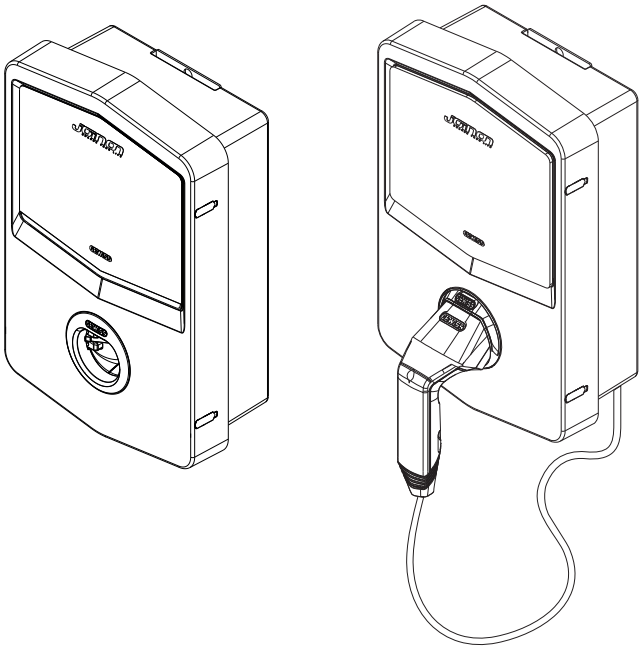
JOINON I-CON EVO RANGE

EN User and installation manual



CONTENT

Introduction

It is important to note that the information in this document is subject to change without notice. Please download the latest version from www.gewiss.com

To get access to the features offered by I-CON, it is important to download the **myJOINON** app available in the Google and Apple stores. Search for the app in the stores or scan the QRcode below.

JOINON I-CON Evolution is the best choice for powering battery electric vehicles (BEVs) and plug-in electric vehicles (PHEVs).
It is designed for fast charging in public and private locations, such as retail and commercial car parks, fleet charging stations, motorway service areas, workplaces and homes.
JOINON I-CON Evolution has the advantage of being easy to install.
The wall-mounted design allows flexible and cost-effective installation for different types of locations.
The AC charging solution also has network communication capability.
It can connect with remote network systems and provide electric car drivers with real-time information, such as charging progress and billing information.

The AC charging solution has a simple user interface with security certifications and an excellent waterproof and dustproof design, making it the best choice for outdoor environments.

The document is the user manual for the following charge points

I-CON code	I-CON BASIC DOMESTIC – SINGLE CP – UP TO 22KW
GWJ3402CK	I-CON Basic Single CP T2S 7.4KW UK
GWJ3404CK	I-CON Basic Single CP T2S 22KW UK
GWJ3502GK	I-CON Basic Multi CP (w/o auth) T2S 7.4KW UK
GWJ3504GK	I-CON Basic Multi CP (w/o auth) T2S 22KW UK

Features

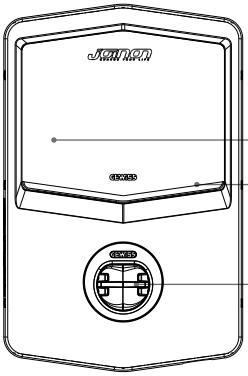
- The wall-mounted design makes installation easy and flexible.
- It offers customers the convenience of controlling the start and stop of charging from an authorised RFID smart card or mobile APP (available on request).
- Built to the latest industry standards for AC charging.
- It has an outdoor rating to withstand solid and liquid intrusion in outdoor environments, making the unit more stable and highly reliable.
- High-contrast screen interface with multifunctional buttons

Applications

- Single dwelling domestic properties
- Multi dwelling domestic properties
- Public and private parking areas
- Community parking areas
- Workplace parking areas

1. I-CON User Interface

1.1 I-CON Basic



RFID reader (optional)

LED Indication

AC Connector
T2 Socket o Tethered cable

Notice: According to EN-17186 requirement, this document lays down harmonized identifiers for power supply for electric road vehicles. The requirements in this standard are to complement the informational needs of users regarding the compatibility between the EV charging stations, the cable assemblies and the vehicles that are placed on the market. The identifier is intended to be visualized at EV charging stations, on vehicles, on cable assemblies, in EV dealerships and in consumer manuals as described.

2. Specification

2.1 Product Specification

Model Name	GWJ3402CK – GWJ3404CK → I-CON BASIC DOMESTIC – SINGLE CP – UP TO 22KW	
AC INPUT	Voltage Rating	230 Vac (±15%) 400 Vac (±15%)
	Max Input Current	32 A
	Max. Input Power	22 kVA
	Power Grid System	TN / TT
	Frequency	50/60 Hz
	Electrical Distribution	1P+N+PE 3P+N+PE
Input Protection	Available inside the charging station	• PEN fault • OVP • OPP
	External to the charging station	• MCB (2P or 4P up to 32A, Curve C or D) • RCD (2P or 4P up to 40A, Type A, 30mA
Internal Protection	DC leakage (Trip for DC residual current at 6mA)	
	SPD protection (VM:115-750V - ITM: 6K-10K A TA: -55°C - +85°C – Surge Current: 10kA)	
Mechanical Specifications	Weight	• T2 socket model: 4,5 Kg • T2 tethered cable: 5,5 Kg
	Charging Cable Number	1
	Charging Cable Length	6 m
	Protection Degree	IP 55
	Mechanical resistance	IK 10 (Excluding Display if present)
Environmental Conditions	Operation Temperature (external)	-25 °C; + 55°C * * It must not be exposed to direct sunlight
	Storage Temperature	-40°C; +70°C
	Relative Humidity	5%~95% RH
	Altitude	≦ 2000 m
	Pollution degree	3
Communication	External	• Wi-Fi
	Internal	-

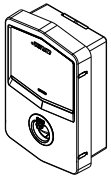
Regulation for EU	Directive	• 2014/53/EU • 2011/65/EU + 2015/863 • Electromagnetic compatibility EMC classification: B
	Standard	• EN IEC 61851-1 • EN IEC 61851-21-2 • EN IEC 63000 • ETSI EN 301 489-3 V2.1.1 • ETSI EN 301 489-17 V3.2.4 • ETSI EN 301 489-52 V1.2.1 • ETSI EN 301 908-13 V13.2.1 • ETSI EN 300 328 V2.2.2 • ETSI EN 300 330 V2.1.1 • EN IEC 62311
	Standard socket	• EN 62196 Type 2 Mode 3
Regulation for the UK	Regulation	• Radio Equipment Regulation 2017 (UK RED Regulations) • The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
	Standard	• BS EN IEC 61851-1 • BS EN IEC 61851-21-2 • BS EN IEC 63000 • ETSI EN 301 489-3 V2.1.1 • ETSI EN 301 489-17 V3.2.4 • ETSI EN 301 489-52 V1.2.1 • ETSI EN 301 908-13 V13.2.1 • ETSI EN 300 328 V2.2.2 • ETSI EN 300 330 V2.1.1 • BS EN IEC 62311 • BS 8300-1 • paragraph 722.411.41(iv) of BS 7671:2018/A1:2020.
	Standard socket	• BS EN 62196 Type 2 Mode 3
User Interface	User Authorization	• None • Via app
	Charge Status Information	• LED (always)
Charging Interface		• T2 socket
Standby Power	30W	
Other	In UK the use of software controlled means cannot be used to control isolating devices	

Model Name	GWJ3502GK – GWJ3504GK → I-CON BASIC DOMESTIC – MULTI CP – UP TO 22KW	
AC INPUT	Voltage Rating	230 Vac (±15%) 400 Vac (±15%)
	Max Input Current	32 A
	Max. Input Power	22 kVA
	Power Grid System	TN / TT
	Frequency	50/60 Hz
	Electrical Distribution	1P+N+PE 3P+N+PE
Input Protection	Available inside the charging station	• PEN fault • OVP • OPP
	External to the charging station	• MCB (2P or 4P up to 32A, Curve C or D) • RCD (2P or 4P up to 40A, Type A, 30mA
Internal Protection	DC leakage (Trip for DC residual current at 6mA)	
	SPD protection (VM:115-750V - ITM: 6K-10K A TA: -55°C - +85°C – Surge Current: 10kA)	
Mechanical Specifications	Weight	• T2 socket model: 4,5 Kg • T2 tethered cable: 5,5 Kg
	Charging Cable Number	1
	Charging Cable Length	6 m
	Protection Degree	IP 55
	Mechanical resistance	IK 10 (Excluding Display if present)
Environmental Conditions	Operation Temperature (external)	-25 °C; + 55°C * * It must not be exposed to direct sunlight
	Storage Temperature	-40°C; +70°C
	Relative Humidity	5%~95% RH
	Altitude	≦ 2000 m
	Pollution degree	3
Communication	External	• Wi-Fi • Ethernet
	Internal	-

