CIRCONTROL
Mobility & eMobility

Post eVolve Series

Installation Manual

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Installation Manual

Here's your guide to install eVolve.

1

So, hello!

This manual provides commissioning information about CIRCONTROL Charge Points, which have been designed and tested to allow electric vehicle charging, specified in IEC 61851.

This document has different sections such as step-by-step installation procedure and technical data.

THE FOLLOWING SYMBOLS ARE USED FOR IMPORTANT SAFETY INFORMATION IN THIS DOCUMENT

ELECTRIC RISK

Take precautions to make the electrical connection inside the unit.

Unit must be disconnected from any power source during commissioning.

ATTENTION!

Indicates that the damage to property can occur if appropiate precautions are not taken

- Complies with IEC 61851, Electric vehicle conductive charging system (IEC 61851-1 and IEC 61851-21-2).
- Complies with IEC 62196, Plugs, socket-outlets, vehicle couplers and vehicle inlets (IEC 62196-1 and IEC 62196-2).
- Complies with Directives: 2014/35/UE, LVD;2014/30/UE, EMC.
- Complies with *The Electrical equipment (safety) regulations 2016 guidance* and *The Electromagnetic compatibility regulations 2016 guidance*
- RFID complies with ISO/IEC 14443A/B.
- Modem 4G complies with CE/RED and *Radio Equipment Regulations 2017*.

2

IMPORTANT SAFETY INSTRUCTIONS

Read carefully all the instructions before starting in order to ensure properly installation of the Charge Point.

The Charge Point is designed to be installed both in indoor and outdoor areas. For each of the different conditions of installation, the unit must be installed safely and ensure adequate protection.

- Charge Point shall not be installed in areas where there is potential risk of explosions.
- Do not install the Charge Point where falling objects may damage the equipment.
- The Charge Point can be installed in locations with non-restricted access.
- The surface where the Charge Point is placed must withstand the mechanical forces.
- Do not use this unit for anything other than electric vehicle charging modes considered in IEC 61851-1:2017.
- Do not modify this unit. If modified, CIRCONTROL will reject all responsibility and the warranty will be void.
- Comply strictly with electrical safety regulations according to your country.
- Do not make repairs or manipulations with the unit energised.
- Only trained and qualified personnel should have access to low-voltage electrical parts inside the unit.
- Check the installation annually by qualified technician.
- Remove from service any item that has a fault that could be dangerous for users (broken plugs, caps that don't close...).
- Use only Circontrol supplied spare parts.
- Do not use this product if the enclosure or the EV connector is broken, cracked, open, or shows any other indication of damage.

Refer to TECHNICAL DATA section for more information about environmental installation conditions.

Before installation

ELECTRICAL WIRING CONSIDERATIONS

Take into consideration this section before starting wiring the connections of the Charge Point.

1 — ELECTRICAL PROTECTIONS

Charge Point may not include elements of electrical protection.

If this equipment has internal electrical protections, they are installed for each socket-outlet for the protection of the user against an electrical failure, according to the international standard IEC 61851-1:2017.

In order to guarantee the total protection of the users and the installation (power supply line included) in front of any electrical hazard, it is mandatory to install a main circuit breaker (MCB) and a residual current device (RCD) upstream of the charger.

These electrical protections and the rest of the installation have to be aligned with the local and national rules. The selectivity of the protections has to be guaranteed at all times.

2 — POWER SUPPLY LINE DIMENSIONING

The dimensioning of the input power supply line of the Charge Point shall be checked by a qualified electrician. Note that various factors such as cable length between distribution board and Charge Point and maximum output current of the Charge Point may have influence on the selected cable.

In such cases, increasing the cable cross-section is required to adapt the temperature resistance of the power supply line.

3 — MAXIMUM OUTPUT CURRENT

Please refer to the TECHNICAL DATA section to consult the default factory settings of maximum output current of the Charge Point.

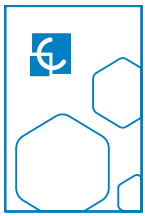
If the power supply is less than maximum output current and adjustment to a lower nominal current needs to be performed, please refer to the INSTRUCTION MANUAL.

Depending of the model this value may vary.

