



energía inteligente

VIARIS UNI

VIARIS UNI+

VIARIS UNI+ BT2



Manual de usuario



Manuale d'uso



User manual



Manuel de l'utilisateur



Bedienungsanleitung



Brugermanual

SMART ELECTRIC VEHICLE CHARGER

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DESCRIPTION

The **VIARIS UNI**, **VIARIS UNI+** and **VIARIS UNI+ BT2** chargers are smart charging points for electric vehicles by means of connection cable (Type 2) (**VIARIS UNI** and **VIARIS UNI+**), or with a Type 2 socket (**VIARIS UNI+ BT2**), in Mode 3 (EN 61851-1), which allows you to connect and charge your electric vehicle.

Include:

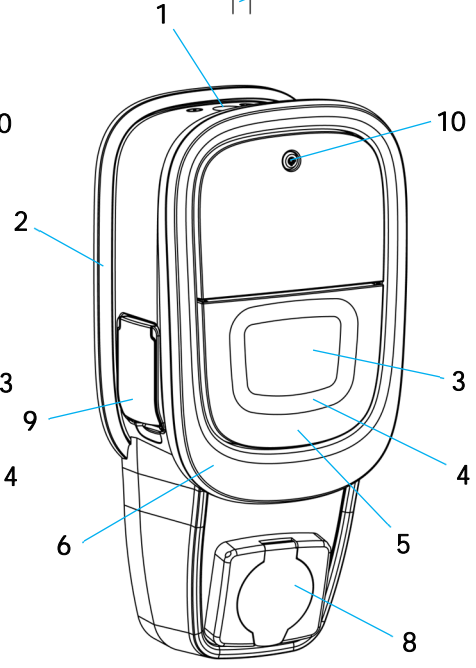
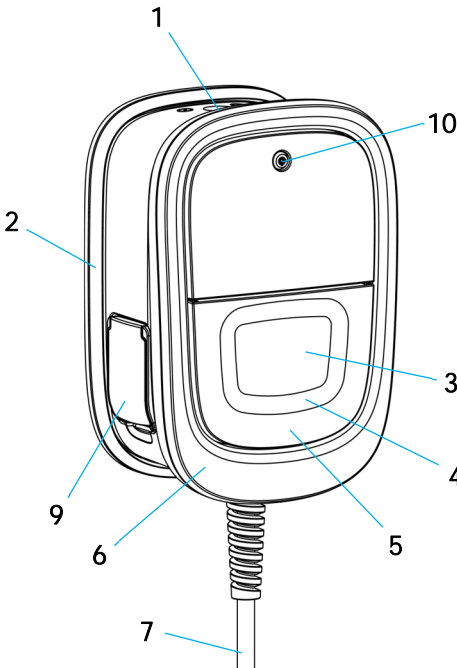
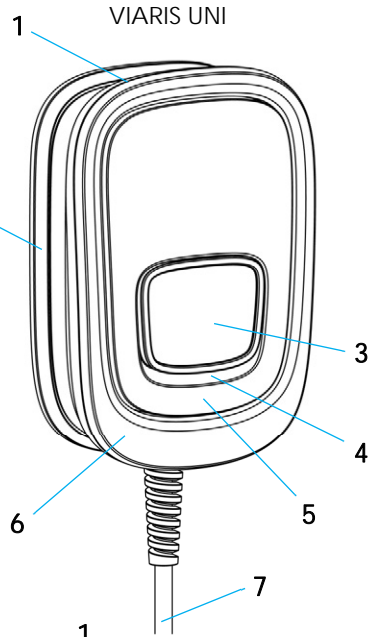
- Type 2 connection cable (**VIARIS UNI** and **VIARIS UNI+**), or with a Type 2 outlet base with shutter (**VIARIS UNI+ BT2**).
- Robust IK10 casing easily wall mounted and easy to use.
- LED operating status indicators.
- Power disconnection device in case of defect currents with a continuous component greater than 6 mA.
- A Charge Modulator enabling you to maximize your charge and minimize home disruption.
- e-VIARIS free App download available from Google Play and App Store.
- Ability to set desired charging times via the App.
- Optionally can include an additional Schuko input (load modes 1 and 2) limited to 14 A (N/A in UK) (**VIARIS UNI+** y **VIARIS UNI+ BT2**).
- The **VIARIS UNI+** and **VIARIS UNI+ BT2** models feature a DIN rail that allows modular electrical protections or MID certified energy counts to be installed, with a maximum width of 8 modules.
The protections or counters can be accessed by removing the secured lid by lock.

