM 63123 SP** Ⓜ	A.V.
	> 300 - 500	> 50	2	**TM 3223 SP** Ⓜ	*)		
	d.c.	> 50 - 250	3	**TM 3233 SP** Ⓜ	A.V.		
3P+⏚	50 and 60	100 - 130	4	**TM 3244 SP** Ⓜ		**TM 6344 SP** Ⓜ	
	50 and 60	200 - 250	9	**TM 3294 SP** Ⓜ		**TM 6394 SP** Ⓜ	
	50 and 60	380 - 415	6	**TM 3264 SP** Ⓜ		**TM 6364 SP** Ⓜ	
	60	440 - 460	11	**TM 32114 SP** Ⓜ		**TM 63114 SP** Ⓜ	
	50 and 60	480 - 500	7	**TM 3274 SP** Ⓜ		**TM 6374 SP** Ⓜ	
	50	380	3	**TM 3234 SP** Ⓜ			
	60	440	3	**TM 3234 SP** Ⓜ			
	100 - 300	> 50	10	**TM 32104 SP** Ⓜ	*)		
	> 300 - 500	> 50	2	**TM 3224 SP** Ⓜ	*)		
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 3245 SP** Ⓜ		**TM 6345 SP** Ⓜ	
	50 and 60	120/208 - 144/250	9	**TM 3295 SP** Ⓜ		**TM 6395 SP** Ⓜ	
	50 and 60	200/346 - 240/415	6	**TM 3265 SP** Ⓜ		**TM 6365 SP** Ⓜ	
	50 and 60	277/480 - 288/500	7	**TM 3275 SP** Ⓜ		**TM 6375 SP** Ⓜ	
	60	250/440 - 265/460	11	**TM 32115 SP** Ⓜ		**TM 63115 SP** Ⓜ	
	50	220/380	3	**TM 3235 SP** Ⓜ			
	60	250/440	3	**TM 3235 SP** Ⓜ			
	> 300 - 500	> 50	2	**TM 3225 SP** Ⓜ	*)		

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

Accessories for socket-outlets combinations



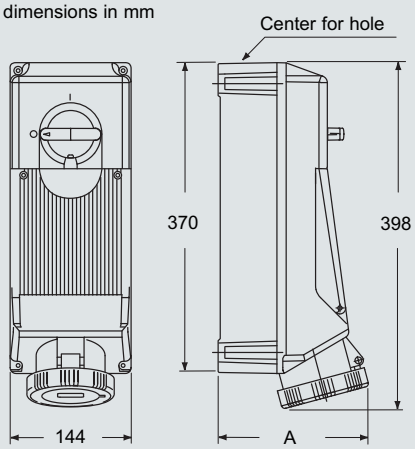
Accessories for assembly on control panels

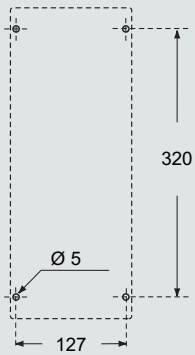
QP V - QG V

(page 39)

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

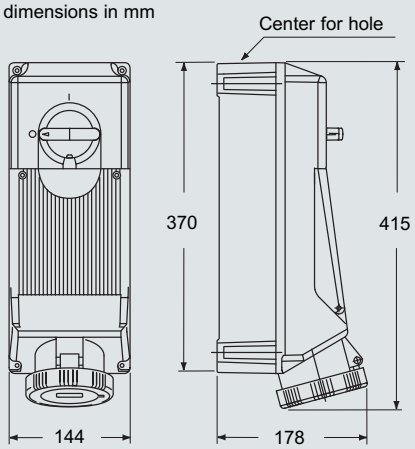
dimensions in mm

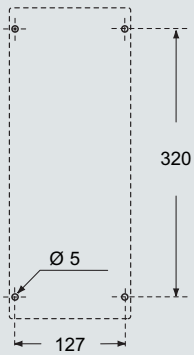




Poles	A
2P + ⏚	162
3P + ⏚	162
3P+N+⏚	169

dimensions in mm





TM.. SIS/KSIS interlocked socket-switches, with sectionable fuse carrier and without base box

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- Factory installed internal wiring
- "Zeta" switch with I_{th}= 32A rating for 16A and 32A socket-outlets
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted and the plug from being removed while the switch is on
- Knob lockable in positions O and I
- Compartment with sectionable fuse carrier (fuses not supplied) and inspection panel openable only when the switch is off
- ⓜ With Italian Quality Mark

Rated of socket part	Maximum operating current	Fuse carrier Type
16A	16A	10 x 38
32A	32A	10 x 38

16A
IP66/IP67 degree of protection

32A
IP66/IP67 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	**TM 1643 SIS ⓜ**		**TM 3243KSIS ⓜ**	
	50 and 60	200 - 250	6	**TM 1663 SIS ⓜ**		**TM 3263KSIS ⓜ**	
	50 and 60	380 - 415	9	**TM 1693 SIS ⓜ**		**TM 3293KSIS ⓜ**	
	50 and 60	480 - 500	7	**TM 1673 SIS ⓜ**			
	50 and 60	ins. transformer	12	**TM 16123 SIS ⓜ**	A.V.	**TM 32123KSIS ⓜ**	A.V.
	> 300 - 500	> 50	2	**TM 1623 SIS ⓜ**	*)	**TM 3223KSIS ⓜ (up to 400V)**	*)
	d.c.	> 50 - 250	3	**TM 1633 SIS ⓜ**	A.V.	**TM 3233KSIS ⓜ**	A.V.
3P+⏚	50 and 60	100 - 130	4	**TM 1644 SIS ⓜ**		**TM 3244KSIS ⓜ**	
	50 and 60	200 - 250	9	**TM 1694 SIS ⓜ**		**TM 3294KSIS ⓜ**	
	50 and 60	380 - 415	6	**TM 1664 SIS ⓜ**		**TM 3264KSIS ⓜ**	
	60	440 - 460	11	**TM 16114 SIS ⓜ**			
	50 and 60	480 - 500	7	**TM 1674 SIS ⓜ**			
	50	380	3	**TM 1634 SIS ⓜ**		**TM 3234KSIS ⓜ**	
	60	440	3	**TM 1634 SIS ⓜ**			
	100 - 300	> 50	10	**TM 16104 SIS ⓜ**	*)	**TM 32104KSIS ⓜ (up to 400V)**	*)
	> 300 - 500	> 50	2	**TM 1624 SIS ⓜ**	*)	**TM 3224KSIS ⓜ (up to 400V)**	*)
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 1645 SIS ⓜ**		**TM 3245KSIS ⓜ**	
	50 and 60	120/208 - 144/250	9	**TM 1695 SIS ⓜ**		**TM 3295KSIS ⓜ**	
	50 and 60	200/346 - 240/415	6	**TM 1665 SIS ⓜ**		**TM 3265KSIS ⓜ**	
	50 and 60	277/480 - 288/500	7	**TM 1675 SIS ⓜ**			
	60	250/440 - 265/460	11	**TM 16115 SIS ⓜ**			
	50	220/380	3	**TM 1635 SIS ⓜ**		**TM 3235KSIS ⓜ**	
	60	250/440	3	**TM 1635 SIS ⓜ**			
	> 300 - 500	> 50	2	**TM 1625 SIS ⓜ**	*)	**TM 3225KSIS ⓜ (up to 400V)**	*)

Legend

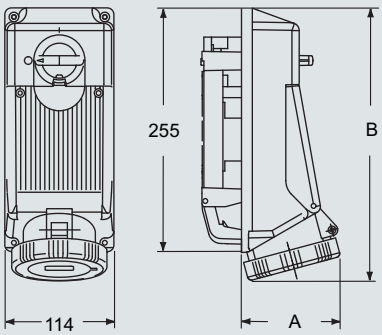
A.V. = Colour according to voltage

***)** 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

Accessories for set mounting

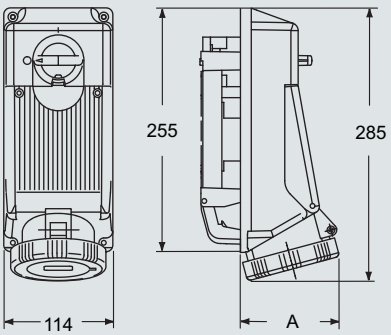
dimensions indicated are not binding and may be changed without prior notice.

dimensions in mm



Poles	A	B
2P + ⏚	83	276
3P + ⏚	85	276
3P+N+⏚	90	277

dimensions in mm



Poles	A
2P + ⏚	96
3P + ⏚	96
3P+N+⏚	101

TM.. SIS interlocked socket-outlets and sectionable fuse carrier

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- 63A types with pilot contact
- Factory installed internal wiring
- Cable entry with drilling template
- "Zeta" switch I_{th}= 80A (in air) and I_{the}= 63A (in enclosure) for 32A and 63A socket-outlets
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted and the plug from being removed while the switch is on
- Knob lockable in positions O and I
- Compartment with sectionable fuse carrier (fuses not supplied) and inspection panel openable only when the switch is off
- ⓜ With Italian Quality Mark

Rated current	Fuse carrier type CH
32A	14 x 51
63A	22 x 58

32A
IP66/IP67 degree of protection

63A
IP66/IP67 degree of protection

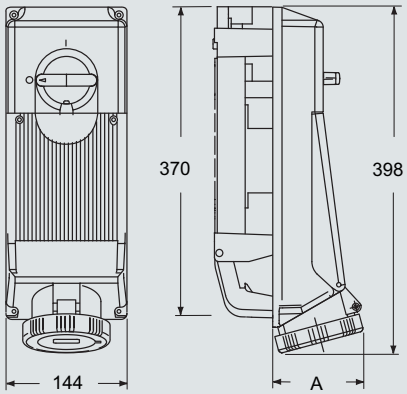
Poles	Frequency Hz	Voltage V	Earthing contact position h	32A Part No.	Colour	63A Part No.	Colour
2P+⏚	50 and 60	100 - 130	4	**TM 3243 SIS** ⓜ		**TM 6343 SIS** ⓜ	
	50 and 60	200 - 250	6	**TM 3263 SIS** ⓜ		**TM 6363 SIS** ⓜ	
	50 and 60	380 - 415	9	**TM 3293 SIS** ⓜ		**TM 6393 SIS** ⓜ	
	50 and 60	480 - 500	7	**TM 3273 SIS** ⓜ		**TM 6373 SIS** ⓜ	
	50 and 60	ins. transformer	12	**TM 32123 SIS** ⓜ	A.V.	**TM 63123 SIS** ⓜ	A.V.
	> 300 - 500	> 50	2	**TM 3223 SIS** ⓜ	*)		
	d.c.	> 50 - 250	3	**TM 3233 SIS** ⓜ	A.V.		
3P+⏚	50 and 60	100 - 130	4	**TM 3244 SIS** ⓜ		**TM 6344 SIS** ⓜ	
	50 and 60	200 - 250	9	**TM 3294 SIS** ⓜ		**TM 6394 SIS** ⓜ	
	50 and 60	380 - 415	6	**TM 3264 SIS** ⓜ		**TM 6364 SIS** ⓜ	
	60	440 - 460	11	**TM 32114 SIS** ⓜ		**TM 63114 SIS** ⓜ	
	50 and 60	480 - 500	7	**TM 3274 SIS** ⓜ		**TM 6374 SIS** ⓜ	
	50	380	3	**TM 3234 SIS** ⓜ			
	60	440	3	**TM 3234 SIS** ⓜ			
	100 - 300	> 50	10	**TM 32104 SIS** ⓜ	*)		
	> 300 - 500	> 50	2	**TM 3224 SIS** ⓜ	*)		
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 3245 SIS** ⓜ		**TM 6345 SIS** ⓜ	
	50 and 60	120/208 - 144/250	9	**TM 3295 SIS** ⓜ		**TM 6395 SIS** ⓜ	
	50 and 60	200/346 - 240/415	6	**TM 3265 SIS** ⓜ		**TM 6365 SIS** ⓜ	
	50 and 60	277/480 - 288/500	7	**TM 3275 SIS** ⓜ		**TM 6375 SIS** ⓜ	
	60	250/440 - 265/460	11	**TM 32115 SIS** ⓜ		**TM 63115 SIS** ⓜ	
	50	220/380	3	**TM 3235 SIS** ⓜ			
	60	250/440	3	**TM 3235 SIS** ⓜ			
	> 300 - 500	> 50	2	**TM 3225 SIS** ⓜ	*)		