3

What's included:

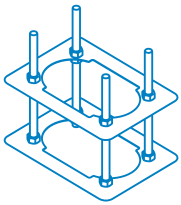
Charge Point



Installation Manual

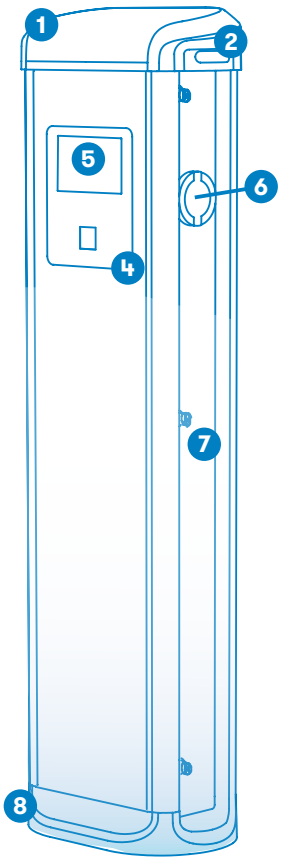
CirCarLife RFID Card

eVolve Post Key

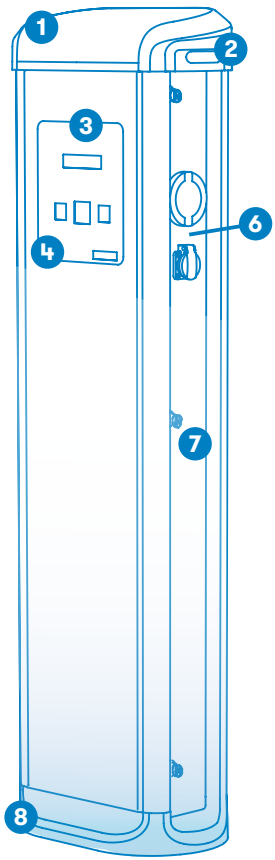


Foundation Kit

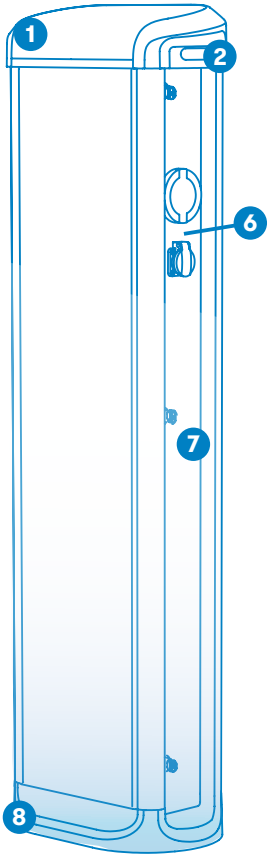
Overview



Master



Smart



Slave

1 — Hat

2 — LED Beacons

3 — Display LCD

4 — RFID Reader

5 — Touch screen TFT 8”