Warning symbols used in this instruction manual:

	ELECTRICAL RISK. There is a risk of electrocution that can lead to bodily injury or death if the instructions are not followed
	GENERAL ATTENTION

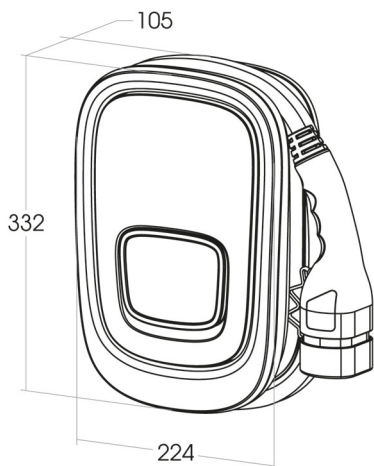
Description of elements

1. Knockout points
2. Installation plate
3. Activation Zone
4. Status bar
5. LED status indicators
6. Framework
7. Tethered cable - Type 2
8. Type 2 outlet base with shutter
9. Socket Schuko plug (N/A in UK)
10. Lock

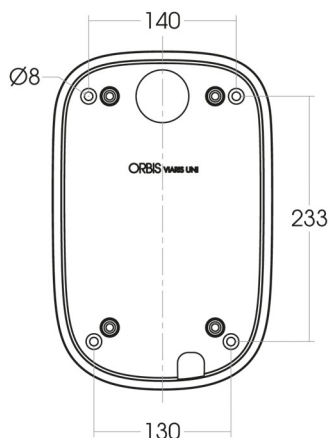
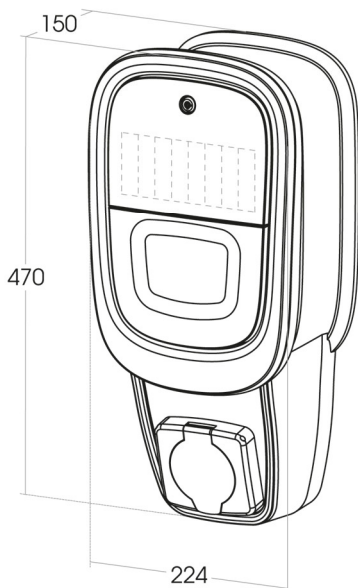
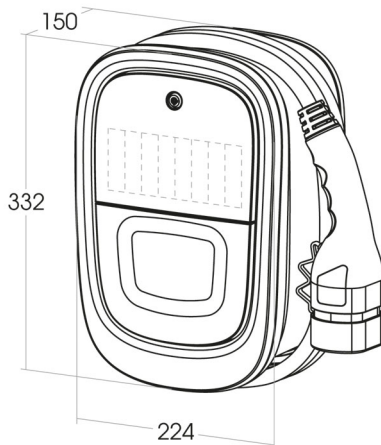


DIMENSIONS

VIARIS UNI



VIARIS UNI+



Wall fixing

VIARIS UNI+ BT2

SMART CHARGER INSTALLATION



Security warnings

The following instructions must be observed during installation and operation of equipment:

- The equipment must be installed by authorised and qualified person-nel who comply with the instructions of this manual.
- The equipment must be installed and activated in compliance with the current low voltage regulations.
- Do not use the equipment for purposes other than that specified.
- Before installing the smart charger, check that it is not damaged.
- Before accessing the connecting terminals, verify that the cables are not under electric voltage. The opening of the enclosure does not imply the absence of tension within it. It may only be opened by authorised and qualified personnel.
- In accordance with the applicable regulations, the installer should check whether overvoltage protection measures are necessary.
- Use only the specified charging cable for each electric vehicle. In no case should another type of extension cable be used.
- In case of malfunction, do not perform repairs and contact our Technical Services immediately.
- After installation, inaccessibility to connecting terminals without appropriate tools should be ensured.
- To protect the intelligent charger against potential vehicle impacts, the installation of a protective barrier is recommended.
- In the event that your charger has an outlet with a connection cable, cover the connector with its supplied rubber cover to prevent the entry of water.



Assembly requirements

- The minimum installation height of the power outlets and connectors should be 0.6 m above ground level. If the charger is intended for public use, the maximum height shall be 1.2 m and in places for persons with reduced mobility, between 0.7 m and 1.2 m. (See the instructions of the country where the installation is carried out in case other heights are specified).
- The mounting plate must be located at a height between 0.4 m and 1.5 m above ground level.
- The charger must be installed upright and allow clearance for maintenance.
- Use seals or presses to ensure the level of IP protection of the charger.

