

SOLUTIONS

Electric mobility

Systems & devices for electric vehicle charging

Circutor

The Future is Efficiency
circutor.com

Official partner in Macedonia:
RADE KONČAR
KONTAKTORI I RELEI

The importance of the charging structure



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.


Let's accompany Anna while she charges
her electric car and we'll explain a little more
about this increasingly common scenario.

What are they & how many charging modes are there?

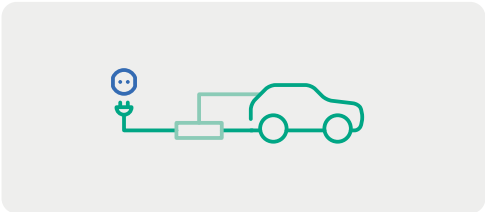
The standardised charging modes for electric vehicles refer to the different types of charging connectors and protocols set up to ensure an optimal and safe process between the charging device and the vehicle.

MODE 1



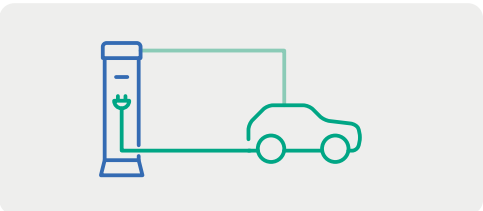
- Direct connection from the vehicle to the grid
- Non-dedicated power outlet
- Risk of overheating.

MODE 2



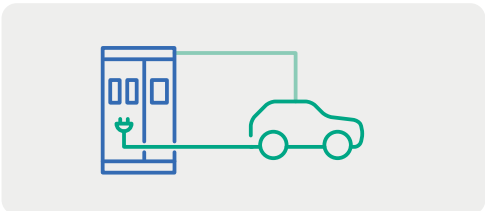
- Direct connection from the vehicle to the grid
- Non-dedicated power outlet
- Cable with communication device and charge monitoring.

MODE 3



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

MODE 4



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


Enjoy the convenience of being
able to charge your vehicle
with complete confidence.

What connector does my plug-in car 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.



Charging port for an electric car with a CSS COMBO 2 connector.



Type 2 cable connected to a CCS COMBO 2 charging socket.

SCHUKO

From the German Schutzkontakt.

Maximum voltage: 230 VAC II
Maximum current: 16 A II
Standards: Type F as per CEE 7/4

TYPE 2

It is generally known as mennekes or menekes.

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

CHAdeMO

CHAdeMO is an acronym for "CHArge de MOve". It is a Japanese pun, O cha demo ikaga desuka, which can be translated as "Shall we have tea?"

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

CCS COMBO 2

Combined Charging System, the latest variant of which is known as CCS2 or Combo 2.

Maximum voltage: 920 VDC
Maximum current: 500 ADC
Standards: IEC 62196-2, IEC 62196-3
Characteristics: Combined AC/DC connector

Type 2 vehicle connection cable.



Vehicle charging socket for CHAdeMO and Type 2 connectors.





The most complete range

Circutor's electric vehicle charging devices cover all your needs. Do you need a charging point at home? A charger for a fleet of vehicles? A charging device that is perfect for public areas and service stations? Circutor offers solutions so you can enjoy all the advantages of electric vehicles safely and conveniently.

Our years of experience give us ample knowledge to create safe, robust and efficient charging devices.

The **eHome** range is ideal for home charging, so you can top it up while you sleep. **ePark** is designed to cover the electric charging needs of multiuser car parks, thanks to its connectivity. The **URBAN** range features robust charging devices designed for semi-fast charging and fleets. **RAPTION** and **Sonic** devices are perfect for service stations and public areas, and are highly flexible in terms of the charging demand. Every component in our charging devices is designed and created in the Circutor group. Over 50 years of experience in energy efficiency has given us the ability to cover all the electric vehicle charging needs and their different specifications.



We put all our know-how and technology into our EV chargers.



eHome

While you're sleeping or having fun at home.

This series combines great durability with an attractive and compact design, along with simple installation and use. We've transformed a technologically advanced device into a simple and satisfying charging experience.



ePark

In your community or while shopping in the centre.

Chargers with a modern and minimalist design, intended for multi-user parking in residential areas, workplaces, or public car parks. They offer smart power management and connectivity features.



