

FIMER



Installation Manual

FIMER FLEXA AC Wallbox



Safety instructions

This manual contains important safety instructions that must be followed during installation and maintenance of the equipment.



Keep this manual

Keep this document in a safe place for easy access at all times during installation and maintenance.



The installer must read this document in its entirety before installing the equipment

Operators are required to read this manual and to comply strictly with the instructions it contains.

FIMER cannot be held responsible for damage caused to persons and/or property, or to the equipment, if the conditions described below have not been complied with.

The purpose of this document is to support qualified technicians, who have received appropriate training and/or have demonstrated adequate skills and knowledge in the construction, installation, operation and maintenance of electrical equipment.

The warranty requirements are contained in the Terms and Conditions of Sale section included with the purchase order for this product.

NOTE: Any modification not approved by FIMER will immediately invalidate the product warranty.

Warranty and delivery conditions

The warranty conditions are considered valid if the customer complies with the instructions contained in this manual; any deviation from the warranty conditions with respect to what is described below must be expressly indicated in the purchase order.

FIMER declares that the equipment complies with the legal provisions currently in force in the country of installation and has issued the relative declaration of conformity.

FIMER assumes no responsibility for failure to comply with the instructions for proper installation and cannot be held responsible for the systems upstream or downstream of the equipment supplied.

It is absolutely forbidden to modify the equipment. Any modification, manipulation or alteration of the hardware or software not expressly agreed with the manufacturer will immediately void the warranty.

Due to the large number of possible combinations of system configurations and installation environments, it is essential to check the following before installing the product: adequate space for housing the equipment, ambient noise produced by the environment and possible flammable conditions.

FIMER cannot be held responsible for defects or malfunctions deriving from: improper use of the equipment; deterioration due to transport or particular environmental conditions; incorrect or insufficient maintenance; tampering or unsafe repairs; use or installation by unqualified persons.

FIMER is not responsible for any disposal of the equipment, or part of it, that does not comply with the regulations and laws in force in the country of installation.



Purpose and structure of the document

This user and maintenance manual is a guide to help you to work safely and carry out the necessary operations to keep your equipment in good working order.

If the equipment is used in a manner not specified in this manual, the protection provided by the equipment may be impaired.

This document was originally written in Italian. Therefore, in case of inconsistencies or doubts, ask FIMER for the original document.



List of documents in the appendix

In addition to this user manual, product documentation can be consulted and downloaded by visiting www.fimer.com.

This document only contains the information deemed necessary for the use and routine maintenance of the equipment.



Skills and requirements of the operator and maintenance personnel

Personnel involved in the use, maintenance and installation of the equipment must be qualified by FIMER (by means of a letter certifying their qualification) for the activities described and must reliably demonstrate their ability to correctly interpret what is described in the manual.



The installation must be carried out by FIMER-qualified installers and/or FIMER-authorised electricians in accordance with the regulations in force in the country of installation and in compliance with all safety regulations for carrying out electrical work.



It is forbidden to entrust the installation or maintenance of the product to unqualified persons or those in an altered physical or mental state.



The customer bears civil responsibility for the qualification and mental or physical state of the personnel who handle the equipment. Such personnel must always use the personal protective equipment (PPE) required by the laws of the country of destination and by the instructions of their employer.

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General information

FIMER FLEXA AC Wallbox is the AC charging solution for powering electric vehicles, ideal for public, semi-public and residential applications: it is available in single-phase or three-phase configurations and can be equipped with a Type 2 SOCKET or a Type 2 CABLE or a Type 3A SOCKET (according to the IEC 62196-2 standard). Other types of connectors are not supported.

Characterised by significant robustness and ease of use, this device allows you to charge an electric vehicle up to a maximum of 22 kW (with Type T2 socket or cable) or up to 3.7 kW (with Type 3A socket).



Prepare and size the entire power supply system in compliance with the local and international standards in force according to the product configuration and the power rating chosen.

This document describes how to install, configure, and maintain the product.

A description of the features of the equipment is provided to identify its major components and specify the technical terminology used in the manual.



This chapter contains information on models, details on equipment, features and technical data, overall dimensions and identification of the equipment.

In some cases, it may be necessary to document the software configuration features separately by consulting additional documentation to this manual intended for specialised FIMER-trained technicians (e.g. sim data, etc.).

Fields of use

FIMER shall not be liable for damage of any kind resulting from incorrect or careless operations.



The equipment may not be used for any purpose other than that intended in the field of use. The equipment must not be used by inexperienced personnel, or even by expert personnel if operations are carried out on the equipment that do not comply with this manual and the accompanying documentation.

This equipment is a charging device for electric vehicles; the following classification (according to IEC 61851-1) identifies its characteristics:

- Power supply: permanently connected to the AC power supply grid
- Output: alternating current
- Environmental conditions: outdoor use
- A device for places with free access
- Fixed installation on wall or dedicated FIMER FLEXA Stand
- Protection against electric shock: Class I
- Charging type: Mode 3 according to the IEC 61851-1 standard
- Optional function for ventilation not supported



In case of installation in TN-type earthing systems, there may be additional specific local regulations regarding system safety and protection against faults that the installer must understand and implement.

The device can be used for the European and Australian markets, as up to date certifications have been issued.

Support









For any reports or requests for further support, FIMER is available through the dedicated section of the website www.fimer.com or by writing to service.emobility@fimer.com.



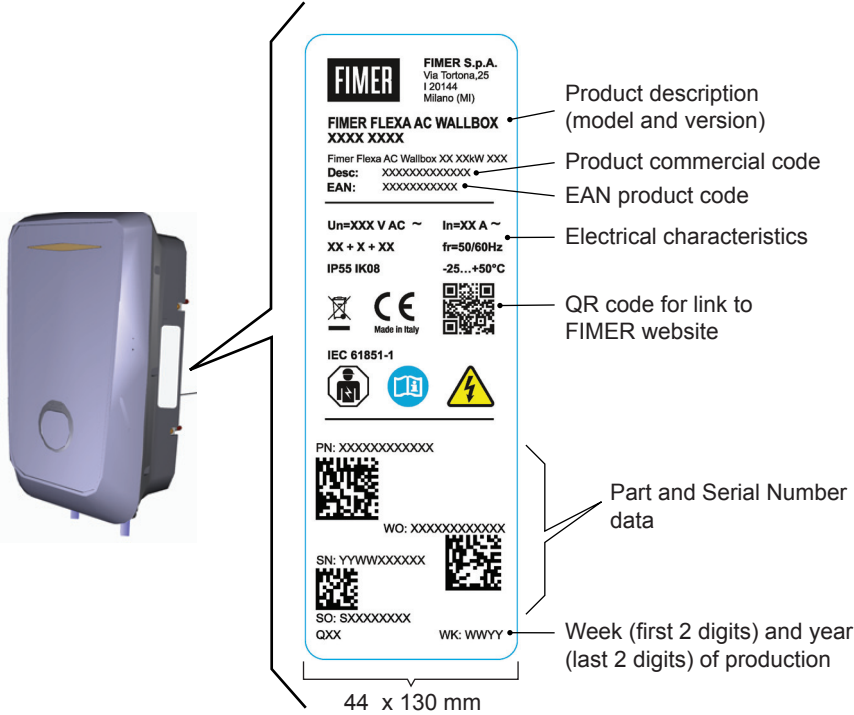
It is strictly prohibited to:

- Install the equipment in environments subject to particular flammability conditions or in adverse or unpermitted environmental conditions
- Use the equipment with defective or disabled safety devices
- Use the equipment or parts of the equipment by connecting it to other machines or equipment, unless expressly provided for
- Modify operating parameters that are not accessible to the operator and/or parts of the equipment to alter its performance or make changes to its insulation
- Clean the product with corrosive products that could damage parts of the equipment or generate electrostatic charges
- Use or install the equipment or any associated parts thereof without having read and properly understood the contents of the operation and maintenance manual

Symbols and definitions

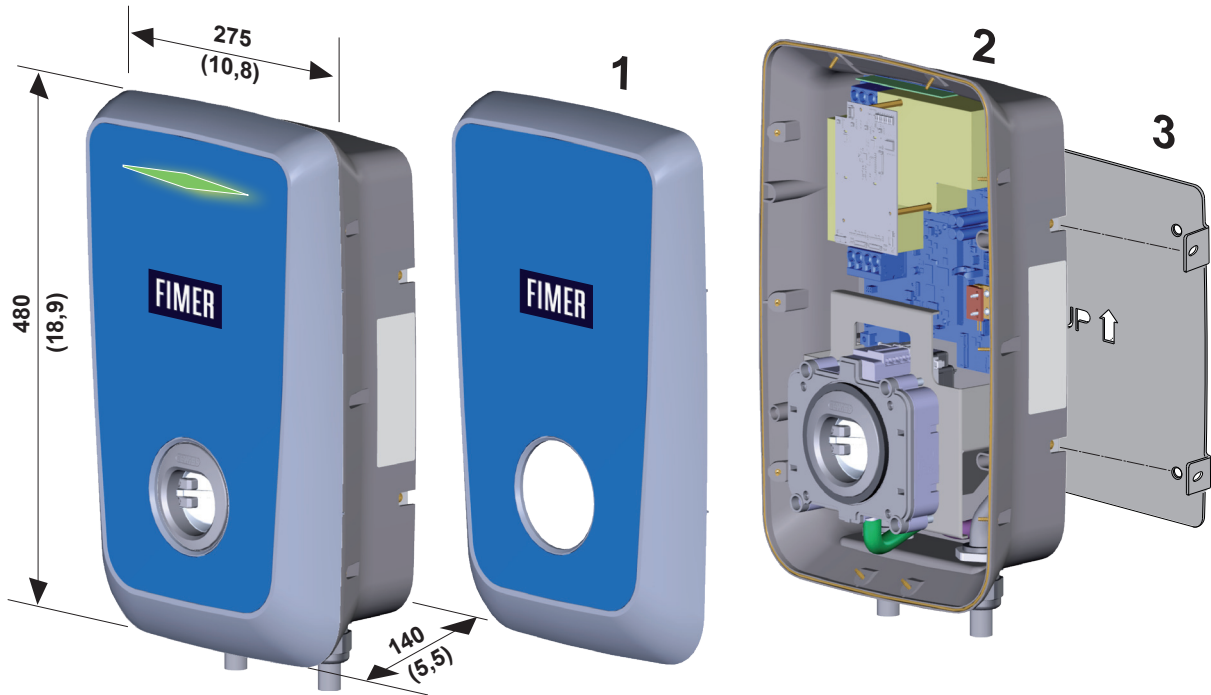
Symbol	Description
	GENERAL WARNING
	IT IS MANDATORY TO CONSULT THE ORIGINAL MANUAL AND ADDITIONAL DOCUMENTATION
	PROHIBITION OR RESTRICTIONS
	IT IS COMPULSORY TO PERFORM THE DESCRIBED OPERATIONS USING THE CLOTHING AND/OR PROTECTIVE EQUIPMENT PROVIDED BY THE EMPLOYER
	ALTHOUGH THEY ARE NOT MADE OF MATERIALS THAT ARE HARMFUL TO HEALTH, THE PRODUCTS SHOULD NOT BE DISPOSED OF ALONG WITH HOUSEHOLD WASTE BUT COLLECTED SEPARATELY BECAUSE THEY ARE MADE OF MATERIALS THAT CAN BE RECYCLED
	SIGN FOR ELECTRICAL VOLTAGE HAZARD
	SIGN FOR OBLIGATION TO READ THE INSTRUCTIONS
	ELECTRONIC DEVICE INSTALLATION CARRIED OUT BY QUALIFIED PERSONNEL ONLY

With respect to the symbols on the product's nameplate, we shall identify the wording not shown above as follows:



Product dimensions and features

Weight: 7 kg (versions with socket) and 8.5 kg (versions with cables) Dimensions: 275mm x 480mm x 140mm



1	FRONT COVER
2	REAR CASING
3	FIXING PLATE

Available models and versions



The product is available in three models:

- **Stand Alone**
- **Inverter Net**
- **Future Net**

Three versions are available for each model, depending on the mode of connection to the vehicle: T2C, T2S, T3A.

Version code	Description	Related models
T2C	T2 Cable	Stand Alone, Inverter Net and Future Net with cable
T2S	Type T2 socket	Stand Alone, Inverter Net and Future Net with socket
T3A	Type T3A socket	

In the vicinity of the sockets of the products supplied in the **T2S** and **T3A** versions, there is a label identifying the type of socket installed on the product.

Stand Alone, Inverter Net and Future Net version T2S	AC	EN 62192-2	TYPE 2	Plug and socket	≤ 480 V RMS	
Stand Alone, Inverter Net and Future Net version T3A	AC	EN 62192-2	TYPE 3-A	Plug and socket	≤ 480 V RMS	

Inverter Net Additional features

The Inverter Net model is distinguished by its ability to communicate with the FIMER REACT 2 solar inverter management system through the RS485 port of the device (the connection of which is illustrated in the Communication Cables Connection section).

From a functional and operational point of view, all the procedures valid for the Stand Alone version are also valid for the Inverter Net model.

In addition, through the FIMER REACT 2 solar inverter management system, both device operation and parameter monitoring activities and remote control or management activities are available. For an explanation of these functions, refer to the instruction manual of the FIMER REACT 2 solar inverters and the relevant documentation of the management system employed.

The Inverter Net model can be managed from smartphones via Bluetooth connection and an app.

Future Net Additional features

The Future Net model includes connectivity features that enable remote monitoring and management of the device.

This model is equipped with a SIM card slot for connection to the 3G/4G mobile network.

Charging operations can be enabled via the User RFiD card (configured via the dedicated management portal for charging and not via the RFiD Master as for the Stand Alone / Inverter Net versions), via the mobile app (which communicates with the device both via Bluetooth and WiFi connection) or via a dedicated management portal (WiFi-3G / 4G connection).

Instructions on how to use the management portal are available in the dedicated user manual.

Four different power ratings are available for the T2C (T2 Cable) and T2S (T2 Socket) versions: 3.7 kW (single-phase), 7.4 kW (single-phase), 11 kW (three-phase) and 22kW (three-phase).

For the T3A version (T3A Socket) , only the 3.7 kW (single-phase) power rating is available.