Wall Mounting

- Remove the installation mounting plate.
- Check the spirit level bubble for correct positioning of drill holes.
- Drill 4 x Ø8 mm holes for raw plugs (supplied).
- Bolt the installation plate to the wall. **Fig. 1**
- Attach the charger to mounting using four M6 screws (supplied). **Fig. 2**

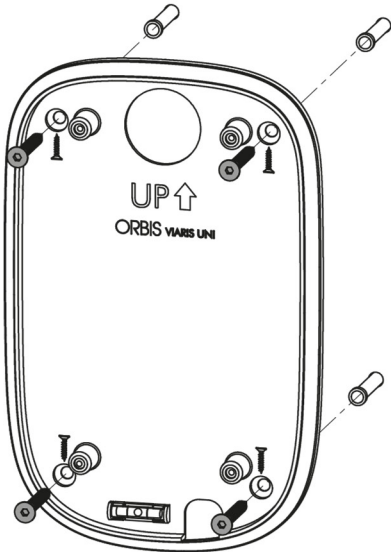


Fig.1

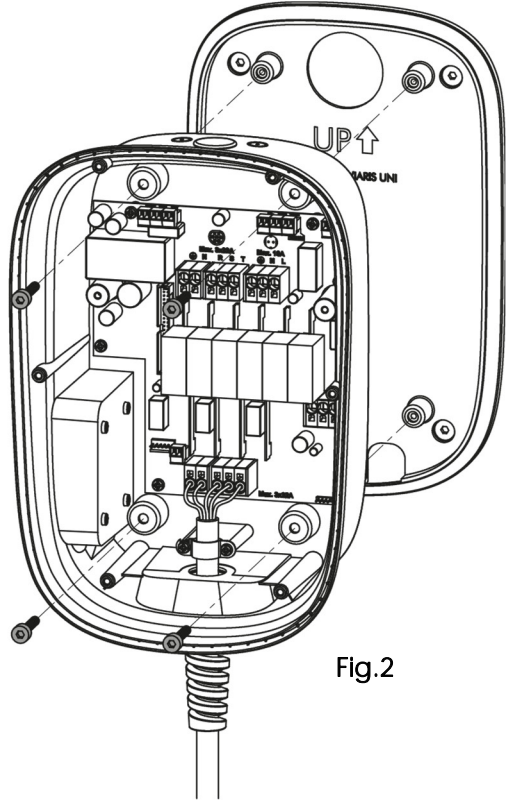


Fig.2

POWER CONNECTIONS



Before accessing the terminal connectors isolate the electrical supply.
The unit should only be opened by authorized and qualified / competent electricians.



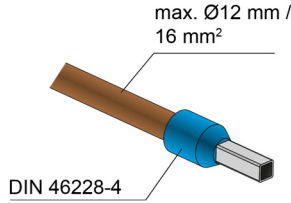
Please refer to illustrations below for the connection terminals sequence:

	1PH+N 230 V~ 32 A	3PH+N 3x230/400 V~ 3x32 A
VIARIS UNI	<p style="text-align: center;">⊕ N L</p>	<p style="text-align: center;">⊕ N L3 L2 L1</p>
VIARIS UNI+ VIARIS UNI+ BT2		

On the **VIARIS UNI+** and **VIARIS UNI+ BT2** chargers that optionally carry the Schuko plug socket (N/A in UK), the maximum power of the connection should be 32 A + 14 A for single-phase, and 3x32 A + 14 A for three-phase.

In some cases, in which your charger has the extra MID meter or electrical protections, connection terminals cannot be included by space, so the connections will be made in the own counter or protections that will be signalled in the correct order of the phases.

NOTE: To make the electrical connection to the charger, the terminal cables must be used.



Grounding

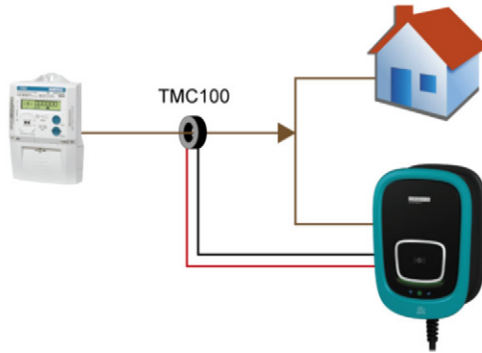
For correct operation of the charger, it must be considered that the grounding installation must comply with the following:

- The type of ground system of our installation is TT, TN(S), or TN(C).
- Voltage between neutral and ground (N-PE) less than 5 Vac.
- Resistance of the ground installation with less than 50 Ω .

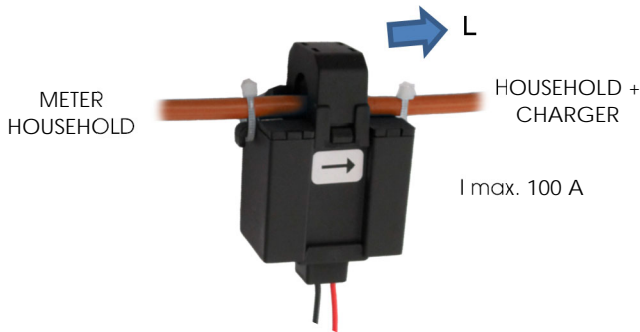
Connection of the charger modulator

The load modulator allows to maximise the power used for the load of the vehicle with respect to the consumption of the house. In this way we avoid interruptions by exceeding the contracted power in the home.

