



URBAN Series



INSTALLATION GUIDE

(M177A01-03-18A)



Disclaimer

CIRCUTOR, SA reserves the right to make modifications to the device or the unit specifications set out in this instruction manual without prior notice.

CIRCUTOR, SA on its web site, supplies its customers with the latest versions of the device specifications and the most updated manuals.

www.circutor.com



Revision log

Date	Revision	Description
06/17	M177A01-03-17A	Initial Version
05/18	M177A01-03-18A	Changes in the following sections: 2 - 2.A - 2.B - 4.E - 4.F

Here's your guide to install URBAN.

1 — So, hello	04
2 — Before the installation	06
3 — Dimensions and Overview	12
4 — Installation	14
5 — Technical Data	20
6 — Need help	23
7 — Guarantee	23



So, hello!

This manual provides commissioning information, which has been designed and tested to allow electric vehicle charging, specified in IEC 61851.

This document has different sections describing electrical components inside the charge station and a step-by-step installation procedure.

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 appropriate precautions are not taken

- **Complies with IEC 61851, Electric vehicle conductive charging system (IES 61851-1 and IEC 61851-22)**
- **Complies with IEC 62196, Plugs, socket-outlets, vehicle couplers and vehicle inlets (IEC 62196-1 and IEC 62196-2).**
- **Standards: 2014/35/UE, LVD;2014/30/UE, EMC.**
- **RFID complies with ISO 14443A/B**

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 for installation 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 must 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 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 are expected in IEC 61851.
- Do not modify this unit. If modified, **CIRCUTOR** 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 device.
- 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 **CIRCUTOR** 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 the installation

ELECTRICAL WIRING CONSIDERATIONS



Take into consideration this section before start wiring connections of the charge point.

1 — ELECTRICAL PROTECTIONS

Charge point may not include elements of electrical protection.

If this equipment has internal electrical protections, are installed in 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 must be checked by a qualified electrician. Note that various factors such as cable length between distribution board and charge point, maximum output current of the charge point may have influence of the selected cable.

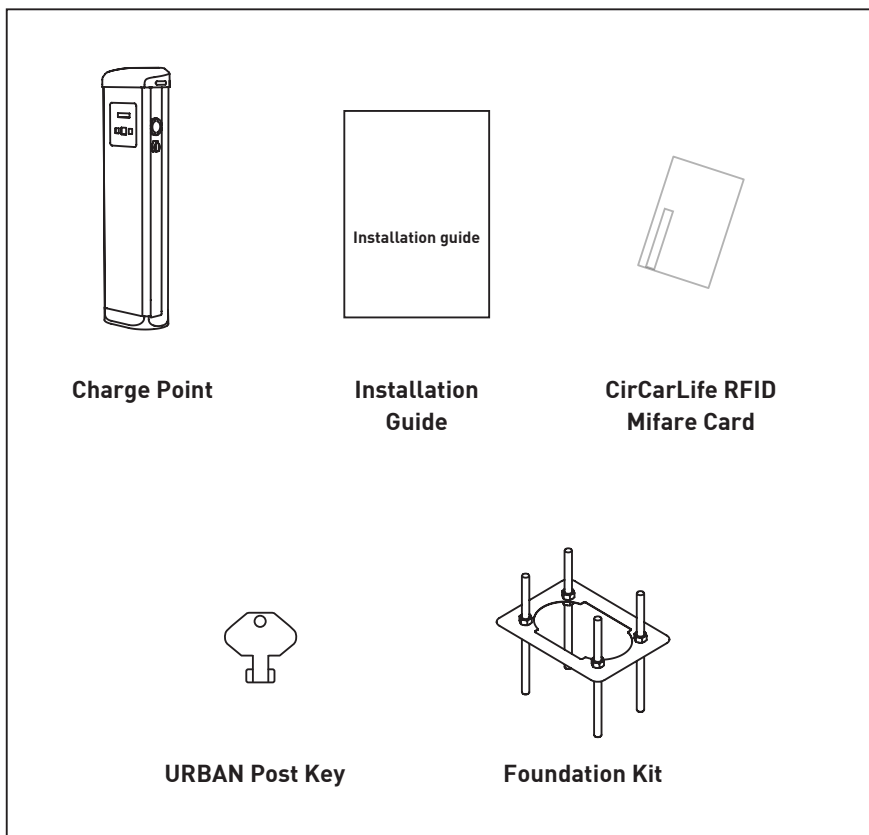
In such cases, increasing the cable cross-section it is required to adapt the temperature resistance of the power supply line.

