ECOMOBILITY GENERAL CATALOGUE

ECOMOBILITY

SCAME

electrical solutions

2018

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Scame: a growing group

IN OVER FIFTY YEARS WE HAVE WRITTEN A STORY OF INNOVATION THAT HAS ALWAYS PRESERVED THE SPIRIT OF ITS ORIGINS.

Scame was founded amidst the enthusiasm of the Italian economic boom of the 60's and has always pursued its raison d'être in thriving by improving. Today it is an international industrial group of about 800 people employed in 18 subsidiary and associated companies operating under the parent company headquartered in Parre (Bergamo) in Alta Valle Seriana. Scame has a capillary presence throughout Italy with its own sales agencies and operates worldwide with branches and loyal distributors.

SCAME in the world

SCAME electrical solutions

Italy
Parre (Bergamo)

SCAME ARGENTINA
Argentina

SCAME BULGARIA
Bulgaria

SCAME BRASIL
Brazil

SCAME CHILE
Chile

SCAME-TOP
China

SCAME-HR
Croatia

SCAME-CZ
Czech Republic

SOBEM SCAME
France

SCAME INDIA
India

SCAME POLSKA
Poland

SCAME PORTUGAL
Portugal

SCAME-RO
Romania

SCAME-SK
Slovakia

SCAME IBERICA
Spain

SCAME MIDDLE EAST
U.A.E.

SCAME-UK
United Kingdom

SCAME-UY
Uruguay

SCAME-UA
Ukraine

Technical and sales service

FOR ADDITIONAL INFORMATION, TECHNICAL SUPPORT AND CONSULTING, AND FOR QUESTIONS ABOUT COMPLIANCE WITH THE REFERENCE STANDARDS, PLEASE

E-MAIL: ecomobility@scame.com

ACCESS THE REGISTRATION FORM BY SCANNING THE QR CODE

Scame technical information centre is able to promptly provide clear and complete answers to all your questions regarding the Scame products. The leading distributors of electrical material, with the support of our sales agencies and technical promoters, represent an additional capillary reference network. Information and updates can be found in the Info-point section of the internet site and in the newsletter sent periodically to the registered users.

ecomobility@scame.com

There is a great effort behind this project.

The world changes. It is inevitable. It is often a steady evolution, but at times sudden changes occur that lead to new scenarios in just a short time. The introduction of electric vehicles on the market entails the creation of new habits, new structures, and new needs. In such an evolving context, it is important to establish points of reference that guide the change; in this case, the more qualified, and thus credible, figure becomes the main player. SCAME did not hesitate for a second to offer a tangible and functional contribution in order to achieve sustainable choices from a technological, economic and environmental standpoint.

A considerable commitment, which SCAME has gladly been devoted to for many years, with the aim of providing tomorrow's drivers with practical and safe instruments.

We aim to build on good ideas.

In Europe, there are many technicians with experience and skills, but in order to make the most of this wealth it was necessary to find a way to coordinate the work being carried out, channel choices and share objectives. SCAME, in conjunction with other manufacturers strive to ensure compliance of connections used to supply electrical vehicles with IEC/CENELEC standards. All the efforts were geared towards setting up a European connecting standard capable of guaranteeing the highest levels of safety.

1

AC CHARGING STATIONS MODE 3


SCAME
ECOMOBILITY

The legislative scenario is complex

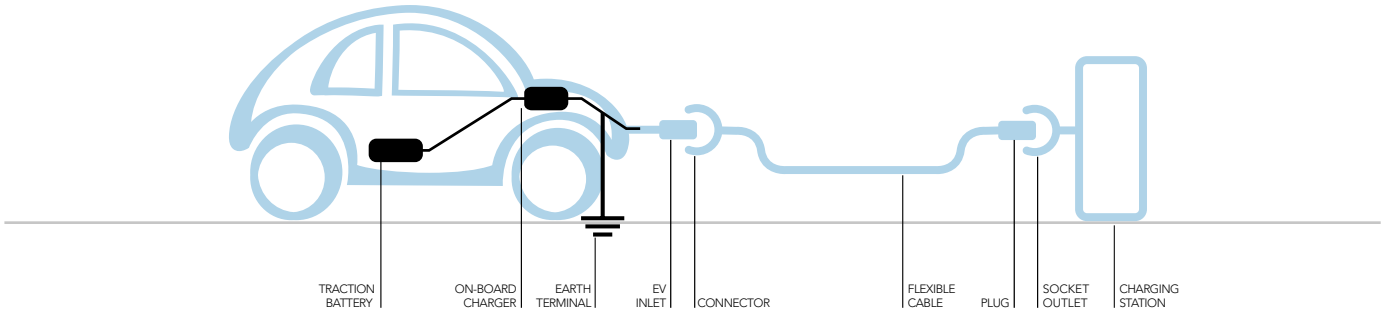
While contributing to defining the new standards, SCAME put technology at the service of common sense, with the aim of pursuing practical and intelligent design choices. Indeed, the choices made when defining connection methods and designing the relevant equipment have led to the offer of simple and safe products. This means that the utilization methods are perfectly suited to the user, that production costs are low and that safety is ensured.

The connection developed by Scame

CHARGING MODE 3

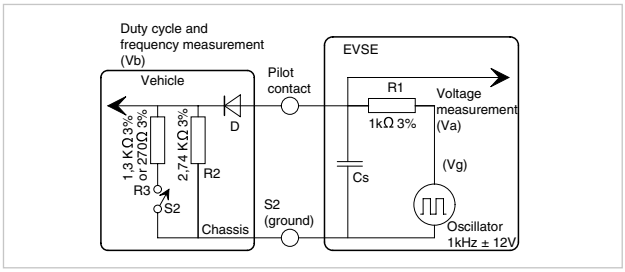
SCAME's charging stations use charging mode 3, in accordance with IEC / EN 61851-1.
Charging mode 3 consists in connecting the vehicle to the AC mains using specific connectors and with a control pilot circuit inside the charging station to verify continuity of the protective conductor between vehicle and grid during the charging.

This check is necessary to ensure proper operation of protections against indirect contacts, hence to prevent any dangerous voltage from being discharged through accidental contact with unaware persons; it is usually mandatory for vehicles with power above 3 kW, and, in Italy, for public or private environments open to third parties. The control circuit also arranges for communication between charging station and vehicle (PWM Circuit) and for cable size identification (Resistor Coding).



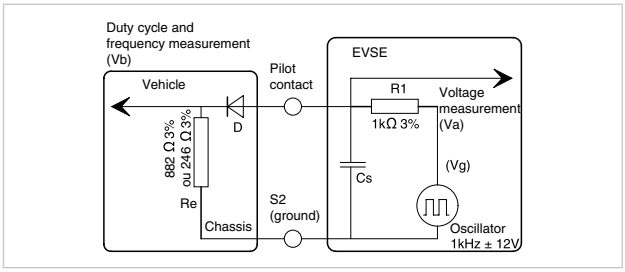
MODE 3 PWM CIRCUIT (PULSE WIDTH MODULATION)

PWM circuit operation is described in Annex A of standard IEC/EN 61851-1. This circuit arranges for communication between charging station and electric vehicle: the station communicates the supply network availability to the vehicle through a frequency-modulated signal, the vehicle adjusts the load returning its status through a voltage value.



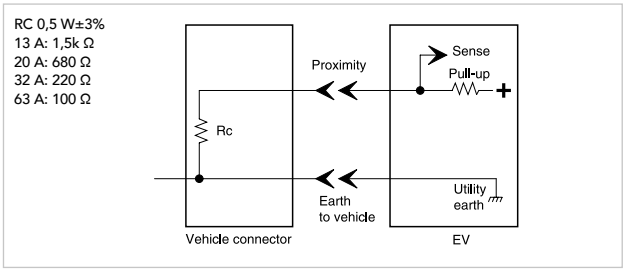
"SIMPLIFIED" MODE 3

In the case of vehicles without PWM, the circuit operates in "simplified mode", measuring the earth resistance value only and limiting the charging current to 16 A (10 A in the future).



RESISTOR CODING

Resistor Coding operation is described in Annex B.5 of standard IEC / EN 61851-1 and it is mandatory in the case of 3C type connectors, type 1 and type 2, when it is possible to wire the plug using cables with different cross-sections and current carrying capability. Depending on the max charging current, a resistance is positioned between the PP contact and the earth, with a value that identifies cable size. The PWM circuit then checks that the charging current does not exceed the maximum drawable current.



AC CHARGING STATIONS MODE 3

WALL BOX WB

MODE 3

The WALL BOX is a wall-mounting charging station that complies with "MODE 3" indicated in international standard IEC/EN 61851-1. It is suitable for installation both in public and private places, although its eye-catching design and reduced dimensions make it particularly suited to domestic environments such as: personal garages, private car parks, one-family homes or condominiums. The cable version is also available, in all the standards.

TECHNICAL CHARACTERISTICS

Rated current:	16 A / 32 A
Rated voltage:	230 V AC / 400 V
Frequency:	50-60 Hz
Insulation voltage:	250 V / 500 V
Protection degree:	IP54
Operating ambient temperature:	-25°C to +40°C
Material:	Technopolymer
Glow Wire test:	650°C
IK grade at 20°C:	IK08
Colour:	Grey
Installation:	Wall-mounted
Saline solution:	Resistant
UV rays:	Resistant

REFERENCE STANDARDS

EN 61851-1 (2011)
Electric vehicle conductive charging system.
Part 1: General requirements.

EN 61439-1 (2011)
Low-voltage switchgear and control gear assemblies.
Part 1: General requirement.

FEATURES

- Mode 3 charging with PWM pilot circuit
- Identification of connected cable size
- Protection against overloads and indirect contacts
- Measurement of power output and current drawn
- Control of proper contactor opening
- Identification of users authorized to the charging
- Management of plug interlock system
- Operation in free stand-alone or personal mode
- Set up for serial communication

APPLICATION EXAMPLES

WALL BOX SMART

MODE 3

Charging an electric vehicle can absorb most, if not all, the electricity that is usually available to us in our homes.
This is the reason why the POWER MANAGEMENT function is crucial.
Also particularly suited for installation in domestic environments, thanks to the POWER MANAGEMENT function it is no longer necessary to consider an increase in the contractual power supply for one's home.
In fact, this function, only fitted on the SMART WALL BOX, makes it possible to adjust the current intended for vehicle charging based on the instantaneous power consumption in the home and to adapt it to the power used up by the home appliances, with no risk of tripping the meter and thus avoid the inconveniences caused by a blackout. The device is also able to manage energy produced by a photovoltaic system.

REFERENCE STANDARDS

EN 61851-1 (2011)
Electric vehicle conductive charging system.
Part 1: General requirements.

EN 61439-1 (2011)
Low-voltage switchgear and control gear assemblies.
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TECHNICAL CHARACTERISTICS

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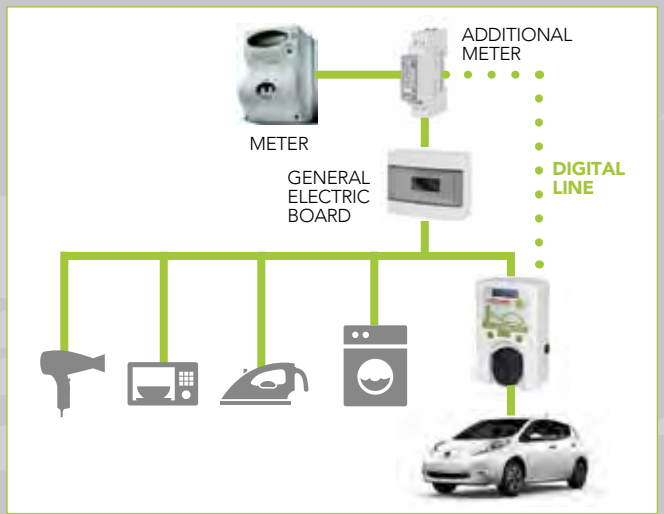
Insulation voltage:	250 V / 500 V
Protection degree:	IP54
Operating ambient temperature:	-25°C to +40°C
Material:	Technopolymer
Glow Wire test:	650°C
IK grade at 20°C:	IK08
Colour:	Grey
Installation:	Wall-mounted
Saline solution:	Resistant
UV rays:	Resistant

FEATURES

- Mode 3 charging with PWM pilot circuit
- Identification of connected cable size
- Protection against overloads and indirect contacts
- Measurement of power output and current drawn
- Control of proper contactor opening
- Identification of users authorized to the charging
- Management of plug interlock system
- Operation in free stand-alone or personal mode
- Set up for serial communication
- Power Management: it automatically limits the current used to charge the vehicle in relation to the user's contractual power and to the electricity used up by household appliances (washing machines, TV, oven, etc.) so as to avoid any untimely tripping of the meter.

POWER MANAGEMENT



DW DUAL WALL BOX

MODE 3

The Dual Wall Box is a charging station with the same features as the CA and CB charging pillars, but characterised by a highly resistant plastic structure and the possibility of wall mounting.
Recommended for rooms where the base solution is not possible (e.g., underground garage), it can be equipped with 1 or 2 flush-mounted sockets with anti-removal block Type 2, 3A, 3C.

TECHNICAL CHARACTERISTICS

Rated current:	16 A - 32 A - 50 A - 63 A
Rated voltage :	230 V AC / 400 V AC
Frequency:	50-60 Hz
Insulating voltage:	250 V / 500 V
Protection degree:	IP54
Operating ambient temperature:	-25°C to +40°C
Material:	Technopolymer
Glow Wire test:	650°C
IK grade at 20°C:	IK10
Colour:	Grey
Installation:	Wall-mounted
Saline solution:	Resistant
UV rays:	Resistant

REFERENCE STANDARDS

EN 61851-1 (2011)
Electric vehicle conductive charging system.
Part 1: General requirements.

EN 61439-1 (2011)
Low-voltage switchgear and control gear assemblies.
Part 1: General requirement.

FEATURES

- Mode 3 charging with PWM pilot circuit
- Identification of connected cable size
- Protection against overloads and indirect contacts
- Measurement of power output and current drawn
- Control of proper contactor opening
- Identification of users authorized to the charging
- Management of plug interlock system
- Operation in free stand-alone or personal mode
- Set up for serial communication
- Management of charging in case of power failure

APPLICATION EXAMPLES

CA CHARGING STATION MODE 3

VANDAL PROOF

The CA charging pillar is a free-standing, two-sided charging station made of painted steel sheet that can be equipped with type 2, 3A, 3C and domestic socket outlets having a built-in antiextraction locking system and with movable outlets with permanently connected cable (case C connection). Suited for private or public open areas, these columns feature removable front panels in Plexiglas that allow quick and easy customization.

TECHNICAL CHARACTERISTICS

Rated current:	16 A - 32 A - 50 A - 63 A
Rated voltage :	230 V AC / 400 V AC
Frequency:	50-60 Hz
Insulating voltage:	250 V / 500 V
Protection degree:	IP54
Operating ambient temperature:	-25°C to +40°C
Material:	Steel sheet
Glow Wire test:	-
IK grade at 20°C:	IK10
Colour:	Grey
Installation:	Free-standing
Saline solution:	Resistant
UV rays:	Resistant

REFERENCE STANDARDS

EN 61851-1 (2011)
Electric vehicle conductive charging system.
Part 1: General requirements.

EN 61439-1 (2011)
Low-voltage switchgear and control gear assemblies.
Part 1: General requirement.