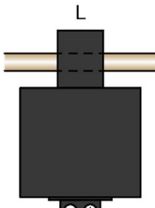
Open the **TMC100** transformer (included) and couple it on the phase cable (L) so that it measures the total consumption of the house and the charger.



Respect the sense of current, indicated in the **TMC100**. It should not be used in installations with currents exceeding 100 A as the measurement and therefore modulation may be incorrect.

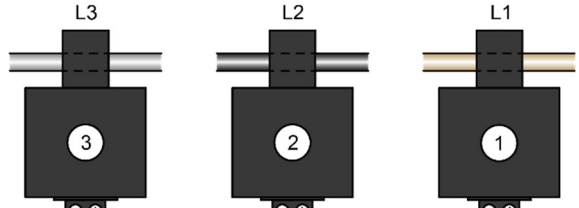


Single phase charger



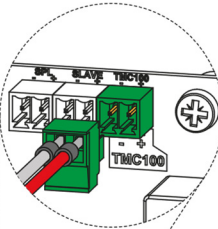
TMC100 -
TMC100 +

Three-phase charger

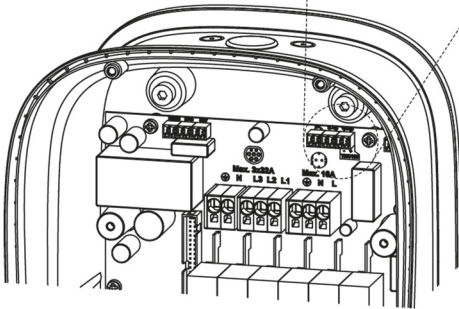


TMC100 -
TMC100 +

Connect the output of the **TMC100** to the plug-in connector that is supplied and plugged into the control circuit.



The connector is located at the top of the circuit and depending on the version may be located in different positions. The drawing is indicative. Check the circuit marking to ensure a correct connection.



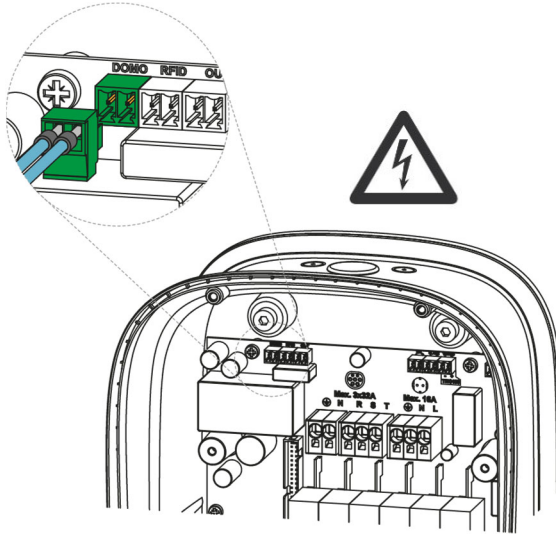
Respect the \pm indications so that the measurement is correct.

Braided torque cable with section 0.25-0.5 mm², maximum length 1000 m, and with a peeling of 6-7 mm and torque of 0.2 Nm

External activation connection

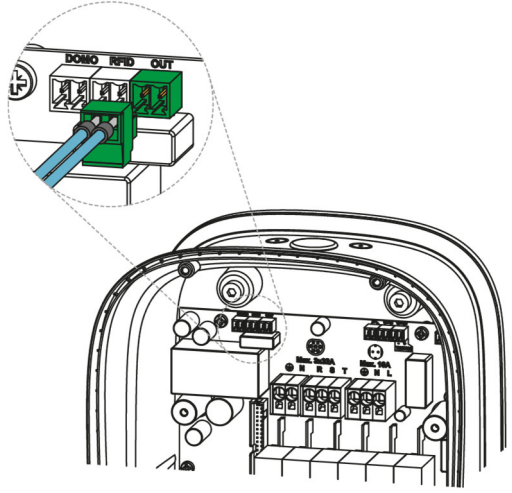
There is the possibility to activate the charger using an external signal (e.g. from a home automation system or from a prepaid system). This signal is priority over any other load activation system; therefore, if the external activation is activated, charging would start when the vehicle is connected to the charger.

The connection must be done by plugging the inputs of the **DOMO** connector with an external circuit free of potential.