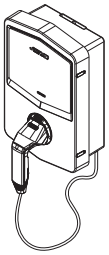
Regulation for EU	Directive	• 2014/53/EU • 2011/65/EU + 2015/863 • Electromagnetic compatibility EMC classification: B
	Standard	• EN IEC 61851-1 • EN IEC 61851-21-2 • EN IEC 63000 • ETSI EN 301 489-3 V2.1.1 • ETSI EN 301 489-17 V3.2.4 • ETSI EN 301 489-52 V1.2.1 • ETSI EN 301 908-13 V13.2.1 • ETSI EN 300 328 V2.2.2 • ETSI EN 300 330 V2.1.1 • EN IEC 62311
	Standard socket	• EN 62196 Type 2 Mode 3
Regulation for the UK	Regulation	• Radio Equipment Regulation 2017 (UK RED Regulations) • The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
	Standard	• BS EN IEC 61851-1 • BS EN IEC 61851-21-2 • BS EN IEC 63000 • ETSI EN 301 489-3 V2.1.1 • ETSI EN 301 489-17 V3.2.4 • ETSI EN 301 489-52 V1.2.1 • ETSI EN 301 908-13 V13.2.1 • ETSI EN 300 328 V2.2.2 • ETSI EN 300 330 V2.1.1 • BS EN IEC 62311 • BS 8300-1 • paragraph 722.411.41(iv) of BS 7671:2018/A1:2020.
	Standard socket	• BS EN 62196 Type 2 Mode 3
User Interface	User Authorization	• None • Via app
	Charge Status Information	• LED (always)
Charging Interface		• T2 socket
Standby Power	30W	
Other	In UK the use of software controlled means cannot be used to control isolating devices	

2.2 General and Specific countries requirements

2.2.1 General requirements



In case of short-circuit, the value of I2t at the EV socket-outlet of the Mode 3 charging station shall not exceed 75000 A2s



In case of short-circuit, the value of I2t at the vehicle connector (case c) of the Mode 3 charging station shall not exceed 80000 A2s

2.3 I-CON code description

The I-CON is available in different versions depending on the connector type, power of charge, display availability and other internal devices. The table below describes the meaning of the number and letter.

GWJ3 X X X X

VERSION APPLICATION

- 4 Domestic - SingleCP
- 5 Domestic - MultiCP
- 6 Semi-public - MultiCP - Basic
- 7 Semi-public - MultiCP - Basic - MID
- 8 Semi-public - MultiCP - Premium
- 9 Semi-public - MultiCP - Premium - MID

CONNECTOR TYPE

- 0 Type 2 socket
- 1 Type 2 Tethered

CHARGE POWER

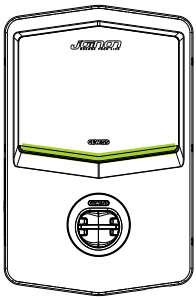
- 2 7,4kW
- 3 11kW
- 4 22kW

INTERNAL CONFIGURATION + MARKET

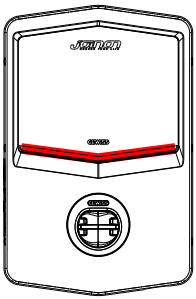
- C Autostart + APP
- X KNX
- G RFID + APP
- T RS485 S + S/C + RFID + APP
- CK Autostart + APP + OZEV
- GK Autostart + APP + OZEV + S/C
- TK RFID + APP + OZEV + S/C
- CD Autostart + APP (DE)
- GD Autostart + APP + S/C (DE)
- CF Autostart + APP + TIC
- GF Autostart + APP + S/C + TIC
- TF RFID + APP + S/C + TIC

2.4 LED Indication and Operation Status

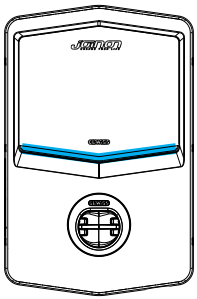
The charging station informs the customer of the status and which actions to perform through the use of RGB LEDs.
Below the meaning of the various colours is explained. To get access to the features offered by I-CON, it is important to download the myJOINON app available in the Google and Apple stores.



Standby



Fault

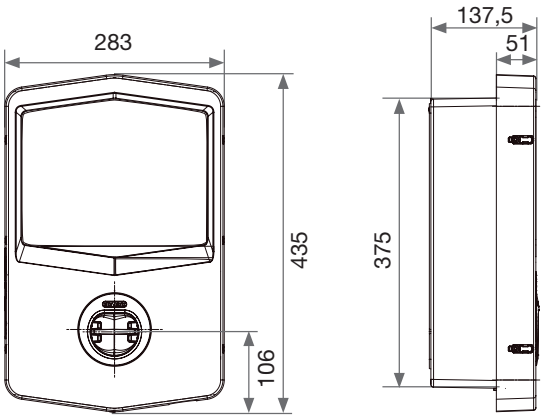


Charging

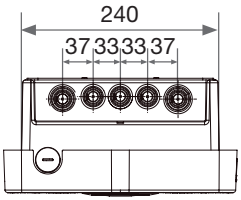
Color	Solid	Flashing
No colour	The charging station is OFF	
	The charging station is rebooting to apply the new FW	
White	1) Connection between the APP and the charging station is OK (via Wi-Fi). This overlaid the base colour for 3 seconds. 2) The charging station is blocked in the booting step. An unauthorised bootloader has been loaded	Hotspot Wi-Fi active (overlaid on the base colour) The charging station has a SERVER role
		The charging station has a SERVER role
Green	Charging station available	Waiting for the plug-in o plug-out of the recharge cable
Red	1) No internet connection for the charging station (via Wi-Fi). This overlaid the base colour for 3 seconds. 2) The charging station recognized an internal error 3) The charging station recognizes an unauthorised software	NA
	Internal error	NA
Blue	Charge session ongoing – EV energized	Charge session ongoing but suspended
Yellow	NA	- Breath flashing: Applying new FW after download - Flashing: Downloading FW via OTA

2.5 Dimensions

Main Size of Charger:(Unit: mm)



Frontal and lateral view



Bottom view

3. Device delivery and storage

3.1 Delivery

Keep the device packaged until the installation

3.2 Device Identification

The serial number of the device identifies it unequivocally.
In any communication with Gewiss, reference must be made to this number.
The device serial number is indicated on the technical data label (on the right side of the front panel).

3.3 Damage during transport

If the device was damaged during transport:
1. Do not install it.
2. Notify the fact immediately (within 5 days of delivery).

If it is necessary to return the device to the manufacturer, the original packaging must be used.

3.4 Storage

Failure to observe the instructions provided in this section could cause damage to the device. The manufacturer declines all responsibility for damage deriving from the failure to observe these instructions.

If the device is not installed immediately upon delivery, to avoid its deterioration, proceed as indicated below:

- To correctly conserve the charging station, do not remove the original packaging until the moment it is installed.
- Deterioration of the packaging (cuts, holes, etc.) prevents the correct conservation of the charging station before installation. The manufacturer declines all responsibility relative to the consequences caused by packaging deterioration.
- Keep the device clean (remove dust, chips, grease, etc.) and avoid the presence of rodents.
- Protect it against water spray, welding sparks, etc.

- Cover the device with a protective breathable material to avoid condensation caused by environmental humidity.
- Charging stations kept in a warehouse must not be subjected to climatic conditions other than those indicated below.

Ambient storage conditions	
Minimum temperature	-40°C
Minimum temperature of the surrounding air	-40°C
Maximum temperature of the surrounding air	70°C
Maximum relative humidity without condensation	95%

- It is very important to Protecting the system against corrosive chemical products and saline environments is very important.

