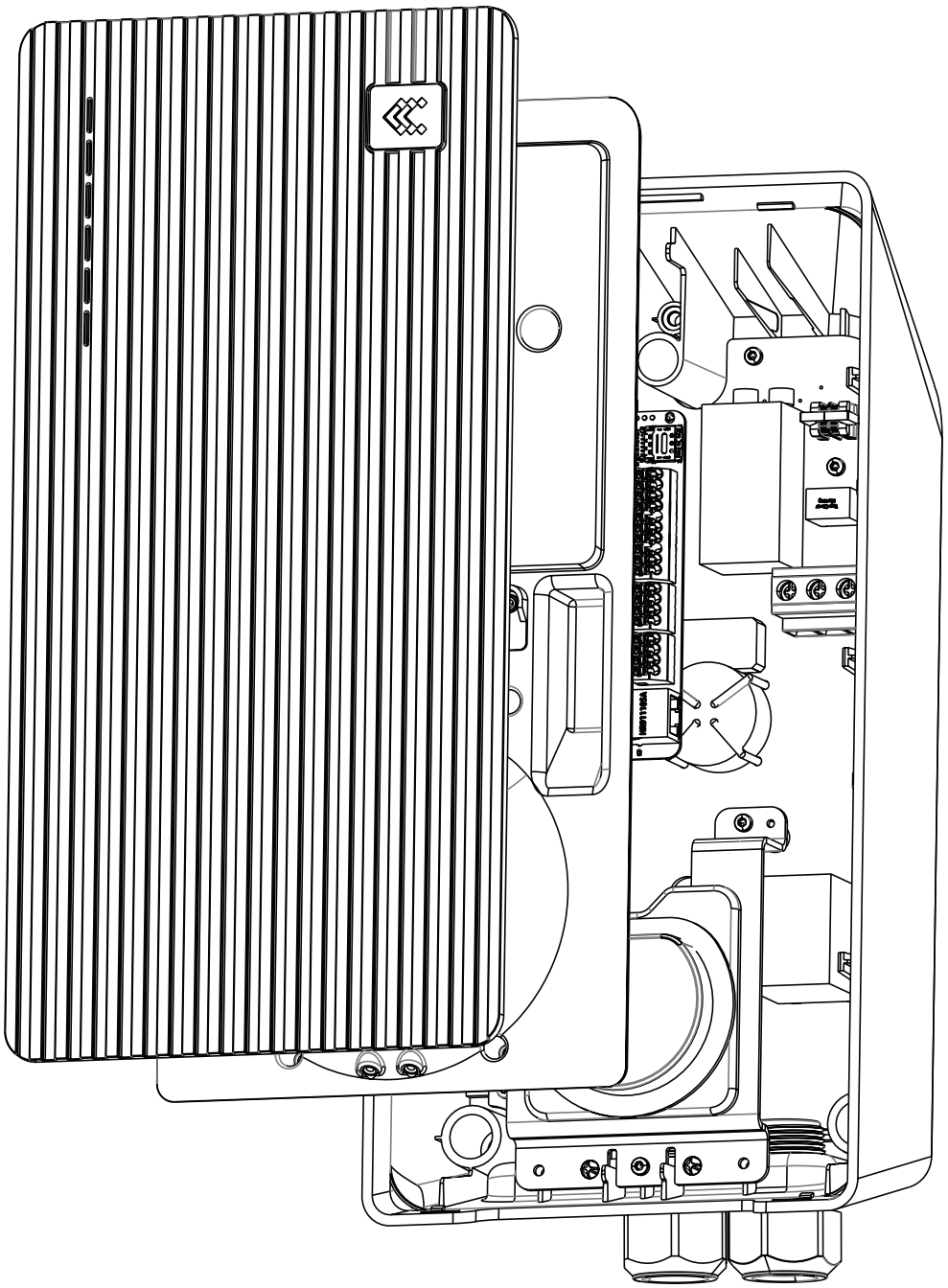
TELTONIKA | Energy

TeltoCharge

INSTALLATION MANUAL



PLACE A STICKER WITH A SECURITY CODE HERE

To stay up-to-date with the latest information about TeltoCharge installation, please check Teltonika Energy Wiki page (scan a QR code).

CONTENTS

1. IMPORTANT NOTES BEFORE INSTALLATION

Please read before installing the product

RCD DISCLAIMER

The charger shall to be installed on the power line with the RCD Type A. If a house grid already has it pre-installed, then additional is not required.

In order to successfully use the Teltocharge product, the user's electrical grid must include a dedicated Residual current devide (RCD) Type A. The RCD must be installed by an experienced electrician, who installs the charger on the power line with the RCD integrated upstream.

A residual current device is not included into the package and have to be bought separately. Legitimate options:

INSTALLATION OPTION 1

A residual current protection (RCBO) type A with tripping current of 30 mA and with atleast 32 A overcurrent protection (it is recommended to use 40 A) according to at least one of the standards: IEC 61009-1 or IEC 60947-2.

INSTALLATION OPTION 2

Residual current protection (RCCB or RCD) type A with tripping current 30 mA according to at least one of the standards IEC 61008-1 or IEC 61009-1 or IEC 60947-2 or IEC 62423. Additionally overcurrent protection (MCB) rated for atleast of 32 A (it is recommended to use 40 A) should be installed and have to be in accordance to at least one of the following standards: IEC 60947-2, IEC 60947-6-2, IEC 61009-1, IEC 60898 series or IEC 60269 series.

Before buying, please consult with the company, which installs the product and pay attention to local requirements.

1. IMPORTANT NOTES BEFORE INSTALLATION

Please read before installing the product

SPD DISCLAIMER

In order to successfully use the Teltocharge product, the user's electrical grid must include a dedicated Surge Protective Device (SPD). The SPD must be installed by an experienced electrician, who installs the charger on the power line with the SPD integrated upstream. Firstly, check if the grid has it pre-installed already.

A surge protective device is not included into the package and has to be bought separately. Legitimate options:

INSTALLATION OPTION 1:

A surge protective device (SPD) type 1.

INSTALLATION OPTION 2

A surge protective device (SPD) combined type 1&2.

