ETREL

a Landis+Gyr company

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EN

Etrel INCH LITE
QUICK START GUIDE

SAFETY INSTRUCTIONS

WARNING SIGNS

This manual uses the following warning signs:

Danger! Immediate risk of injury or death.

Caution! Possible danger to the product or environment.

Note. Useful information

Please follow all the safety precautions in these installations at all times. Failure to do so might result in damage to the product and injuries or death. Any unauthorised modification or tampering with the product may void the product warranty.

SAFETY INFORMATION

Etrel INCH LITE charging station has been designed and tested in accordance with current and past versions of international standards. The charging station is compliant with IEC 61851 (Part 1, Part 21-2, Part 22) international standard which defines conductive AC electric vehicle charging and supports Mode 3 charging for safe recharging of standard electric vehicle.

Requirements of LVD and EMCD are fulfilled, however if radio equipment is installed in the station, the EU Declaration should state only compliancy with RED.

SIMPLIFIED EU DECLARATION OF CONFORMITY

Hereby, Etrel d.o.o. declares that the radio equipment type INCH is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:
https://etrel.com/charging-solutions/inch-lite/

Select "Access documentation" and then "Certificates".

INTENDED USE

- Etrel INCH LITE charging station is intended only for charging of electric vehicles and should not be used to charge other appliances or for any other purpose.
- The manufacturer accepts no responsibility for damage or injuries resulting from incorrect installation or inappropriate use.

INSTALLATION AND MAINTENANCE

- Do not install charging station near flammable, explosive, or combustive materials.
- Charging station installation must be performed in dry weather conditions.
- Electrical installation, wiring, and connections must be carried out by qualified electrician or technician in accordance with all local electrical codes, legislation, and ordinances.

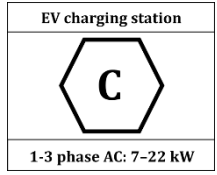
- **Warning! Before installing and wiring the charging station, make sure that the power supply is disconnected: remove fuses or deactivate the circuit breaker to protect from unintentional powering of the device.**
- Charging station can be installed, maintained, and repaired by qualified personnel only.
- Charging station's power supply should always be switched off during the maintenance and repair.
- Avoid hazardous risks. Only the manufacturer, an authorized service technician, or technically qualified personnel may replace damaged charging station or its components.

OPERATION

- Do not operate your charging station if there is visible damage to the unit or charging cable. Call manufacturer's or reseller's support department for advice how to proceed.
- Do not put fingers into the charging connector.
- Do not operate the charging station with wet hands.

- The charging station manufacturer cannot be made liable for damage or injury caused by improper handling, installation, or use of the product.
- Any usage of the product not covered in this document is not allowed and could cause injury or death.

BASE SPECIFICATIONS



- **Electrical interface identifier:**
- **Input:** 230/400V~; 3W+N+PE; 50/60 Hz; 32Amax
- **Output:** 230/400V~; 3W+N+PE; 50/60 Hz; 32Amax
- **Maximum charging power:** 7.4 kW (1P), 22 kW (3P)
- **Device power consumption:** From 7 W to 8 W (highest measured value of full configuration: 7,33 W)

Specification of frequency bands and transmitting power (it is possible that not all modules are part of an actual device).

LTE module	**LTE Router**
Frequency bands: LTE-FDD: B1 (2100 MHz), B3 (1800 MHz), B5 (850 MHz), B7 (2600 MHz), B8 (900 MHz), B20 (800 MHz) LTE-TDD: B38 (2600 MHz), B40 (2300 MHz), B41 (2500 MHz) WCDMA: B1 (2100 MHz), B5 (850 MHz), B8 (900 MHz) GSM/EDGE: B3 (1800 MHz), B8 (900 MHz) Transmitting power: 33dBm±2dB for GSM 24dBm+1/-3dB for WCDMA 23dBm±2dB for LTE-FDD 23dBm±2dB for LTE-TDD	Frequency bands: 4G (LTE-FDD): B1 (2100 MHz), B3 (1800 MHz), B5 (850 MHz), B7 (2600 MHz), B8 (900 MHz), B20 (800 MHz) 4G (LTE-TDD): B38 (2600 MHz), B40 (2300 MHz), B41 (2500 MHz) 3G: B1 (2100 MHz), B5 (850 MHz), B8 (900 MHz) 2G: B3 (1800 MHz), B8 (900 MHz) Transmitting power: 21.9 dB
Wi-Fi module	**RFID module**
Frequency band: 2.4 - 2.4835 GHz Transmitting power: up to 15 dBm	Frequency band: 13.56 MHz (HF) Transmitting power: up to 8 dBm

GROUNDING INSTRUCTIONS

Etrel INCH LITE charging station needs to be properly grounded to allow safe use. In the case of malfunction or breakdown, grounding provides protective measure to reduce the risk of electric shock. Multiple grounding system are supported: TN-S, TN-C, TN-C-S, and TT.