Legend

A.V. = Colour according to voltage

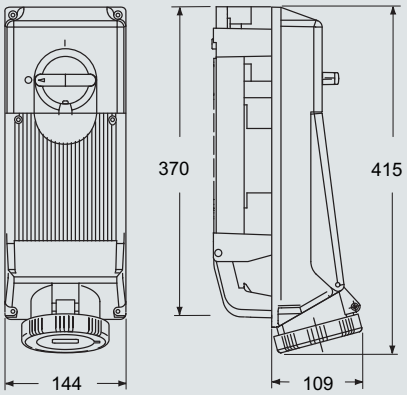
***)** Green may be used together with the colour of the operating range for frequencies above 60 Hz and up to a maximum of 500 Hz

dimensions in mm



Poles	A
2P+⏚	92
3P+⏚	92
3P+N+⏚	99

dimensions in mm



Accessories for socket-outlets combinations

TM 1437 CS

TM 1437 CSA

TM 1437 CSA 40

(page 41)

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

TM.. SIR/KSIR interlocked socket-outlets, with compartment for modular units, without base box

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- Factory installed internal wiring
- "Zeta" switch with I_{th}= 32A rating for 16A and 32A socket-outlets
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted and the plug from being removed while the switch is on
- Knob lockable in positions O and I
- Compartment for modular units with DIN-rail EN 60715 (CEI 17-78) TH 35-7,5 and inspection panel that can be opened only when the switch is off
- With Italian Quality Mark

Rated of socket part	N. of modules for mounting on 17.5 DIN-rail	Dimensions of the modular compartment in mm
16A	4,5	82 x 45
32A	4,5	82 x 45

16A
IP66/IP67 degree of protection

32A
IP66/IP67 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	**TM 1643 SIR**		**TM 3243KSIR**	
	50 and 60	200 - 250	6	**TM 1663 SIR**		**TM 3263KSIR**	
	50 and 60	380 - 415	9	**TM 1693 SIR**		**TM 3293KSIR**	
	50 and 60	480 - 500	7	**TM 1673 SIR**		**TM 3273KSIR**	
	50 and 60	ins. transformer	12	**TM 16123 SIR**	A.V.	**TM 32123KSIR**	A.V.
	> 300 - 500	> 50	2	**TM 1623 SIR**	*)	**TM 3223KSIR**	*)
	d.c.	> 50 - 250	3	**TM 1633 SIR**	A.V.	**TM 3233KSIR**	A.V.
3P+⏚	50 and 60	100 - 130	4	**TM 1644 SIR**		**TM 3244KSIR**	
	50 and 60	200 - 250	9	**TM 1694 SIR**		**TM 3294KSIR**	
	50 and 60	380 - 415	6	**TM 1664 SIR**		**TM 3264KSIR**	
	60	440 - 460	11	**TM 16114 SIR**		**TM 32114KSIR**	
	50 and 60	480 - 500	7	**TM 1674 SIR**		**TM 3274KSIR**	
	50	380	3	**TM 1634 SIR**		**TM 3234KSIR**	
	60	440	3	**TM 1634 SIR**		**TM 3234KSIR**	
	100 - 300	> 50	10	**TM 16104 SIR**	*)	**TM 32104KSIR**	*)
	> 300 - 500	> 50	2	**TM 1624 SIR**	*)	**TM 3224KSIR**	*)
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 1645 SIR**		**TM 3245KSIR**	
	50 and 60	120/208 - 144/250	9	**TM 1695 SIR**		**TM 3295KSIR**	
	50 and 60	200/346 - 240/415	6	**TM 1665 SIR**		**TM 3265KSIR**	
	50 and 60	277/480 - 288/500	7	**TM 1675 SIR**		**TM 3275KSIR**	
	60	250/440 - 265/460	11	**TM 16115 SIR**		**TM 32115KSIR**	
	50	220/380	3	**TM 1635 SIR**		**TM 3235KSIR**	
	60	250/440	3	**TM 1635 SIR**		**TM 3235KSIR**	
	> 300 - 500	> 50	2	**TM 1625 SIR**	*)	**TM 3225KSIR**	*)

Legend

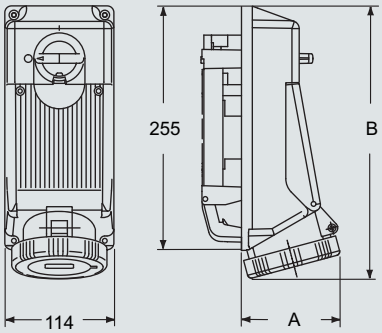
A.V. = Colour according to voltage

***)** 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

Accessories for set mounting

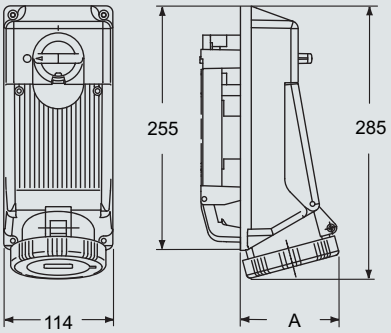
dimensions indicated are not binding and may be changed without prior notice.

dimensions in mm



Poles	A	B
2P + ⏚	83	276
3P + ⏚	85	276
3P+N+⏚	90	277

dimensions in mm



Poles	A
2P + ⏚	96
3P + ⏚	96
3P+N+⏚	101

TM.. SIR interlocked socket-outlets with compartment for modular units

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- 63A types with pilot contact
- Factory installed internal wiring
- Cable entry with drilling template
- "Zeta" switch I_{th}= 80A (in air) and I_{the}= 63A (in enclosure) for 32A and 63A socket-outlets
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted and the plug from being removed while the switch is on
- Knob lockable in positions O and I
- Compartment for modular units with DIN-rail EN 60715 (CEI 17-78) TH 35-7,5 and inspection panel that can be opened only when the switch is off
- ⓜ With Italian Quality Mark

Rated of socket part	N. of modules for mounting on 17.5 DIN-rail	Dimensions of the modular compartment in mm
32A	6	108 x 45
63A	6	108 x 45

32A
IP66/IP67 degree of protection

63A
IP66/IP67 degree of protection

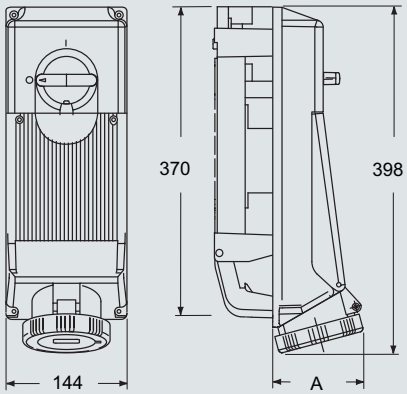
Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour	Part No.	Colour
2P+⏚	50 and 60	100 - 130	4	**TM 3243 SIR** ⓜ		**TM 6343 SIR** ⓜ	
	50 and 60	200 - 250	6	**TM 3263 SIR** ⓜ		**TM 6363 SIR** ⓜ	
	50 and 60	380 - 415	9	**TM 3293 SIR** ⓜ		**TM 6393 SIR** ⓜ	
	50 and 60	480 - 500	7	**TM 3273 SIR** ⓜ		**TM 6373 SIR** ⓜ	
	50 and 60	ins. transformer	12	**TM 32123 SIR** ⓜ	A.V.	**TM 63123 SIR** ⓜ	A.V.
	> 300 - 500	> 50	2	**TM 3223 SIR** ⓜ	*)		
	d.c.	> 50 - 250	3	**TM 3233 SIR** ⓜ	A.V.		
3P+⏚	50 and 60	100 - 130	4	**TM 3244 SIR** ⓜ		**TM 6344 SIR** ⓜ	
	50 and 60	200 - 250	9	**TM 3294 SIR** ⓜ		**TM 6394 SIR** ⓜ	
	50 and 60	380 - 415	6	**TM 3264 SIR** ⓜ		**TM 6364 SIR** ⓜ	
	60	440 - 460	11	**TM 32114 SIR** ⓜ		**TM 63114 SIR** ⓜ	
	50 and 60	480 - 500	7	**TM 3274 SIR** ⓜ		**TM 6374 SIR** ⓜ	
	50	380	3	**TM 3234 SIR** ⓜ			
	60	440	3	**TM 3234 SIR** ⓜ			
	100 - 300	> 50	10	**TM 32104 SIR** ⓜ	*)		
	> 300 - 500	> 50	2	**TM 3224 SIR** ⓜ	*)		
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 3245 SIR** ⓜ		**TM 6345 SIR** ⓜ	
	50 and 60	120/208 - 144/250	9	**TM 3295 SIR** ⓜ		**TM 6395 SIR** ⓜ	
	50 and 60	200/346 - 240/415	6	**TM 3265 SIR** ⓜ		**TM 6365 SIR** ⓜ	
	50 and 60	277/480 - 288/500	7	**TM 3275 SIR** ⓜ		**TM 6375 SIR** ⓜ	
	60	250/440 - 265/460	11	**TM 32115 SIR** ⓜ		**TM 63115 SIR** ⓜ	
	50	220/380	3	**TM 3235 SIR** ⓜ			
	60	250/440	3	**TM 3235 SIR** ⓜ			
	> 300 - 500	> 50	2	**TM 3225 SIR** ⓜ	*)		

Legend

A.V. = Colour according to voltage

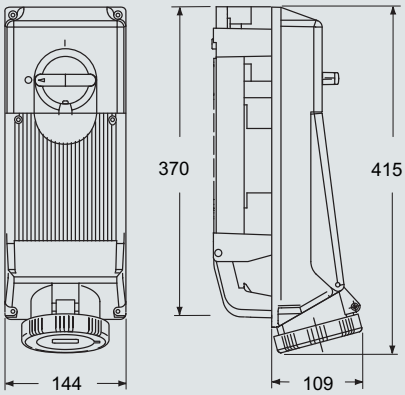
***)** Green may be used together with the colour of the operating range for frequencies above 60 Hz and up to a maximum of 500 Hz

dimensions in mm



Poles	A
2P+⏚	92
3P+⏚	92
3P+N+⏚	99

dimensions in mm



Accessories for socket-outlets combinations

TM 1437 CS

TM 1437 CSA

TM 1437 CSA 40

(page 41)

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

TM.. SSP/KSSP interlocked socket-outlets without base box

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- Factory installed internal wiring
- "Zeta" switch with I_{th}= 32A rating for 16A and 32A socket-outlets
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted and the plug from being removed while the switch is on
- Knob lockable in positions O and I
- ⓜ With Italian Quality Mark

16A
IP66/IP67 degree of protection

32A
IP66/IP67 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	**TM 1643 SSP** ⓜ		**TM 3243KSSP** ⓜ	
	50 and 60	200 - 250	6	**TM 1663 SSP** ⓜ		**TM 3263KSSP** ⓜ	
	50 and 60	380 - 415	9	**TM 1693 SSP** ⓜ		**TM 3293KSSP** ⓜ	
	50 and 60	480 - 500	7	**TM 1673 SSP** ⓜ		**TM 3273KSSP** ⓜ	
	50 and 60	ins. transformer	12	**TM 16123 SSP** ⓜ	A.V.	**TM 32123KSSP** ⓜ	A.V.
	> 300 - 500	> 50	2	**TM 1623 SSP** ⓜ	*)	**TM 3223KSSP** ⓜ	*)
	d.c.	> 50 - 250	3	**TM 1633 SSP** ⓜ	A.V.	**TM 3233KSSP** ⓜ	A.V.
3P+⏚	50 and 60	100 - 130	4	**TM 1644 SSP** ⓜ		**TM 3244KSSP** ⓜ	
	50 and 60	200 - 250	9	**TM 1694 SSP** ⓜ		**TM 3294KSSP** ⓜ	
	50 and 60	380 - 415	6	**TM 1664 SSP** ⓜ		**TM 3264KSSP** ⓜ	
	60	440 - 460	11	**TM 16114 SSP** ⓜ		**TM 32114KSSP** ⓜ	
	50 and 60	480 - 500	7	**TM 1674 SSP** ⓜ		**TM 3274KSSP** ⓜ	
	50	380	3	**TM 1634 SSP** ⓜ		**TM 3234KSSP** ⓜ	
	60	440	3	**TM 1634 SSP** ⓜ		**TM 3234KSSP** ⓜ	
	100 - 300	> 50	10	**TM 16104 SSP** ⓜ	*)	**TM 32104KSSP** ⓜ	*)
	> 300 - 500	> 50	2	**TM 1624 SSP** ⓜ	*)	**TM 3224KSSP** ⓜ	*)
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 1645 SSP** ⓜ		**TM 3245KSSP** ⓜ	
	50 and 60	120/208 - 144/250	9	**TM 1695 SSP** ⓜ		**TM 3295KSSP** ⓜ	
	50 and 60	200/346 - 240/415	6	**TM 1665 SSP** ⓜ		**TM 3265KSSP** ⓜ	
	50 and 60	277/480 - 288/500	7	**TM 1675 SSP** ⓜ		**TM 3275KSSP** ⓜ	
	60	250/440 - 265/460	11	**TM 16115 SSP** ⓜ		**TM 32115KSSP** ⓜ	
	50	220/380	3	**TM 1635 SSP** ⓜ		**TM 3235KSSP** ⓜ	
	60	250/440	3	**TM 1635 SSP** ⓜ		**TM 3235KSSP** ⓜ	
	> 300 - 500	> 50	2	**TM 1625 SSP** ⓜ	*)	**TM 3225KSSP** ⓜ	*)