Technical Data

Model	FIMER FLEXA AC Wallbox - Stand Alone			
Maximum power	3.7 kW	7.4 kW	11 kW	22 kW
Standard	IEC61851-1			
Charging mode	Mode 3			
Available outputs	5m cable (Type 2) or Socket (Type 2 or Type 3A)			
Power system	1P + N + PE	1P + N + PE	3P + N + PE	3P + N + PE
Rated voltage	230V AC \pm 10%	230V AC \pm 10%	230/400V AC \pm 10%	230/400V AC \pm 10%
Frequency	50-60 Hz			
Rated current	16 A	32 A	16 A	32 A
Rated impulse withstand voltage (Uimp)	4 kV			
Rated conditional short-circuit current of an assembly (Icc)	10 kA			
Rated Diversity Factor (RDF)	1			
Degree of pollution	2			
EMC classification	Class B emissions			
Protective measures against electric shock	Class I			
Connection to the power supply network	Permanently connected to the grid			
Type of grounding system	TT or TN (both with PE)			
Indoor / outdoor installation	Outdoor			
Fixed or removable installation	Fixed			
Overvoltage category	III			
IP protection class	IP 55			
IK protection Class	IK08			
Casing material	100% recycled plastic			
Dimensions	275mm x 480mm x 140mm			
Weight	7 kg (Socket), 8.5 kg (Cable)			
Operating temperature	-25...+50°C			
Storage temperature	-25...+70°C			
Humidity	0 ... 95% (without condensation)			
Altitude	Up to 2000 m			
Product intended for use	Ordinary person			
Location in area with	Unrestricted access			
Thermal-magnetic circuit breaker	Not included			
Residual-current device	Not included (only RCM 6mA DC included)			
Energy meter	Compatible with external MID meters or TA meters			
Certification	CE, AUX, UL (Planned)			
Bluetooth	•	•	•	•
RFID	•	•	•	•
OCPP	-	-	-	-
3G / 4G connection	-	-	-	-
Ethernet connection	-	-	-	-
Wifi	-	-	-	-
Status LED	•	•	•	•
Remote SW update	-	-	-	-

Technical data

Model:	FIMER FLEXA AC Wallbox- Inverter Net			
Maximum power	3.7 kW	7.4 kW	11 kW	22 kW
Standard	IEC61851-1			
Charging mode	Mode 3			
Available outputs	5m cable (Type 2) or Socket (Type 2 or Type 3A)			
Power supply system	1P + N + PE	1P + N + PE	3P + N + PE	3P + N + PE
Rated voltage	230V AC \pm 10%	230V AC \pm 10%	230/400V AC \pm 10%	230/400V AC \pm 10%
Frequency	50-60 Hz			
Rated current	16 A	32 A	16 A	32 A
Rated impulse withstand voltage (Uimp)	\geq 4 kV			
Rated conditional short-circuit current of an assembly (Icc)	10 kA			
Rated Diversity Factor (RDF)	1			
Level of pollution	2			
EMC classification	Class B emissions			
Protection measures against electric shock	Class I			
Connection to the power supply network	Permanently connected to the electricity grid			
Type of grounding system	TT or TN (both with PE)			
Indoor / outdoor installation	Outdoor			
Fixed or removable installation	Fixed			
Overvoltage category	III			
IP protection class	IP 55			
IK protection class	IK08			
Casing material	100% recycled plastic			
Dimensions	275mm x 480mm x 140mm			
Weight	7 kg (Socket), 8.5 kg (Cable)			
Operating temperature	-25...+50°C			
Storage temperature	-25...+70°C			
Humidity	0 ... 95% (without condensation)			
Altitude	Up to 2000 m			
Product intended for use	Ordinary person			
Position in area with	Unrestricted access			
Thermal-magnetic circuit breaker	Not included			
Residual current device	Not included (only RCM 6mA DC included)			
Energy meter	Compatible with external MID meters or TA meters			
Certification	CE, AUX, UL (Planned)			
Bluetooth	•	•	•	•
RFID	•	•	•	•
OCPP	-	-	-	-
3G/4G Connection	-	-	-	-
Ethernet connection	-	-	-	-
Wifi	-	-	-	-
Status LED	•	•	•	•
Remote SW update	•	•	•	•

Technical data

Model:	FIMER FLEXA AC Wallbox - Future Net			
Maximum power	3.7 kW	7.4 kW	11 kW	22 kW
Standard	IEC61851-1			
Charging mode	Mode 3			
Available outputs	5m cable (Type 2) or Socket (Type 2 or Type 3A)			
Power supply system	1P + N + PE	1P + N + PE	3P + N + PE	3P + N + PE
Rated voltage	230V AC \pm 10%	230V AC \pm 10%	230/400V AC \pm 10%	230/400V AC \pm 10%
Frequency	50-60 Hz			
Rated current	16 A	32 A	16 A	32 A
Rated impulse withstand voltage (Uimp)	\geq 4 kV			
Rated conditional short-circuit current of an assembly (Icc)	10 kA			
Rated Diversity Factor (RDF)	1			
Level of pollution	2			
EMC classification	Class B emissions			
Protection measures against electrical shocks	Class I			
Connection to the power supply network	Permanently connected to the electricity grid			
Type of grounding system	TT or TN (both with PE)			
Indoor / outdoor installation	Outdoor			
Fixed or removable installation	Fixed			
Overvoltage category	III			
IP protection class	IP 55			
IK protection class	IK08			
Casing material	100% recycled plastic			
Dimensions	275mm x 480mm x 140mm			
Weight	7 kg (Socket), 8.5 kg (Cable)			
Operating temperature	-25...+50°C			
Storage temperature	-25...+70°C			
Humidity	0 ... 95% (without condensation)			
Altitude	Up to 2000 m			
Product intended for use	Ordinary person			
Location in area with	Unrestricted access			
Thermal-magnetic circuit breaker	Not included			
Residual-current device	Not included (only RCM 6mA DC included)			
Energy meter	Compatible with external MID meters or TA meters			
Certification	CE, AUX, UL (Planned)			
Bluetooth	•	•	•	•
RFID	•	•	•	•
OCPP	OCPP 1.6 Json	OCPP 1.6 Json	OCPP 1.6 Json	OCPP 1.6 Json
G0 3G / 4G	•	•	•	•
Ethernet connection	•	•	•	•
WiFi	•	•	•	•
Status LED	•	•	•	•
Remote SW update	•	•	•	•

Safety and equipment

Safety warnings



Please read this document carefully before installing and starting up the product.

The installation and start-up phases of the device should only be carried out by qualified personnel who are able to identify hazards and act safely.



Even the maintenance, repair or subsequent repositioning phases must be carried out only by qualified personnel: there are no components that can be repaired by the user or maintained independently.

Children or persons not deemed capable of assessing the risks involved in the installation must not handle the product.

Both domestic and non-domestic animals must be kept away from the equipment.

Failure to observe all or part of the instructions in this document may lead to serious or fatal injury.

The qualified installer must always ensure that the installation is carried out in accordance with the local regulations in effect at the time of installation.

Proper use

The device requires an earth connection via a dedicated equipotential cable, to be connected to the earth terminal inside the device.

In any case, it is necessary to verify, prior to installation, that the power supply system is fully compliant with the state of the art and carried out by qualified personnel in accordance with local and international regulations.

The device is only safe to use if it is used as intended.

Different uses and unauthorised modifications to the appliance or to any of its components are not permissible and are therefore considered to be non-compliant.



The device is designed to be connected and to communicate information and data via a network interface. It is the sole responsibility of the user to provide and ensure at all times a secure connection between the product and the user's data network or any other network (as the case may be). The user must establish and maintain all appropriate measures (such as, but not limited to, the installation of firewalls, the application of authentication measures, data encryption, the installation of anti-virus programs, etc.) to protect the product, the network, its system and interface against any type of security breach, unauthorised access, interference, intrusion, loss or theft of data or information. FIMER and its affiliates shall not be liable for any damage or losses related to any such security breaches, any unauthorised access, interference, intrusion, loss or theft of data or information. The data, examples and diagrams in this manual are only included to describe the product and should not be regarded as a declaration of guaranteed properties. All persons responsible for installing the equipment specified in this manual must ensure that each intended installation is suitable and acceptable, including compliance with any applicable safety or other operational requirements. In particular, any risk in applications where a system failure or product failure would create a risk of damage to property or persons (including but not limited to personal injury or death) shall be the sole responsibility of the person or entity installing the equipment, and those responsible for it are advised to ensure that all measures are taken to eliminate or mitigate such risks.

This document has been carefully checked by FIMER but deviations cannot be completely ruled out. If errors are detected, the reader is kindly asked to notify FIMER. Except for explicit contractual commitments, in no case can FIMER be held responsible for any loss or damage resulting from the use of this manual or from the installation of the equipment.



The product should not be displayed freely on the internet. In order to ensure maximum security of information and operation, it is necessary for the device to remain protected from any attempt to connect to it from the internet. Therefore any communication should only originate from the device and not the other way around.

If you require further information, support or wish to make a report regarding cyber security, please write to the e-mail address itteb.cybersecurity@fimer.com.

Product handling



The total weight of the product without packaging is approximately 7 kg for the Socket version and 8.5 kg for the Cable version: be sure to use suitable equipment for handling it.

Transport and store in a dry place away from heat sources (following the technical guidelines) in the original packaging only.

Never grasp the product by the charging cables or connectors.

Installation



WARNING: Failure to observe the instructions given in this manual may cause serious damage to both the product and the installer (in the most serious cases, injuries may be fatal). Please read this manual carefully before installing, starting up and using the product. FIMER recommends using experienced professionals who comply with current regulations in order to install the product correctly.

The following table shows the main local restrictions prescribed in the IEC 61851-1 standard that the installer must consider before selecting and installing the device. However, it remains the responsibility of the installer to verify that these regulations are still in effect and above all to check whether additional local regulations apply and could restrict the use of these devices in the country of choice:

Country	National restrictions
IT	For the CABLE and T3A SOCKET versions, an additional device capable of interrupting the power supply must be used (see External Residual-Current Device Management)
NL	For the CABLE and T3A SOCKET versions, an additional device capable of interrupting the power supply must be used (see External Residual-Current Device Management)
FR	The CABLE and T3A SOCKET versions cannot be used in residential and public applications
UK	The CABLE and T3A SOCKET versions cannot be used in residential and public applications
DK	The CABLE and T3A SOCKET versions cannot be used in residential and public applications
ES	The CABLE and T3A SOCKET versions cannot be used in residential applications and for all applications up to 16A
SE	The CABLE and T3A SOCKET versions cannot be used
JP	Device not suitable for this country
US	Device not suitable for this country
CA	Device not suitable for this country

Preparing for Installation

Before proceeding with the installation, make sure that:

- Input power is completely switched off and remains so until installation is complete
- The work area is adequately cordoned off (access by person who are not involved in the work must be prevented)
- Installation should not be carried out with wet hands and no water jet should be directed towards the product
- Installation should not be carried out in rain, fog or high humidity
- The product packaging is completely intact and without any obvious damage (if the product is damaged, contact your seller or request support at www.fimer.com)
- The product and all components (including cables) are completely intact and without any obvious defects or faults

To ensure correct operation of the product in line with the local regulations in effect, calculate the distance between the power supply panel and the installation site to determine the voltage drop, cable thickness and existing load, which are useful for identifying the maximum operating current.

The entire electrical system to which the product is connected must first be correctly sized by a qualified professional. The device's electrical data, which should be referred to in order to correctly size the power supply system, are displayed on the device's nameplate.



The installation of the product must comply with all applicable local and international standards in force for the construction and installation of electrical/electronic equipment, including, but not limited to, the IEC 60364-1 and IEC 60364-5-52 standards.

The power supply system must meet the following requirements:

- A TN or TT system, in both cases with a PE cable
- Power supply:
 - Models with three-phase connection: 400 V AC \pm 10% - 50Hz / 60Hz
 - Models with single-phase connection: 230 V AC \pm 10% - 50Hz / 60Hz

Tools required

1. Cutter
2. Flathead screwdriver or screw gun
3. Marker/pencil
4. Drill and 8mm diameter bit suitable for the material of the fixing surface to be drilled
5. Hex keys
6. Wire stripping pliers



FIMER accepts no liability for damage to property or persons deriving from the use of these tools. Installation must be performed by qualified personnel and in compliance with the regulations in place for the installation of electrical equipment.

Package Contents

- N.1 FIMER FLEXA AC Wallbox
- N.1 fixing plate
- N.4 8x40 wall plugs
- N.14 40x14 screws
- N.4 white caps
- N.1 "4 hole" gasket
- User counterpart connectors
- Installation manual, warranty certificate and declaration of conformity

Space and positioning

Before choosing where to install the product, consult your electric vehicle manual and follow any pertinent instructions.



Make sure that there are no heat sources, flammable substances or electromagnetic sources in the installation area, either during installation of the product or throughout the product's lifetime.

In addition, the installation site must be sufficiently ventilated to ensure proper heat dissipation.

For versions of the product with mobile cellular or Wi-Fi connection, ensure that the selected area has cellular reception or Wi-Fi coverage.

Before installation, ensure that the environmental conditions (such as temperature, altitude and humidity) comply with the product specifications.

To ensure the functionality of the device and to guarantee its proper usage by the user, the space around the device must be clear to allow for air circulation, cable manoeuvrability, charging procedures and both routine and non-routine safety maintenance operations.

In addition, the space needed to park the electric vehicle to be charged must be taken into account.

For locations where the device will be exposed to direct sunlight or weather for most of the day, it is advisable to install a cover to protect the charging station.

In addition:

- Make sure that there are barriers or poles to protect the charging device from collisions;
- Design the parking layout for easy access to the charging cable;
- Provide a safe and comfortable environment for users and to prevent vandalism or theft;
- Install the charging device in a place where it can be clearly seen or monitored;
- Install sufficient lighting around the device.

Unpacking

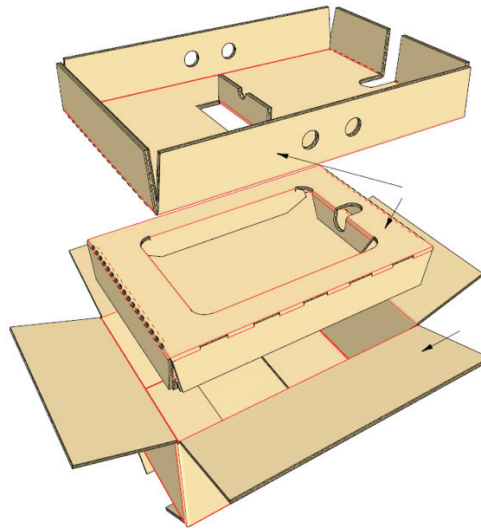
Before installing the device, it is necessary to check, when unpacking, that the various parts of the device do not display any physical damage due to impacts, tears or abrasions.

If any damage is detected, the installation procedure must be aborted immediately and technical support must be contacted.

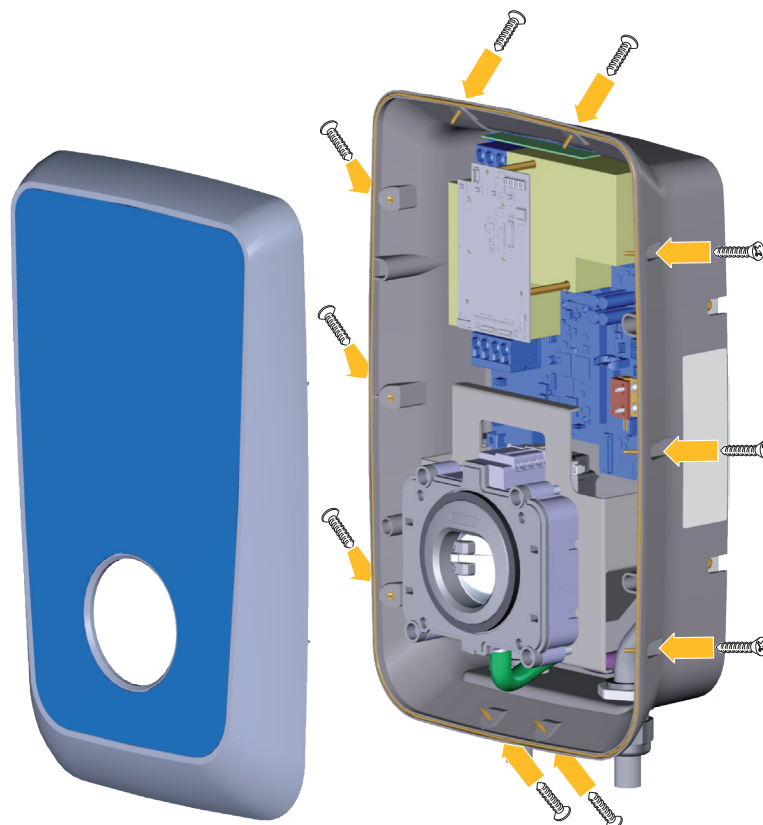
The various components are protected by packaging and adhesive tape: before installation, each component must be cleaned of any traces of dust, packaging or adhesive tape.

The images below are for illustrative purposes and may not show all internal components of the product or may contain negligible differences from the actual configuration.

1. Open the main packaging



2. Using suitable handling equipment, remove the device from the casing and place it on the work surface
3. Remove the **10 screws** that hold the front cover to the rear casing and separate the two parts of the product



Wall mounting plate installation



The images below are for illustrative purposes and may not show all internal components of the product or may contain negligible differences from the actual configuration.

The product can be installed either on the wall or on a dedicated FIMER FLEXA STAND.

This document shows the installation procedure for wall mounting, while the installation procedure for the FIMER FLEXA STAND is supplied with the FIMER FLEXA STAND.

1. Establish the installation location, taking into account the minimum distances from the ceiling, walls and floor provided in the drawing. The installation height of the Wallbox must be such that the lowest point of the vehicle connector when placed in its resting position is at a height of between **1.2 - 1.5 m (47 - 59 inches) above ground level, corresponding to the lower edge of the plate.**

2. Place the fixing plate on the wall and use it as a template to make marks at the fixing holes (a) using a marker or pencil.

N.B. Pay attention to the orientation of the plate. To ensure a more precise final position, it is best to use a spirit level to check the correct alignment of the plate to the wall when marking.



3. Remove the plate from the wall and, using a drill, make **4 holes (a) Ø 8 mm** at the previously drawn marks. The minimum depth of the hole must be **60 mm (2.4 inch)**. Then remove any drilling residue from the holes.

