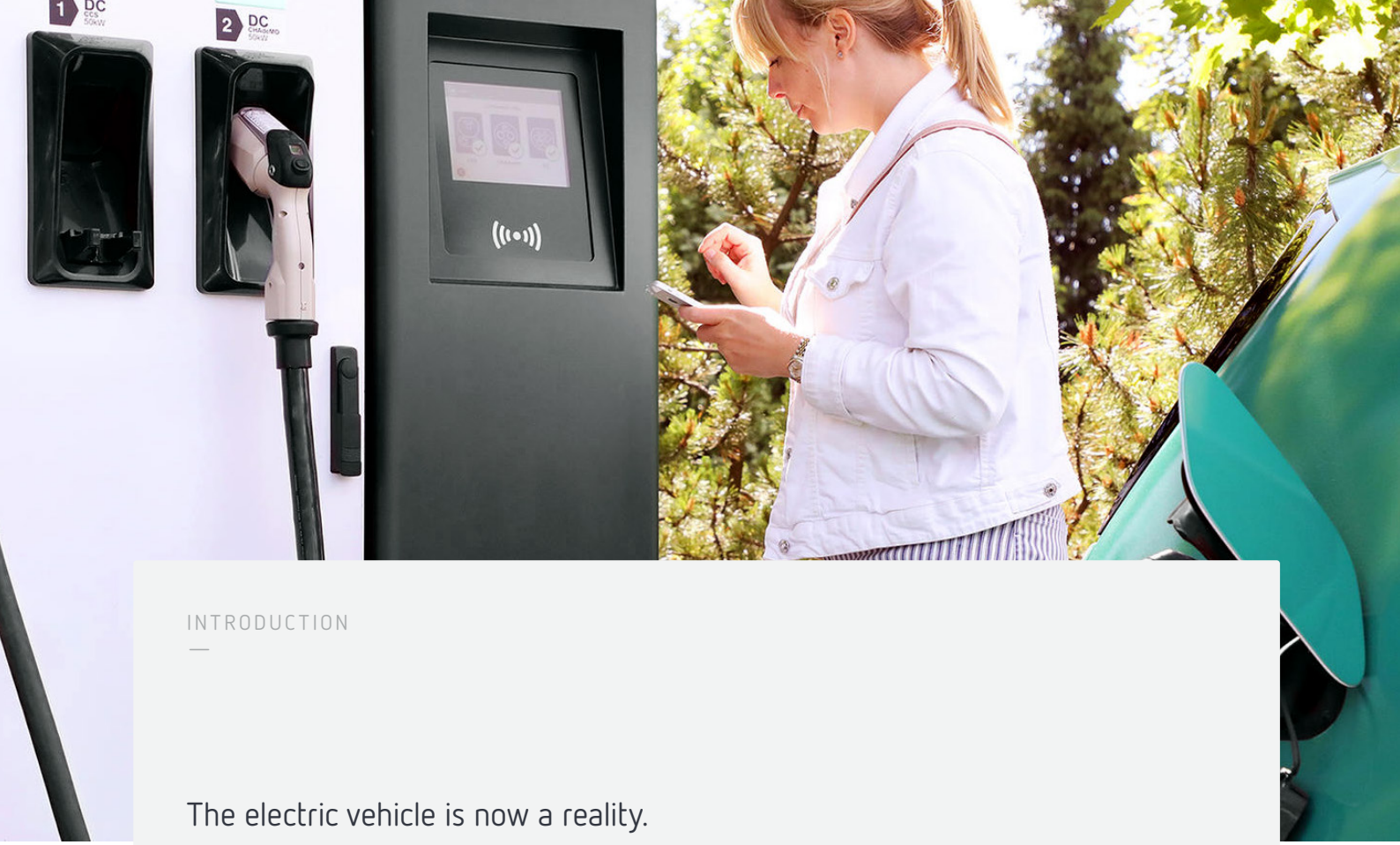
ELECTRIC MOBILITY

Electric Vehicle Charging

Circutor



INTRODUCTION

The electric vehicle is now a reality.

The growing confidence in the use of charging facilities, together with the growing range of increasingly autonomous vehicles, has led to a constant increase in sales of hybrid and electric vehicles, which are now seen as viable options for most drivers.

Circutor's existing charging systems are the result of its cumulative experience in different areas, and offer solutions for every market need; from the charging requirements associated with a parking space, to the fast and ultra-fast charging solutions intended for long-distance trips.

Charging modes

What is it and how many charging modes are there?

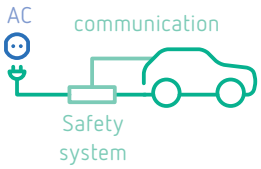
Your vehicle's charging mode depends on a series of parameters involving the connection and cable type, charging speed, and safety and communications protocols, which are established between your vehicle and the charging device. Currently there are 4 charging modes:

M1

Mode 1

Direct connection
from the vehicle to the grid
Non-dedicated socket
Simple cable
Overheating risk.