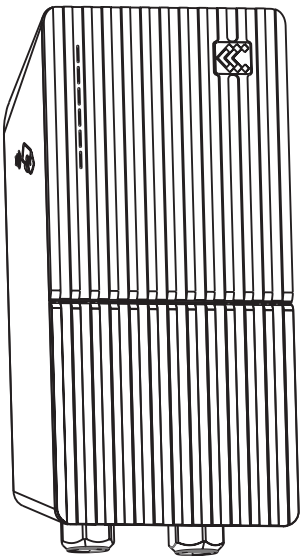
NOTICE:

In both cases the device must be certified according to the standard IEC 61643 – 11 and has to have a max. continuous working voltage of 275 VAC and a max. transient voltage tolerance of 2500 V.

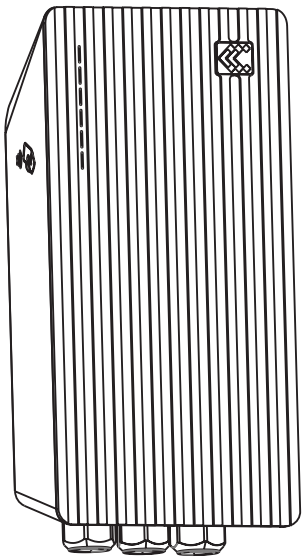
Before buying, please consult with the company, which installs the product.

2. GENERAL SPECIFICATIONS

A **Untethered (Type 2 socket)**



B **Tethered (Type 2 cable)**



C	**Dimensions without cable**	170x341x97 mm
D	**Weight without cable**	2.8 kg
E	**Operating temperature**	-30°C - +50°C
F	**IP rating**	IP55
G	**IK rating**	IK10
H	**Certification**	CE / UKCA
I	**Standards**	2014/53/EU BS EN IEC 61851-1, IEC 61851-21-2, EN 62311

3. ELECTRICAL SPECIFICATIONS

A AC INPUT SPECIFICATIONS	
B Hardware modification	7,4 kW
C Input AC power connection	1 phase
D Input voltage	(L-N) 230 ± 10% VAC
E Rated frequency	50 / 60 HZ
F Standby power consumption	4 W
G Earth (ground) fault protection	Integrated RDC-DD 6mA DC/30mA AC protection. DC protection was designed according to IEC 62955 [2]
	Integral PEN fault protection
H Overvoltage category	CAT II
I Protection against electric shock	Class I
J AC OUTPUT SPECIFICATIONS	
K AC output voltage range	(L-N) 230 ± 10% VAC
L Connection Standart	Type 2 cable Type 2 socket
M POWER CABLE	
N Cable Diameter	11 - 17.5 mm
O Wire cross section	6 - 10 mm^2
P Cable type	H05V2V2 or better

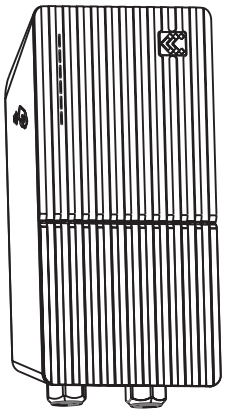
Note 1: Apply included cable end ferrules during installation

Note 2: External RCD type A required

4. PRODUCT CODE STRUCTURE

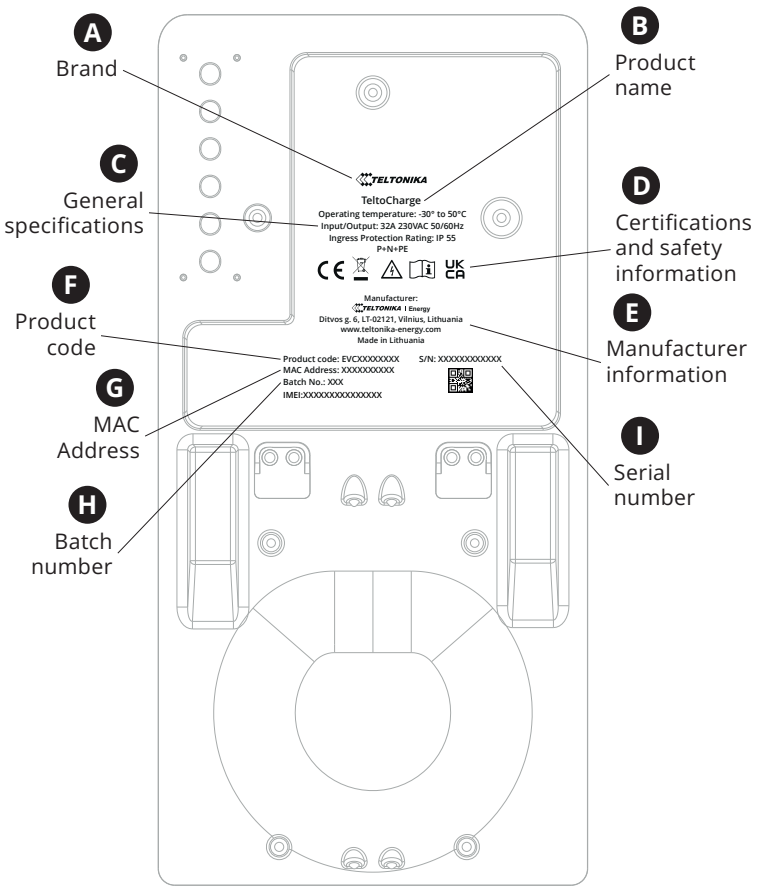
AAA-B-C-D-E-F-G-***

Example: **EVC1603P4001**



A **Model**	E V C
B **Version**	1
C **Power**	6- 7.5 kW + PME
D **Connector**	0 - socket 1- Tethered cable
E **Connectivity**	2 - without GSM modem 3 - with GSM modem
F **Front plate color**	P - grey R - red M - brown B - white W - wooden 0 - N/A
G **Front finish**	1 - ⎍⎍⎍ Tethered cable 4 - ⎍⎍⎍ Socket 0 - N/A

