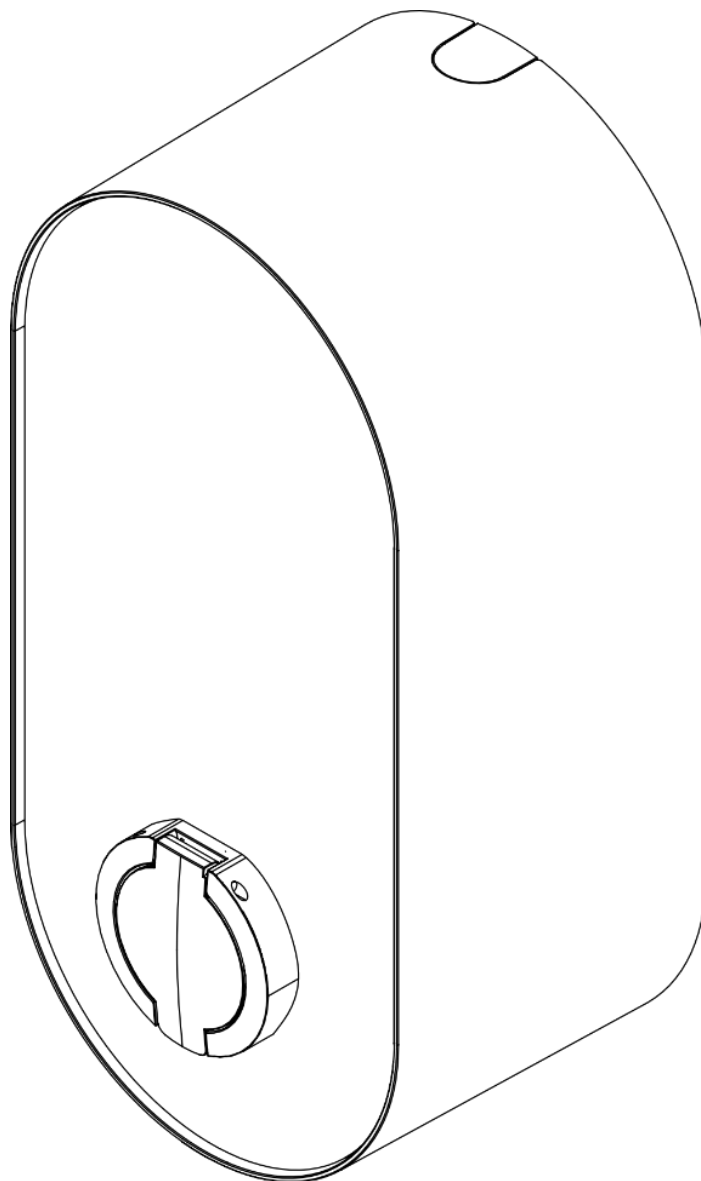


IGLU Charge AC / Kallik series Electric Vehicle Charger

Installation, Operating & Service instructions

User Manual



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1. Introduction

1.1. About this Manual

The purpose of the " Operating & Service instructions" is to provide comprehensive guidance and instructions for users on how to effectively operate and maintain the Electric Vehicle Charger. This manual aims to empower users with the knowledge and information they need to make the most of their charging station, ensuring a seamless and safe experience while charging their electric vehicles.

1.2. Safety Precautions

Prior to installation, operation, servicing, or maintenance, please read and thoroughly understand these instructions. Look at the equipment to become familiar with the device and its functionality.

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by IGLUTECH for any consequences arising out of the use of this material.

Throughout this documentation and on the equipment itself, you may encounter special messages that serve to alert you to potential risks or provide valuable information to clarify or simplify procedures.



The addition of this symbol to a Danger safety label indicates that an electrical hazard exists, which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, can result in death or serious injury.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, can result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

1.3. General safety instructions

Electric Vehicle Charger equipment is not intended to be used for specific environments or conditions, e.g.:

- 1) located in hazardous areas where flammable gas or vapor and/or combustible materials, fuels or other combustible, or explosive materials are present;
- 2) it is designed to be installed at an altitude of more than 2000m;
- 3) EV charging equipment intended to be used on board ships.

For equipment designed to be used at altitudes above 2000m, it is necessary to take into account the reduction of the dielectric strength and the cooling effect of the air. Electrical equipment intended to operate under these conditions shall be designed or used in accordance with an agreement between manufacturer and user.

Indoor ventilation support during supply of energy is a highly recommended feature for indoor use.

Emergency switching or disconnect equipment shall be used either to disconnect the supply network from EV charging equipment or to disconnect the socket-outlet(s) or the cable assembly(ies) from the supply network. Such equipment shall be installed in accordance with national rules.

In addition to this manual, the user must follow common-sense precautions when operating the Electric Vehicle Charger:

- Do not use the charger if the cables attached or connected to the device are damaged.
- Never use wet or dirty plugs in conjunction with the charger.
- Do not use the charger if the case is damaged.
- If you notice discoloration or deformation of the plastic due to heat generation, it is imperative to contact the distributor.
- Never use the charging box lying down! The type 2 connectors are not waterproof and water could penetrate to the contact's while lying down.

- Special precautions must be taken with electronic implants. Please contact the manufacturer of your medical device to find out the potential effects the charging process may have on it.
- After stopping the charging process, the vehicle connector and the equipment plug can be disconnected. Never use force to disconnect the vehicle connector from the inlet or the equipment plug power outlet. Doing so is dangerous and may cause serious injuries or even death.
- Some vehicles can be started with the charging cable connected. Be sure to unplug before driving away.
- Keep the charging cable out of reach of children.

The user must follow the instructions following the rules/laws of your area of residence. If the rules/laws contradict the instructions in the manual, the user must follow the rules/laws.



Important information for the correct disposal of the product in accordance with Directive WEEE-2012/19/EU. At the end of its useful life, the product cannot be disposed of as urban waste. It must be taken to a collection center for special and differentiated waste or to a distributor that provides this service.

1.4. Liability

The manufacturer is NOT liable for damages, losses, additional costs, and expenses incurred by the Electric Vehicle Charger equipment owner or a third party in the case(s) of:

- Disregard of instructions in the related documents.
- Misuse or abuse of the Electric Vehicle Charger.
- Any modification or repair of hardware or software to the Electric Vehicle Charger that is not approved by the manufacturer's written consent.
- Unauthorized modification of the Electric Vehicle Charger equipment shall void the manufacturer warranty.

The Electric Vehicle Charger is designed to communicate information and data via a network interface. It is the sole responsibility of the user to provide and ensure a secure connection between the Electric Vehicle Charger and the network.

The user must establish and maintain any appropriate measures (such as - but not limited to - the installation of firewalls, application of authentication measures, encryption of data, and installation of antivirus programs) to protect the Electric Vehicle Charger, the network, its system, and the interface against any kind of security breaches, unauthorized access, leakage and/or theft of data or information.

The manufacturer is NOT liable for damages and/or losses related to security breaches, any unauthorized access, leakage, and/or theft of data or information.

1.5. Responsibilities for the owner

The owner bears full responsibility for his/her safety and/or third parties, and must follow these instructions:

- Be familiar with the implementation of the local regulations.
- It's important to observe the maximum permissible charging current of the connection at which you are charging. If you don't know this, configure the Electric Vehicle Charger with the lowest charge current.
- Identify hazardous and dangerous malfunctions.
- Do not operate the Electric Vehicle Charger if the cables attached or connected to the device are damaged.
- Never operate wet or dirty plugs in conjunction with the Electric Vehicle Charger.
- Do not operate the Electric Vehicle Charger if the case is damaged.
- If you notice discoloration or deformation of the plastic due to heat generation, it is imperative that you contact the local representative of the manufacturer.
- Never operate the charging box lying down! The type 2 connectors are not waterproof and water could penetrate the contact's while lying down!
- The Electric Vehicle Charger is equipped with a built-in residual current sensor with detection of both alternating current (30 mA) and direct current (6 mA). It additionally protects the circuits connected to the charger. Do not use a system which automatically resets the residual current circuit breaker in the LV switchboard.
- In the distribution panel to which the charger is connected, a separate Type B (or A, if permitted by applicable local regulations/laws) residual current device (RCD) and miniature circuit breaker (MCB) must be installed. A qualified specialist must adhere to other applicable regulations/laws when preparing the installation project!
- Do not use a system that automatically resets the residual current device in the distribution panel!
- Do not operate the charging station if the ground resistance measured is greater than the threshold defined by the applicable law.
- Make sure all protective devices are properly installed after initial set up or maintenance of Electric Vehicle Charger.
- Have an emergency plan and clear instructions on how to react.
- Make sure that the user, employees, or third parties are qualified to work with high-voltage and high-current electrical installations.
- Ensure there is enough space around the Electric Vehicle Charger for safe maintenance and installation.

1.6. Fire safety measures

Fire safety precautions should, however, be implemented following the manufacturer's recommendations:

- Electric Vehicle Charger must be installed outside hazardous areas.
- The installation of the car charger can be ONLY performed by a licensed professional and must comply with the installation guideline and the rules of your area.
- Enough space must be ensured to maneuver cars into a designated charging area without obstructing paths in case of emergency.
- No flammable or combustible material should be stored within the charging area.
- Availability of on-site fire extinguishers is strongly recommended.

1.7. Firefighting measures



Do not use water for extinguishing electrical installations and devices!

In case of fire please follow these steps:

- In the event of a fire, stop using the car charger immediately and call the emergency services.
- If possible, disconnect the charger by cutting off the power supply.
- Retreat from the fire area.
- Fire extinguishers must be suitable for extinguishing electrical devices up to 1000V.

1.8. Safe use instructions

In the following situations, do not use the Electric Vehicle Charger and contact the manufacturer immediately:

- The case is damaged.
- The connector is damaged.
- Lightning struck the Electric Vehicle Charger.
- There has been an accident or a fire at or near the Electric Vehicle Charger.
- The Electric Vehicle Charger has been exposed to water.

1.9. Safety instructions for cleaning and maintenance

- If it is necessary to remove safety devices for maintenance purposes, install them back immediately after you finish.
- Choose suitable personal protective equipment.
- Never clean the charging point by spraying it with water (hose for garden watering, high pressure cleaners, etc.).

1.10. Trademark

“QR Code” is a registered trademark of DENSO WAVE INCORPORATED in Japan and other countries.

2. Description

DANGER

Hazards and risks: using the IGLU® Charge AC Series EV charger in ways NOT intended by the manufacturer can result in damage of property, injury, or death.

2.1. Overview

The IGLU Charge AC / Kallik series represents a cutting-edge line of electric vehicle chargers designed to meet the growing demand for efficient and sustainable EV charging solutions. These chargers are a part of the IGLU® brand, renowned for its commitment to providing high-quality, reliable, and user-friendly EV charging infrastructure.

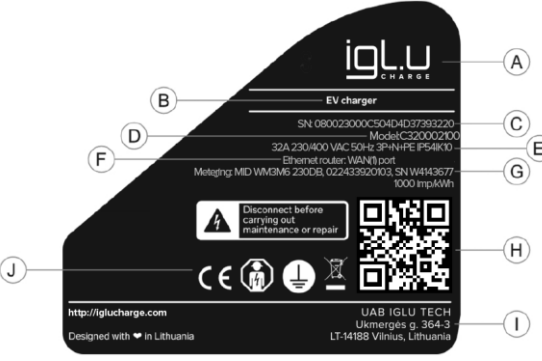
Key Features and Capabilities:

1. **Automatic Session Recovery:** When there is an interruption in the electrical power supply, and it is subsequently restored, the charging session automatically continues without the need for any user action.
2. **Cord Locking Mechanism:** The charging cord can be securely locked in place, eliminating the need to remove it from your vehicle's boot when using the station.
3. **Dynamic Power Control:** Dynamic power control can be managed within the system or activated through coordinators, with no limitations on the number of stops.
4. **Robust Design:** The charger boasts an IK10 and IP54/65-rated body with an integrated climate control system, ensuring reliable operation even in extreme conditions.
5. **Integration Capabilities:** This product seamlessly integrates with OCPP 1.6J, building energy management systems, and access control systems, allowing for comprehensive control and monitoring.
6. **Plug & Play Installation:** The charging unit can be effortlessly connected using fast installation connectors without the need to disassemble the device housing. The installation process is designed to support device auto-discovery, making setup and maintenance an

exceptionally hassle-free process.

7. **Remote Scheduling:** Users can remotely set a convenient charging time or select periods when electricity rates are lower, optimizing cost and convenience.
8. **IGLU® Home App Control:** Conveniently control and monitor your charging station through the IGLU® Home app, offering real-time consumption reporting and user-friendly management.

2.2. Product Label and Order Options

 The image shows a black product label for an IGLU Charge AC. It contains the following information: 'EV charger', SN 080023000C504D4D37393220, Model C320002100, 32A 230V/400 VAC 50Hz 3P+N+PE IP54IK10, Ethernet router: WAN port, Metering MID WMGM6 230DB, 022433920103, SN W4143677, 1000 imp/kWh, a QR code, a warning symbol with text 'Disconnect before carrying out maintenance or repair', CE and other certification marks, the website 'http://iglucharge.com', and manufacturer info 'UAB IGLU TECH, Ukmerges g. 364-3, LT-14188 Vilnius, Lithuania'. Callouts A-J point to: A - Brand, B - Product description, C - Serial number, D - Model code, E - power, ingress and impact protection rating level, F - Ethernet router configuration, G - installed MID metering information, H - QR code for automated inventory identification/management, I - Address of the manufacturer, J - Certification marks.	A – Brand B – Product description C – Serial number D – Model code E – power, ingress and impact protection rating level F – Ethernet router configuration G – installed MID metering information H – QR code for automated inventory identification/management, example: I – Address of the manufacturer J – Certification marks The model code has 9 parts: X1 – X9. Standard IGLU Charge AC Series Pro model code: C320002100. Standard IGLU Charge AC Series Lite model code: A320000100. Warning: Please contact the manufacturer for other product model code availability and delivery terms.
--	--

Description	Meaning of the value	Code								
		X1	X2	X3	X4	X5	X6	X7	X8	X9
Type	Coordinator, IGLU Charge AC Series Pro	C								
	Assistant, IGLU Charge AC Series Lite	A								
	IGLU Charge Home Series	H								
Charging current	6 Amp		06							
	..		..							
	16 Amp		16							
	20 Amp		20							
	32 Amp		32							
Power connection output	Type 2 socket with lock (IP54, IK10)			0						
	Type 2 cable (IP65, IK08)			1						
Charging cable length	No cable				00					
	2 m				02					
	..				..					
	15 m				15					
Ethernet router	No Ethernet					0				
	LAN port 1					1				
	WAN port 1					2				
	WAN port 1 & LAN port 2					3				
Metering	Not certified						0			
	MID certified						1			
Display or payment terminal	No							0		
	Daylight readable display							1		
	Credit card payment terminal							2		
Surge protector	No								0	
	Yes								1	
Customization Identifier	Default (no customizations)									blank
	Heater Installed									H
	Configuration variant									K or S
This code is used to denote customer-specific requirements or options that do not impact on the certified functionality of the entire product family. Each identifier corresponds to a unique set of customizations that extends the information provided in this datasheet. A separate datasheet annex document shall be provided for each customization, outlining the specific details and features associated with that identifier.										/XXXX

Example Electric Vehicle Charger Coordinator (Pro) product model: C320002100

- X1 = C = Type, Coordinator
- X2 = 32 = Charging current, 32 Amps
- X3 = 0 = Type 2 socket with lock
- X4 = 00 = no charging cable
- X5 = 2 = Ethernet router, WAN port
- X6 = 1 = Metering, MID certified
- X7 = 0 = Daylight readable display
- X8 = 0 = Surge protector, No
- /X9 = (blank) = Customer's special requirements, Default

Example Electric Vehicle Charger Assistant (Lite) product model: A320000100

- X1 = A = Type, Assistant
- X2 = 32 = Charging current, 32 Amps
- X3 = 0 = Type 2 socket with lock
- X4 = 00 = no charging cable
- X5 = 0 = No Ethernet
- X6 = 1 = Metering, MID certified
- X7 = 0 = Daylight readable display
- X8 = 0 = Surge protector, No
- /X9 = (blank) = Customer's special requirements, Default

2.3. Specifications

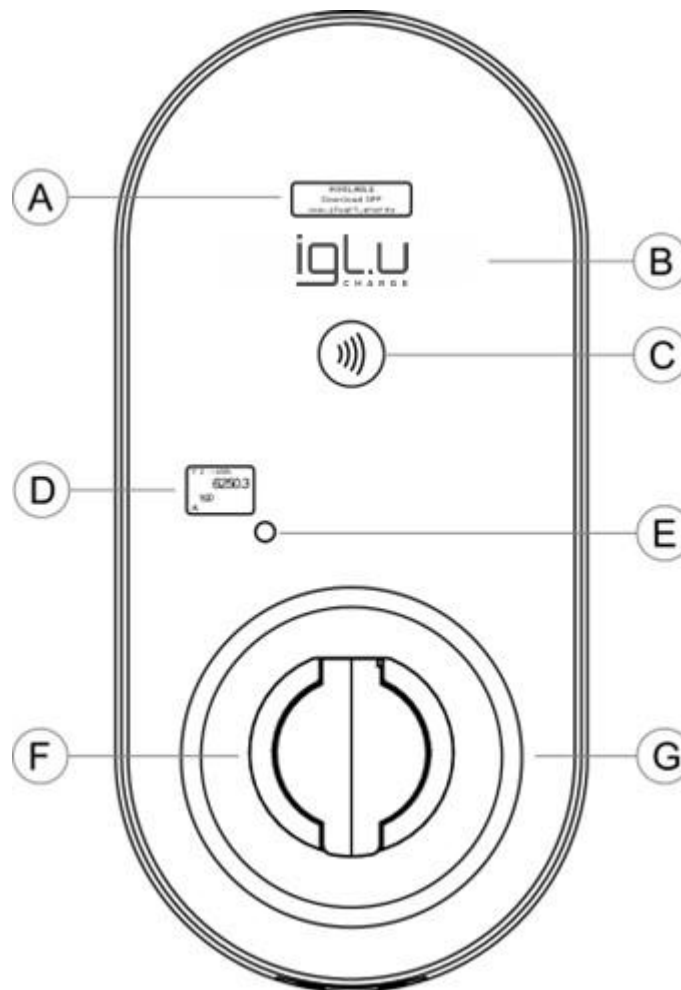
1. **AC Input Voltage Range:** 1-phase (L1, N, PE), 230 VAC, or 3-phase (L1, L2, L3, N, PE), 400 VAC, 50 Hz.
2. **Charging Connection:** Type 2 cable, Type 2 socket, compliant with IEC 62196-1 and IEC 62196-2.
3. **Nominal Output Current per Phase:** Maximum 32 A, with current limiting options available.
4. **Maximum Charging Power:** 1-phase (L1, N, PE), 7.4kW, or 3-phase (L1, L2, L3, N, PE), 22kW.
5. **Internal Residual Current Sensor:** AC 30 mA, DC 6 mA.
6. **Electrical Protections:** Over current, short circuit, over voltage, under voltage, ground fault protection, surge protection, over temperature, tamper protection, cold start, and grid capacity protection.
7. **User Interface:** High brightness LED ring around the socket indicates status, with a daylight-readable display.
8. **Credit Card Payment:** Available on request for the coordinator (Pro) version, not supported in the assistant (Lite) version.
9. **RFID System:** Supports ISO/IEC14443A/B, ISO/IEC15693, MIFARE Classic 1K/4K, MIFARE DESFire, FeliCa, and NFC reader with tag emulation mode.
10. **Non-volatile Storage Offline Capacity:** Authorization Cache (10,000 records), Local Authorization List (10,000,000 records), Transaction-related messages (500,000 records).
11. **Network Connection:** 10/100 Base-T Ethernet (WAN/LAN), high-performance daisy chain RS485 (cable length up to 1 km).
12. **Communication:** OCPP 1.6J with enhanced security.
13. **Web Configuration Tool:** Allows configuration, backup, access management, remote diagnostics, and repair with a laptop or smartphone.

2.4. Intended Use

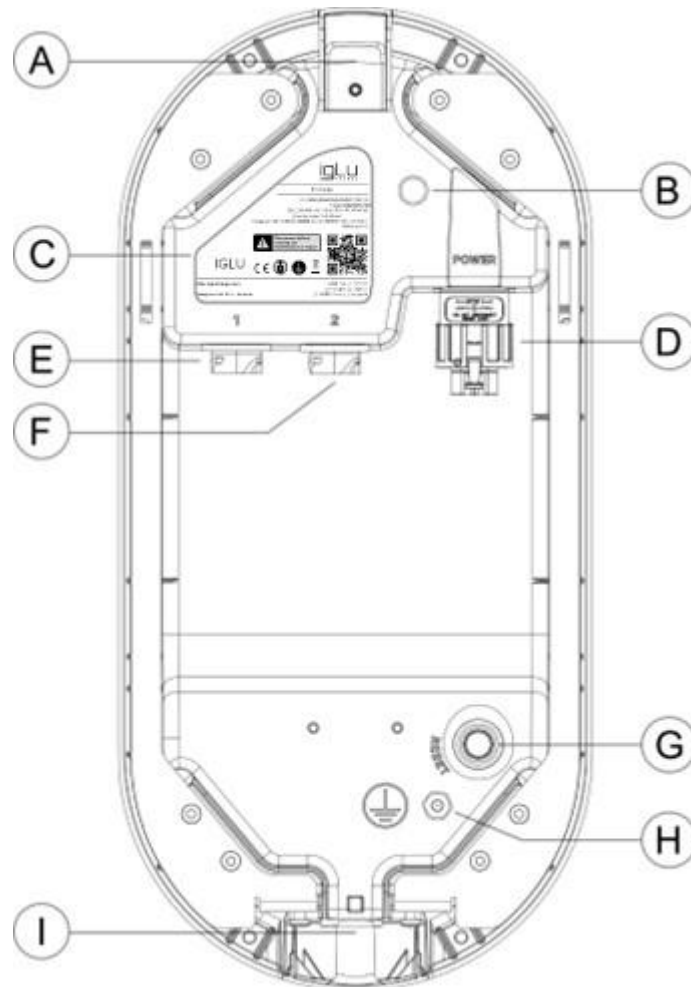
- Electric Vehicle Charger is used for AC charging of electric cars both indoors and outdoors.
- Electric Vehicle Charger technical properties must comply with the properties of the electrical grid, ambient conditions, and the electric car.
- Electric Vehicle Charger AC input is intended for a hardwired installation that complies with the applicable national regulations.