Legend

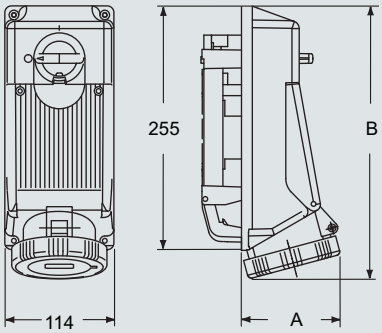
A.V. = Colour according to voltage

*) 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

Accessories for set mounting

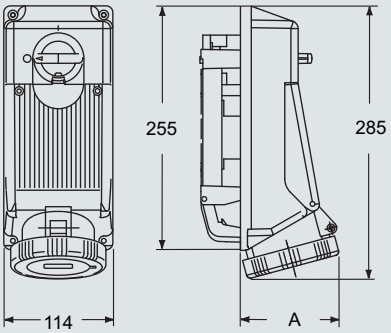
dimensions indicated are not binding and may be changed without prior notice.

dimensions in mm



Poles	A	B
2P + ⏚	83	276
3P + ⏚	85	276
3P+N+⏚	90	277

dimensions in mm



Poles	A
2P + ⏚	96
3P + ⏚	96
3P+N+⏚	101

TM.. SSP interlocked socket-outlets

- Compliant with EN 60309 -1, -2 and -4
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- 63A types with pilot contact
- Factory installed internal wiring
- Cable entry with drilling template
- "Zeta" switch I_{th}= 80A (in air) and I_{the}= 63A (in enclosure) for 32A and 63A socket-outlets
- Mechanical interlock that prevents: the switch from being turned on without the plug inserted and the plug from being removed while the switch is on
- Knob lockable in positions O and I
- With Italian Quality Mark

32A
IP66/IP67 degree of protection

63A
IP66/IP67 degree of protection

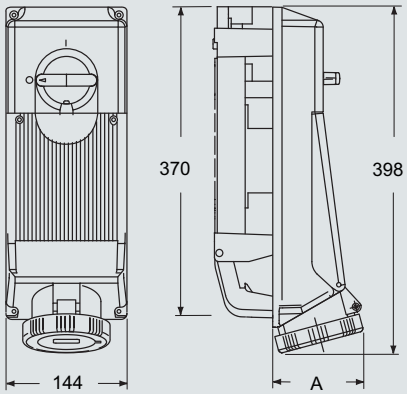
Poles	Frequency Hz	Voltage V	Earthing contact position h	Part No.	Colour	Part No.	Colour
2P+⏚	50 and 60	100 - 130	4	**TM 3243 SSP**		**TM 6343 SSP**	
	50 and 60	200 - 250	6	**TM 3263 SSP**		**TM 6363 SSP**	
	50 and 60	380 - 415	9	**TM 3293 SSP**		**TM 6393 SSP**	
	50 and 60	480 - 500	7	**TM 3273 SSP**		**TM 6373 SSP**	
	50 and 60	ins. transformer	12	**TM 32123 SSP**	A.V.	**TM 63123 SSP**	A.V.
	> 300 - 500	> 50	2	**TM 3223 SSP**	*)		
	d.c.	> 50 - 250	3	**TM 3233 SSP**	A.V.		
3P+⏚	50 and 60	100 - 130	4	**TM 3244 SSP**		**TM 6344 SSP**	
	50 and 60	200 - 250	9	**TM 3294 SSP**		**TM 6394 SSP**	
	50 and 60	380 - 415	6	**TM 3264 SSP**		**TM 6364 SSP**	
	60	440 - 460	11	**TM 32114 SSP**		**TM 63114 SSP**	
	50 and 60	480 - 500	7	**TM 3274 SSP**		**TM 6374 SSP**	
	50	380	3	**TM 3234 SSP**			
	60	440	3	**TM 3234 SSP**			
	100 - 300	> 50	10	**TM 32104 SSP**	*)		
	> 300 - 500	> 50	2	**TM 3224 SSP**	*)		
3P+N+⏚	50 and 60	57/100 - 75/130	4	**TM 3245 SSP**		**TM 6345 SSP**	
	50 and 60	120/208 - 144/250	9	**TM 3295 SSP**		**TM 6395 SSP**	
	50 and 60	200/346 - 240/415	6	**TM 3265 SSP**		**TM 6365 SSP**	
	50 and 60	277/480 - 288/500	7	**TM 3275 SSP**		**TM 6375 SSP**	
	60	250/440 - 265/460	11	**TM 32115 SSP**		**TM 63115 SSP**	
	50	220/380	3	**TM 3235 SSP**			
	60	250/440	3	**TM 3235 SSP**			
	> 300 - 500	> 50	2	**TM 3225 SSP**	*)		

Legend

A.V. = Colour according to voltage

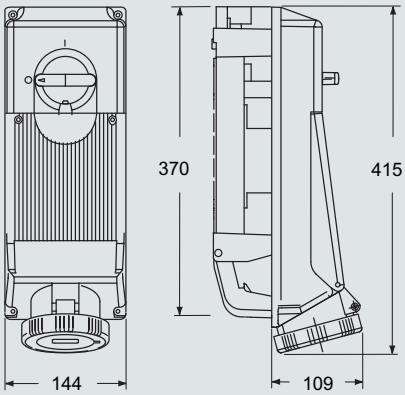
***)** Green may be used together with the colour of the operating range for frequencies above 60 Hz and up to a maximum of 500 Hz

dimensions in mm



Poles	A
2P+⏚	92
3P+⏚	92
3P+N+⏚	99

dimensions in mm



Accessories for socket-outlets combinations

TM 1437 CS

TM 1437 CSA

TM 1437 CSA 40

(page 41)

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

TM.. T1/ST1 socket-outlets with safety transformer

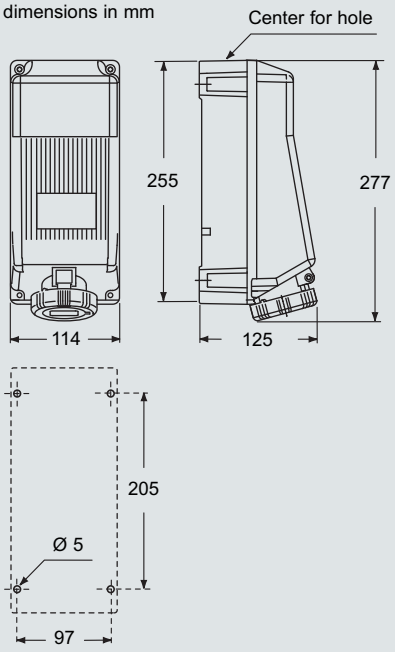
- Compliant with CEI EN 60309 -1 and -2
- Enclosures in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- Mechanical resistance to impacts: 20 J (IK10 as EN 62262)
- Socket-outlets with bayonet fastening cover
- Toroid safety transformer with self-resetting thermal protection, 230V/24V~, for the supply of Class III portable lamps, compliant with EN 60742
- Electric interlock with button to disconnect the primary circuit of the transformer if the plug is off
- Factory installed internal wiring
- The cable entry of models with base box requires the drilling of holes

With base box
IP66/IP67 degree of protection

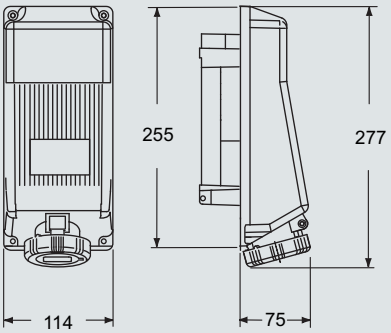
Without base box
IP66/IP67 degree of protection

Description	Part No.	Colour	Part No.	Colour
Socket-outlet with base box **16A - 2P** - 24V~ - 144VA - Continuous duty	**TM 16220 T1**			
Socket-outlet without base box **16A - 2P** - 24V~ - 144VA - Continuous duty			**TM 16220 ST1**	

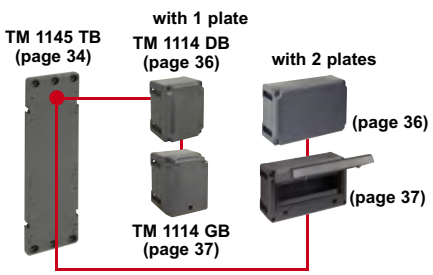
dimensions in mm



dimensions in mm

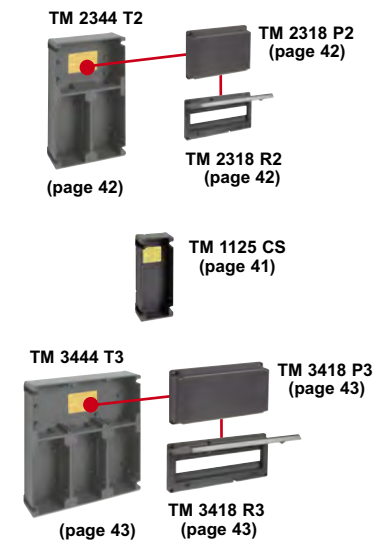


Accessories for socket-outlets combinations



Accessories for assembly on control panels

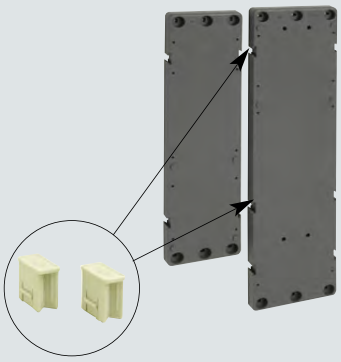
Accessories for set mounting



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

- Enclosures and parts of enclosures compliant with IEC 60670 (Italian standard CEI 23-48) and with Italian draft standard CEI 23-49
- In insulating self-extinguishing thermoplastic material RAL 7012 grey
- Plates with fixing plugs and fixing screws for socket-outlets
- Boxes for modular units with sized DIN-rail EN 60715 TH 35-7,5 with closing plates and fittings
- Ⓜ With Italian Quality Mark (CEI 23-48)

Modular back plates for the assembly of groups of socket-outlets



"Small" assembled modular base for two socket-outlets and enclosure for modular units

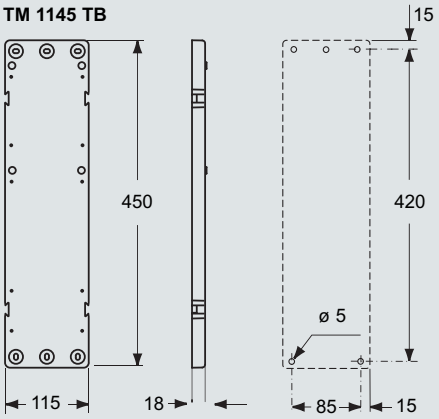
Description	Part No.	Part No.
Plates with fixing plugs - Small (115 x 415 x 30 mm) [1] - Large (145 x 532 x 30 mm) [2]	**TM 1145 TB** **TM 1456 TB**	
Fixing plugs for plates	**TM TXT**	
Includes: - 2 TM 1145 TB plates [1] - 1 TM 2314 GB box for modular unites (10.5 units)		**TM 2345 DT** Ⓜ