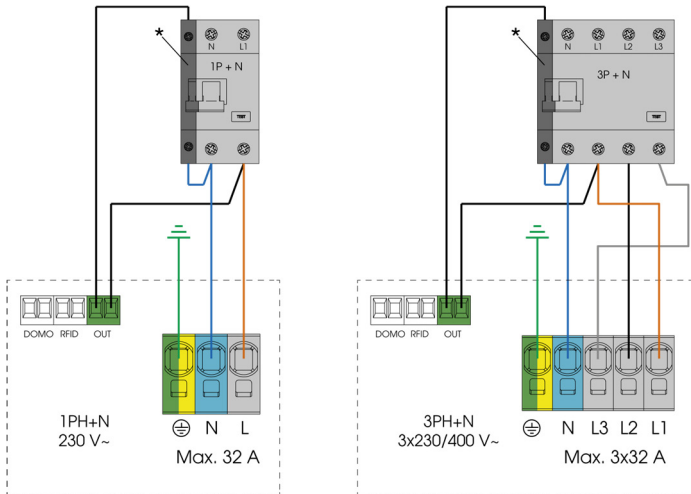
ADDITIONAL SAFETY PROTECTIONS

To ensure the electrical safety of the installation, the charging station is equipped with a fault monitoring system of the charger switching device. This system has potential-free outputs of 230 V ca and 5 A of maximum consumption, marked as OUT.



In chargers with built-in protections, these **OUT** outputs provide a signal that activates a device that operates on said protections, cutting off the supply upstream.

In chargers without protections included, mechanical manoeuvring devices (*remote firing reel) can be connected to these **OUT** outputs that operate on the external protections, cutting the supply upstream according to the following diagrams:

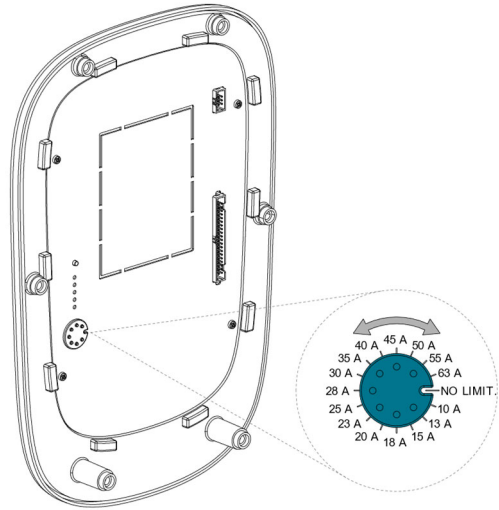


CONFIGURATION ACCORDING TO THE INCOMING ELECTRICITY SUPPLY

To configure the equipment according to the incoming electricity supply, use the dial on the rear of the front panel or via the mobile/web app.

This adjustment is essential for the correct operation of the load modulator.

For app or web programming to take effect, the rotating selector must be in the **"NO LIMIT."** position.



If the **TMC100** transformer is not installed because modulation is not necessary, it is advisable to limit the load current with the rotary selector to the maximum power that we want to allocate to the charger.

In the **"NO LIMIT"** position, the charging power would not be limited and could go to the maximum that the charger can give (7.4 kW in single phase/22 kW in three-phase).

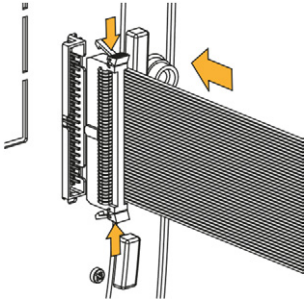
In installations where the **TMC-100** is not required, as another meter (SPL, VIARIS SOLAR or others) is used, the position of the rotary must be in **"NO LIMIT."**

Current	Single-phase power	Three-phase power
NO LIMIT.	NO LIMIT.	NO LIMIT.
10 A	2,3 kW	6,928 kW
13 A	3 kW	9 kW
15 A	3,45 kW	10,392 kW
18 A	4,14 kW	12,42 kW
20 A	4,6 kW	13,856 kW
23 A	5,3 kW	15,9 kW
25 A	5,75 kW	17,321 kW

Current	Single-phase power	Three-phase power
28 A	6,44 kW	19,32 kW
30 A	6,9 kW	20,785 kW
35 A	8,05 kW	24,249 kW
40 A	9,2 kW	27,713 kW
45 A	10,35 kW	31,177 kW
50 A	11,5 kW	34,641 kW
55 A	12,65 kW	37,95 kW
63 A	14,49 kW	43,648 kW

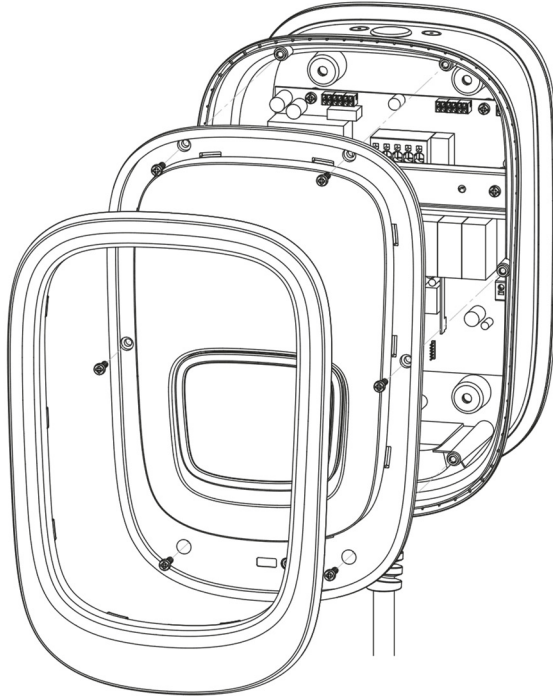
FINISH INSTALLATION

- Connect ribbon cable from charger to input on front panel (as shown below) ensuring it is firmly connected.