URBAN

On the street, while you're running errands.

A great combination of durability, design and connectivity. Designed to meet the semi-fast charging needs of cities. It is particularly well-suited to fleets or public parking. They offer smart power management, connectivity, and outlet protections.





RAPTION

During lunch, on a long trip.

Perfect for charging hubs, public areas and service stations. Designed for ultra-fast charging and simultaneous sessions, with a power range of 80 to 240 kW. They feature an accessible design for people with disabilities and allow the integration of anti-vandal cable-cutting systems.



Sonic NEW

During lunch, on a long trip.

Perfect for charging hubs, public areas and service stations. Designed for ultra-fast charging and simultaneous sessions, they feature adaptive power management based on demand and each vehicle's requirements, capable of optimising power distribution across charging points thanks to their fine-tuned load balancing. They offer advanced connectivity, screens suitable for commercial content, and an accessible design for people with disabilities.

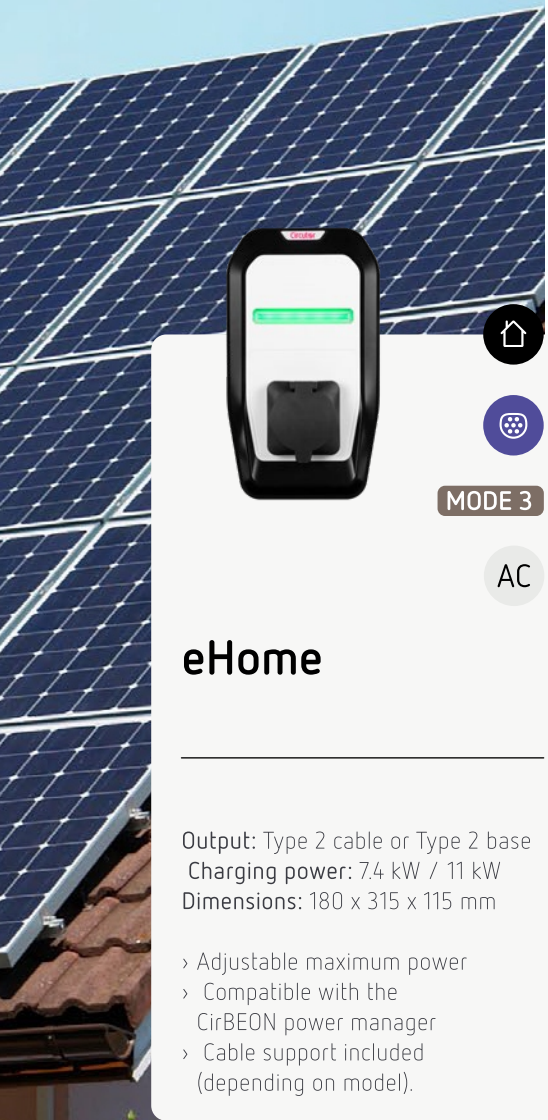
While you're sleeping or having fun at home.

eHome

Circutor's innovative technology installed at home. Relax and rest while our devices manage the energy to recharge your electric car. Fully protected for your peace of mind, prioritising the security of your home and your loved ones. Take advantage of off-peak times in your home to fully and safely charge your electric vehicle safely and efficiently.

This new model inherits all the reliability and dependability of its predecessors and adds new features to further improve the electric vehicle user experience. The new **eHome 5** offers three smart charging modes thanks to its integration with photovoltaic systems and its ability to optimise the use of solar and grid energy according to the schedules set by the user.

A device that provides peace of mind, savings and comfort for electric vehicle users who want a modern and efficient charging point at home.



MODE 3

AC

eHome

Output: Type 2 cable or Type 2 base
Charging power: 7.4 kW / 11 kW
Dimensions: 180 x 315 x 115 mm

› Adjustable maximum power
› Compatible with the CirBEON power manager
› Cable support included (depending on model).