Legend

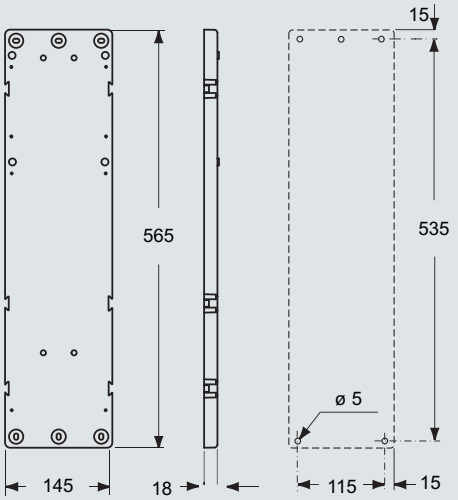
1) For socket-outlets with TM box, 114 x 255 mm
2) For socket-outlets with TM box, 144 x 370 mm

dimensions in mm

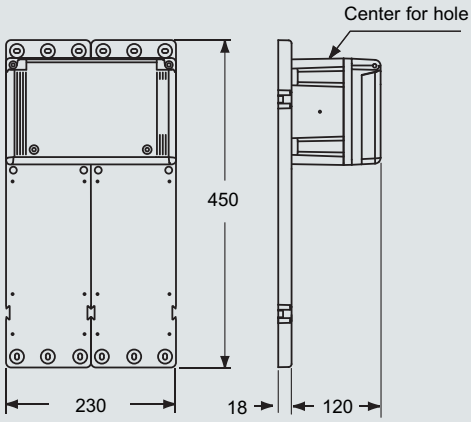
TM 1145 TB



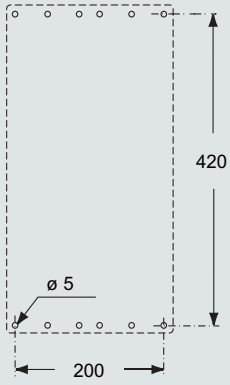
TM 1456 TB



dimensions in mm



Panel cut-out in mm



Rated of socket part	N. of modules for mounting on 17.5 DIN-rail	Dimensions of the modular compartment in mm
TM 2314 GB	10,5	183,75 x 45

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

- Enclosures and parts of enclosures compliant with IEC 60670 (Italian standard CEI 23-48) and with Italian draft standard CEI 23-49
- In insulating self-extinguishing thermoplastic material RAL 7012 grey
- Plates with fixing plugs and fixing screws for socket-outlets
- Boxes for modular units, with sized DIN-rail EN 60715 TH 35-7.5, closing plates, fittings and fixing screws
- ⓜ With Italian Quality Mark (CEI 23-48)

"Mixed" assembled modular base for two socket-outlets and enclosure for modular units

"Large" assembled modular base for two socket-outlets and enclosure for modular units

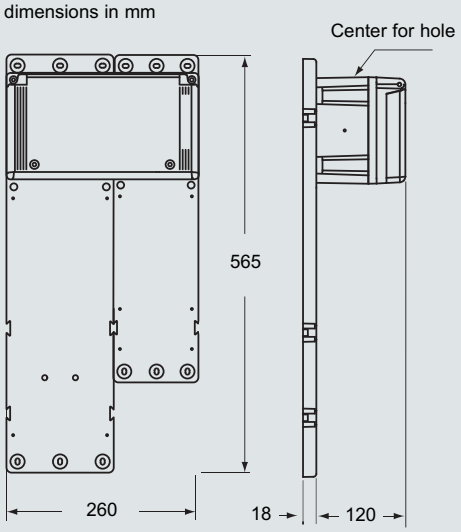
Description	Part No.	Part No.
Includes: - 1 TM 1456 TB plate [2] - 1 TM 1145 TB plate [1] - 1 TM 2614 GB box for modular unites (12 units)	**TM 2656 DT** ⓜ	
Includes: - 2 TM 1456 TB plates [2] - 1 TM 2914 GB box for modular units (13.5 units)		**TM 2956 DT** ⓜ

Legend

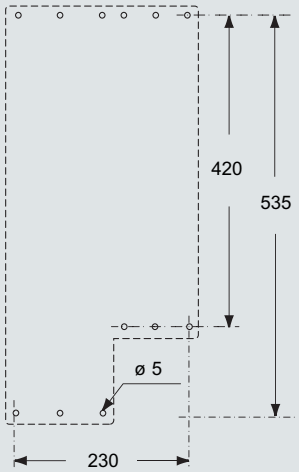
1) For socket-outlets with TM box, 114 x 255 mm
2) For socket-outlets with TM box, 144 x 370 mm

DT= pre-drilled module-holder boxes

dimensions in mm

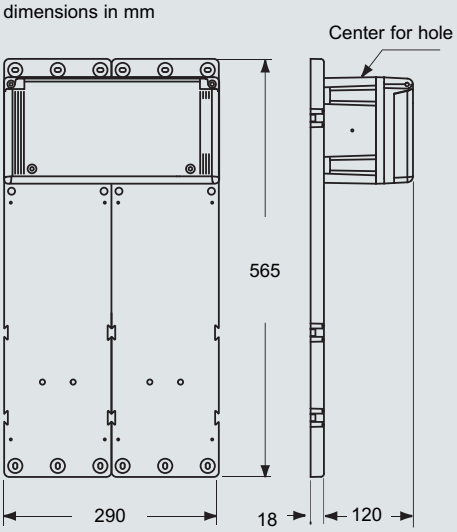


Panel cut-out in mm

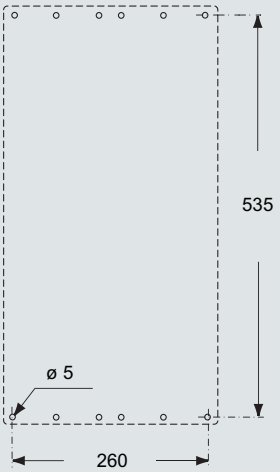


Rated of socket part	N. of modules for mounting on 17.5 DIN-rail	Dimensions of the modular compartment in mm
TM 2614 GB	12	210 x 45

dimensions in mm



Panel cut-out in mm



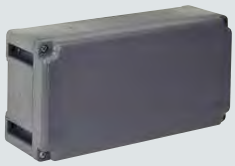
Rated of socket part	N. of modules for mounting on 17.5 DIN-rail	Dimensions of the modular compartment in mm
TM 2914 GB	13,5	236,25 x 45

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

- Compliant with international standard IEC 60670 (Italian standard CEI 23-48)
- In insulating self-extinguishing thermoplastic material RAL 7012 grey
- Junction boxes suitable for the assembly of fixing plates or DIN-rail
- Fixing plates in zinc-plated steel with fixing screws
- Blind plug-type, fixed cover
- ⓜ With Italian Quality Mark (CEI 23-48)

Junction boxes - IP66/IP67

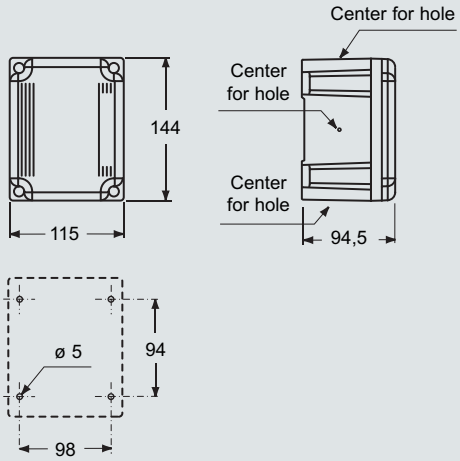
Junction boxes - IP66/IP67



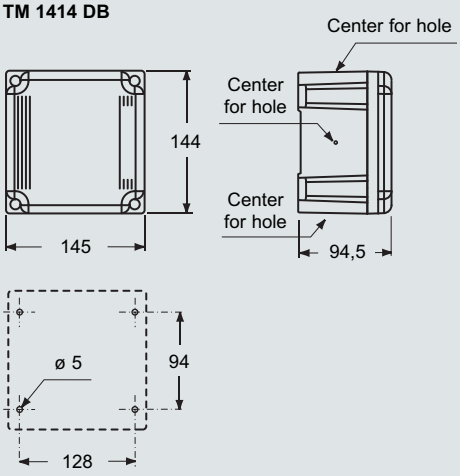
Description	Part No.	Part No.
For TM 1145 TB plate - IP66/67 degree of protection (EN 60529) **For TM 1456 TB plate** - IP66/67 degree of protection (EN 60529)	**TM 1114 DB** ⓜ **TM 1414 DB** ⓜ	
For 2 TM 1145 TB plates - IP66/67 degree of protection (EN 60529) **For 1 TM 1145 TB plate + 1 TM 1456 TB plate** - IP66/67 degree of protection (EN 60529) **For 2 TM 1456 TB plates** - IP66/67 degree of protection (EN 60529)		**TM 2314 DB** ⓜ **TM 2614 DB** ⓜ **TM 2914 DB** ⓜ

dimensions in mm

TM 1114 DB

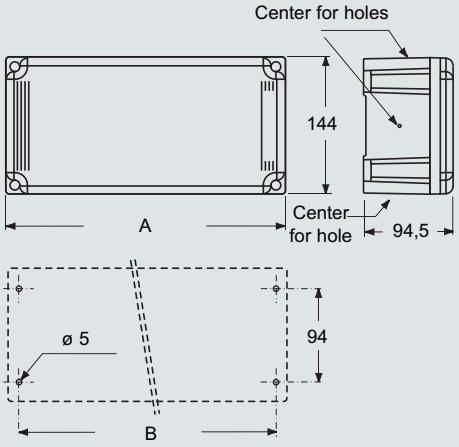


TM 1414 DB



dimensions in mm

TM ... DB



Part No.	A	B
TM 2314 DB	230	213
TM 2614 DB	260	243
TM 2914 DB	290	273

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

- Compliant with international standard IEC 60670 (Italian standard CEI 23-48)
- In insulating self-extinguishing thermoplastic material RAL 7012 grey
- Boxes for modular units with DIN-rail EN 60715
- Fixing plates in zinc-plated steel with fixing screws
- Cover with hinged tilting door
- ⓜ With Italian Quality Mark (CEI 23-48)

Boxes for modular units - IP66/IP67

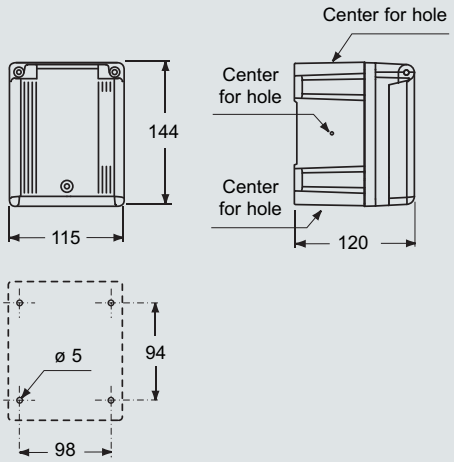
Boxes for modular units - IP66/IP67

Description	Part No.	Part No.
For TM 1145 TB plate - IP66/67 degree of protection (EN 60529)	**TM 1114 GB** ⓜ	
For TM 1456 TB plate - IP66/67 degree of protection (EN 60529)	**TM 1414 GB** ⓜ	
For 2 TM 1145 TB plates - IP66/67 degree of protection (EN 60529) **For 1 TM 1145 TB plate + 1 TM 1456 TB plate** - IP66/67 degree of protection (EN 60529) **For 2 TM 1456 TB plates** - IP66/67 degree of protection (EN 60529)		**TM 2314 GB** ⓜ **TM 2614 GB** ⓜ **TM 2914 GB** ⓜ

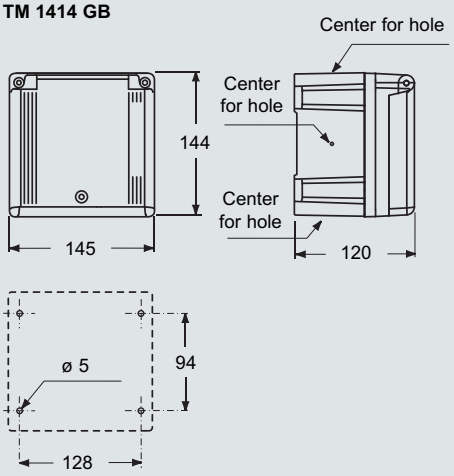
Part No.	N. of modules 17,5 mm	Dimensions of the modular compartment in mm
TM 1114 GB	4 units	72 x 45
TM 1414 GB	5,5 units	100 x 45
TM 2314 GB	10 units	180 x 45
TM 2614 GB	12 units	216 x 45
TM 2914 GB	13,5 units	243 x 45

dimensions in mm

TM 1114 GB

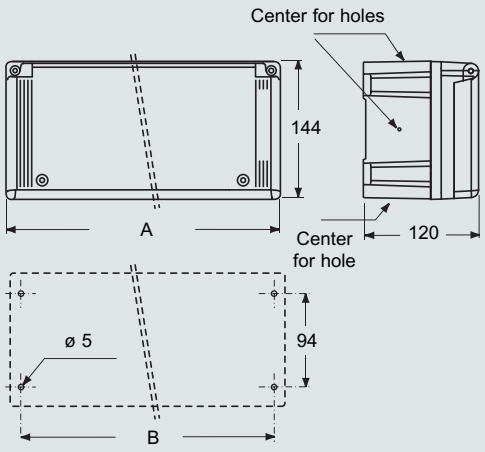


TM 1414 GB



dimensions in mm

TM ... GB



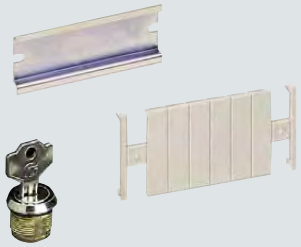
Part No.	A	B
TM 2314 GB	230	213
TM 2614 GB	260	243
TM 2914 GB	290	273