5. MARKING

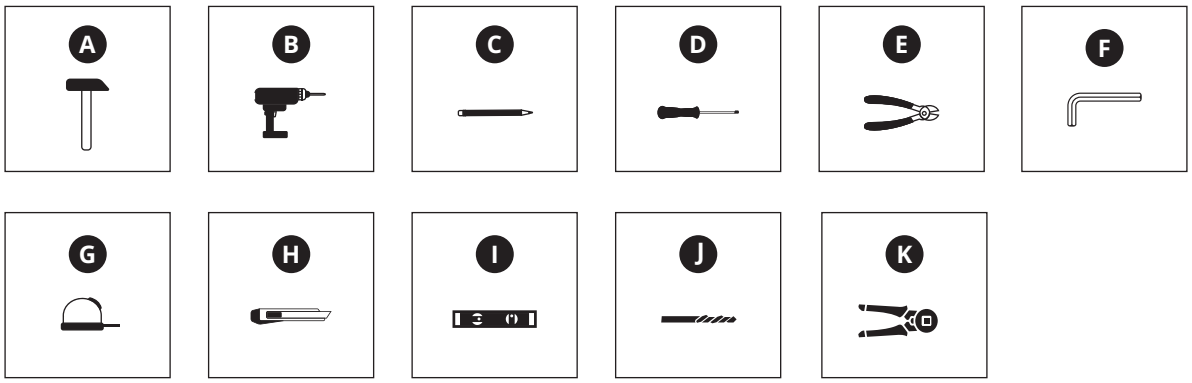


6. SAFETY WARNINGS

SAFETY WARNINGS

A - Flying debris, risk of injury
B - Risk of electric shock
C - Caution
D - Sharp elements, risk of injurious cuts
E - Special waste treatment

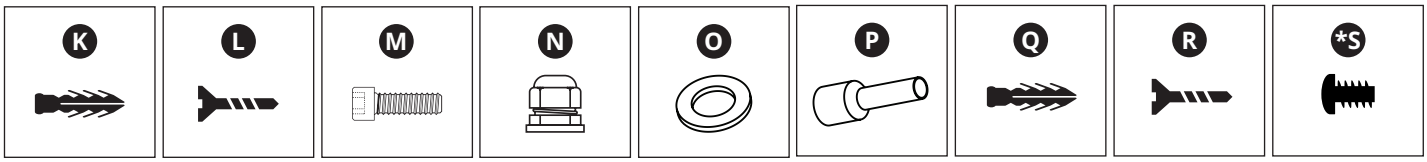
7. REQUIRED TOOLS



REQUIRED TOOLS

A - Hammer
B - Electric drill
C - Pencil
D - Screwdriver
E - Cutting pliers
F - Allen key 2,5 mm
G - Measuring tape
H - Utility knife
I - Level
J - Drill bit D6
K - Clamping pliers”

8. INCLUDED MOUNTING PARTS



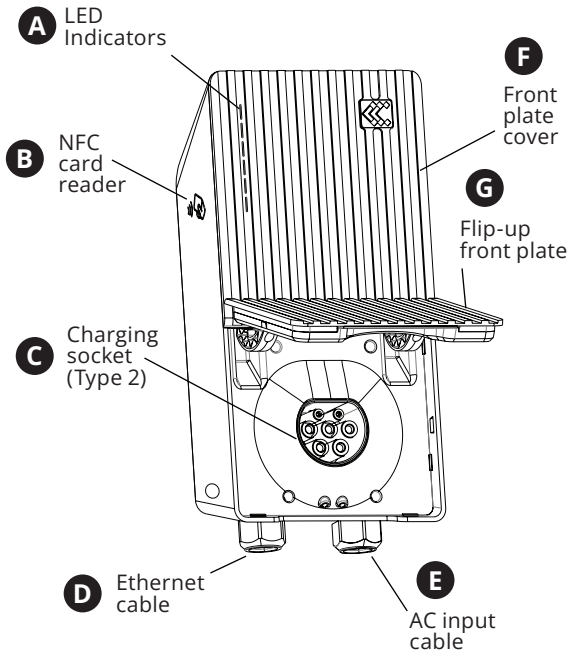
INCLUDED MOUNTING PARTS

K - Wall plugs 6x35 mm (3 pcs)
L - Pan head self-tapping screws galvanized steel (3 pcs)
M - DIN912 M3x8 screws (9 pcs)
N -Cable gland with inserts
O - Rubber washer (3 pcs)
P - Ferules 6mm^2 (3 pcs)
Q - Wall plugs 6x30 (5pcs)**R** - Pan head self-tapping screws 3.5x30mm (5 pcs.)

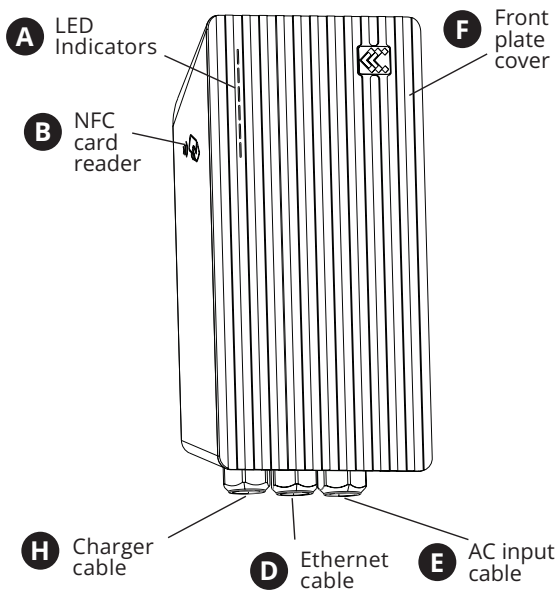
Untethered:
***S** - Pan head self-tapping screws 3.5x30mm (5 pcs.)