To remove the front panel, carefully disconnect the cable by pressing the eyelashes as indicated by the arrows.

- Secure the front panel to the installation base and secure with screws.
- Click the finishing frame firmly into place.



CHARGING PROCESS

VIARIS UNI can be activated by touch or RFID.

- If configured for touch anyone can activate the charger.
- If configured for RFID card – only the RFID card holder can activate the charger.

These settings can only be configured via the e-VIARIS mobile app. (See mobile app setting below).

Starting vehicle charge

By Touch:

- Ensure charger is ON.
- Connect the electric vehicle to the Smart Charger.
- Start charge by touching activation zone.

By RFID:

- Ensure charger is ON.
- Connect the electric vehicle to the Smart Charger.
- Hold the RFID card close to the activation zone until you hear a confirmation signal.
- The charging of the electric vehicle will begin.

Charging by Time Schedule:

- Ensure charger is ON.
- Connect the electric vehicle to the Smart Charger.
- Charging will begin at the programmed time.
- To recharge your electric vehicle manually when there is a time schedule, you must pass the RFID card twice.

NOTE: You will not be able to remove the charging cable from the vehicle during the charging process as it is locked by a safety system.

Stopping Vehicle Charge

To stop the charge manually tap activation with touch or RFID until confirmation signal is heard.

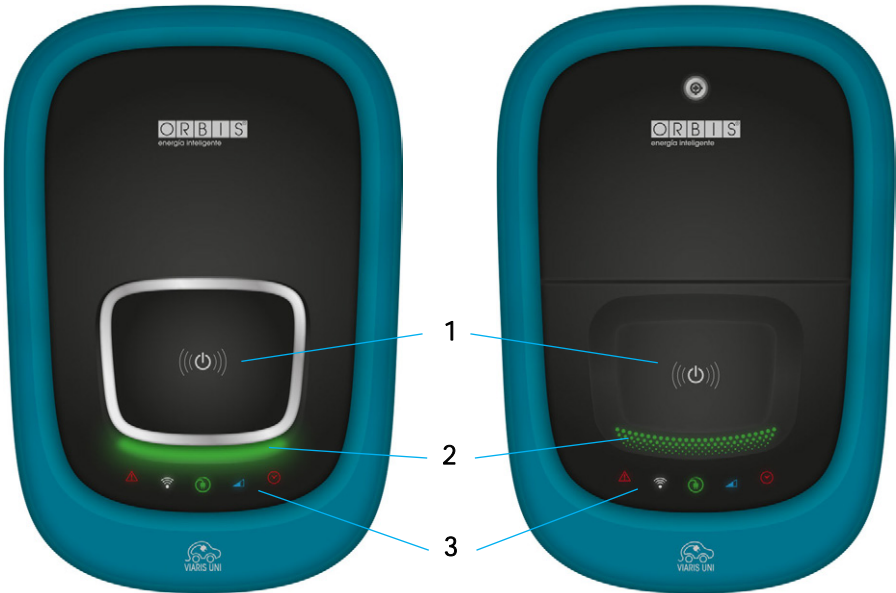
Fully Charged

Charging automatically ends when the vehicle is fully charged unless manually stopped by touch or RFID card.

LED STATUS INDICATORS

VIARIS UNI

VIARIS UNI+
VIARIS UNI+ BT2



1. Activation zone
2. Status bar
3. Light indicators

Status bar

This lighting indicates the state of the charger.

The status bar is different depending on the model, but the colour and movements of the lighting are the same and are indicated in the CHARGER STATES section.



Connection cable indicators



- Off: available connector, unlocked and available.
- Green blinking: ready for connection.
- Solid green light: connected and waiting confirmation of vehicle.
- Fixed white: loading on process.

Wi-Fi indicator



- Blinking white: establishing connection to web server.
- Solid white light: connected to web server.
- Flashing blue light: local connection to PC or mobile phone.
- Off: No Wi-Fi connection.

Charge modulator indicator



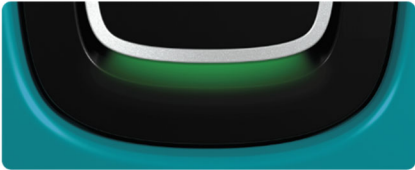




- Flashing blue light: Charging status.





Time schedule indicator



- Solid red light: time schedule established. A period of time has been set in which the recharge is carried out.