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

- Assembly plate in zinc-plated steel with earth connections and fixing screws on the bottom of the boxes
- Closing plates including half modules ($6\ ^3/_4 + 2\ ^1/_4$ of module)
- DIN-rail EN 60715 TH 35-7.5, in zinc-plated steel, sized, with fixing screws
- BC CHT
  - Safety padlock that prevents access to the door closing screws
  - Supplied with two sets of keys

Assembly plate fixing plates

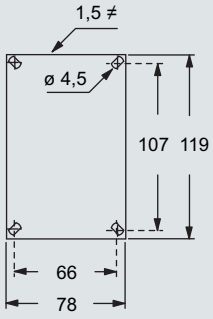
DIN-rail EN 60715 closing plates and safety padlock with key



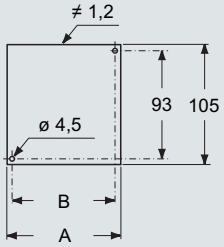
Description	Part No.	Part No.
Assembly plate For double or triple boxes	**TM 1125 PF**	
Fixing plates For TM 1114 DB junction boxes For TM 1414 DB junction boxes For TM 2314 DB junction boxes For TM 2614 DB junction box For TM 2914 DB junction box	 **TM 1114 PF** **TM 1414 PF** **TM 2314 PF** **TM 2614 PF** **TM 2914 PF**	
DIN-rail EN 60715 TH 35-7.5 For TM 1114 DB junction boxes For TM 1414 DB junction boxes For TM 2314 DB junction boxes For TM 2614 DB junction boxes For TM 2914 DB junction boxes		 **TM GD8** **TM GD10** **TM GD18** **TM GD21** **TM GD24**
Closing plates For unused modular openings		**BC FR 62**
Safety padlock For the doors of TM 2318 R2 and TM 3418 R3 covers	**BC CHT**	

dimensions in mm

TM 1125 PF



TM xx14 PF

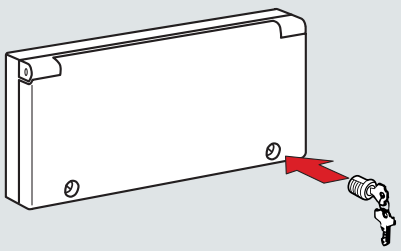


Part No.	A	B
TM 1114 PF	70	58
TM 1414 PF	100	88
TM 2314 PF	180	168
TM 2614 PF	210	198
TM 2914 PF	240	228

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

dimensions in mm

BC CHT



Part No.	N. of modules 17,5 mm	Dimensions of the modular compartment in mm
QP V	12	215 x 45
QG V	24	215 x 45

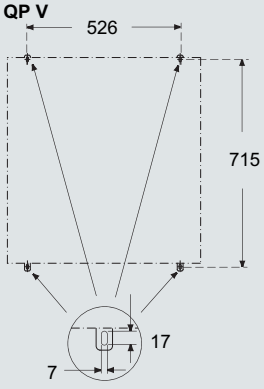
QP site boards assembly kit

QG site boards assembly kit

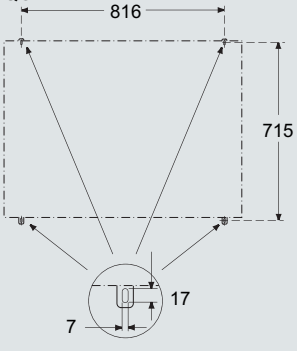
Description	Part No.	Part No.
empty board to be assembled comprising: - 1 top panel (closed) - 1 bottom panel (open) - 2 side panels - 1 rear panel with compartment complete with 2 DIN EN 60715 rails, cable clamp, earth screw - 2 covers (1 smooth QC 2920 P and 1 with door QC 2920 R) to close the branching, connections, protection devices compartment - 1 panel door with triangular key locks - Pg 48 cable glands with gasket - stainless steel screws and small parts for assembly	**QP V**	
empty board to be assembled comprising: - 1 top panel (closed) - 1 bottom panel (open) - 2 side panels - 1 rear panel with compartment complete with 2 DIN EN 60715 rails, cable clamp, earth screw - 3 covers (1 smooth QC 2920 P and 1 with door QC 2920 R) to close the branching, connections, protection devices compartment - 2 panel door with triangular key locks - Pg 48 cable glands with gasket - stainless steel screws and small parts for assembly		**QG V**

fixing interaxes in mm

QP V

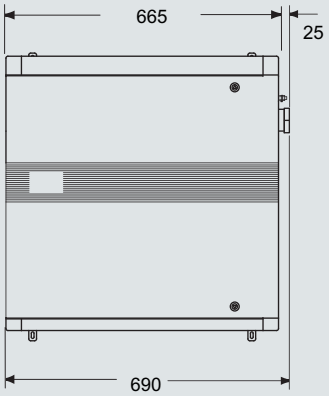


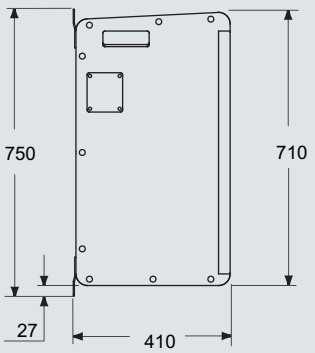
QG V



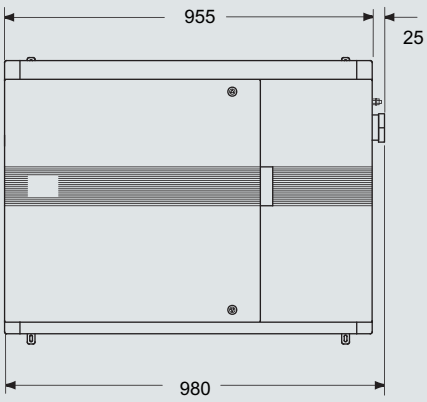
dimensions indicated are not binding and may be changed without prior notice.

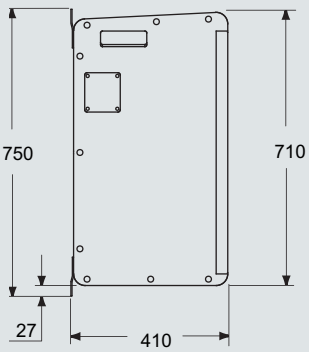
dimensions in mm





dimensions in mm





The new boxes Series TM

Insulating self-extinguishing thermoplastic boxes
for industrial applications

The new single boxes for bottom cable entry

– Compliant with European standars EN 60670-1, EN 60670-22 and EN 60670-24.
– Boxes in insulating self-extinguishing thermoplastic material, colour dark grey RAL 7012.
– Boxes may be wall- or flush-mounted.
– Opened or closed walls with drilling template for cable entry holes.
– Threaded seats in brass for assembly of covers and socket-outlets.
– IP66/IP67 degree of protection (EN 60529).
– For switched interlocked socket-outlets series TM without box, size 114 x 255 mm and/or 144 x 370 mm
– For TM 1125 P / P16 / P1632 covers.
– Made with halogen-free flame retardant thermoplastic materials.

The new deeper box

For bottom cable entry

TM SERIES
IP66 / IP67
EN 60529

TM SERIES
HALOGEN FREE

- Compliant with European standars EN 60670-1, EN 60670-22 and EN 60670-24
- Boxes in insulating self-extinguishing thermoplastic material, colour dark grey RAL 7012
- Boxes may be wall- or flush-mounted
- Closed walls with drilling template for cable entry holes
- Threaded seats in brass for assembly of covers and socket-outlets
- IP66/IP67 degree of protection (EN 60529)
- For switched interlocked socket-outlets series TM without box, size 114 x 255 mm and/or 144 x 370 mm
- For TM 1125 P / P16 / P1632 covers

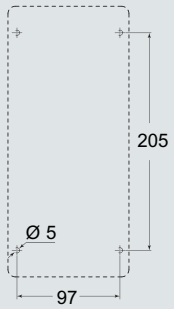
Single box, top entry

Single box, top or bottom entry

Description	Part No.	Part No.
single box for TM socket-outlets - 16A/32K - 32A/63A	**TM 1125 CS** **TM 1437 CS**	
tall single box for TM socket-outlets supplied with cables separator protection - 16A/32K - 32A/63A - 16A/32K, supplied with open cable entry - 32A/63A, supplied with open cable entry		**TM 1125 CSA** - **TM 1437 CSA** - **TM 1125CSA25** **hole for M25** **TM 1437CSA40** **hole for M40**

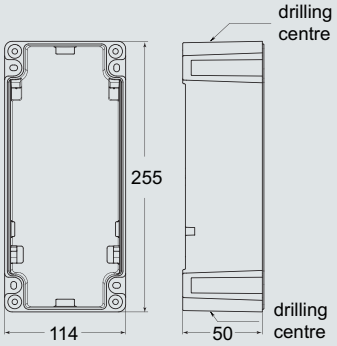
panel cut-outs in mm

TM 1125 CS
TM 1125 CSA / TM 1125CSA25



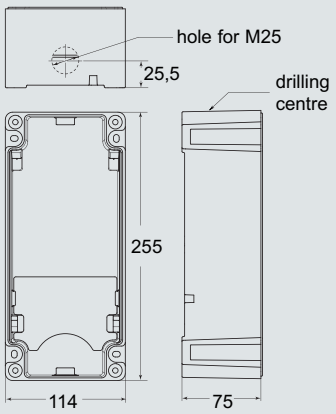
dimensions in mm

TM 1125 CS

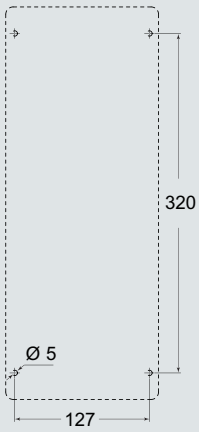


dimensions in mm

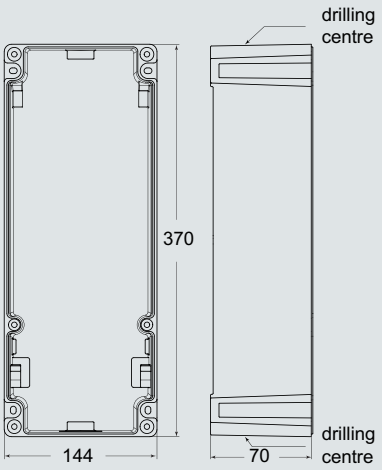
TM 1125 CSA / TM 1125CSA25



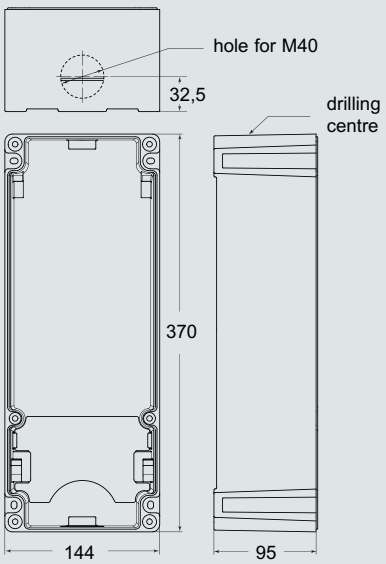
TM 1437 CS
TM 1437 CSA / TM 1437CSA40



TM 1437 CS



TM 1437 CSA / TM 1437CSA40



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

Max. dissipating power P_{inv} available in enclosure (EN 60670-24)

Part. No.	P_{inv} (W) flush-mounting	P_{inv} (W) wall-mounting
TM 1125 CS	11	8

Max. dissipating power P_{inv} available in enclosure (EN 60670-24)

Part. No.	P_{inv} (W) flush-mounting	P_{inv} (W) wall-mounting
TM 1125 CSA/CSA25	11	8