9. EV CHARGER MAIN ELEMENTS

Untethered
(Type 2 socket)

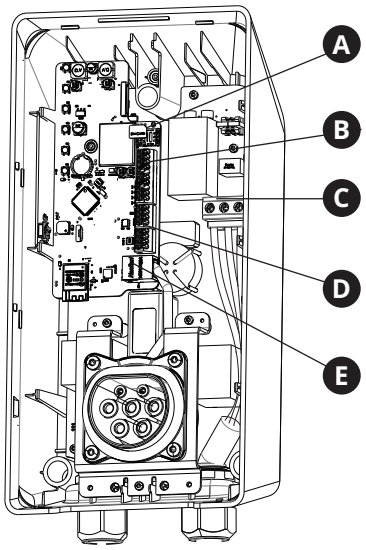


Tethered
(Type 2 cable)

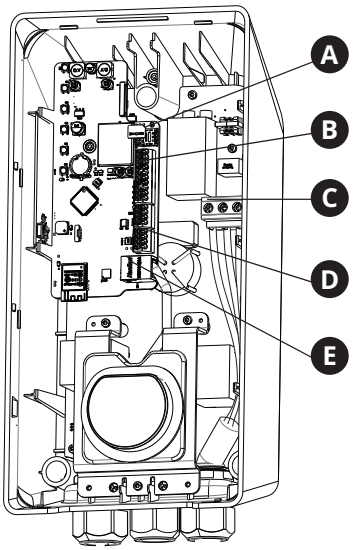


10. CONNECTIONS

Untethered
(Type 2 socket)



Tethered
(Type 2 cable)

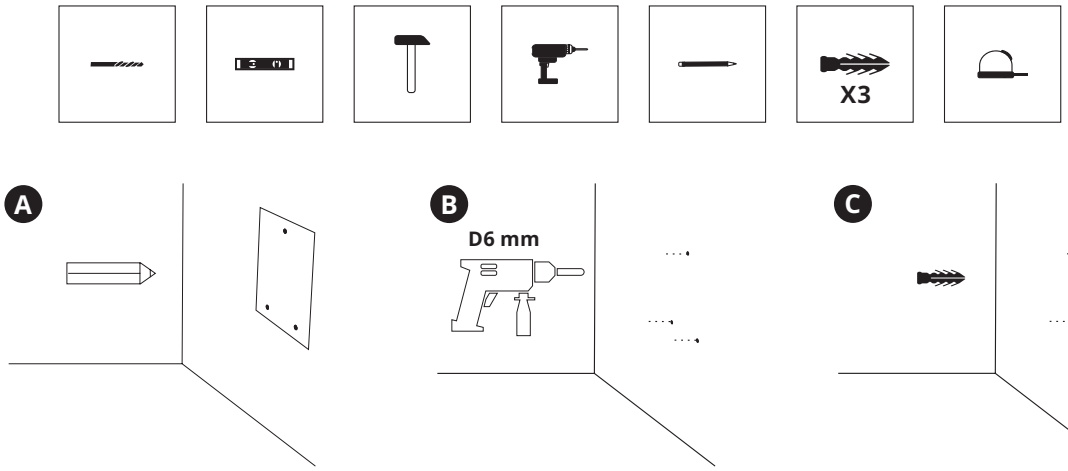


CONNECTIONS

A - SIM Card Slot
B - Terminal for CT inputs
C - Terminal block for AC input
D - Terminals for RS485 inputs
E - Ethernet connection

11. INSTALLATION PROCESS

11.1 DRILLING

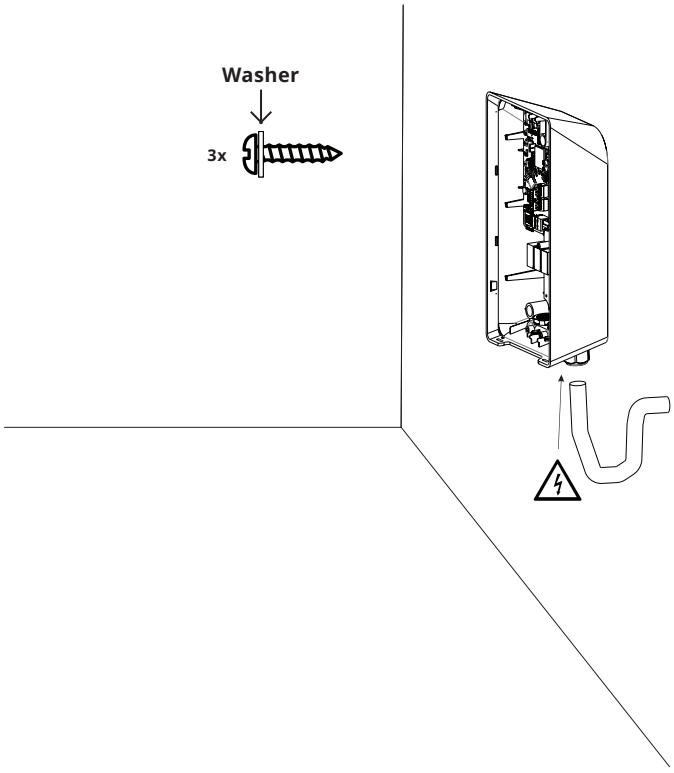


DRILLING

A - Place the drilling template on the wall (make sure it is horizontal using the level) and mark the three fixing points
B - Drill holes where the fixing points are marked
C - Insert the wall plugs into the fixing holes

11. INSTALLATION PROCESS

11.2 HOUSING INSTALLATION



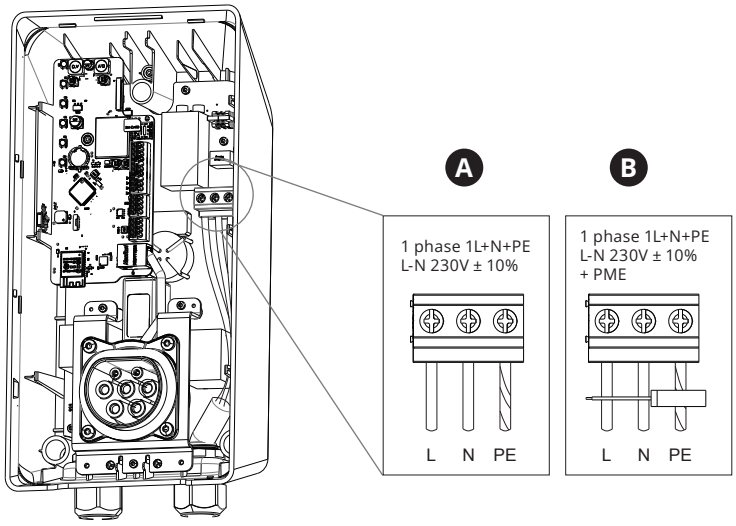
HOUSING INSTALLATION

A - Fix the device on the wall by inserting the self-tapping screws (start with the top screw and make sure the housing is horizontal)
B - Make sure the cable gland is properly mounted on the cables (AC input cable and Ethernet cable)