FEATURES

- Mode 3 charging with PWM pilot circuit
- Identification of the connected cable
- Protection against overloads and indirect contacts
- Measurement of power output and current drawn
- Control of proper contactor opening
- Identification of user authorized to the charging
- Management of cover locking and plug interlock system
- Management of charging in case of power failure
- Operation in free stand-alone or personal mode
- Set up for serial communication

APPLICATION EXAMPLES


Head with LED indications


LED display with RFID reader

Customizable front panel


Compartment protected by door with lock


Separating plate for cable entry


Free-standing base with separating chamber

CB CHARGING STATION MODE 3

The CB charging pillar is a free-standing, two-sided charging station with the same features as the CA column but made of stainless steel sheet instead and with a smart design.
Suited for private and public open areas and for environments requiring greater corrosion resistance.

TECHNICAL CHARACTERISTICS

Rated current:	16 A – 32 A
Rated voltage:	400 V AC
Frequency:	50-60 Hz
Insulation voltage:	500 V
Protection degree:	IP54
Operating ambient temperature:	-25°C to +40°C
Material:	AISI 304 steel
Glow Wire test:	-
IK grade at 20°C:	IK10
Colour:	Satin-finished
Installation:	Free standing
Saline solution:	Resistant
UV rays:	Resistant

REFERENCE STANDARDS

EN 61851-1 (2011)
Electric vehicle conductive charging system.
Part 1: General requirement.

EN 61439-1 (2011)
Low-voltage switchgear and control gear assemblies.
Part 1: General requirement.

FEATURES

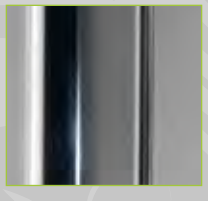
- Mode 3 charging with PWM pilot circuit
- Identification of the connected cable size
- Protection against overloads and indirect contacts
- Measurement of power output and current drawn
- Control of proper contactor opening
- Identification of user authorized to the charging
- Management of cover locking and plug interlock system
- Management of charging in case of power failure
- Operation in free stand-alone or personal mode
- Set up for serial communication

APPLICATION EXAMPLES


Head with LED indications

LED display with RFID reader


Flush-mounting outlet with door


Compartment protected by door with lock


Separating plate


Free-standing with separating chamber

CR-CL RES(OURCE) CHARGING STATION MODE 3

RES(ource) is more than just an equipment device used to charge electric vehicles. RES(ource) is also a source of energy, communication and services. A successful blend of design and functionality, it expresses through its shape and colours the vocation to fit in historical, architectural and valuable landscapes, typical of the Italian scenery.

TECHNICAL CHARACTERISTICS

Rated current:	32 A
Rated voltage:	400 V AC
Frequency:	50-60 Hz
Insulation voltage:	500 V
Protection degree:	IP54
Operating ambient temperature:	-25°C to +40°C
Material:	Corten steel - Steel sheet
Glow Wire test:	-
IK grade at 20°C:	IK10
Colour:	Oxidized (rust-like) - Grey
Installation:	Free-standing
Saline solution:	Resistant
UV rays:	Resistant

FEATURES

- Mode 3 charging with PWM pilot circuit
- Identification of the connected cable size
- Protection against overloads and indirect contacts
- Measurement of power output and current drawn
- Control of proper contactor opening
- Management of service based on the available credit
- Management of cover locking and plug interlock system
- Management of charging in case of power failure
- Operation in free stand-alone or personal mode
- Set up for serial communication

REFERENCE STANDARDS

EN 61851-1 (2011)
Electric vehicle conductive charging system.
Part 1: General requirements.

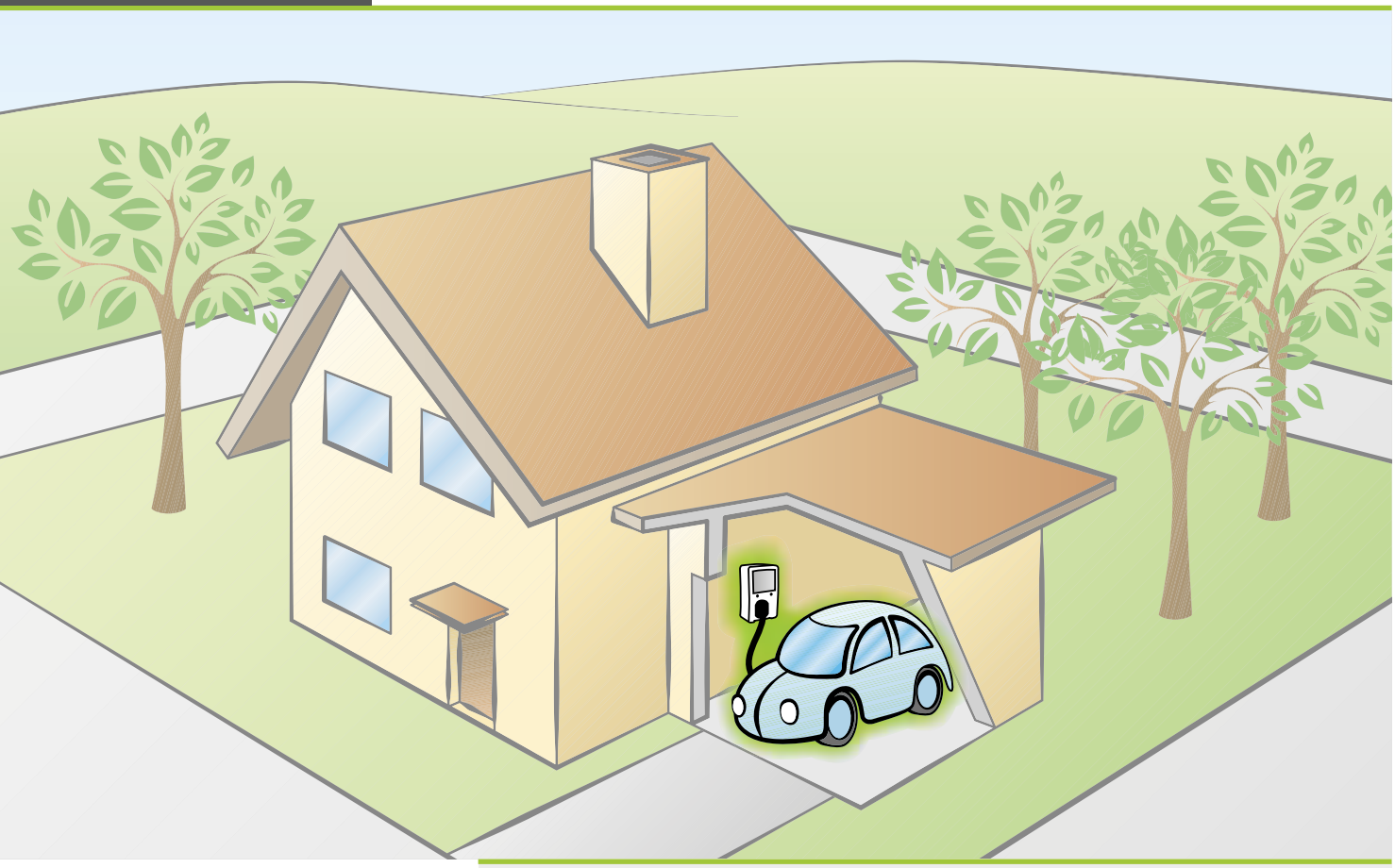
EN 61439-1 (2011)
Low-voltage switchgear and control gear assemblies.
Part 1: General requirement.

APPLICATION EXAMPLES

Scame Solutions for charging systems: 1. single-family home

POWER SUPPLY AND ENERGY MANAGEMENT:
- connection to the distribution board in the flat;
- connection to an electrical board inside the garage;
- connection to a meter dedicated to power the charging station.

IN A PRIVATE GARAGE



FREE-TYPE SOLUTION (FREE ACCESS)
Access to the charging station is free for all users, with no need to use identification systems.
This makes it perfect for home garages and/or, more generally speaking, for places where access is limited to the vehicle owner only.

SMART WALL BOX

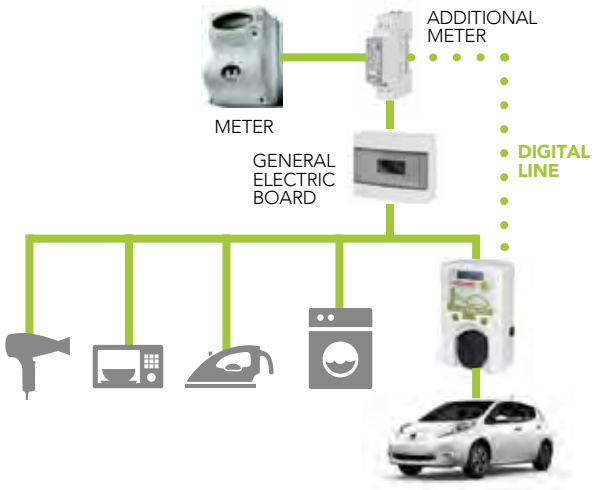
Charging an electric vehicle can absorb most, if not all, the electricity that is usually available to us in our homes.
This is the reason why the POWER MANAGEMENT function is crucial.
Especially suited for installation in a home environment, such as: private garage, private car parks and independent housing units, such as houses, single villas or condominiums. Thanks to the POWER MANAGEMENT function it is no longer necessary to consider an increase in the contractual power supply for one's home. This function, only fitted on the SMART WALL BOX, makes it possible to adjust the current intended for vehicle charging based on the instantaneous power consumption in the home and to adapt it to the power used up by the home appliances, with no risk of tripping the meter and thus avoid the inconveniences caused by a blackout. The device is also able to manage energy produced by a photovoltaic system.

Power	Code	Socket outlet	Energy meter	RCBO	Display
3,5 kW	204.WB11LS-T2	T2S	✔		✔
	204.WB11MS-T2	T2S	✔	✔	✔
7 kW	204.WB11LS-T232	T2S	✔		✔
	204.WB11MS-T232	T2S	✔	✔	✔

Power	Code	Tethered cable + Connector	Energy meter	RCBO	Display
3,5 kW	204.WB11LS-T11	5 m+Conn. T1	✔		✔
	204.WB11LS-T21	5 m+Conn. T2	✔		✔
7 kW	204.WB11LS-T12	5 m+Conn. T1	✔		✔
	204.WB11LS-T23	5 m+Conn. T2	✔		✔

Type 2 Socket (T2S) with shutter protection.

POWER MANAGEMENT



For detailed information about the products and their certifications, get in touch with our experts.

WALL BOX

The WALL BOX is a wall-mounting charging station that complies with "MODE 3" indicated in international standard IEC/EN 61851-1. It is suitable for installation both in public and private places, although its eye-catching design and reduced dimensions make it particularly suited to domestic environments such as: personal garages, private car parks, one-family homes or condominiums.The cable version is also available, in all the standards.

Power	Code	Socket outlet	Energy meter	RCBO
3,5 kW	204.WB11E-3A	3A		
	204.WB11L-3A	3A	✔	
	204.WB11P-3A	3A		✔
	204.WB11E-T2	T2S		
	204.WB11L-T2	T2S	✔	
	204.WB11P-T2	T2S		✔
	204.WB11M-T2	T2S	✔	✔
7 kW	204.WB11E-T232	T2S		
	204.WB11L-T232	T2S	✔	
	204.WB11P-T232	T2S		✔
	204.WB11M-T232	T2S	✔	✔
11 kW	204.WB16E-T2	T2S		
	204.WB16L-T2	T2S	✔	
22 kW	204.WB13E-T2	T2S		
	204.WB13L-T2	T2S	✔	

Power	Code	Tethered cable + Connector	Energy meter	RCBO
3,5 kW	204.WB11E-T11	5 m+Conn. T1		
	204.WB11L-T11	5 m+Conn. T1	✔	
	204.WB11P-T11	5 m+Conn. T1		✔
	204.WB11L-T21	5 m+Conn. T2	✔	
	204.WB11E-T21	5 m+Conn. T2		
	204.WB11P-T21	5 m+Conn. T2		✔
7 kW	204.WB11E-T12	5 m+Conn. T1		
	204.WB11L-T12	5 m+Conn. T1	✔	
	204.WB11P-T12	5 m+Conn. T1		✔
	204.WB11E-T23	5 m+Conn. T2		
	204.WB11P-T23	5 m+Conn. T2		✔
	204.WB11M-T23	5 m+Conn. T2	✔	✔

Type 2 Socket (T2S) with shutter protection.

For detailed information about the products and their certifications, get in touch with our experts.

DUAL WALL BOX

The Dual Wall Box WD is a two-sided charging station that complies with international standard IEC/EN 61851-1. It can be equipped with flush-mounted sockets with anti-extraction block and vandal-proof system, especially suited for private or public open areas. The WALL BOX "WD" is suited for wall mounting and, in particular, for places where performance typical of charging pillars is requested but there is no room for floor installation. Suited for "MODE 3" charging, it can also be equipped with 2 sockets at the most (1 per side) with maximum power of up to 22 kW per socket.

Power	Code	Socket outlets		Energy meter	RCBO	Display
22 kW	204.WD13M-T2	T2S		✔	✔	✔
7+3,5 kW	204.WD21E-T23A	T2S	3A			✔
	204.WD21P-T2UN	T2S	UNEL		✔	✔
7+7 kW	204.WD21L-T2T2	T2S	T2S	✔		✔
	204.WD21P-T2T2	T2S	T2S		✔	✔
22+3,5 kW	204.WD22P-T23A	T2S	3A		✔	✔
11+11 kW	204.WD26P-T2T2	T2S	T2S		✔	✔
22+22 kW	204.WD23E-T2T2	T2S	T2S			✔
	204.WD23M-T2T2	T2S	T2S	✔	✔	✔

Type 2 Socket (T2S) with shutter protection.

CA PILLAR

The CA charging pillar is a free-standing, two-sided charging station made of painted steel sheet that can be equipped with type 2, 3A, 3C and domestic socket outlets having a built-in antiextraction locking system and with movable outlets with permanently connected cable (case C connection). Suited for private or public open areas, these pillars feature removable front panels in Plexiglas that allow quick and easy customization.