2.5. External Appearance

The visual representation below illustrates the external appearance of the Electric Vehicle Charger.



- A – Daylight readable display
- B – Brand
- C – RFID reader
- D – MID certified meter window
- E – MID certified meter optical pulse output
- F – EV charging socket Type 2 male
- G – LED Ring Charging Status Indicator



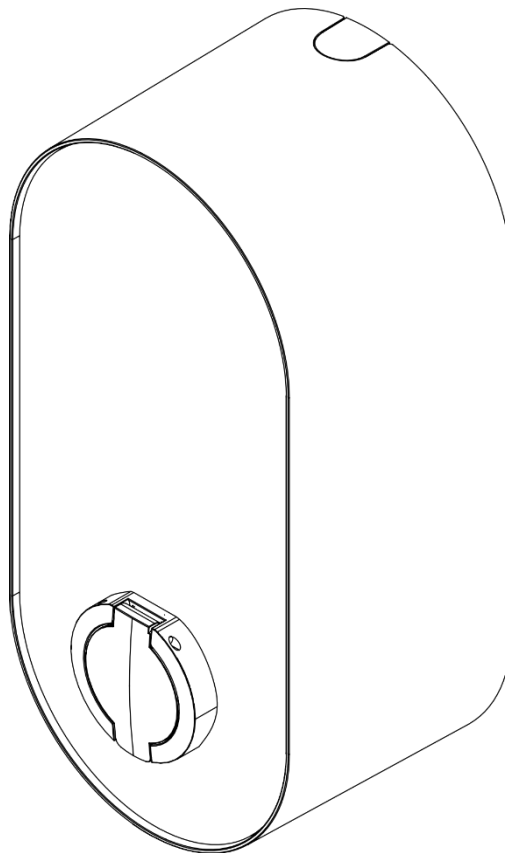
- A – Top cover. This cover is not used if installation cable goes from the top; otherwise, it is used to hide cable installation cavity.
- B – Moisture barrier breather vent.
- C – Product type label
- D – AC input cable socket
- E – Port 1 for wired connectivity
- F – Port 2 for wired connectivity
- G – Factory reset button
- H – Earthing nut
- I – Bottom cover. This cover is not used if installation cable goes from the bottom; otherwise, it is used to hide cable installation cavity.

2.6. Charging Socket

Electric Vehicle Charger models with

X3 = 0 = Type 2 socket with lock

X4 = 00 = no charging cable

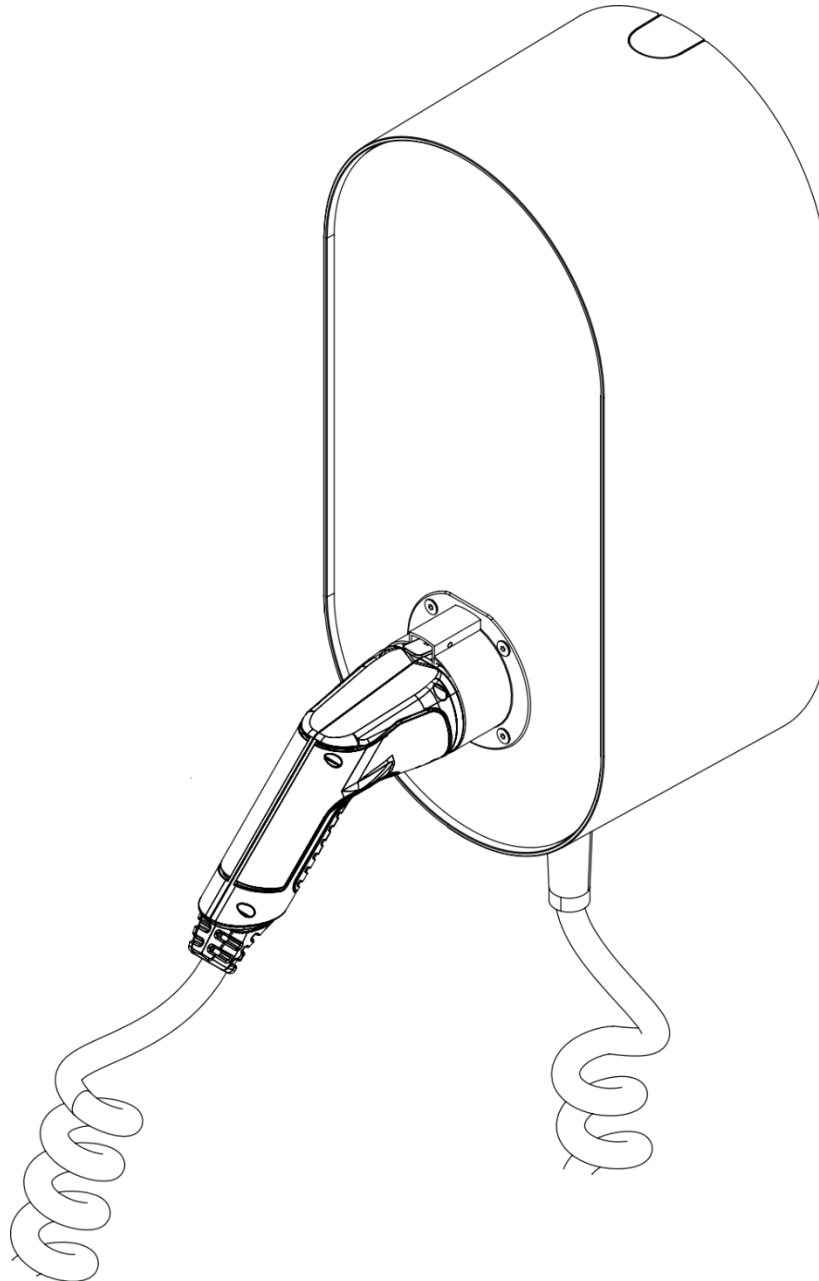


2.7. Charging Cable

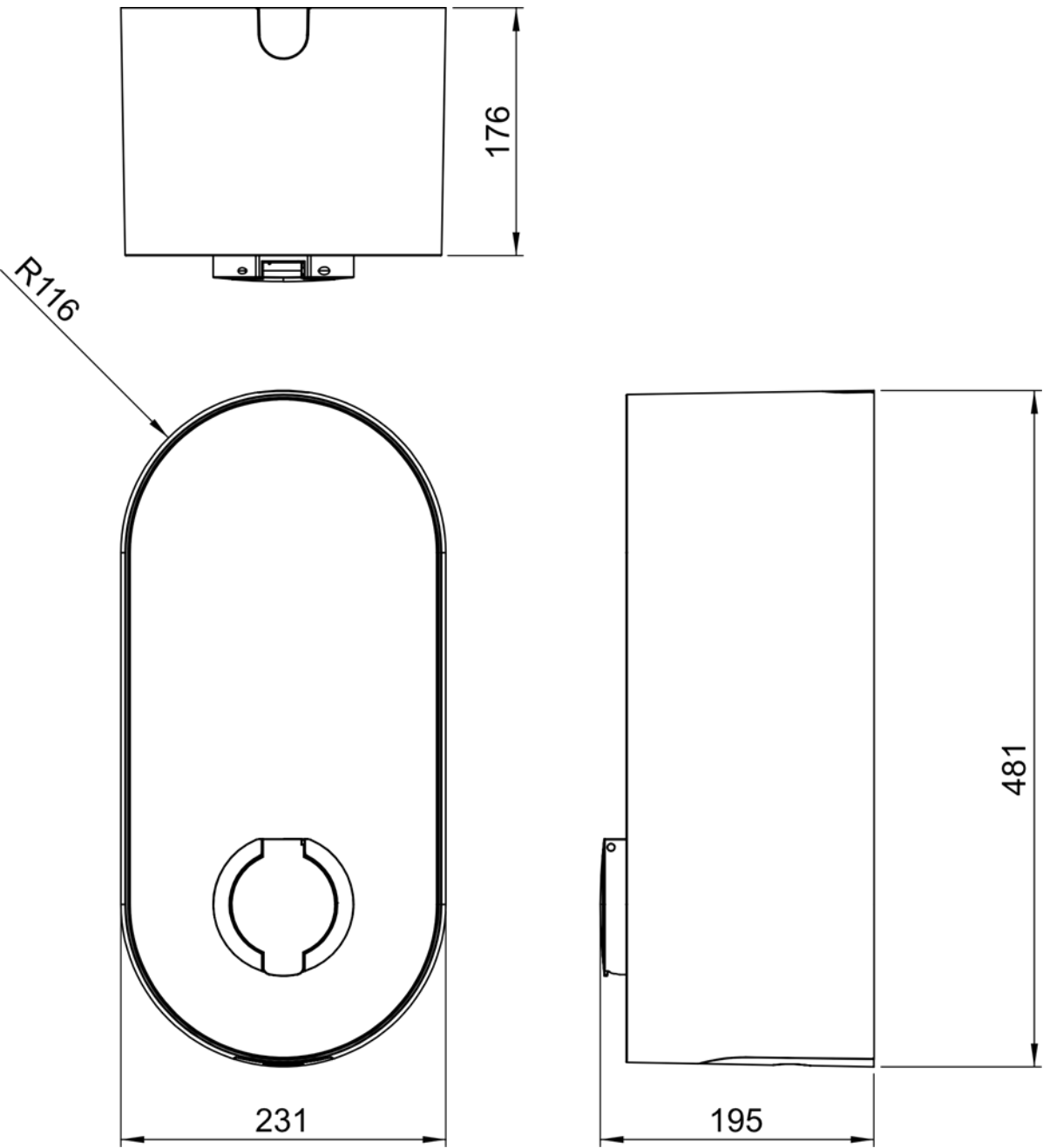
Electric Vehicle Charger models with

X3 = 1 = Type 2 cable

X4 = 05 = 5m cable



2.8. Dimensions



2.9. Operation Status

Table 1: Description of Operation Status

Display message	LED Ring color	Animation	Description
READY TO CHARGE	 Green	Constant	Station is available and ready
DECLINED	 Red	Pulsating 1s Intervals Duration 2s	RFID card declined
ACCEPTED	 Green	Pulsation 1s Intervals Duration 2s	RFID card accepted
PREPARING	 Blue	Rotating (2 LEDs) 0.5s = 1rotation	EV cable is not connected
SUSPENDED EVSE / EV	 Blue	Slow Pulsation 6s Intervals	EV cable is connected and session is suspended
CHARGING Duration 00:00 Charged 00 kWh	 Blue	Pulsating 1s Intervals	Charging

FINISHING Duration 00:00 Charged 00 kWh	 Blue	Constant	Charging session finished but EV cable is still connected
RESERVATION ID 000000	 Orange	Constant	Station is reserved
OverCurrentFailure 000000000000000000	 Red	Rotating (2 LEDs) 0.5s = 1 rotation	Temporary error, disconnect the charge cable and connect it again.
GroundFailure 000000000000000000	 Red	Pulsating 1s Intervals	De-energize the charger; contact your local representative of the manufacturer or a qualified electrical contractor
InternalError 000000000000000000	 Red	Constant	Station not available; contact your service provider
UNAVAILABLE	 Red	Constant	Charging not started or Station not available
UPDATE IN PROGRESS	 White	Constant Min duration 3s	Starting after power on. Firmware update in progress. Duration not defined

SELF-TESTING	 All single LED white, green	Constant duration 3s Min	Self-testing, after power on
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2.10. RFID reader

RFID function is used for authentication and initiation of the charging session. After/prior plugging the charging cable, place the RFID card on the reader on the Electric Vehicle Charger. To stop charging, repeat the action.

RFID reader supports NFC tag emulation. Tag content is configurable through the NfcTagPayload configuration key. This functionality allows to enhance mobile App user experience, e.g., to implement tap to charge & tap to install App functionalities by third parties.

2.11. Buzzer

A short buzzer signal is used to indicate the presence of an RFID tag.

3. OCPP Features

3.1. Feature Profiles

NOTICE

User local actions might disable some feature profiles. Check manufacturer configuration key names & values for more details.

The support for the specific feature profiles is reported by the SupportedFeatureProfiles configuration key. Product supports all OCPP 1.6 feature profiles which are listed in the table below.

Table 2: Supported Feature Profiles.

Supported profile	Description
Core	Basic Charge Point functionality comparable with OCPP 1.5 [OCPP1.5] without support for firmware updates, local authorization list management and reservations.

Firmware Management	Support for firmware update management and diagnostic log file download.
Local Auth List Management	Features to manage the local authorization list in Charge Points.
Reservation	Support for reservation of a Charge Point.
Smart Charging	Support for basic Smart Charging, for instance using control pilot.
Remote Trigger	Support for remote triggering of Charge Point initiated messages.

3.2. Enhanced Security for OCPP 1.6

The security part of OCPP 2.0 was developed to strengthen and mature the future development and standardization of OCPP. To further assist the industry the Open Charge Alliance has published a white paper describing a standard way to address security using OCPP 1.6-J.

Electric Vehicle Charger supports the following features as described in the OCPP 1.6 Security Whitepaper:

- Secure connection setup
- Security events/logging
- Secure firmware update

3.3. Offline Behavior

In the event of unavailability of the communication or even of the Central System maintenance, the product is designed to operate stand-alone. Electric Vehicle Charger supports local authorization of identifiers, using an Authorization Cache and a Local Authorization List. Transaction-related messages (StartTransaction, StopTransaction and periodic or clock-aligned MeterValues messages) will be delivered to the Central System in chronological order as soon as online mode is re-established.

Table 3: Non-volatile storage capacity.

Non-volatile storage	Number of records
Authorization Cache	10 000
Local Authorization List	1 000 000

Transaction-related messages	500 000
------------------------------	---------

Offline mode can last for a minimum of 24 months (continuous charging session) when using default configuration:

- MeterValueSampleInterval=900
- ClockAlignedDataInterval=0
- MeterValuesSampledData=Energy.Active.Import.Register

3.4. Standard Configuration Key Names and Values

Table 4: Standard Configuration Key Names and Default Values (after “Factory Reset”).

Key name	R/W	Default value
AllowOfflineTxForUnknownId	R/W	FALSE
AuthorizationCacheEnabled	R/W	FALSE
AuthorizeRemoteTxRequests	R/W	TRUE
BlinkRepeat	R/W	0
ClockAlignedDataInterval	R/W	0
ConnectionTimeOut	R/W	60
ConnectorPhaseRotation	R/W	0.Unknown,1.RST
ConnectorPhaseRotationMaxLength	R	2
GetConfigurationMaxKeys	R	
HeartbeatInterval	R/W	600
LightIntensity	R/W	100

LocalAuthorizeOffline	R/W	FALSE
LocalPreAuthorize	R/W	FALSE
MaxEnergyOnInvalidId	R/W	0
MeterValuesAlignedData	R/W	
MeterValuesAlignedDataMaxLength	R	3
MeterValuesSampledData	R/W	Energy.Active.Import.Register
MeterValuesSampledDataMaxLength	R	3
MeterValueSampleInterval	R/W	10
MinimumStatusDuration	R/W	0
NumberOfConnectors	R	1
ResetRetries	R/W	0
StopTransactionOnEVSideDisconnect	R/W	TRUE
StopTransactionOnInvalidId	R/W	TRUE
StopTxnAlignedData	R/W	
StopTxnAlignedDataMaxLength	R	3
StopTxnSampledData	R/W	
StopTxnSampledDataMaxLength	R	3
SupportedFeatureProfiles	R	Core,FirmwareManagement,LocalAuthListManagement,Reservation,RemoteTrigger,SmartCharging

SupportedFeatureProfilesMaxLength	R	6
TransactionMessageAttempts	R/W	3
TransactionMessageRetryInterval	R/W	10
UnlockConnectorOnEVSideDisconnect	R/W	TRUE
WebSocketPingInterval	R/W	5
LocalAuthListEnabled	R/W	
LocalAuthListMaxLength	R	
SendLocalListMaxLength	R	
ReserveConnectorZeroSupported	R	TRUE
ChargeProfileMaxStackLevel	R	255
ChargingScheduleAllowedChargingRateUnit	R	Current,Power
ChargingScheduleMaxPeriods	R	23
ConnectorSwitch3to1PhaseSupported	R	FALSE
MaxChargingProfilesInstalled	R	512
AuthorizationKey	R/W	
CertificateSignedMaxChain	R	1
CertificateStoreMaxLength	R	1
CpoName	R/W	
SecurityProfile	R	0

3.5. Manufacturer Configuration Key Names and Values

Table 5: Manufacturer Configuration Key Names and Default Values (after “Factory Reset”).

Key name	R/W	Default value
InstalledAmperageSetting	R	32
InstalledPhaseRotation	R	0.Unknown
InstalledVentilation	R	FALSE
PermanentConnectorLock	R/W	FALSE
FreeCharging	R	FALSE
ReservationSupported	R/W	TRUE
MaximumChargingDuration	R	86400
NfcTagPayload	R/W	https://www.iglutech.eu
MsgAvailable	R/W	READY TO CHARGE
LocalListManagedByUser	R/W	FALSE
ScheduleManagedByUser	R/W	FALSE

Notes:

- 1) InstalledAmperageSetting, Integer. Use this setting to specify the charging current limit in Amps to prevent installation overloading and upstream circuit-breaker tripping. Adjust this setting at the installation time using a web configuration tool to match installation cable rating and/or remaining (available) current rating in the main switchboard.
- 2) InstalledPhaseRotation, CSL. Use this setting to specify the phase rotation according to OCPP specifications. Adjust this setting at the installation time using a web configuration tool. This setting is used in dense installations to balance power network individual phase loads.
- 3) InstalledVentilation, Boolean. Use this setting to specify if active ventilation is available in the

charging installation. Adjust this setting at the installation time using a web configuration tool. It is mandatory to suspend electric car charging by charger if ventilation is requested but is not available.

- 4) PermanentConnectorLock, Boolean. Use this setting to lock the cable connector semi-permanently. When TRUE, the Electric Vehicle Charger continues operation as a fixed cable charger.
- 5) FreeCharging, Boolean. Use this setting to enable/disable free charging mode which does not require authentication (Plug & Charge).
- 6) ReservationSupported, Boolean. Use this setting to enable/disable OCPP Reservation profile.
- 7) MaximumChargingDuration, Integer. Use this setting to specify how many seconds a single charge session is allowed to last. Setting to 0 disables the limit.
- 8) NfcTagPayload, String255. Use this setting to change emulated NFC Tag payload. NDEF message absolute URL is supported.
- 9) MsgAvailable, String255. Use this setting to change the displayed string message when the Electric Vehicle Charger is ready to charge.
- 10) LocalListManagedByUser, Boolean. Use this setting to enable/disable OCPP LocalAuthListManagement profile. When TRUE, the authorization list is managed by the user locally (using a web configuration tool).
- 11) ScheduleManagedByUser, Boolean. Use this setting to enable/disable OCPP SmartCharging profile. When TRUE, the charging schedule is managed by the user locally (using a web configuration tool).

4. Installation

WARNING

The installation of the device may only be carried out by a qualified electrician. This person must have a recognized electrical engineering qualification that allows him/her to carry out all the electrical work required to install the charger in accordance with the applicable national regulations!

4.1. Installation Site Selection

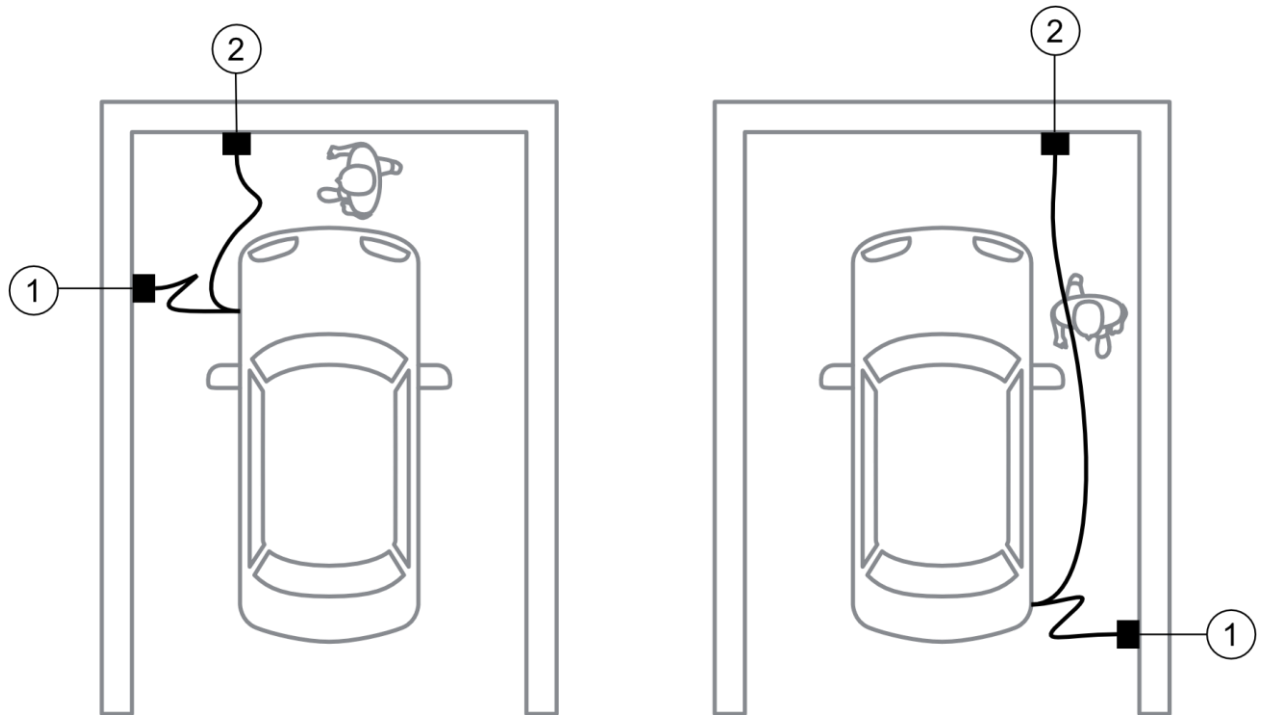
Electric Vehicle Charger can be installed in both indoor and outdoor environments. It is necessary to consider the installation conditions and protection at the site:

- Follow local electrical regulation and installation standards.
- Consider the emergency routes at the installation site.