11. INSTALLATION PROCESS

11.3 ELECTRICAL WIRING

Untethered
(Type 2 socket)



ELECTRICAL WIRING

A - T/N single phase set up
B - T/N single phase set up + PME
Read more about PEN fault protection by scanning this QR bellow:

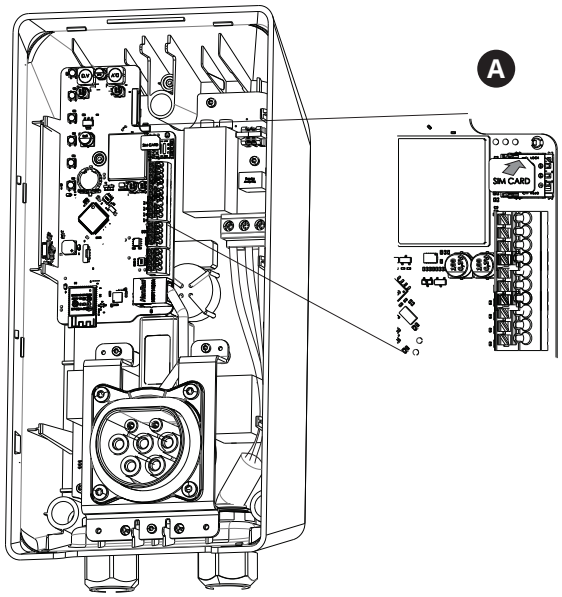
Notice 1: Same electrical wiring applies to Tethered (Type 2 cable) charger.

Notice 2: Before connecting cable into the input terminal, make sure that ferules (included into the package) are firmly fixed on the ends of the wires.

11. INSTALLATION PROCESS

11.4 SIM CARD INSTALLATION

Untethered
(Type 2 socket)



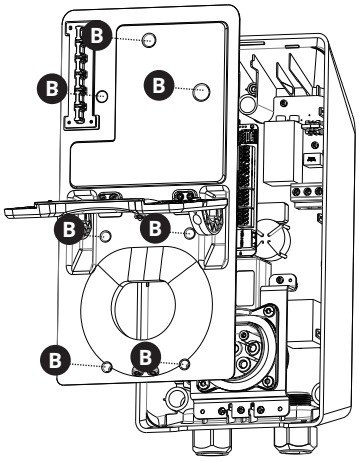
SIM CARD INSTALLATION

A - Insert a nano SIM card

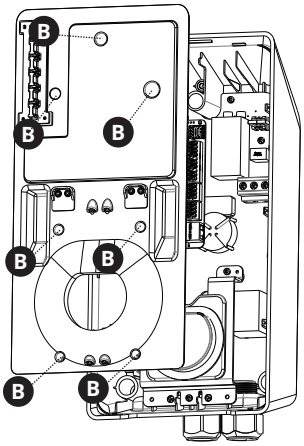
11. INSTALLATION PROCESS

11.5 CLOSING THE MIDDLE PANEL

Untethered (Type 2 socket)



Tethered (Type 2 cable)



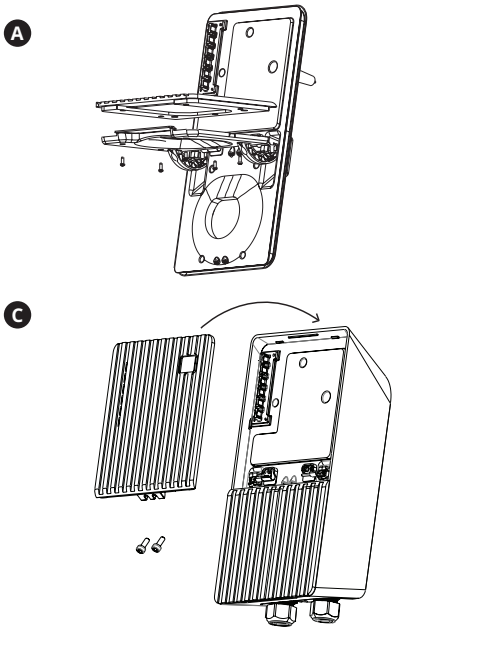
CLOSING THE MIDDLE PANEL

A - Place a middle panel on the housing (the panel must click to the housing)
B - Fix it using DIN912 M3x8 screws

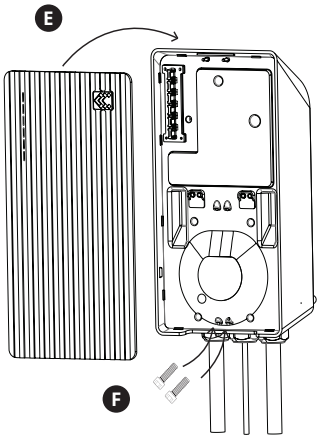
11. INSTALLATION PROCESS

11.6 CLOSING THE FRONT PLATE

Untethered (Type 2 socket)



Tethered (Type 2 cable)