3 — MAXIMUM CURRENT OUTPUT

Please refer to the **TECHNICAL DATA** section to consult the default factory settings from 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 (M177B01-03-xxx)**.

What's included:



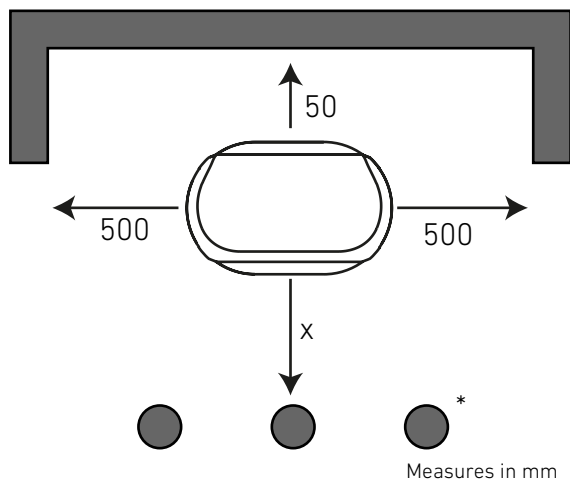
A Minimum Distances

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

Please comply accordingly to your country specifications.

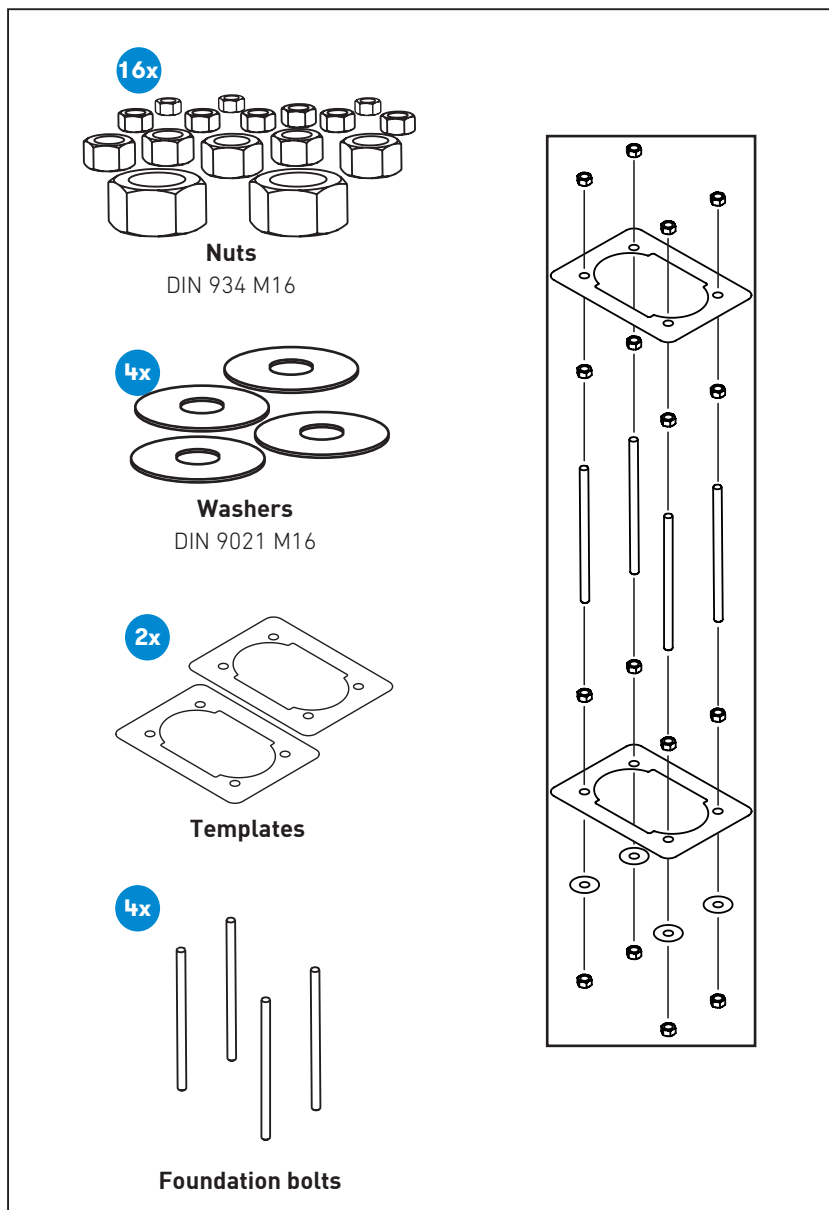
The next picture shows how it should be installed.