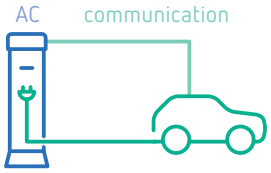
M2



Mode 2

Direct connection
from the vehicle to the grid
Non-dedicated socket
Cable with communications device
and charge monitoring.

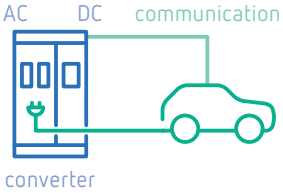
M3



Mode 3

Direct connection
from the vehicle to the grid
Dedicated power socket
with charge monitoring
Dedicated cable.

M4



Mode 4

Indirect connection from
the vehicle to the grid,
through an external charger
External direct current socket
with charge monitoring.
Dedicated cable.

Which connector does my vehicle use?

Today, with the rapid growth of electric vehicles, there are many types of charging connectors in use. The most common and standardised connectors are as follows.

Schuko

Maximum voltage: 230 VAC II
Maximum current: 16 A II
Standards: **CEE 7/4**

Tipo 1

Maximum voltage: 250 VAC II
Maximum current: 32 A II (up to 7.2 kW)
Standards: **IEC 62196-2**
Features: **SAE J1772** standard

Tipo 2

Max. voltage: 500 VAC III / 250 VAC II
Max. current: 63 A III (up to 43 kW) / 70 A II
Standards: **IEC 62196-2**
Features: single or three-phase load

CHAdeMo

Maximum voltage: 500 VDC
Maximum current: 200 ADC
Standards: **IEC 62196-1, UL 2551**
Features: **JEVS G105 compliant**

Combo CCS

Maximum voltage: 920 VDC
Maximum current: 250 ADC
Standards: **IEC 62196-2, IEC 62196-3**
Features: Combined AC/DC connector

Ⓟ Indoor multi-user car parks

WallBox *Smart*

The WallBox range has been designed for multi-user environments and wall installations. This range is the most versatile in terms of configuration design.

- Outlets with Type 1 cable, Type 2 cable, Type 2 base and/or Schuko
- Charging power: 3.6/7.4/22 kW per socket (depending on the model)
- RFID reader for identification and to allow charging - **ISO 14443 A**
- OCPP 1.5/1.6 communications Protocol
- Option of adding 4G communications
- Dimensions: 320 x 225 x 130 mm (350 x 442 x 130 mm).

M1 M2 M3

ePark

The ePark range is the new generation of wall-mountable charging devices for multi-user environments.

- Outlets with Type 1 or Type 2 cable, and Type 2 base
- Charging power: 7.4/22 kW per socket
- Power balance between sockets (depending on model)
- Integrated MID power reader
- RFID reader for identification and to allow charging - **ISO 14443 A**
- OCPP 1.5/1.6 communications protocol
- Option of adding 4G communications
- Dimensions: 200 x 335 x 315 mm.

M3

Urban WB

The Urban WB is the wall-mountable version of our Urban range, intended for multi-user environments. This product range is the most robust due to its metallic casing.

- Dual outlets with Type 1 or Type 2 cable, or Type 2 base
- Charging power: 7.4/22 kW per socket (14.7/44 kW total)
- Power balance between sockets
- Integrated MID power reader
- RFID reader for identification and to allow charging - **ISO 14443 A**
- Independent circuit breaker and residual current protection per socket
- OCPP 1.5/1.6 communications protocol
- Option of adding 4G communications
- Dimensions: 382 x 222 x 928 mm.

M3

Ⓟ Outdoor multi-user car parks

Urban

URBAN posts are designed for outdoor charging where the objective is a robust yet attractive unit.

- Dual outlets with Type 1 cable, Type 2 cable, Type 2 and/or Schuko base
- Charging power: 3.6/7.4/22 kW per socket (7.4/14.7/44 kW total)
- Power balance between sockets Integrated MID power reader
- RFID reader for identification and to allow charging - **ISO 14443 A**
- Independent circuit breaker and residual current protection per socket
- OCPP 1.5/1.6 communications protocol
- Option of adding 4G communications
- Dimensions: 1550 x 450 x 290 mm.

M1 M2 M3

Urban *Master-Slave*

URBAN posts are intended for outdoor charging. It has a master-slave system to manage multiple charging points.