4. Installation Instruction

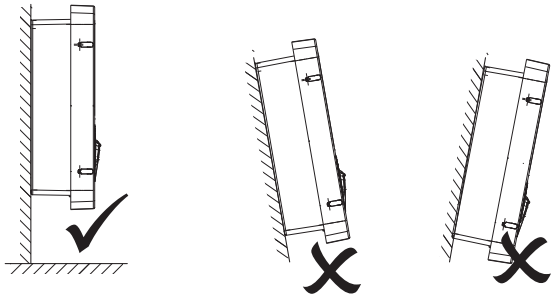
4.1 Before Installation

- Read all the instructions before using and installing this product.
- Do not use this product if the power cable or charging cable has any damage.
- Do not use this product if the enclosure or charging connector is broken or open or if there is damage.
- Do not put any tool, material, finger or another body part into the charging or EV connector.
- Do not twist, swing, bend, drop or crush the charging cable. Never drive over it with a vehicle.

WARNING: The product should be installed only by a licensed contractor and/or licensed technician by all building codes, electrical codes and safety standards.

WARNING: A qualified installer should inspect the product before initial use. Under no circumstances will compliance with the information in this manual relieve user of his /her responsibilities to comply with all applicable codes and safety standards.

- Power feed must be 1 or 3 Phase configuration with TN(-S)/TT grounding systems.
- In installing the TN(-S) system, the neutral (N) and the PE of the power distribution are directly connected to the earth. The PE of the charger equipment is directly connected to the PE of power distribution and separate conductor for PE and neutral (N).
- The product should be installed on a perfectly vertical wall.



- The wall on which the device is fastened must be solid. It must be possible to drill the wall and insert wall plugs and anchor bolts that are suitable for supporting the device's weight.

CHARGING STATION CLASSIFICATION:

- Permanently connected
- Equipment for locations with no restricted access
- Class I equipment

4.2 Installation area requirements

I-CON will give the best of its functionalities if the installation area follows these rules.

WARNING: GEWISS is not responsible for wrong installations that could cause damage to the product or EV connected to the charging station.

1.Requirements for workplace conditions

- Set up suitable fencing to isolate the construction area from outside
- Close and secure all entrances when the site is unattended
- Hang warning notices nearby which show the following information: warning icon and phone number of person in charge
- Install sufficient lighting fixtures

2.Cleaning up

- Keep work areas (including access ways) free from debris and obstructions
- Keep ground surfaces tidy and flat, to avoid people tripping or being hurt by tools or other objects
- Stack and store equipment and materials in a tidy and stable manner
- Regularly clean up and dispose of waste
- Remove all surplus materials and equipment after completion of work

3.Fire hazards

- Beware of flammable materials and goods. Keep them away from work areas.

4.Protection against high temperatures on the worksite

- Erect a sunshade or shed to shelter workers from the heat and sun
- Set up cooling equipment, such as exhaust fans
- Make water dispensers available
- Provide suitable protective clothing such as a hat, sunglasses and long sleeves to protect workers from heat stroke and UV rays

5.Inclement weather

- Secure all scaffoldings, temporary structures, equipment, and lose materials
- Check and implement SOP to ensure disconnection of gas supplies, electrical circuits and equipment
- Inspect worksites to ensure protection against ingress of water or dust
- Inspect the drainage system for blockages and remove them if found
- Stop all outdoor works except for emergency works

6.Lifting operation

- Have lifting gear and apparatus regularly inspected and tested by qualified persons
- Isolate and cordon off lifting areas to keep out non-construction personnel
- Ensure that lifting routes do not cross buildings or people, and avoid collision with objects
- Do not exceed safe working load limits

7.For on-site workers

- Plan all work
- Turn off the power (work with live parts de-energized whenever possible)
- LOTO (Lock Out, Tag Out)
- Live electrical work permit (input terminals with HV after door open)
- Use personal protective equipment (PPE)
- Safe workplace conditions and space
- Adhere to other occupational health, safety and security codes, such as those published by OSHA

8.Reference standards

Adhere to the following codes:

- NFPA-70E (Electrical Safety in the Workplace, Shock Risk Assessment, Arc Flash Risk Assessment)

4.3 Grounding and Safety Requirement

- The product must be connected to a grounded, metal, permanent wiring system. Connections shall comply with all applicable electrical codes. Recommend the ground resistance be less than 10mΩ.
- Ensure no power is connected at all times when installing, servicing or maintaining the charger.
- Use appropriate protection when connecting to the main power distribution network.
- Use appropriate tools for each task

4.4 External protections to install

4.4.1 RCD Protection

The device is not included in the charging station or the packaging. The protection must be installed above the charging station in the consumer unit. Each charging station must be protected upstream by a residual current device required by the low voltage electrical system standard. In particular, each station must be protected upstream by a:

- Type A RCD (In compliance with one of the following Standards: IEC 61008-1, IEC 61009-1, IEC 60947-2 and IEC 62423)
- 2Poles or 4Poles
- 40A Nominal Current
- 30 mA

I-CON with a power of 7,4 kW requires 2 poles RCD
I-CON with a power of 11 and 22 kW requires 4 poles RCD

4.4.2 MCB Protection

Device not included in the charging station or the packaging. The protection must be installed above the charging station in the consumer unit. Each charging station must be protected upstream by a circuit breaker protection required by the low voltage electrical system standard.
In particular, each station must be protected upstream by a:

- Curve C or D MCB
- 2Poles or 4Poles
- 32A Nominal Current

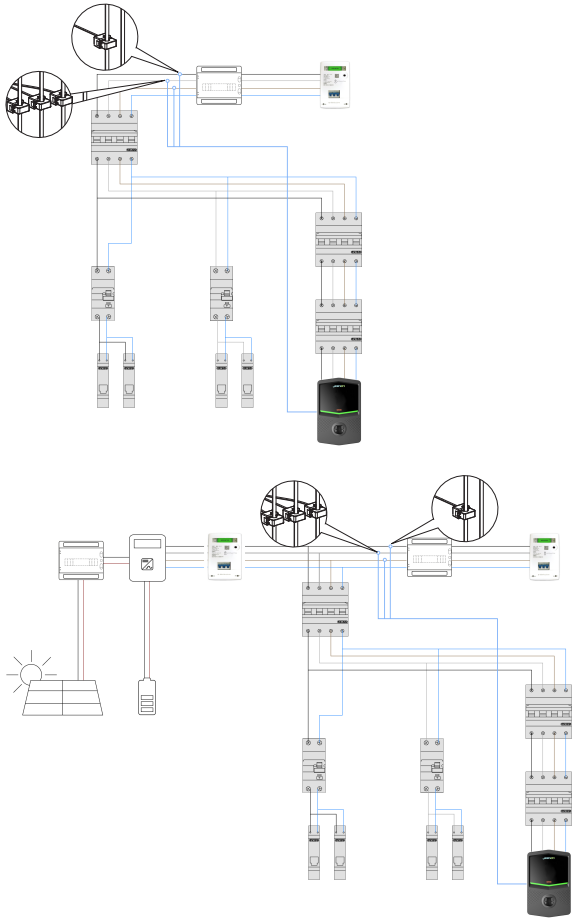
4.5 External Current Transformer to install

The CTs are included in the charging station's packaging.

To enable the Dynamic operating mode on the charging station, the external CTs must be installed around the main protection device in the consumer unit.

This enables the monitoring of the housing loads and external production of a PV (only by strictly observing the diagram below) and charging the EV with the remaining power.

CTs installation details are included in the charging station package.