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



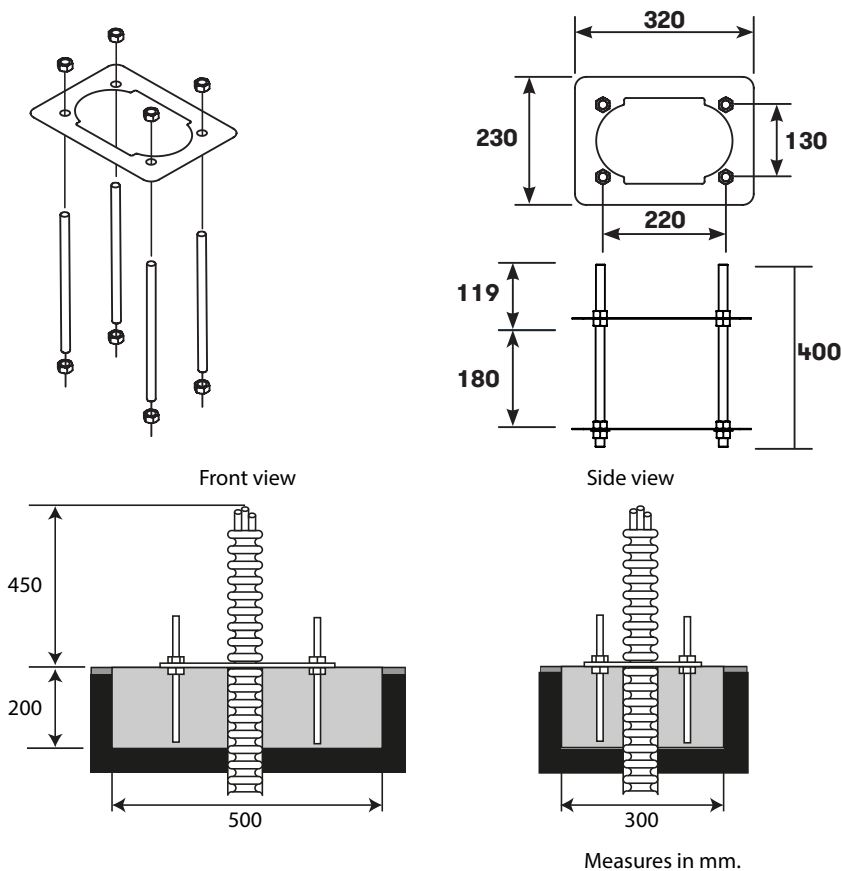
[*] If Bollard Impact Protector is installed, keep 500 mm as a minimum distance in order to give enough space to open the frontal door of the charge point for maintenance tasks.

Foundation Kit:



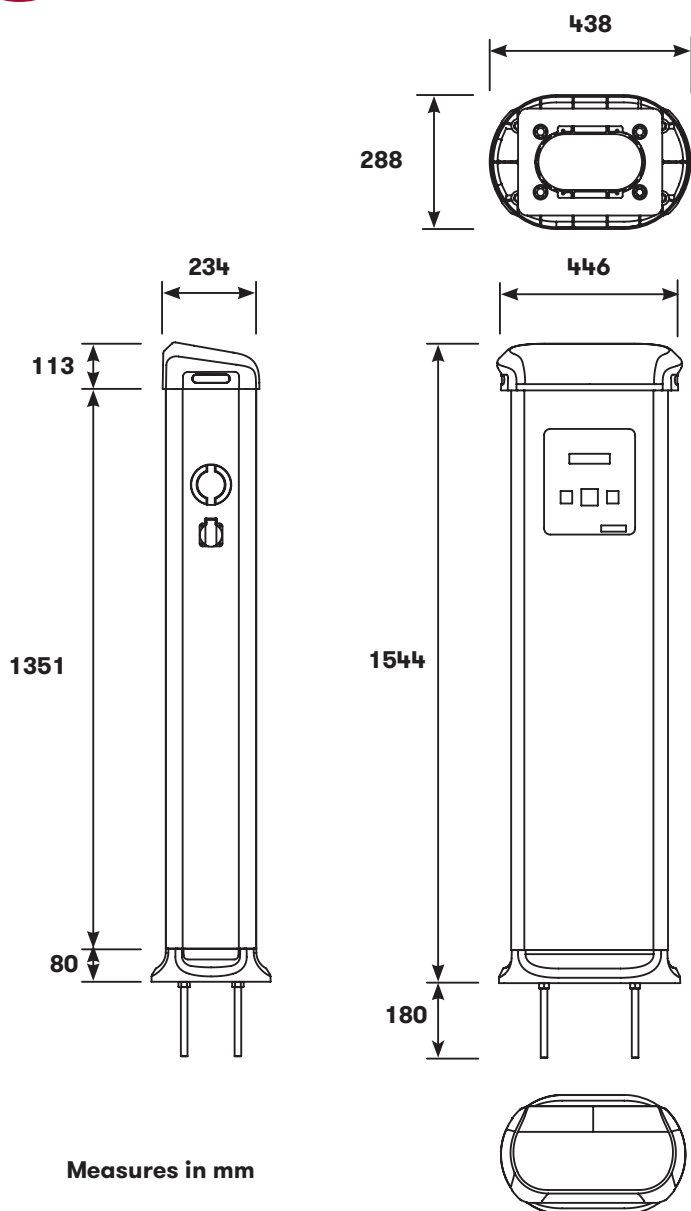
B Foundation

- Place the foundation bolts into the template using 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.

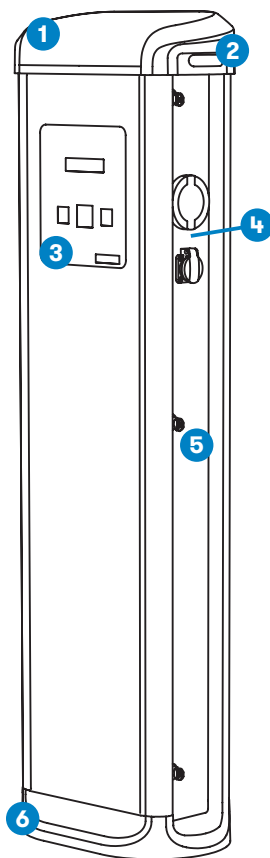


Note: In the event of any doubt about the terrain regarding the installation of this unit, due to the weight and dimensions, it will be necessary to define a final solution to install the unit. It must be confirmed by a specific technical project made for an architectural firm prior to its installation.