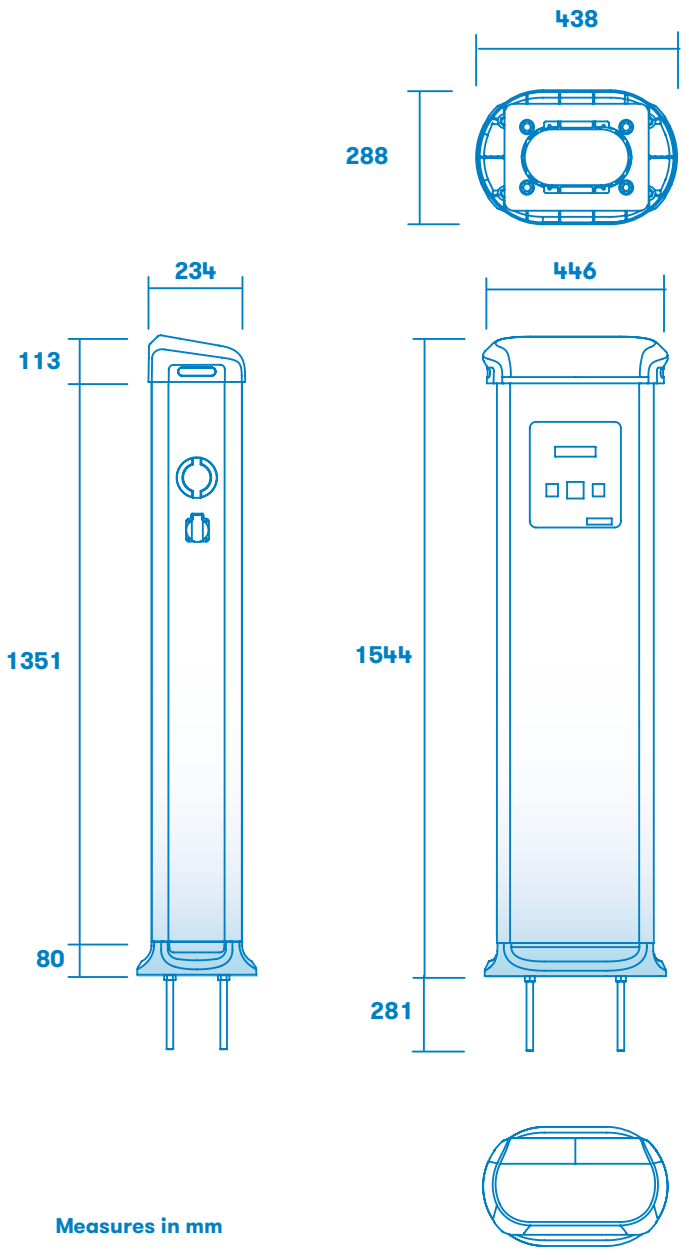
6 — Plugs*

7 — Key lock access

8 — Base

(*) Plugs may vary depending on the model

4



Measures in mm

Dimensions

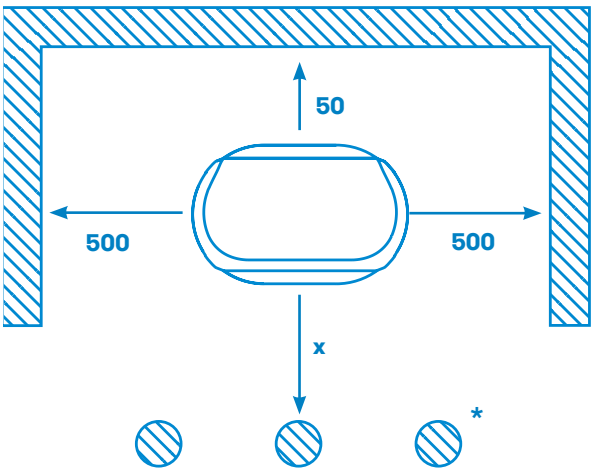
A Minimum distances

When installing the unit, respect the minimum distances for maintenance and safety reasons.

Please comply accordingly to your country specifications.

The next picture shows how it should be installed.