Power	Code	Socket outlets		Energy meter	RCBO	Display	Energy meter MID
7 kW	204.CA11E-T2	T2S				✔	
11 kW	204.CA16M-T2	T2S		✔	✔	✔	
22 kW	204.CA13P-T2	T2S			✔	✔	
3,5 kW + 3,5 kW	204.CA21P-UNUN	UNEL	UNEL		✔	✔	
	204.CA21P-T23A	T2S	3A		✔	✔	
7 kW + 7 kW	204.CA21E-T2T2	T2S	T2S			✔	
	204.CA21P-T2T2	T2S	T2S		✔	✔	
22 kW + 3,5 kW	204.CA22E-T23A	T2S	3A			✔	
22 kW + 7 kW	204.CA22E-T2T2	T2S	T2S			✔	
22 kW + 22 kW	204.CA23E-T2T2	T2S	T2S			✔	
2x7 kW + 2x7 kW	204.CA41E-003	2xT2S	2xT2S			✔	

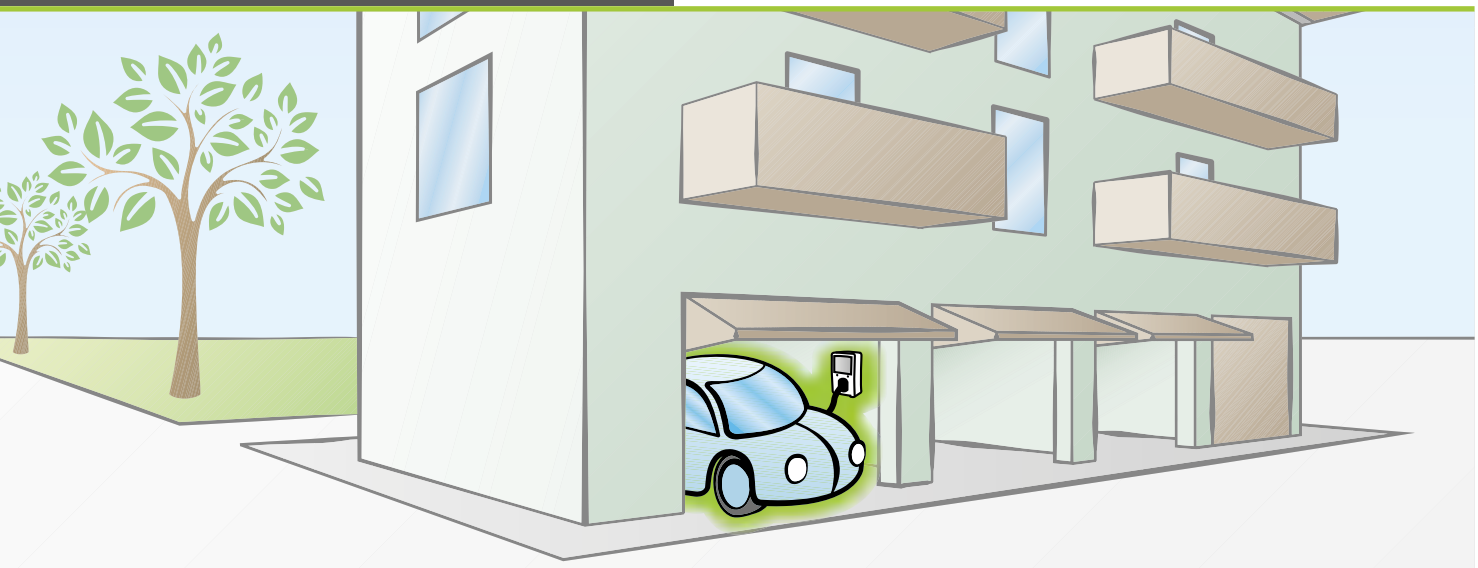
Type 2 Socket (T2S) with shutter protection.

For detailed information about the products and their certifications, get in touch with our experts.

2. Apartment buildings and parking lots

POWER SUPPLY AND ENERGY MANAGEMENT:
- connection to the existing electrical system for communal areas;
- connection to an individual electrical system;
- connection to an energy meter dedicated to EV charging;
- option to use an RFID badge;
- option to lock the socket-outlet cover.

IN THE PRIVATE GARAGE OF A CONDOMINIUM



IN A CONDOMINIUM PARKING LOT

PERSONAL TYPE SOLUTION (RFID User Recognition access)
Access to the charging station can be restricted to only those users equipped with a recognition system (usually a CARD).
Recognition can be limited to a single station or extended to a system of up to 32 stations (LAN connection).

SMART WALL BOX WITH RFID

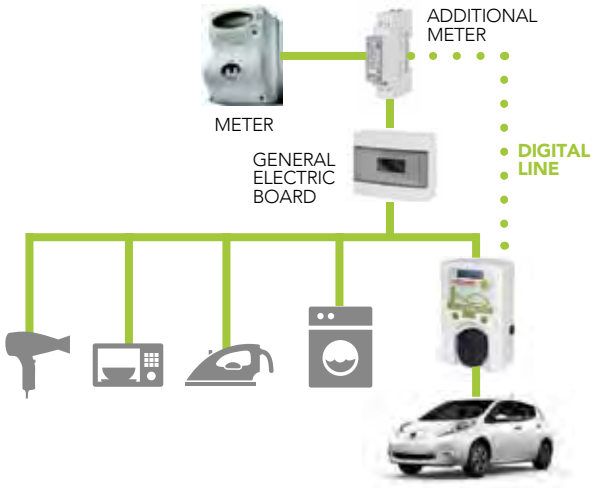
Charging an electric vehicle can absorb most, if not all, the electricity that is usually available to us in our homes.
This is the reason why the POWER MANAGEMENT function is crucial. Especially suited for installation in a home environment, such as: private garage, private car parks and independent housing units, such as houses, single villas or condominiums.
Thanks to the POWER MANAGEMENT function it is no longer necessary to consider an increase in the contractual power supply for one's home. This function, only fitted on the SMART WALL BOX, makes it possible to adjust the current intended for vehicle charging based on the instantaneous power consumption in the home and to adapt it to the power used up by the home appliances, with no risk of tripping the meter and thus avoid the inconveniences caused by a blackout.
The device is also able to manage energy produced by a photovoltaic system.

Power	Code	Socket outlet	Energy meter	RCBO	Display
3,5 kW	204.WB11RS-T2	T2S	✔	✔	✔
7 kW	204.WB11RS-T232	T2S	✔	✔	✔

Power	Code	Tethered cable + Connector	Energy meter	RCBO	Display
3,5 kW	204.WB11RS-T11	5 m+Conn. T1	✔	✔	✔
	204.WB11RS-T21	5 m+Conn. T2	✔	✔	✔
7 kW	204.WB11RS-T12	5 m+Conn. T1	✔	✔	✔
	204.WB11RS-T23	5 m+Conn. T2	✔	✔	✔

Type 2 Socket (T2S) with shutter protection.

POWER MANAGEMENT



For detailed information about the products and their certifications, get in touch with our experts.

WALL BOX WITH RFID

The WALL BOX is a wall-mounting charging station that complies with "MODE 3" indicated in international standard IEC/EN 61851-1. It is suitable for installation both in public and private places, although its eye-catching design and reduced dimensions make it particularly suited to domestic environments such as: personal garages, private car parks, one-family homes or condominiums. The cable version is also available, in all the standards.

Power	Code	Socket outlet	Energy meter	RCBO
3,5 kW	**204.WB11R-3A**	3A	✔	✔
	204.WB11F-T2	T2S		
	204.WB11R-T2	T2S	✔	✔
	204.WB11R-T2EV	T2S	✔	✔
7 kW	**204.WB11D-T232**	T2S	✔	
	204.WB11R-T232	T2S	✔	✔
	204.WB11R-T232EV	T2S	✔	✔
11 kW	**204.WB16D-T2**	T2S	✔	
22 kW	**204.WB13F-T2**	T2S		
	204.WB13D-T2	T2S	✔	

Power	Code	Tethered cable + Connector	Energy meter	RCBO
3,5 kW	**204.WB11R-T11**	5 m+Conn. T1	✔	✔
	204.WB11R-T21	5 m+Conn. T2	✔	✔
7 kW	**204.WB11F-T12**	5 m+Conn. T1		
	204.WB11F-T23	5 m+Conn. T2		
	204.WB11R-T12	5 m+Conn. T1	✔	✔
	204.WB11R-T23	5 m+Conn. T2	✔	✔

Type 2 Socket (T2S) with shutter protection.

For detailed information about the products and their certifications, get in touch with our experts.

DUAL WALL BOX WITH RFID

The Dual Wall Box WD is a two-sided charging station that complies with international standard IEC/EN 61851-1.
It can be equipped with flush-mounted sockets with anti-extraction block and vandal-proof system, especially suited for private or public open areas. The WALL BOX "WD" is suited for wall mounting and, in particular, for places where performance typical of charging pillars is requested but there is no room for floor installation. Suited for "MODE 3" charging, it can also be equipped with 2 sockets at the most (1 per side) with maximum power of up to 22 kW per socket. They can be fitted with local user recognition systems (RFID card readers) or with remote systems with the addition of management systems (OCPP communication protocol) that allow the user to be identified even through a smartphone using specific apps.

Power	Code	Socket outlets		Energy meter	RCBO	Display
3,5 kW	204.WD11B-3A	3A		✔	✔	✔
7 kW	204.WD11B-T2	T2S		✔	✔	✔
	204.WD11B-T2EV	T2S		✔	✔	✔
22 kW	204.WD13F-T2	T2S				✔
	204.WD13B-T2	T2S		✔	✔	✔
	204.WD13B-T2EV	T2S		✔	✔	✔
3,5 + 3,5 kW	204.WD21C-UNUN	UNEL	UNEL		✔	✔
	204.WD21B-3A3A	3A	3A	✔	✔	✔
7 + 3,5 kW	204.WD21D-T23A	T2S	3A	✔		✔
	204.WD21B-T23A	T2S	3A	✔	✔	✔
7 + 7 kW	204.WD21F-T2T2	T2S	T2S			✔
	204.WD21B-T2T2	T2S	T2S	✔	✔	✔
	204.WD21B-T2T2EV	T2S	T2S	✔	✔	✔
22 + 3,5 kW	204.WD22B-T23A	T2S	3A	✔	✔	✔
11 + 11 kW	204.WD26D-T2T2	T2S	T2S	✔		✔
	204.WD26C-T2T2	T2S	T2S		✔	✔
22 + 22 kW	204.WD23B-T2T2	T2S	T2S	✔	✔	✔
	204.WD23B-T2T2EV	T2S	T2S	✔	✔	✔

Power	Code	Tethered cables + Connectors	Energy meter	RCBO	Display
22 kW+22 kW	204.WD23R-T24T24	5 m+Conn. T2 5 m+Conn. T2	✔	✔	✔

Type 2 Socket (T2S) with shutter protection.

For detailed information about the products and their certifications, get in touch with our experts.

CA PILLAR WITH RFID

The CA charging pillar is a free-standing, two-sided charging station made of painted steel sheet that can be equipped with type 2, 3A, 3C and domestic socket outlets having a built-in antiextraction locking system and with movable outlets with permanently connected cable (case C connection). Suited for private or public open areas, these pillars feature removable front panels in Plexiglas that allow quick and easy customization.

Power	Code	Socket outlets		Energy meter	RCBO	Display	Energy meter MID
3,5 kW	204.CA11D-UN	Unel		✔		✔	
	204.CA11B-3A	3A		✔	✔	✔	
7 kW	204.CA11B-T2	T2S		✔	✔	✔	
	204.CA11B-T2EV	T2S		✔	✔	✔	
11 kW	204.CA16C-T2	T2S			✔	✔	
	204.CA16B-T2	T2S		✔	✔	✔	
22 kW	204.CA13B-T2	T2S		✔	✔	✔	
	204.CA13B-T2EV	T2S		✔	✔	✔	
3,5 kW + 3,5 kW	204.CA21B-UNUN	3A	UNEL	✔	✔	✔	
	204.CA21B-3AUN	UNEL	UNEL	✔	✔	✔	
	204.CA21B-3A3A	3A	3A	✔	✔	✔	
7 kW + 3,5 kW	204.CA21B-T2UN	T2S	UNEL	✔	✔	✔	
	204.CA21B-T23AM	T2S	3A	✔	✔	✔	✔
	204.CA21B-T23A	T2S	3A	✔	✔	✔	
7 kW + 7 kW	204.CA21F-T2T2	T2S	T2S			✔	
	204.CA21B-T2T2	T2S	T2S	✔	✔	✔	
	204.CA21B-T2T2EV	T2S	T2S	✔	✔	✔	
	204.CA21B-T2T2M	T2S	T2S	✔	✔	✔	✔
11 kW + 11 kW	204.CA26D-T2T2	T2S	T2S	✔		✔	
	204.CA26F-T2T2	T2S	T2S			✔	
22 kW + 3,5 kW	204.CA22B-T23A	T2S	3A	✔	✔	✔	
	204.CA22B-T2UN	T2S	UNEL	✔	✔	✔	
22 kW + 7 kW	204.CA22C-T2T2	T2S	T2S		✔	✔	
	204.CA22B-T2T2	T2S	T2S	✔	✔	✔	
22 kW + 22 kW	204.CA23B-T2T2	T2S	T2S	✔	✔	✔	
	204.CA23B-T2T2EV	T2S	T2S	✔	✔	✔	
	204.CA23B-T2T2M	T2S	T2S	✔	✔	✔	✔
2x3,5 kW + 2x3,5 kW	204.CA41B-004	2xUNEL	2xUNEL	✔	✔	✔	
2x7 kW + 2x3,5 kW	204.CA41B-002	2xT2S	2x3A	✔	✔	✔	
2x7 kW + 2x7 kW	204.CA41B-003	2xT2S	2xT2S	✔	✔	✔	
2x22 kW + 2x3,5 kW	204.CA42B-001	2xT2S	2x3A	✔	✔	✔	

Power	Code	Tethered cables + Connectors	Energy meter	RCBO	Display	Energy meter MID
3,5 kW + 3,5 kW	204.CA21R-T11T11	5 m+Conn. T1 5 m+Conn. T1	✔	✔	✔	
	204.CA21R-T21T21	5 m+Conn. T2 5 m+Conn. T2	✔	✔	✔	
7 kW + 7 kW	204.CA21R-T12T12	5 m+Conn. T1 5 m+Conn. T1	✔	✔	✔	
	204.CA21R-T23T23	5 m+Conn. T2 5 m+Conn. T2	✔	✔	✔	
22 kW + 22 kW	204.CA23R-T24T24	5 m+Conn. T2 5 m+Conn. T2	✔	✔	✔	
44 kW+ 44 kW	204.CA23R-T26T26	5 m+Conn. T2 5 m+Conn. T2	✔	✔	✔	

Type 2 Socket (T2S) with shutter protection.

CB PILLAR WITH RFID

The CB charging pillar is a free-standing, two-sided charging station with the same features as the CA column but made of stainless steel sheet instead and with a smart design. Suited for private and public open areas and for environments requiring greater corrosion resistance.

Power	Code	Socket outlets		Energy meter	RCBO	Display	Energy meter MID
3,5 kW + 3,5 kW	**204.CB21B-3A3A**	3A	3A	✔	✔	✔	
7 kW + 3,5 kW	**204.CB21B-T23A**	T2S	3A	✔	✔	✔	
7 kW + 7 kW	**204.CB21B-T2T2**	T2S	T2S	✔	✔	✔	
	204.CB21B-T2T2EV	T2S	T2S	✔	✔	✔	
22 kW + 22 kW	**204.CB23B-T2T2**	T2S	T2S	✔	✔	✔	
	204.CB23B-T2T2EV	T2S	T2S	✔	✔	✔	

Type 2 Socket (T2S) with shutter protection.

CL PILLAR WITH RFID

RES(ource) is more than just an equipment device used to charge electric vehicles. RES(ource) is also a source of energy, communication and services. A successful blend of design and functionality, it expresses through its shape and colours the vocation to fit in historical, architectural and valuable landscapes, typical of the Italian scenery.

Power	Code	Socket outlets		Energy meter	RCBO	Display	Energy meter MID
7 kW + 3,5 kW	**204.CL21B-T23A**	T2S	3A	✔	✔	✔	
7 kW + 7 kW	**204.CL21B-T2T2**	T2S	T2S	✔	✔	✔	
22 kW + 3,5 kW	**204.CL22B-T23A**	T2S	3A	✔	✔	✔	

Type 2 Socket (T2S) with shutter protection.