- Do not install the device at potentially explosive atmosphere areas (Ex areas)

4.2. Recommended Installation Positions

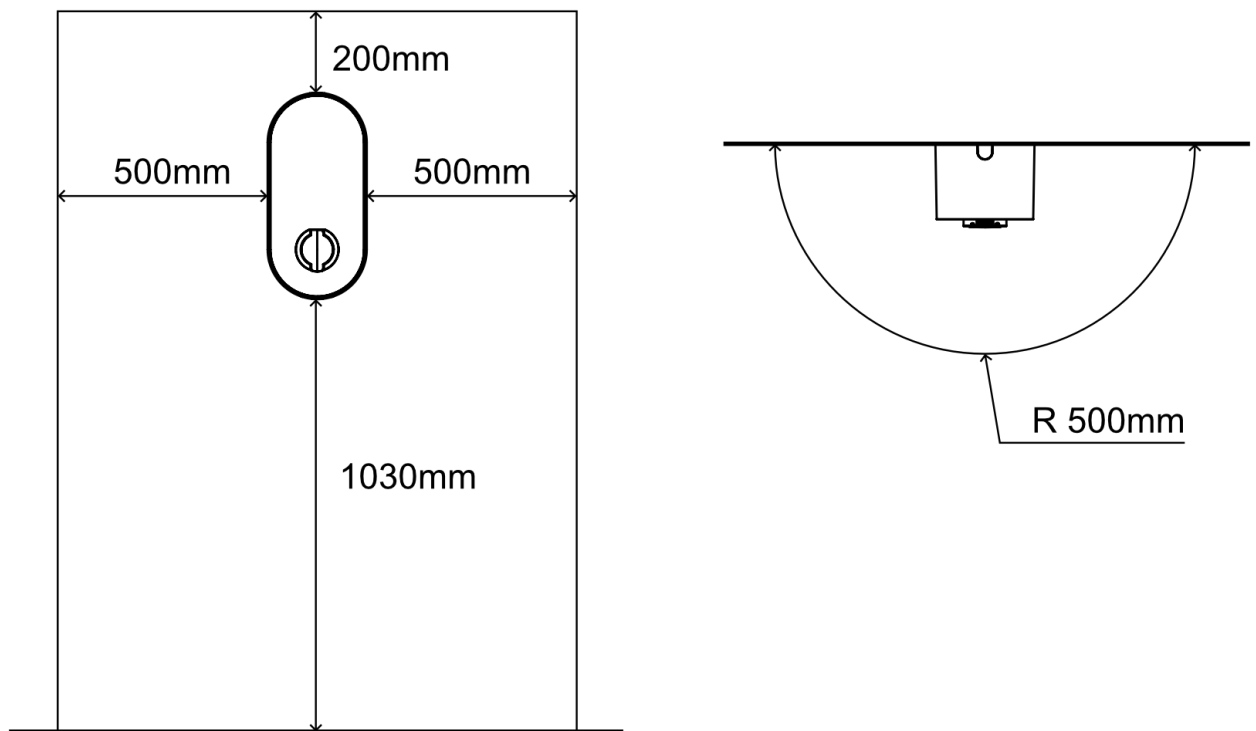
When considering installation positions, make sure the car can be easily connected with an Electric Vehicle Charger and has enough space for maintenance.



1. Recommended position
2. Alternative position

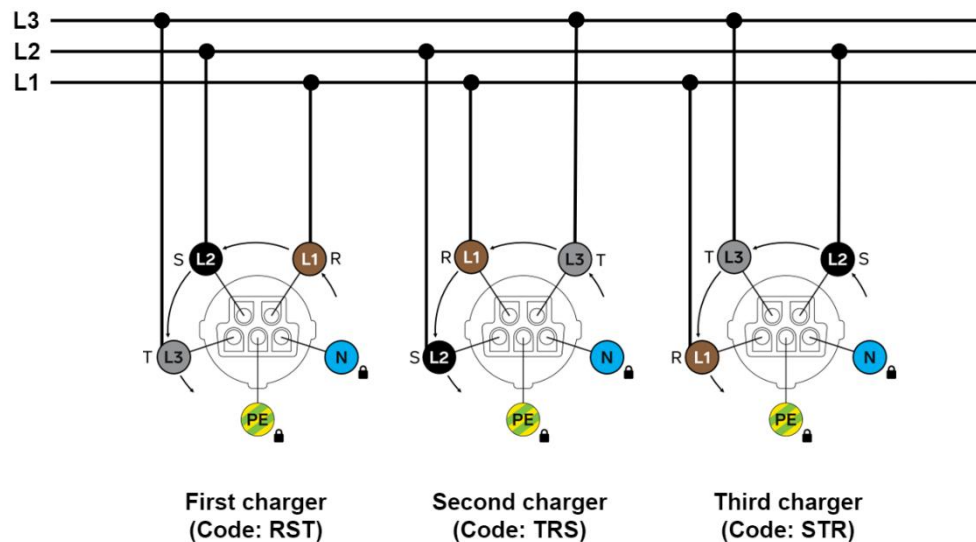
4.3. Recommended Installation Space

Installers shall follow applicable accessibility requirements for the mounting position. The Electric Vehicle Charger shall be mounted at a height between 800 mm and 1200 mm above ground.



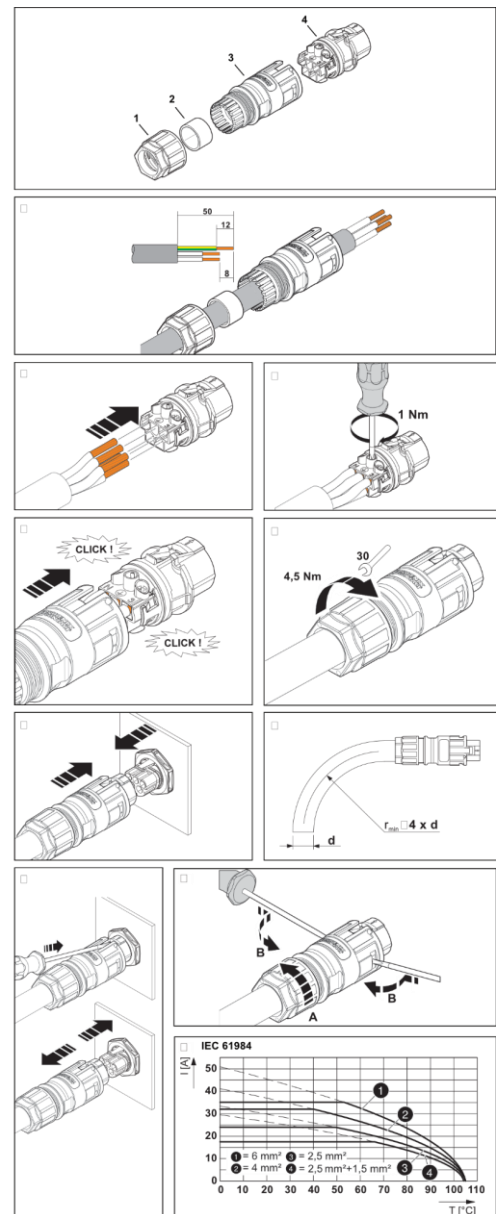
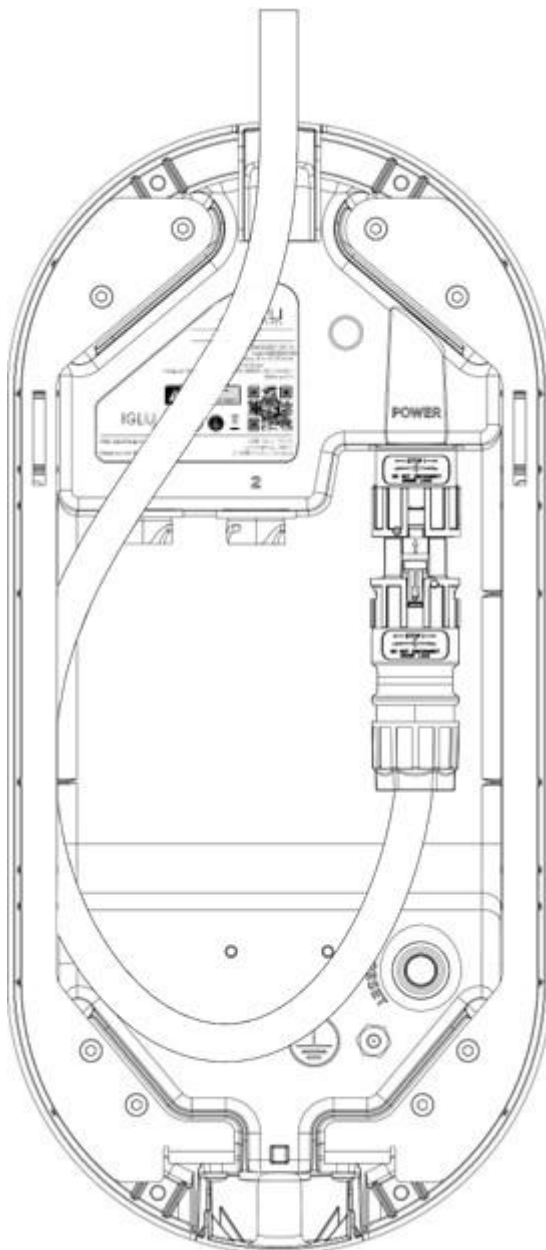
4.4. Connect the AC Input Cable

When installing several chargers, in case of cars with on-board inverter only capable of 1 phase charging (like most plug-in hybrid cars), connect the phases of the first, second and third charger to the house circuit in rotation. This will triple the supply power capacity for single phase chargers! The following picture shows how the physical connection is done in a quick AC power connector:



⚠ WARNING

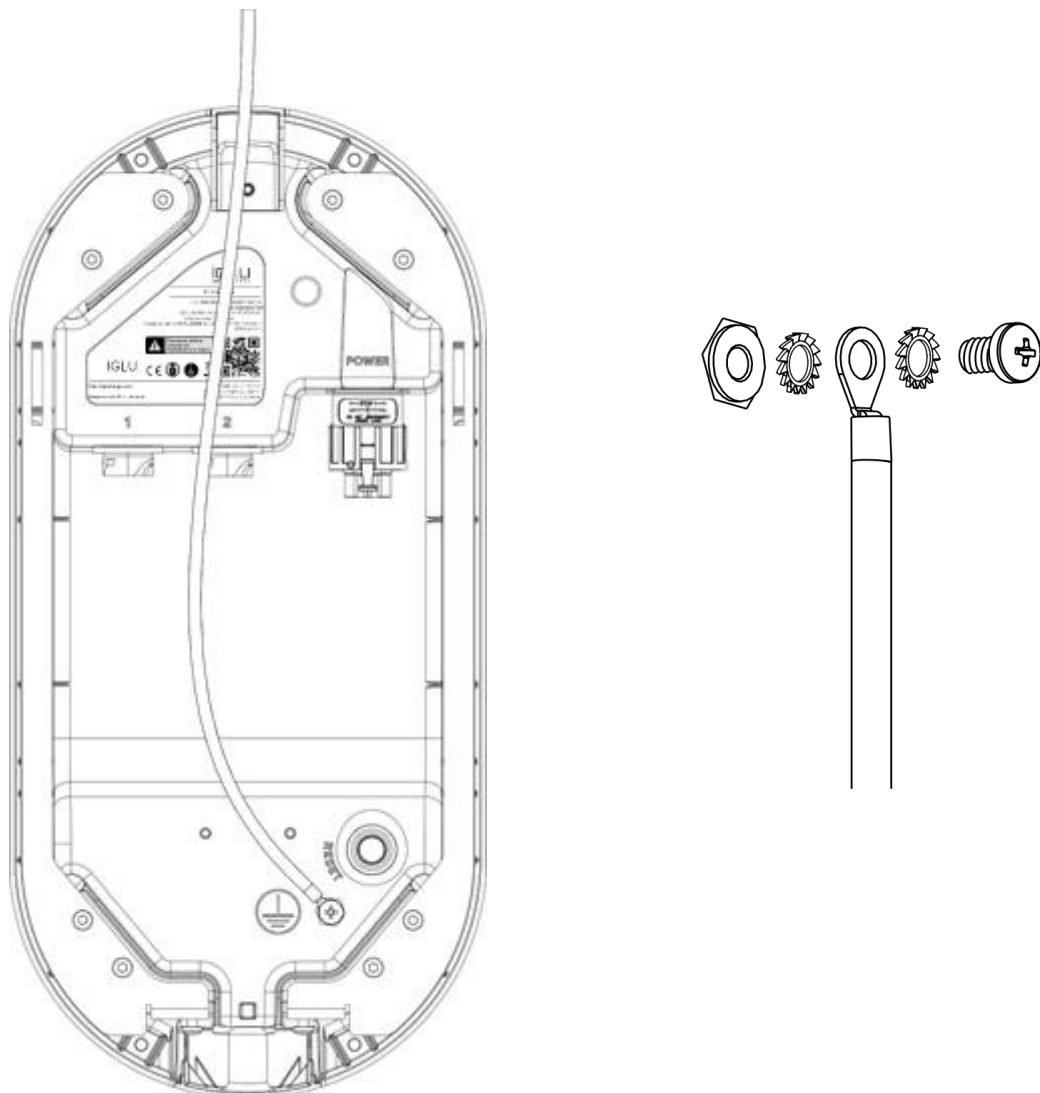
Phase rotation to be done clockwise as negative phase angle might not work with some cars.



4.5. Earthing and Open PEN Fault Behavior

DANGER

Each outdoor charging station must be connected to the local earth. All earth connections must be connected to one another. See the following diagram. The resistance of each earth connection must be controlled as required per local regulations!

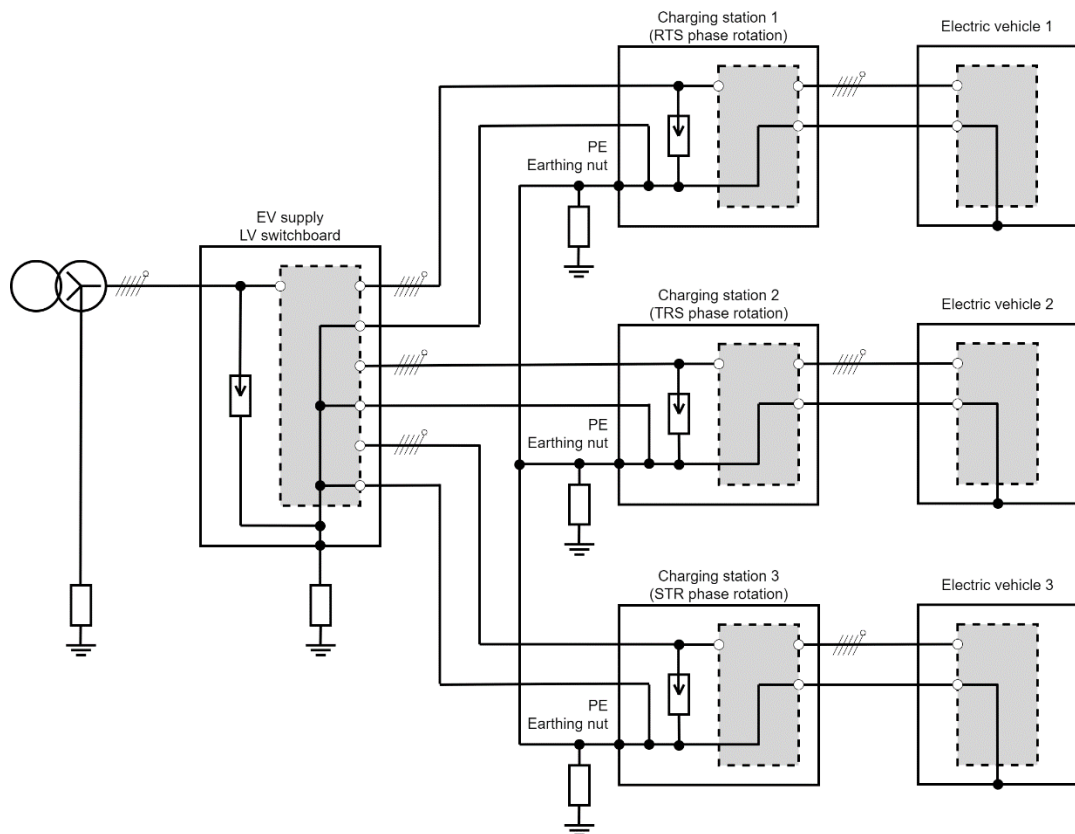


An open PEN scenario occurs when the combined Protective Earth (PE) and Neutral (N) conductor in an electrical installation goes open circuit while the Live remains connected. Although an unusual event, the consequences for EV charging can be potentially serious.

The charger is compliant with EN IEC 61851 standards, and in such a scenario, it always disconnects the EV from the grid (L1, L2, L3, and N disconnection are achieved by hardware design). The PE circuit is not disconnected, in accordance with EN IEC 61851 requirements.

To ensure compliance and proper operation of Residual Current Device (RCD) devices installed in the private low-voltage distribution board, it is mandatory to connect an earthing rod to the PE terminal on the charger casing. Please also check local requirements for additional guidance.

Recommended earthing arrangement at LV switchboard level:



4.6. LV Switchboard

DANGER

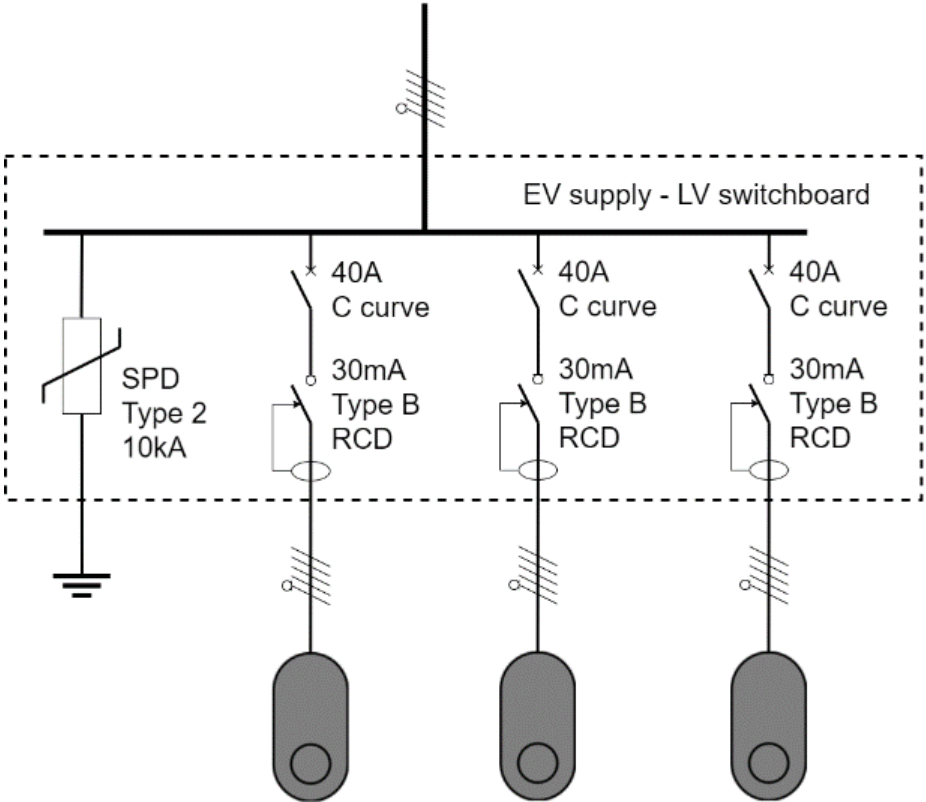
The installation standard IEC 60364 part 722 defines the safety measures to charge an electric vehicle namely: protection against electric shocks, over currents, and over voltages. This is provided by properly selecting and installing circuit-breakers, residual current devices (RCD) and surge protective devices in the switchboard of the EV charging station. Particular attention must be taken for the residual current for an optimal protection: the selection of a Type B RCD is strongly recommended, for it ensures protection against electric shocks for EV charging and is fully compliant to IEC 62423.

CAUTION

External smart meters play a crucial role in providing real-time information about the power consumption and demand at the charging location. This data is essential for implementing effective anti-tripping measures, ensuring that the combined power demand of all connected chargers does not exceed the grid's capacity.

NOTICE

Leveraging wireless communication technologies, such as 2G/3G/4G GSM or Wi-Fi, between the OCPP backend system and the Electric Vehicle Charger (Pro) chargers in an LV switchboard arrangement (simplified example below) offers flexibility and convenience. However, it's essential to note that while wireless communication provides mobility and ease of deployment, wired communication cables are highly recommended for their reliability and stability.



4.7. **Wired Connectivity**

 **CAUTION**

We recommend using shielded (CAT5 and higher grade) cables for higher reliability!