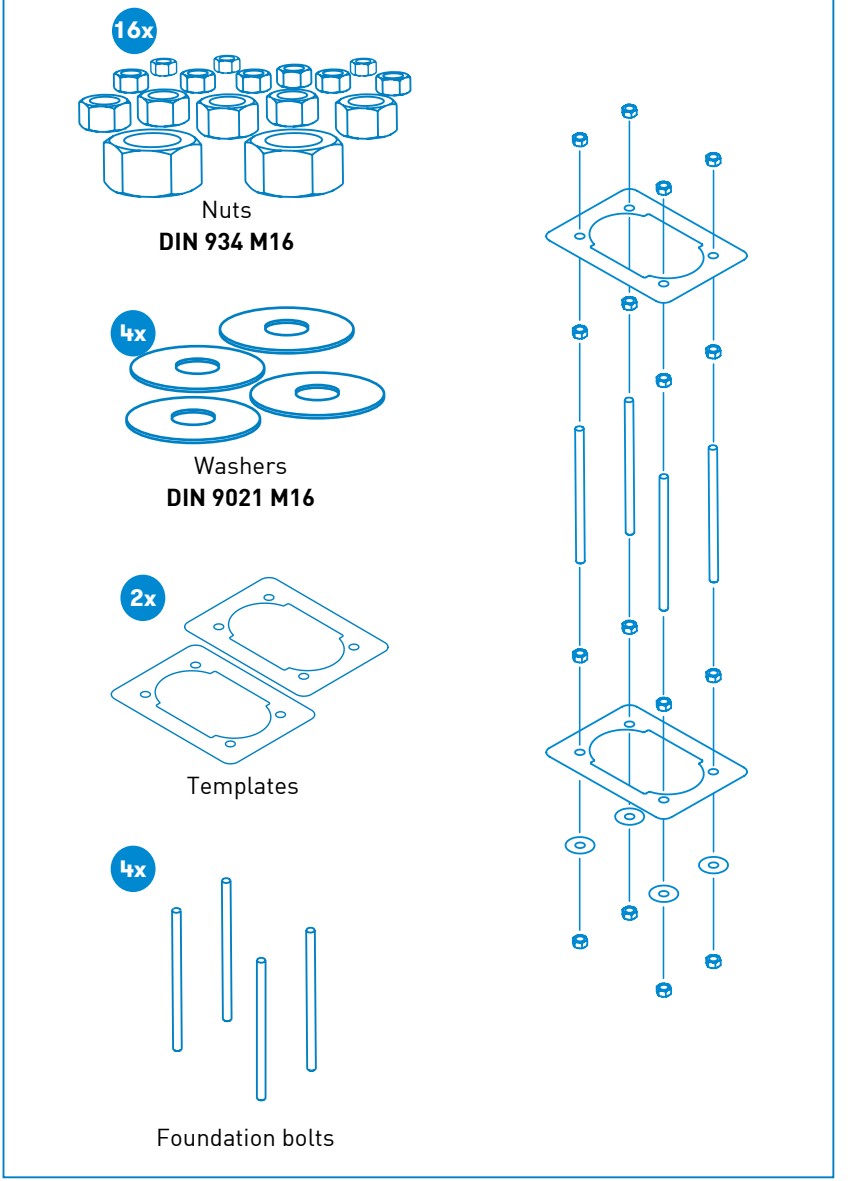
- Do not install near areas where water or fluids can penetrate into the unit.
- Do not install the unit on unstable terrain.



Measures in mm

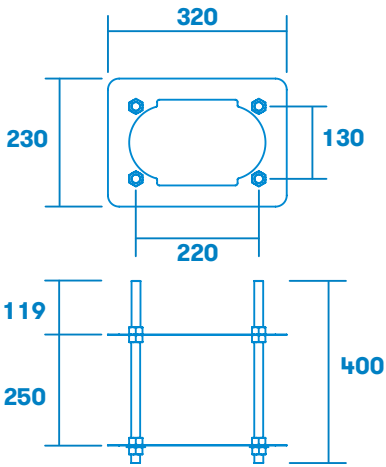
(*) If Bollard Impact Protector is installed, keep **500 mm** as a minimum distance in order to give enough space to open the frontal door of the Charge Point for maintenance tasks.

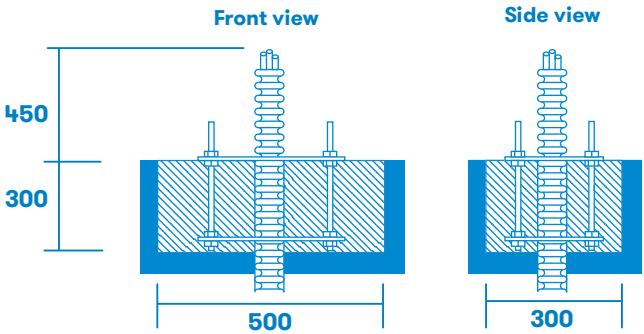
Foundation Kit:



B Foundation

- Place the foundation bolts into the template using the provided nuts with the help of a **24mm open-end wrench**.
- Once the kit is assembled, it must be placed in the ground taking into consideration the following measures.





Measures in mm

Note: If there is any further doubt about the terrain regarding the installation of this unit, due to the weight and dimensions, it will be necessary to define a final solution to install the unit. It shall be performed an specific technical project made by an architectural firm prior to its installation.