- Outlets with Type 1 or Type 2 cable, or Type 2 base
- Charging power: 7.4/22 kW per socket (14.7/44 kW total)
- Power balance between sockets of the Master/Slave system
- Integrated MID power reader
- RFID reader for identification and to allow charging - **ISO 14443 A**
- 8" TFT vandal-proof touchscreen (Urban Master)
- Independent circuit breaker and residual current protection per socket
- OCPP 1.5/1.6 communications protocol
- Option of adding 4G communications
- Option of adding contactless pay terminal for bank cards
- Dimensions: 1550 x 450 x 290 mm.

M3

Installations

Outdoor

Raption 50 / 100

The RAPTION 50 and 100 quick charging units allow vehicles to be charged on the go when quick recharging is required.

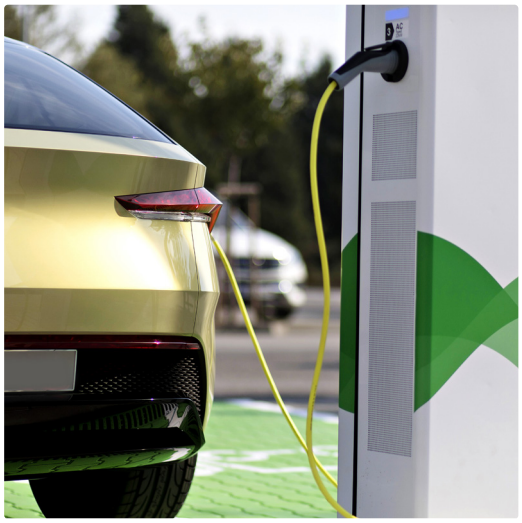
- Outlets with CHAdeMO cable, CCS COMBO 2 cable and Type 2 cable or Type 2 base
- Raption 50 charging power: 50 kW, Raption 100: 100 kW
- Integrated MID power reader
- RFID reader for identification and to allow charging - **ISO 14443 A**
- 8" TFT vandal-proof touchscreen
- Independent circuit breaker and type-B residual current protection per socket
- OCPP 1.5/1.6 communications protocol
- Option of adding *contactless* pay terminal for bank cards
- Option of acting as a Master in an Urban Slave system
- Option of adding 4G communications
- Dimensions: 350 x 940 x 1800 mm.

Raption 150

RAPTION 150 quick charging units offer optimum recharging power for both existing vehicles and future models, thereby anticipating market demands.

- Outlets with CHAdeMO and/or CCS COMBO 2 cable
- Charging power: 150 kW
- Integrated MID power reader
- RFID reader for identification and to allow charging - **ISO 14443 A**
- 8" TFT vandal-proof touchscreen
- Independent circuit breaker and residual current protection per socket
- OCPP 1.5/1.6 communications protocol
- Option of adding *contactless* pay terminal for bank cards
- Option of acting as a Master in an Urban Slave system
- Option of adding 4G communications
- Dimensions: 378 x 420 x 2067 mm (post) / 800 x 1000 x 2000 mm.

Installations



Household environment

eHome

The eHome range has been designed for household environments and wall installations. Optimised to offer excellent value for the money and be user-friendly and intuitive.

- Outlets with Type 1 or Type 2 cable, or Type 2 base
- Charging power: 7.4 kW/11 kW
- End of charging indication
- Adjustable maximum power
- Compatible with CirBEON power manager*
- Cable support included
- Dimensions: 315 x 180 x 115 mm.

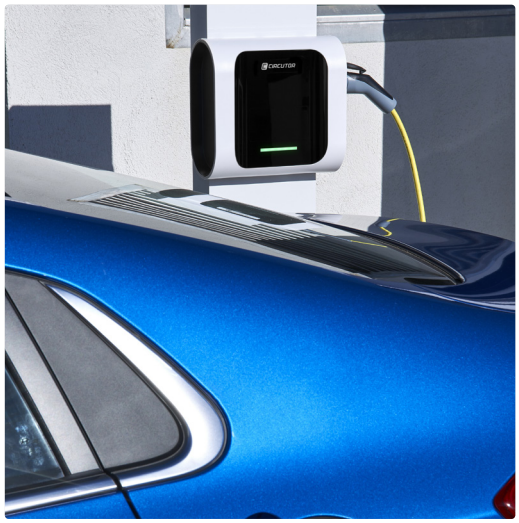
eNext

The ePark range is the new generation of devices for household environments and wall installations. Includes wireless communications for charge control using a mobile application.

- Outlets with Type 1 or Type 2 cable, or Type 2 base
- Charging power: 7.4 kW/22 kW
- End of charge indication
- Adjustable maximum power
- Compatible with CirBEON power manager*
- Bluetooth authentication
- App to monitor charge
- Dimensions: 200 x 335 x 315 mm
- Includes cable support

** For more information on CirBEON, see the product description.*

Installations



Vial Sant Jordi, s/n
08232 Viladecavalls
Barcelona (Spain)
t. +34. 93 745 29 00
info@circutor.com

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