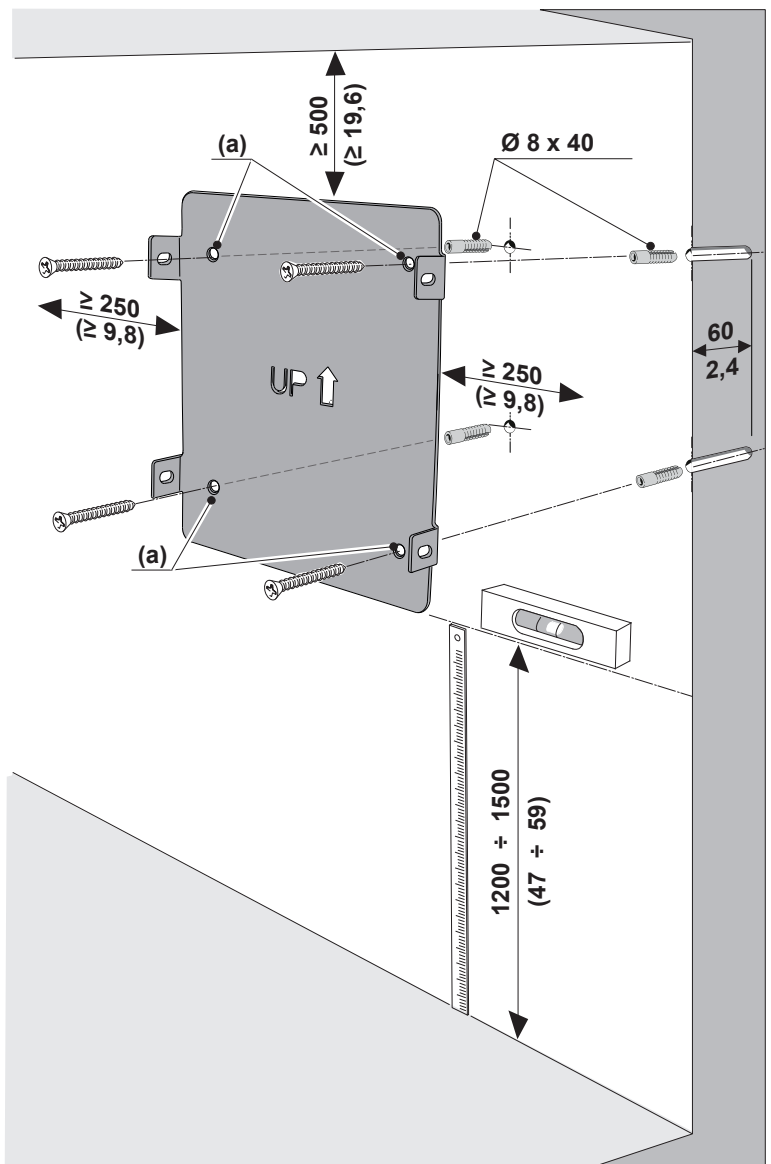
4. Separate the 4 screws from the respective 4 wall plugs **Ø 8 x 40 mm** (supplied)

The wall plugs supplied are universal, suitable for solid or cavity brick walls. For installation on walls made of different materials (e.g. plasterboard) specific plugs are required, which must be installed after the maximum permissible load has been verified.

5. Insert the 4 plugs into the holes just made. Place the fixing plate on the wall, matching the 4 holes in the plate to the 4 holes just drilled in the wall.

6. Secure the plate by screwing the 4 screws previously removed from the wall plugs into the corresponding plugs set into the wall.

Measurements are in mm (inches).



Wallbox installation

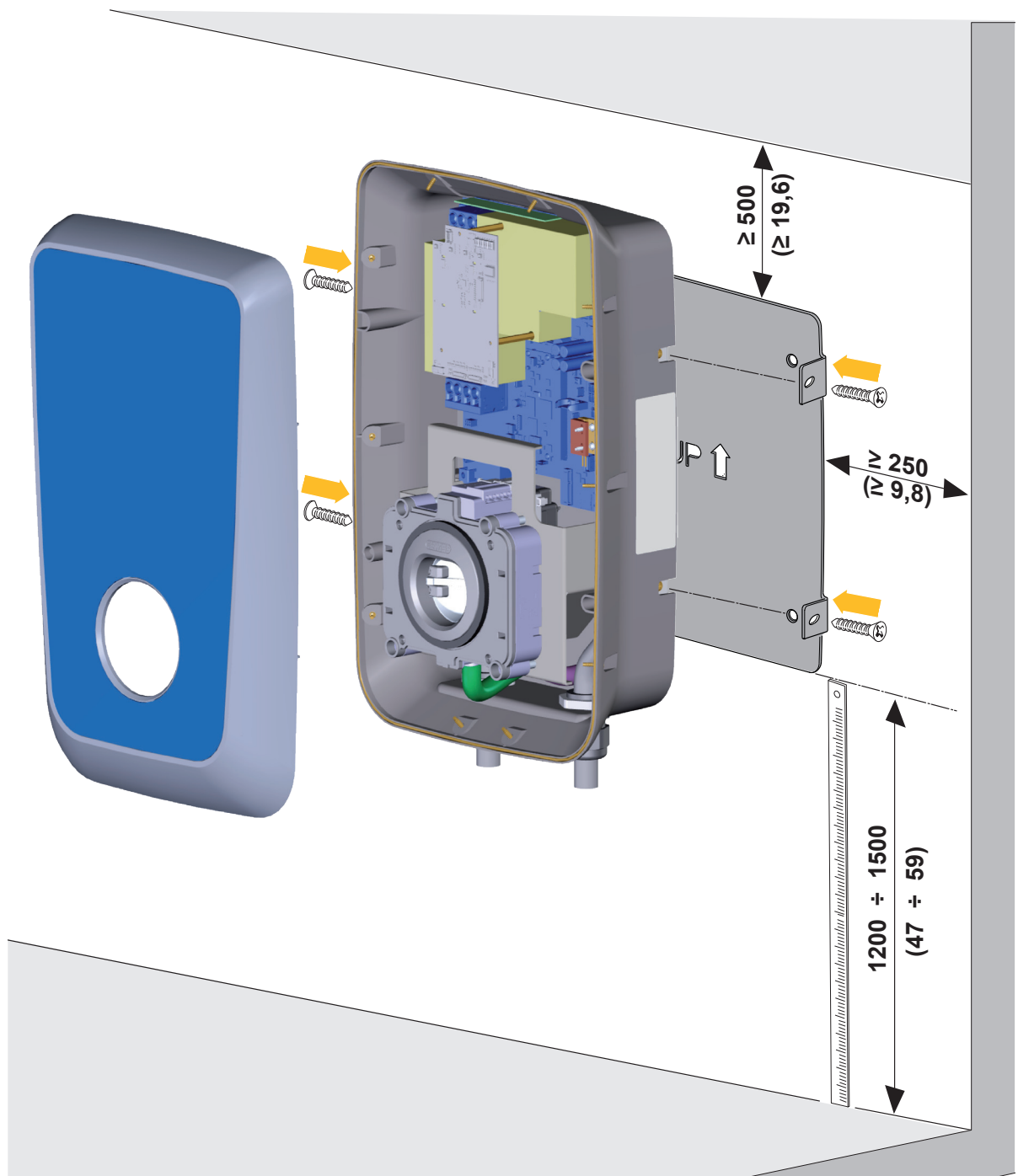


During installation, the electrical connection of the power supply must be disabled, and the entire working area must be cordoned off, with only qualified and authorised personnel able to access it.

The power supply to the equipment must remain switched off. Failure to follow these instructions can lead to serious damage to persons and property, including death.

The images below are for illustrative purposes and may not show all internal components of the product or may contain negligible differences from the actual configuration

1. Position the Wallbox close to the wall-mounted plate, so that the four side tabs of the fixing plate correspond to the four side slots of the rear casing.
3. Use 4 screws $\varnothing 14 \times 40 \text{ mm}$ to secure the rear casing of the device to the fixing plate with a tightening torque of **1.7 Nm**.





Connection of power and earth cables

During installation it is necessary to prevent the electrical connection of the power supply and to cordon off the entire work area, with only qualified and authorised personnel able to access it.

The equipment must be powered by cables that are properly dimensioned and capable of withstanding the current flow for which the product has been designed. Make sure that the cables are of suitable size before wiring and that the maximum permissible bending radii are not exceeded. The device's electrical data, which should be referred to in order to correctly size the power supply system, are displayed on the device's nameplate.

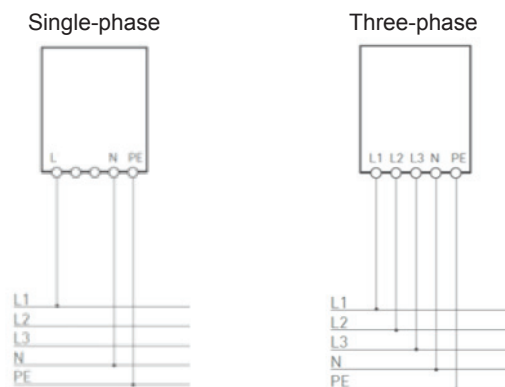
The power supply to the appliance must remain switched off throughout this step.

Failure to comply with these instructions can lead to serious damage to people and property, including death.

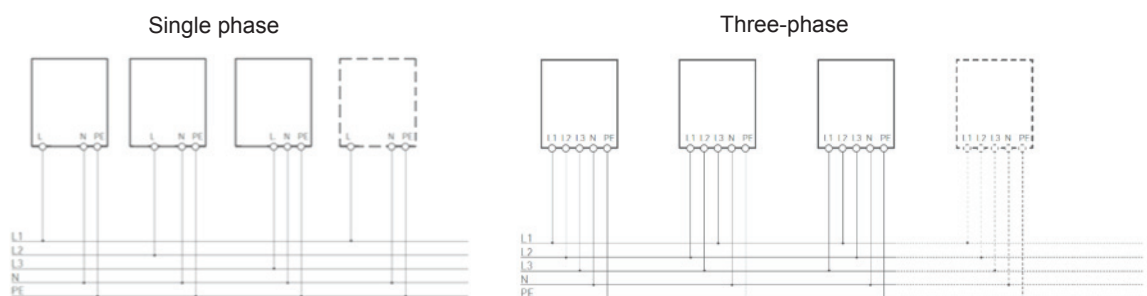
The images below are for illustrative purposes and may not show all the product's internal components.

The following diagram shows how to electrically connect the device in single-phase and three-phase systems. In the case of a single-phase device connected to a single-phase power supply, the available LN pair replaces the quad

L1-L2-L3-N visible in the diagram.



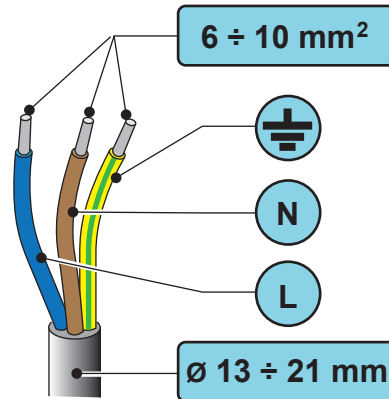
In case of multiple installations, it is suggested to provide for phase rotation:



If the installer plans to carry out an installation with phase rotation, the manufacturer must be notified of this method only in the case when there is a master-slave type configuration between the devices. This allows the manufacturer to configure the devices appropriately for this installation. Otherwise, there is no need to inform the manufacturer.

The following guidelines provide information on which power supply cables to use and the recommended conductor size:

- Multi-core cable outer diameter: 13-21 mm
- Recommended conductor size: 6-10 mm²
- Stripping length for power supply terminal block (L1-L2-L3-N): 18 mm
- Earth terminal: M5 eyelet terminals

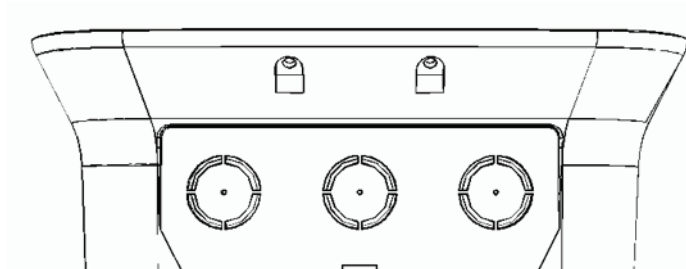


The following table shows the maximum conductor length in relation to chosen cross-section:

AC power Wallbox [kW]	In (A)	Cross section of conductor [mm ²]	Maximum length of conductor [m]
3.7	16	6	95
3.7	16	10	157
7.3	32	6	47
7.3	32	10	79
11	16	6	109
11	16	10	182
22	32	6	55
22	32	10	91

Once the Wallbox device has been installed on the chosen wall, the following instructions must be followed to connect it electrically to the power supply:

1. The lower part of the casing has 3 cable inlets. The two side cable inlets will be closed off with a mushroom-shaped seal to prevent dust or moisture from entering during shipping.



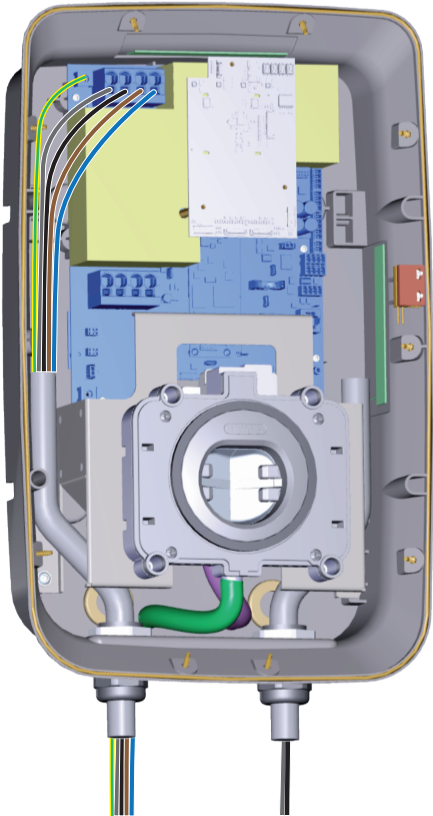
2. The following table shows how they should be used for the input of power cables, communication cables and the T2 cable (if any) for cable versions. In short, the T2 cable version will use the central hole specifically for the output of the charging cable, while the T2 or T3A socket versions will not use that output:

WALL INSTALLATION			
T2 Socket Version	A		S
T3A Socket Version	A		S
T2 Cable Version	A	P	S

A = Power supply
S = Communication cables
P = T2 cable

For simplicity's sake, the instructions for the versions with T2 or T3A sockets are given below, since in the case of the T2 cable version, the charging cable is already installed by the manufacturer and therefore no operations involving the "P" central hole are required.

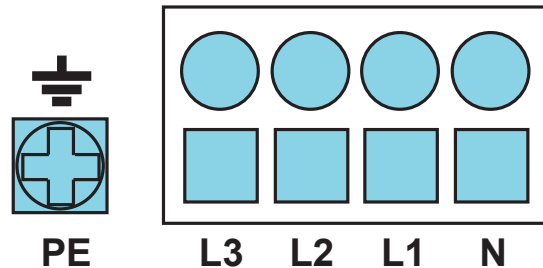
3. Remove the mushroom-shaped seal from the left cable gland. Loosen the left cable gland and pass the multi-core cable through it. Pull the multi-core cable, leaving some slack inside the device (making sure that the length of the cables inside the unit is sufficient to reach the power and earth terminals located on the top left of the unit), then tighten the cable gland:



4. Power cable connection: strip the cables, then connect the phases and neutral to the power supply terminal block making sure that the entire stripped section of each cable is fully inserted into each terminal (stripping length 18mm).

Earth cable connection: strip the cable and use M5 eyelet lugs to connect the earth cable to the earth terminal located to the left of the power supply terminals and tighten with a torque of 2Nm.

The internal terminal block is as shown below:



Residual-Current Device Management

To ensure compliance with the IEC 61851-1 standard, the installer must comply with some of the following requirements during the installation phase.

External protection

The product does not contain protective devices. It is only equipped with a 6 mA DC continuous current detection device. Consequently, in accordance with the IEC 61851-1 standard, the device must be protected upstream by residual current devices and thermal-magnetic circuit breakers, which the installer must install externally.