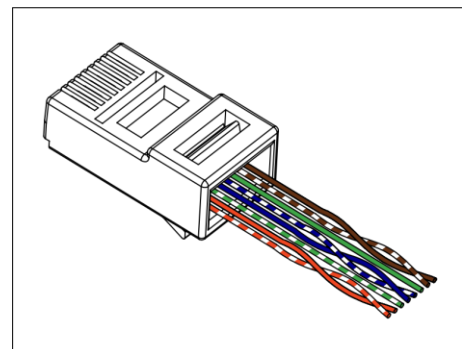
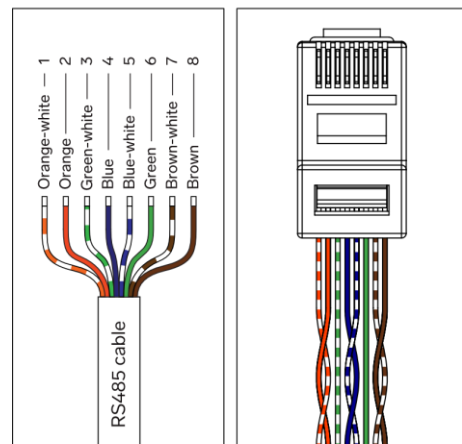
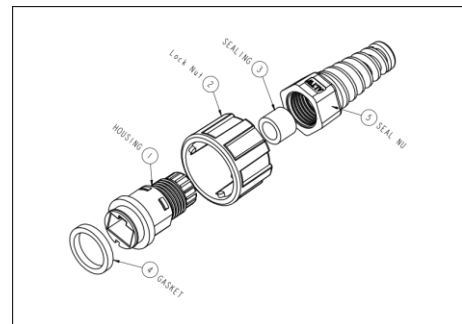
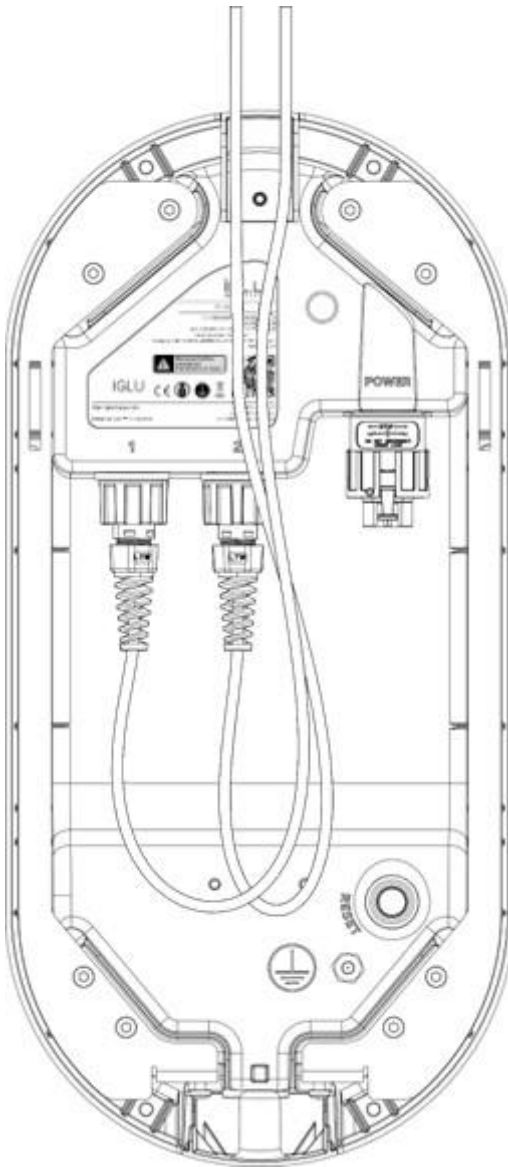
For reliable communication Kallik EV charger is using wired connectivity

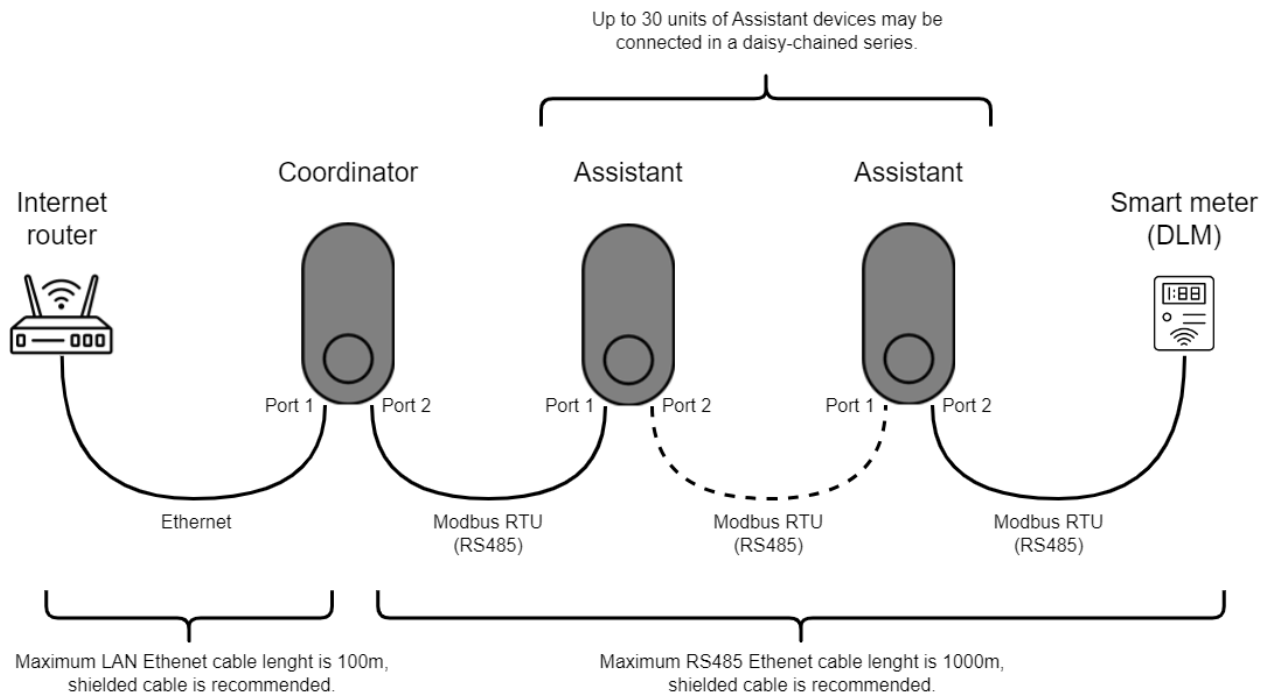
Table 6: Wired Connectivity Order Options.

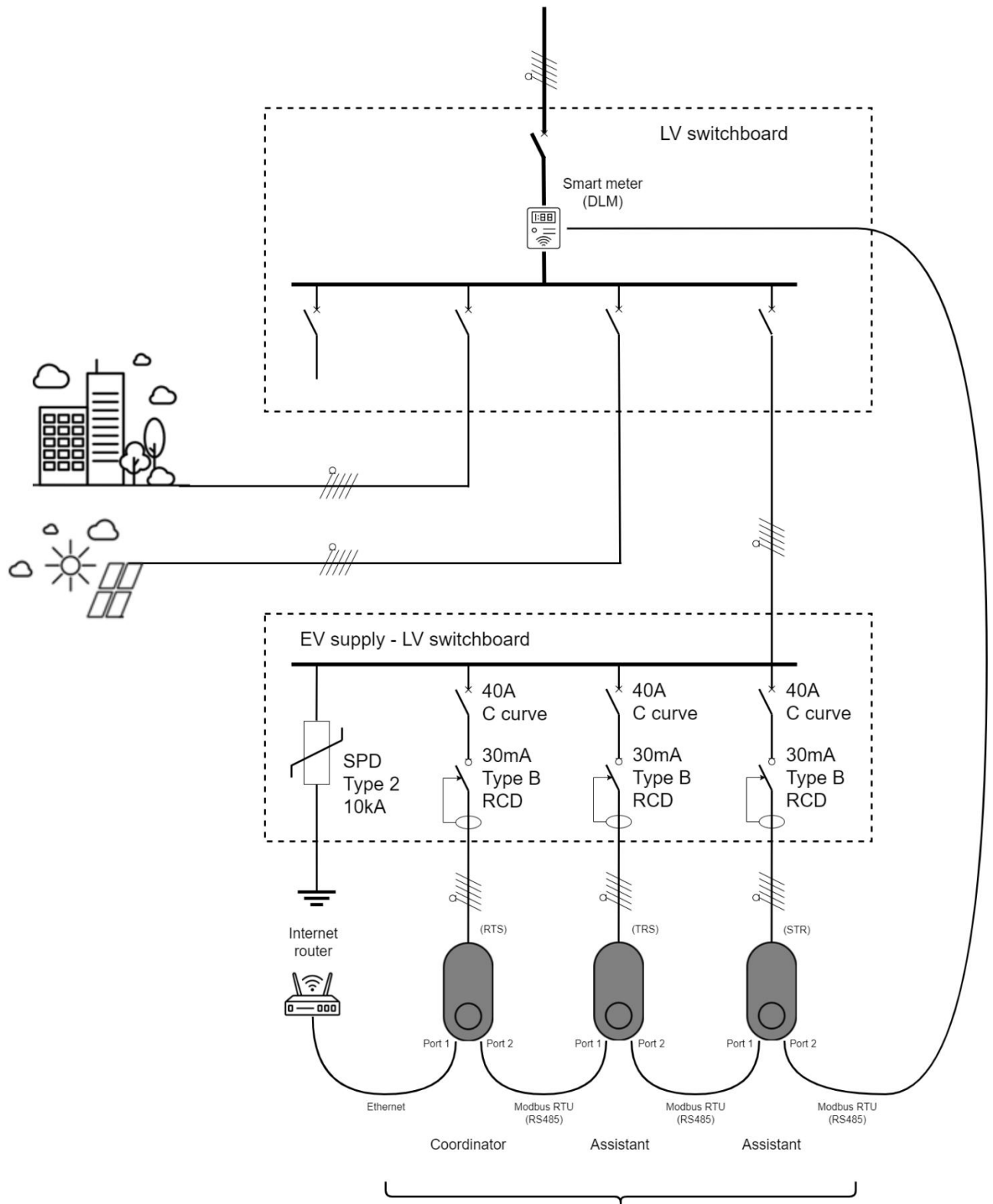
model code	Port 1	Port 2
X5 = 0 = Ethernet router, No Ethernet	Modbus RS485	Modbus RS485
X5 = 1 = Ethernet router, LAN port	Router's LAN Port	Modbus RS485
X5 = 2 = Ethernet router, WAN port 1	Router's WAN Port	Modbus RS485
X5 = 3 = Ethernet router, WAN port 1 & LAN port 2	Router's WAN Port	Router's LAN Port

NOTICE

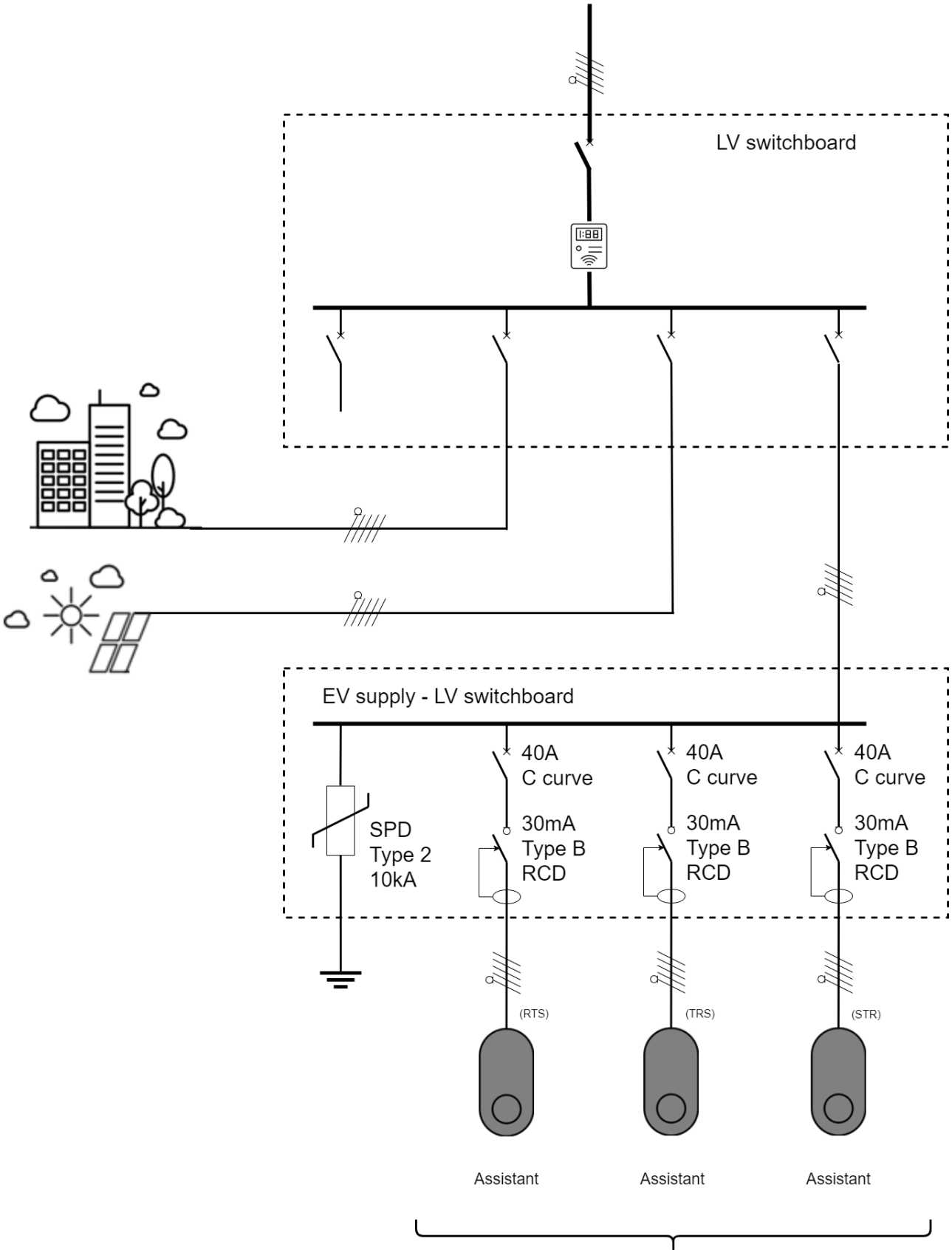
- 1) WAN port is used to establish a connection with an external network like the Internet.
- 2) LAN port is used to connect the other client devices to the local network and to connect them to the Internet through router connection (wireless or wired WAN port).
- 3) Modbus RS485 port is used to daisy-chain smart meters and Electric Vehicle Charger (Lite) devices with Electric Vehicle Charger (Pro) Coordinator, which implements Modbus device polling loop.



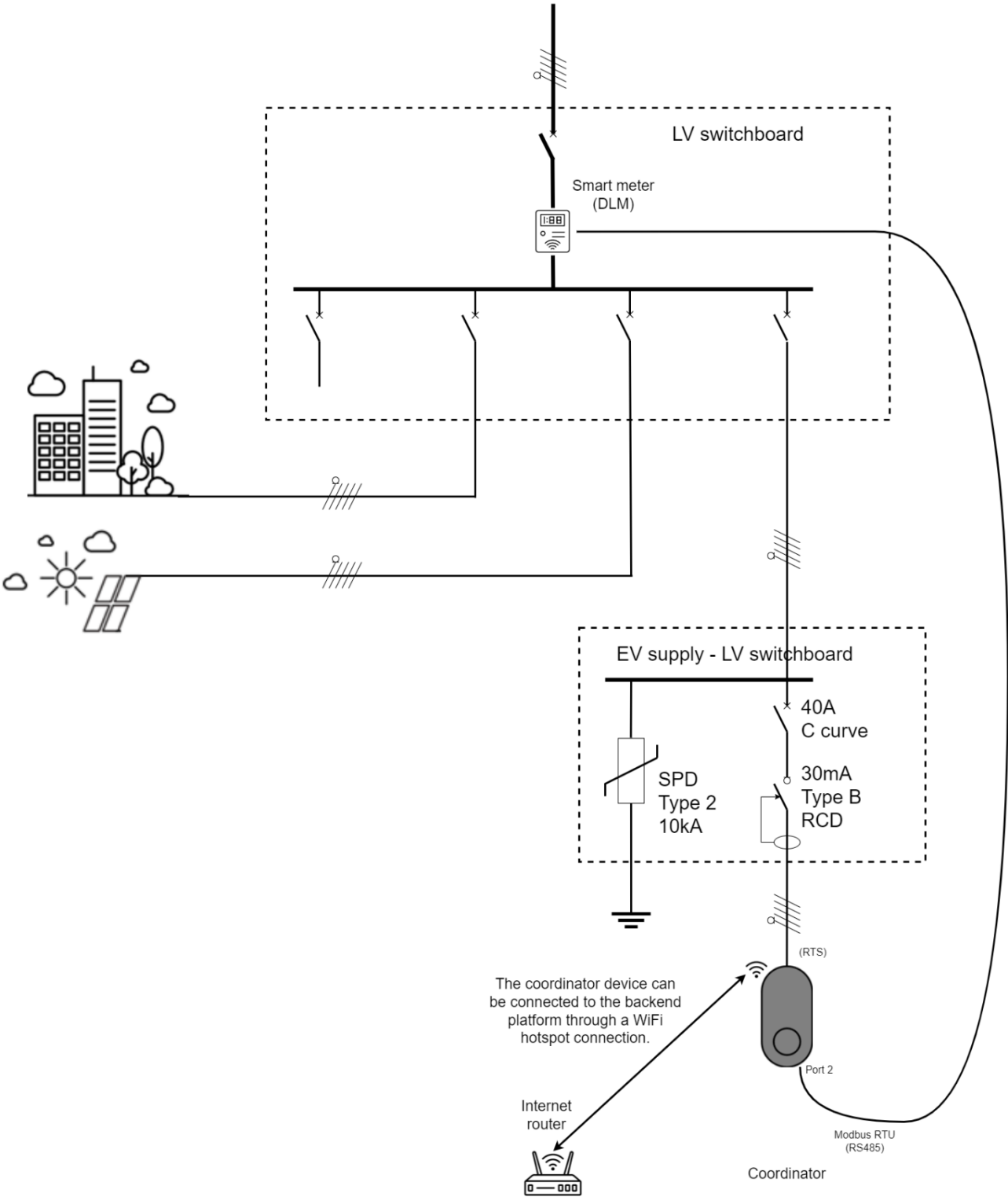




It is recommended to connect groups of three chargers and use RTS, TRS, and STR phase rotation during cable installation. This allows single-phase electric vehicles to utilize the installation cable power capacity most efficiently.



Assistant devices can be configured to operate in autonomous standalone mode. They support plug-and-charge functionality or can utilize local authentication lists and smart charging profiles.



5. Commissioning

5.1. Do a Check BEFORE Energizing Electric Vehicle Charger

**DANGER**

Hazardous voltage!

NOTICE

It's vital to ensure that all devices receive power simultaneously. If you're powering them one by one, make certain that the Electric Vehicle Charger (Pro) Coordinator is the last device to be powered on. This sequence ensures a smooth and coordinated setup process, enabling effective device configuration.

Inspect materials, accessories, product and installation (before energizing Electric Vehicle Charger):

Sritis	X	Check Steps before Energizing Electric Vehicle Charger
Overall appearance		You have received the materials, accessories ordered.
		You have removed the protective plastic packaging.
		No scratches or damage are visible.
Mechanical installation		The charging station has been installed properly at the installation site.
Electrical equipment installation		The power supply of the charging station meets the electrical planning requirements (cable size, protective devices, etc.). Review the local electrical equipment design plan.
		The PE (protective earth) wire screw is tightened.
		The supply conductors (L1, L2, L3, N, and PE) are properly connected and correct (planned) phase rotation is used.
		The insulation of the supply cable and conductors (L1, L2, L3, N, and PE) is undamaged.
		The voltage between PE (protective earth) and N (neutral) is less than 10 V.
		The resistance of the PE (protective earth) conductor is less than 3 Ω.

Operation verification		All LED states/colors are functioning (green, blue, red): • Use a car simulator. • Simulate a failed attempt and a successful charge. • Red during charging failure, green when idle, and blue during the charging process.
		Check the operation of the electrical protective device (RCBO).
Ready for use		The appropriate software version is being used.
		The correct operating mode is configured for: • Standalone (free charge or Local authorization List), or • The station operates controlled from the platform (via the Internet), • Integrated Load Management.
		Check the data connection if it is in use. Verify the received signal strength to ensure that the connection (4G, WiFi) is functioning, and check the reception and connectivity.
		Restart the charging station (turn off the power, wait 1-2 minutes, and turn it back on). Ensure that the station (or all stations connected to the coordinator) restarts correctly: • Connects to the control platform (verify through the platform). • Charging can be initiated from the mobile app (preparing mode is activated). • Charging function works (note: the station's charging function may be blocked due to incorrect configuration, which could be triggered during the restart).

5.2. Reset with Reset Button

NOTICE

The factory default configuration enables the "plug and charge" feature to verify charging functionality.

To reset the web configuration tool's password and all configuration keys to factory default, follow

these steps for each device individually:

1. **Press and Hold Reset Button:** Keep the reset button pressed.
2. **Turn On Power:** While continuing to press the reset button, turn on the power to the device.
3. **Hold Button for 8 Seconds:** Keep the reset button pressed for a duration of 8 seconds.
4. **Release Button:** Release the reset button.

By following these steps, the web configuration tool's password and all configuration keys will be reset to their factory default settings. Repeat this process for each device as needed to ensure individual configurations are reset.