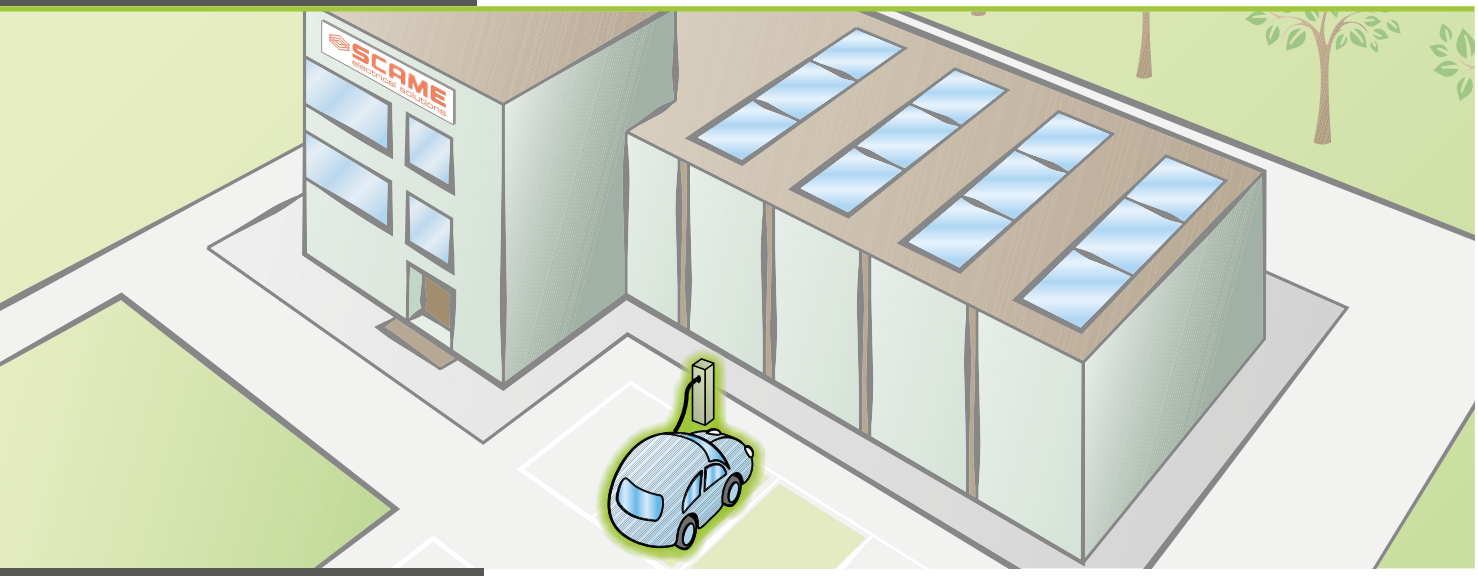
For detailed information about the products and their certifications, get in touch with our experts.

3. Parking lots for collective use

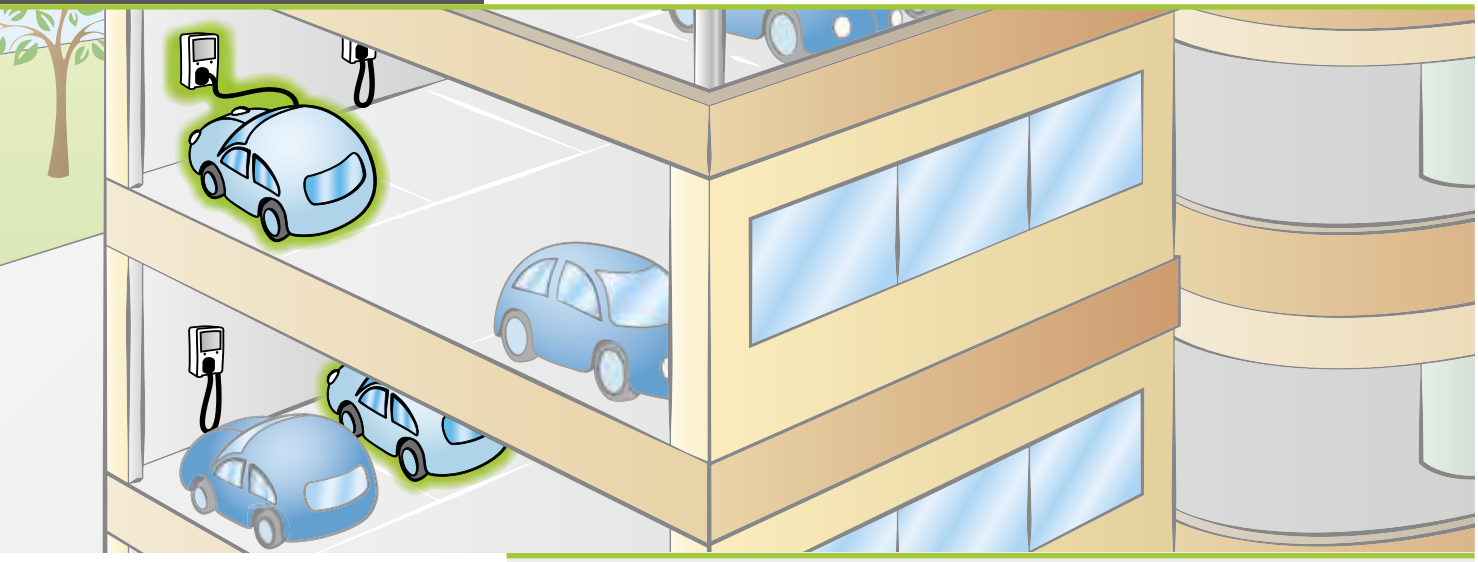
Shopping centres, hotels, companies and public parking lots

POWER SUPPLY AND ENERGY MANAGEMENT:
- connection to the power distribution board at the facility;
- connection to an energy meter dedicated to EV charging;
- option to use an RFID badge;
- option to lock the socket-outlet cover;
- option to install a charging station management system via LAN network or WEB Server.

IN A COMPANY PARKING LOT



IN A PUBLIC PARKING GARAGE



NET type solution
Access to the station can be restricted to only those users authorised by the recognition system, which can be managed either locally or in remote through LAN and/or Wi-Fi connections.

WALL BOX WITH RFID

The WALL BOX is a wall-mounting charging station that complies with "MODE 3" indicated in international standard IEC/EN 61851-1. It is suitable for installation both in public and private places, although its eye-catching design and reduced dimensions make it particularly suited to domestic environments such as: personal garages, private car parks, one-family homes or condominiums. The cable version is also available, in all the standards.

Power	Code	Socket outlet	Energy meter	RCBO	Ethernet LAN	Ethernet Wi-Fi
3,5 kW	204.WB11R-T2A	T2S	✔	✔	✔	
	204.WB11R-T2B	T2S	✔	✔		✔
7 kW	204.WB11R-T232A	T2S	✔	✔	✔	
	204.WB11R-T232B	T2S	✔	✔		✔

Type 2 Socket (T2S) with shutter protection.

DUAL WALL BOX WITH RFID

The Dual Wall Box WD is a two-sided charging station that complies with international standard IEC/EN 61851-1. It can be equipped with flush-mounted sockets with anti-extraction block and vandal-proof system, especially suited for private or public open areas. The WALL BOX "WD" is suited for wall mounting and, in particular, for places where performance typical of charging pillars is requested but there is no room for floor installation. Suited for "MODE 3" charging, it can also be equipped with 2 sockets at the most (1 per side) with maximum power of up to 22 kW per socket. They can be fitted with local user recognition systems (RFID card readers) or with remote systems with the addition of management systems (OCPP communication protocol) that allow the user to be identified even through a smartphone using specific apps.

Power	Code	Socket outlets		Energy meter	RCBO	Display	Ethernet LAN	Ethernet Wi-Fi	Dongle USB 3G	Energy meter MID
22 kW	204.WD13B-T2A	T2S		✔	✔	✔	✔			
3,5 kW + 3,5 kW	204.CA21B-UNUNA	UNEL	UNEL	✔	✔	✔	✔			
7 kW + 7 kW	204.WD21B-T2T2B	T2S	T2S	✔	✔	✔		✔		
	204.WD21B-T2T2C	T2S	T2S	✔	✔	✔	✔		✔	
11 kW + 11 kW	204.WD26B-T2T2A	T2S	T2S	✔	✔	✔	✔			
	204.WD26B-T2T2D	T2S	T2S	✔	✔	✔		✔	✔	
22 kW + 22 kW	204.WD23B-T2T2C	T2S	T2S	✔	✔	✔	✔		✔	
	204.WD23B-T2T2MA	T2S	T2S	✔	✔	✔	✔			✔

Type 2 Socket (T2S) with shutter protection.

For detailed information about the products and their certifications, get in touch with our experts.

Applus IDIADA · E.V.READY · IMQ · Z.E. READY CERTIFIED

CA PILLAR WITH RFID

The CA charging pillar is a free-standing, two-sided charging station made of painted steel sheet that can be equipped with type 2, 3A, 3C and domestic socket-outlets having a built-in antiextraction locking system and with movable outlets with permanently connected cable (case C connection). Suited for private or public open areas, these pillars feature removable front panels in Plexiglas that allow quick and easy customization.

Power	Code	Socket outlets		Energy meter	RCBO	Display	Ethernet LAN	Ethernet Wi-Fi	Router	Energy meter MID
7 kW	204.CA11B-T2A	T2S		✔	✔	✔	✔			
11 kW	204.CA16B-T2MA	T2S		✔	✔	✔	✔			✔
7 kW + 7 kW	204.CA21B-T2T2E	T2S	T2S	✔	✔	✔	✔		✔	
11 kW + 11 kW	204.CA26B-T2T2A	T2S	T2S	✔	✔	✔	✔			
22 kW + 3,5 kW	204.CA22B-T23AMA	T2S	3A	✔	✔	✔	✔			✔
	204.CA22B-T2UNB	T2S	UNEL	✔	✔	✔		✔		
22 kW + 7 kW	204.CA22B-T2T2F	T2S	T2S	✔	✔	✔		✔	✔	
22 kW + 22 kW	204.CA23B-T2T2A	T2S	T2S	✔	✔	✔	✔			
	204.CA23B-T2T2MA	T2S	T2S	✔	✔	✔	✔			✔
	204.CA23B-T2T2E	T2S	T2S	✔	✔	✔	✔		✔	
2x22 kW + 2x3,5 kW	204.CA42B-001MA	2xT2S	2x3A	✔	✔	✔	✔			✔

Power	Code	Socket outlets		Energy meter	RCBO	Display	Ethernet LAN	Ethernet Wi-Fi	Dongle USB 3G	Energy meter MID
22 kW	204.CA13B-T2D	T2S		✔	✔	✔		✔	✔	
7 kW + 7 kW	204.CA21B-T2T2C	T2S	T2S	✔	✔	✔	✔		✔	
22 kW + 7 kW	204.CA22B-T2T2C	T2S	T2S	✔	✔	✔	✔		✔	

Power	Code	Tethered cables + Connectors	Energy meter	RCBO	Display	Ethernet LAN	Ethernet Wi-Fi	Dongle USB 3G	Energy meter MID
7 kW + 7 kW	204.CA21R-T12T12D	5 m+Conn. T2 5 m+Conn. T2	✔	✔	✔		✔	✔	
22 kW + 22 kW	204.CA23R-T24T24D	5 m+Conn. T2 5 m+Conn. T2	✔	✔	✔		✔	✔	
44 kW + 44 kW	204.CA23R-T26T26MA	5 m+Conn. T2 5 m+Conn. T2	✔	✔	✔	✔			✔

Type 2 Socket (T2S) with shutter protection.

For detailed information about the products and their certifications, get in touch with our experts.

ACCESSORIES

	Code	Description
	208.AP11	Tubular support made of galvanised steel for Wall Box (WB) Ø 80 mm h=1250 mm
	208.AP12	Tubular support made of galvanised steel for Wall Box (WB) Ø 80 mm h=1500 mm
	208.AP21	Fixing plate made of painted metal sheet for Wall Box (WB)
	208.AP22	Fixing plate made of galvanised steel for dual Wall Box (WD)
	208.AP31	Anti-collision arch for charging column 1000x500 mm Ø 48 mm
	208.AP32	Jig made of galvanised metal sheet for horizontal signage 1000x1000 mm
	208.AP33	Spray can of paint for horizontal signage, green 500 ml size
	208.AP35	Tubular support made of galvanised steel for sign Ø 60 mm h=3000 mm

2

EVOBIKE CHARGING STATIONS


ECOMOBILITY
SCAME
electrical solutions
ECOMOBILITY

EVOBIKE CHARGING STATIONS

EVOBIKE STATION

DC

FEATURES

- Charging in DC standard Evobike mode
- Protection against overloads and indirect contacts
- Identification of users authorized to the charging
- Management of cover locking and plug interlock system
- Operation in free stand-alone or personal mode

TECHNICAL CHARACTERISTICS

Rated current:	32 A
Rated voltage:	230 V AC
Frequency:	50-60 Hz
Insulation voltage:	250 V
Protection degree:	IP44
Operating temperature:	-25°C to +40°C
Material:	Steel sheet
Glow Wire test:	-
IK grade at 20°C:	IK10
Colour:	Anthracite
Installation:	Wall-mounted / free-standing
Saline solution:	Resistant
UV rays:	Resistant

To increase its product range, SCAME also offers charging stations in DC for vehicles that are equipped with an external battery charger and are therefore not covered by current standards.
This is a bar structure that can be easily integrated in a cantilever roof sheltering; it contains the control and identification electronic parts and can house the battery charger best suited for the vehicle to be charged (not included).
The system also includes a connecting system which the vehicle must equip itself, based on a proprietary connector standard.

REFERENCE STANDARDS

EN 61851-1 (2011)
Electric vehicle conductive charging system.
Part 1: General requirements.

EN 61439-1 (2011)
Low-voltage switchgear and control gear assemblies.
Part 1: General requirement.

APPLICATION EXAMPLES

EVOBIKE

	Code	Description
	204.EB41B-001	Bar to charge bicycles with 4 outlets
	204.EB-ST	Pair of brackets for fixing to wall
	204.EB-CL	Side pillar for fixing to ground
	204.EB-CC	Central pillar for fixing to ground
	204.EB-SP	Cable and bike charging kit

UB-B CONSUMER UNIT WITH RFID, PROTECTIONS, ENERGY METER AND INTERLOCK

	Code	Description
	204.UB11B-UN	No. 1 socket-outlet UNEL – 3,5 kW
	204.UB21B-UNUN	No. 2 socket-outlets UNEL – 3,5 kW

UB-R CONSUMER UNIT WITH RFID AND PROTECTIONS

	Code	Description
	204.UB11R-UN	No. 1 socket-outlet UNEL with RFID – 3,5 kW
	204.UB21R-UNUN	No. 2 socket-outlets UNEL with RFID- 3,5 kW

3

CONNECTION SOLUTIONS


User ID:
www.scame.com
SCAME
electrical solutions

For the software we have

A truly complete project cannot be limited to defining the technical characteristics of the equipment. In such a complex scenario such as the one that is evolving in this sector, it is crucial to provide for advanced utilization modes of the power supply system, taking advantage of plant management technologies that allow an optimization of equipment use.