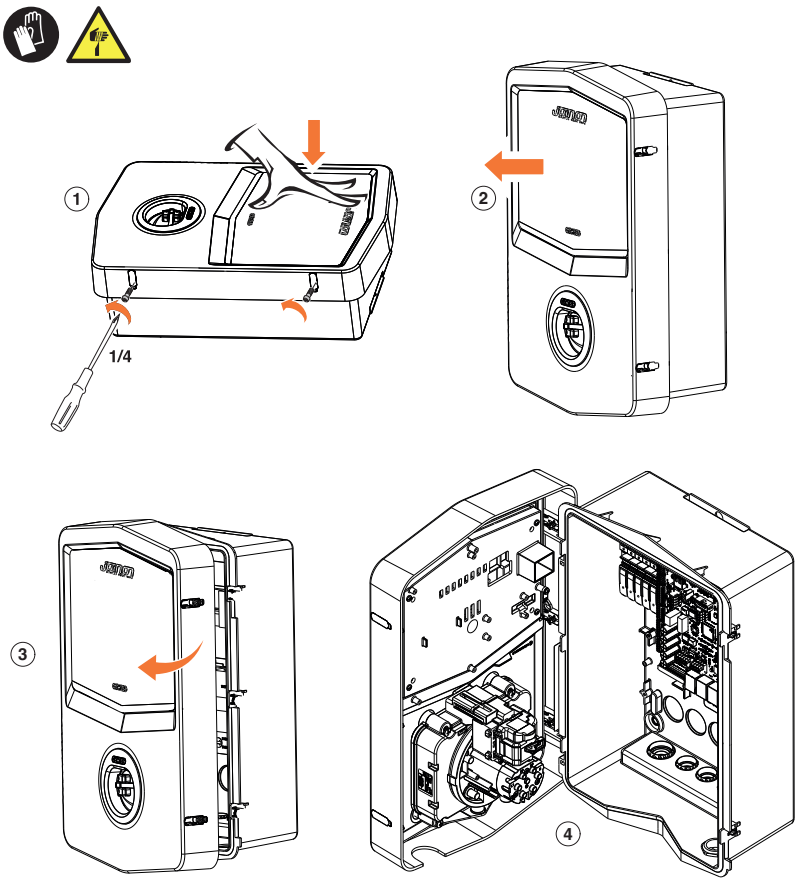


4.6 Installation Procedure

4.6.1 Opening the charging station

STEP 1.

1. Open the casing as shown in the figure.

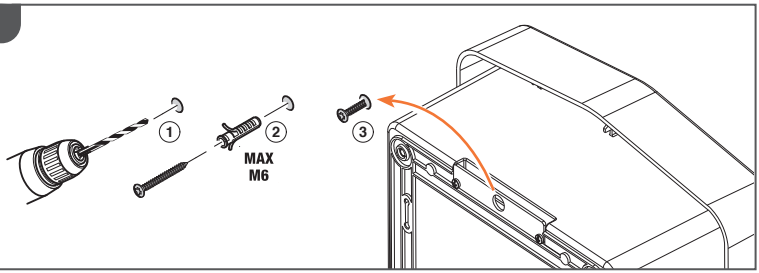


4.6.2 Wall or pole installation

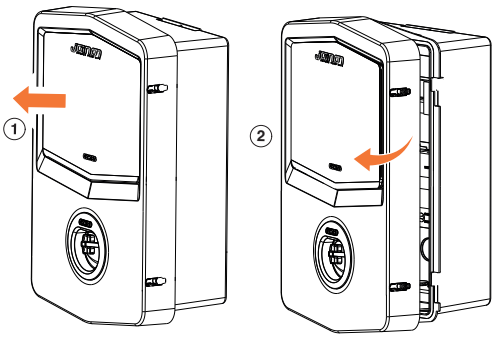
For the installation of the device, one of the two following solutions can be selected:

WALL INSTALLATION

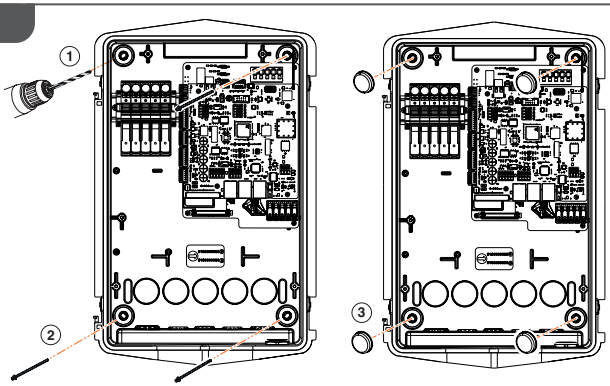
STEP 1.



STEP 2.



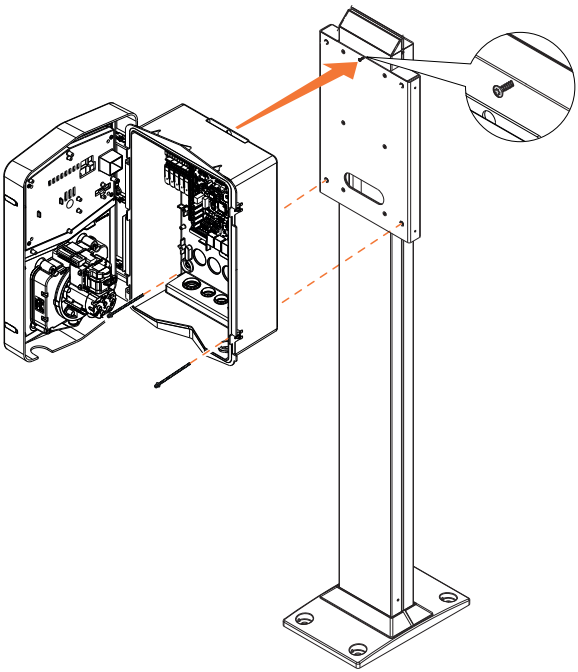
STEP 3.



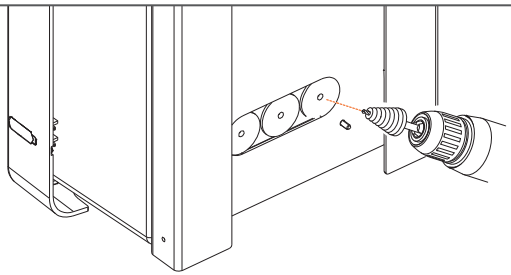
NOTE: The wall installation of I-CON must take into account that the T2 socket, or its cable holder of the tethered version, must be between 50 cm and 1,5 m above the ground.

POLE INSTALLATION

STEP 1.



STEP 2.



WARNING: A suitable cover must be provided so that the product is protected from direct sun exposure during the hottest hours of the day. If the temperature of the electronics rises above the design limits, the product will first suffer power derating and may be subject to malfunctions not covered by warranty

4.6.3 Roof protection

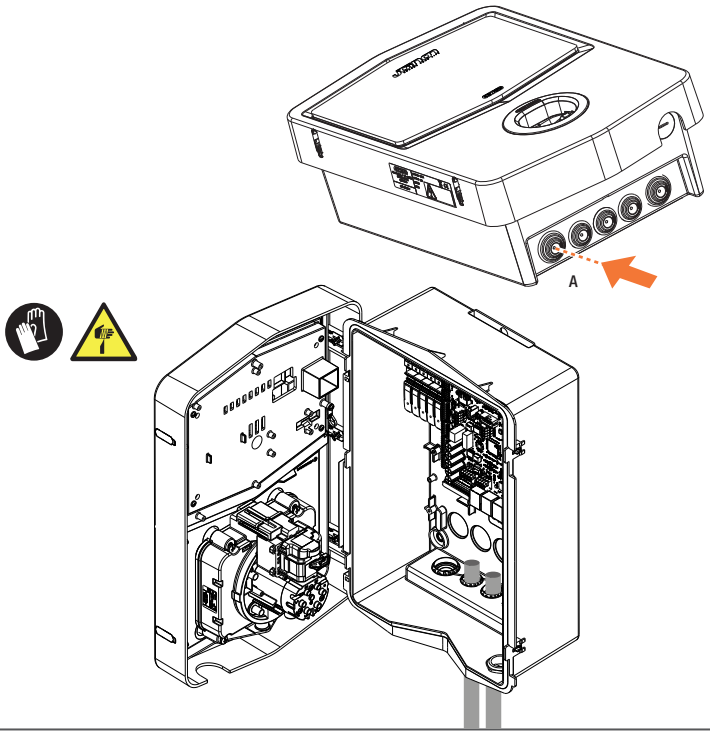
When I-CON is installed on a wall or pole with a direct sun exposition, a suitable cover must be provided so that the product is protected from direct sun exposure during the hottest hours of the day.
This cover must provide shade for the entire product at all times of the day.
The cover must be installed at a height from the I-CON wallbox that minimises obstruction and provides the necessary shade. If the temperature of the electronics rise above the design limits, the product will first suffer power derating and may be subject to malfunctions not covered by warranty

4.6.4 Wiring connection

The charging station has a different option for the cable entries.

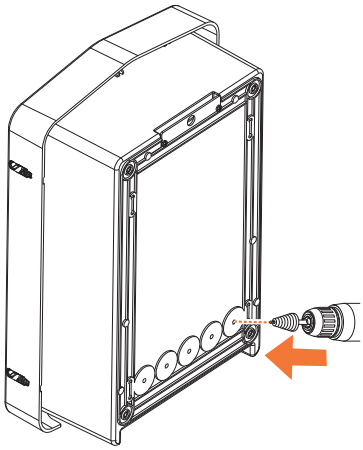
METHOD 1.