EV CHARGER STATES

Status Light	Activity	Description
	Solid green light	Charge Point: ON
	Green light illuminating from outside towards the centre	Connected to vehicle but NOT activated
	Flashing green connection indicator	Activated but vehicle NOT connected
	Solid blue light	Connected to vehicle and activated
	Blue light illuminating with varying intensity	Vehicle charging

	<p>Flashing blue light</p>	<p>Vehicle charge complete</p>
	<p>Solid white light</p>	<p>Charger reserved via the management platform.</p>
	<p>White light illuminating from outside towards the centre</p>	<p>Firmware / software update in progress</p>
	<p>Red light illuminating with varying intensity</p>	<p>Error - attention required. (see TROUBLE-SHOOTING table)</p>

VIARIS CHARGERS CONFIGURATION AND CONTROL VIA WEB PLATFORM OR e-VIARIS APPLICATION

To configure the chargers, you must connect to them through the web platform or the application for mobile devices e-VIARIS. Follow the steps indicated in the following QR link:



MAINTENANCE

In the design of the equipment, it is expected that the maintenance will be very reduced according to the long life of its components, being limited to cleaning tasks, checking the operation, and verifying the input voltage values. It is recommended to perform an inspection of the equipment once a year.



To clean and check the connections of the equipment it is very important that it is disconnected from the power supply voltage. Any handling involving the opening of the equipment must be carried out by personnel with sufficient and duly authorised technical qualifications.



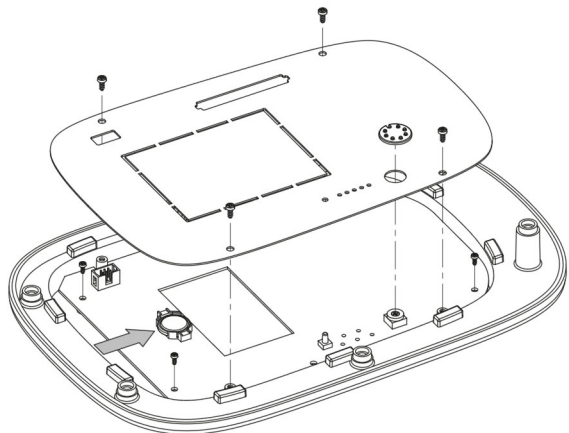
For external cleaning of the equipment it is recommended to use a soft, dry cloth, for example, a microfiber cloth. Do not use abrasive materials or detergents.

REPLACEMENT OF THE BATTERY



ATTENTION: This product incorporates a battery. Do not dis-pose of the product without taking the precaution of disassembling the battery and depositing it in a suitable container for recycling.

The equipment carries a CR2032 battery of 3 V. To replace the battery or for its extraction at the end of the product life, remove the screws that fix the protection and the power selection dial to access the circuit where it is housed.



TECHNICAL CHARACTERISTICS

Feeding		
Nominal frequency		Depending on characteristics label.
Power		
Own consumption		<i>Single phase</i> <i>Three phase</i>
Off load		4 W 4 W
Load function		7 W 14 W
Charging modes (depending on model)		Modes 1 and 2 according to EN 61851-1 (Schuko) Mode 3 according to EN 61851-1
Connector connection cable		Type 2. Charging mode 3: according to EN 62196-2
Communication Wi-Fi		802.11 b/g/n
Closing of the enclosure		with screws
Protection class		Class II. Insulating envelope
Degree of protection		IP54 according to EN 60529
Degree of mechanical protection		IK10 according to EN 62262
RDC-DD protection		6 mA.
Activation / Stop modes		Touch or RFID configurable by App.
Type of terminals		
VIARIS UNI		Terminals without screws
VIARIS UNI+ / VIARIS UNI+ BT2		Terminals with screws
Peeling length		12 mm
Operating temperature		-30 °C to +50 °C

EXTRAS

VIARIS UNI chargers can incorporate, depending on the model:

- **Only for VIARIS UNI+ and VIARIS UNI+ BT2:**

- **Base Schuko**

Charging modes 1 and 2 (N/A in UK)

- **Single Phase / Three-phase energy meter**

Certified according to the MID Directive (2004/22/EC) According to EN 50470-3.

- **Electrical protections magnetothermal + differential**

Magnetothermal protection suitable to the current of the smart charger + differential current protection. Carried out the electrical installation check the differential operation by pressing its test button.

- **Complete electrical protections according to ITC-BT-52**

Against temporary and transient surges + magnetothermal switch (magnetothermal protection suitable for intelligent charger current) + differential current protection. Carried out the electrical installation check the differential operation by pressing its test button.

- **All the models:**

- **Ethernet communication**

For installations requiring Ethernet communication.

The configuration is done by accessing the web platform of the charger. You must choose between **DHCP** (dynamic IP assignment) or **IPStatic**, where you will have to fill in the ethernet network data (IP, MAC, Gateway, Subnet Mask, DNS Server) provided by the person responsible for it.