Below is a table where you can check which types of circuit breaker to choose depending on the power of the device:

	Wallbox 3.7kW	Wallbox 7.4kW	Wallbox 11kW	Wallbox 22kW
Residual-current device	RCD 2P Type A 25A 30mA	RCD 2P Type A 40A 30mA	RCD 4P Type A 25A 30mA	RCD 4P Type A 40A 30mA
Thermal-magnetic circuit breakers	MCB 2P D20 10kA	MCB 2P D40 10kA	MCB 4P D20 10kA	MCB 4P D40 10kA



Ensure that the rated voltage of the circuit breakers and residual current devices selected is compatible with the rated voltage of the charging device.

With regard to the external thermal-magnetic protection, the I^2t value of the chosen circuit breaker must not exceed 75000 A²s. The switch must comply with IEC 60947-2, IEC 60947-6-2 or IEC 61009-1 or the relevant parts of IEC 60898 or IEC 60269. As regards the external residual-current device, the chosen circuit breaker must comply with one of the following standards: IEC 61008-1, IEC 61009-1, IEC 60947-2 and IEC 62423.

National restrictions in Italy and the Netherlands

All versions of the product (both SOCKET and CABLE) are equipped with a normally open dry contact 3A 250V AC (see Port Description), programmed to control a cut-off device in accordance with the IEC 61851-1 standard. The standard indicates that in Italy and the Netherlands, for the CABLE and T3A SOCKET versions of the product, in addition to the residual-current devices and thermal-magnetic circuit breakers, the installer must also compulsorily install an additional external device (by connecting it to the dry contact) capable of interrupting the power supply to the Wallbox when it goes into a specific fault state. The external devices to be used for this purpose could be motor controls coupled to the residual-current circuit breaker, trip coils or any other device compatible with that type of contact, as chosen by the installer.



For the version with T2 SOCKET (and in all other countries) the use of this additional device is not mandatory, but at the sole discretion of the installer.






In summary, for compatibility with the legislation, there must be a distance of 3 mm between the contacts in the air of the internal relays (clearance), the monitoring of these relays and the presence of an external device capable of breaking the circuit upstream of the supply line.

The Wallbox must therefore be combined with the installation of a type A residual-current device combined with a thermal-magnetic circuit breaker which is automatically triggered by the Wallbox when the internal relays fail.

Installation example

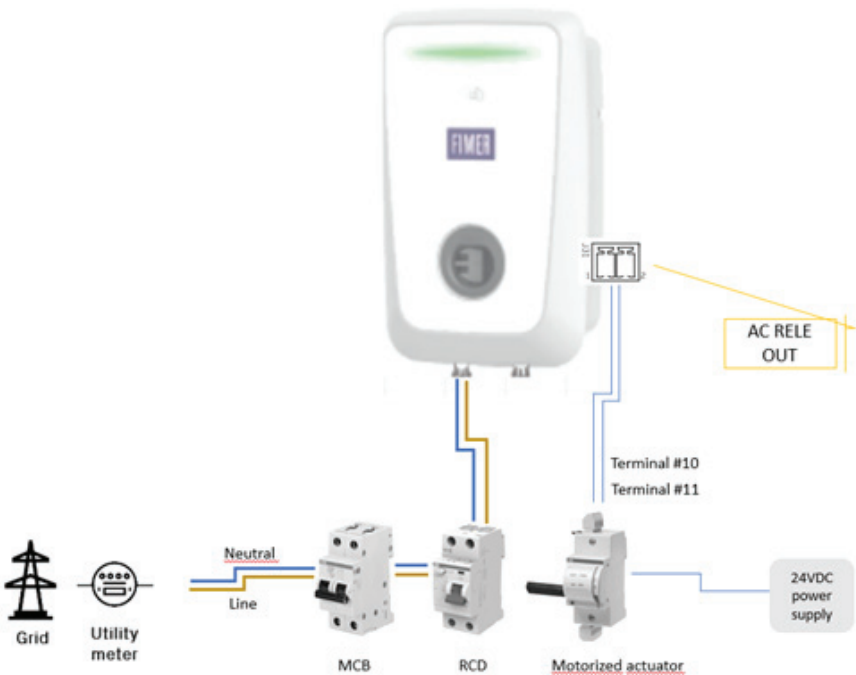
Example of arrangement of external MCB and RCD protections for a typical single-phase 3.7KW and three-phase 22KW installation.

Material to be used

	Wallbox 3.7kW	Wallbox 22kW
Thermal-magnetic circuit breaker (MCB)	<div>ABB S200 series S202M-D20</div> <div></div>	<div>ABB S200 series S204M-D40</div> <div></div>
Residual-current device (RCD)	<div>ABB F200 series F202 A-25 / 0.03</div> <div></div>	<div>ABB F200 series F204 A-40 / 0.03</div> <div></div>
Motorised actuator for residual-current circuit breaker	<div>ABB F2C-CM</div> <div></div>	
24VDC power supply for actuator	<div>24 VDC DIN Rail Power Supply</div>	

Connection diagram

The following figure shows an example of the connection of electromechanical devices for a single-phase 3.7KW installation.



Communication cables connection

During installation, disable the electrical connection of the power supply and cordon off the entire working area, with access being permitted only to qualified and authorised personnel.

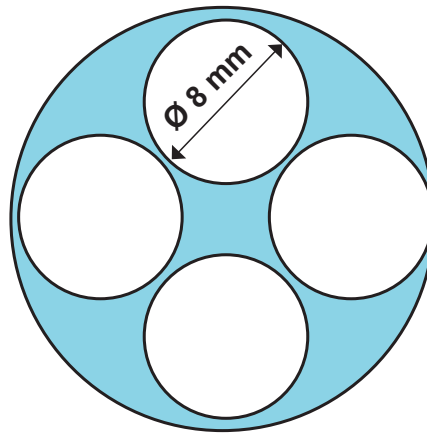
The power supply of the appliance must remain switched off throughout this phase. Failure to comply with these instructions can lead to serious damage to persons and property, including death.

The different versions of the FIMER FLEXA AC Wallbox are equipped with the following connectivity features:

FIMER FLEXA AC Wallbox	Stand Alone	Inverter Net	Future Net
RS485 (x 2)	X	X	X
RFID	X	X	X
BLE	X	X	X
Contact for remote cut-off device	X	X	X
3G/4G			X
Ethernet			X
Wifi			X

1. The communication cables must be inserted through the right cable gland at the bottom of the device. Before inserting any communication cables, the existing mushroom-shaped seal must be removed. If, however, no communication cables are to be used, the mushroom-shaped seal must not be removed.

2. Once the mushroom-shaped seal has been removed, the supplied "4-hole" gasket must be inserted into the cable gland. The gasket has 4 holes that can be used for routing communication cables. Ensure that you use cables suitable for the cross-section of the holes: the diameter of the cross-section of the holes is **8 mm** and all cables used must be of a size that ensures proper sealing to guarantee the IP rating.



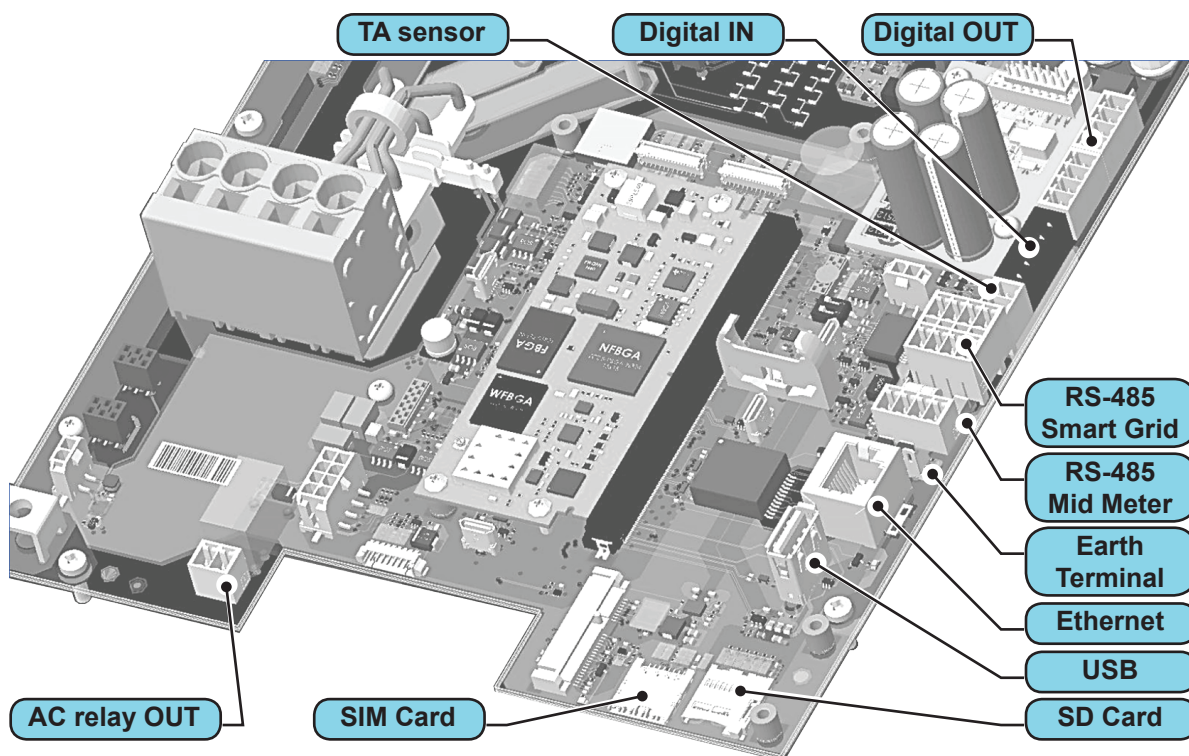
3. Once you have inserted the desired cable into one of the available holes, pull it to a length that reaches the part of the device where the communication port you want to use is located, leaving some slack. Repeat the operation for all the communication cables you wish to install

4. Holes that are not used must be closed using the white plugs provided to ensure the IP rating.

5. Tighten the cable gland

6. Insert the desired connectors into the chosen communication ports. For details of the available ports and their connection, please refer to the "Port Description" section.

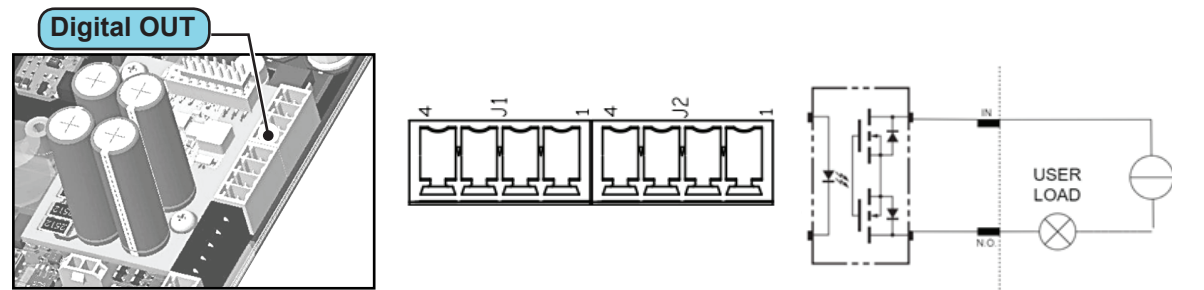
Port Description



The following table summarises the ports available to the user:

Type	Port	Description	Stand Alone Inverter Net	Future Net
I/O	Opto-isolated digital outputs	Normally open dry contact output	3 x	4 x
	Digital inputs	Digital input	5 x	
	AC RELAY OUT	Dry contact normally open relay output for AC charges up to 250VAC, 3 Amps current	1 x	
Communication	RS-485 SMART GRID	RS485 Modbus for Master-Slave communication or communication with REACT 2s	1 x	
	RS-485 MID METER	RS485 Modbus for external MID meter	1 x	
	ETHERNET	Gigabit Ethernet	-	1 x
Storage	USB	USB 2.0 port	-	1 x
	SD CARD	SD card slot	-	1 x
Others	SIM CARD	SIM card slot	-	1 x
	TA	Amperometric sensor for single-phase load management	1 x	1 x

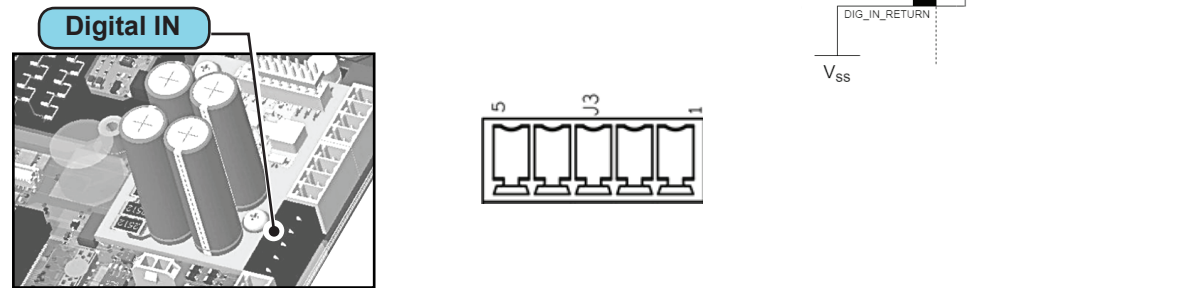
Opto-isolated digital outputs



Features	
Technology	OptoMOS
Maximum voltage	48 VDC / 48 VAC-peak
Maximum electrical current	1.3 Amps
Connector	2 x PHOENIX CONTACT 1843622

Pinout	
J1-1	OUT1_IN
J1-2	OUT1_NO
J1-3	OUT2_IN
J1-4	OUT2_NO
J2-1	OUT3_IN
J2-2	OUT3_NO
J2-3	OUT4_IN
J2-4	OUT4_NO

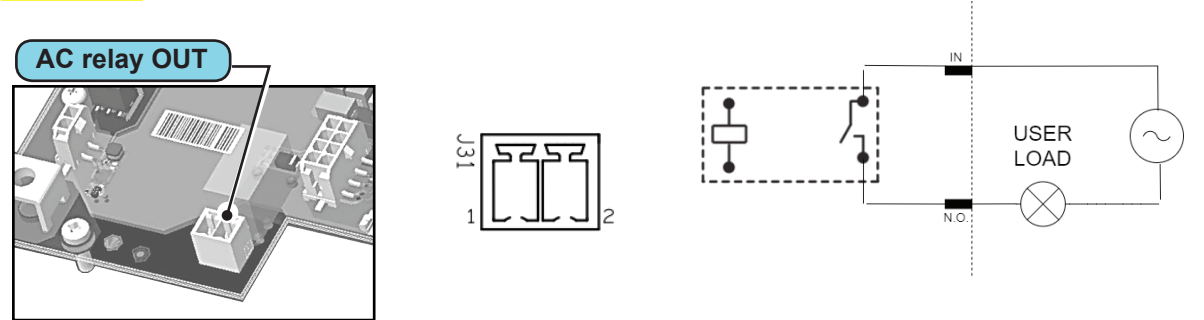
Digital inputs



Features	
Internal pull-up	3300 Ohm
Maximum applicable voltage	3.3 VDC
Connector	PHOENIX CONTACT 1843635

Pinout	
1	DIG_IN_RETURN
2	DIG_IN1
3	DIG_IN2
4	DIG_IN3
5	DIG_IN4

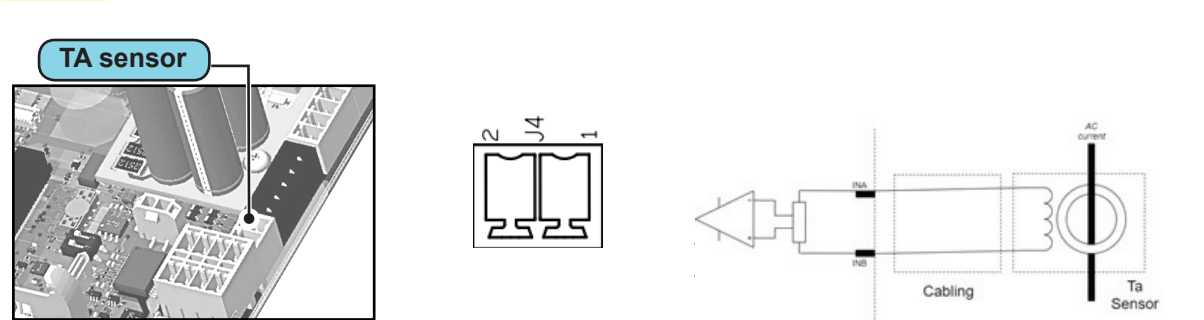
AC Relay OUT



Features	
Technology	Relay
Maximum voltage	250 VAC / 30 VDC
Maximum electrical current	3 Amps
Connector	PHOENIX CONTACT 1803426