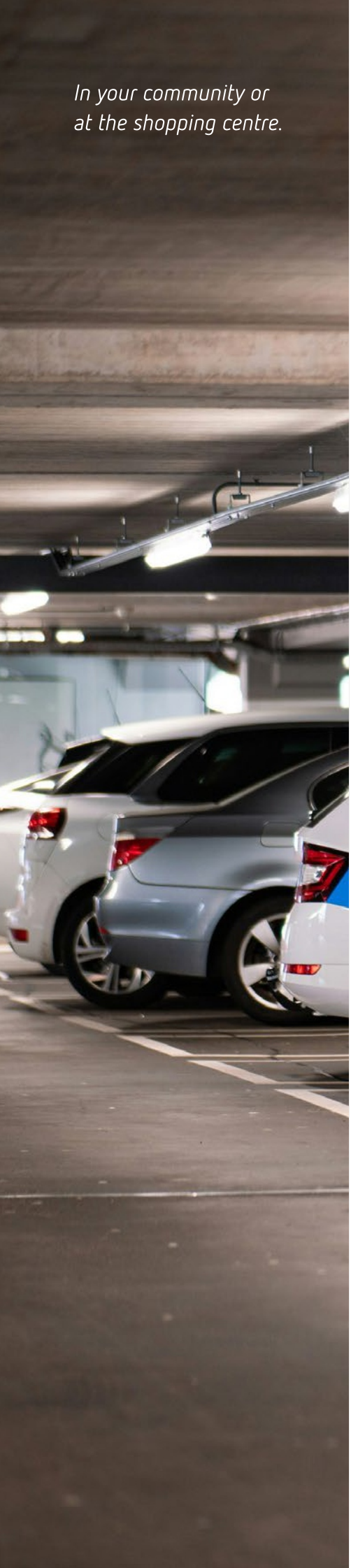
MODE 3

AC

eHome 5

Output: Type 2 cable or Type 2 base
Charging power: 7.4 / 22 kW
Communications: Ethernet + Wi-Fi
Dimensions: 180 x 315 x 115 mm

The **eHome 5** harnesses solar surplus to charge your EV.
› Energy balance
› Three modes: *Green*, *Smart Mix* or *Boost*
› Compatible with any inverter
› Management of up to two **eHome 5** simultaneously
› Adjustable maximum power
› Consumption control and demand adjustment to avoid blackouts
› RFID reader for identification
› App to authenticate, manage and monitor charging sessions
› Customisable in various colours.



In your community or at the shopping centre.

ePark

With a sleek, minimalist design, the **ePark** range is the ideal smart charging solution for multi-user covered car parks in residential communities, workplaces and public parking areas. It is available in single- or dual-outlet versions, allowing simultaneous single-phase or three-phase charging in the latter, making it the most efficient solution for adapting facilities to the evolving needs of electric mobility.
The interface features a 3.5" display with status LEDs, offering an intuitive and clear user experience. The screen can display QR codes for both user authentication and diagnostic tasks, speeding up identification and troubleshooting and reducing downtime.

The **ePark** range is designed to manage multiple users in covered car parks who need to recharge their electric vehicles, such as parking areas in residential blocks or condominiums, work places and public car parks.



MODE 3

AC

ePark

Output: 2x Type 2 cable or Type 2 base
Charging power: 7.4 / 22 kW
Communications: Ethernet, Wi-Fi and/or 4G optional
Dimensions: 200 x 335 x 315 mm

› Adjustable maximum power
› Integrated MID energy measurement
› QR or RFID reader for identification & charging activation
› 3.5" screen
› OCPP 1.6J / 2.0 HW Ready communications protocol
› Includes cable support (depending on model).



On the street, while you're running errands.

URBAN

These electric vehicle charging stations are suitable for indoor or outdoor parking. Applications range from public squares, department stores, airports, vehicle sales and rental companies, private car parks, etc.

They are robust devices, capable of withstanding various environmental conditions, with anti-vandalism systems, adjustable maximum power, circuit breaker and residual current protection to ensure user safety. They can be equipped with cables or Type 2 sockets in various combinations, enabling Mode 3 charging depending on the chosen configuration.

DLM
Software for Dynamic Load Management

› Avoid grid overloads
› Minimise operating costs with a local solution
› AC + DC + Photovoltaic
› OCPP connectivity
› Offline mode.

MODE 3

AC

URBAN WB

Outputs: 2x Type 2 cable or Type 2 base
Charging power: 7.4 / 22 kW
Communications: Ethernet, Wi-Fi, 4G optional
Dimensions: 382 x 928 x 222 mm

› Adjustable maximum power
› Integrated MID energy measurement
› QR or RFID reader for identification & charging activation
› 7" screen
› OCPP 1.6J / 2.0 HW Ready communications protocol
› Circuit breaker and residual current protection.
› Wall-mounted.