1. A cable entries on the bottom side via cable glands



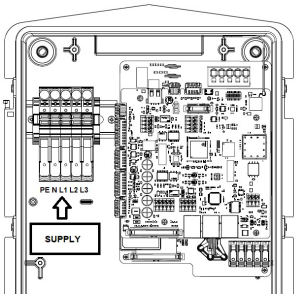
METHOD 2.

1. Backplate entries on the back side

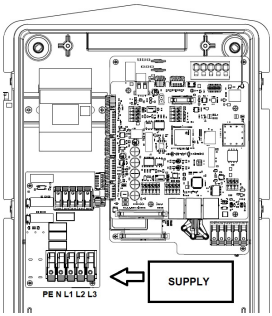


STEP 1.

1. Wire the cables to the terminal block on the left electronic board



Supply position 1
(depend on I-CON code)



Supply position 2
(depend on I-CON code)

2. When the wiring process is completed the charging station can be powered ON

4.7 Electrical check – Earth resistance

When the installation is completed and the system is powered up, it's mandatory performing an electrical check to avoid any problem in the charge session.
For example:

- The Earth's resistance must be less than 10mΩ.
- The voltage between Neutral and Earth is lower than 15V.

5. Functional Specification

The charging station has 2 different charging modes with a dedicated setup.
These 2 modes are called:

- **STANDARD=** set the max charge power and schedule when the charge can start
- **DYNAMIC=** the max charging power depends on the household loads and their instantaneous power during use. The charging station dynamically adapts the charging power to avoid blackouts

The mobile APP "myJOINON" will guide the homeowner in the setup during the "Digital commissioning" phase.

NOTE: Only a qualified installer can set the necessary parameters for each charging mode during the digital commissioning phase available on the myJOINON app. The settings can also always be changed later using the app.

5.1 myJOINON App

The myJOINON App enables the smart functionalities of the charging station, full control of access to other family members and the historical charge session data. Download the APP from the Android and iOS stores.

5.1.1 Sign up and Sign in

The first step after the APP installation is to create your account. Use the SIGNUP flow to create your account.
Make sure to activate the account using the link you will receive in your inbox.

5.1.2 Digital commissioning - Create your home

After the sign-up process, you can start the digital commissioning process by creating your home and the areas within it.

Two possible users can create a home in the APP:

- **Installer:** The installer should manage 2 different situations:
  - **User with existing plants:** The Installer has to request the user`s client ID to proceed with the creation of the new home. The existing user should accept the request sent by email.
  - **New user:** The installer should insert the future owner's email and generalities to proceed with the creation of the new home.
- **Owner:** after the creation of the plant he should invite the Installer with an email to allow it to proceed with the installation and configuration of the charger.

The chargers will be inserted into the created areas, where also users can set their behavior between:

- **Free charge:** the charging session will start without having to be initiated by the APP only by connecting the EV. User identification is not required and the invitation flow for new users is not necessary.
- **Charge with autorization:** the charge session is initiated using the APP only. All users must register an account and be invited to the home/area.

5.1.3 Charging station pairing

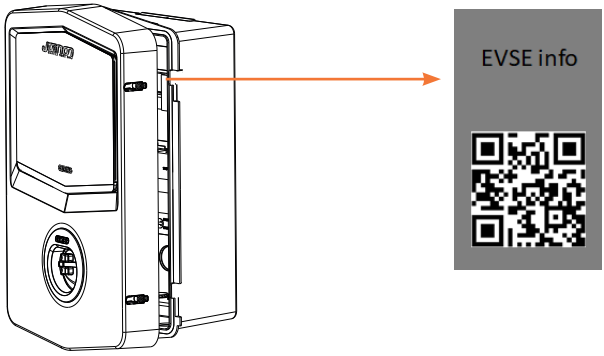
After the home and area creation, the customer needs to pair the charging station to his account.

This step is necessary to provide the Wi-Fi parameters (network name [SSID] and password) to the charging station enabling the internet connection.

Ensure that the selected network is already online and has sufficient signal strength before powering up the charging station.

After, follow the step in the APP to:

- Find where is the QR code in the charging station and scan it
- If installation of cover GWJ8104 is necessary please attach the copy of QR code provided in the charger's accessories kit.
- Select the desired Wi-Fi network from the list (the networks shown are those identified by the charging station).
- Insert the Wi-Fi password
- Check the LEDs status to see if the connection was successful and the information shown on the APP
- If after some seconds you see a red flash this means you entered a wrong password. Go under the charger settings, select the pencil near the network name and rescan the QR code to select the network end and enter the correct password.



5.1.4 Charging station setup

Under the charger settings page there are some parameters that only authorized Installers can modify. These parameters are located under the menu “installer parameters”.

Installer parameters:

- **Enable CT sensors:** Parameter that enables the reading of plant current by the CT sensors. This allows the user to select the dynamic charging mode.
- **Meter type:** Mono or three phases, here the installer must select the correct setting according to the customer’s plant type. This will affect the power levels available.
- **Meter power:** The Installer can select between different powers according to the power limits of the customer’s DSO. This is a very important parameter to set to guarantee the correct behaviour of the charger in the plant.

Common parameters:

These parameters can be modified by both the installer and the owner of the charger:

- **Charge scheduling:** The user can create a weekly and daily schedule, indicating the time slots in which charging of their electric vehicle can take place.
- **Charging modes**:
    - **Standard:** This mode doesn’t require any other accessory connected to the charger. The user can select the fixed maximum charging power of the charger.
    - **Dynamic:** This setting requires CTs to be correctly installed on top of the incoming supply and activated by the installer. This mode allows the charger to dynamically adjust the charging power according to the supply availability of the plant while avoiding possible overloads.
- **Charge power:** only if the charging mode “standard” is selected, the user can select the maximum power output of the station.

TIPS: The charging station works with a specific version of CTs, already provided with the I-CON wallbox.Codes GWJ8037 and GWJ8038 refer to these accessories.

5.1.5 Off-Peak Hours

The charging station has a default schedule activated to activate the charge when demand on the electricity grid is lowest. The section CHARGE SCHEDULING will show the default schedule. In any case, the house owner may cancel or modify this program according to his supply contract.

Default configuration doesn't allow the charge during the peak hours. Peak hours are 8-11AM and 4-10PM

5.1.6 Random Delay

The charging station has to apply a random delay during the charging process following the requirements of the “The Electric Vehicles (smart charge points) Regulation 2021”. The value set by default is 600s, but it’s possible to increase this value up to the 1800s.

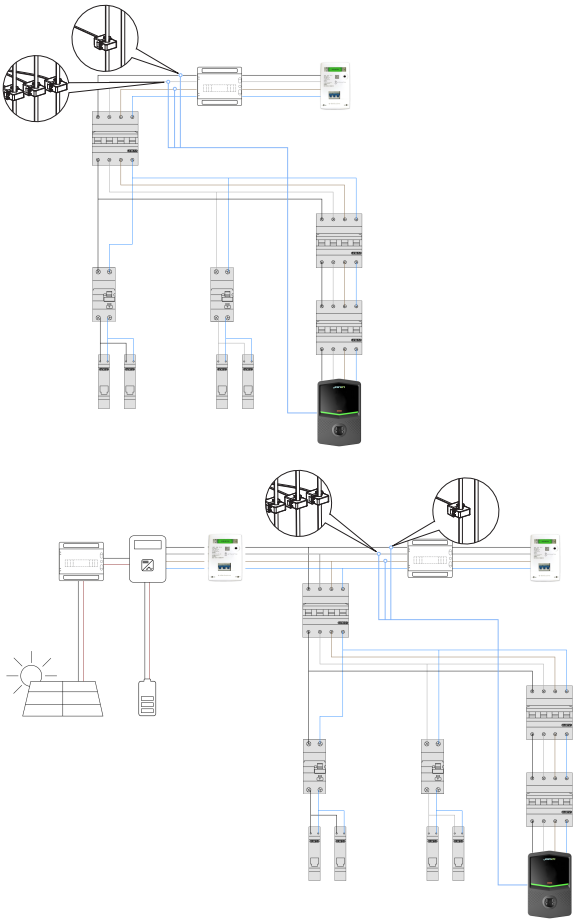
The random delay is applied when:

- When the charge session is started or stopped
- When the charging station close the internal contactors and provide energy to the EV
- When the charge session depends on the schedule
- When the EV is connected to the charging station outside the schedule done by the customer and the connection between the charging station and the network is lost

The customer can temporarily change this delay by setting the RANDOM DELAY parameter to 0. This change will only take effect for the charging session following the change, then the parameter will be reset to 600s.