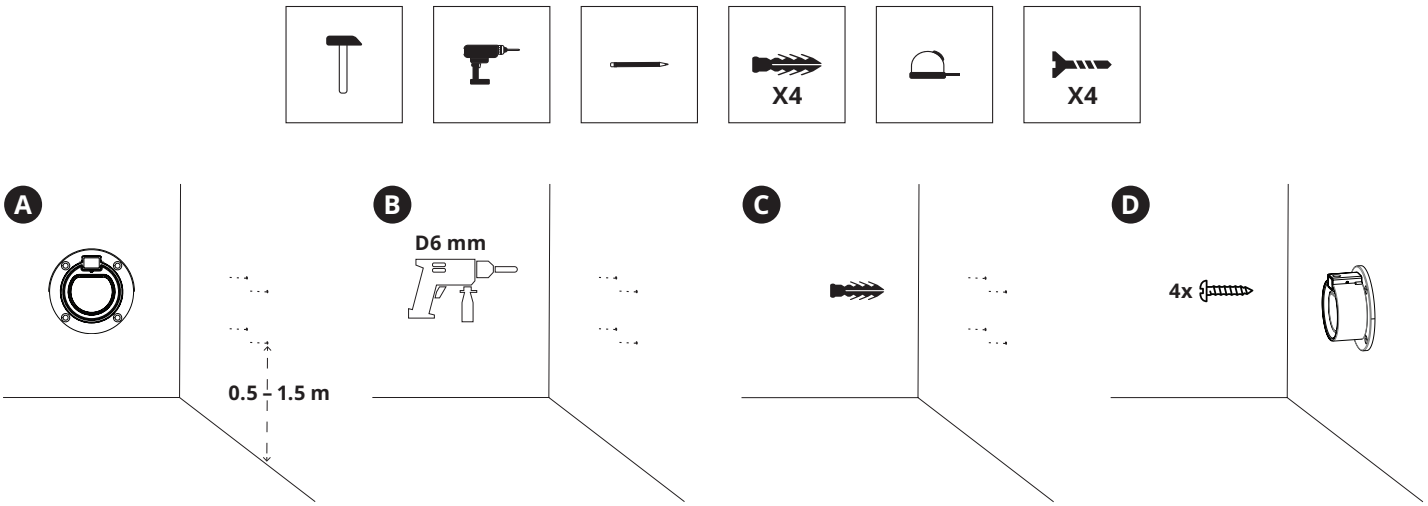
CLOSING THE FRONT PLATE

Socket version:
A - Allign lower part of front plate with the screw holes in the doors.
B - Fix it using M3x8 screws. It is recommended to do this step with middle plate separated from charger;
C - Align top part of front plate with screw holes in the middle panel and stopper hook on the top of housing shell;
D- Lift the doors to reach screw holes and fix it using DIN912 M3x8 screws;

Cable version:
E - Align front plate with the screw holes on the bottom of middle panel and stopper hook on the top of housing shell;
F - fix it using DIN912 M3x8 screws;

11. INSTALLATION PROCESS

11.7 PLUG HOLDER*



PLUG HOLDER

A - Place the plug holder on the wall and mark the fixing points (required height from the ground: 0.5 – 1.5 m)
B - Drill 30mm depth holes with D6 drill bit where the fixing points are marked
C - Insert the 6x30 mm wall plugs into the fixing holes
D - Fix the Plug Holder on the wall by inserting the self-tapping screws

*** Notice:** A holder is included only in Tethered version package.

11. INSTALLATION PROCESS

11.8 CONNECTION TO THE EV CHARGER

CONNECTION TO THE CHARGER

Step 1 - Download the Teltonika Energy App

Download on the App Store

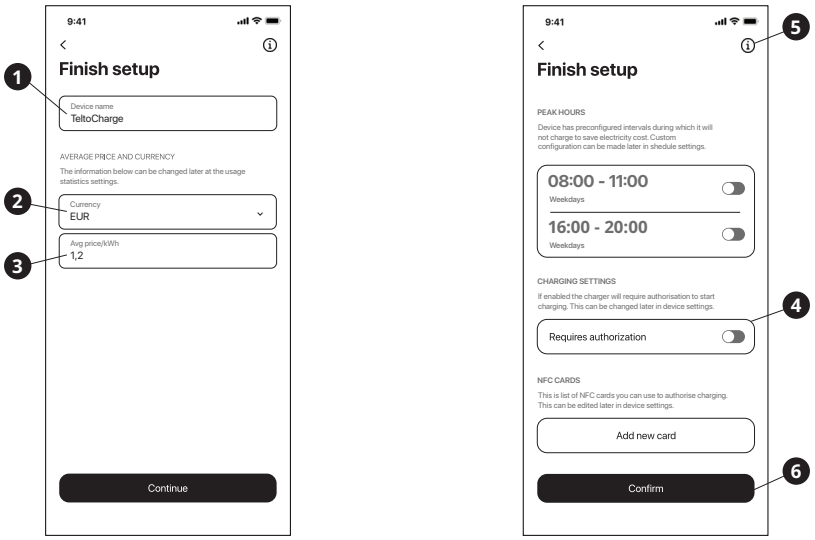
GET IT ON Google Play

Step 2 - Pair a charger and mobile device using Bluetooth. Device will ask to insert **Pairing code** which is represented by last 6 digits of the **Installer code**. Sticker with the security code can be found on the middle plate.

***** More details on pairing procedure can be found in FAQ section of Wiki page.
Step 3 - Connect to the charger using the app