- Compliant with international standard IEC 60670 (Italian standard CEI 23-48)
- Boxes in insulating self-extinguishing thermoplastic RAL 7012 grey
- Boxes can be wall- or flush-mounted
- Closed walls with drilling template for cable entry
- Threaded seats in brass for assembly of covers and socket-outlets
- IP66/IP67 degree of protection (CEI EN 60529)
- ⓜ With Italian Quality Mark (CEI 23-48)
- For TM socket-outlets without box, 114x255 mm

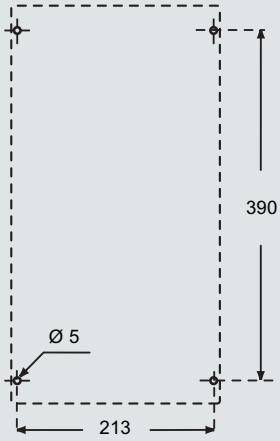
Double boxes

Accessories

Description	Part No.	Part No.
Double box Suitable for the assembly of DIN-rails and bases	**TM 2344 T2** ⓜ	
Smooth cover for closing unused spaces or as support for accessories outside the box		**TM 1125 P** ⓜ
Smooth cover For double box Closes the upper section of the boxes Supplied with sized DIN-rail EN 60715 TH 35-7.5		**TM 2318 P2** ⓜ
Cover with hinged tilting door For double box For the assembly of modular units (11 units), a sized DIN-rail EN 60715 TH 35-7.5 and closing plates for unused spaces are provided		**TM 2318 R2** ⓜ

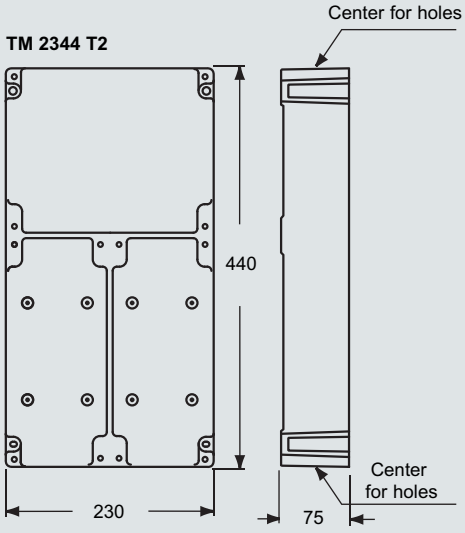
Panel cut-out in mm

TM 2344 T2



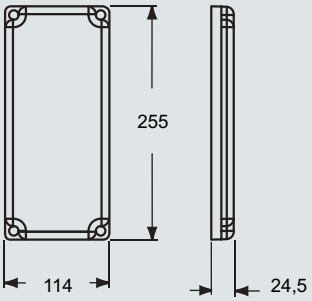
dimensions in mm

TM 2344 T2

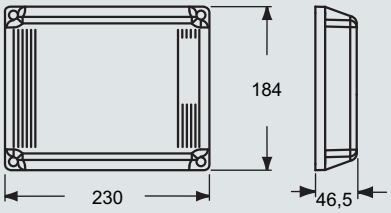


dimensions in mm

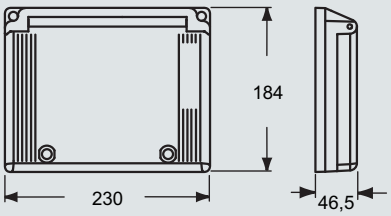
TM 1125 P



TM 2318 P2



TM 2318 R2



Part No.	N. of modules 17,5 mm	Dimensions of the modular compartment in mm
TM 2318 R2	11	185 x 45

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

- Compliant with international standard IEC 60670 (Italian standard CEI 23-48)
- Covers in insulating self-extinguishing thermoplastic RAL 7012 grey
- Stainless steel retained fixing screws
- External metallic parts (pins, springs, etc.) in stainless steel
- Oil resistant and anti-aging soft rubber gaskets
- The covers mounted on the boxes guarantee the compliance with IP67 degree of protection requirements (CEI EN 60529)
- ⓜ With Italian Quality Mark (CEI 23-48)

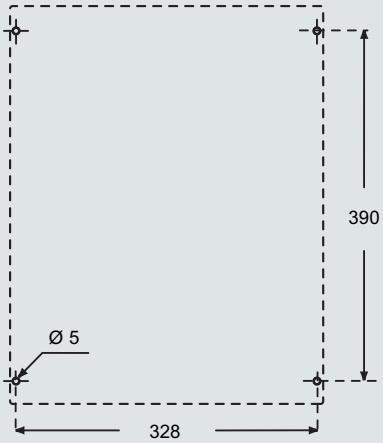
Triple boxes

Accessories

Description	Part No.	Part No.
Triple box Suitable for the assembly of DIN-rails and bases	**TM 3444 T3** ⓜ	
Smooth cover for closing unused spaces or as support for accessories outside the box		**TM 1125 P** ⓜ
Smooth cover For triple box Closes the upper section of the boxes Supplied with sized DIN-rail EN 60715 TH 35-7.5		**TM 3418 P3** ⓜ
Cover with hinged tilting door For triple box For the assembly of modular units (16,5 units), a sized DIN-rail EN 60715 TH 35-7.5 and closing plates for unused spaces are provided		**TM 3418 R3** ⓜ

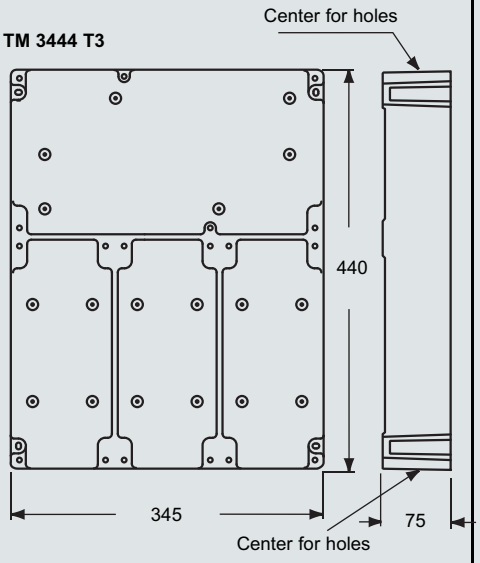
Panel cut-out in mm

TM 3444 T3



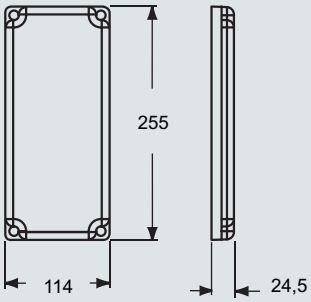
dimensions in mm

TM 3444 T3

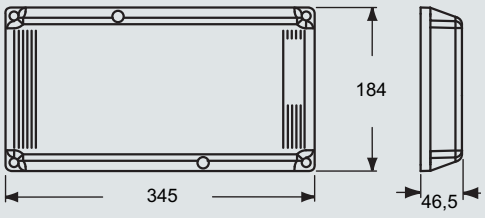


dimensions in mm

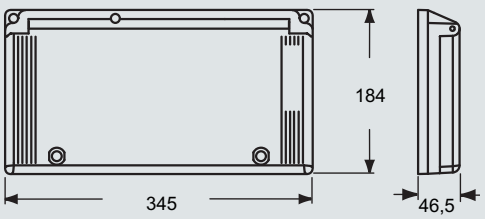
TM 1125 P



TM 3418 P3



TM 3418 R3



Part No.	N. of modules 17,5 mm	Dimensions of the modular compartment in mm
TM 3418 R3	16,5	298 x 45

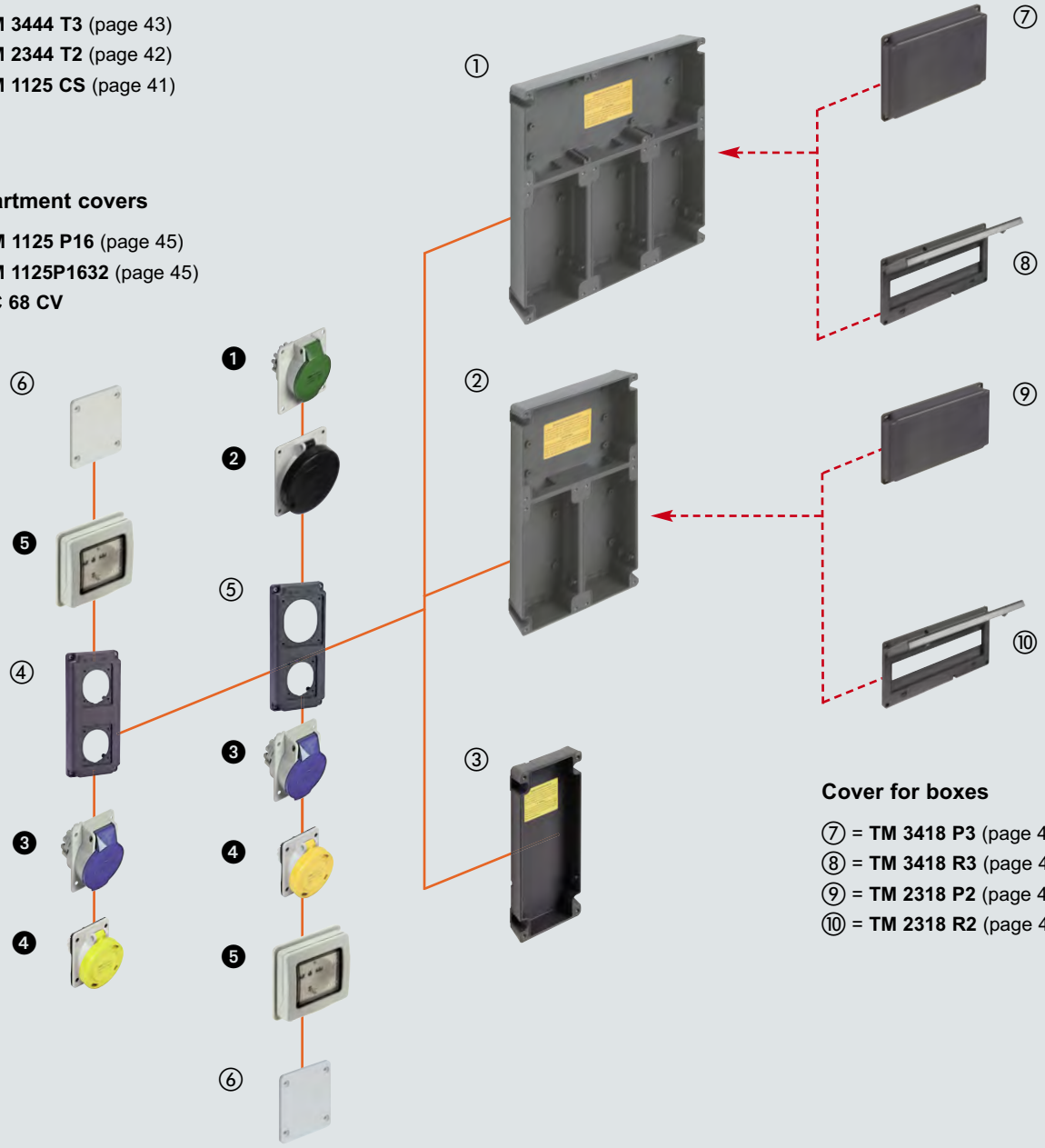
dimensions indicated are not binding and may be changed without prior notice.