5.3. Configuration Procedure

NOTICE

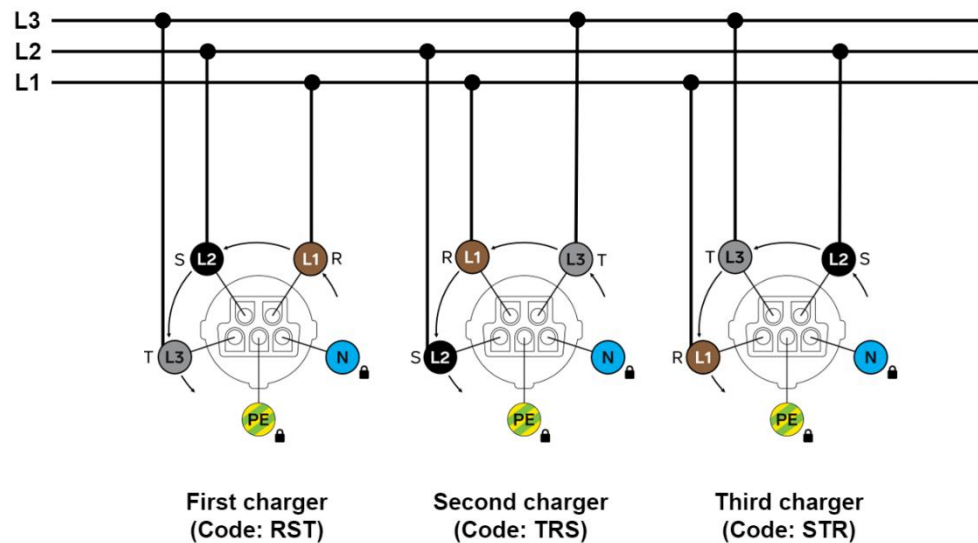
1. **Preparation:** Please be aware that connecting an Electric Vehicle Charger to the OCPP backend may require additional installation steps, including the configuration of internal router settings and ensuring that IT-related aspects are correctly set up. It's essential to consider that electrical installations are typically carried out by electricians who may not have extensive knowledge about the products and IT configurations, especially if it's their first time. Therefore, we highly recommend completing these steps in an office environment or other suitable location prior to the actual electrical installation.
2. **Accessories:** It is crucial to prepare the necessary accessories, which include 2 sets of 230VAC cables for power supply: one for the Electric Vehicle Charger (Pro) Coordinator and one for the Electric Vehicle Charger (Lite) Assistant. As well as 2 sets of Ethernet cables: one for connecting the Coordinator with the Assistant and the other for connecting the Coordinator to the router. Having these accessories readily available ensures that you have all the required components at your disposal.
3. **Preconfigured Device Testing:** Most importantly, before initiating the electrical installation at the final location, it is critical to preconfigure the charger and conduct a test within the OCPP platform. This pre-configuration and testing phase are essential for identifying and addressing any potential issues, ultimately reducing the likelihood of complications during the installation process, particularly in larger installations.

Installation and Configuration Procedure details:

1. **Factory Reset / Self-Test:** To configure any of the Electric Vehicle Charger devices, it's essential to start with a Factory Reset / Self-Test. This involves holding down the Reset button while turning on the power. Wait for 8 seconds, then release the Reset button. You should hear a short beep, and the device will reboot. It's normal for the LED indicator to be green after the reboot. If the LED indicator is red, please take a photo of the LED ring, as pixels encode an error that the manufacturer can use to identify the issue.

2. **Connection to the Electric Vehicle Charger (Pro) Coordinator Hotspot:** Wait until the Coordinator hotspot with the corresponding serial number becomes visible. Connect to it using the full serial number as the password.
3. **Accessing the EV Charger's Web Interface via IP Address:** To access the charger's web interface, open your web browser on a computer or mobile device that is connected to the same network as the charger. Then, in the web browser's address bar, enter the specific IP address provided for the charger in the format **10.1.0.1** (or **charger.local**). This action will allow you to connect to the charger's web interface, similar to how you access a wireless router's configuration panel.
4. **Logging in to the Charger's Web Configuration Tool:** Just like you would access the settings of a wireless router, this step involves using "**charger**" as a username and "**1234**" as default password.
5. **Changing the Default Password in the Web Configuration Tool:** It's important to change the default password to enhance the security of your charger's settings. By setting a unique and secure password, you ensure that only authorized individuals can access and make changes to the charger's configuration. This practice aligns with standard security protocols and helps safeguard your charging system and network from unauthorized access.
6. **Device Selection:** Under "Device Settings," you'll need to select the specific device you wish to configure based on its unique serial number. The list of available devices will be automatically populated after powering on the charger. Typically, you will find one Electric Vehicle Charger (Pro) Coordinator and all daisy-chained (Lite) Assistant devices listed.
7. **Configuration:** In this step, you'll configure the Electric Vehicle Charger station according to standard OCPP settings and configuration keys. This ensures that the charger operates seamlessly within your network and integrates with the OCPP backend system:
 - 1) **ServerUrl (OCPP Configuration Key):** Begin by configuring the ServerUrl, an OCPP key provided by the OCPP backend administrator. This key specifies the URL necessary for the charger to communicate with the backend system. Ensure that it is correctly set to establish a secure and efficient connection.
 - 2) **ChargePointIdentity (OCPP Configuration Key):** Next, adjust the ChargePointIdentity, another OCPP key. While the default value is the device's serial number, it is recommended to change it to a more meaningful identifier, such as the client's name or address, including onsite charging station number. This enhanced identification helps manage historical data and supports future modifications to the device.
 - 3) **PowerSupplyInputMaximumCurrent (OCPP Configuration Key):** Set the PowerSupplyInputMaximumCurrent, a configuration key, to determine the maximum allowable charging current that the station can draw from the grid. Ensure that this value aligns with the capacity of the electrical system to avoid overloading.
 - 4) **PowerSupplyInputPhaseRotation (OCPP Configuration Key):** Configure PowerSupplyInputPhaseRotation, a configuration key (0.RST, 0.RTS, 0.SRT for three phase setups, 0.NotApplicable for single phase setup), to ensure correct operation in more complex installations. This setting is crucial for current management and must be

correctly aligned with the electrical setup.



- 5) **FreeCharging (OCPP Configuration Key):** Set FreeCharging to 'false' if the device should work in conjunction with an RFID card list or without an OCPP platform. This enables you to manage access to the charging station efficiently. By default, this key is set to 'true' and allows you to 'Plug and Charge' without authentication.
- 6) **PermanentConnectorLock (OCPP Configuration Key):** If you require a fixed cable version, set PermanentConnectorLock to 'true.' In this mode, the station locks the cable during the first charging session and does not release it until this parameter is set to 'false' again.
- 7) **ConnectorLockDisabled (OCPP Configuration Key):** The ConnectorLockDisabled setting can be adjusted based on your specific needs. Some station operators may choose to block the lock, allowing EV users to remove the cable at any time. While this may not fully align with OCPP requirements, it can be useful in certain situations.
- 8) **LightIntensity (OCPP Configuration Key):** You can modify the LED brightness to reduce its intensity if the device operates in an underground parking lot and you want to minimize light emission.
- 9) **Load Management Configuration:** If using an external electricity meter for local management, refer to the provided sketch and explanation in section "5.4. Web Configuration Tool" of this manual. Configure this feature to meet your specific requirements.
8. **Saving Configurations and Restarting the OCPP Service:** After configuring the Electric Vehicle Charger stations, it's essential to save these settings using the 'Write' function. The changes you make will come into effect after a system restart. To accomplish this, follow these steps:
 - 1) Save these settings using the 'Write' function.
 - 2) Navigate to the 'Maintenance' section within the web configurator.

- 3) Select 'OCPP Restart' from the available options.
 - 4) Finally, click 'Restart OCPP service'.
9. **WAN Configuration:** In this step, you'll configure the WAN settings of your Electric Vehicle Charger station, like configuring a standard router. These settings are essential to ensure the charger operates seamlessly within your local network:
- 1) **Static IP Address or Dynamic IP Address (DHCP):** Just like when configuring a router, you have the option to assign a static IP address to the charger or use dynamic IP addressing (DHCP):
 - **Static IP Address:** If you opt for a static IP address, enter the specific IP address, subnet mask, default gateway, and DNS server details. This is typically used when you want the charger to have a fixed, unchanging IP address within your network.
 - **Dynamic IP Address (DHCP):** If you prefer dynamic IP addressing, make sure the charger is set to obtain its IP address, subnet mask, and other network details automatically from the DHCP server on your network. This is a more convenient option if your network infrastructure employs DHCP.
 - 2) **MAC Address:** You might also need to enter the charger's MAC address into your network's access control list, just as you might configure MAC filtering for devices on a standard router.
10. **Saving Configurations and Rebooting the Charger Station:** As is often the case with router configuration, the last step involves saving the configurations you've made and then initiating a reboot of the Electric Vehicle Charger station:
- 1) After ensuring that all your desired configurations have been set as needed, navigate to the 'Maintenance' section within the web configurator.
 - 2) Finally, initiate a full reboot of the charger station by selecting the 'Reboot' option function in the web configurator. This action will ensure that all configurations take effect, and that the charger operates smoothly with the new settings.

By following this step, you conclude the setup process, aligning the charger station with your specified configurations and allowing it to integrate seamlessly with the OCPP backend system, ensuring it operates efficiently within your network.

6. Web Configuration Tool

NOTICE

There are several options available for connecting to the Electric Vehicle Charger (Pro) Coordinator. One convenient option is to use the embedded hotspot that appears as a network starting with "Charger" followed by the beginning of the serial number. The network password is the full serial number printed on the backside of the product.

This method provides a straightforward and accessible way to establish a connection with the Electric Vehicle Charger (Pro) Coordinator, ensuring quick and hassle-free setup. If you require information about other available connection options, please feel free to contact a manufacturer representative who can provide further guidance and assistance.

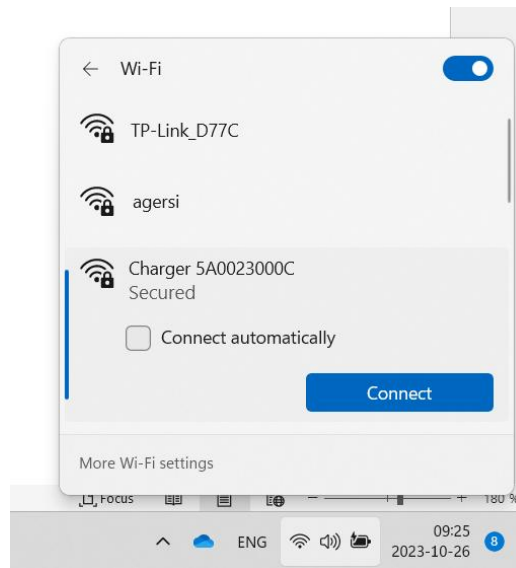
The Electric Vehicle Charger (Pro) Coordinator comes equipped with an intuitive web configuration tool, enabling you to configure its various features using web browsers like Internet Explorer, Firefox, Safari, or Google Chrome on a computer or mobile device. This configuration tool also facilitates the setup of all daisy-chained (Lite) Assistant devices connected to (Pro) Coordinator.

General Configuration Process:

1. **Installation and Power On:** Complete the installation process. It's vital to ensure that all devices receive power simultaneously. If you're powering them one by one, make certain that the Electric Vehicle Charger (Pro) Coordinator is the last device to be powered on. This sequence ensures a smooth and coordinated setup process, enabling effective device configuration.
2. **Connect to the Charger:** To initiate the configuration, connect your laptop or smartphone to the Electric Vehicle Charger (Pro) Coordinator. Utilize the embedded hotspot, which appears as a network starting with "Charger" followed by the initial characters of the serial number. The network password is the full serial number located on the backside of the product.
3. **Access the Charger's Settings:** Enter the IP address **10.1.0.1** (or **charger.local**) into your web browser. This will grant you access to the charger's settings and control panel, allowing you to configure and manage various aspects of the charger's operation.
4. **Web-Based Configuration:** Employ a web tool to configure the Electric Vehicle Charger devices as needed. After completing configurations, ensure to save settings within the web tool. Don't forget to reboot the device when all configurations are finalized. New settings take effect upon device reboot.
5. **Initiate EV Charging:** After completing the configuration, you can proceed with the EV charging process, adhering to the newly applied configuration settings.

By following these steps, you'll be able to configure and use the Electric Vehicle Charger (Pro) Coordinator and Assistant devices, allowing for efficient charging of your electric vehicle while

ensuring a reliable network connection. **Example:** optional **(only for certified devices)** hot spot “Charger 5A0023000C” for Electric Vehicle Charger (Pro) Coordinator with serial number starting with 5A0023000C:



6.1. Login

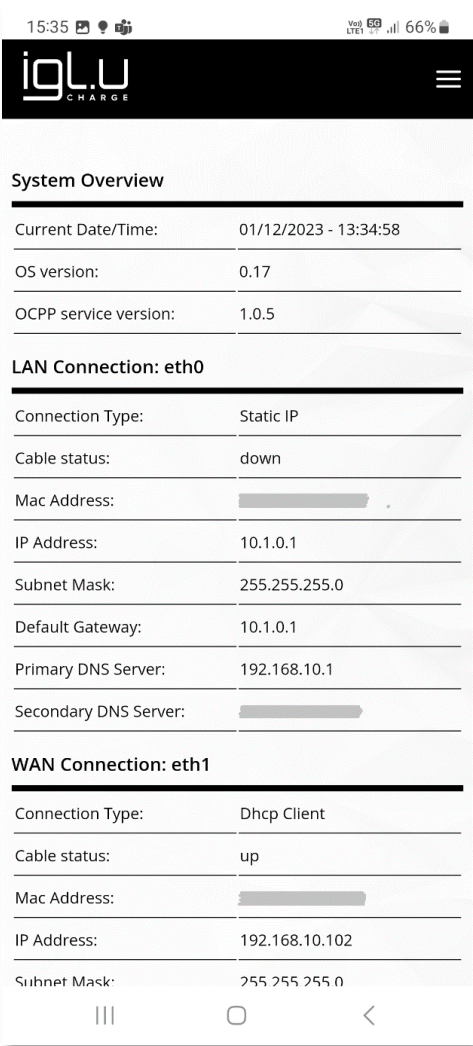
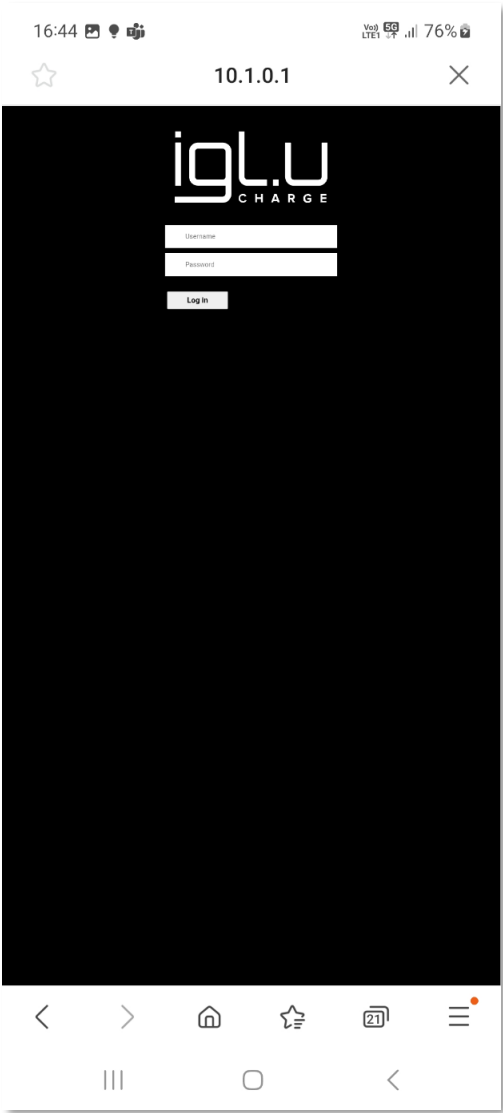


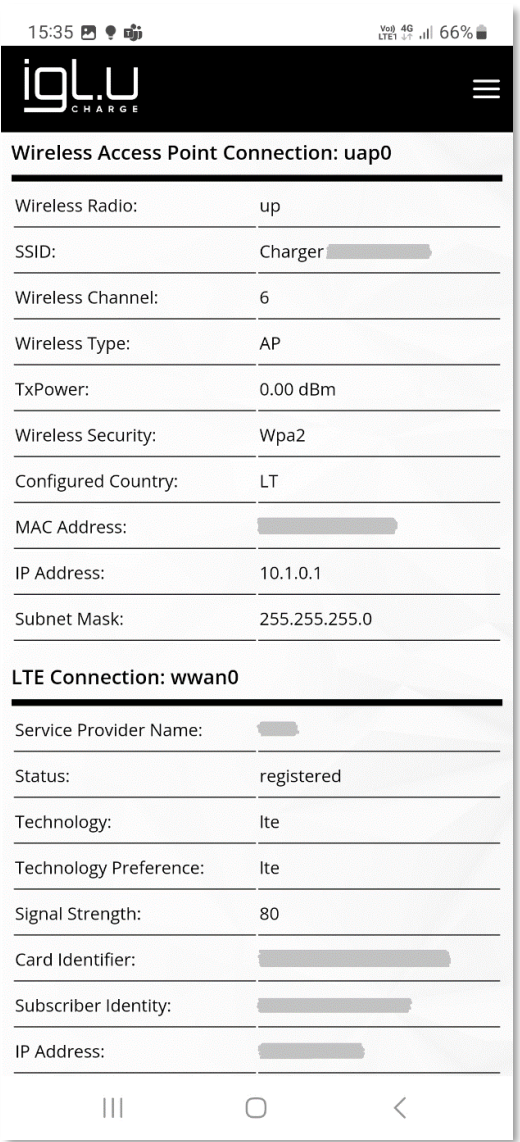
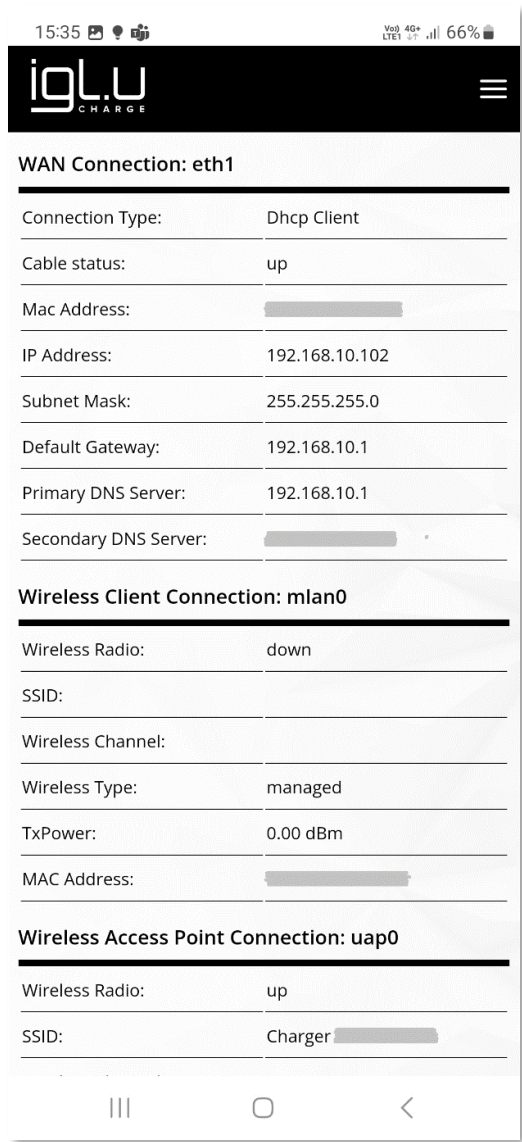
CAUTION

It's important to change the default password to enhance the security of your charger's settings. By setting a unique and secure password, you ensure that only authorized individuals can access and make changes to the charger's configuration. This practice aligns with standard security protocols and helps safeguard your charging system and network from unauthorized access.

To connect to Electric Vehicle Charger (Pro) Coordinator use **“charger”** as a username and **“1234”** as default password.

After logging in, a "System Overview" page will appear, displaying the current configuration and connection status. **All WiFi or GSM functionality is optional and is available only on certified devices.**





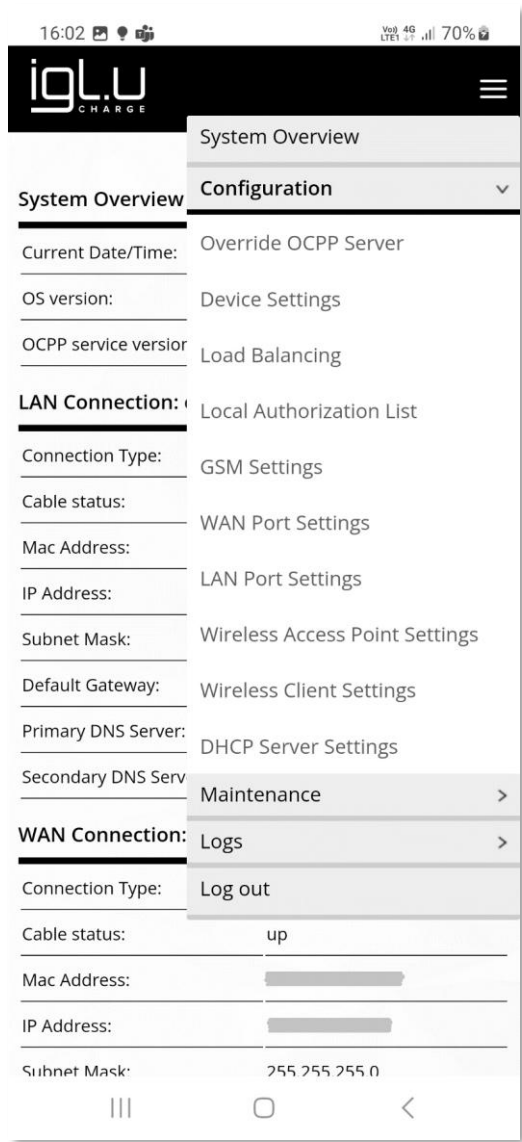
6.2. Configuration Panel

"Configuration" expands the menu, offering a detailed look at various settings for the Electric Vehicle Charger (Pro) Coordinator. This section allows fine adjustments and customization to suit specific needs. Explore different options that cover OCPP server setup, individual charge points settings, load management, and network connectivity to optimize your charging station's performance:

- 1. Override OCPP Server:** This setting allows for the quick configuration of the OCPP server URL for all charge points connected to this Coordinator. It ensures that all devices share the same base URL, simplifying the setup process. Moreover, it enables new Assistant devices to connect to the OCPP backend without requiring additional configuration. Please note that this option doesn't apply any changes to individual URLs available in the "Device Settings" section.
- 2. Device Settings:** In this section, each charge point unit can be individually configured with all OCPP configuration keys, both Standard and Manufacturer-specific. This customization

offers fine-tuned control over the behavior and features of each device.