- **Communication 4G**


Wireless communication can be installed using a Wi-Fi USB Dongle.

It is a requirement that you configure in the USB dongle an access point with SSID: **ORB_VIARIS_4G** and PASSWORD: **ORB1234\$**, in addition to setting up the APN depending on the operator providing you with the SIM card.

TROUBLESHOOTING

Problem	Solution
<p>The charger is powered, and no plug connected and with the light indicators off.</p>	<p>Check the power according to the connection scheme and that the protections are activated. Power down the charger, wait approximately 10 seconds and restart the charger.</p>
<p>Charger connected to the vehicle, the status bar is solid green and does not charge.</p>	<p>There is no communication between the vehicle and the charger. Check the cable is correctly inserted into the vehicle and charger. Ensure cable is not damaged.</p>
<p>Charger connected to the vehicle, the status bar is in flashing green and does not charge.</p>	<p>The charger is not authorised to charge: pass the authorised RFID card.</p>
<p>Charger connected to the vehicle, the status bar is flashing green and when the RFID card passes the charger emits one “beep” and the status bar lights up red and returns to flashing green.</p>	<p>Unauthorized RFID user Check the list of authorized cards.</p>
<p>Charger connected to the vehicle, the status bar is in solid blue and does not charge.</p>	<p>Check that there is no time schedule on either the charger (🕒) or the vehicle. The vehicle may be in standby mode. Open the vehicle door to exit the standby mode.</p>
<p>Charger connected to the vehicle, the status bar is in blue of varying intensity and does not charge.</p>	<p>The load modulator icon (⚡) is on; the installation does not have enough power to charge the vehicle.</p>
<p>Charger connected to the vehicle, the status bar is in flashing blue and does not charge.</p>	<p>The vehicle has finished charging, check that the battery is full or that the vehicle has no time schedule.</p>
<p>Charger connected to the vehicle, the status bar is solid red and does not charge.</p>	<p>Error; turn off the charger from the protections and switch back on.</p>

<p>Charger connected to the vehicle, the status bar is solid white and does not charge.</p>	<p>Status reserved, for example, in an updated situation; wait for the reserved status to end.</p>
<p>Charger connected to the vehicle and an hourly schedule but not charged</p>	<p>If the time programming indicator (🕒) is illuminated in red, the vehicle does not support an external time schedule. Schedule the time interval on the vehicle itself and remove the time schedule from the charger.</p>
<p>The protections of the installation are triggered</p>	<p>If the charge modulation indicator is off, the TMC100 is not properly connected: Check connection to the terminals, direction of current and that the TMC100 is securely fitted and clamped in position as indicated in the Charger Modulator section.</p> <p>If the charge modulation indicator is on (🔌), the adjusted power does not match in-coming power supply.</p>
<p>After manual deactivation or with RFID card the charge does not stop.</p>	<p>Unlock the hose using the car controller. If it has been activated with an RFID card, verify that it is the same one that was used in the activation or that it is authorised.</p> <p>If the problem persists, release and disconnect the vehicle hose</p>
<p>After the charging process, the charger is still connected to the vehicle with the locked plug, fixed green status bar.</p>	<p>Unlock the hose using the car controller.</p>
<p>Exceeding maximum power.</p>	<p>The modulator hasn't worked. Check the configuration according to the incoming power supply.</p>
<p>It takes a long time to charge my vehicle with a three-phase supply.</p>	<p>If you are charging a single-phase vehicle, you will only be using approximately 1/3 of the charging supply.</p>

<p>The charger could not connect to a WiFi network.</p>	<p>If the Wi-Fi indicator () is in flashing blue and does not pass to solid blue, the charger has not been correctly configured or the correct password has not been entered.</p> <p>If the Wi-Fi indicator is in solid blue it is connected to a Wi-Fi network without internet connection, or the security of the network is blocking it</p>
<p>View basic charger data, set up power and scheduled load, or consult historical consumption, if I don't have coverage in my garage floor.</p>	<p>Read the section of the instruction manual Smart charger control via web. (Once connected to the Wi-Fi network with the password 12345678, we open a web browser and write 192.168.4.1).</p>
<p>The charger is in error mode and cuts off the load</p>	<p>To identify the type of error you must look at the number of repeats of beeps per sequence:</p> <ul style="list-style-type: none"> - AC leakage error: 1 beeping - Relay opening error: 1 beep - DC leakage error: 2 beeps - Diode error: 3 beeps - Earthing error: 4 beeps

DIRECTIVES AND REFERENCE STANDARDS

Hereby, ORBIS TECNOLOGÍA ELÉCTRICA S.A. declares that the type of VIARIS UNI wireless device is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following Internet address: <http://www.orbis.es/downloads/declarations-of-conformity>

Subject to technical changes – additional information at www.orbis.es



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