5.2 Dynamic Load Management For The Charge Session

This section focuses on the DYNAMIC charging mode, describing the operation of the logic. Installation aspects of the CT accessories are well described in the respective user manuals (codes GWJ8037 and GWJ8038).
These schemas describe where the CTs must be installed in the home layout



In this scenario, the charging station, via the CTs, reads the whole house loads and the charging power will be managed autonomously by the charging station based on domestic consumption. If the domestic consumptions increase, the charging power is reduced to the minimum factory-set value (6A).

6. How To Charge Your Electric Vehicle

WARNING: Vehicle adaptors shall not be used to connect a vehicle connector to vehicle inlet.

WARNING: Adaptors between the EV socket-outlet and the EV plug shall only be used if specifically designated and approved by the vehicle manufacturer or by the EV supply equipment manufacturer and by national requirements.

6.1 I-CON SingleCP

I-CON SingleCP offers an easy way to charge an electric vehicle.
By default, I-CON can start a charging session when the cable is plugged in, using the nominal power.

The customer can also decide whether the charging session should be started via the app. This depends on the setting of the area created during the digital commissioning process.

If the area is set to **Free charge**, as described above, the customer can connect the cable without restriction and the charging session can start. Only time scheduling or the house loads can have an impact.

If the area is set to **Charge via app**, the customer can connect the cable without restriction but must use the app by selecting the charging station and its socket to start the charging process.
The command enables the charging process on I-CON. Again, only time scheduling or the house loads can have an impact.

See section myJOINON app for more details.

6.2 I-CON MultiCP without RFID reader

This version requires user identification by default before starting a recharge, as the product is designed for multi-user use.
Without the RFID reader this authorization is done by the myJOINON app and the I-CONs must be connected to the JOINON platform.
This mode requires the execution of a process called 'digital commissioning' through the JOINON platform.
After a few steps by GEWISS, the end user or designated contact person will be able to complete the required configuration and invite authorized users.

7. Dedicated requirements for UK Market

The UK market requires the charging station to meet certain requirements.
Some requirements are indicated in the **"The Electric Vehicles (smart charge points) Regulation 2021"** and are related to:

- Smart functionalities
- Electricity supplier interoperability
- Loss of communications network access
- Safety
- Measuring system
- Off-peak hours
- Random delay
- Security
- FW updates

Other involve the electrical aspect and the PEN fault detection, functionality built-in the charging station.

7.1 Ozev Requirements

7.1.1 Smart functionalities

The I-CON has a dedicated chip for the Wi-Fi connection. In this way, the I-CON can connect to a communications network via a local Wi-Fi network.
Through the myJOINON APP, the customer has control of the charge session.
I-CON has a LED on the central part of the cover. The LED indicates its current status helping the user to recognize what is happening

7.1.2 Electricity supplier interoperability

I-CON is independent of any electricity supplier and the same applies to the functionalities offered.
There is no impact if the customer changes the electricity supplier with the functionality offered by I-CON.

7.1.3. Loss of communications network access

In case the I-CON is unable, temporarily, to connect to the communication network and the cloud solution, dedicated behaviours will be activated.
The changes are:

- The I-CON activates their Hotspot allowing the customer to connect directly to it through the APP. This is to maintain control of the ongoing charge sessions or change some parameters. Then the I-CON will try periodically to restore the connection to the network
- The schedule is cancelled, allowing a charging session to start immediately.
- The random delay is not deleted

WARNING: I-CON is designed to work online, connected to the cloud platform. This situation should be regarded as a temporary failure and not as normal use.

7.1.4 Safety

The I-CON is designed to guarantee an adequate level of security for the customer and the entire system.
I-CON includes an anti-tamper system to monitor any possible safety hazards if the station is opened, particularly during a charging session.

When I-CON recognizes this fault, the charging session is immediately interrupted and an alarm notification is sent to the customer via APP.

7.1.5 Measuring system

I-CON can measure:

- Instant power delivered to the EV, in kilowatt (kW)
- Delivered energy to the EV, in kilowatt-hours (kWh)
- Total time of the charge

This information is stored for 12 months and made available to the customer through the myJOINON APP.
The charge sessions can be grouped per year, quarter, month, week, or day.

7.1.6 Off-peak hours

By default, I-CON has a schedule to avoid charging during peak hours.
The customer can delete or modify this configuration using the option in the myJOINON APP.

7.1.7 Random delay

By default 600s random delay is set on I-CON as indicated in the previous section.
The charging station has to apply a random delay during the charging process following the requirements of the “The Electric Vehicles (smart charge points) Regulation 2021”. The value set by default is 600s, but it’s possible to increase this value up to the 1800s.
The random delay is applied when:

- When the charge session is started or stopped
- When the charging station close the internal contactors and provide energy to the EV
- When the charge session depends on the schedule
- When the EV is connected to the charging station outside the schedule done by the customer and the connection between the charging station and network is lost

The customer can temporarily change this delay by setting the RANDOM DELAY parameter to 0.
This change will only take effect for the charging session following the change, then the parameter will be reset to 600s.

7.1.8 Security

I-CON ensure maximum protection to the customer against electrical and physical damages.
I-CON guarantees IK10 as defined in the BS EN 62262

7.1.9 FW updates

I-CON can be kept updated thanks to the dedicated functionality in the APP.
The customer is notified when a new FW version is available and he can decide when to update the charging station.
The update is possible when there is no active recharge session.
Firmware is provided via OTA and I-CON uses the network connection to download the files from a secure connection to the cloud provider.
The files downloaded by I-CON are signed by GEWISS and I-CON verifies the signature to ensure full security.
If the FW file is corrupted or the validity fails, the customer is notified by myJOINON APP.

TIPS: The charger will be supported with firmware updates for a further 2 years after the model goes out of production

7.2 Pen Fault

I-CON has an in-built solution for monitoring the input voltage and recognizing a PEN fault.
The solution requires no configuration for the customer.
If I-CON detects a PEN fault, an error is generated and the charging session is immediately interrupted.
I-CON remains in this error state until the customer restarts it using an option in APP.
The customer receives a notification via APP with information on the error and the type of check required before restarting the I-CON.

WARNING: I-CON cannot recognise whether the problem on the grid is resolved, so the customer must check the situation with an installer and only restart I-CON if the problem has disappeared.

8. Network Setting

8.1Wi-Fi

8.1.1 Wi-Fi Hotspot

I-CON generates a Wi-Fi Hotspot to ensure a connection with the myJOINON APP. Only the myJOINON APP can use this Wi-Fi connection. This connection is used during the DIGITAL COMMISSIONING process, which the myJOINON APP will show to the customer. The credentials of this network are indicated in the QRcode on the right side of the I-CON and in the user manual (each I-CON has dedicated credentials). The myJOINON will show only the Wi-Fi network
The SSID is composed using the GEWISS CODE and the Wi-Fi MAC ADDRESS, for example:
GWJ3004CK_70F754658FD8
The password is generated automatically and randomly.

This network mode is replaced when the customer set the credentials of the home network. In this way, the I-CON uses the home network to establish a connection to the cloud. Direct connection between myJOINON APP and I-CON is not possible in this situation.

TIPS: to activate the Wi-Fi hotspot on I-CON, please reset I-CON from the consumer unit. When restarted, I-CON starts activating the Wi-Fi hotspot. This connection is maintained for 5 minutes.

TIPS: We suggest verifying signal strength with your smartphone:
- On Android devices you can check by going to Wi-Fi settings and find information about the network in dBm. If you see a number bigger than -60dBm (e.g. -20dBm) it's fine.
- On iOS devices go under your Wi-Fi settings and find the selected network. Typically, a good network has at least 2 bars out of 4 of signal strength.

WARNING: Gewiss is not responsible for poor Wi-Fi connection. Before installing I-CON, make sure that the area has adequate Wi-Fi signal coverage. A strong signal is necessary to ensure the best performance

WARNING: Gewiss suggests using a Wi-Fi network with an appropriate security level, such as WPA-WPA2-Personal, and avoiding public networks with no security level.