FM series enclosures

① = **TM 3444 T3** (page 43)
② = **TM 2344 T2** (page 42)
③ = **TM 1125 CS** (page 41)

Compartment covers

④ = **TM 1125 P16** (page 45)
⑤ = **TM 1125P1632** (page 45)
⑥ = **FC 68 CV**



Cover for boxes

⑦ = **TM 3418 P3** (page 43)
⑧ = **TM 3418 R3** (page 43)
⑨ = **TM 2318 P2** (page 42)
⑩ = **TM 2318 R2** (page 42)

Complementary parts

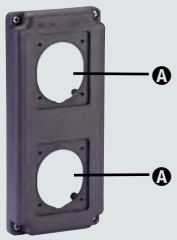
ref.	type	distance between fixing holes in mm	flange	field of of application	item identification	nominal current	protection rating
1	inclined socket-outlets	77 x 85 B	90 x 100	low voltage	types **PE...PIF/PI**	16A e 32A	IP44
2	inclined socket-outlets	77 x 85 B	90 x 100	low voltage	types **PEW...PIF/PI**	16A e 32A	IP67
3	inclined socket-outlets	52 x 60 A	64 x 82	low voltage	types **PE...PI**	16A	IP44
4	inclined socket-outlets	52 x 60 A	64 x 82	low voltage	types **PEW...PI**	16A	IP67
5	domestic insert carrier	52 x 60 A	64 x 82	low voltage	type **GW 27042**	—	—

For technical data shets and any further information, refer to the online technical catalogues at website **www.ilme.com**

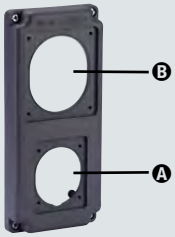
TM covers for PLUSO series flush-mounting socket-outlets

- Compliant with international standard IEC 60670 (Italian standard CEI 23-48)
- Covers in insulating self-extinguishing thermoplastic material, RAL 7012 grey
- The covers mounted on the boxes guarantee the compliance with IP67 degree of protection requirements (EN 60529) using PEW socket-outlets
- Captive cover fixing screws in stainless steel
- Including socket-outlet fixing screws in stainless steel
- For TM boxes:
  - single art. TM 1125 CS
  - double art. TM 2344 T2
  - triple art. TM 3444 T3
- With ⓜ Italian Quality Mark (CEI 23-48, CEI 23-49)

Covers
for inclined flush-mounting sockets 16A



Covers
for inclined flush-mounting sockets 16A and 32A

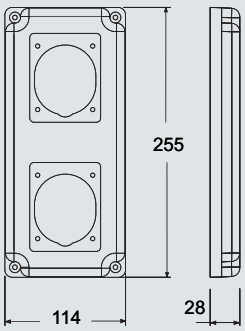


Description	Part No.	Part No.
cover with 2 housings for flush-mounting socket-outlets type PI with distance between fixing holes 52 x 60 mm or domestic insert carriers GW 27042	**TM 1125 P16** ⓜ	
cover with 2 housings for flush-mounting socket-outlets: no. 1 type PI housing with distance between fixing holes 52 x 60 mm or domestic insert carriers GW 27042 **no. 1 type PIF/PI housing** with screw fixing centre distance of 77 x 85 mm		**TM 1125P1632** ⓜ

Ⓐ = 52 x 60
Ⓑ = 77 x 85

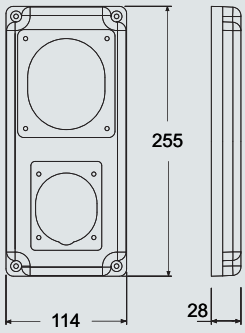
dimensions in mm

TM 1125 P16



dimensions in mm

TM 1125P1632



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

PE...PI - PIF flush-mounting inclined socket-outlets, low voltage from over 50V up to 690V

- Compliant with EN 60309 -1 and -2
- Enclosure, insert and spring lid in insulating, thermoplastic, self-extinguishing material
- RAL 7035 grey enclosure, spring lid colour coded according to the operating voltage
- Flange with anti-aging gasket
- PE...PI types (IP44), spring lid
- PEW...PI types (IP67), spring lid with locking ring and gasket
- Wire clamping using captive screws
- Nickel-plated contacts on request. For the code of products with nickel-plated contacts (socket holes, plug pins), add "N" to the pre-code of the corresponding standard product code; for example: PE becomes PEN and PEW becomes PEWN
- IP44 and IP67 degrees of protection (EN 60529)
- With ⓘ Italian Quality Mark

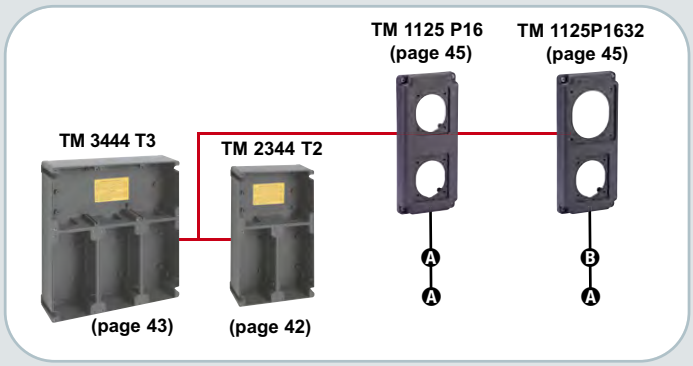
16A
IP44 degree of protection

32A
IP44 degree of protection

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.

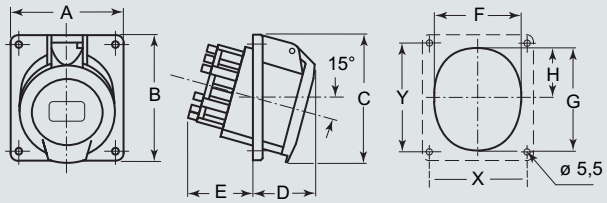
Number of poles	Frequency Hz	Operating voltage V	Position of contact h	Part No.	Colour	Part No.	Colour
2P+⏚	50 and 60	100 ÷ 130	4	**PE 1643 PI** ⓘ		**PE 3243 PI** ⓘ	
	50 and 60	200 ÷ 250	6	**PE 1663 PI** ⓘ		**PE 3263 PI** ⓘ	
	50 and 60	380 ÷ 415	9	**PE 1693 PI** ⓘ		**PE 3293 PI** ⓘ	
	50 and 60	480 ÷ 500	7	**PE 1673 PI** ⓘ		**PE 3273 PI** ⓘ	
	50 and 60	insul. transformer	12	**PE 16123 PI** ⓘ	A.V.	**PE 32123 PI** ⓘ	A.V.
	> 300 ÷ 500	> 50	2	**PE 1623 PI** ⓘ	(*)	**PE 3223 PI** ⓘ	(*)
	d.c.	> 50 ÷ 250	3	**PE 1633 PI** ⓘ	A.V.	**PE 3233 PI**	A.V.
	d.c.	> 250	8	**PE 1683 PI**	A.V.	**PE 3283 PI**	A.V.
				Ⓐ **52 x 60 mm**		Ⓑ **77 x 85 mm**	
3P+⏚	50 and 60	100 ÷ 130	4	**PE 1644 PI** ⓘ		**PE 3244 PI** ⓘ	
	50 and 60	200 ÷ 250	9	**PE 1694 PI** ⓘ		**PE 3294 PI** ⓘ	
	50 and 60	380 ÷ 415	6	**PE 1664 PI** ⓘ		**PE 3264 PI** ⓘ	
	60	440 ÷ 460	11	**PE 16114 PI** ⓘ		**PE 32114 PI** ⓘ	
	50 and 60	480 ÷ 500	7	**PE 1674 PI** ⓘ		**PE 3274 PI** ⓘ	
	50 and 60	600 ÷ 690	5	**PE 1654 PI**		**PE 3254 PI**	
	50	380	3	**PE 1634 PI** ⓘ		**PE 3234 PI** ⓘ	
	60	440	3	**PE 1634 PI** ⓘ		**PE 3234 PI** ⓘ	
	100 ÷ 300	> 50	10	**PE 16104 PI** ⓘ	(*)	**PE 32104 PI** ⓘ	(*)
	> 300 ÷ 500	> 50	2	**PE 1624 PI** ⓘ	(*)	**PE 3224 PI** ⓘ	(*)
				Ⓐ **52 x 60 mm**		Ⓑ **77 x 85 mm**	
3P+N+⏚	50 and 60	57/100 ÷ 75/130	4	**PE 1645 PI** ⓘ		**PE 3245 PI** ⓘ	
	50 and 60	120/208 ÷ 144/250	9	**PE 1695 PI** ⓘ		**PE 3295 PI** ⓘ	
	50 and 60	200/346 ÷ 240/415	6	**PE 1665 PI** ⓘ		**PE 3265 PI** ⓘ	
	50 and 60	277/480 ÷ 288/500	7	**PE 1675 PI** ⓘ		**PE 3275 PI** ⓘ	
	50 and 60	347/600 ÷ 400/690	5	**PE 1655 PI**		**PE 3255 PI**	
	60	250/440 ÷ 265/460	11	**PE 16115 PI** ⓘ		**PE 32115 PI** ⓘ	
	50	220/380	3	**PE 1635 PI** ⓘ		**PE 3235 PI** ⓘ	
	60	250/440	3	**PE 1635 PI** ⓘ		**PE 3235 PI** ⓘ	
	> 300 ÷ 500	> 50	2	**PE 1625 PI** ⓘ	(*)	**PE 3225 PI** ⓘ	(*)
				Ⓑ **77 x 85 mm**		Ⓑ **77 x 85 mm**	



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

dimensions in mm

(16/32A) PE ... PI
(16A) PE ... PIF



PE ... PI		A	B	C	D	E	F	G	H	X	Y
16A	2P+⏚	64	82	82	38	46	52	62	29	52	60
	3P+⏚	64	82	82	42	47	57	65	30	52	60
	3P+N+⏚	92	100	100	43	47	66	78	37,5	77	85
32A	2P+⏚	92	100	100	40	55	68	76	35,5	77	85
	3P+⏚	92	100	100	40	55	68	76	35,5	77	85
	3P+N+⏚	92	102	102	43	55	74	86	39,5	77	85

PE ... PIF		A	B	C	D	E	F	G	H	X	Y
16A	2P+⏚	92	100	100	42	47	52	62	29	77	85
	3P+⏚	92	100	100	42	47	57	65	30	77	85

PEW...PI - PIF flush-mounting inclined socket-outlets, low voltage from over 50V up to 690V

16A
IP67 degree of protection

Part No.	Colour
PEW 1643 PI	
PEW 1663 PI	
PEW 1693 PI	
PEW 1673 PI	
PEW 16123 PI	A.V.
PEW 1623 PI	(*)
PEW 1633 PI	A.V.
PEW 1683 PI	A.V.

A 52 x 60 mm

Part No.	Colour
PEW 1644 PI	
PEW 1694 PI	
PEW 1664 PI	
PEW 16114 PI	
PEW 1674 PI	
PEW 1654 PI	
PEW 1634 PI	
PEW 1634 PI	
PEW 16104 PI	(*)
PEW 1624 PI	(*)

A 52 x 60 mm

Part No.	Colour
PEW 1645 PI	
PEW 1695 PI	
PEW 1665 PI	
PEW 1675 PI	
PEW 1655 PI	
PEW 16115 PI	
PEW 1635 PI	
PEW 1635 PI	
PEW 1625 PI	(*)

B 77 x 85 mm

32A
IP67 degree of protection

Part No.	Colour
PEW 3243 PI	
PEW 3263 PI	
PEW 3293 PI	
PEW 3273 PI	
PEW 32123 PI	A.V.
PEW 3223 PI	(*)
PEW 3233 PI	A.V.
PEW 3283 PI	A.V.

B 77 x 85 mm

Part No.	Colour
PEW 3244 PI	
PEW 3294 PI	
PEW 3264 PI	
PEW 32114 PI	
PEW 3274 PI	
PEW 3254 PI	
PEW 3234 PI	
PEW 3234 PI	
PEW 32104 PI	(*)
PEW 3224 PI	(*)

B 77 x 85 mm

Part No.	Colour
PEW 3245 PI	
PEW 3295 PI	
PEW 3265 PI	
PEW 3275 PI	
PEW 3255 PI	
PEW 32115 PI	
PEW 3235 PI	
PEW 3235 PI	
PEW 3225 PI	(*)

B 77 x 85 mm

16A
IP67 degree of protection

Part No.	Colour
PE 1643 PIF	
PE 1663 PIF	
PE 1693 PIF	
PE 1673 PIF	
PE 16123 PIF	A.V.
PE 1623 PIF	(*)
PE 1633 PIF	A.V.
PE 1683 PIF	A.V.

B 77 x 85 mm

Part No.	Colour
PE 1644 PIF	
PE 1694 PIF	
PE 1664 PIF	
PE 16114 PIF	
PE 1674 PIF	
PE 1654 PIF	
PE 1634 PIF	
PE 1634 PIF	
PE 16104 PIF	(*)
PE 1624 PIF	(*)

B 77 x 85 mm

16A
IP67 degree of protection

Part No.	Colour
PEW 1643 PIF	
PEW 1663 PIF	
PEW 1693 PIF	
PEW 1673 PIF	
PEW 16123 PIF	A.V.
PEW 1623 PIF	(*)
PEW 1633 PIF	A.V.
PEW 1683 PIF	A.V.