Improper connection of the equipment (grounding conductor) may result in risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the product is properly grounded. Service doors, mounting bracket and mounting pole must be grounded.

ELECTRICITY PROTECTION ELEMENTS

Overvoltage protection: The device is a Class 2 appliance and must be protected with an upstream overvoltage protection.

Overcurrent protection: Should be installed upstream to protect power supply cable and the charging device if not already built in the charger.

Differential protection: Should be installed separately if not already built in the charger. A dedicated residual current device (RCD) device must be used according to applicable regulations if not already built in the charger.

ENVIRONMENT OPERATING RANGE

The charging station achieves at least IP 56 level of protection (the cable plug could have lower IP). It can be used outdoors and indoors if environment meets following constraints:

- Elevation < 2000 m above sea level.
- Operation temperature from -25 °C to +65 °C (Measured at the power supply component, some parts could heat up over 95 °C without impacting safety).
- Ambient temperature from -25 °C to 50 °C.
- Non-condensing max. humidity 95%.

GEOGRAPHICAL RESTRICTIONS

Charging station can be used in area of European Union without possibility of the breach of radio spectrum. For devices installed outside of European Union, this must be specified before the order.

COUNTRY SPECIFICS

Requirements of legislation of German Measurement and Calibration Law (Mess und Eichgesetz) are not supported in charging stations of Etrel yet. This means that they cannot be used for purposes of billing the charged energy.

United Kingdom does not recognize the CE marking of the European Union and implemented the UKCA mark. Specific of UK are also The Electric Vehicles (Smart Charge Points) Regulations 2021. Etrel can provide correct configurations of charging stations to cover all the requirements of the UK, however this must be specified with the order.

Some countries of EU require use of sockets with shutters. This option is currently only supported in INCH DUO charging stations. Some countries accept alternative option to sockets with shutters, to provide additional means of disconnection - to have a backup device in case that the first disconnection device fails. This option is only supported in charging stations with internal RCD.

CONTENT AND ACCESORIES:

- Charging station (with Type 2 cable or Type 2 socket),
- Wall mounting bracket,
- 9 × wall plugs for securing the mounting bracket using screws to the wall,
- 9 × screws to mount the bracket to the wall,
  - Screws dimensions: 4.5x40 and 4.5x60 [mm]**,
- Cable gland rubber seal for smaller cable dimensions
- *9 × wall spacers
- *2 × keys to open charging station service doors,
- *Hex key to open charging station maintenance doors,
  - Hex key dimensions: 2.5
- *Load Guard device,
- *Magnetic cable holder (different version for longer cables > 3 m)

EQUIPMENT NEEDED

- Phillips screwdriver,
- *hex screwdriver,
- utility knife,
- crimping pliers for cable end sleeves,

- wire strippers and cable rippers.

**Optional depending on the purchased model.*
***Charging station with socket has two screws extra.*

INSTALLATION PROCEDURE

The following descriptions are intended to be read together with appropriate image at the beginning of the document. The bold number at the left side of the description represents the image number.

1

Wall Preparation

Measure and mark where to drill the holes for the wall mounting bracket. Installation height of the wall mounting bracket should be around 100 cm from the ground to the bottom of the bracket. This will make the procedure to insert the cable the easiest.

Make sure that the charging station holder is attached to the mounting bracket when you are marking the spots for screws. The holder will prevent any bending of the mounting bracket so that the holes will be marked at the correct positions when used.

If power supply cables come through the wall, a hole for the power supply cables needs to be drilled first.

1-a You should drill the hole in the position shown on the picture. The hole should be big enough to manage the cables after they are pulled through.

1-b Drill 9 holes for screws and insert the anchor screws in each hole.

A2

Power Supply Cable Preparation

Pull the power supply cable through the drilled hole in the wall if the cables need to go through the wall. If cables are connected to the charging station from above or below, enough length of the cable should be provided. Extra cable length available for the installation should be around 40 cm.

Align holes of the mounting bracket with the drilled holes and tighten the screws using Phillips-head screwdriver.

B2

Alternative Power Supply Cable Preparation

When supply cables come from below the station, the charging station will allow easy insertion into the connection area. Extra cable length available for the installation should be around 40 cm.

B2-a If cable will be routed to the back of the charging station from above, a cable raceway as shown on the picture should be installed. Wall spacers (available separately) need to be installed in this case. They should be screwed into the holes as shown.

3

Removal of Maintenance Doors and Cable Gland Plate

On the backside of the charging station screw off the back-maintenance door and side maintenance door. You will need a Phillips-head screwdriver and hex screwdriver or key, depending on the type of charger's service doors.

3-a After the removal of doors untighten the screws on the plate with cable glands and remove the plate.