3. **Load Management:** This setting allows for the configuration of both local Static and Dynamic Load Management for all daisy-chained (Lite) devices connected to the Electric Vehicle Charger (Pro) Coordinator. Load management ensures the efficient utilization of available power resources, optimizing the charging process.
4. **Local Authorization List:** This feature allows for the maintenance of a local RFID list. RFID cards can be scanned with integrated readers, or an authorization list can be manually created. This list serves to manage and control access to the charging stations. It's important to note that the list can be managed either manually or by the OCPP backend but not both simultaneously.
5. **GSM Settings:** This setting allows you to configure SIM cards, including Access Point Names (APN), usernames, passwords, and PIN codes. It's crucial for establishing network connectivity via cellular data.
6. **WAN Port Settings:** In this section, the device can be configured for its Internet connection method. The options include choosing between a static IP configuration or utilizing DHCP for automatically assigned IP settings. This setting is crucial for defining the device's connection method.
7. **LAN Port Settings:** This option enables the configuration of how external devices, such as e-meters or payment card terminals, are connected to the Internet through the device. It is crucial for the management of external device connectivity.
8. **Wireless Access Point Settings:** This section provides options for configuring the device's role as a Wireless Access Point, allowing other devices to connect wirelessly to it.
9. **Wireless Client Settings:** Here, you can configure the device to function as a Wireless Client, enabling it to connect to other wireless networks, such as a Wi-Fi network, to access the Internet or communicate with external devices.
10. **DHCP Server Settings:** This setting allows you to configure the device as a DHCP server. It controls the allocation of IP addresses within your network, ensuring that devices are assigned unique IP addresses dynamically.



6.3. Override OCPP Server

CAUTION

Device configuration changes take effect after system reboot or OCPP service restart via functions available in the "Maintenance" section of the menu.

CAUTION

According to OCPP-J, charge points create their connection URLs by combining the configured URL with a unique identifier using the "ChargePointIdentity" parameter. However, certain OCPP backends may need a different URL format, which can be achieved by setting "ChargePointIdentity" to an empty string for all charge points. In this case, overriding the OCPP server for all devices may not work correctly, as they will connect under the same URL

These configuration settings ensure that all devices share the same base URL, facilitating easy connection of new assistant devices to the OCPP backend without additional configuration:

1. Enable "**Override OCPP Server for all devices**".
2. Enter the **OCPP Server URL**, which will be used by all chargers connected to the coordinator.

16:08

Vol 40V
LTE1 54%

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CHARGE

Configuration / Override OCPP Server

This setting allows faster configuration of the OCPP server URL for all charge points connected to this Coordinator. It ensures that all devices share the same base URL.

Additionally, it allows new assistant devices to connect to the OCPP backend without requiring additional configuration.

Note: According to OCPP-J specification, a charge point derives its connection URL by appending the configured URL with "a string uniquely identifying the Charge Point". This string is configurable via "ChargePointIdentity" parameter.

However, some OCPP backend implementations may require assigning a unique URL that does not comply with this requirement. In such cases, the ChargePointIdentity (in all charge points) should be set to an empty string. In such scenario, overriding the OCPP server for all devices may not function correctly, as each charge point will be connecting under the same URL.

Override OCPP Server

☐

for all devices:

OCPP Server URL:

Write

6.4. Device Settings

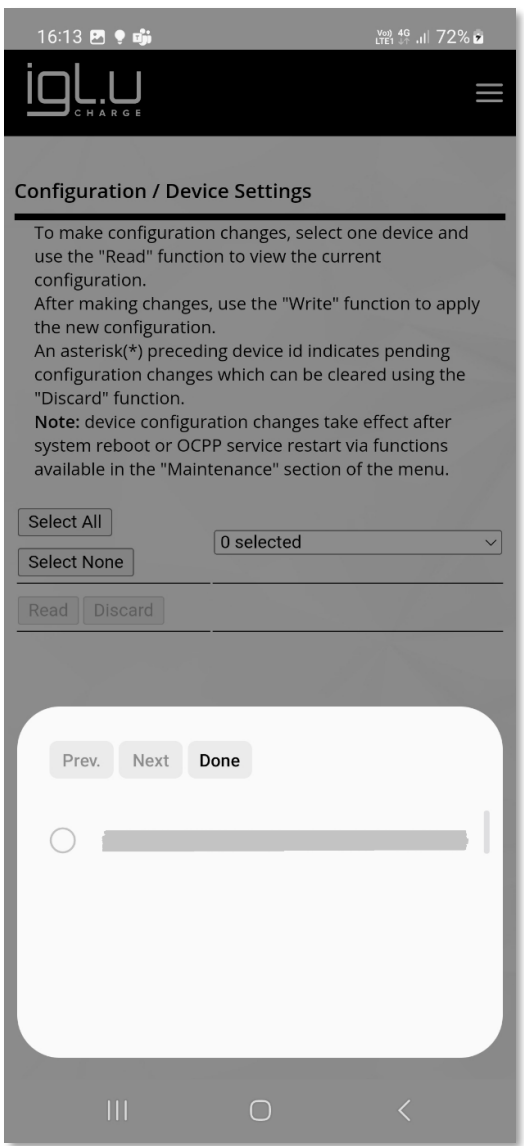
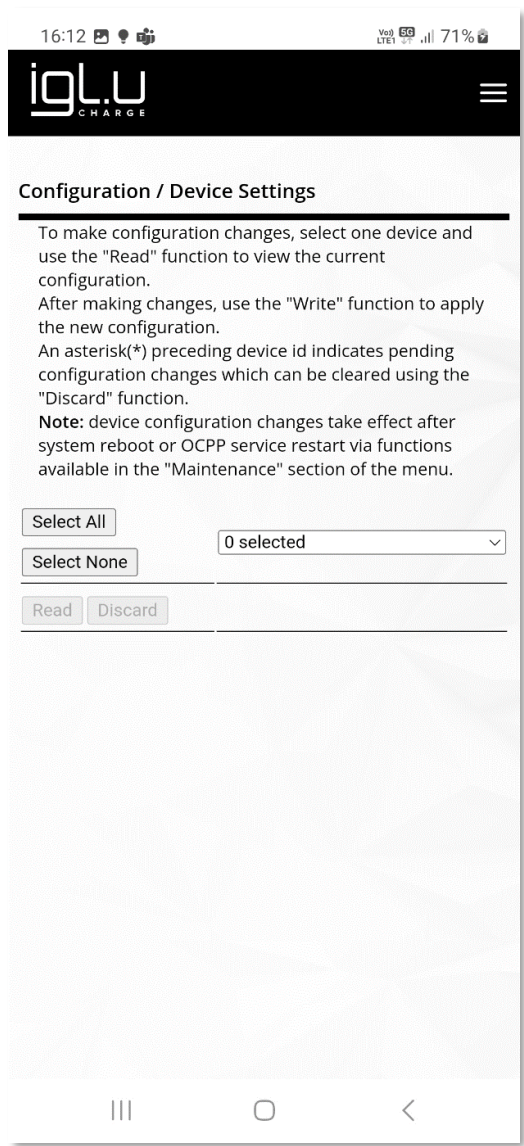
To change device settings, follow these steps:

1. **Select Devices:** To apply changes, either select "Select All" to configure all devices or manually choose individual devices by their unique IDs. At least one device must be selected for configuration.
2. **Read Current Configuration:** Click the "Read" button to retrieve the current settings.
3. **Change Settings:** Modify the settings that require adjustment.
4. **Write Configuration:** Press the "Write" button to save the changes. Devices with an asterisk (*) preceding their device ID indicate pending configuration updates.
5. **Discard Pending Setting Updates:** Choose devices marked with an asterisk (*) before their device ID and click the "Discard" button to remove the new settings.



CAUTION

It is possible to inadvertently adjust common device configuration keys by selecting either all devices or specific ones for configuration. However, please be aware that all selected devices will subsequently share the same ServerUrl and ChargePointIdentity settings. The next step involves modifying individual device settings using their respective device IDs.





CAUTION

Ensure you complete the "Write Configuration" step by pressing the "Write" button to save the changes.

16:22VoLTE1 4G+ 73%

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Configuration / Device Settings

To make configuration changes, select one device and use the "Read" function to view the current configuration.

After making changes, use the "Write" function to apply the new configuration.

An asterisk(*) preceding device id indicates pending configuration changes which can be cleared using the "Discard" function.

Note: device configuration changes take effect after system reboot or OCPP service restart via functions available in the "Maintenance" section of the menu.

Select All

Select None

Read

Write

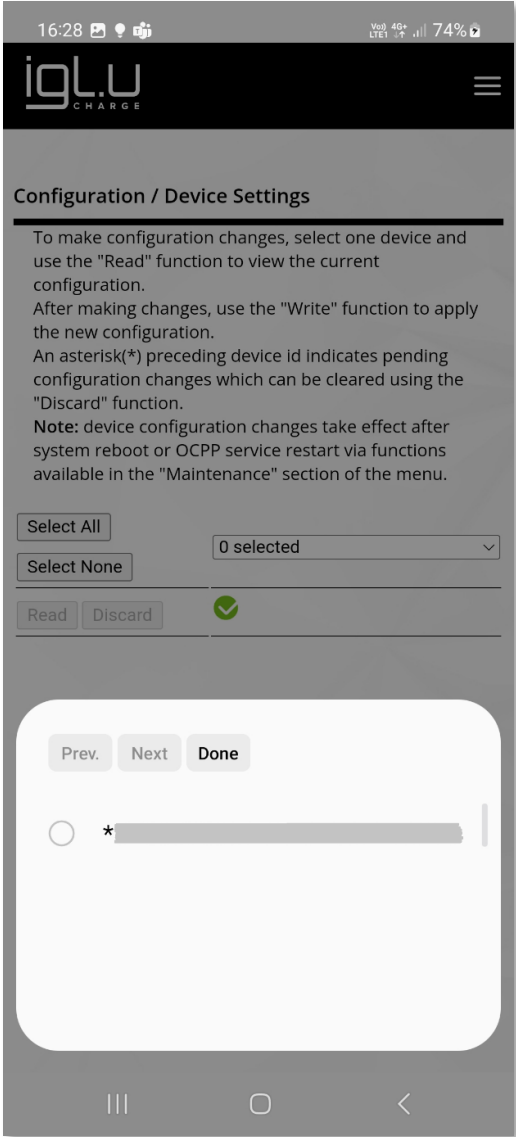
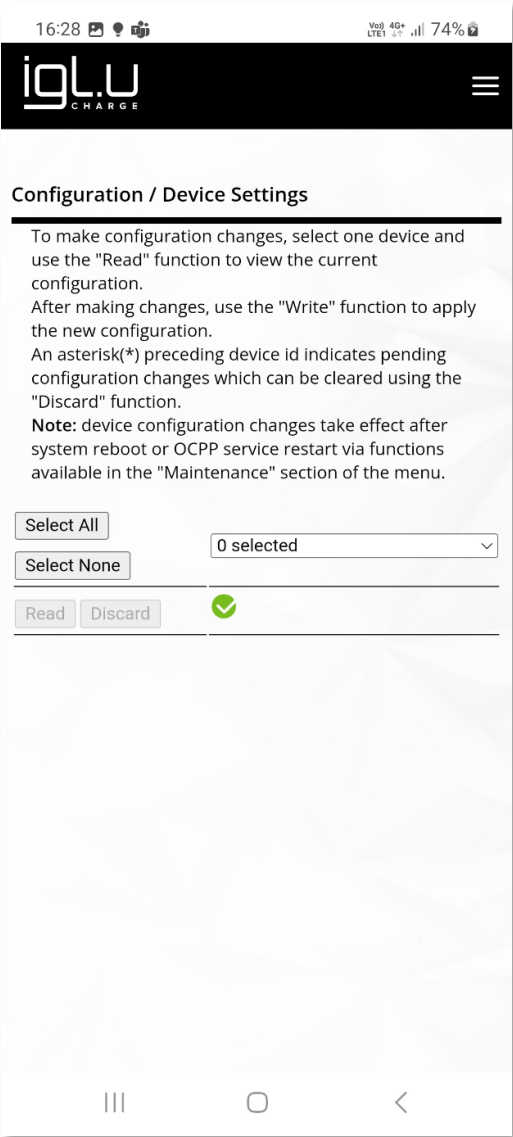
Discard

Key	Value
ServerUrl	
ChargePointIdentity	
PowerSupplyInputMaximumCurrent	12
PowerSupplyInputPhaseRotation	× 0. NotApplicable
FreeCharging	false
PermanentConnectorLock	false



CAUTION

Devices with an asterisk (*) preceding their device ID indicate only pending configuration updates. Device configuration changes take effect after system reboot or OCPP service restart via functions available in the "Maintenance" section of the menu.



6.5. Integrated Load Management

1. Static Load Management:

- **Purpose:** To protect the electrical installation of a charging station.
- **Operation:** Involves determining the maximum allowable current for charging a vehicle.
- **Configuration:** Achieved through the OCPP (Open Charge Point Protocol) configuration key **PowerSupplyInputMaximumCurrent**. This key is set to limit the maximum charging current, thereby preventing overloading of the electrical system.

2. Dynamic Load Management:

- **Purpose:** To dynamically control the power of charging electric vehicles based on real-time information.
- **Operation:** Utilizes information about the charging current from the stations or/and evaluates the energy needs of other electrical devices.
- **Configuration:** Requires a group coordinator to control connected daisy-chained assistant devices. The coordination helps manage the power dynamically, optimizing it based on the current demands and avoiding excessive loads on the electrical system.

1) Anti-Tripping System:

- **Purpose:** Ensure that the electrical capacity of a building or home is not exceeded when multiple devices share a common grid connection with a maximum capacity.
- **Operation:** During peak demand for electrical power, the coordinator intelligently reduces the current output for the active car charging, employing a technique known as "peak shaving". This reduction helps maintain the grid's capacity limits, preventing overloading.
- **Configuration:** Achieved through the OCPP configuration key **BalancingGroupMaximum**. This key is set to limit the maximum charging current, thereby preventing overloading of the electrical system.

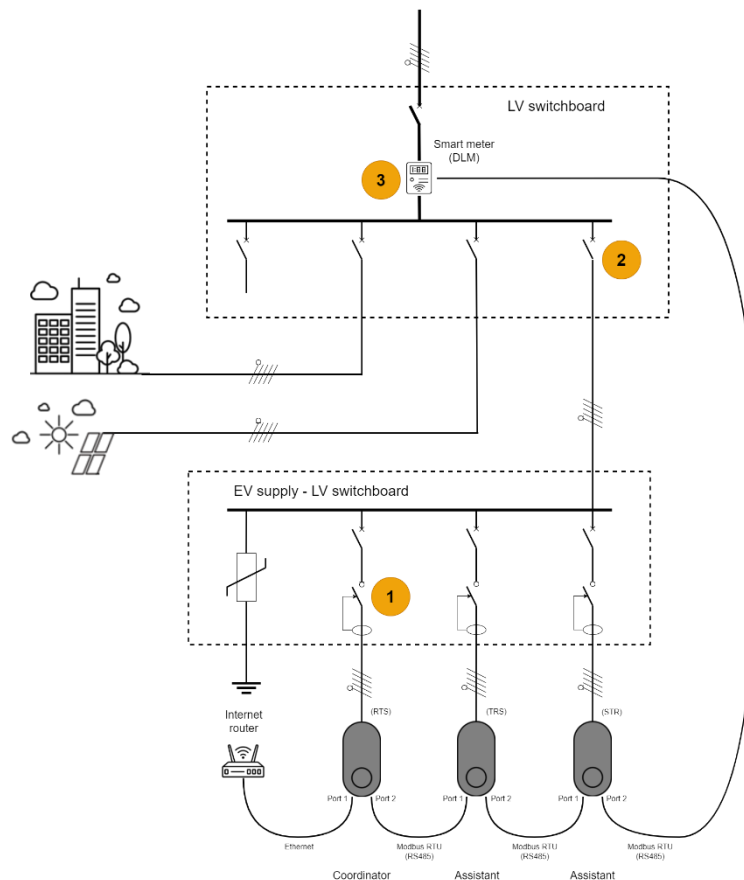
2) Load Management:

- **Purpose:** Evaluate smart meter power information in real-time based on other site-specific requirements (load priority or energy generation) and an optimization strategy.
- **Operation:** Like the Anti-Tripping System, but instead of the sum of group currents, the actual current through the e-meter is evaluated. During peak demand for electrical power, the coordinator intelligently decreases the current output for the active car charging, utilizing "peak shaving" to maintain the grid's capacity limits.

- Configuration: Achieved through the OCPP (Open Charge Point Protocol) configuration key **BalancingMeteredMaximum**. This key is set to limit the maximum charging current, thereby preventing overloading of the electrical system.

3) Power Outage Recovery:

- **Purpose:** To manage the automatic restart of charge points after a power outage. The solution aims to ensure a controlled and coordinated recovery process, preventing any adverse impact on the utility grid when multiple charge points attempt to resume charging simultaneously.
- **Operation:** When power is restored after an outage, the charge point initiates an automatic restart. The restart is accompanied by a delay, with a duration typically ranging from 60 to 900 seconds. The intentional delay is implemented to stagger the resumption of charging, avoiding potential strain or issues on the utility grid, especially in scenarios with multiple charge points in the same area.
- **Configuration:** The functionality of the power outage recovery is controlled and configured by an OCPP configuration keys **PowerOutageRecoveryDelayMin** and **PowerOutageRecoveryDelayMax**. It allows adjustments to the duration of the delay, providing flexibility in tailoring the system to specific needs or conditions.



In this configuration section, you can configure advanced load management settings to enhance the operation of your Electric Vehicle Charger (Pro) Coordinator. Load management helps optimize the

use of power resources among connected charging stations, ensuring efficient and reliable performance. Here are the key settings you can customize:

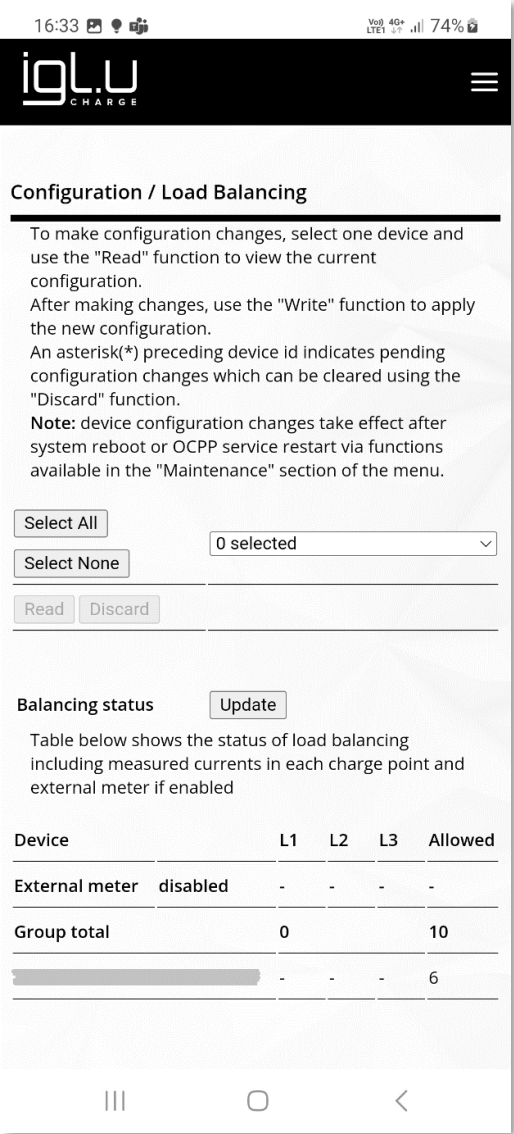
1. **Enable Load Management:** This option enables or disables load management for the connected devices. Load management helps distribute power resources efficiently among the charging stations, ensuring optimal operation.
2. **Group Maximum (A):** Specify the maximum current in Amperes (A) that can be allocated to the entire group of connected devices. This setting helps control the total power consumption within the group.
3. **Distribution Algorithm:** One common algorithm is the "Even" algorithm, which evenly distributes power among connected devices. In addition to the "Even" algorithm, there is another option known as "FIFO," which stands for "First-In-First-Out." The FIFO algorithm prioritizes charging stations based on the order in which they were connected. The first device to be plugged in will receive power until its charging session is complete, after which power is allocated to the next device in line. This method ensures that charging stations are served in the sequence they are connected, which can be useful in certain scenarios where prioritizing charging order is important.
4. **Update Interval:** Define the interval, in milliseconds (ms), at which the system updates load management data. A lower interval provides more frequent updates.
5. **Use External Meter:** When enabled, this feature allows you to integrate an external meter into the load management process. The system will consider data from the external meter when making load allocation decisions.
6. **Metered Maximum:** If using an external meter, specify the maximum current in Amperes (A) allowed to flow through the meter at any time. The system will consider this value for load management.
7. **Meter Model:** Select the model of the external meter being used.
8. **Meter Modbus ID:** Specify the Modbus ID for the external meter if applicable.
9. **Meter Update Interval:** Define the update interval, in milliseconds (ms), for the external meter. This determines how often the system collects data from the meter.

The table offers valuable insights into the status of load management, providing information on measured currents in each charge point and the external meter if it's enabled:

1. **Update:** Click this button to obtain or refresh the current status.
2. **External Meter:** This section displays the enabled status, actual L1, L2, and L3 currents, as well as the maximum allowed limit.
3. **Group Total:** This section displays group's actual L1, L2 and L3 currents, and the maximum allowed limit. The group is formed by the coordinator and all devices daisy-chained to it.
4. **List of Devices:** This section lists individual devices, including their actual L1, L2, and L3 currents and the allowed limit for each.

NOTICE

It's important to note that Load Management is typically managed by a single coordinator device. However, for the sake of ease and maintainability, it's advisable to configure the same settings for all devices. By doing so, you ensure that the settings remain consistent across all devices. This approach can be particularly valuable in situations where the coordinator device may need to be changed, as the settings will be readily available in all other devices and can be easily applied when necessary. This simplifies the management of load management and ensures a seamless transition when making changes to your setup.