11. INSTALLATION PROCESS

11.9 BASIC PARAMETERS

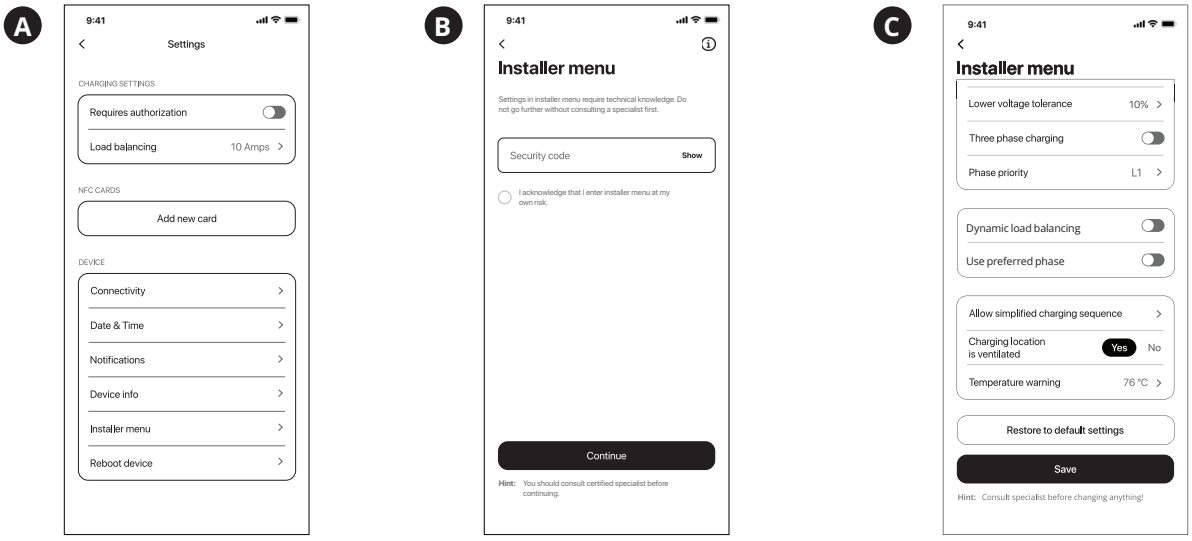


SET UP BASIC PARAMETERS

Step 1 - Type the EV charger name
Step 2 - Set currency
Step 3 - Set average price of kWh
Step 4 - In the next window enable authorization (if needed)
Step 5 - Set installer parameters
Step 6 - Confirm changes

11. INSTALLATION PROCESS

11.10 INSTALLER PARAMETERS



SET UP BASIC PARAMETERS

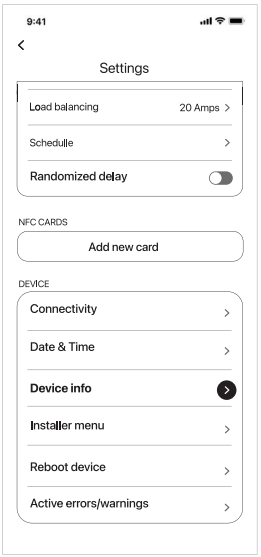
A - Installer menu can be reached via:
- first time connection wizard window (Section 11.9, step 5)
- app settings

B - Every time an installer will be requested to type in a security code. Originally, the code can be found on the middle plate sticker. Please remember the place if you replace it.
C - If the security code is typed correctly, the installer can reach Installer parameters. Updated and detailed explanation can be found on the Teltonika Energy Wiki page (scan a QR code).

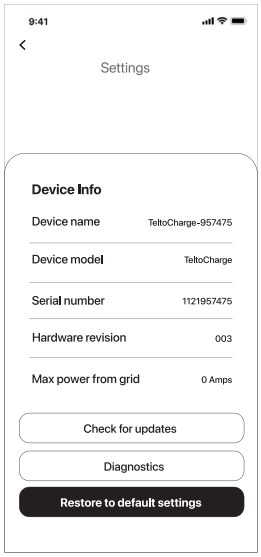
11. INSTALLATION PROCESS

11.11 CLEAR PERSONAL DATA

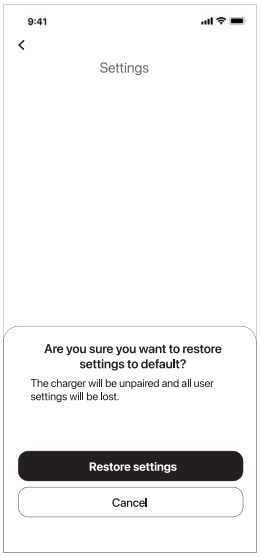
A



B



C



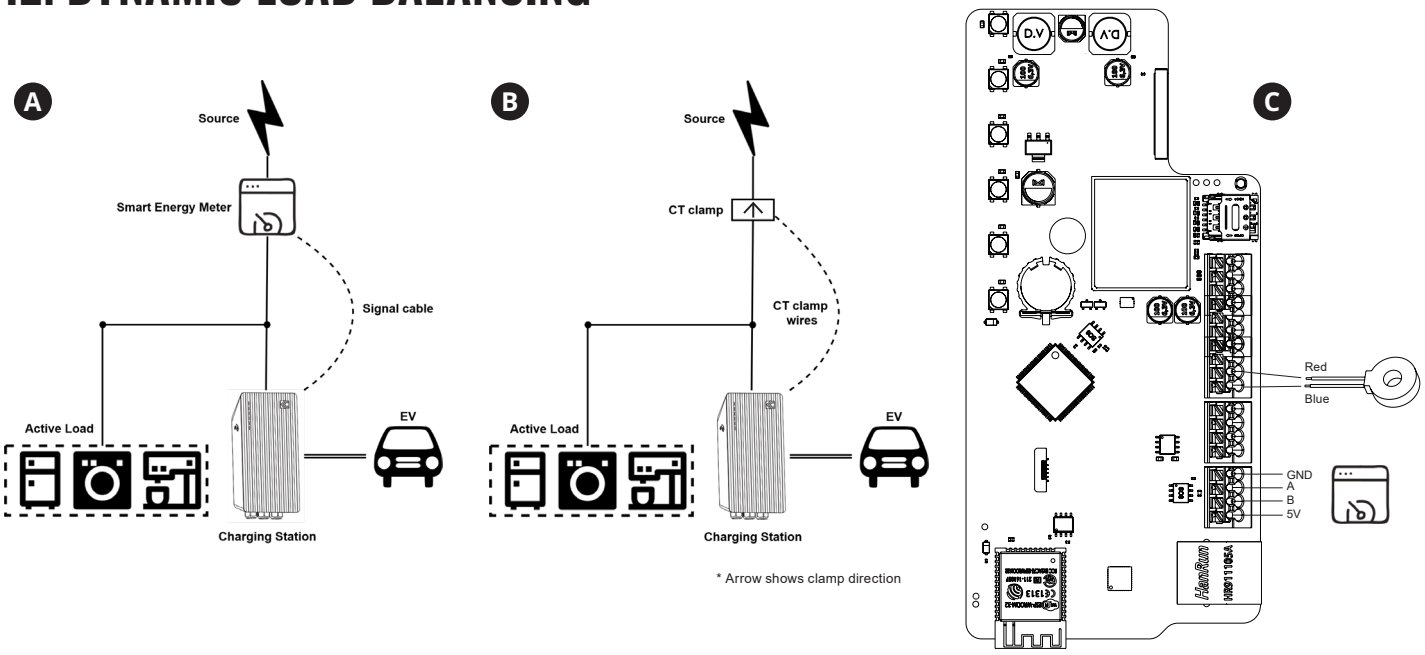
CLEAR PERSONAL DATA

To make sure that the product sharing do not expose any personal data to additional users, it is possible to clear all the inputs by Restoring default parameters. Bellow is provided step by step instruction how to achieve such result.