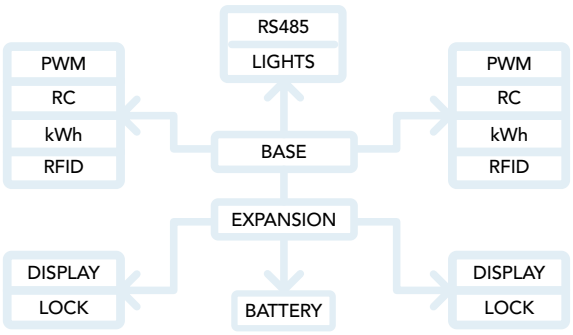
SCAME has provided for the interaction with sophisticated control and management tools, also developing an advanced software system that makes the SCAME world compatible with the most depending market requirements.

component worked hard

CONTROL CARD

Scame's charging stations are equipped with a control card that was developed in cooperation with our partner, GENERALE SISTEMI, which supplies basic functions such as PWM circuit, resistor coding, energy measurement, RFID user identification, indicator lights and RS485 serial communication.

Depending on the versions, additional functions such as emergency power supply, display management, anti-extraction locking and lights command are provided by a special expansion module.



USER INTERFACE

204.CAXXX

204.CBXXX

204.UBXX

① GENERAL LIGHTS: if blue, charging in progress; if green, ready to charge; if red, there is a failure; is OFF there is no AC mains.

② LCD DISPLAY: provides the user with instructions on how to charge and displays information regarding the charging process and about any anomaly.

③ WHITE OPERATING LED: if ON it indicates normal operation; if flashing, control or programming is in progress.

④ BLUE OPERATING LED: if ON indicates charging is in progress; if flashing charging is suspended.

⑤ RFID READER: to enable/stop the charging or open the socket-outlet cover, the User Card must be placed over this area.

⑥ STOP CHARGE BUTTON (free mode)

⑦ SOCKET-OUTLET: depending on the version, can be type 1, type 2, type 3A, 3C or domestic, with or without interlocking device, complies with IEC 62196-1 and 2.

Three configurations for charging

STAND-ALONE

The charging stations are not connected together and operate independently. The station administrator can leave them in free charging mode (FREE) or limit the charge to authorized users (PERSONAL). Through the card programmer, the administrator can nevertheless control the charging depending on a specific time interval and/or the number of accesses.

ACTIVE CARD

Each User Card can be programmed by assigning an expiry date and/or a limited number of accesses through the 208. PROG programmer, to be connect to one's PC, and the supplied SLActive software.

Programmer and User Card in HF technology

SLActive software

stations

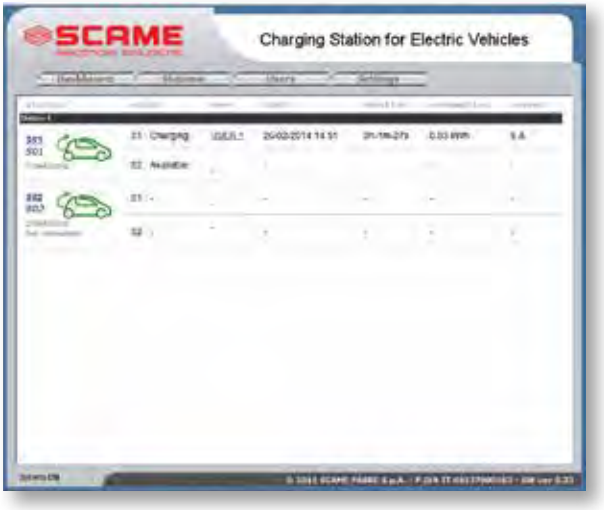
NET

The charging stations are connected together and to a local server, which can only be accessed by the station administrator. In addition to being a data concentrator, the server contains the standard software developed in cooperation with our technological partner, GENERALE SISTEMI, through which it is possible to manage users, monitor and configure the charging stations, record consumptions, etc. Through the card programmer, the administrator can nevertheless control the charging depending on a specific time interval and/or the number of accesses.

The services are managed through a local server located nearby the columns.

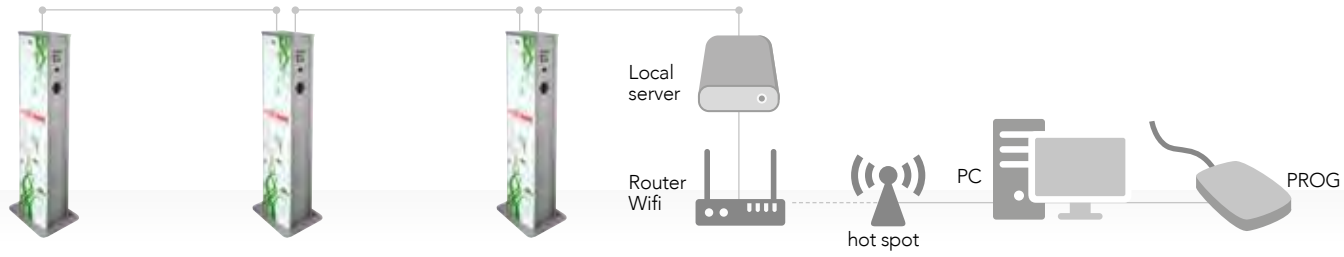
Local server with standard management software

The system used to manage SCAME's charging stations does not require the installation of software in order to work, as the program is already installed on the server.
The operating status of the outlets of the connected stations is reported in real time on the web page shown here below.



LAN

WLAN



Three configurations for charging stations

OCPP

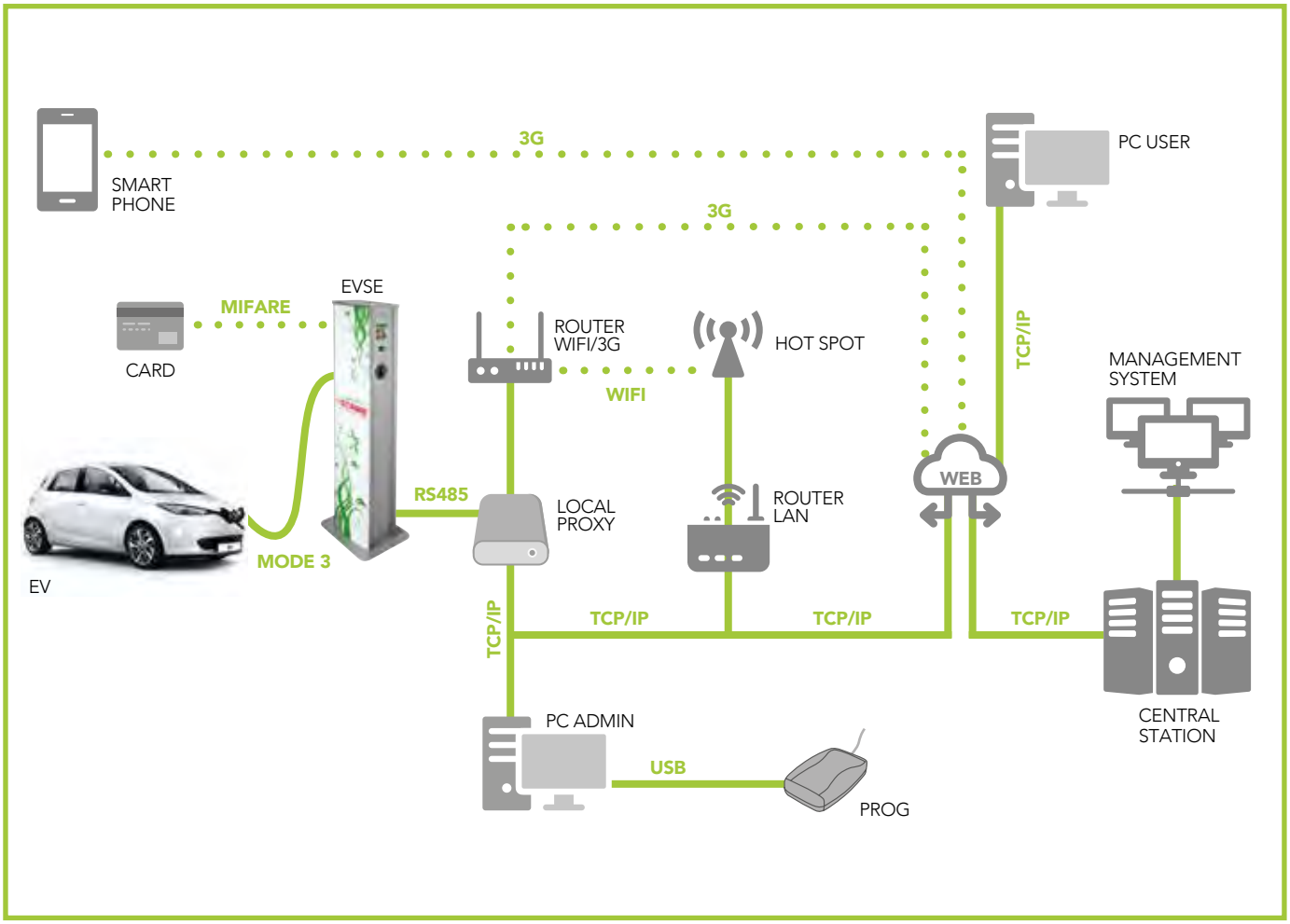
The purpose of the OCPP is to offer a standardised and acknowledged solution for the communication method between the recharging stations and the final customer's management system (Back-end system). The OCPP protocol entails a two-way exchange of information between the local stations (Charge Points) and the central server (Central Station).
The exchanged data may be the customer's identity, the station's identity, the electrical parameters (power, energy, current), diagnostics, operational statuses, availability of sockets, etc.

Through the OCPP, you can obtain interoperability between stations and systems of different producers/operators.

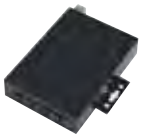
The stations are connected one to the other to a local server (Local Proxy) that contains the interface software with the OCPP 1.5 protocol, developed in collaboration with our partner, GENERALE SISTEMI.

Communication between the Local Proxies and the Central Station usually takes place via the Internet.

The Local Proxy can reach the web through a LAN network connected to the web (wired network or Wi-Fi router) or through a telephone network (with ADSL router) or through a mobile network (with 3G router and SIM M2M on board).



USER CARD WITH HF TECHNOLOGY

	Code	Description
	208.CARD 208.CARD-W	User card with HF technology White user card
	208.PROG	User card programmer with HF technology
	208.SERV	Local server for the management of 16 charging stations in NET mode (technical assistance excluded)
	208.SERV-OCPP	Local server for the management of 6 charging stations in OCPP mode (technical assistance excluded)
	208.ROUTER	Wi-Fi/3G router pre-configured for connection to the local server (technical assistance excluded) (SIM data, data traffic, VPN service, if any, excluded)

SUPPORT

TECHNICAL SUPPORT AVAILABLE FOR ANALYSIS,
DEVELOPMENT CONFIGURATION, INSTALLATION AND START-UP,
TRAINING AND OPERATION OF PRODUCTS AND RELATIVE SOFTWARE.

PLEASE CONTACT: **ecomobility@scame.com**

4

CONNECTORS AND ACCESSORIES

We set only one for ourselves:

possible choice total safety!

European standards define possible cases for electric vehicle connection to the source of power. Within the standardization activities, SCAME has elected to develop its products by presenting original and groundbreaking solutions on the topic of safety that have been appreciated and considered as reference standards at the European level. SCAME thus received proper recognition for the valuable expertise gained while developing its range of products with innovative spirit and designing ability.

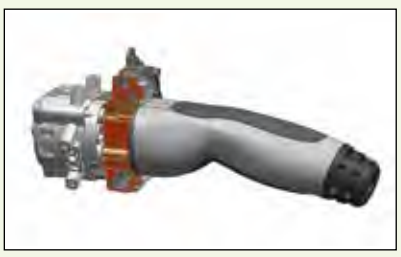
IPXXD PROTECTION

Paragraph 11.3.2 of standard IEC/EN 61851-1 requires IPXXD protection (entry test of wire with 1-mm diameter) against accidental contact for connected and unconnected plugs in case of two-way energy transfer.
This requirement is especially important as it prevents users not trained in the use of these connectors from coming in contact with potentially live parts; moreover, it is required by most European countries.

The LIBERA Series connectors satisfy this requirement thanks to the adoption of pins and contact-tubes protected by shutters that can be opened only after the plug is inserted into the socket, as it has been for years now for domestic connectors. As the shutters satisfy the IPXXD degree of protection, the LIBERA Series connectors do not require additional sectioning devices in order to achieve an equivalent degree of protection.

Closing shutters.

Opening shutters.



Complete insertion.

Our solution is simple. And efficient.

IEC/EN 61851-1: CHARGING METHODS

The reference standard for EV charging stations is the IEC/EN 61851-1, which describes four charging modes:

MODE 1
Connection of the EV to the a.c. mains using domestic connectors up to 16 A, type A 30 mA RCD (Residual Current Device) protection in upstream.

MODE 2
Connection of the EV to the a.c. mains using domestic or industrial connectors up to 32 A, type A 30 mA RCD protection, control device on the cable (ICCB In-Cable Control Box).

MODE 3
Connection of the EV to the a.c. mains with dedicated connectors, type A 30 mA RCD protection, control device in the charging station.

MODE 4
Connection of the EV to the a.c. mains with off-board battery charger

Moreover, depending on the type of cable connection, there are three different possible cases:

CASE A
EV connection to the a.c. mains using a supply cable and plug permanently attached to the EV.

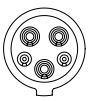
CASE B
EV connection to the a.c. mains using a detachable cable equipped with plug and socket.

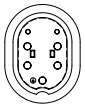
CASE C
EV connection to the a.c. mains using cable and socket permanently attached to the charging station.

IEC/EN 62196-1 AND IEC/EN 62196-2: MODE 3 CONNECTORS

The reference standards for Mode 3 connectors are the IEC/EN 62196-1 and 2, and they describe three different types of connection:

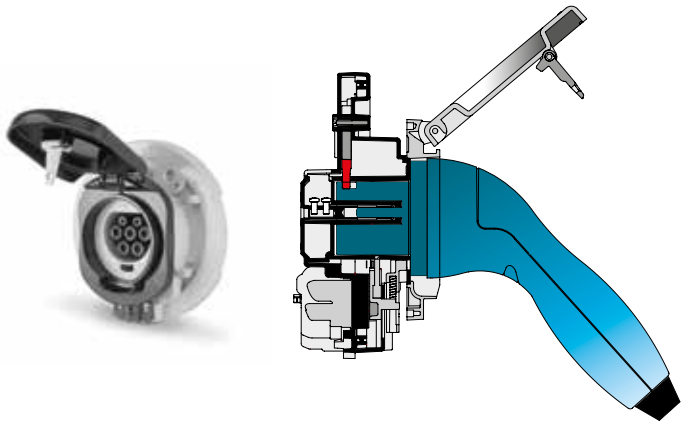
CONNECTIONS

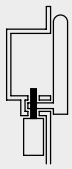
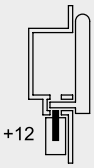
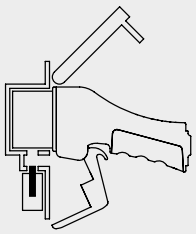
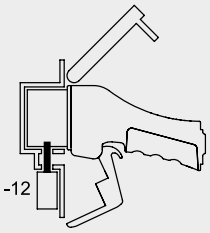
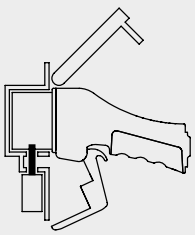
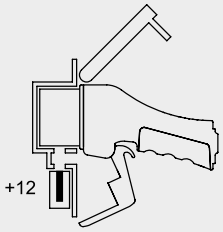
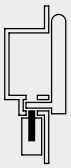
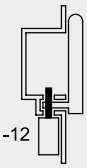
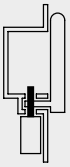
VEHICLE	Type 1	Type 2
Circuit	Single-phase	Single/three-phase
Current	32A	70A (single-phase) 63A (three-phase)
Max. voltage	250V	480V
No. of contacts	5	7
Connector		

STATION	Type 2	Type 3A	Type 3C
Circuit	Single/three-phase	Single-phase	Single/three-phase
Current	70A (single-phase) 63A (three-phase)	16A	63A
Max. voltage	480V	250V	480V
No. of contacts	7	4	7
Connector			

LATCHING SYSTEM

The flush-mounting socket outlets of the LIBERA Series are also available in the optional version with built-in latching system in order to avoid accidental or intentional extraction of the plug in charging stations located in unsupervised places, such as squares and roads. The locking function is achieved by means of a pin, operated by a bi-stable actuator that also blocks the opening of the cover in the resting position.
For proper system management, the socket also provides the position status of the lock (inserted/not inserted) and of the cover (closed) by means of 3 built-in micro switches. All plugs included in the LIBERA Series are also equipped with a hole in the bottom part of the body in which the pin is housed.
Sockets with the locking function are supplied with no actuator piloting systems, consequently the operating principle shown in the figures at the side presupposes coupling to an external control system supplied by Scame in the case of assembled systems.