9. Error encoding and troubleshooting

9.1 Error code list

Here is the list of the error that I-CON can generate.

# Error Code	Error title	Evse range	
1	DOOR OPEN	I-ON I-CON	The frontal door is open. The product is not secure
4	CONTACTOR (T2) KO	I-ON I-CON	The contractor is in a different state than expected
5	T2 SHIELDS KO	I-ON I-CON	The shields are in a different state than expected
6	MOTOR LOCK CLOSE KO	I-ON I-CON	The motor lock system doesn't move to the CLOSE position
7	MOTOR LOCK OPEN KO	I-ON I-CON	The motor lock system doesn't move to the OPEN position
8	ENERGY METER COMMUNICATION KO	I-ON I-CON	Failure in the Modbus communication with the Energy meter. The error is triggered after 3 wrong reads. After 1 correct read, the error is removed.
9	WRONG CABLE SIZE	I-ON I-CON	Cable size not present in EV simulator
10	OFFLINE >1h	I-ON I-CON	The EVSE lost communication with the backend by 1h. The EVSE is connected to the Wifi but can't connect to Cloud
11	CONTACTOR (SCHUKO) KO	I-ON I-CON	The contractor is in a different state than expected
12	MCB (SCHUKO) KO	I-ON I-CON	The MCB is open, cutting off the power supply
13	DC CURRENT	I-ON I-CON	The device recognizes a DC during the charge session
14	CP SIGNAL KO	I-ON I-CON	The CP signal is at fault

15	EV DIODE FAULT	I-ON I-CON	The check done by EVSE on the diode failed
20	PEN FAULT	I-ON I-CON	The EVSE detected a fault in the PEN system
22	ADC COMMUNICATION FAULT	I-ON I-CON	If an error occurs at the end of the internal ADC configuration
24	INPUT SUPPLY KO	I-ON I-CON	The input voltage is out of range
25	ETH PORT KO	I-ON I-CON	Detected error in the Ethernet port, If the LAN interface is in an error state or if the client can't communicate with the master(on ION)
26	WIFI KO	I-ON I-CON	Detected an error in the Wi-Fi chip
27	EXTERNAL CT KO	I-ON I-CON	The external CT devices are broken
28	EV OVERLOAD	I-ON I-CON	The EV doesn't respect the Current limits
29	CHARGE SUSPENDED - VENTILATION FAILS	I-ON I-CON	EV requires ventilation, but EVSE doesn't have any related signal (to the ventilation system)
30	ISO KO	I-ON I-CON	The ISO 15118 components/ communication fails
31	UNDER VOLTAGE	I-ON I-CON	The input voltage is low
32	DC LEAK FAULT	I-ON I-CON	The device checks this error status at the boot of the EVSE
33	IoT PROBLEM	I-ON I-CON	The device doesn't receive back or response for start transaction messages sent
34	TIC COMMUNICATION	I-ON I-CON	The EVSE doesn't receive communication packages from the TIC device. If after 30 seconds no correct packet is received, the error is triggered.

9.2 Troubleshooting for the end user

When an error occurs on the I-CON, the user may try to eliminate it following these steps

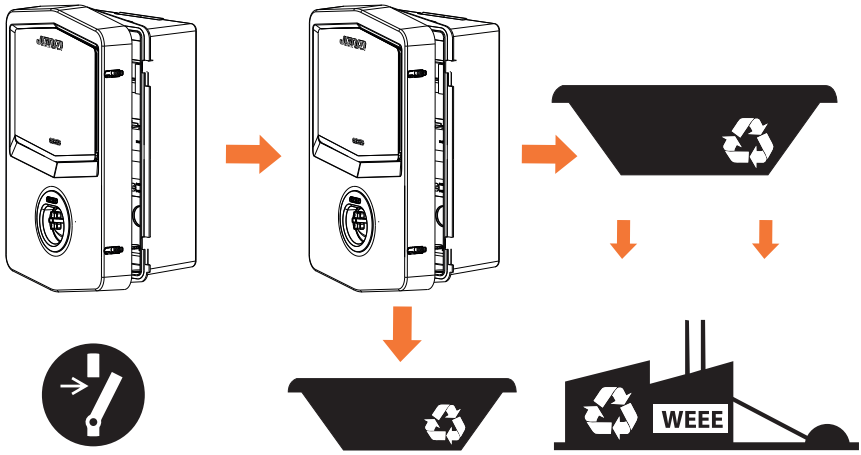
# Error Code	Error title	Troubleshooting guide
1	DOOR OPEN	Check the status of the cover. If open, close it. When you close the cover be sure that the internal device is pushed If the error remains, please contact the assistance
4	CONTACTOR (T2) KO	Try to start another charging session. If the error remains, please contact the assistance
5	T2 SHIELDS KO	Check the status of the T2 socket shields If they are opened without a plug, try to move them with the tool. If the error remains, please contact the assistance If I-CON was in charge and you see this error, remove the plug The shield will be closed mechanically Error will disappear If the error remains, please contact the assistance
6	MOTOR LOCK CLOSE KO	Try to start another charging session. If the error remains, please contact the assistance
7	MOTOR LOCK OPEN KO	Try to start another charging session. If the error remains, please contact the assistance

8	ENERGY METER COMMUNICATION KO	If the error remains, please contact the assistance
9	WRONG CABLE SIZE	Try to start another charging session with the same cable or use a different cable If the error remains, please contact the assistance
10	OFFLINE >1h	Check the internet connection provided to I-CON Check connection parameters on I-CON If the error remains, please contact the assistance
11	CONTACTOR (SCHUKO) KO	Try to start another charging session. If the error remains, please contact the assistance
12	MCB (SCHUKO) KO	If the error remains, please contact the assistance
13	DC CURRENT	Remove the plug and start another charge session. Try to start a charge with another EV If the error remains, please contact the assistance
14	CP SIGNAL KO	Try to start another charging session with the same cable or use a different cable If the error remains, please contact the assistance
15	EV DIODE FAULT	Connect an EV to I-CON
20	PEN FAULT	Check with your installer about the status of the grid. When the grip problem disappears, reboot I-CON
22	ADC COMMUNICATION FAULT	If the error remains, please contact the assistance
24	INPUT SUPPLY KO	Check the supply connected to I-CON with your installer

25	ETH PORT KO	If the error remains, please contact the assistance
26	WIFI KO	If the error remains, please contact the assistance
27	EXTERNAL CT KO	Check the connection and wiring with the installer following the instruction provided in the dedicated user manual If the error remains, please contact the assistance
28	EV OVERLOAD	Try to start another charging session. If the error remains, please contact the assistance
29	CHARGE SUSPENDED - VENTILATION FAILS	Nothing to do
30	ISO KO	If the error remains, please contact the assistance
31	UNDER VOLTAGE	Check the supply connected to I-CON with your installer
32	DC LEAK FAULT	Check the supply connected to I-CON with your installer
33	IoT PROBLEM	Check the internet connection and the service avaiability of the platform ICON is connected to
34	TIC COMMUNICATION	Check with your installer about the status of the connection with the external meter If the error remains, please contact the assistance

10. Product Disposal

Below is the information related to the disposal of the product and components



According to applicable UK regulations, the company responsible for placing the goods in the UK market is:

GEWISS UK LTD - Unity House, Compass Point Business Park,
9 Stocks Bridge Way, ST IVES
Cambridgeshire, PE27 5JL, United Kingdom tel: +44 1954 712757
E-mail: gewiss-uk@gewiss.com

11. Assistance

GEWISS Technical Support allows you to contact GEWISS experts directly to get answers to any technical questions you may have about plant engineering, regulations, products, or design software. You can also use the service to report problems with the operation of a product or the GEWISS mobile app and receive assistance. Additionally, you can use the service to indicate or suggest potential security problems.