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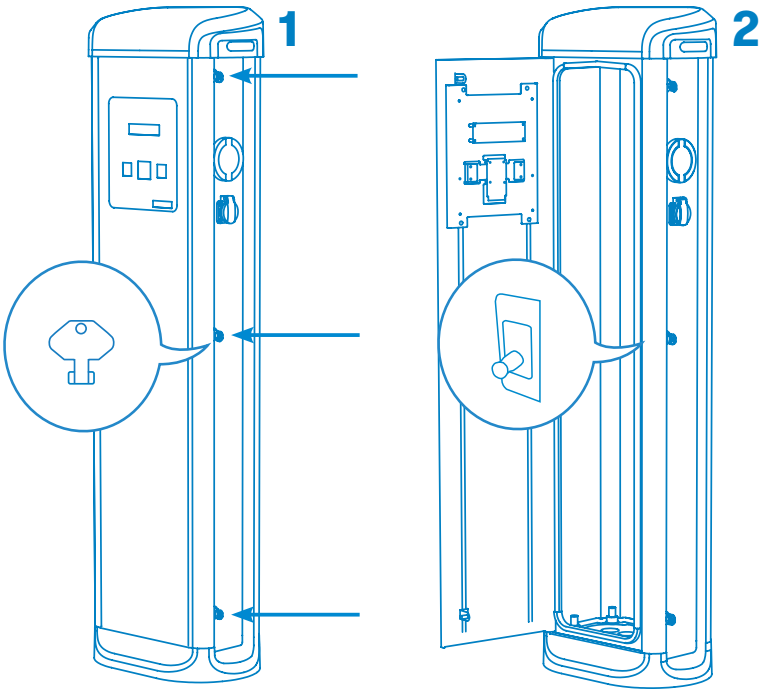
A Opening

1. Use the provided key in order to open the unit.

2. Pull outward the Tamper switch* to operate the Charge Point.



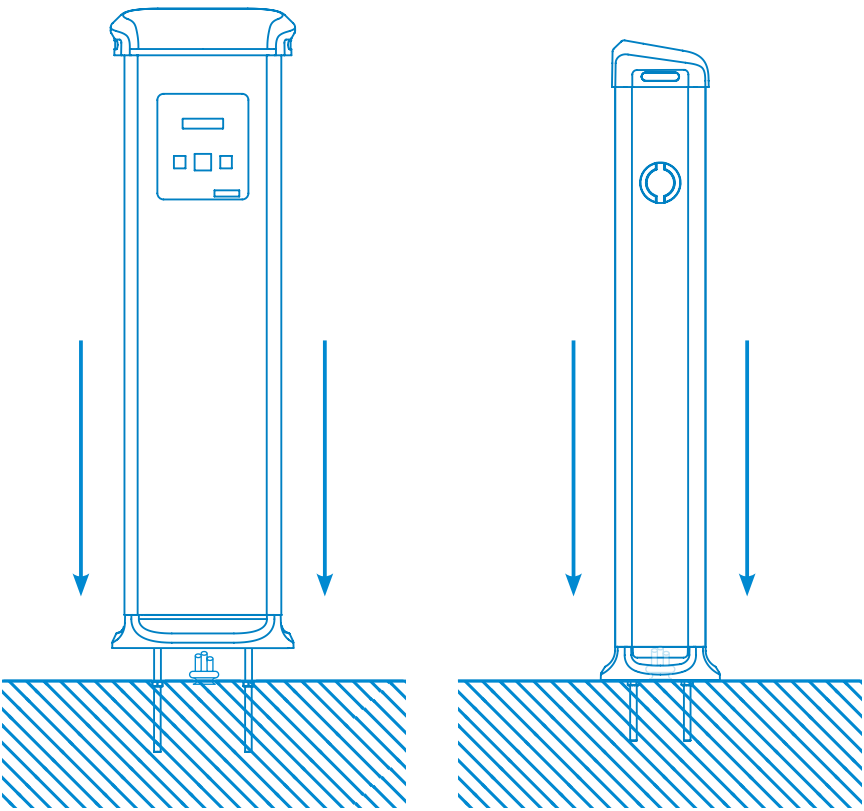
(*) Tamper Switch: The Charge Point has a security switch (antitamper protection) installed that will avoid any charging session if the doors are opened.
It has three positions.
1. Operative postition: The Charge Point is closed.
2. Error position: The Charge Point is opened without supervision.
3. Mantenance position:The Charge Point is opened under mantenance (Pulling otward the tamper switch).