Pinout	
1	OUT1_IN
2	OUT1_NO

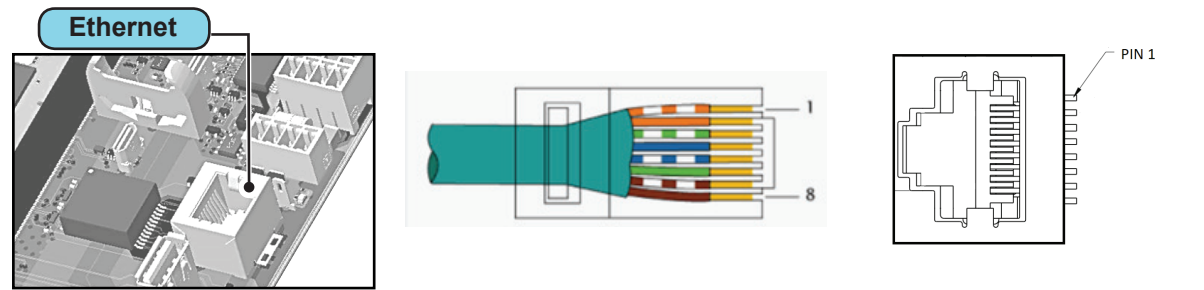
TA Sensor



Features	
Connector	PHOENIX CONTACT 1803426

Pinout	
1	INA
2	INB

Gigabit Ethernet



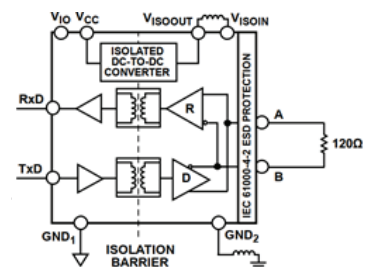
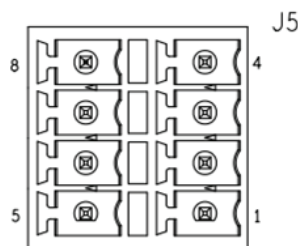
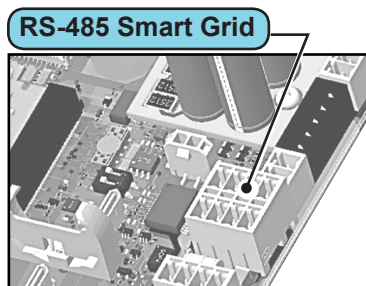
Features

Type	10BASE-T, 100BASE-TX (Fast Ethernet), 1000BASE-T (Gigabit)
Cable requirements	CAT6 or higher (with CAT6 cables, the speed may be limited in Gigabit applications)
Cable shielding	SF/UTP: Shielding with metal braiding on total cable assembly, no shielding on individual cable pairs SF/FTP: Double-shielded with metal braiding on the cable assembly and individual pairs individually shielded (preferable).
Socket type	RJ45 with metal shielding
Maximum connection length	Maximum 100 meters
Earthing shielding	Proper earthing requires connecting the shield of the Ethernet cable to the earth on both sides. This is done by using shielded cables with shielded metal RJ45 plugs.

Pinout

	1000BT LAN	100BT LAN
1	BIDIR_DA+	TX+
2	BIDIR_DA-	TX-
3	BIDIR_DB+	RX +
4	BIDIR_DC+	
5	BIDIR_DC-	
6	BIDIR_DB-	RX-
7	BIDIR_DD+	
8	BIDIR_DD-	

RS-485 Smart Grid



Features

Insulation	≤ 3kV RMS
Termination	120 Ω (integrated and selectable)
Protocol	Modbus
Connector	PHOENIX CONTACT 1952995
Counterpart	PHOENIX CONTACT 1952283

Pinout

1	DATA_B - Negative Data *
2	DATA_A - Positive Data *
3	RTN - Signal Ground
4	SHIELD - Bus Cable Shield
5	DATA_B - Negative Data *
6	DATA_A - Positive Data *
7	RTN - Signal Ground
8	SHIELD - Bus Cable Shielding

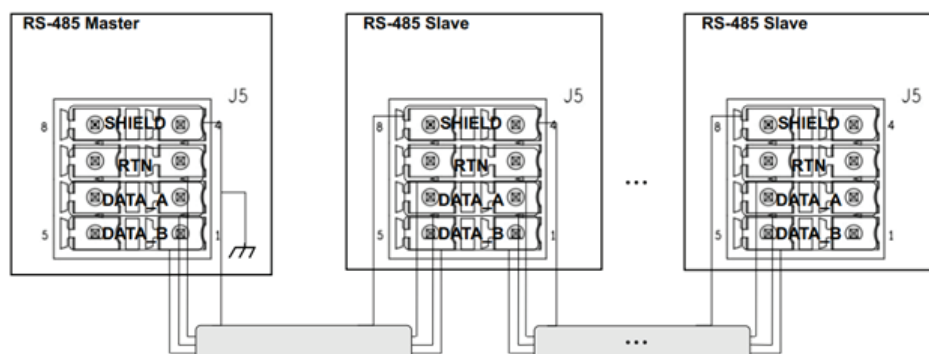
Bus termination

Bus termination is required to prevent signal reflections at the bus end. The bus must be terminated with $120\ \Omega$ at both ends (i.e. near the first and last node of the chain).

Each device is equipped with a circuit to enable/disable bus termination automatically, selectable from the on-board microcontroller.

Daisy Chain Connection

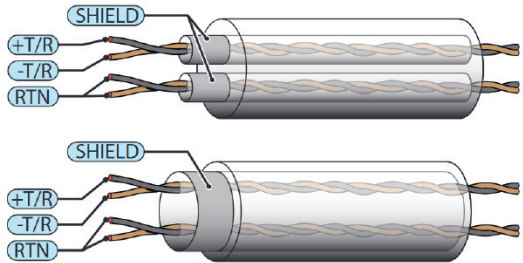
This RS-485 communication port exposes a connector which makes a Daisy Chain connection possible.



It is important that the shielding of the communication cable is referred to the PE at a single point, at the first node in the Daisy Chain. For all subsequent connections, the metallic continuity of the cable is guaranteed by the connection point called SHIELD on the connector.

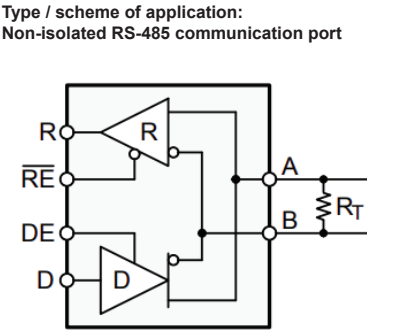
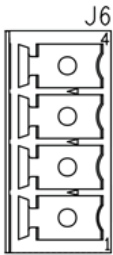
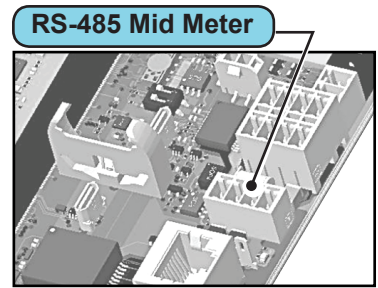
Connection requirements

Cable type	AWG	Characteristic impedance	Operating voltage	Operating temperature
Shielded	22 - 24	120 Ohm	≥300 V	-20 ... +60 °C



The metallic continuity of the shielding must be guaranteed along the communication line, which must be grounded at a single point.
It is recommended not to exceed a length of 1000m for the communication line.

RS-485 Mid Meter



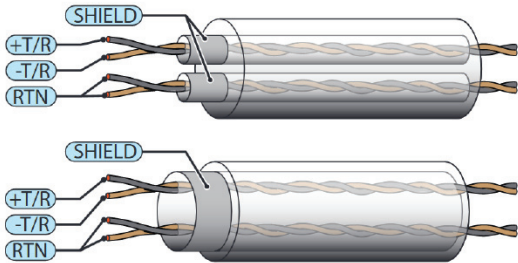
Features	
Termination	120 Ω (integrated)
Protocol	Modbus
Connector	PHOENIX CONTACT 1843622
Pinout	
1	DATA_B - Negative Data *
2	DATA_A - Positive Data *
3	RTN - Signal Ground
4	SHIELD - Bus Cable Shield

Bus termination

Bus termination is required to prevent signal reflections at the bus ends. The bus must be terminated with 120 Ω at both ends (i.e. near the first and last node of the chain).
The Bus is terminated on the Wall-Box side by a 120 Ω resistor.

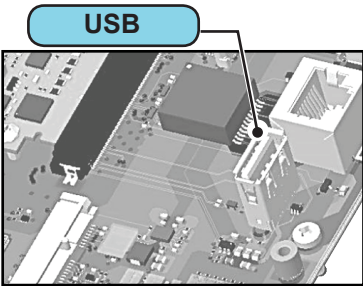
Connection requirements

Cable type	AWG	Characteristic impedance	Operating voltage	Operating temperature
Shielded	22 - 24	120 Ohm	≥300 V	-20 ... +60 °C



The metallic continuity of the shielding must be guaranteed along the communication line, which must be grounded at a single point.
It is recommended not to exceed a length of 1000m for the communication line.

USB



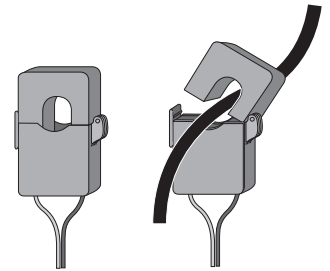
Features	
Type / scheme of application	Only available in Future Net version. USB type A connector
Maximum Power Output Available	500mA@5V (USB 2.0)

Dynamic power management

Dynamic Power Management or DPM is a function that adjusts the charging energy based on the available energy. The DPM function is available in the SINGLE-PHASE configuration and is particularly useful in residential applications.

It is possible to enable/disable the function via the “MyFIMERWallbox” app and, if enabled, set the maximum current limit at which the function performs regulation (“DPM current Limit”).

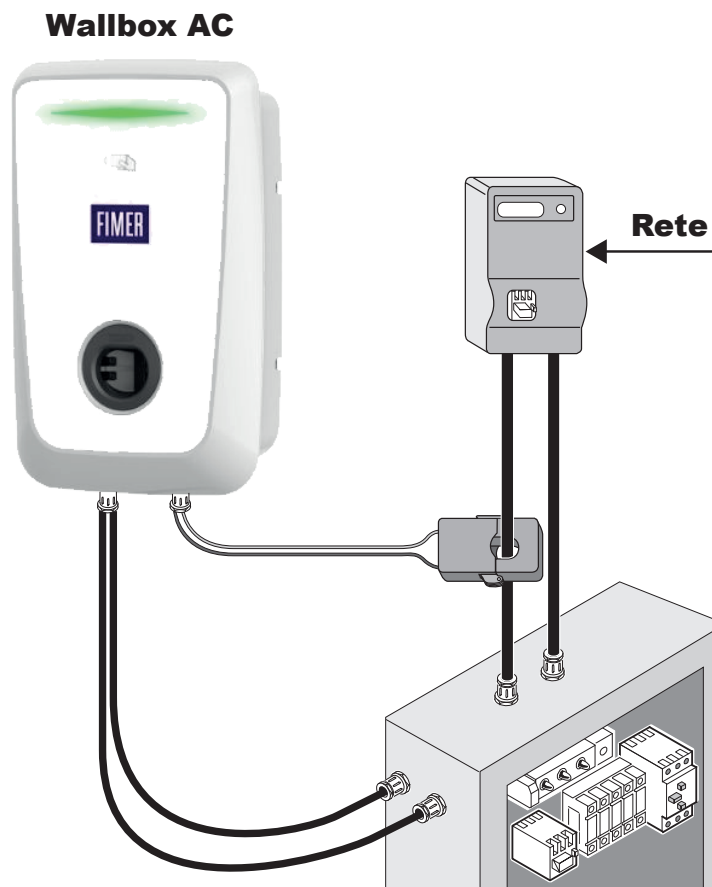
Installation of the appropriate sensor is required to enable the function.



TA sensor installation

To use the dynamic power management function, a sensor must be installed downstream of the electricity meter. Based on the current measured by the sensor, the Wallbox calculates the energy absorbed by the user and modulates the charging current of the electric vehicle in order to avoid blackouts.

The connection diagram is shown in the figure.



Connection requirements

- The sensor is supplied pre-wired with 1.5 meters of braided wire.
- Extend as necessary; the maximum recommended length is 25 metres.
- Connect to the Wallbox using the counterpart supplied. There is no polarity requirement in the connection.
- Use twisted bipolar cable, AWG 22 wire, UL1007 (or equivalent).
- Route the connection cable between the sensor and the Wallbox away from power cables and other potential sources of interference.



The DPM sensor must be installed by a qualified professional technician in accordance with local regulations.



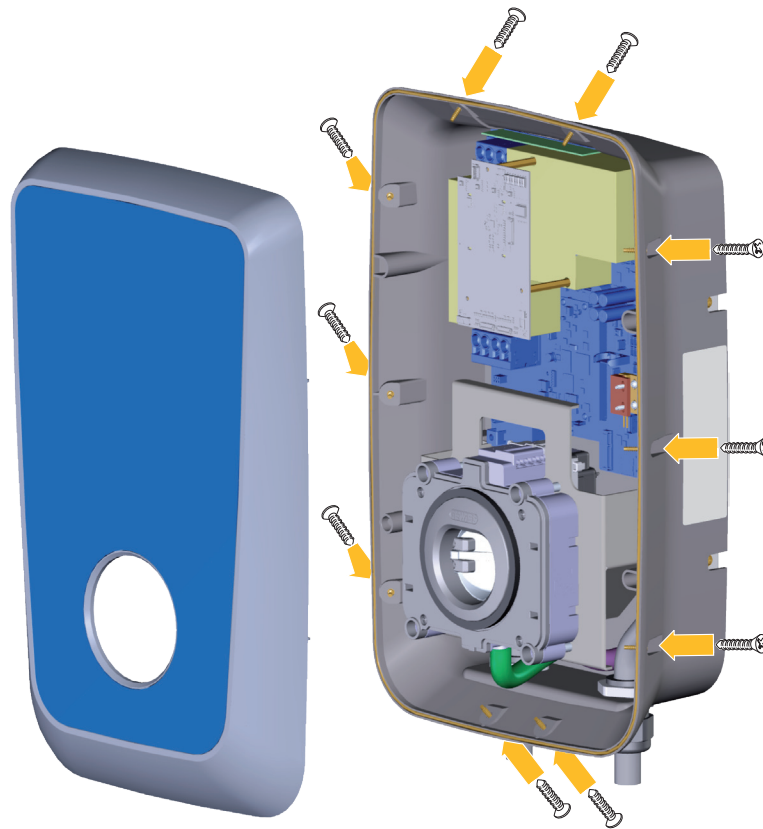
Closing operations and power supply

During installation it is necessary to disable the electrical connection of the power supply and to cordon off the entire working area, which only qualified and authorised personnel should be able to access.

The equipment can only be powered up once this step has been completed.

Failure to comply with these instructions can lead to serious damage to persons and property, including death.

1. Place the front cover on the casing of the product.
2. Check the correct connection of the power supply (L1-L2-L3-N-PE), making sure that the respective positions of the phases and neutral in the main connector respect the markings and that the earth protection is correctly connected to its dedicated terminal.
3. Using the 10 40x14 screws initially removed during unpacking, secure the front cover to the rear body of the device with a tightening torque of 2.3Nm. If there is insufficient space for screwing in, use a screwdriver with a shorter length.



4. Once the device is closed, it can be powered by enabling the upstream power system.
5. Once powered up, the device performs several cycles of internal component checks before going into a state where the front LED is permanently lit GREEN, indicating that the device is essentially ready for use.

First start-up and configuration



FIMER products are configured in the factory before delivery in accordance with the information provided by the customer.

All customers or users are required to provide, at the time of purchase, information about the required configuration and the electrical characteristics of the network to which the station will be connected.






FIMER considers the information provided at the time of purchase to be definitive and, consequently, any changes in configuration or any other necessary activity that was not agreed or defined at the time of purchase will not be included in the warranty.

For all these reasons, once the above procedure has been carefully completed by a qualified technician, the device can be considered ready for first use.