CAUTION

Ensure you complete the "Write Configuration" step by pressing the "Write" button to save the changes.

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Configuration / Load Balancing

To make configuration changes, select one device and use the "Read" function to view the current configuration.
After making changes, use the "Write" function to apply the new configuration.
An asterisk(*) preceding device id indicates pending configuration changes which can be cleared using the "Discard" function.
Note: device configuration changes take effect after system reboot or OCPP service restart via functions available in the "Maintenance" section of the menu.

Select All

Select None

Read

Write

Discard

Configuration

☐ Advanced

Enable load balancing: ☒

Group maximum (A):

Use external meter: ☐

Metered maximum (A):

Meter model:

EM340

Meter Modbus Id:

III

O

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the new configuration.
An asterisk(*) preceding device id indicates pending configuration changes which can be cleared using the "Discard" function.
Note: device configuration changes take effect after system reboot or OCPP service restart via functions available in the "Maintenance" section of the menu.

Select All

Select None

Read

Write

Discard

Configuration

☒ Advanced

Enable load balancing: ☒

Group maximum (A):

Distribution algorithm:

Even

Update interval (ms):

Use external meter: ☐

Metered maximum (A):

Meter model:

EM340

Meter Modbus Id:

Meter update interval (ms):

III

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6.6. Local Authorization List

The Electric Vehicle Charger (Pro) Coordinator provides the capability to maintain a local authorization list, granting you the means to manage and control access to the charging stations. It offers the flexibility to scan RFID cards using integrated readers or manually create an authorization list. It's important to note that the list can be managed either manually or by the OCPP backend, but not both methods simultaneously.

Here's a summary of the key features in this section:

1. **Last Scanned IdTag:** Click the "Update" button to retrieve the latest information on recently scanned RFID cards.
2. **New IdTag:** You have the option to either copy a scanned IdTag or manually enter all the required properties, including the ID Tag, Parent ID Tag, Expiry Date/Time, and select the status as either "Accepted" or "Blocked".
3. **Add IdTag:** After entering the tag details and clicking the "Add" button, the new tag information will be displayed in the list of tags.
4. **List Version:** After completing your list update, make sure the list version is incremented automatically.
5. **Write List:** The Local Authorization List configuration is completed by either selecting all devices or the specific ones you need to configure with the new list and clicking the "Write" button.



CAUTION

Make sure the Local Authorization List is created or updated, and the correct List Version is assigned. Otherwise, devices might ignore/reject list changes.

16:48Vo8 4G+LTE1 21%76%



Configuration / Local Authorization List

This section allows setting up a local authorization list independently of OCPP backend.
To prevent conflicts, charge points must have 'LocalListManagedByUser' set to True to disable list management via OCPP.
Use the "Write" function to apply current list to selected device(s).
An asterisk(*) preceding device id indicates pending configuration changes which can be cleared using the "Discard" function.

Select All

0 selected

Select None

Write

Discard

For convenience, the following list shows the last IdTag that was scanned by the charge point RFID reader

Last scanned IdTags

Update

Station	IdTag

Select

Add new tag

ID Tag:

Parent ID Tag:

Expiry Date/Time:

16:48Vo8 4G+LTE1 21%76%



Add new tag

ID Tag:

Parent ID Tag:

Expiry Date/Time:

StatusAccepted

Add

List

2

Set

version

Id Tag	Parent Id Tag	Expiry Date/Time	Status
			Accepted

Delete



CAUTION

Devices with an asterisk (*) preceding their device ID indicate only pending configuration updates. Device configuration changes take effect after system reboot or OCPP service restart via functions available in the "Maintenance" section of the menu.

16:53

VoB 4G+ LTE1

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CHARGE

Configuration / Local Authorization List

This section allows setting up a local authorization list independently of OCPP backend.
To prevent conflicts, charge points must have 'LocalListManagedByUser' set to True to disable list management via OCPP.
Use the "Write" function to apply current list to selected device(s).
An asterisk(*) preceding device id indicates pending configuration changes which can be cleared using the "Discard" function.

Select All

0 selected

Select None

Write

Discard



For convenience, the following list shows the last IdTag that was scanned by the charge point RFID reader

Last scanned IdTags

Update

Station	IdTag	
		Select

Add new tag

ID Tag:

Parent ID Tag:

Expiry Date/Time:

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CHARGE

Configuration / Local Authorization List

This section allows setting up a local authorization list independently of OCPP backend.
To prevent conflicts, charge points must have 'LocalListManagedByUser' set to True to disable list management via OCPP.
Use the "Write" function to apply current list to selected device(s).
An asterisk(*) preceding device id indicates pending configuration changes which can be cleared using the "Discard" function.

Select All

0 selected

Select None

Write

Discard



For convenience, the following list shows the last IdTag that was scanned by the charge point RFID reader

Prev.

Next

Done



*

Expiry Date/Time:

6.7. GSM Settings (Only for Certified Devices)

These settings allow for the configuration of SIM cards, including Access Point Names (APN), usernames, passwords, and PIN codes, along with parameters for periodic network performance checks to determine the most stable network technology:

1. **SIM Card Settings:** A physical SIM card can be inserted during manufacturing and will take priority over the embedded eSIM. Configure the following settings:
 - 1) **APN:** SIM card's Access Point Name (APN).
 - 2) **Username:** SIM card's Username.
 - 3) **Password:** SIM card's Password.
 - 4) **Authentication:** Authentication method none, pap, chap.
 - 5) **PIN Code:** SIM card's PIN Code.
2. **eSIM Card Settings:** The eSIM is the default card, enabling remote access to the OCPP backend, remote firmware updates, and maintenance during the manufacturer's liability period. After this period, additional network operation fees may apply, or you can connect the device using the Ethernet WAN port. Configure the following settings:
 - 1) **APN:** eSIM card's Access Point Name (APN).
 - 2) **Username:** eSIM card's Username.
 - 3) **Password:** eSIM card's Password.
 - 4) **Authentication:** Authentication method none, pap, chap.
 - 5) **PIN Code:** eSIM card's PIN Code
3. **GSM Network Technology Settings:** These settings control the periodic network performance check to determine the most stable network technology, preventing the device from going offline permanently:
 - 1) **Initial Technology Preference:** Choose from Any, 2G, 3G, or 4G.
 - 2) **Reinit Period:** Reinitialization period
 - 3) **Ping Recovery Settings:** These settings control the ping command used to check connections. They include repetition **period** in seconds, **retry** count, and the **URL** to check connections.
 - 4) **Wget Recovery Settings:** These settings control the wget command used to check connections. They include repetition **period** in seconds, **retry** count, and the **URL** to check connections.

NOTICE

By default, the eSIM card is active, enabling remote firmware updates and maintenance during the manufacturer's liability period. However, after this period or if high data throughput is required, additional network operation fees may apply. Alternatively, you can connect the device using the Ethernet WAN port for your network needs.

⚠ CAUTION

Changes made to GSM Settings configuration will take effect **ONLY** after a system reboot, which can be performed in the "Maintenance" section of the menu.

All GSM functionalities are available only on Certified devices. Not certified devices do not have GSM capability.

16:58 4G+ 78%

iglu CHARGE

Configuration / GSM Settings

Note: Changes take effect after system reboot.

SIM Card Settings

APN:

User Name:

Password:

Authentication:

PIN Code:

eSIM Card Settings

APN:

User Name:

Password:

Authentication:

PIN Code:

GSM Network Technology Settings

Initial Technology:

Pereference:

Reinit Period:

Ping Recovery Settings

Period:

16:58 4G+ 78%

iglu CHARGE

User Name:

Password:

Authentication:

PIN Code:

GSM Network Technology Settings

Initial Technology:

Pereference:

Reinit Period:

Ping Recovery Settings

Period:

Count:

URL:

Wget Recovery Settings

Period:

Timeout:

Retry:

URL:

6.8. WAN Port Settings (Only for Certified Devices)

These settings allow you to configure the device's network connection method, whether it's through a dynamic IP assignment (DHCP) or manual configuration with specific IP settings and DNS servers:

1. **Connection Type:** Choose the method for obtaining the device's IP configuration. "Dynamic IP (DHCP)" indicates that the device will automatically receive its IP settings from the network, while "Static IP" means that the device is configured with specific manual settings. This selection determines how the device acquires its network configuration.
2. **Primary DNS Server:** The IP address of the primary Domain Name System (DNS) server used for translating domain names into IP addresses.
3. **Secondary DNS Server:** The IP address of the secondary DNS server, which serves as a backup in case the primary server is unavailable.
4. **MTU (Maximum Transmission Unit):** The maximum packet size in bytes that the device can transmit over the network. The default value is typically 1500 bytes.
5. **MAC Address:** This is the unique hardware address assigned to the device's network interface. It consists of six pairs of hexadecimal digits and is used to identify the device on the network. The MAC address is typically pre-assigned by the device's manufacturer.
6. **Static IP:** This is the manually assigned IP address for the device.
7. **Subnet Mask:** The subnet mask defines the network's range.
8. **Default Gateway:** The default gateway is the IP address of the device or router that connects your local network to the external Internet.

CAUTION

Changes made to WAN Port Settings configuration will take effect ONLY after a system reboot, which can be performed in the "Maintenance" section of the menu.

All Wi-Fi functionalities are available only on Certified devices. Not certified devices do not have Wi-Fi capability.

6.9. LAN Port Settings

These settings allow you to configure how external devices, such as e-meters or payment card terminals, connect to the Internet through the device:

1. **IP Address:** This address is used to identify and communicate with the embedded router inside the device.
2. **Subnet Mask:** Define the subnet mask, which determines the range of IP addresses available on the local network.
3. **MAC Address:** This is the unique hardware address assigned to the device's network interface. It consists of six pairs of hexadecimal digits and is used to identify the device on the network. The MAC address is typically pre-assigned by the device's manufacturer.
4. **DHCP Client list:** The list of active device connections includes the following details:

- 1) **Name:** Name of the connected device for easy identification.
- 2) **IP Address:** The IP address assigned to the device for its network communication.
- 3) **MAC Address:** The MAC address of the device's network interface.
- 4) **Lease Time:** The duration for which the assigned IP address is valid for the device's use.



CAUTION

Changes made to LAN Port Settings configuration will take effect ONLY after a system reboot, which can be performed in the "Maintenance" section of the menu.

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CHARGE

Configuration / LAN Port Settings

Note: Changes take effect after system reboot.

Internet Access (eth0): ☒

IP Address: 10.1.0.1

Subnet Mask: 255.255.255.0

MAC Address:

Submit

DHCP Clients

Name	IP Address	MAC Address	Lease time
LAPTOP- [redacted]	10.1.0.147	[redacted]	40:55
[redacted]	10.1.0.158	[redacted]	44:03

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6.10. Wireless Access Point Settings (Only for Certified devices)

CAUTION

It's strongly recommended to use WPA2 or a more secure encryption method if possible.

Wireless Access Point Settings provide options for configuring the device's wireless network. Here's a brief description of the settings:

1. **Duration (-1, 0, 1-1440):** Specify the duration for which the wireless network remains active. Use values like 0 for an always-on network, -1 to disable it, or a numeric value (1-1440) to set a specific time limit.
2. **Wireless Network Name (SSID):** Set the name of your wireless network. This is the name users will see when searching for available networks.
3. **Append Serial Number to SSID:** Enable or disable appending the device's serial number to the SSID to make it unique.
4. **Visibility Status:** Choose whether your wireless network should be visible or hidden from public view.
5. **Wireless Mode:** Select the wireless mode, typically IEEE 802.11-b/g/n, which defines the network's supported standards.
6. **Channel:** Set the specific channel or frequency on which the network operates.
7. **Channel Width:** Choose the channel width, typically 20 MHz, which affects data transfer rates.
8. **Security Mode:** Select the security mode, typically WPA/WPA2-PSK (alt. WEP, None), which requires a pre-shared key (password) for network access.
9. **Pre-Shared Key (Password):** Set the password for network access. It should be 8 to 63 characters long, alphanumeric (a-z, A-Z, 0-9).
10. **Pre-Shared Key (Password):** Set the password for network access. It should be 8 to 63 characters long, alphanumeric (a-z, A-Z, 0-9).
11. **WEP Key:** Enter the specified WEP encryption key according to the selected bit length. The key length should be either 5, 13, 16, or 29 alphanumeric characters or 10, 26, 32, or 58 hexadecimal characters, depending on whether you're using 64-bit, 128-bit, 152-bit, or 256-bit WEP encryption. However, please note that WEP is not a secure encryption method and can be cracked in minutes.



CAUTION

Changes made to Wireless Access Point Settings configuration will take effect **ONLY** after a system reboot, which can be performed in the "Maintenance" section of the menu.

All features are available only on Wi-Fi equipped Certified devices. Not certified devices do not have AP functionality.

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VoLTE 5G 81%

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CHARGE



Configuration / Wireless Access Point Settings

Note: Changes take effect after system reboot.

Internet Access (uap0):

☒

Duration (-1, 0, 1-1440):

Wireless Network

Name (SSID):

Append serial number to SSID:

Enabled

▼

Visibility Status:

Visible

▼

Wireless Mode:

IEEE 802.11-b/g/n

▼

Channel:

[6] - 2437 MHz

▼

Channel Width:

20 Mhz

▼

Security Mode:

WPA/WPA2-PSK

▼

The key length should be from 8 to 63 alphanumeric

Pre-Shared

Key

(password):

Submit







6.11. Wireless Client Settings (Only for Certified devices)

CAUTION

It's strongly recommended to use WPA2 or a more secure encryption method if possible.

Wireless Client Settings provide options for configuring the device as a wireless client to a network. Here's a brief description of the settings:

1. **Enable Wireless Client:** Toggle this setting to enable or disable the wireless client mode.
2. **Wireless Network Name (SSID):** Enter the SSID (Service Set Identifier) of the wireless network you want to connect to.
3. **Password:** Input the password required to access the chosen wireless network.
4. **Connection Type:** Select the method for obtaining the device's IP configuration. In this case, it's set to "Dynamic IP (DHCP)," which means the device will automatically receive its IP settings from the network.
5. **IP Address:** This is the manually assigned IP address for the device.
6. **Subnet Mask:** The subnet mask defines the network's range.
7. **Default Gateway:** The default gateway is the IP address of the device or router that connects your local network to the external Internet.
8. **Primary DNS Server:** Specify the IP address of the primary DNS (Domain Name System) server.
9. **Secondary DNS Server:** Enter the IP address of the secondary DNS server.
10. **MTU:** Set the Maximum Transmission Unit (MTU) size, which determines the maximum size of data packets that can be transmitted.
11. **MAC Address:** This is the unique hardware address assigned to the device's network interface. It consists of six pairs of hexadecimal digits and is used to identify the device on the network. The MAC address is typically pre-assigned by the device's manufacturer.



CAUTION

Changes made to Wireless Client Settings configuration will take effect ONLY after a system reboot, which can be performed in the "Maintenance" section of the menu.

All settings are available only on Wi-Fi equipped Certified devices. Not certified devices do not have this functionality.

18:12 4G+ 81%

iglu CHARGE

Configuration / Wireless Client Settings

Note: Changes take effect after system reboot.

Enable Wireless Client: ☒

Wireless Network

Name (SSID):

Password:

Connection type:

Dynamic IP (DHCP)

Primary DNS Server:

Secondary DNS Server:

MTU:

Mac Address:

Submit

18:12 4G+ 81%

iglu CHARGE

Configuration / Wireless Client Settings

Note: Changes take effect after system reboot.

Enable Wireless Client: ☐

Wireless Network

Name (SSID):

Password:

Connection type:

Static IP

IP Address:

Subnet Mask:

Default Gateway:

Primary DNS Server:

Secondary DNS Server:

MTU:

Mac Address:

Submit

6.12. DHCP Server Settings

DHCP Server Settings provide options for configuring the device as a DHCP server. It controls the allocation of IP addresses within your network, ensuring that devices are assigned unique IP addresses dynamically. Here's a brief description of the settings:

1. **Enable DHCP Server:** Toggle this setting to activate or deactivate the DHCP server functionality.
2. **Start IP Address:** Specify the beginning of the IP address range that the DHCP server can assign to devices in your network.
3. **End IP Address:** Define the end of the IP address range available for assignment by the DHCP server.
4. **Lease Time:** Set the duration for which an assigned IP address is valid for a device's use. The lease time is measured in minutes.
5. **Default Gateway:** Enter the IP address of the default gateway, which is the device that connects your network to other networks or the internet.
6. **Default Domain:** Define the default domain name for your local network.
7. **Primary DNS Server:** Specify the IP address of the primary DNS (Domain Name System) server.
8. **Secondary DNS Server:** Enter the IP address of the secondary DNS server.



CAUTION

Changes made to DHCP Server Settings configuration will take effect **ONLY** after a system reboot, which can be performed in the "Maintenance" section of the menu.

18:19Vo4G LTE121°82%



Configuration / DHCP Server Settings

Note: Changes take effect after system reboot.

Enable DHCP Server:

☒

Start IP Address:

End IP Address:

Lease Time:

1440

Default Gateway:

10.1.0.1

Default Domain:

lan

Primary DNS Server:

10.1.0.1

Secondary DNS Server:

Submit

|||

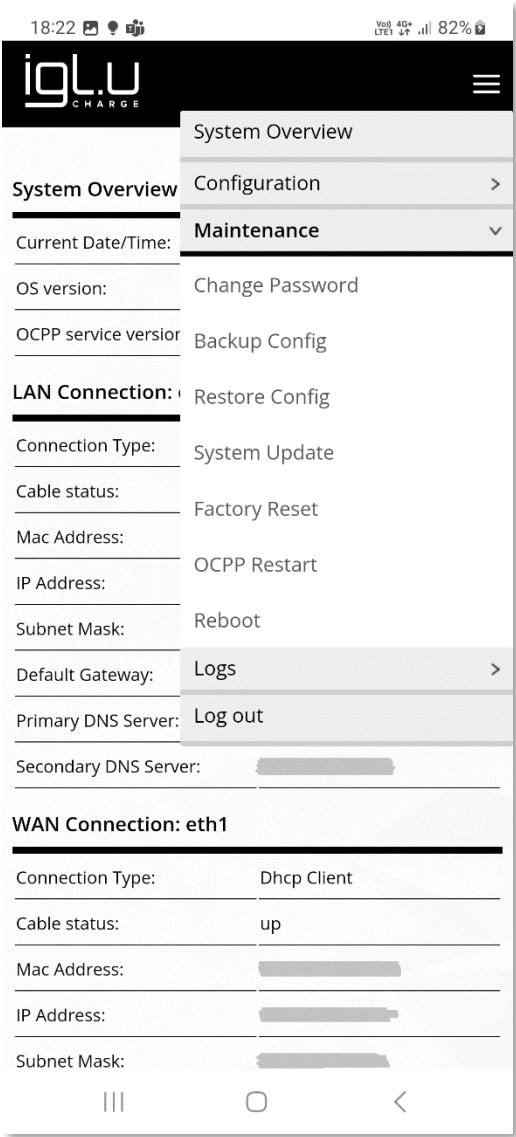
○

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6.13. Maintenance

The "Maintenance" section expands the menu, offering special commands for enhanced control over the Electric Vehicle Charger (Pro) Coordinator:

1. **Change Password:** This option allows you to modify the login password for the web configuration tool. Ensure the security of your device by updating passwords regularly.
2. **Backup Config:** Use this option to create a backup of your current device configurations. It's a prudent step before making significant changes, ensuring you can revert to a known state if needed.
3. **Restore Config:** In case of configuration issues or the need to revert to a previous setup, this option enables you to restore your device configurations using a previously saved backup file.
4. **System Update:** This option facilitates the updating of the system software on your device. Keep your system up-to-date to benefit from the latest features, improvements, and security patches.
5. **Factory Reset:** If required, the Factory Reset option allows you to reset the device to its original factory settings. Exercise caution, as this action erases all configurations and restores the device to its default state.
6. **OCPP Restart:** This option initiates a restart of the Open Charge Point Protocol (OCPP) service. Use this option when adjustments to OCPP settings or configurations require a service restart.
7. **Reboot:** The Reboot option allows you to restart the entire device. This is useful after making various configuration changes to ensure they take effect.



6.14. Change Password

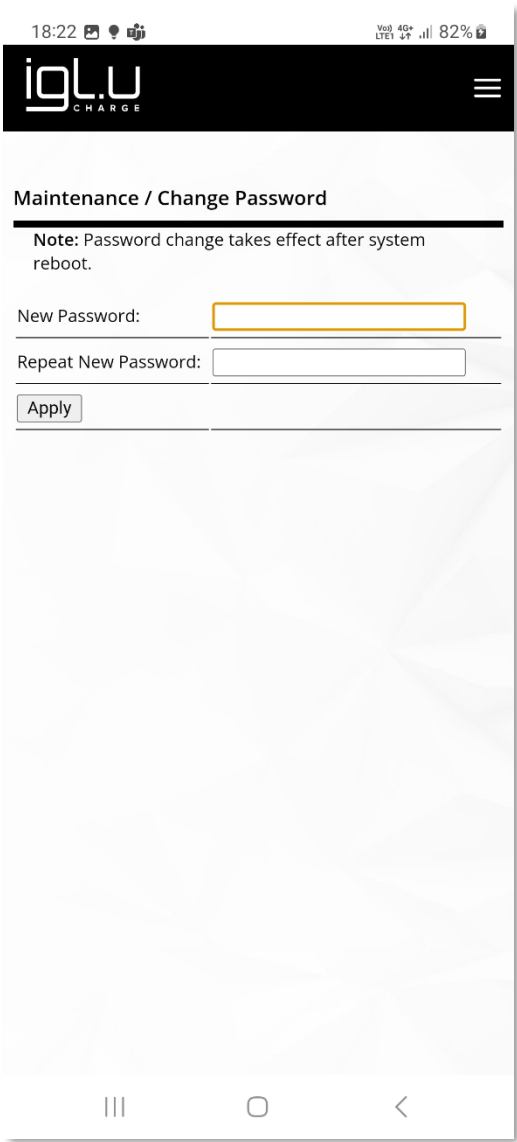
The "Change Password" option enables you to modify the login password for the web configuration tool. To enhance the security of your device, consider updating passwords regularly. The settings include:

1. **New Password:** Enter the new password you wish to set for the web configuration tool. Ensure it meets any specified security requirements and consider using a strong, unique password for heightened protection.
2. **Repeat New Password:** Re-enter the new password to confirm and avoid typos or mistakes. This step ensures accuracy and consistency in setting the updated password.