3



Dimensions and Overview



1 — Hat

4 — Socket⁽²⁾

2 — LED Beacons

5 — Key lock access

3 — Display & RFID Reader⁽¹⁾

6 — Base

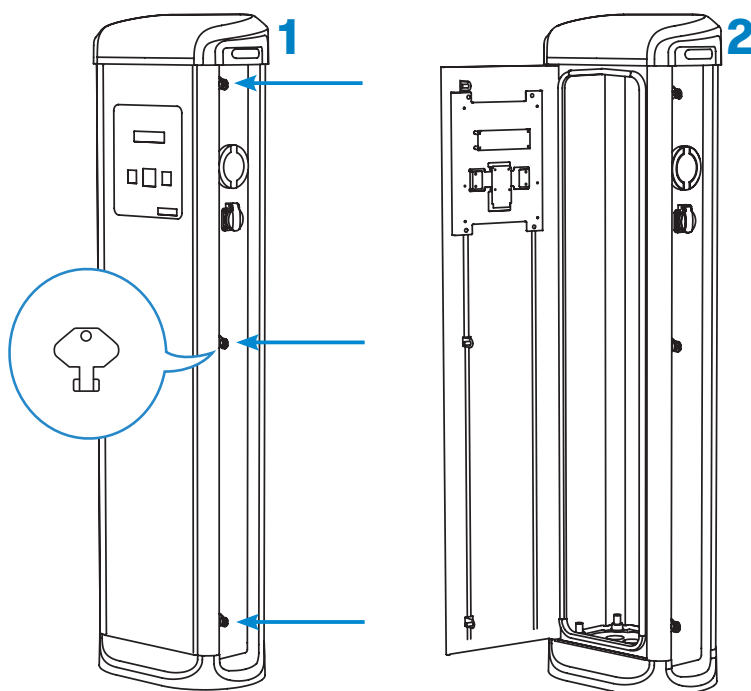
⁽¹⁾ Only URBAN M21, URBAN T21, URBAN M22, URBAN T22, URBAN T22 -C and URBAN T24-MIX

⁽²⁾ Sockets may vary depending on the model.

4

A Opening

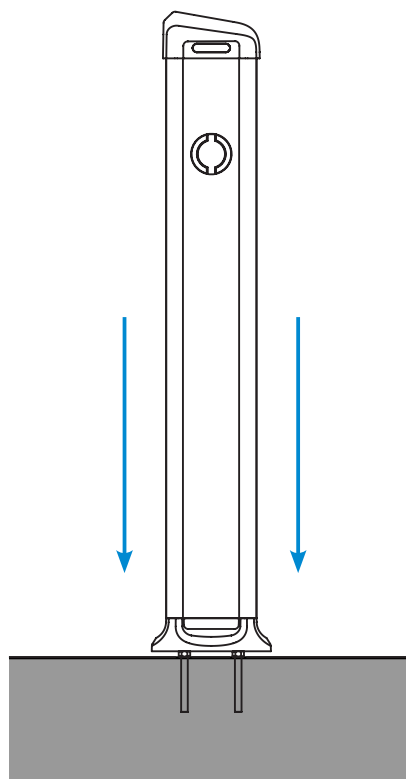
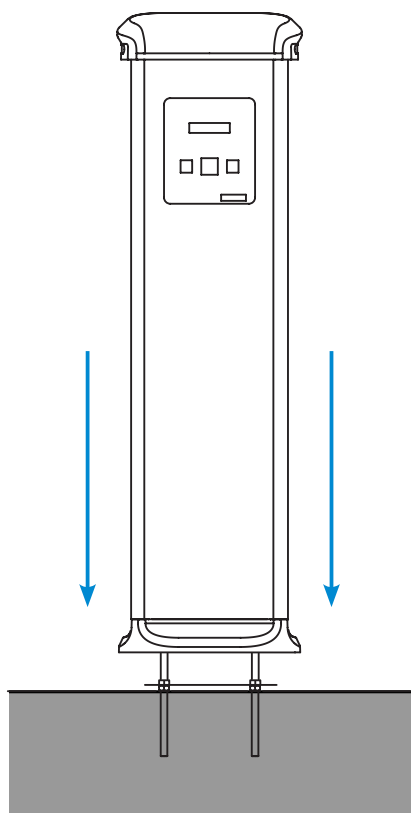
- Use provided key in order to open the unit:



Installation

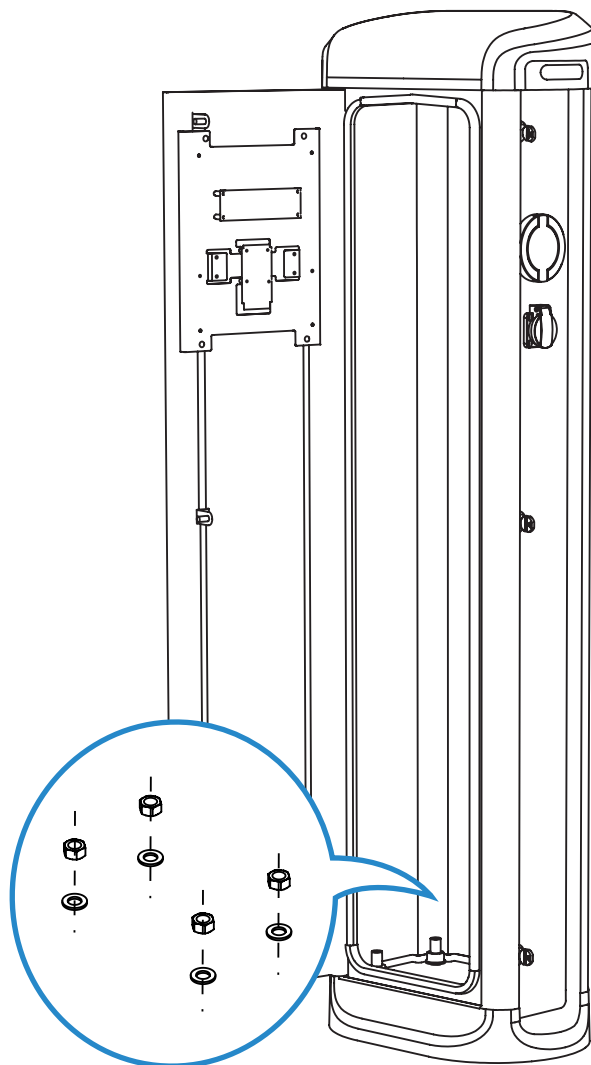
B Positioning

1. Remove the template nuts before proceeding.
2. Place the charge point through the four foundation bolts.



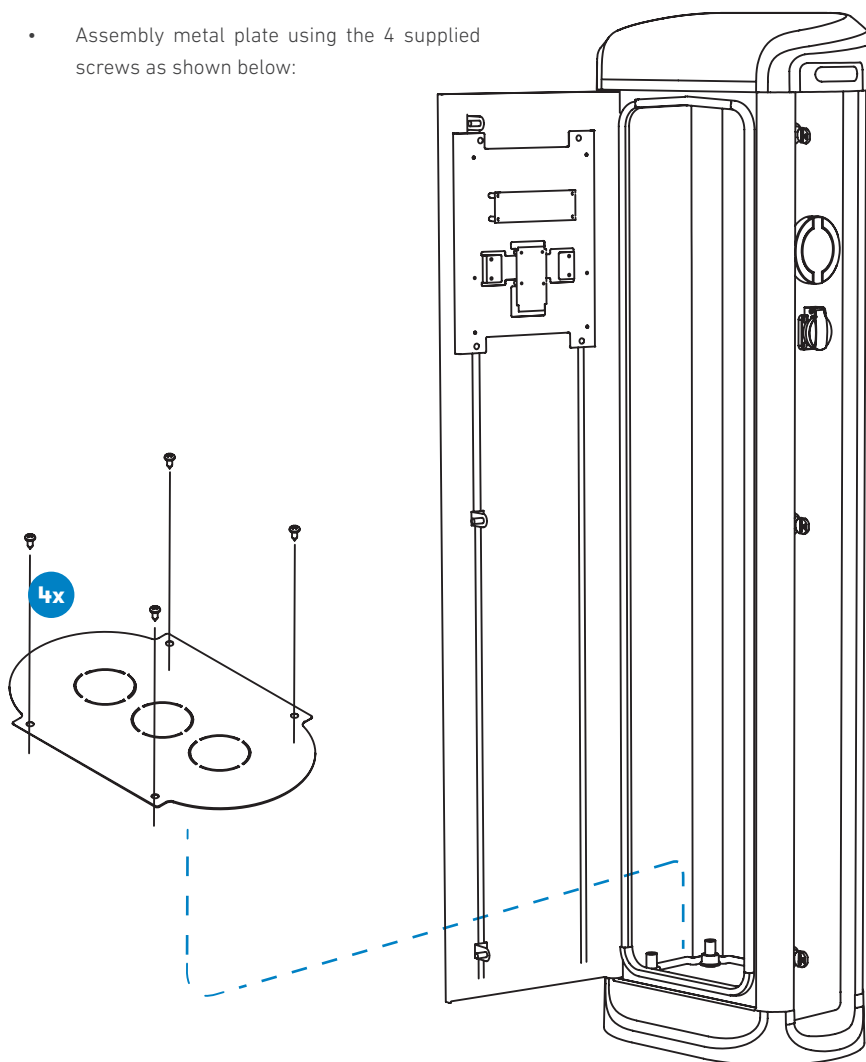
© Fixation

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



D Metal plate

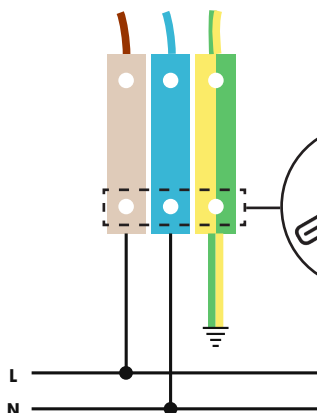
- It is recommended to install a cable glands (not supplied) in pre-holes position.
- Assembly metal plate using the 4 supplied screws as shown below:



E Wiring

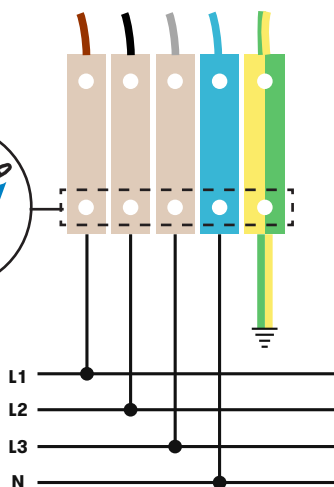
SINGLE-PHASE CHARGE POINT

- Connect to the 230V~.



THREE-PHASE CHARGE POINT

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



Terminal block maximum cross-section: 35 mm²

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 must be TT or TN-S. The ground loop impedance measurement for the entire installation must 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 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

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

4 — CHECK THE CONNECTORS

Connectors 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:

CONNECTOR STATE	BEACON COLOR
Available	Green
Charging	Blue
Fault	Red

7 — OPERATION

Check no abnormal noise appears while the unit is charging.

6

A

URBAN M11, URBAN T11, URBAN M12, URBAN T12, URBAN T12-MIX

ELECTRICAL DATA					
	M11	T11	M12	T12	T12-MIX