Behaviour of the LED

Behaviour of the LED when switching on the device

When the device is switched on (start-up), the LED carries out the sequence described below for approximately 10 seconds:

1. **WHITE** light 
2. **GREEN** light 
3. **BLUE** light 
4. **RED** light 
5. Resumes from point 2 (GREEN light) 

Behaviour of the LED during operation

Once the start-up cycle is complete, the LED can display the following colours:

LED	State	Description	Stand Alone Inverter Net	Future Net
Steady green light	SCKx_LED_STDBYREADYTOUSE	Ready to charge	x	x
Steady blue light	SCKx_LED_CHARGESTATUS	Closed relays. Vehicle not charging (Electric vehicle current consumption below minimum threshold).	x	x
Pulsing blue light		Closed relays. Vehicle charging.	x	x
Steady red light	SCKx_LED_ONALARM	AC input failure (Mains power not present and backup power enabled)	x	x
Flashing red light	SCKx_LED_NOTREADY	Error	x	x
Blue/green flashing	SCKx_LED_STDBYREADY-TOUSE_WAIT_CARD	Waiting for card (Internal RFID White List)	x	x
		Waiting for card (OCPP)		x
Green/purple flashing	SCKx_LED_STDBYREADY-TOUSE_WAIT_OCPP	Waiting for OCPP card validation		x
Blue/green flashing	SCKx_LED_STDBYREADY-TOUSE__OCPP_END	End of OCPP charging transition		x

Instructions for use

The images below are for illustrative purposes and may not show all internal components installed in the product.

Preliminary charging operations



During the entire charging process, DO NOT remove the charging connector from the electric vehicle. Only remove the charging connector from the vehicle when charging operations have ended or have been interrupted following the appropriate procedure. Removing the charging connector from the vehicle during the charging process can cause serious damage to property or persons.

Before starting a new charging session:

- Ensure that the product and its connectors are perfectly intact, dry and free of any impurities
- Do not insert fingers or objects into the socket
- Make sure that the product is not and has not been exposed to heat sources or explosive or flammable substances
- Ensure that the electric vehicle is compatible with the product's technical characteristics
- Do not use adapters or extensions not specified by the manufacturer as they may damage the product and create safety hazards for the user.
- Vehicle adapters must not be used to attach a connector to a vehicle socket
- Adapters between vehicle socket and plug should only be used if specifically designated and approved by the vehicle manufacturer or the manufacturer of the electric vehicle's power supply equipment, in accordance with national requirements. Such adapters must, however, comply with the requirements of the IEC 61851-1 standard and other relevant standards governing both the plug and socket of the adapter. The adapters must in any case be marked with specific indications for use permitted by the manufacturer (e.g. IEC 62196)

Charging operations

There are three types of charging available, one of which requires remote authentication:

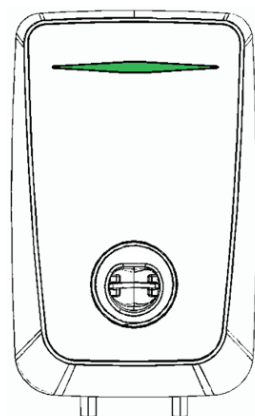
- **Plug&Charge:** In this mode the Wallbox does not require any authorisation to start charging. Once connected to the electric vehicle, charging starts.
- **With authentication (local):** In this mode, charging is initiated "locally" through the use of RFID cards or tags. In this case, management is delegated to a "white list", permanently stored in the Wallbox memory, which contains the list of tags able to perform charging.
- **With remote authentication:** In this mode, charging is started "remotely" and must be unlocked by an OCPP Service Centre connected to the Wallbox (Future Net model) over an internet data backbone.

The availability of the various charging modes depends on the Wallbox model:

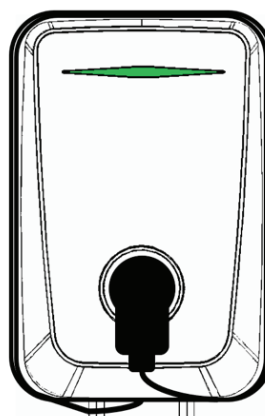
Charging type	Stand Alone	Inverter Net	Future Net
Plug&Charge (without authentication)	X	X	
Local Authentication (RFID White List)	X	X	
Remote Authentication (Service Centre)			X

Plug&Charge charging

1. The steady **GREEN**  LED indicates that the device is ready for charging.

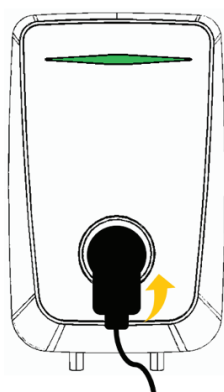


Socket

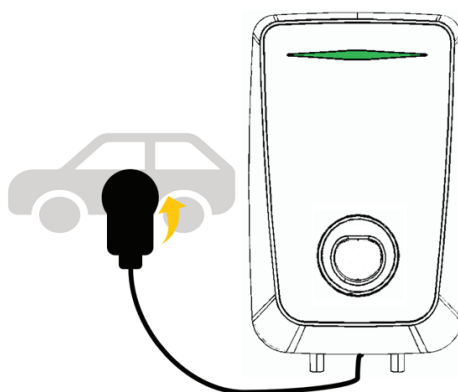


Cable


2. Insert the charging cable into the socket available on the SOCKET version of the device, until the connector is fully engaged. In the CABLE versions, insert the connector (already attached to the device) into the socket of the electric vehicle.



Socket



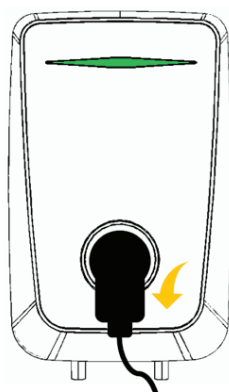
Cable

3. The device will lock the cable during the entire charging phase (SOCKET version only), and the LED remains a steady **GREEN**  until the vehicle gives its consent.

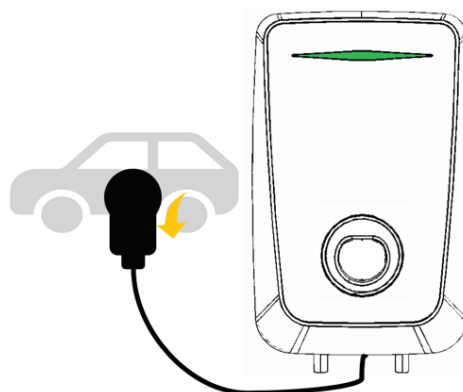
4. The charging session begins, the LED turns **BLUE**  and pulses to signal energy transfer.

5. Once charging is complete (battery charged), the device unlocks the socket used (SOCKET version).

6. The LED changes colour back to a steady **GREEN**  again and it is then possible to extract the cable from the product (SOCKET version) or from the electric vehicle (CABLE version).



Socket



Cable



Interrupting Plug&Charge charging

If the user wishes to end the charging process before the battery is fully charged, it must be interrupted by ordering the end of the session from the electric vehicle.

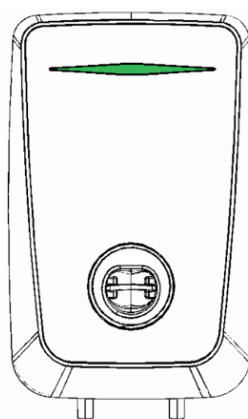
The vehicle will communicate the end of the charging session to the device which will unlock the socket in use (SOCKET version).

In the event of a loss of power during the charging session, the device is able to unlock the socket and allow the cable to be removed (SOCKET version).

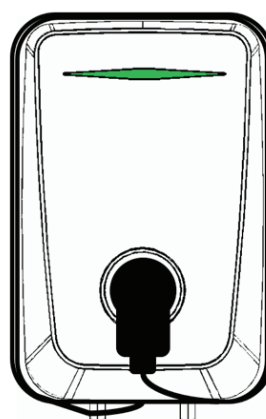
Charging with RFID authentication

The devices in the **Stand Alone** and **Inverter Net** versions are equipped with an RFID reader to allow charging to be unlocked only by users who are entitled to do so because they have a dedicated USER RFID tag (card). Using the RFID MASTER tag (card) supplied in the box, it is necessary to register all the USER RFID tags that will be authorised for charging (see **RFID TAG operations**).

1. The steady **GREEN**  LED indicates that the device is ready for charging.

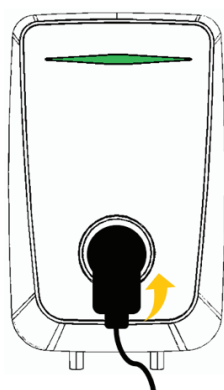


Socket

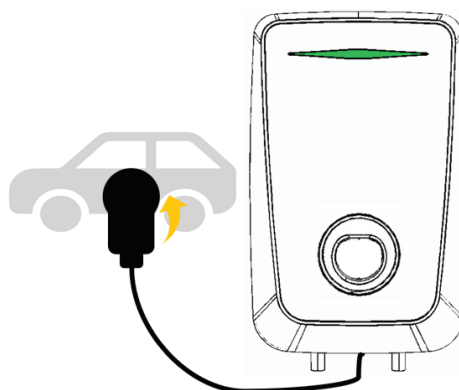


Cable

2. Insert the plug of the charging cable into the socket available on the device until it fully engaged or, for CABLE versions, insert the plug (already attached to the device) into the socket of the electric vehicle.



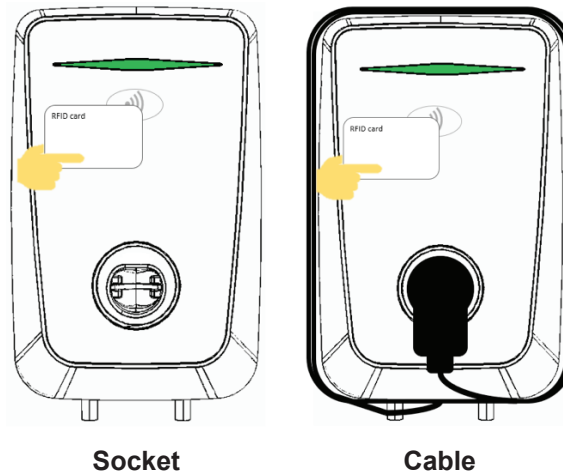
Socket



Cable

3. The LED starts flashing alternately from **GREEN**  to **BLUE**  .

4. Swipe the USER RFID tag over the designated area:

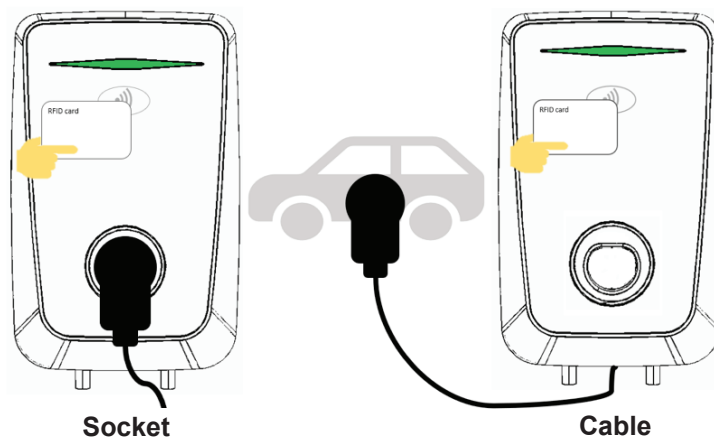


5. If the tag is invalid the LED flashes **RED** (unable to start charging). Alternatively, the LED flashes **WHITE** to indicate successful authentication.

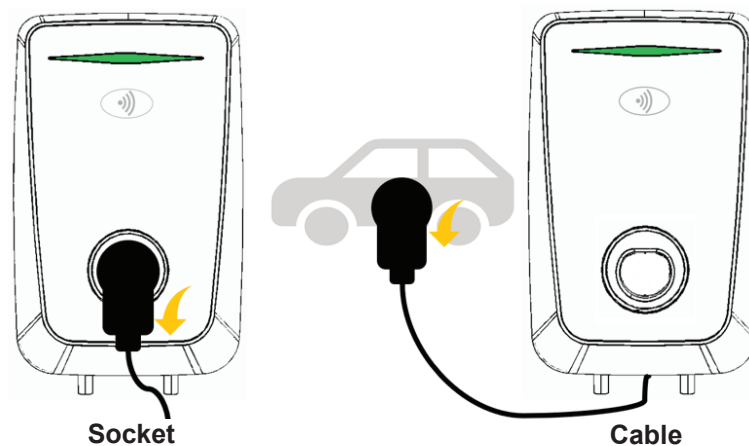
6. The device will block the cable during the entire charging phase (only for the SOCKET version), and the LED remains steady **GREEN** until the vehicle gives consent.

7. The charging session begins, the LED turns **BLUE** and pulses to signal energy transfer.

8. When charging is complete (battery charged), the LED will change colour back to **GREEN**. The user must swipe the RFID USER card over the designated area to allow the socket in use to be unlocked (SOCKET version) and in any case to end the charging session:



9. It is then possible to remove the charging cable from the device (SOCKET version) or from the electric vehicle (CABLE version):

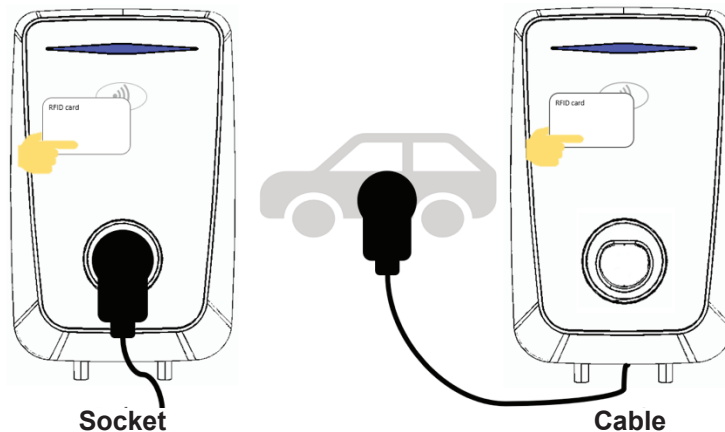





10. The product returns to its initial state, ready for a new charging session.

Interrupting charging with RFID authentication

If the user wishes to interrupt the charging session before the battery is fully charged, it is necessary to follow the instructions below:

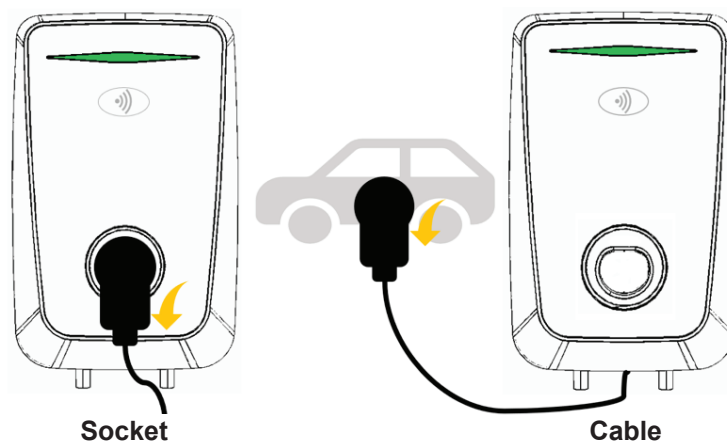
1. Swipe the USER RFID card over the designated area to end the charging session.



2. If the card is successfully identified, the LED light flashes **WHITE** . The LED turns a steady **GREEN**  to signal the interruption. If the card is invalid, the LED flashes **RED**  and charging is not interrupted.

In any case, to free the vehicle completely, it is necessary to unlock the socket or sockets by using the vehicle's controls.

In fact, the Wallbox-side socket remains locked until the vehicle-side socket is unlocked.

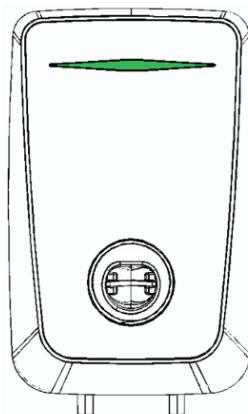


3. The device returns to its initial state, ready for a new charging session.

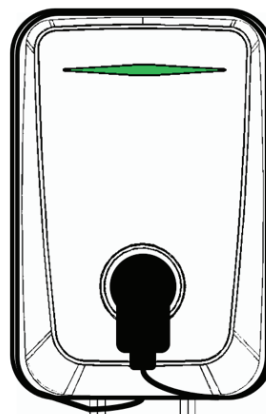
Charging via RFiD and OCPP Service Centre (Future Net model only)

In this mode, the charging session is started via RFiD tag, but the tag itself is enabled remotely by the Service Centre before starting the actual charging.