Installation

B Positioning

1. Remove the template nuts before proceeding.

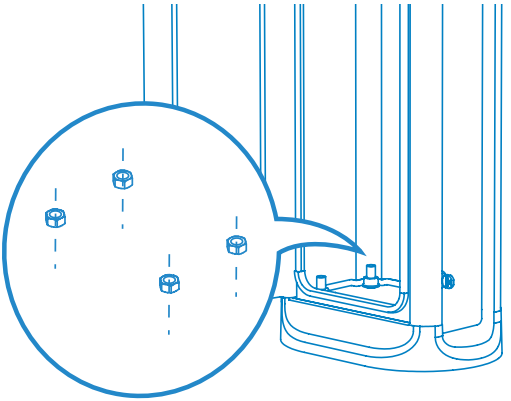
2. Place the Charge Point through the four foundation bolts. Make sure that the Charge Point pre-holes of the metal plate match with the cable glands.



Post eVolve Charge Point series can be placed at outdoor or indoor areas to charge electric vehicles. This product series is designed to placed on the ground.

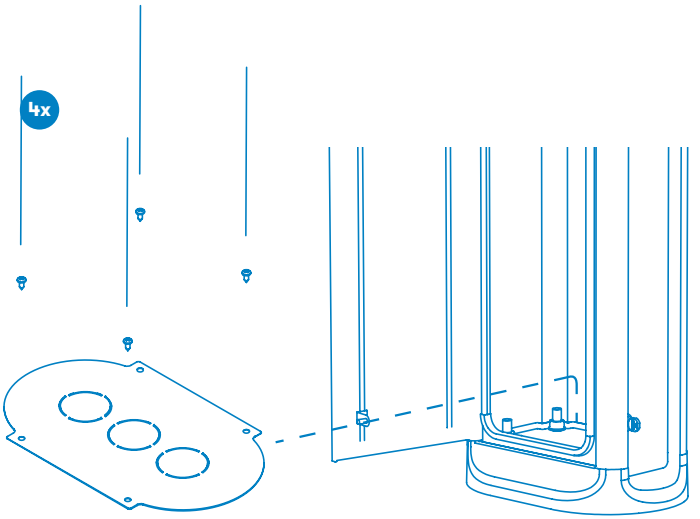
C Fixation

- Firmly tighten the 4 nuts using a **24mm open-end wrench**.



D Metal plate

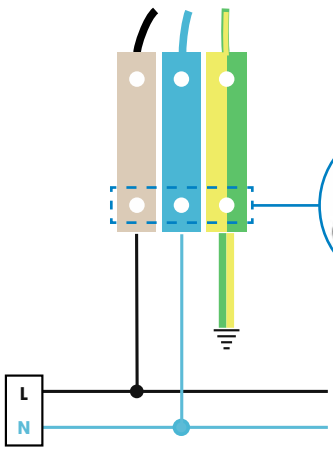
- It is recommended to install a cable glands (not supplied) in pre-holes position.
- Assembly metal plate using the 4 supplied screws.



Wiring

SINGLE-PHASE CHARGE POINT

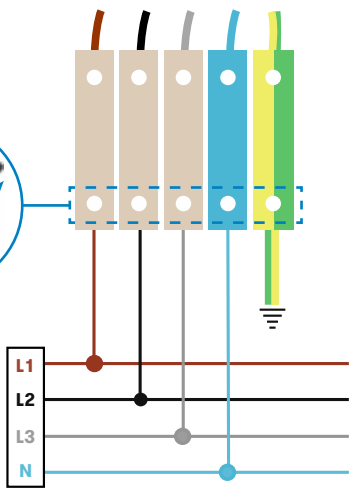
- Connect to the **230VAC**.



- Use provided cable glands in order to maintain the IP protection

THREE-PHASE CHARGE POINT

- Connect to the **400VAC**.
- If the Power Supply is Single-Phase, connect L1 and N.



- Use provided cable glands in order to maintain the IP protection

- Terminal block maximum cross-section: 35mm²
- Type of cable allowed by the terminal block: Aluminium & copper
- Do not forget to connect the ground cable to the ground terminal
- Make sure all screws are securely tightened at 4..5 Nm

Note: The proper earthing system shall be TT or TN-S. The ground loop impedance measurement for the entire installation shall be less than 80 ohms; however, it could be even less if required by national regulations. At least once a year it is recommended to carry out the verification of the installation grounding by a qualified personnel when the terrain is drier.

F Verification

1 — POWER INPUT

Before proceeding, make sure voltage is present in the terminal blocks.

For Three-Phase models pay special attention to Neutral Cable.