Power supply	1P+N+PE	3P+N+PE	1P+N+PE	3P+N+PE	
Input voltage	230V~±10%	400V~±10%	230V~±10%	400V~±10%	
Input Current	35 A		67 A		51 A
Frequency	50Hz / 60Hz				
Number of sockets	1		2 : Socket A, Socket B		
Maximum socket Power	7.4 kW	22 kW	7.4 kW (socket A & B)	22 kW (socket A & B)	22 kW (socket A) 3.7 kW (socket B)
Maximum socket current	32 A		32 A (socket A & B)		32 A (socket A) 16 A (socket B)
Connectors type	Type 2		Type 2 (socket A & B)		Type 2 (socket A) CEE 7/3 (socket B)
Charging Mode	Mode 3		Mode 3(socket A & B)		Mode 3 (socket A) Mode 1 & 2 (socket B)
Overcurrent protection	MCB 40A (Curve C)		MCB 40A (Curve C) (socket A & B)		MCB 40A (Curve C) (socket A) MCB 16A (Curve C) (Socket B)
Safety	RCD 30 mA (Type A) / (Type B) ⁽¹⁾				
Surge protection ⁽¹⁾	Transient surge protector IEC 61643-1 (Class II)				
GENERAL DATA					
Light beacon		RGB Colour indicator			
ENVIRONMENTAL CONDITIONS					
Operating temperature			-5°C ... +45°C		
Operating temperature with Low temperature kit ⁽¹⁾			-30°C ... +45°C		
Storage temperature			-20°C ... +60°C		
Operating humidity			5% ... 95% Non-condensing		

Technical Data

MECHANICAL DATA					
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				
Min. cable section	M11	T11	M12	T12	T12-MIX
	10 mm ²		25 mm ²		16 mm ²
STANDARDS					
IEC 61851-1: 2010, IEC 61851-22: 2001, IEC 62196-1: 2014, IEC 62196-2: 2011, 2014/35/UE, LVD;2014/30/UE, ISO 14443A/B					