1. The steady **GREEN**  LED indicates that the device is ready to charge.

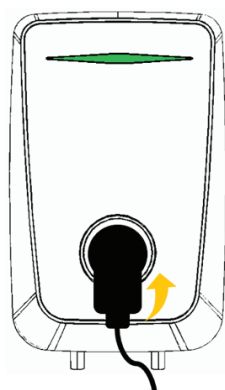


Socket

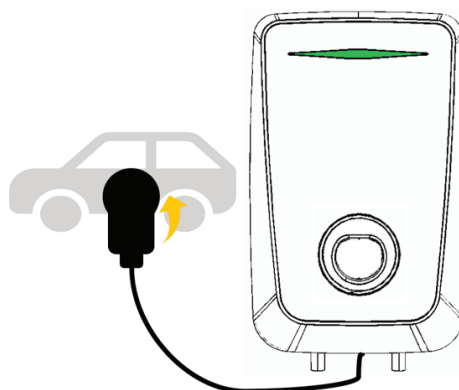


Cable

2. Insert the plug of the charging cable into the socket available on the device until it is fully engaged or, for CABLE versions, insert the plug (already attached to the device) into the socket of the electric vehicle.



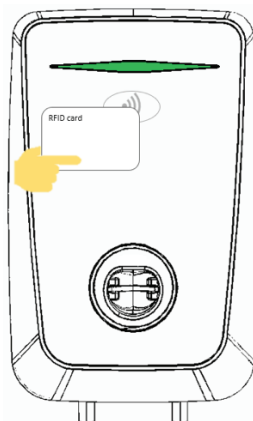
Socket



Cable

3. The LED starts flashing alternating from **GREEN**  to **BLUE** .

4. Swipe the USER RFiD tag over the designated area:



Socket



Cable

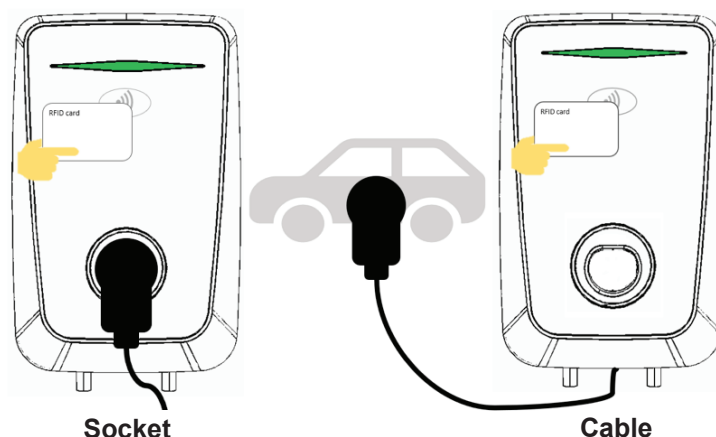
5. The LED starts flashing alternating from **PURPLE**  to **GREEN**  while waiting for the card to be enabled remotely.

6. If the card is not validated by the Service Centre, the LED light flashes **RED** (unable to start charging). Alternatively, the LED flashes **WHITE** to indicate successful authentication.

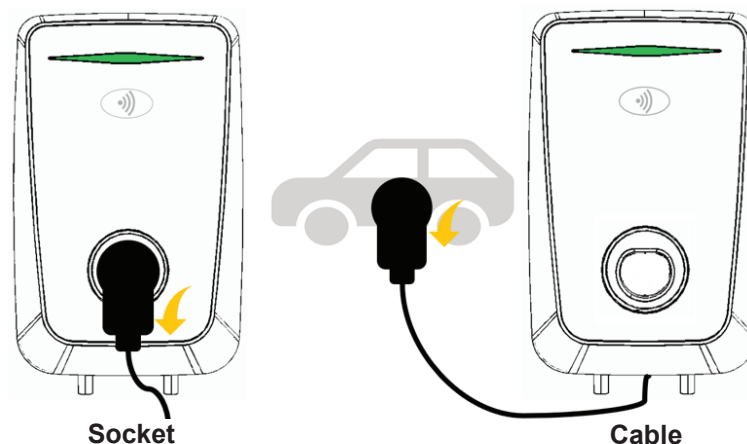
7. The device will lock the cable during the entire charging phase (SOCKET version), and the LED remains a steady **GREEN** until the vehicle provides consent.

8. The charging session begins, the LED turns **BLUE** and pulses to signal energy transfer.

9. When charging is complete (battery charged), the LED will change colour back to **GREEN**. The user must swipe the USER RFID card over the designated area to allow the socket in use to be unlocked (SOCKET version) and in any case to terminate the charging session:



10. It is then possible to remove the charging cable from the device (SOCKET version) or from the electric vehicle (CABLE version):



11. The product returns to its initial state, ready for a new charging session.

Remote charging via OCPP Service Centre (Future Net model only)

In this mode, the charging session is managed completely remotely by the Service Centre, which activates the outlet for power supply. Once the charging point is enabled, the procedure to activate charging is the same as in Plug&Charge mode.

In contrast to the Plug & Charge mode, once the session is over a charge cannot be activated without being authorised again.



RFiD TAG operations

The following is a description of the operations that can be carried out by assistance (service) or by the owner of the device using the RFiD interface and the LED / Buzzer user interface on the front panel of the device, in order to register, check or delete the USER RFiD TAGS associated with people authorised to access the Wallbox services.

The possible operations are registration, deletion and verification of user TAG status. The "service" mode can be accessed using a special "RFiD MASTER" TAG supplied with the device.

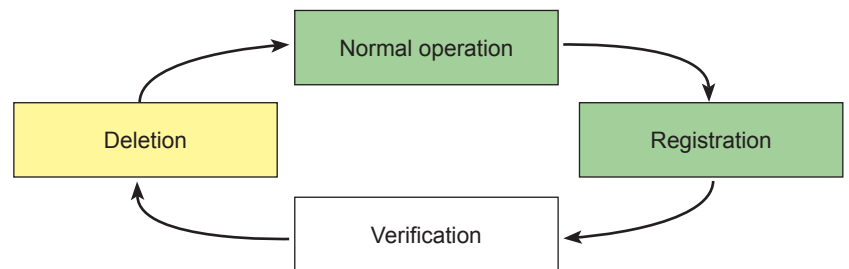
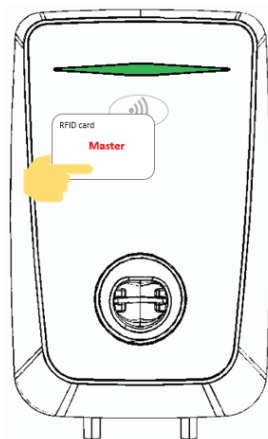
There is a "White List" user list inside the machine where it is possible to register up to 255 user TAGs, each of which is authorised for charging.

The service mode accessible via "RFiD MASTER" has three modes:

- TAG registration.
- TAG verification.
- TAG deletion.


The transition between the three modes is sequential, and triggered by the proximity of the "RFiD MASTER" TAG. Assuming that we start from the "normal" operating mode, the Wallbox goes through the different modes in the following order each time the "RFiD MASTER" TAG is swiped:

Normal operation → TAG registration → TAG verification → TAG deletion → Normal operation



If a TAG isn't swiped, **the system returns to normal operating status after 60 seconds.**

Idle status indication (IDLE)



In the IDLE operating state, the LED light is a steady **GREEN** . This is the normal state of the device when the vehicle is not charging.

TAG registration

The registration mode is indicated by the **GREEN LED**  **flashing**.

To enter the registration mode from the idle state, the steps are as follows:




- Present the "RFiD MASTER" card. The LED starts flashing at a rate of about half a second.
- Then remove the "RFiD MASTER" card, the LED continues to flash as in the previous step.
- It is now possible to register the user's TAGs. By presenting the "RFiD MASTER" again, the device switches to the TAG verification mode (see next paragraph)

Successful registration: Present the user TAG to be registered. If successful, the LED will glow **WHITE** . When the user TAG is removed, the LED goes back to flashing **GREEN** . Proceed in the same way to add other user TAGs.

Registration failed (TAG not recognised or White List full): If the TAG registration is unsuccessful, the LED will emit a **steady RED**  **light**.

Registration fails if the card is not correctly recognised or if the "White List" has reached its maximum capacity, in which case no further cards can be added.



Once the user TAG has been removed, the LED starts to **flash GREEN**  again.



Exit registration mode: To exit the TAG Registration mode and return to the idle mode, either wait 60 seconds or repeatedly swipe the "RFiD MASTER" TAG. With each swipe the LED light will first flash **WHITE** , then **YELLOW**  and then it will return to a **steady GREEN**  to signal the return to the idle state.



TAG verification



Verification mode is indicated by the **WHITE LED**  **flashing**.

In order to enter verification mode, starting from the idle state, the steps are as follows:

- Present the "RFiD MASTER" card. The LED starts flashing **GREEN**  at a rate of about half a second.
- Present the "RFiD MASTER" card again. The LED will turn **WHITE** , flashing at a rate of about half a second.
- It is now possible to verify the user TAGs, or, by presenting the "RFiD MASTER" card again, the device switches to the TAG deletion state (see next section).

TAG verification successful: Present the user TAG to be verified. If the result is successful, or the user TAG is present on the "white list", the device switches to a **steady**  **WHITE**. When the user TAG is removed, the LED returns to **flashing WHITE**  once again. Repeat the procedure to verify other user TAGs.




TAG verification failed (TAG not read or not present on the white list): Present the user TAG to be verified. If it is not present on the "white list" or is not correctly read, the LED switches to a **steady**  **RED**. When the user TAG is removed, the LED goes back to flashing **WHITE** . Repeat the procedure to verify other user TAGs.


Exit verification mode: To exit the TAG verification mode and return to the idle mode you can wait 60 seconds or swipe the "RFiD MASTER" TAG repeatedly. At each swuoke the LED light will first flash **YELLOW**  and then it will return to **steady**  **GREEN** to signal the return to the idle state.


TAG deletion



The deletion mode is indicated by the **flashing YELLOW**  LED.


To enter deletion mode from the idle state, the steps to follow are as follows:

- Present the "RFiD MASTER" card. The LED starts flashing **GREEN**  at a rate of about half a second.
- Present the "RFiD MASTER" card again. The LED starts flashing **WHITE**  at a rate of about half a second.
- Present the "RFiD MASTER" card again, the LED will turn  **YELLOW**, flashing every half second.
- It is now possible to delete the user's TAGs or, if the "RFiD MASTER" card is presented again, the device returns to the idle state.

Successful TAG deletion: Present the TAG to be deleted, if the result is positive or the user TAG is present on the "white list", the device switches to a steady **WHITE**  colour. When the user TAG is removed, the LED

returns to flashing **flashing GREEN**  again.
Repeat the procedure to delete other user TAGs.

TAG verification failed (TAG not read or not present in the White List): Present the user TAG to be deleted, if it is not present on the "white list" or is not correctly read, the LED will changes to a **steady RED** . When the user TAG is removed, the LED returns to flashing **flashing YELLOW**  again.
Repeat the procedure to delete other user TAGs.

Exit from deletion mode: To exit the TAG deletion mode and return to the idle state (IDLE) you can wait 60 seconds or swipe the "RFID MASTER" TAG repeatedly. The LED light will return to **steady GREEN**  to signal the return to the idle state.

MyFIMERWallbox App

The Wallbox is typically used at home to charge your electric vehicle and has basic functions that allow you to charge, stop and resume charging and check the charging status.

The MyFIMERWallbox App, once installed on a compatible device, communicates with the Wallbox via Bluetooth connection, and allows monitoring and management directly from your smartphone.

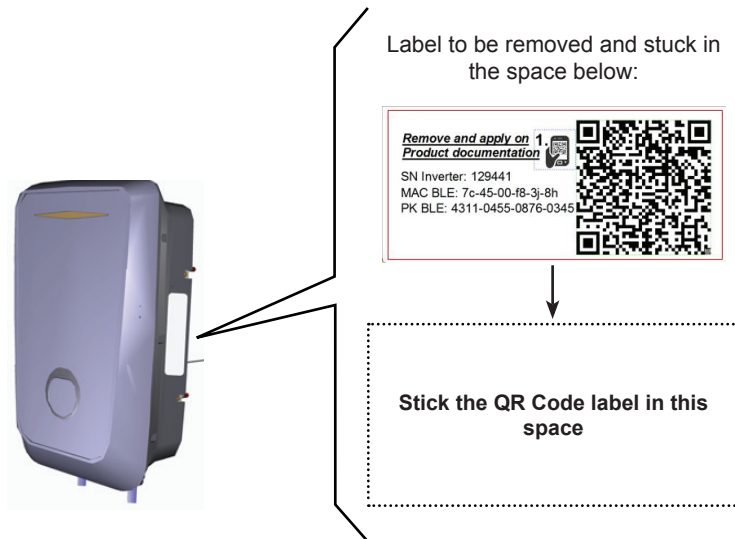
The App is available in Italian and English, compatible with, **iOS 12**, **Android 6** and newer operating systems.

The App is available for download from Apple (Apple Store) and Google (Google Play Store).

Wallbox pairing

To pair your Wallbox with the App, you need to scan a **QR code** with your camera.

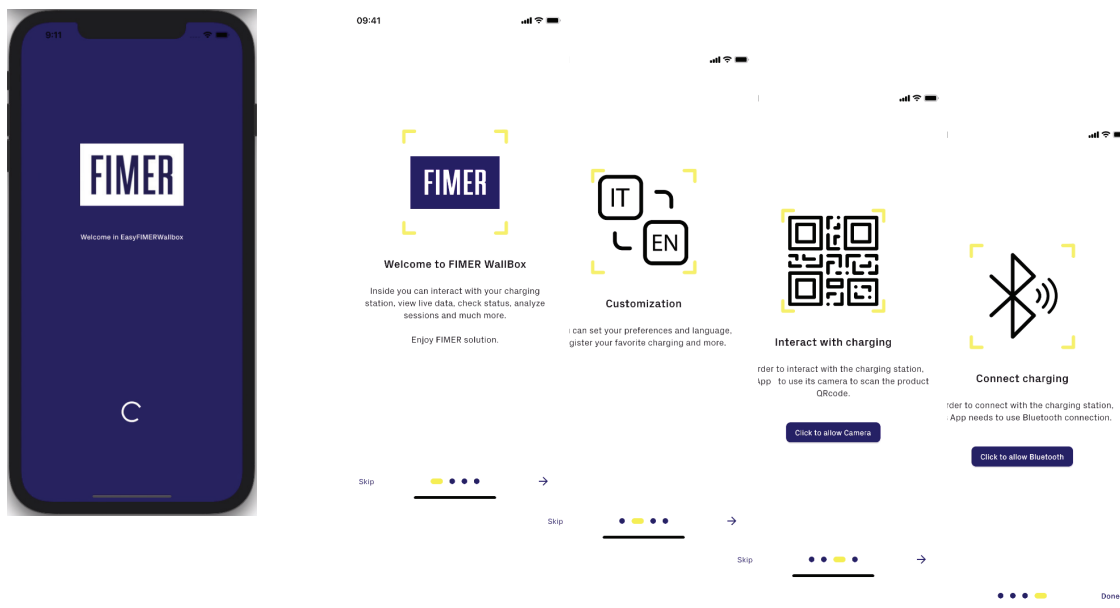
The QRCode is placed on a removable label that can be removed and stuck into this manual so that it can be kept for future authorisations of other devices.



As the QRcode contains privileged information that allows the App to connect securely and confidentially with the Wallbox, it is important to remove the label from the product and store it carefully!

First page

In order to work properly, the App needs to use the camera to scan the QR Codes with the access credentials and the Bluetooth connection to communicate with the Wallbox.