If you need support refer to:
- the page https://www.gewiss.com/ww/en/services/support and find out OPEN A TICKET
- or scan the QRcode to be redirected to the correct page and open a ticket

DIRECT LINK

When you create a task you'll receive:

- data reception confirmation

- estimated response time (response time may vary from 2 to 4 weeks depending on the type of report and departments involved)

- response with problem analysis and resolution time (minimum time for problem resolution 4 weeks up to 3 months)

GEWISS SPA
I-24069 CENATE SOTTO - Via A.Volta, 1 – (Bergamo) – Italia
Telefax +39 035 946 222 **Telefono +39 035 946 111**
E-mail: gewiss@gewiss.com http://www.gewiss.com

MANUFACTURER'S DECLARATION OF CONFORMITY

No.	**EX.038-2023**
Issuer's name:	**GEWISS S.p.A.**
Issuer's address:	**Via A. Volta, 1** **24069 Cenate Sotto (BG)- ITALY**
UK office address:	**GEWISS UK LTD** **Unity House, Compass Point Business Park,9 Stocks Bridge Way,** **St. Ives - Cambridgeshire, PE27 5JL - United Kingdom**
Object of the declaration:	**EV charging station I-CON Evolution** **Type references: GWJ3402CK, GWJ3404CK, GWJ3502GK and GWJ3504GK**

We declare that the products mentioned in subject are designed and manufactured in conformity with the requirements of following harmonized standards:

Document No.	***Title***	***Date of issue***
BS EN IEC 61851-1	Electric vehicle conductive charging system - Part 1: General requirements	2019
BS EN IEC 61851-21-2	Electric vehicle conductive charging system - Part 21-2: Electric vehicle requirements for conductive connection to an AC/DC supply - EMC requirements for off board electric vehicle charging systems	2021
BS EN IEC 63000	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances	2018
ETSI EN 301 489-3 V2.1.1	Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU	2019
ETSI EN 301 489-17 V3.2.4	Part 17: Specific conditions for Broadband Data Transmission Systems; Harmonised Standard for ElectroMagnetic Compatibility	2020
ETSI EN 301 489-52 V1.2.1*	Part 52: Specific conditions for Cellular Communication User Equipment (UE) radio and ancillary equipment; Harmonised Standard for ElectroMagnetic Compatibility	2021
ETSI EN 301 908-13 V13.2.1	Part 13: Evolved Universal Terrestrial Radio Access (E-UTRA) User Equipment (UE)	2022
ETSI EN 300 328 V2.2.2	Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz band; Harmonised Standard for access to radio spectrum	2019
ETSI EN 300 330 V2.1.1	Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU	2017
BS EN IEC 62311	Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz to 300 GHz)	2020
BS 8300-1	Design of an accessible and inclusive built environment. External environment - code of practice	2018

*only for the version with router

GEWISS SPA
I-24069 CENATE SOTTO - Via A.Volta, 1 – (Bergamo) – Italia
Telefax +39 035 946 222 **Telefono +39 035 946 111**
E-mail: gewiss@gewiss.com http://www.gewiss.com

MANUFACTURER'S DECLARATION OF WARRANTY CONDITIONS

Manufacturer's name and address:	**GEWISS S.p.A.** **Via A. Volta, 1** **24069 Cenate Sotto (BG) - ITALY**
Gewiss Group local subsidiary and address:	**GEWISS UK Ltd.** **First Floor Unity House, Compass Point Business Park, 9 Stocks Bridge Way, St Ives, Cambs PE27 5JL, United Kingdom**
Object of the declaration:	**WARRANTY CONDITIONS APPLICABLE TO CONSUMERS PURCHASING EV CHARGERS FROM GEWISS AUTHORISED DISTRIBUTORS WITH INSTALLATION CARRIED OUT BY AN AUTHORIZED OZEV INSTALLER**

1) These warranty conditions are applicable to Consumers (hereinafter "Consumers" or, individually, the "Consumer") only for Gewiss EV Chargers (hereinafter "Products" or, individually, the "Product") purchased via Gewiss authorized distributor with installation carried out by an authorized OZEV installer, being understood that the Products are bought in new conditions, in their original package and complete of their handling instructions. With regard to sales other than the abovementioned, Gewiss UK LTD (hereinafter "Gewiss") standard general sales conditions shall apply.

2) **These warranty conditions are applicable only to Products sold and used in the United Kingdom. In addition, these warranty conditions operate in derogation from Gewiss general sales conditions and are additional to the warranty rights provided by the law in favour of the Consumer or contractually agreed in writing between Gewiss and the Consumer.**

3) The minimum operational life of the Product is 3 (three) years from the date of installation.

4) These warranty conditions cover the Product defects, which can be demonstrated to be determined by raw material defects, or by constructive or manufacturing defects, for a period of 3 (three) years starting from the date of installation. This warranty covers the Products listed below:

GWJ3404CK	GWJ3402CK	GWJ3504GK	GWJ3502GK	GWJ3604TK	GWJ3602TK	GWJ3704TK	GWJ3904TK	GWJ3902TK	

5) Products shall not be considered defective when one of the conditions indicated below occurs:
   a) aesthetic defects related to the deterioration of the surfaces and colour change of plastic parts (for example: casing and grips);
   b) reduction of no more than 30% of the luminous flux of the wall-box status signalling LEDs.

6) **If the Product falls within the scope of this warranty, Gewiss shall choose – at its sole discretion –whether to repair the Product, or replace it with a Product of equivalent price and equivalent performances or to refund the Consumer of the purchase price of the Product.** These warranty conditions cover both parts and labour (i.e. any on-site assistance, repairs and replacements).

7) Gewiss, when it chooses to repair the Product, may use new or reconditioned parts, guaranteeing in this case that the substitutive components are equivalent to the substituted ones in terms of performance and reliability. Whatever it is the solution chosen by Gewiss, none of these options involves the change or extension of the original warranty term of validity, i.e. starting from the installation date of the Product.

8) The Consumer, subject to forfeiture of the warranty, shall notify the existence of defects to Gewiss e-mail technical-uk@gewiss.com no later than thirty days from the discovery of the defect, providing the relevant EIC - Electrical Installation Certificate. Upon receipt of the notification and of the document indicated above.

9) In any case, the warranty does not apply when the defectiveness of the Product is determined by:
   a) installation carried out by an non approved Gewiss/ OZEV installer by the Office of Zero Emission Vehicles;
   b) non-compliance with the technical specifications, requirements or conditions of use indicated in the Product manual and in any instructions sheets;
   c) Acts of God, atmospheric events, fire, theft or vandalism, interruptions or power surges within the electrical supply or other events outside Gewiss' control;
   d) incorrect installation, accidental or malicious damage, use of parts and accessories that are not Gewiss genuine approved parts, negligent or inappropriate use, misuse, neglect or incorrect operation;
   e) use not allowed or use different than the purpose for which the Product is intended;
   f) improper or inadequate maintenance, or maintenance performed by a person not adequately qualified;
   g) Product components subject to wear and tear and parties subject to a natural aesthetic decay, which does not affect the functionality or the safety of use of the Product;
   h) Product modification or repair performed by the Consumer or by its delegate, without the express written consent by Gewiss.

   With reference to the situations mentioned above, the Consumer, upon Gewiss request, shall provide appropriate and complete proof about the proper use, the proper installation and maintenance of the Product.

10) Except to the binding extent required by Law and with the exclusion of wilful misconduct and gross negligence, in no event Gewiss shall be liable for damages resulting from any breach, as well as from any direct or indirect damages caused by faults or defects of the Products, or by their malfunction such as by repairs or replacements, among which, by way of example, loss of profits, lack of savings, loss of reputation, loss of goodwill, block of plants in which the Products are destined to work. In any case, Gewiss liability shall not exceed the purchase price of the defective Product.

11) Gewiss reserves the right to modify these warranty conditions at any time, by publishing the new terms on its website www.gewiss.com/content/dam/gewiss/landingpage/ozev_warranty.pdf and the catalogues on its website https://www.gewiss.com/uk/en.

12) This warranty is valid from 1st April 2023.

7.55.4.642.4

Punto di contatto indicato in adempimento ai fini delle direttive e regolamenti UE applicabili:
Contact details according to the relevant European Directives and Regulations:
GEWISS S.p.A. Via D.Bosatelli, 1 IT-24069 Cenate Sotto (BG) Italy tel: +39 035 946 111 E-mail: qualitymarks@gewiss.com

According to applicable UK regulations, the company responsible for placing the goods in UK market is:
GEWISS UK LTD - Unity House, Compass Point Business Park, 9 Stocks Bridge Way, ST IVES Cambridgeshire, PE27 5JL, United Kingdom tel: +44 1954 712757 E-mail: gewiss-uk@gewiss.com

+39 035 946 111
8:30 - 12:30 / 14:00 - 18:00
lunedì - venerdì / monday - friday

www.gewiss.com

ULTIMA REVISIONE 03/2024