1. Idle. 	2. User identification (RFID). Lock opening. 	3. Cover opening. Plug insertion. 	4. User identification (RFID). Lock closing. 	5. Charging. 
6. User identification (RFID). Lock opening. 	7. Plug removal. Cover closing. 	8. Lock closing. 	9. Idle. 	

CONNECTORS FOR ELECTRIC VEHICLES

TYPE 2 CONNECTORS WITH SHUTTERS

The current standard type 2 connector provides a IPXXB degree of protection for socket outlets installed on charging stations. Since this degree of protection is unsuitable for the concerned application, type 2 must be joined with a device upstream that ensures complete isolation.
The SCAME solution using the shutters, as already done for the type 3A, 3C and domestic connectors, can upgrade the degree of protection to IPXXD, ensuring protection against direct contact with potentially live parts.
The type 2 connector with shutters, apart from meeting the expectations of the European Commission, also fulfils the safety requirements for domestic environments required by the regulations and laws of most European Union member states.

REFERENCE STANDARDS

EN 62196-1 (2012)

Plugs, socket-outlets, vehicle couplers and vehicle inlets.

Conductive charging of electric vehicles.

Part 1: General requirements.

EN 62196-2 (2012)

Plugs, socket-outlets and vehicle couplers.

Conductive charging of electric vehicles.

Part 2: Dimensional interchangeability requirements for a.c. pin and contact-tube accessories.

TECHNICAL CHARACTERISTICS

Rated current:	32 A
Rated voltage:	380-480 V AC
Frequency:	50-60 Hz
Insulation voltage:	500 V
Protection degree:	IP55 (mated) (IPXXD)
Operating temperature:	-30°C to +50°C
Material:	Engineering plastic
Glow Wire test:	850°C-960°C
IK Grade at 20°C:	IK08
Colour:	Black
Number of poles:	L1-L2-L3-N-PE-CP-PP
Size of conductors:	2,5 to 10mm^2
Saline solution:	Resistant
UV rays:	Resistant

TYPE 2 WITHOUT SHUTTER

Type 2 connector is designed for electric vehicles with charging power greater than 3 kW, such as cars. It was adopted by German manufacturers and selected by the European Commission as a standard solution on the infrastructure-side.
As the 3C-type connector can be wired in both single-phase and three-phase, it has the same contacts arrangement (CP and PP contacts).
Since the type 2 connector cannot be disconnected under load,the SCAME type 2 socket already provides an interlocking mechanism that blocks the plug during the charging and that closes the lid when the socket is not engaged.The latching device is operated by a single 2-position actuator.

TYPE 2 CONNECTORS WITH SHUTTERS AND VANDAL-PROOF PROTECTION MODE 3

EV READY APPROVED

ASEFA, International Body for electrical equipment, attested the compliance of SCAME Type 2 socket-outlets with the EV37 requirements of the EV READY Technical Reference.

Advantages of the SCAME Type 2 socket outlets with built-in shutters and vandal-proof flange (200.23267SB).
Type 2 socket outlet with built-in shutters and vandal-proof flange offers the advantage of being able to close the socket when not engaged thanks to the same device used to block the plug inserted in the socket during the charging phase (mandatory for type 2 sockets in order to avoid disconnections while charging).
Moreover, the special shape of the sliding recessed lid reduces the possibility of vandals damaging the lid itself.
For the manufacturers of charging stations, this makes the control system even "simpler" (the socket is also equipped with suitable micro-switches for detecting the status of the block and closing of the lid), for cost reduction and greater sturdiness.
For the users, it does not imply any changes to their habits: the built-in over opens automatically upon inserting the plug (obviously only after its opening has been authorised) with no particular additional manoeuvres and with no need for a second hand.

Advantages of SCAME Type 2 socket outlets with built-in shutters (200.23266S).
Regardless of the various national regulations/standards/laws, the Type 2 socket with built-in shutters, when not connected and with the lid open, offers degree of protection IPXXD, consequently it complies with the international standard in force IEC 61851-1 3nd Edition with no need for additional accessories.
For manufacturers of charging stations, this translates into a "simpler" control system (there is no need for high-performance contactors, monitoring systems, welded contacts, release coils, etc.), and lower costs.
For the users, it means improved safety level, typical of domestic sockets, with no impact on their habits: the built-in shutters open automatically when the plug is inserted, with no special additional manoeuvres needed.

TYPE 3C CONNECTORS

MODE 3

Type 3C connector is designed for electric vehicles with charging power greater than 3 kW, such as cars, promoted by the EV Plug Alliance, as a single European solution, infrastructure-side. Derived from type 3A connector, it keeps the same protection characteristics against indirect contact as well as the additional contact used to check continuity of the protective conductor.
The evolution consisting in the possibility to have both single-phase and three-phase wiring, higher rated current, introduction of the shutters on the plug side (a necessary requirement in the case of "Smart Grid") and the additional PP (Proximity Plug) contact for cable size identification. Due to the heavy-duty operating conditions, special attention was taken in the choice of materials in order to guarantee proper resistance to heat, chemical agents and mechanical stress, in compliance with the strict parameters set by the automotive industry.

REFERENCE STANDARDS

EN 62196-1 (2012)

Plugs, socket-outlets, vehicle couplers and vehicle inlets.
Conductive charging of electric vehicles.
Part 1: General requirements.

EN 62196-2 (2012)

Plugs, socket-outlets and vehicle couplers.
Conductive charging of electric vehicles.
Part 2: Dimensional interchangeability requirements for a.c. pin and contact-tube accessories.

TECHNICAL CHARACTERISTICS

Rated current:	32 A
Rated voltage:	380-480 V AC
Frequency:	50-60 Hz
Insulation voltage:	500 V
Protection degree:	IP44 - IP54 (sockets with interlock) (IPXXD)
Operating temperature:	-30°C +50°C
Material:	Technopolymer
Glow Wire test:	850°C 850°C-960°C (sockets with interlock)
IK degree at 20°C:	IK08
Colour:	Grey
Number of poles:	L1-L2-L3-N-PE-CP-PP
Size of conductors:	1.5 to 6 mm^2 (plugs with screw terminals) 2.5 to 6 mm^2 (plugs with crimped terminals) 1.5 to 10 mm^2 (flush-mounting sockets)
Saline solution:	Resistant
UV rays:	Resistant

LABORATORY TESTING

RESISTANCE TESTS






RESISTANCE TO CHEMICAL AGENTS

Saline solution	Acids		Base		Solvents				Mineral oil	UV rays
	Concentrated	Diluted	Concentrated	Diluted	Hexane	Benzol	Acetone	Alcohol		
Resistant	Limited resistance	Resistant	Limited resistance	Resistant	Not resistant	Not resistant	Not resistant	Limited resistance	Resistant	Resistant

TYPE 3A CONNECTORS

MODE 3

Type 3A connector was launched in Italy in 2000 as the unique connection system for Mode 3 charging electric vehicles in environments open to third parties. Featuring a design derived from the SCAME IEC 309 socket-outlets, it adopted the quick snap-on device and it uses an additional CP contact for the control pilot circuit to verify the continuity of the protective conductor, in accordance with standard CEI 69-6.
Given its small size, it is the preferred connector for small vehicles, such as scooters and motorcycles, with charging power lower than 3 kW. Thanks to the adaptors, it is also possible to use 3A plugs to charge in environments closed to third parties, such as private garages, in mode 1.

N.B.: The IPXXD degree of protection, and consequently the shutters, are not necessary for type 3A plugs as the vehicles for which they are designed don't require them.

REFERENCE STANDARDS

EN 62196-1 (2012)

Plugs, socket-outlets, vehicle couplers and vehicle inlets.
Conductive charging of electric vehicles.
Part 1: General requirements.

EN 62196-2 (2012)

Plugs, socket-outlets and vehicle couplers.
Conductive charging of electric vehicles.
Part 2: Dimensional interchangeability requirements for a.c. pin and contact-tube accessories.

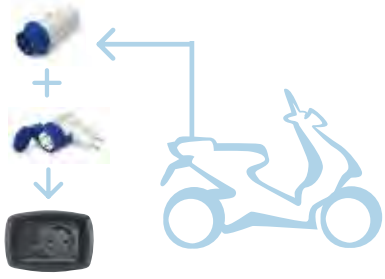
CEI 69-6 (2001)

Standardization sheet of plug and socket-outlet for the connection of electric road vehicles to the supply network.

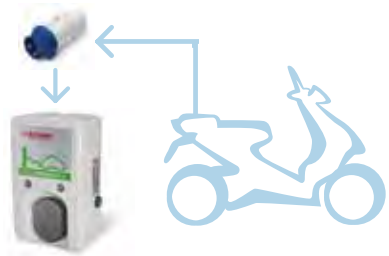
TECHNICAL CHARACTERISTICS

Rated current:	16 A
Rated voltage:	200-250 V AC
Frequency:	50-60 Hz
Insulation voltage:	250 V
Protection degree:	IP44 - IP54 (sockets with interlock) IPXXD (sockets)
Operating temperature:	-30°C +50°C
Glow Wire test:	850°C 850°C-960°C (sockets with interlock)
Material:	Technopolymer
IK degree at 20°C:	IK07 – IK08 (sockets with interlock)
Colour:	Grey
Number of poles:	L1-N-PE-CP
Size of conductors:	1 to 2.5 mm^2 (plugs and connectors) 1 to 4 mm^2 (flush-mounting sockets)
Saline solution:	Resistant
UV rays:	Resistant

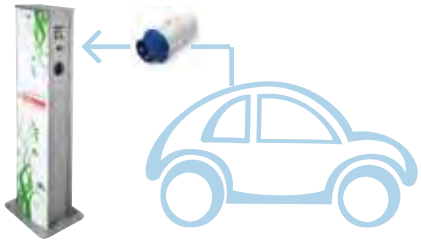
MODE 1 – CHARGING OF EV WITHOUT PWM IN ENVIRONMENTS CLOSED TO THIRD PARTIES
Vehicle connection to the AC mains using standardized connectors up to 16 A.



SIMPLIFIED MODE 3 – CHARGING OF EV WITHOUT PWM IN ENVIRONMENTS OPEN TO THIRD PARTIES
Vehicle connection to the AC mains using specific connectors, control pilot circuit .



MODE 3 CHARGING OF EV WITH PWM IN ENVIRONMENTS OPEN TO THIRD PARTIES
Vehicle connection to the AC mains using specific connectors, control pilot circuit .



DOMESTIC CONNECTORS MODE 1

There are several electric vehicles on the market today that, due to their construction, do not fall within the charging modes covered by standard EN61851 - 1 (e.g., scooters/ bike with off-board battery charger) .
For these vehicles, SCAME has developed special versions of its domestic connectors that have the same technical features of mode 3 connectors to be 'exploited' (such as inserted plug detection and anti-extraction lock system), so that they can be used in SCAME's charging infrastructure.

N.B.: Please note remember that in Italy, domestic connectors are not suited for charging electric vehicles in mode 1 in environments open to third parties.

REFERENCE STANDARDS

EN 60884-I

Plugs and socket-outlets for household and similar purposes.

Part 1: General requirements.

TECHNICAL CHARACTERISTICS

Rated current:	16 A
Rated voltage:	200 - 250 V AC
Frequency:	50-60 Hz
Insulation voltage:	250 V
Protection degree:	IP54 (IPXXD)
Operating temperature:	-25°C to +35°C -30°C to +50°C (sockets with interlock)
Material:	Technopolymer
Glow Wire test:	650°C-750°C 850-960°C (sockets with interlock)
IK grade at 20°C:	IK08
Colour:	Grey / Light blue
Number of poles:	L1-N-PE-CP
Size of conductors:	1 to 4 mm^2
Saline solution:	Resistant
UV rays:	Resistant

UNEL SOCKET-OUTLET WITH INTERLOCK

The flush-mounting socket-outlets of the LIBERA Series are also available in the UNEL version with built-in plug locking device for a charging system in mode 1 having the same features as the socket-outlets with lock in mode 3.
In this case, however, the anti-extraction function is obtained by locking the lid opening even when the plug is inserted.
The use of this socket-outlet is allowed only in areas where mode 3 is not mandatory. The socket-outlet is supplied without the external actuator. Operation is guaranteed only with the UNEL plug.

TYPE 2 CONNECTORS - SINGLE/THREE-PHASE 16A - 32 A 400 V~ 3P+N+PE+CP+PP

	Code	Description
	200.23264B	Flush mounting socket outlet with interlock system (plug and lid) IP54 without shutters IPXXB IP54 (mated) IP54 (with lid)
	200.23266S (WITHOUT DRAINAGE) 200.23267S (WITH DRAINAGE)	Flush mounting socket outlet with shutters IPXXD IP55 (mated) IP55 (with lid)
	200.23266 (WITHOUT DRAINAGE) 200.23267 (WITH DRAINAGE)	Flush mounting socket outlet without shutters IPXXB IP55 (mated) IP55 (with lid)
	200.23265	Flush mounting socket outlet without shutters (compact version) IPXXB IP54 (mated) IP55 (with lid)
	200.23260CS	Standard lid IP55 for: 200.23266 - 200.23266S 200.23267 - 200.23267S
	200.23260CC	Compact lid IP55 for: 200.23265 200.23266 - 200.23266S 200.23267 - 200.23267S
	200.23260BS	Latching system with 2 microswitches to detect the locking pin's position: 200.23265 200.23266 - 200.23266S 200.23267 - 200.23267S
	200.23260BL	Latching system with no detection of the locking pin's position: 200.23265 200.23266 - 200.23266S 200.23267 - 200.23267S
	200.23260BP	Latching system with internal micro to detect the locking pin's position: 200.23265 200.23266 - 200.23266S 200.23267 - 200.23267S
	200.23267SB (WITH SHUTTERS) IPXXD 200.23267B (WITHOUT SHUTTERS) IPXXB	Vandal-proof flange with interlock system (plug and lid) IP55 (mated) IP54 (with lid)

3C TYPE CONNECTORS - SINGLE/THREE-PHASE 16 A - 32 A 400 V~ 3P+N+PE+CP+PP - IP44

	Code	Description
	200.33233	Plug with screw terminals 1.5 to 6 mm^2
	200.33233C2(*)	Plug with crimped terminals 2.5 mm^2
	200.33233C4(*)	Plug with crimped terminals 4 mm^2
	200.33233C6(*)	Plug with crimped terminals 6 mm^2
	200.33234C2(*)	Plug with crimped terminals 2.5 mm^2
	200.33234C4(*)	Plug with crimped terminals 4 mm^2
	200.332KITC2	Crimped pin kit 2.5 mm^2
	200.332KITC4	Crimped pin kit 4 mm^2
	200.332KITC6	Crimped pin kit 6 mm^2
	200.33263	Flush mounting socket outlet with flange 70x87 mm IPXXD IP44 (mated) IP44 (with lid)
	200.33263B	Flush mounting socket outlet with interlock IP54 IPXXD IP54 (mated) IP54 (with lid)

(*) Cable to be defined at the time of the order.