A - Go to Settings window and find ***Device info*** option
B - In *Device info* window, press red option called ***Restore to default settings***
C - In pop-up simply confirm the action by pressing ***Restore settings***

After reseting these settings, a user will be prompted to the charger selection menu.

12. DYNAMIC LOAD BALANCING



DYNAMIC LOAD BALANCING

The product can connect with a dedicated smart meter or installed current transformer (CT) clamp and, according to their readings, adjust the electrical power consumption. Such functionality protects the house electrical grid from overload during peak hours and optimizes energy usage to meet users' habits. Dynamic Load Balancing checks how busy the house grid is and lets the charger know to increase or decrease charging power accordingly.

OPTIONS

A – Using Smart Energy Meter.
It will always be installed in the source electrical cabinet.

B – Using CT clamp.
Clamp is fixed in the main power cable to follow live energy consumption. CT clamp comes included in the product box.

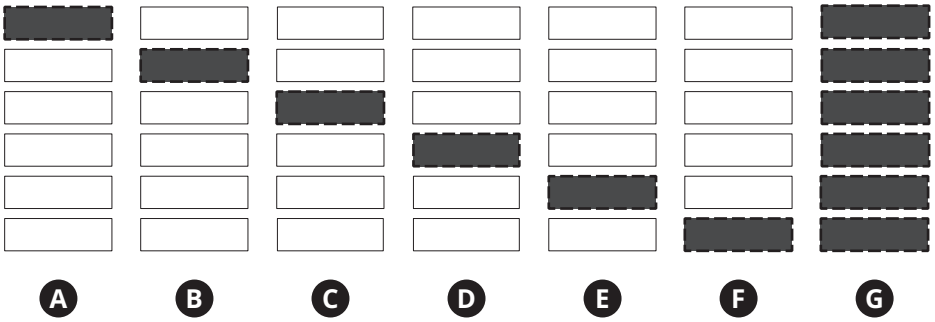
WIRING

Picture C shows where the energy meter and CT clamp connection pins are located. Clamp wires need to be connected in a way, that is presented in picture C. However, because energy meters can have an individual pins layout, please pay attention to the pin names when placing in the TeltoCharge product. Connection points in different energy meters might vary.

SUPPORTED ENERGY METERS

We constantly test and add new supported devices to the list to ensure broader applicability and compatibility. To reach the list of all the supported Smart Energy Meters, how to connect them properly, and read more about suggested functionality check a Teltonika Energy Wiki page (scan a QR code).

13. LED INDICATORS (ERRORS)



RED LED INDICATORS (ERRORS)

A - Input voltage Error
B - Output voltage or current fail
C - Current leakage detected
D - Connectivity Error
E - Temperature Error
F - Internal Errors (not listed)
G - Faulty connection to EV

IN CASE OF ERROR:

D error - check cable connection, disconnect it, inspect socket for damage or foreign objects and reconnect.
A, **B**, **C**, or **F** errors - try to reboot your TeltoCharge device, if it does not help, make sure your power grid is not overloaded.
A, **B**, **C**, **F** errors - if you already attempted step 1 and 2 and it did not work, contact your installer.

14. SAFETY AND MAINTENANCE INSTRUCTIONS

Installation, maintenance, and servicing of the charger must be done only by the personnel with relevant qualifications under the applicable local regulations. Unauthorized installation and modifications make the manufacturer's warranty void.

Do not use the charger if the enclosure or connector is cracked, opened, broken,
or shows any other indication of damage.
If the connector begins to melt or emits smoke, do not touch it. If possible, stop charging activities.

Before opening the cover or cleaning the charger, power down the device. Do not use cleaning solvents on any part of the charger. Use a clean, dry cloth to remove dust and dirt. Do not open the cover in the rain.

Use the TeltoCharge charger under the operating parameters and within normal ambient conditions specified in the General and Electrical Specifications. Avoid installing the charger in a place that is under extreme weather conditions or is directly impacted by sunlight.

SIMPLIFIED EU DECLARATION OF CONFORMITY

Hereby, Teltonika Energy declares that TeltoCharge equipment is in compliance with
Directive 2014/53/EU, Directive 2014/30/EU and Directive 2014/35/EU.

SAFETY RECOMMENDATIONS

Follow all the safety and installation instructions carefully.

Failure to follow instructions may be a safety hazard and/or cause equipment malfunction.

Any resulting damage due to disregard or actions contrary to the instructions in this manual is excluded from the product warranty.

CONNECTOR RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS

Do not use if the charging cable is frayed, has broken insulation, or has any signs of damage or the vehicle plug or electrical outlet is dirty, wet, or damaged.

Do not use the charging cable with a cable adaptor or an extension cable.

Under any circumstances, do not tighten the charging cable while it is connected.

INSTALLATION INSTRUCTIONS

Ensure that the mounting surface can adequately support the weight of the charger and withstand mechanical forces associated with usage.

The charger must be permanently connected to the electrical Earth of the installation.

Do not install the charger in direct sunlight, or near flammable, explosive, or combustible materials, chemicals or solvents, gas pipes or steam outlets, radiators or batteries, and areas prone to flooding, high humidity and running water.

ELECTRICAL PROTECTION

The power supply line must be wired to an existing installation and be in accordance with local regulations.

DISPOSAL ADVICE

In accordance with the Directive 2012/19/EC, at the end of its useful life, the product should not be disposed of as urban waste. It should be taken to a collection center or to a distributor that provides special and differentiated waste disposal.

LEGAL NOTICE

Any information in this manual may be changed without prior notice and does not represent any obligation on the part of the manufacturer. Images in this manual are for illustration purposes only and might differ from the delivered product.

TELTONIKA | Energy

www.teltonika-energy.com

VERSION 1.0 PEN