If using the bigger gland, make sure that the rubber inside the gland is of correct size. For the cables with dimensions up to 5x6 mm^2 use the tighter rubber seal. For the cables with dimension of 5x10 mm^2 use a looser rubber seal which should be already inside the gland by default.

You can change the rubber seal with removal of the gland plastic top (unscrew it) and by simply pushing the rubber seal out of the gland. After the new rubber seal is inserted into the cable gland, screw the plastic gland top back on.

4

Wires Preparation

Proceed with preparation of cables. Prepare power supply cables from which cable jacket needs to be removed. Around 15 cm should be removed so that the wires lengths are sufficient to connect them to the elements inside the charging station.

You can now pull the power supply cable through the gland. About 15 cm of power supply cable should be pulled to the other side of the gland. About 2 cm of cable jackets should be pulled through the cable gland as well. This will make cable manipulations inside the charging station easier and it will completely seal the gland. Make sure that the cable is fastened securely with the gland so that it cannot be pulled out. You can

tighten the gland by turning the plastic gland top in clockwise direction.

4-a Strip the wires of insulation using special pliers and attach cable ferrules on the end of the wires, and a cable ring for grounding wire.

Length of cables on the other side of the gland should be:

a) Power supply cables (L1, L2, L3, N): 15 cm with insulation and stripped cable jacket + 2 cm with cable jacket

b) *Grounding cable: 10 cm*

5 Mount Charging Station on Holder and Screw the Cable Gland on the Enclosure

5-a Mount the station on the holder which is already attached to the mounting bracket. Holder is strong enough to hold the charging station during the installation of cables.

Place the gland plate in its position so that the plate holes are aligned with holes of the enclosure. Make sure that cables are long enough to be connected. Screw in the gland plate using a Phillips-head screwdriver.

6 Secure Grounding Wire

Secure the grounding wire first. Otherwise, there will not be enough space to do it later.

7 Insert the Fork Wire (Only if RCD in the Charger)

To enable the tripping of RCD protection, insert the additional wire with fork into the slot for neutral conductor like shown on the figure. This applies only if RCD is installed in the charging station.

8 Connecting the Connection Element

Remove the sticker with designation of conductors.

Insert all the wires into the RCD/overcurrent/MID meter unit. Order of the wires and how they are connected is important.

The top connector is the first phase (L1) of the charging station, and it will be used to charge single-phase EVs. It is advisable that the least loaded phase of the facility is used for this. Bottom connector should be used to connect neutral wire (N). Keep the sequence of phases. The right sequence of phases is especially important when charging station is part of a cluster.

After you connect the wires, tighten the screws so that the

wires cannot be pulled out and sufficient electrical contact is achieved.

9 Attach the Service Doors and Remove the Holder

Attach the back-maintenance doors back onto the enclosure and use the screw to secure it.

9-a Remove the charging station off the holder and remove the holder from the bracket. While doing this, hold the charging station firmly as it is not supported anymore.

10 Attach Charger to the Wall Bracket

10-a Attach the charging station to the wall bracket. First attach it to the top hooks and gently push it towards the wall. Tighten the screw until it is completely fastened and charging station will be secured to the wall.

(10-b) Installing Big Magnetic Cable Holder (Only for Model with Longer Cable Attached)

Attach cable holder after you remove the charging station from the station holder. To attach it, align the holes on the cable holder hook with holes on the plate attached to the enclosure.

11 Check Whether the Charging Station is Working Properly and Setting of Maximal Charging Current

When the charging station has either overcurrent or RCD protection installed, check whether the protection element is in ON position.

The test voltage for measuring of insulation resistance must be set to 250 V DC as specified in IEC 60364-6. The varistors in charging station may affect the measurement results or be damaged if tested with higher voltage.

11-a Connect charging station to the power supply in the electrical cabinet. Installation feeder should be turned on.

11-b The default value is 16 A and can be set to a maximum of 32 A. Information of the current value is obtained with short press on the key. Number of short beeps represents information of set maximal charging current (number of beeps x 2 A).

Settings can be accessed with key press for more than 5 s. After that, a long beep is a notification that the settings can be changed.

Each short press on the key increments the maximal charging

current by 2 A, from value of 0 A. E.g., to set 24 A, the key should be pressed 12 times. Most vehicles require at least 6 A to charge and a lower value setting is not allowed.

To save the settings, press the key for more than 5 s. Long beep is a confirmation that settings were saved, two short beeps are a warning that settings were not saved.

12 Power up the Charging Station for the First Time

12-a First boot of the charging station can last up to 10 minutes. Make sure that the status light is lit in solid green. This means that the charging station is ready to charge an EV.

For more documentation, warranty certificate or for troubleshooting, please look at:

https://etrel.com/charging-solutions/inch-lite/

www.etrel.com

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WEEE: Dispose of the device only at the recycling centre.