3A TYPE CONNECTORS - SINGLE-PHASE 16 A 230 V~ 1P+N+PE+CP - IP44

	Code	Description
	200.01633	Plug
	200.01634	Plug (black case)
	200.01633A	Angled plug
	200.01693	Fixed plug with flange 70x87mm
	200.01643	Straight outlet
	200.01644	Straight outlet (black case)
	200.01663	Flush mounting socket outlet with flange 70x87 mm IPXXD IP44 (mated) IP44 (with lid)
	200.01663B	Flush mounting socket outlet with interlock IP54 IPXXD IP54 (mated) IP54 (with lid)
	200.01623	Italian plug adaptor P17
	200.01624	French-German plug adaptor

DOMESTIC CONNECTORS - SINGLE-PHASE 16 A 230 V~ 1P+N+PE - MODE 1

	Code	Description
	570.4062-SW	UNEL IP54 flush-mounting socket-outlet with flange 70x87 mm (with switch)
	200.4007B	UNEL IP54 flush-mounting socket-outlet with interlock
	200.23233TEST	Test Plug (not suitable for charging electric vehicles)

CORD SET

MODE 3

The cord-set is used to connect the vehicle to the charging station. It consists of a plug for infrastructure-side connection, a connector (movable socket) for the vehicle side, a cable with adequate cross-section and polarity suited to mobile use, particularly resistant to operating conditions.
Compared to case A (cord-set fixed to the vehicle) and case C (cord-set fixed to the charging station), case B is the more versatile one thanks to the compatibility that can be achieved between the various standards in use today in the international scenario of connections.

TECHNICAL CHARACTERISTICS

Rated current:	16 A / 20 A / 32 A
Rated voltage:	200-250 V AC / 380-480 V AC
Frequency:	50-60 Hz
Insulation voltage:	250 V / 500 V
Protection degree:	IP44
Operating temperature:	-30°C to +50°C
Material:	Technopolymer
Saline solution:	Resistant
UV rays:	Resistant

REFERENCE STANDARDS

EN 62196-1 (2012)
Plugs, socket-outlets, vehicle couplers and vehicle inlets.
Conductive charging of electric vehicles.
Part 1: General requirements.

EN 62196-2 (2012)
Plugs, socket-outlets and vehicle couplers.
Conductive charging of electric vehicles.
Part 2: Dimensional interchangeability requirements for a.c. pin and contact-tube accessories.

CEI 69-6 (2001)
Standardization sheet of plug and socket-outlet for the connection of electric road vehicles to the supply network.

SAE J1772 (2012)
Electric vehicle and plug in hybrid electric vehicles conductive charge coupler

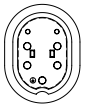
CABLE

Rated voltage:	450 / 750 V
Wire insulation/sheath:	PUR
Maximum temperature:	+90°C

CORD SET

Length	Code	Charging station	Cable characteristics	Electric vehicle (inlet)
5 m 8 m	**201.CS2111-5** **201.CS2111-8**	 Type 2 **3,5 kW** 1P+N+PE 20A	3 x 2,5 mm^2 + 1 x 0,5 mm^2	 Type 1 **3,5 kW** 1P+N+PE 20A
5 m 8 m	**201.CS2121-5** **201.CS2121-8**	 Type 2 **3,5 kW** 1P+N+PE 20A	3 x 2,5 mm^2 + 1 x 0,5 mm^2	 Type 2 **3,5 kW** 1P+N+PE 20A
5 m 8 m	**201.CSA111-5** **201.CSA111-8**	 Type 3A **3,5 kW** 1P+N+PE 20A	3 x 2,5 mm^2 + 1 x 0,5 mm^2	 Type 1 **3,5 kW** 1P+N+PE 20A
5 m 8 m	**201.CSA121-5** **201.CSA121-8**	 Type 3A **3,5 kW** 1P+N+PE 20A	3 x 2,5 mm^2 + 1 x 0,5 mm^2	 Type 2 **3,5 kW** 1P+N+PE 20A
5 m 8 m	**201.CSA1A1-5** **201.CSA1A1-8**	 Type 3A **3,5 kW** 1P+N+PE 20A	3 x 2,5 mm^2 + 1 x 0,5 mm^2	 Type 3A **3,5 kW** 1P+N+PE 20A

Length	Code	Charging station	Cable characteristics	Electric vehicle (inlet)
5 m 8 m	**201.CS2313-5** **201.CS2313-8**	 Type 2 **7 kW** 1P+N+PE 32A	3 x 6 mm^2 + 1 x 0,5 mm^2	 Type 1 **7 kW** 1P+N+PE 32A
5 m 8 m	**201.CS2323-5** **201.CS2323-8**	 Type 2 **7 kW** 1P+N+PE 32A	3 x 6 mm^2 + 1 x 0,5 mm^2	 Type 2 **7 kW** 1P+N+PE 32A

Length	Code	Charging station	Cable characteristics	Electric vehicle (inlet)
5 m 8 m	**201.CS2424-5** **201.CS2424-8**	 Type 2 **22 kW** 3P+N+PE 32A	5 x 6 mm^2 + 1 x 0,5 mm^2	 Type 2 **22 kW** 3P+N+PE 32A
5 m 8 m	**201.CSC424-5** **201.CSC424-8**	 Type 3C **22 kW** 3P+N+PE 32A	5 x 6 mm^2 + 1 x 0,5 mm^2	 Type 2 **22 kW** 3P+N+PE 32A

ECOMOBILITY

SCAME
electrical solutions

ECOMOBILITY
GENERAL CATALOGUE 2018
DIMENSIONS

DIMENSIONS

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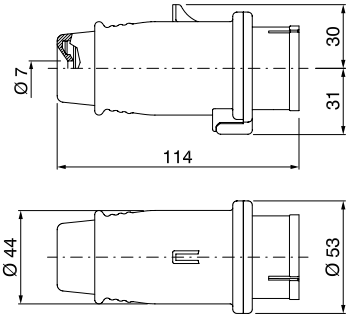

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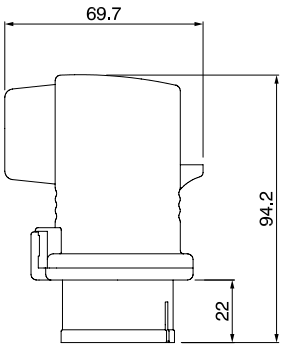

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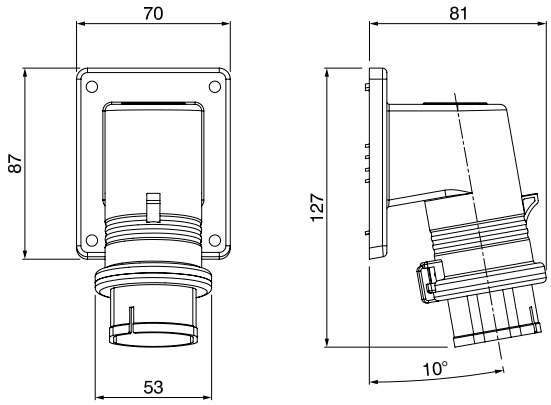

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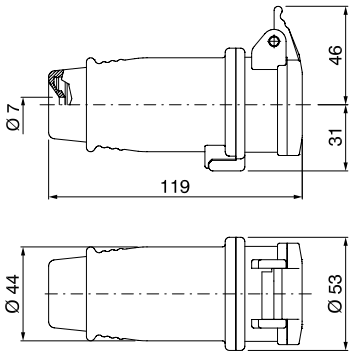

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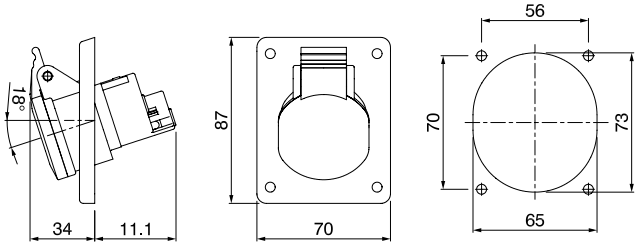

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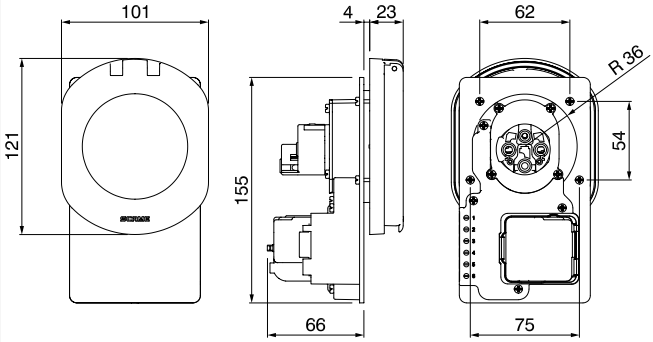

Dimensions in mm

DIMENSIONS

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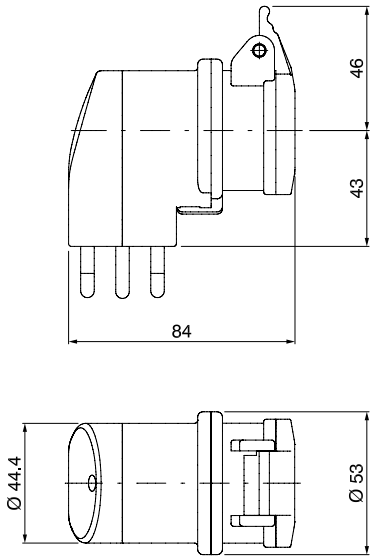

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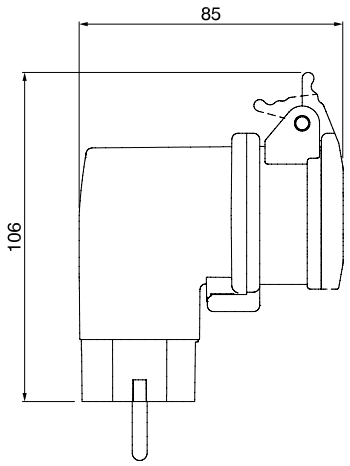

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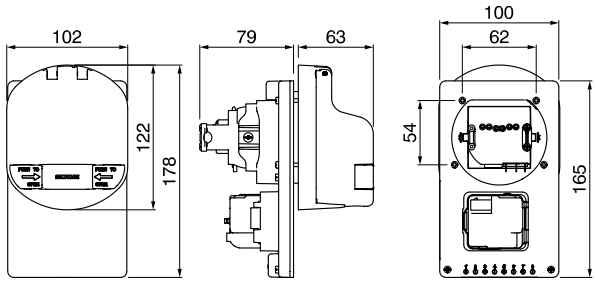

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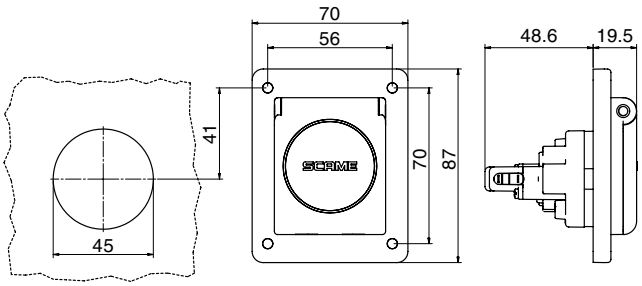

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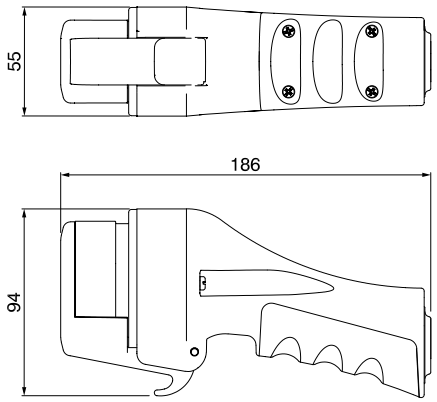
200.33233C4 - 200.33233C6



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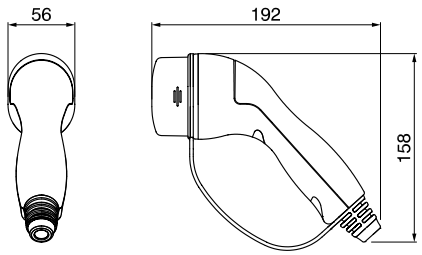

Dimensions in mm

DIMENSIONS

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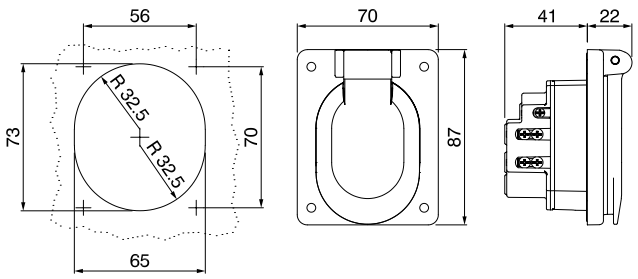

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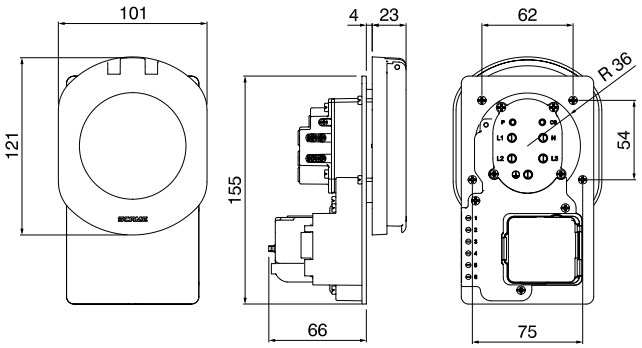

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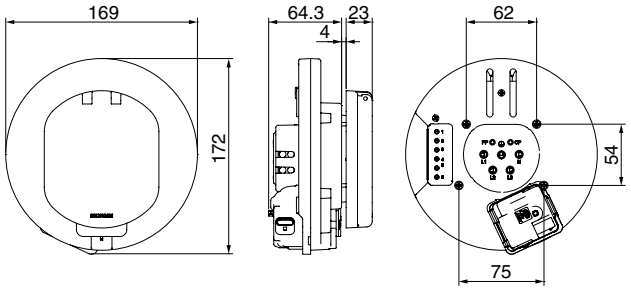