!

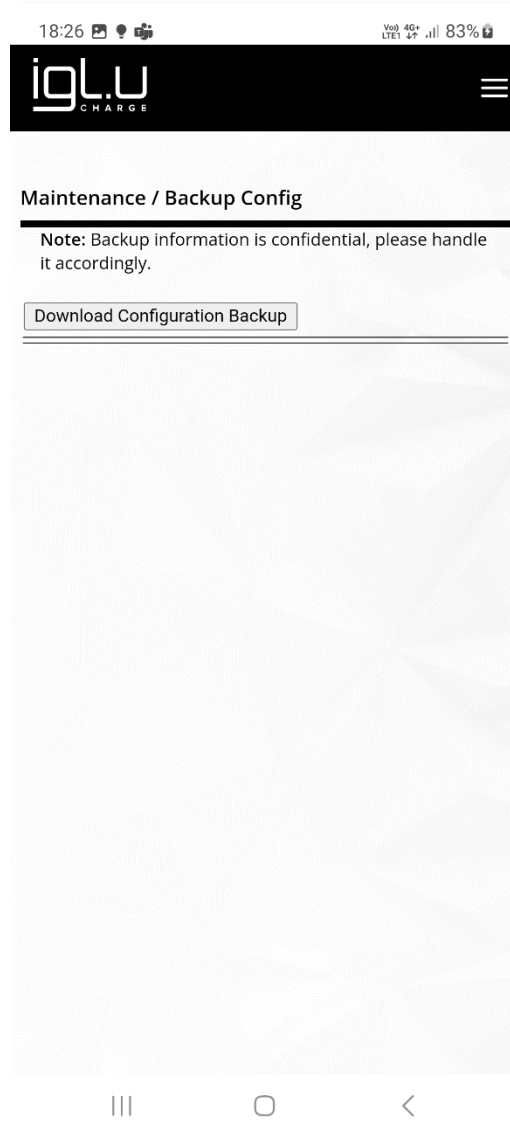
CAUTION

Password change takes effect immediately!



6.15. Backup configuration for later use

“Backup Config” option allows you to create a backup of your current device configurations. It's essential to note that backup information is confidential, and it should be handled with utmost care and security. Please ensure that any saved backup files are stored in a secure location and accessible only to authorized personnel. Regularly backing up your configurations is a prudent practice, providing a safety net in case of unexpected issues or the need to revert to a known state.



6.16. Restore configuration from backup file

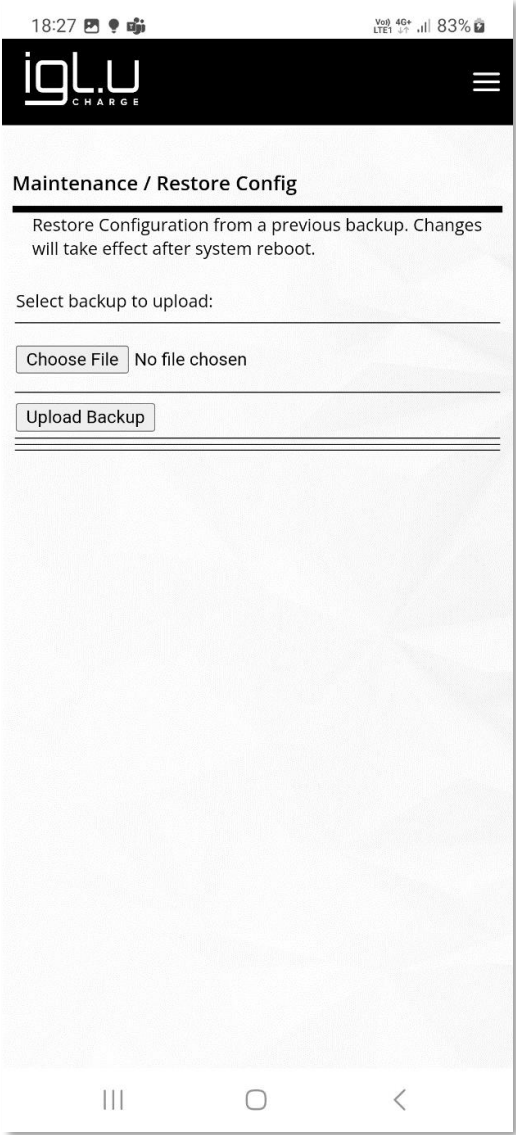
“Restore Config” option allows you to restore configurations from a previous backup. To initiate this process, follow these steps:

1. **Select Backup to Upload:** Click the "Choose File" button to select the backup file you wish to restore. Ensure that the chosen file corresponds to a valid backup of your device configurations.
2. **Upload Backup:** Once you've selected the appropriate backup file, click “Upload Backup” button to proceed with the restoration process.



CAUTION

Changes will take effect after a system reboot.

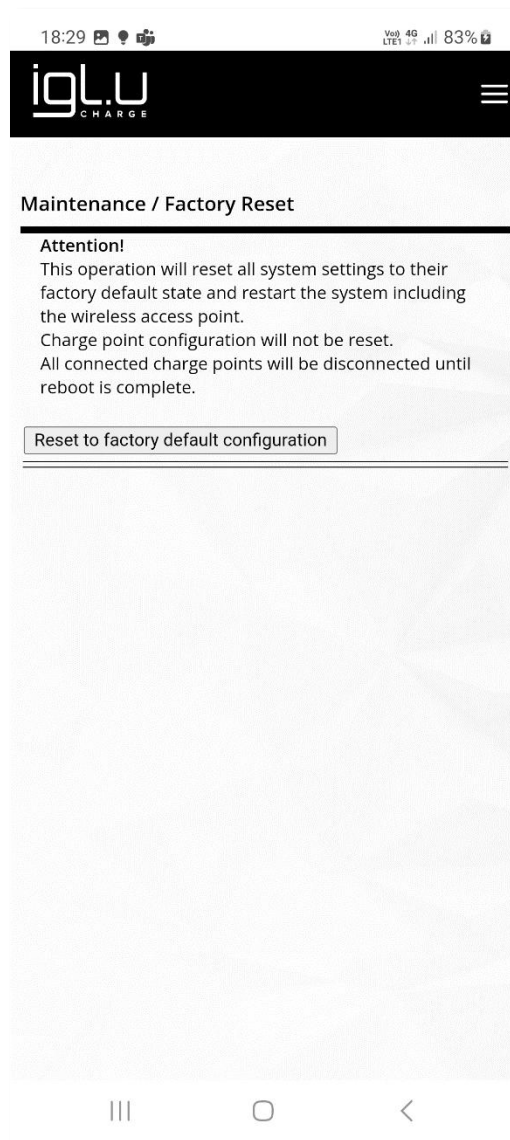


6.17. Factory Reset Defaults

CAUTION

Performing a Factory Reset is a critical operation that will reset all system settings to their factory default state. This process includes restarting the system, impacting not only the wireless access point but also LAN/WAN connectivity.

Before proceeding with a Factory Reset, carefully assess the impact on your system and verify that it aligns with your requirements. Once initiated, the system will undergo the reset process, and changes will take effect after the reboot is complete. All connected charge points will be temporarily disconnected during this process. Please exercise caution and ensure this operation aligns with your system's operational needs.

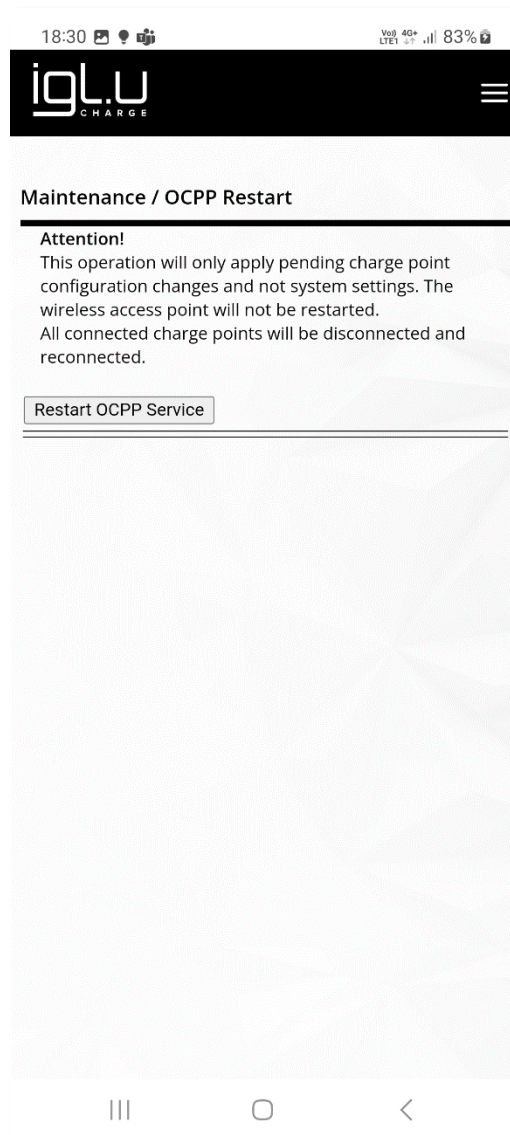


6.18. OCPP Restart

CAUTION

Performing an OCPP Restart is a specific operation that applies pending charge point configuration changes without affecting system settings. Unlike a full system reboot, the wireless access point will not be restarted.

Keep in mind that during an OCPP Restart, all connected charge points will be temporarily disconnected and then reconnected. This process is intended to synchronize and implement any pending configuration changes related to charge points. Ensure that this operation aligns with your intended adjustments and operational requirements.



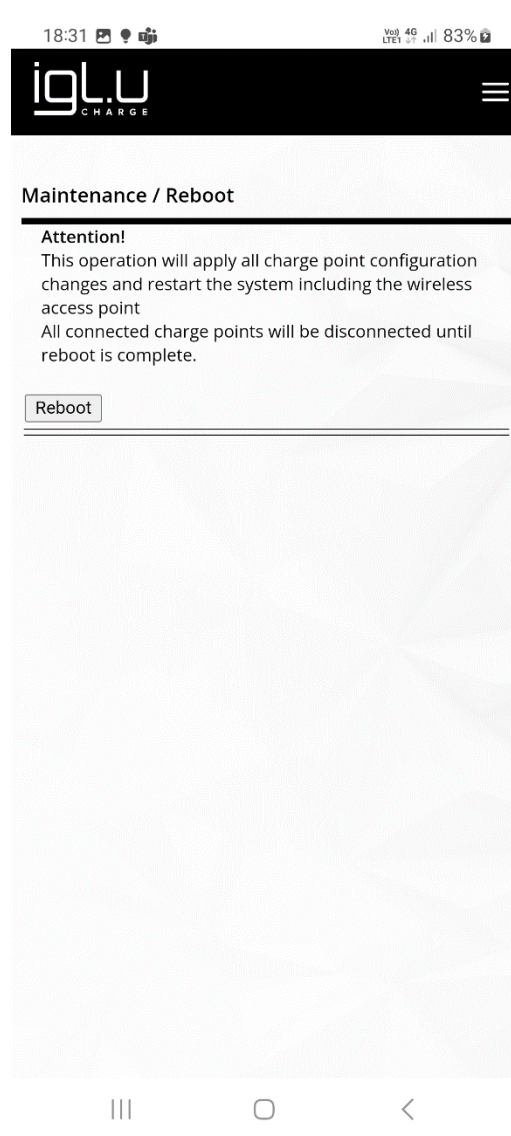
6.19. Reboot Device

CAUTION

Performing a Reboot is a comprehensive operation that applies all charge point configuration changes and restarts the entire system, including the wireless access point.

During this process, all connected charge points will be temporarily disconnected and then reconnected. It's essential to note that this action is broader than an OCPP Restart, ensuring that all configuration changes are fully implemented.

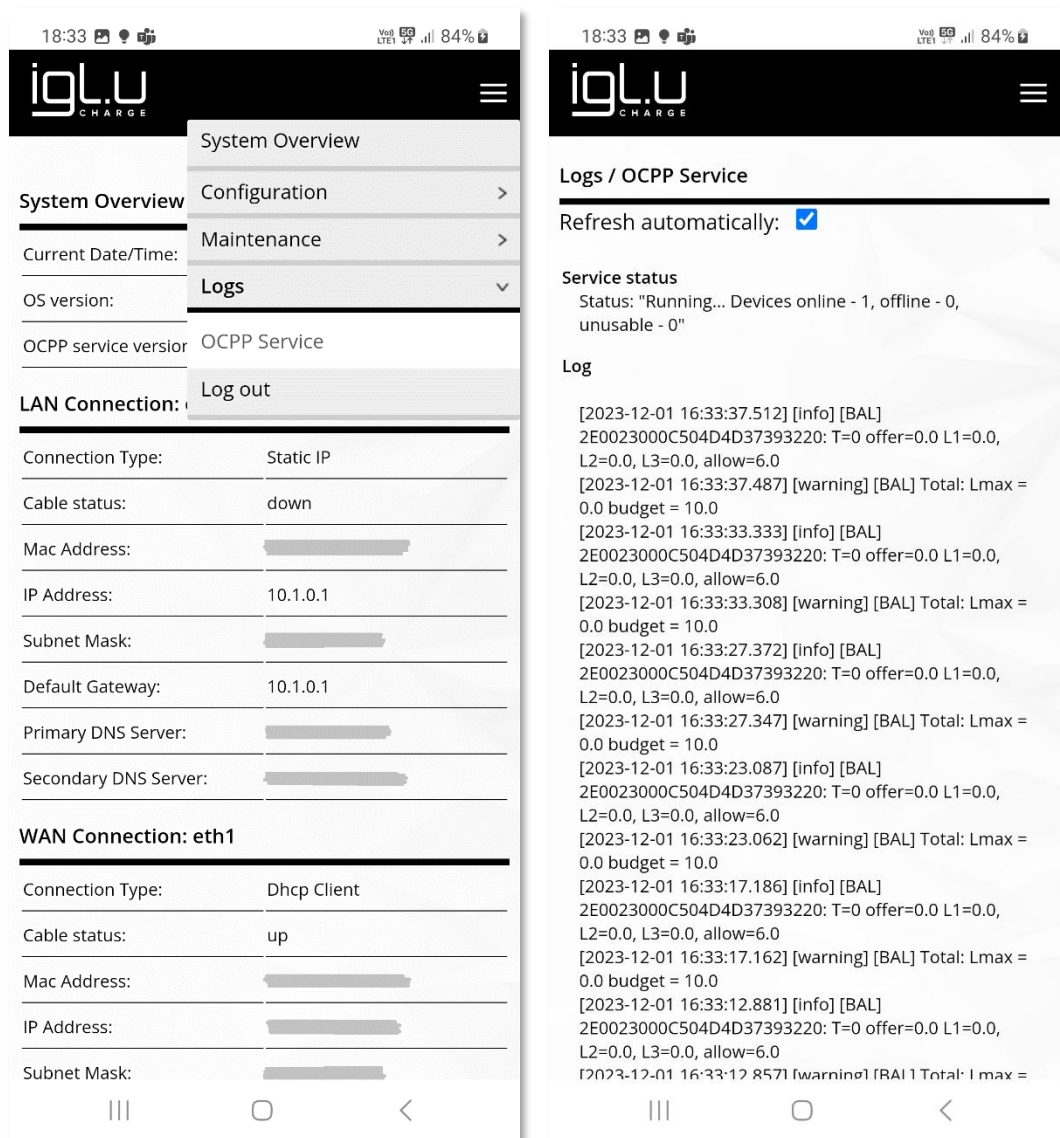
Be aware of potential service interruptions for connected charge points until the reboot is complete. Please proceed with caution and ensure that this aligns with your intended adjustments and operational needs.



6.20. OCPP Service Log Files

Logs / OCPP Service provides current system information:

1. **Refresh automatically:** Toggle this setting to enable or disable the refreshing information automatically.
2. **Service status:** Example "Running... Devices online - 1, offline - 0, unusable - 0".
3. **Log:** Detailed log information with timestamps and a description of events.



7. Charging an Electric Vehicle

WARNING

Default configuration allows Plug and Charge functionality with the nominal charging current per phase 32Amps. Web configuration tool, an App or OCPP backend shall be used to change InstalledAmperageSetting to match installation requirements and/or to prevent upstream circuit-breaker tripping.

7.1. Plug and Charge

1. **Connect the charging cable:** Attach the charging cable to the connector in the electric car and the Electric Vehicle (EV) charger socket.
2. **Charging initiation:** The EV charger will automatically commence the charging session.

7.2. RFID Authentication and Charge

NOTICE

Use the web configuration tool or OCPP backend to manage RFID cards in the Local Authorization List for offline operation.

1. **Connect the charging cable:** Attach the charging cable to the connector in the electric car and the Electric Vehicle (EV) charger socket.
2. **Swipe RFID card:** Present the RFID card for authentication.
3. **Waiting for authorization:** Allow a moment for the system to authorize the RFID card.
4. **Charging initiation:** The EV charger will automatically commence the charging session.

7.3. Smartphone Authentication and Charge

1. **Connect the charging cable:** Plug the charging cable into the connector in the electric car and the Electric Vehicle (EV) charger socket.
2. **Use smartphone:** Utilize the app to initialize charging.
3. **Waiting for authorization:** Follow onboarding steps on your smartphone.
4. **Charging initiation:** The EV charger will automatically commence the charging session.

7.4. Stop Charging

1. **Swipe RFID Card Again:** If authorization is enabled, end the charging session by either swiping the same RFID card a second time or using one of the methods below.
2. **Use Smartphone:** Stop charging through the smartphone app.
3. **Disconnect the Car:** Alternatively, the session will end, and the socket lock will be unlocked upon disconnecting the cable from the EV side.

8. Maintenance

DANGER

Hazardous voltage!

CAUTION

Avoid using abrasive tools!

It is recommended to perform once a year, considering local regulations and national standards. Ensure that the charging station is protected from contamination (water, snow, dust).

8.1. Do a Maintenance Check

X	Maintenance check steps
	Wipe off any dirt and dust from the surface of the charging station. Carefully clean the dirt and dust with a damp cloth.
	Check if the visible metal parts are not rusty. If necessary, use an anti-corrosion

	treatment.
	Tighten all the screws of the electrical components.
	Check if the charging cable socket is not burnt or damaged. If necessary, replace it (socket expenses are not covered by the warranty).
	Check if the charging cable is worn out or mechanically damaged. If necessary, replace it.
	Check if the seals (and other plastic or rubber cable protection elements) are worn out. If necessary, replace them.
	All LED states/colors are functioning (green, blue, red). • Use a car simulator. • Simulate a failed attempt and a successful charge. • Red during charging failure, green when idle, and blue during the charging process.
	Ensure that the PE (protective earth) wire screw is tightened.
	Check if the voltage between PE (protective earth) and N (neutral) is less than 10 V.
	Check if the resistance of the PE (protective earth) conductor is less than 3 Ω .
	Test the surge protector, if available.
	Check if there are updated software versions available. Always update to the latest version released by the charging station manufacturer.
	Restart the charging station (do a power cycle). Ensure that it restarts correctly: • It connects to the control platform (online status). • The station switches to online mode in the mobile app. • Charging can be initiated from the mobile app (preparing mode is activated).
	Check the operation of the electrical protective device (RCBO) every 6 months

9. Troubleshooting

**CAUTION**

The Electric Vehicle (EV) charger may display a fault condition and refuse to charge!

9.1. Troubleshooting Procedure

- 1. Try to find a solution to the problem in this manual.
- 2. If you cannot find a solution to the problem, contact your local representative of the manufacturer.

HighTemperature		Rotating (2 LEDs) 0.5s = 1rotation	Temporary error / status
WeakSignal			
(Offline mode disabled)			Disconnect the charge cable and connect it again
EVCommunicationError			
OverCurrentFailure			
ConnectorLockFailure		Pulsating 1s Intervals	De-energize the charger; if the issue repeats several times, contact your local representative of the manufacturer or a qualified electrical contractor
GroundFailure			
UnderVoltage			
OverVoltage			
ResetFailure			
InternalError		Constant	Contact your service provider
OtherError			

PowerMeterFailure			
PowerSwitchFailure			
ReaderFailure			

9.2. Temporary Error/Status

Temporary conditions such as high ambient temperature, weak GSM/Wi-Fi signal, and disabled offline mode can cause this type of fault, disrupting normal operation.

9.3. Disconnect the Charge Cable and Connect It Again

If an overload occurs on the electric car side or an electric car communication error occurs, further operations may be blocked. The car driver should inspect the Electric Vehicle (EV) charger, charging cable, and electric car. Clear the fault by following these steps:

1. Disconnect the charging cable from the EV.
2. Wait until the FINISHING state: The Electric Vehicle (EV) charger will stop the charging session, and the LED ring will be a constant blue.
3. Disconnect the charging cable from the Electric Vehicle (EV) charger.
4. Try to start a charging session again.

9.4. De-Energize the Charger

DANGER

If these faults occur repeatedly, it is imperative to contact your local representative of the manufacturer or a qualified electrician for advice. A mandatory inspection of the installation, LV switchboard, measurement of insulation, and checking wiring/grounding resistances is recommended. The fault may be caused by detecting leakage current, over-voltage, under-voltage, or overheating of the power circuits, which may be defective!

Faults caused by abnormal conditions during the charging session may block operations to prevent further damage. Power cycling your Electric Vehicle (EV) charger allows you to reset these faults and re-establish a connection to your backend OCPP system:

1. Switch off the breaker supplying power to the Electric Vehicle (EV) charger.
2. Wait for a minimum of 5 minutes.

3. Disconnect the charging cable.
4. Switch on the breaker supplying power to the car charger.

9.5. Contact Your Service Provider

WARNING

We recommend contacting your local service provider and the representative of the manufacturer to evaluate the fault and arrange repair service!