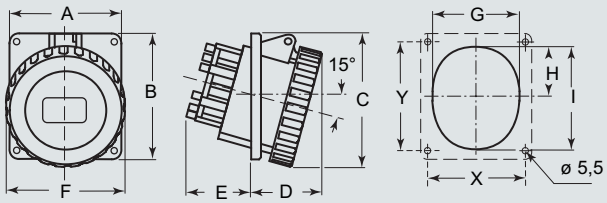
B 77 x 85 mm

Part No.	Colour
PEW 1644 PIF	
PEW 1694 PIF	
PEW 1664 PIF	
PEW 16114 PIF	
PEW 1674 PIF	
PEW 1654 PIF	
PEW 1634 PIF	
PEW 1634 PIF	
PEW 16104 PIF	(*)
PEW 1624 PIF	(*)

B 77 x 85 mm

dimensions in mm

(16/32A) PEW ... PI
(16A) PEW ... PIF



PEW ... PI		A	B	C	D	E	F	G	H	I	X	Y
16A	2P+⏚	65	82	83	48	35	70	50	29	58	52	60
	3P+⏚	65	82	87	48	37	78	58	30	65	52	60
	3P+N+⏚	90	100	102	50	38	86	66	35	75	77	85
32A	2P+⏚	90	100	116	50	50	92	68	37	78	77	85
	3P+⏚	90	100	116	50	50	92	68	37	78	77	85
	3P+N+⏚	90	100	118	50	50	100	73	42,5	86	77	85

PEW ... PIF		A	B	C	D	E	F	G	H	I	X	Y
16A	2P+⏚	90	100	102	48	37	70	50	29	58	77	85
	3P+⏚	90	100	102	48	37	78	58	30	65	77	85

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

AS-AR-AF insulating cable glands

- AS..I IP68 degree of protection (EN 60529)
- ARP/AFP IP67 degree of protection (EN 60529)
- Temperature range -25 °C / +100 °C
- Metric threading according to EN 60423 and EN 50262
- Pg threading according to DIN 40430 and DIN 46320
- Anti-aging rubber gaskets
- AS C/AS M grey RAL 7001, AS C11I / AS M 20I grey RAL 7035, AS C11IN / AS M20IN black RAL 9005
- UL, VDE, CSA approval

Complete insulating cable gland

Complete insulating cable gland

Description	Part No.		
- for cable Ø 3,5 - 10 mm *	**AS C11I**	grey	Pg 11
- for cable Ø 3,5 - 10 mm *	**AS C11IN**	black	Pg 11
- for cable Ø 5 - 12 mm *	**AS C13I**		Pg 13,5
- for cable Ø 7 - 14 mm	**AS C16I**		Pg 16
- for cable Ø 9 - 18 mm	**AS C21I**		Pg 21
- for cable Ø 14 - 25 mm	**AS C29I**		Pg 29
- for cable Ø 18 - 32 mm	**AS C36I**		Pg 36
- for cable Ø 24 - 38,5 mm	**AS C42I**		Pg 42
- for cable Ø 5 - 12,5 mm	**AS M20I**	grey	M 20
- for cable Ø 5 - 12,5 mm	**AS M20IN**	black	M 20
- for cable Ø 9 - 18 mm	**AS M25I**		M 25
- for cable Ø 14 - 25 mm	**AS M32I**		M 32
- for cable Ø 18 - 32 mm	**AS M40I**		M 40
- for cable Ø 24 - 38,5 mm	**AS M50I**		M 50

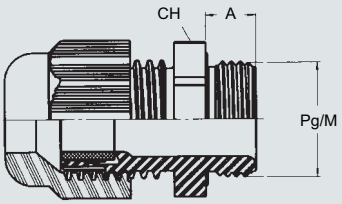
Description	Part No.	
- rubber hole Ø 7,5-10-12,5 mm *	**ARP 11**	11
- rubber hole Ø 7,5-10-12,5 mm *	**ARP 13**	13,5
- rubber hole Ø 7,5-10-12,5-15 mm	**AFP 16**	16
- rubber hole Ø 10-13-16-19 mm	**AFP 21**	21
- rubber hole Ø 18-21-24-27 mm	**AFP 29**	29
- rubber hole Ø 24-27-30-33 mm	**AFP 36**	36
- rubber hole Ø 30-33-36-39 mm	**ARP 42**	42
- rubber hole Ø 36-39-42-45 mm	**ARP 48**	48

* Not suitable for all walls

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

dimensions in mm

AS C..I - AS M..I

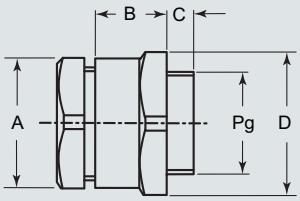


AS C..I	A	CH
11	8	22
13	9	24
16	10	27
21	11	33
29	11	42
36	13	53
42	13	60

AS M..I	A	CH
20	10	24
25	10	33
32	10	42
40	10	53
50	12	60

dimensions in mm

ARP / AFP



Part No.	A	B	C	D	Pg
ARP 11	19	20	9	24	11
ARP 13.5	22	19,5	9	26	13,5
AFP 16	24	21	10	29	16
AFP 21	30	26	10	39	21
AFP 29	41	29,5	10	50	29
AFP 36	50	33,5	10	58	36
ARP 42	54	28	12,5	60	42
ARP 48	64	41,5	13,5	77	48

AR-AS insulating cable glands

- In thermoplastic material
- Anti-aging rubber gasket
- Metric threading according to EN 60423 and EN 50262
- Pg threading according to DIN 40430 and DIN 46320

Insulating sealing plugs

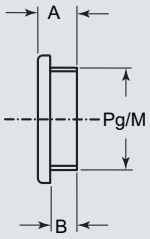
Lock nuts

Description	Part No.		Part No.	
- for Pg 11 threading*	**ARD 11**	Pg 11		
- for Pg 13.5 threading*	**ARD 13**	Pg 13,5		
- for Pg 16 threading*	**ARD 16**	Pg 16		
- for Pg 21 threading	**ARD 21**	Pg 21		
- for Pg 29 threading	**ARD 29**	Pg 29		
- for Pg 36 threading	**ARD 36**	Pg 36		
- for Pg 48 threading	**ARD 48**	Pg 48		
- for M 20 threading	**AS M20D**	M 20		
- for M 25 threading	**AS M25D**	M 25		
- for M 32 threading	**AS M32D**	M 32		
- for M 40 threading	**AS M40D**	M 40		
- for M 50 threading	**AS M50D**	M 50		
- for Pg 11 threading			**ARC 11**	Pg 11
- for Pg 13.5 threading			**ARC 13**	Pg 13,5
- for Pg 16 threading			**ARC 16**	Pg 16
- for Pg 21 threading			**ARC 21**	Pg 21
- for Pg 29 threading			**ARC 29**	Pg 29
- for Pg 36 threading			**ARC 36**	Pg 36
- for Pg 48 threading			**ARC 48**	Pg 48
- for M 20 threading			**AS M20L**	M 20
- for M 25 threading			**AS M25L**	M 25
- for M 32 threading			**AS M32L**	M 32
- for M 40 threading			**AS M40L**	M 40
- for M 50 threading			**AS M50L**	M 50

* Not suitable for all walls

dimensions in mm

ARD - AS M..D

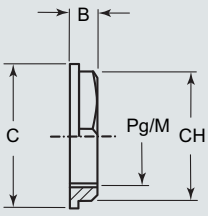


Part No.	A	B
ARD 11	7,5	6
ARD 13.5	7,5	6
ARD 16	7,5	6
ARD 21	10	8
ARD 29	10	8
ARD 36	12	10
ARD 48	14	12

Part No.	A	B
AS M20D	10,5	8
AS M25D	11	8
AS M32D	13,5	10
AS M40D	14	10
AS M50D	17	12

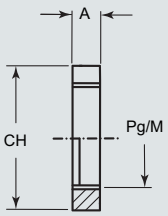
dimensions in mm

ARC



Part No.	CH	B	C
ARC 11	24	5	26
ARC 13.5	27	6	29
ARC 16	30	6	33
ARC 21	36	7	39
ARC 29	46	7	50
ARC 36	60	8	66
ARC 48	70	8	78

AS M..L



Part No.	CH	A
AS M20L	24	5
AS M25L	30	6
AS M32L	38	7,5
AS M40L	50	8
AS M50L	60	9

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

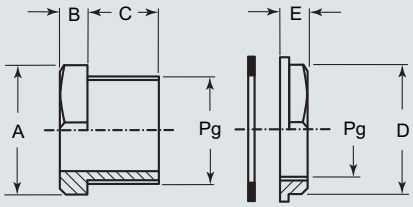
- In thermoplastic material RAL 7035 gray
- Anti-aging rubber gasket

Union nipples including gasket and counternu

Description	Part No.
Union nipples	
- For holes Pg 16*	**FC NP 16**
- For holes Pg 21	**FC NP 21**
- For holes Pg 29	**FC NP 29**
- For holes Pg 36	**FC NP 36**

* Not suitable for all walls

dimensions in mm



Part No.	A	B	C	D	E	Pg
FC NP 16	24	6	14	30	6	16
FC NP 21	30	7	17	36	7	21
FC NP 29	41	8	20	46	7	29
FC NP 36	50	10	23	60	8	36

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

	Microswitch, Auxiliary switch	Padlock for switch
		
Description	Part No.	Part No.
microswitch[1] indicating insertion status of plug for TM 125 IH/SP only	**TM 125 MPL**	
auxiliary switch[2] indicating status of socket-outlet switch for TM 125 IH/SP only	**TM 125 MSO**	
padlock for switch of TM socket-outlets		**TM BLC**

[1] **Microswitch TM 125 MPL technical characteristics**

- **Type:** C - NO - NC
- **Ratings:** 10A cosφ 0.95 @ 250Va.c. 50Hz
  2A cosφ 0.45 @ 250Va.c. 50Hz
  3A (L/R = 5ms) @ 30Vd.c.
- **Operating temperature:**
  -20 °C / +125 °C
- **Expected mechanical life:**
  $3 \cdot 10^7$ switching cycles at 1Hz
- **Insulation resistance:**
  > 100MΩ
- **Discharge voltage between contacts:**
  > 1 $250V_{rms}$ @50Hz
- **Certificates:** IMQ, UL

[2] **Auxiliary switch TM 125 MSO technical characteristics**

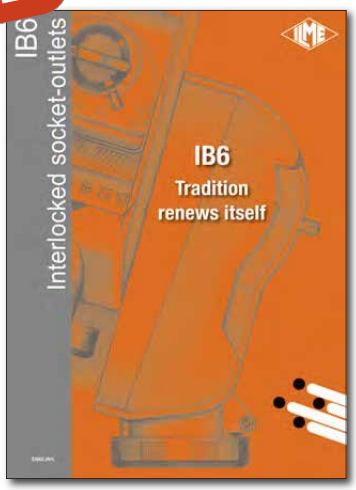
- **Rating:** 10A - 250Va.c.

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

NEW

PES
Save time - Squich® connection

NEW

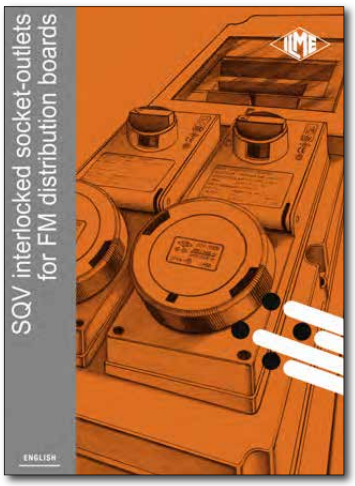


IB6
Tradition renews itself

NEW

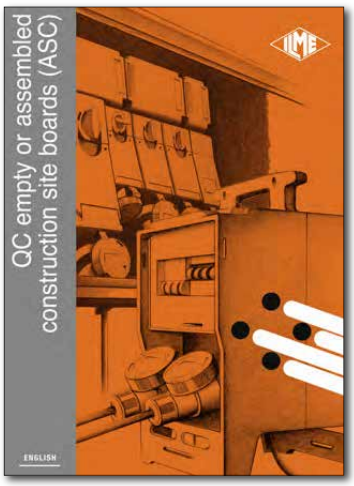
TM ATEX
Potentially explosive atmospheres

PLUSO
Sockets and Plugs

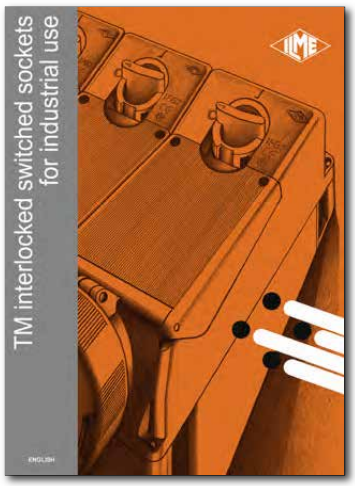


SQV
Interlocked socket-outlets

BK
Interlocked socket-outlets



QC
Site boards



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Interlocked switched sockets

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