URBAN M21, URBAN T21, URBAN M22, URBAN T22, URBAN T22-C, URBAN T24-MIX

ELECTRICAL DATA						
	M21	T21	M22	T22	T22-C	T24-MIX
Power supply	1P+N+PE	3P+N+PE	1P+N+PE	3P+N+PE		
Input voltage	230V~±10%	400V~±10%	230V~±10%	400V~±10%		
Input Current	35 A		67 A			
Frequency	50Hz / 60Hz					
Number of sockets	1		2 : Socket A, Socket B			4 ⁽²⁾ : 2 socket A, 2 socket B
Maximum socket Power	7.4 kW	22 kW	7.4 kW (socket A & B)	22 kW (socket A & B)	22 kW / 3.7 kW (socket A & B)	
Maximum socket current	32 A		32 A (socket A & B)			32 A / 16 A (socket A & B)
Connectors type	Type 2		Type 2 (socket A & B)			Type 2 / CEE 7/3 (socket A & B)
Charging Mode	Mode 3		Mode 3(socket A & B)			Mode 1, 2 & 3 (socket A & B)
Overcurrent protection	MCB 40A (Curve C)		MCB 40A (Curve C) (socket A & B)			MCB 40A / 16 A (Curve C) (socket A & B)
Safety	RCD 30 mA (Type A) / (Type B) ⁽¹⁾					
Surge protection ⁽¹⁾	Transient surge protector IEC 61643-1 (Class II)					

CONNECTIVITY						
Ethernet	10/100BaseTX (TCP/IP)					
Cellular ⁽¹⁾	Modem 3G / GPRS / GSM					
Interface protocol	OCPP					
GENERAL DATA						
Light beacon	RGB Colour indicator					
Display	LCD Multi-language					
RFID reader	ISO / IEC 14443A/B, MIFARE Classic/Desfire EV1 ISO 18092 / ECMA-340, NFC 13.56MHz					
ENVIRONMENTAL CONDITIONS						
Operating temperature	-5°C ... +45°C					
Operating temperature with Low temperature kit ⁽¹⁾	-30°C ... +45°C					
Storage temperature	-20°C ... +60°C					
Operating humidity	5% ... 95% Non-condensing					
MECHANICAL DATA						
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					
Min. cable section	M21	T21	M22	T22	T22-C	T24-MIX
	10 mm ²			25 mm ²		
STANDARDS						
IEC 61851-1: 2010, IEC 61851-22: 2001, IEC 62196-1: 2014, IEC 62196-2: 2011, 2014/35/UE, LVD:2014/30/UE, ISO 14443A/B						

⁽¹⁾ Optional.

⁽²⁾ The T24-MIX model has 2 double sockets. Each double socket consists of 2 sockets with different connectors and can not be connected simultaneously.

Need help?

In case of any query in relation to unit operation or malfunction, please contact the CIRCUTOR, SA Technical Support Service.

Technical Assistance Service

Vial Sant Jordi, s/n, 08232 - Viladecavalls (Barcelona)

Tel: 902 449 459 (Spain) / +34 937 452 919 (outside of Spain)

email: sat@circutor.com

Guarantee

CIRCUTOR guarantees its products against any manufacturing defect for two years after the delivery of the units.

CIRCUTOR will repair or replace any defective factory product returned during the guarantee period.



- No returns will be accepted and no unit will be repaired or replaced if it is not accompanied by a report indicating the defect detected or the reason for the return.
- The guarantee will be void if the units has been improperly used or the storage, installation and maintenance instructions listed in this manual have not been followed. "Improper usage" is defined as any operating or storage condition contrary to the national electrical code or that surpasses the limits indicated in the technical and environmental features of this manual.
- **CIRCUTOR** accepts no liability due to the possible damage to the unit or other parts of the installation, nor will it cover any possible sanctions derived from a possible failure, improper installation or "improper usage" of the unit. Consequently, this guarantee does not apply to failures occurring in the following cases:
 - Overvoltages and/or electrical disturbances in the supply;
 - Water, if the product does not have the appropriate IP classification;
 - Poor ventilation and/or excessive temperatures;
 - Improper installation and/or lack of maintenance;
 - Buyer repairs or modifications without the manufacturer's authorisation.

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