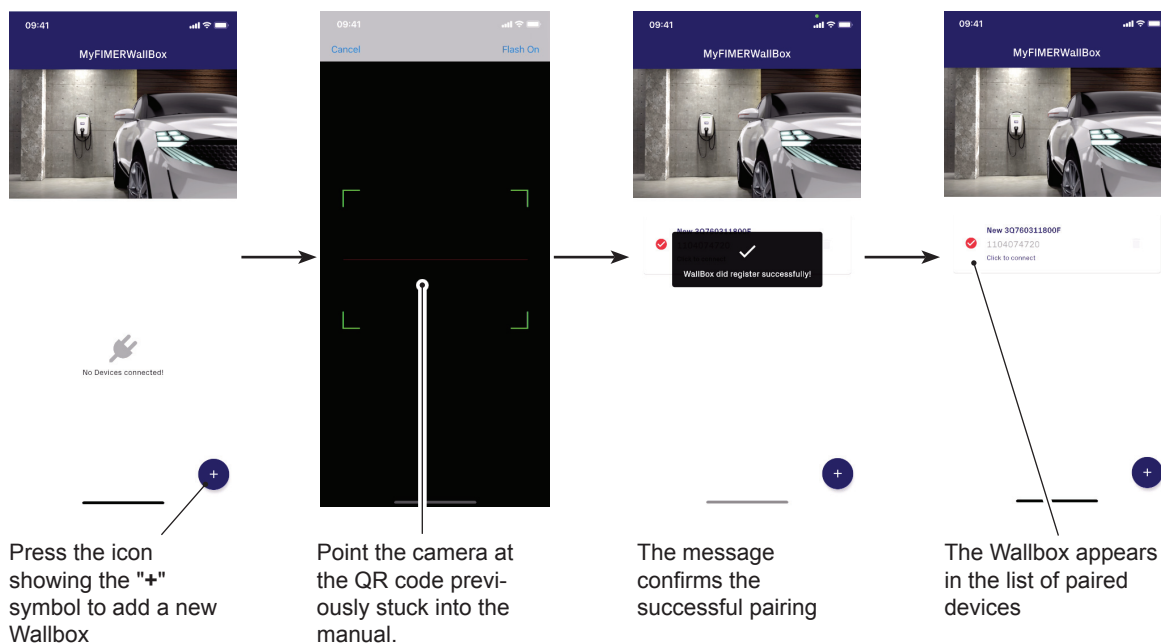


During the initial start-up phase, after a series of screens introducing the App's functions, authorisation to use these two smartphone peripherals is requested.

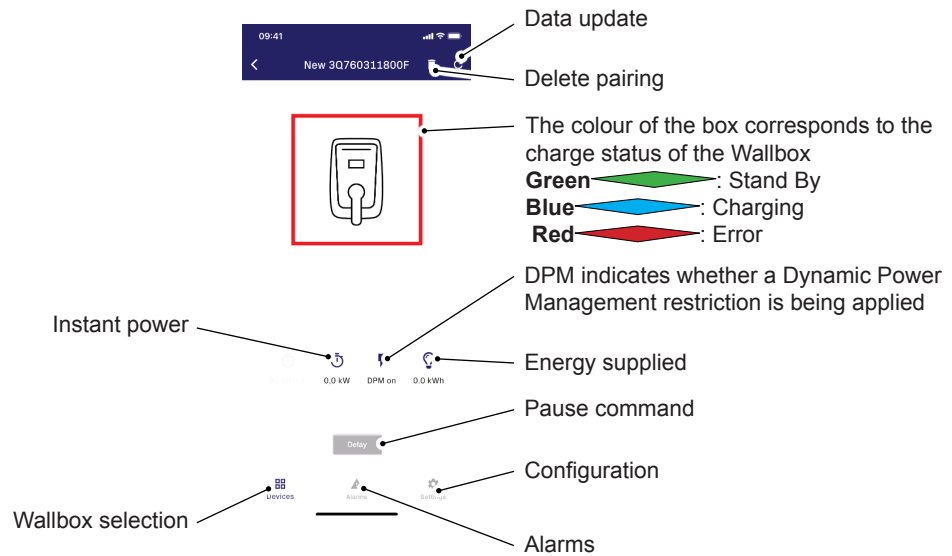
If permission is not granted, **the App will not work.**

Viewing, Adding and Deleting Wallboxes

To pair your Wallbox with the App, press the icon with the "+" symbol and scan the QR code on the label that was previously attached to this manual.

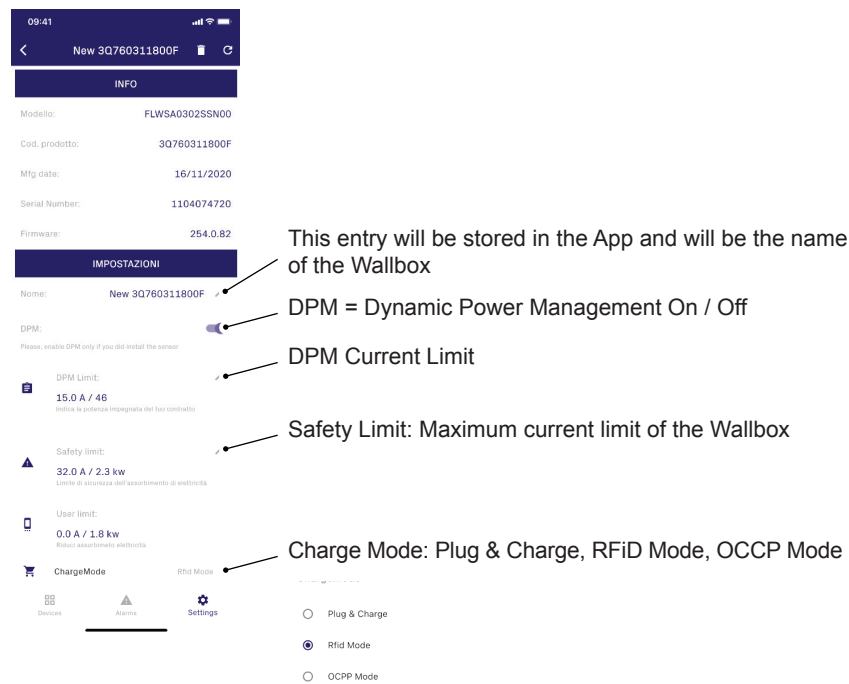


Once AC Wallbox pairing is complete, you can connect via Bluetooth by simply selecting one of the available acquired AC Wallboxes.



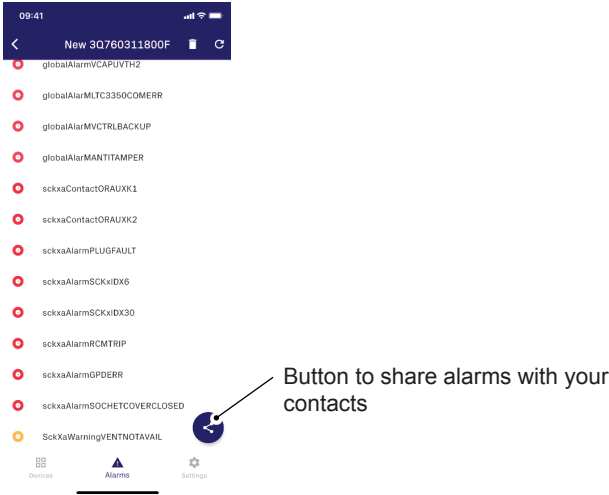
Wallbox configuration

Once a new Wallbox has been acquired or an existing one has been selected, certain features can be configured and then transferred to the device.



Active alarms

It is possible to view the alarms active in the current charging session; for more information on alarms, see the appropriate section.



Trouble shooting



All versions of the device are equipped with a diagnostic and alarm system.

Notification of faults or alarms is via the large front LED, which turns RED if an alarm is detected.

In the event of an error, the charging session is interrupted, and the socket is immediately unlocked (SOCKET version).



If the cause of the fault can be attributed to the electric vehicle, after disconnecting the charging cable in use, the device performs several test cycles which, if they confirm the correct functioning of all the internal components, restores functionality by restoring a fixed GREEN colour to the LED on the front. Otherwise, the LED remains RED and charging is no longer available on that device until the problem is resolved.

Alarms and warnings

The alarms are decoded by the device as records on the internal MODBUS map of the device. The map is accessible via the RS-485 and Bluetooth interfaces (MODBUS RTU protocol) and for the Future NET version also on the Ethernet interface (MODBUS TCP protocol). Each alarm or warning is defined at a specific address on the map and the value it contains defines whether it is activated or not:

Value 1 indicates active alarm or warning

Value 0 indicates inactive alarm or warning

The following tables contain descriptions of alarms and warning signals according to the following legend:

- **MODBUS address:** MODBUS map address corresponding to the alarm or warning signal. The contained value defines whether the alarm is active (value 1) or inactive (value 0). The first number in the column is the address, "U16", indicating that the content is on 2 bytes.
- **Meaning:** identification of the alarm or warning message. Each name begins with **GA** for Global Alarm, **GW** for Global Warning, **SCKxA** for Socket alarm and **SCKxW** for Socket Warning.
- **Error code:** identification code of the alarm or warning message as displayed on the user interface (Mobile App or Installation Tool)
- **Message:** description of the alarm or warning message as displayed in the user interface (Mobile App or Installation Tool)

Global Alarms

Modbus address		Meaning	Error code	Message
1194	U16	GA_12V_UV	E001	Undervoltage 12V
1195	U16	GA_12V_OV	E002	Overvoltage 12V
1196	U16	GA_V_CTRL_UV	E003	Undervoltage VCTRL
1197	U16	GA_V_CTRL_OV	E004	Overvoltage VCTRL
1198	U16	GA_VCAP_OV	E005	Overvoltage Supercap
1199	U16	GA_VCAP_UV_TH2	E006	Undervoltage Supercap Threshold 2
1200	U16	GA_VCAP_POS5V_UOV	E009	Supercap controller Out of range +5V
1201	U16	GA_TC_OT_TH2	E012	Overtemperature
1205	U16	GA_TEMP_SENSOR_COM_ERR	E024	Temperature Sensor Communication error
1206	U16	GA_SUPERCAPCTRL_COM_ERR	E025	Supercap controller communication error
1207	U16	GA_INIT_CHECK_ERR	E028	Initial check error
1208	U16	GA_V_CTRL_BACKUP	E029	V Control Backup
1209	U16	GA_VCAP_UV_TH1	E030	Undervoltage Supercap Threshold 1
1210	U16	GA_RFID_READER_ERR	E049	RFID Reader error
1211	U16	GA_STORAGE_ERR	E048	Storage
1215	U16	GA_ANTI_TAMPER	E013	Antitamper

Global Warnings

Modbus address		Meaning	Error code	Message
1216	U16	GW_12V_UV	W050	Undervoltage 12 V
1217	U16	GW_TC_OT_TH1	W051	TC Overtemperature TH1
1218	U16	GW_CONFIG_PH1_PH3	W064	Configuration Phases mismatch
1219	U16	GW_PH3_PHASE_SEQ	W065	Phase sequence mismatch
1220	U16	GLOBAL_WARNING_BLE_MAC_ERROR	W066	Bluetooth Low energy MAC error
1221	U16	GLOBAL_WARNING_RTC	W067	Real Time Clock Warning

Socket Alarms

Modbus address		Meaning	Error code	Message
1223	U16	SCKxA_CONTACTOR_AUX_K1	E102	SCK Contactor K1 mirror contact mismatch
1224	U16	SCKxA_CONTACTOR_AUX_K2	E103	SCK Contactor K2 mirror contact mismatch
1225	U16	SCKxA_GND_CTY	E104	SCK Ground Continuity Fault
1226	U16	SCKxA_CP_SC	E105	SCK CP SC
1227	U16	SCKxA_DIODE_FAULT	E106	SCK EV Diode Fault
1228	U16	SCKxA_PLUG_FAULT	E110	SCK Plug Fault
1229	U16	SCKxA_SHUT_FAULT	E111	SCK Antivandal Motor Fault
1230	U16	SCKxA_I_L1_OL	E112	SCK L1 OL
1231	U16	SCKxA_I_L2_OL	E113	SCK L2 OL
1232	U16	SCKxA_I_L3_OL	E114	SCK L3 OL
1233	U16	SCKxA_RCM_ID_X6	E115	SCK RCM ID x6
1234	U16	SCKxA_RCM_ID_X30	E116	SCK RCM ID x30
1235	U16	SCKxA_RCM_ID_ERROR	E117	SCK RCM ID x6 error
1236	U16	SCKxA_RCM_TRIP	E144	SCK RCM Trip
1237	U16	SCKxA_ENERGY_METER	E120	SCK Energy Meter Failure
1238	U16	SCKxA_PP_OK_CP_FAIL	E122	SCK PP failure
1239	U16	SCKxA_CP_OK_PP_FAIL	E123	SCK CP failure
1240	U16	SCKxA_PLUG_STILL_INSERTED	E126	SCK Plug still inserted
1241	U16	SCKxA_GPD_ERR	E145	RCM ID x6 error
1242	U16	SCKxA_SPARE	E146	SCK spare
1243	U16	SCKxA_SIMP_NO_1PH_HALT	E147	SCK Simple halt
1244	U16	SCKxA_DEVICECFG_WRONG_HALT	E148	SCK Wrong halt
1245	U16	SCKxA_COVER_SOCKET	E149	SCK Cover close

Socket Warnings

Modbus address		Meaning	Error code	Message
1246	U16	SCKxW_PPHIGHTHRESHOLD	W150	SCK Proximity cable resistor upper threshold Warning
1247	U16	SCKxW_PPLowTHRESHOLD	W151	SCK Proximity cable resistor lower threshold Warning
1248	U16	SCKxW_SIMP_NOT_AVAIL	W152	SCK Simple mode not enabled
1249	U16	SCKxW_VENT_NOT_AVAIL	W153	SCK Ventilation not enabled
1250	U16	SCKxW_SIMP_STOPPED	W154	Simple mode stopped
1251	U16	SCKxW_VENT_STOPPED	W155	Ventilation stopped
1252	U16	SCKxW_SIMP_IEND_HALT	W156	Simple mode end
1253	U16	SCKxW_I_Lx_OL_HALT	W157	OL Halt
1254	U16	SCKxW_FULL_IEND_HALT	W160	SCK Full mode halted cause lend
1255	U16	SCKxW_WAKEUP_IS_RUNNING	W199	Wakeup running

Maintenance



Before carrying out any maintenance work, disconnect the device from its power supply and cordon off the working area to avoid serious damage or injury.

The correct functioning and the life of the product depend on the routine maintenance and control activities, at least every 6 months.

A damaged or defective appliance must not be used in any way, but must immediately be replaced or repaired by qualified personnel in accordance with the manufacturer's instructions.



If a device is damaged, it is necessary to secure the product and the power supply (if possible, by disconnecting the circuit breaker upstream of the faulty product), immediately affix an appropriate warning prohibiting its use and contact a qualified technician or use one of the service channels indicated in the Assistance section.

Cleaning the outside of the device is always recommended when necessary, and should be undertaken while avoiding strong jets of air or water as well as the use of soaps or detergents that are too harsh and corrosive for the materials of which the product is comprised.

For cleaning, use a soft damp cloth with a mild detergent and, when finished, wipe off any traces of moisture or liquid with a soft dry cloth.

The owner is responsible for the maintenance and condition of the product.

Maintenance must always take place in accordance with current regulations and while ensuring that people, property and animals are protected during all maintenance operations.

Maintenance plan:

Activities	Frequency	Checks
Visual inspection of the exterior and cleaning of the cover and base	6 months	Thorough visual inspection for damage*: <ul style="list-style-type: none"> • Casing: breaks/cracks • Electric vehicle charging cables, sockets or connectors: breaks, cracks, visible wires • Label: presence and visibility
Routine external visual inspection	Before each use	Quick visual check for damage and/or abnormalities*

* In case of damage or malfunction contact FIMER

The product does not include any components that can be repaired or replaced independently by the user.



Decommissioning and disposal

The product must be used and subsequently disposed of in accordance with current legislation on the treatment of waste electrical and electronic equipment (WEEE) or any other regulations in force in the country of installation (in accordance with Directive 2012/19/EU).

This product must not be disposed of along with household waste.

The device may contain materials that could be recycled.

Further information on disposal facilities can be obtained from local authorities.

Before uninstalling and removing the device, it is necessary to disconnect the power supply from the switchboard and ensure that during all stages of decommissioning no one can access the switchboard and inadvertently switch the power supply back on.

If you want to uninstall and store the device for later use, the following precautions must be observed:

Disconnect the device from its power supply

Clean the appliance and store it in its packaging once it is completely dry

Observe the environmental storage conditions as shown in the table in the section Available Models and Versions





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