2 — MAINTENANCE MODE

Pull outward the Tamper Switch located in the lower half of the Charge Point.

3 — CAREFUL WITH THE WIRES

Before closing the unit, keep in mind all cables should remain inside.

4 — CHECK THE PLUGS

Plugs should be in good conditions before starting the unit.

5 — ELECTRICAL PROTECTIONS

Rearm all the protections installed on the unit.

6 — CHECK THE BEACON INDICATORS

All beacon indicators should light properly. Here's the reference:

PLUG STATE	BEACON COLOR
Available	Green
Charging	Blue
Fault	Red

7 — OPERATION

Check no abnormal noise appears while the unit is charging.

8 — PREVENTIVE MAINTENANCE

It is recommended to perform one preventive maintenance per year.

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DATA	GENERAL SPECIFICATIONS	
MECHANICAL	**Light beacon**	RGB Colour indicator
	Enclosure rating	IP54 / IK10
	Enclosure material	Aluminium & ABS
	Enclosure door	Frontal key locked door
	Net weight	55Kg
	Dimensions (W x H x D)	450 x 1550 x 290 mm
	Cable (optional)	Type 1; Type 2
ELECTRICAL	**Power supply**	1P+N+PE / 3P+N+PE
	Input voltage	230VAC+/-10% / 400VAC+/-10%
	Frequency	50Hz / 60Hz
ENVIRONMENTAL CONDITIONS	**Operating temperature**	-5ºC to +50ºC
	Operating temperature with Low Temperature Kit (optional)*	-25ºC to +50ºC
	Operating humidity	5% to 95% Non-condensing
PROTECTIONS	**Overcurrent protection**	Miniature Circuit Breaker (MCB) IEC 60898-1 (Curve C)
	Overvoltage protection	RCD Type A (30mA) + 6mA DC** / Type B (optional)
	Surge protection (optional)	Transient surge protector IEC 61643-1 (Class II)

* Equipment to be installed outdoor shall be provided with the Low Temperature Kit in order to comply with the IEC 61851-1:2017

** This protection is not available for model C63

Technical Data

GENERAL DATA		MODELS
Display	Touch screen 8"	M S L
	LCD Multi-language	M S L
RFID reader	ISO/IEC 14443 A	M S L
Legic RFID reader (optional)	ISO/IEC 14443 A+B ISO/IEC 18092 ECMA-340 ISO/IEC 15693 Legic Prime	M S L
Meter	MID Class 1 - EN50470-1/3	M S L
Ethernet	10/100BaseTX (TCP-IP)	M S L
Cellular (optional)	Embedded modem 4G LTE/3G/GPRS	M S L
	Modem 4G LTE/WiFi Hotspot/3G/GPRS	M S L
Interface protocol	OCPP 1.5 / OCPP 1.6J	M S L
Charging mode	Mode 3	M S L

MODEL*	CONNECTORS	OUTPUT CURRENT	OUTPUT POWER	MINIMUM CABLE CROSS SECTION**	SERIES
S	2 x Type 2 Socket	2 x 32A	2 x 7,4kW	25mm²	M S L
SS	2 x CEE 7/3	2 x 16A	2 x 3,6kW	10mm²	M S L
S One	Type 2 Socket	32A	7,4kW	10 mm²	M S L
T	2 x Type 2 Socket	2 x 32A	2 x 22kW	25mm²	M S L
TM	Type 2 Socket CEE 7/3	32A 16A	22kW 3,6kW	16mm²	M S L
T One	Type 2 Socket	32A	22kW	10mm²	M S L
TM4	Type 2 Socket / CEE 7/3 Type 2 Socket / CEE 7/3	32A / 16A 32A / 16A	22kW / 3,6kW 22kW / 3,6kW	25mm²	M S L
C63	Type 2 Cable	63A	44kW	25mm²	M S L

M Master S Smart L Slave

(*) Please check availability with your local supplier.

(**) This is the minimum cable cross section recommended for the maximum AC input current. The final cross section must be calculated by a qualified technician taking into account the specific conditions of installation.

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Need help?

In case of any query or if further information is required, please contact our **Post-Sales Department**.

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CIRCONTROL
Mobility & eMobility

CIRCONTROL EVOLVE INSTALLATION MANUAL

A comprehensive guide on how to install and verify your eVolve.

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