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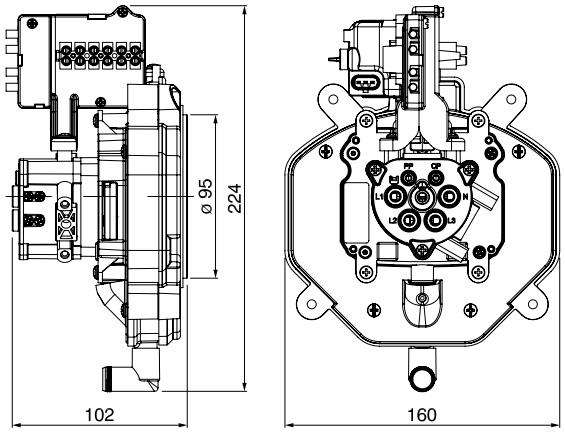
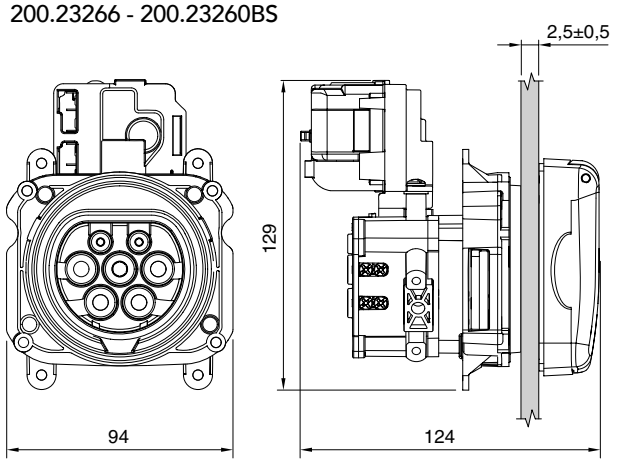


200.23266S - 200.23260BS
200.23266 - 200.23260BS



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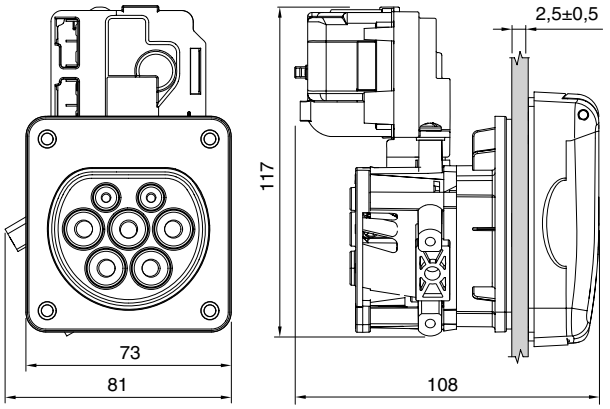

Dimensions in mm

DIMENSIONS

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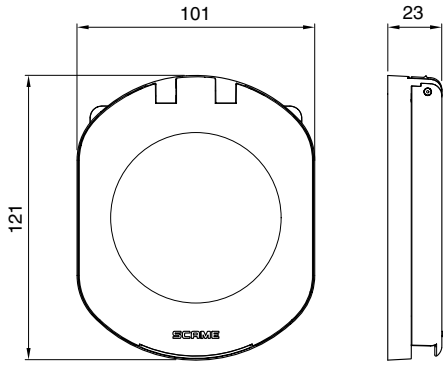

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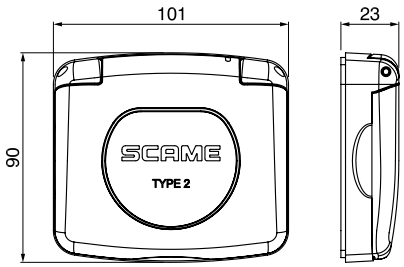

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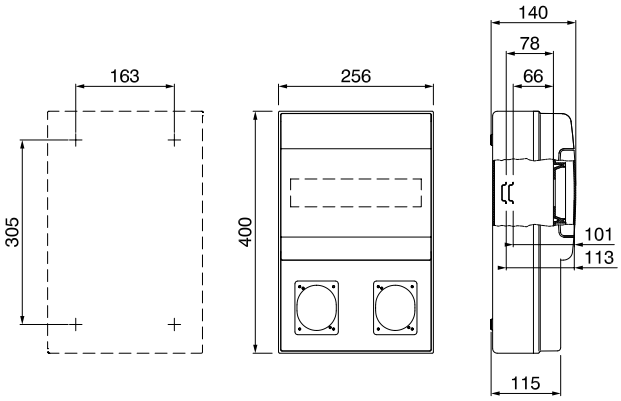
204.UB11R



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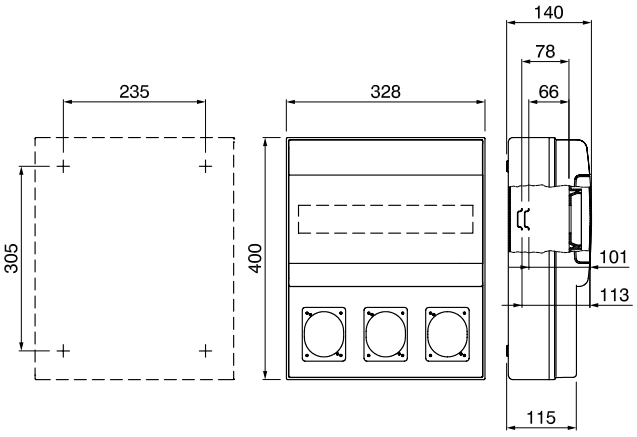

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204.UB13B
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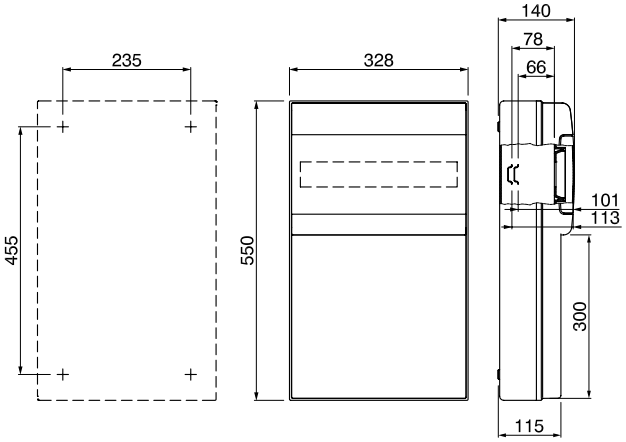
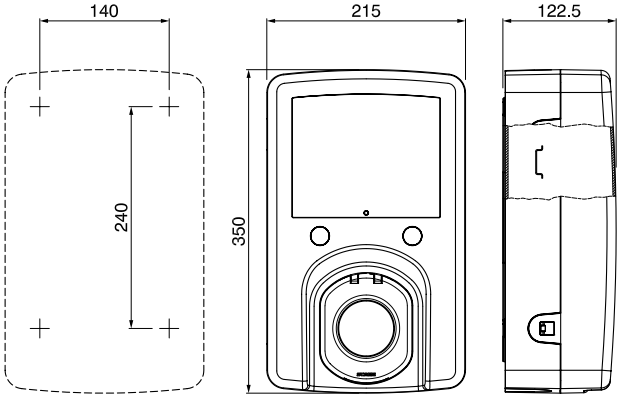


204.WB11L - 204.WB11E
204.WB11R - 204.WB11P



Dimensions in mm

DIMENSIONS

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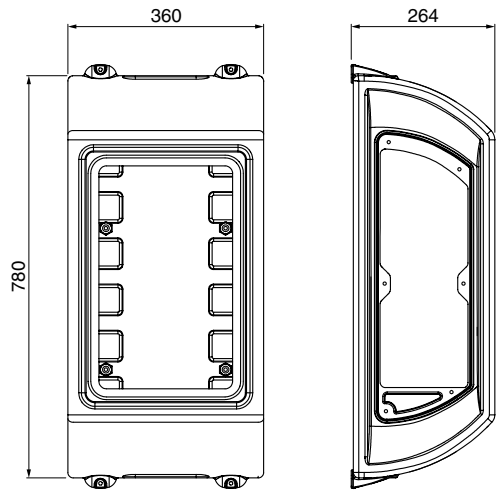

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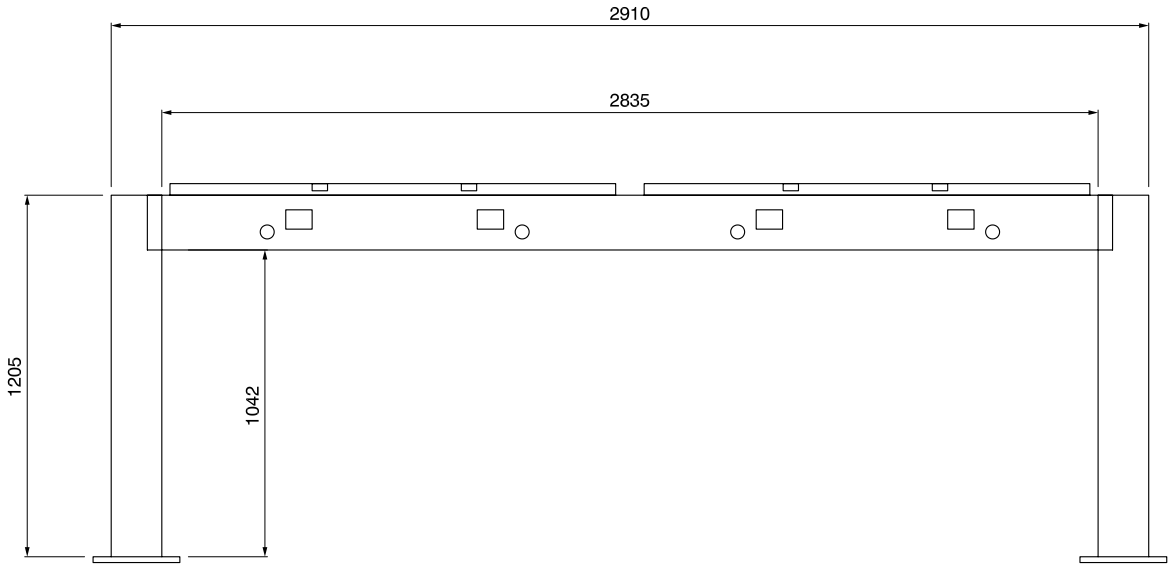
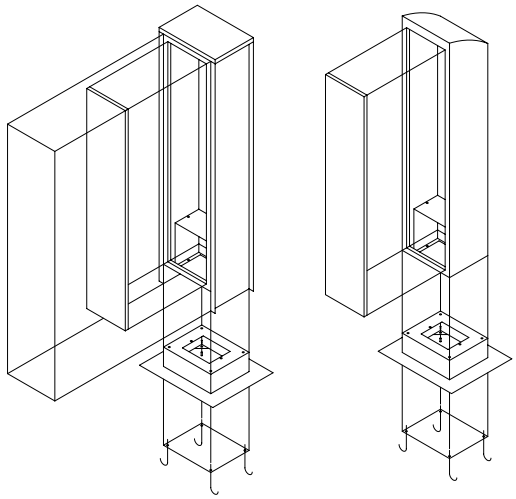
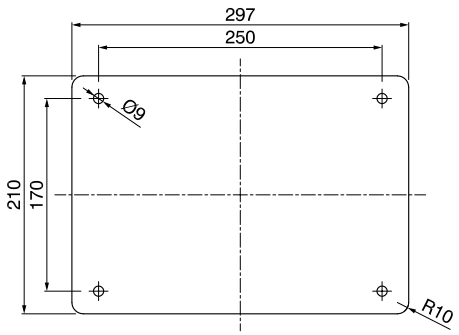


Dimensions in mm

DIMENSIONS

CHARGING PILLARS CA/CB





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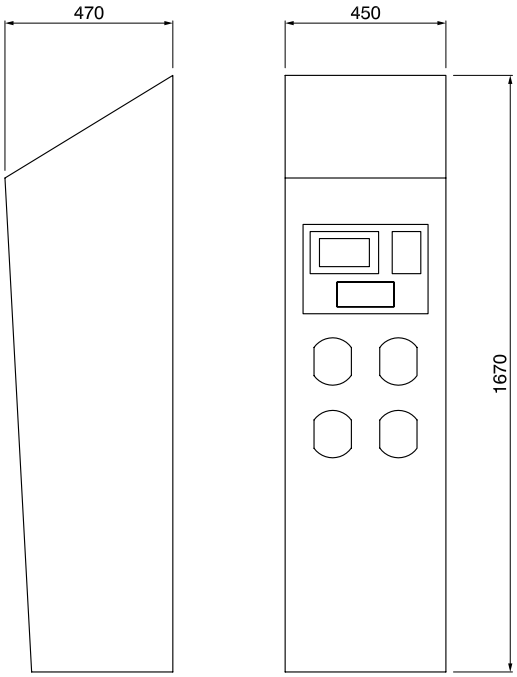
204.CL22B-T23A



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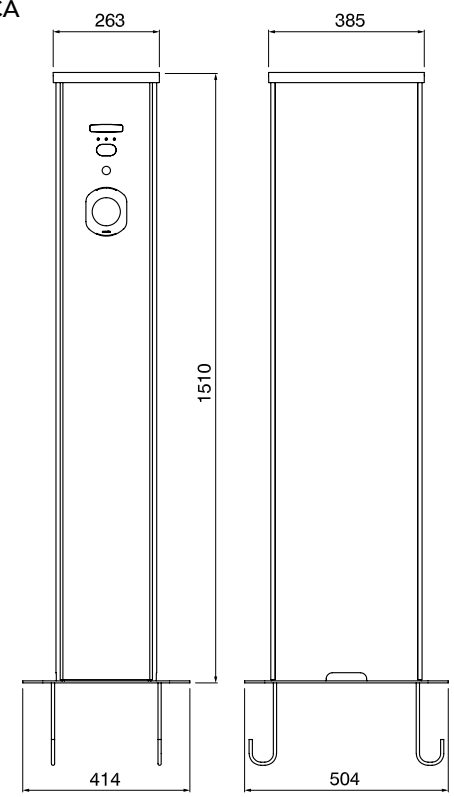

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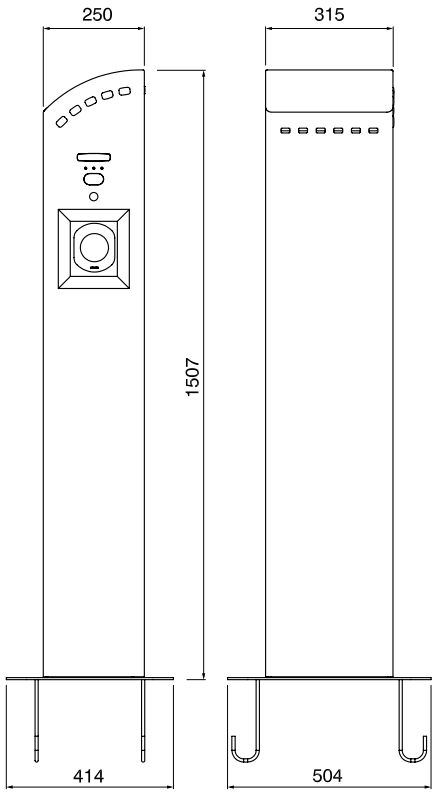

Dimensions in mm

Index

ZP00910-GB-3
8 001636 415093

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