MODE 3

AC

URBAN

Outputs: 2x Type 2 cable or Type 2 base
Charging power: 7.4 / 22 kW
Communications: Ethernet, Wi-Fi and/or 4G optional
Dimensions: 450 x 1550 x 290 mm

› Adjustable maximum power
› Integrated MIDenergy measurement
› QR or RFID reader for identification & charging activation
› 7" screen
› OCPP 1.6J / 2.0 HW Ready communications protocol
› Circuit breaker and residual current protection.





Designed for fleet operations, the 25 kW DC **URBAN** and 22 kW DC **Sonic Wall** are compact, efficient solutions for environments where vehicle availability is a priority.

The 25 kW DC **URBAN**, intended for outdoor use, combines robustness and reliability, integrating protections that simplify installation. The 22 kW DC **Sonic Wall**, with a wall-mounted, ultra-compact design, is ideal for indoor spaces or technical areas such as workshops, logistics centres or high-traffic car parks, offering multiple mounting options: wall-mounted, on a pedestal, or on a mobile stand, making deployment flexible wherever needed.

Both solutions provide quick start-up, advanced connectivity, and an intuitive user experience, making them a perfect combination for fleets requiring fast and safe charging in a variety of environments.



MODE 4

DC

URBAN MASTER CCS2

Output: CCS COMBO 2 cable
Charging power: 25 kW
Communications: Ethernet, 4G optional
Dimensions: 450 x 1750 x 290 mm

› Power balancing across all outlets in the Master/Slave system
› Integrated MID energy meter
› RFID reader for identification and charging activation
› 8" vandal-proof TFT touch screen
› OCPP 1.6J / 2.0 HW Ready communication protocol
› Option to add a payment terminal
› Circuit breaker and residual current protection.



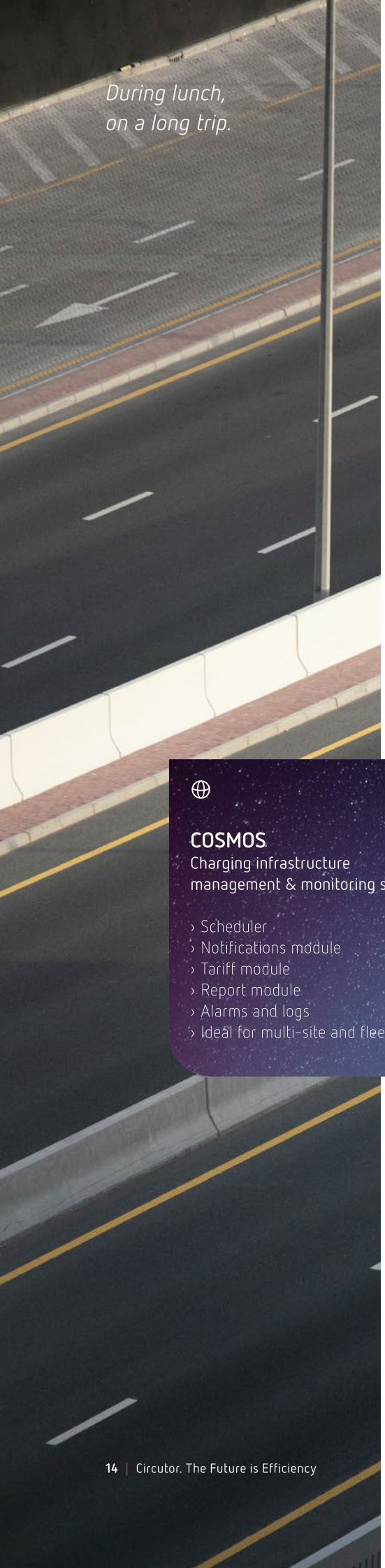
MODE 4

DC

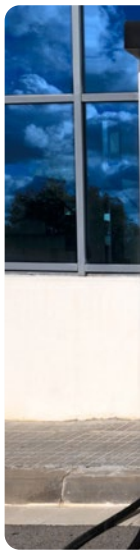
Sonic Wall NEW

Output: CCS COMBO 2 cable
Charging power: 22 kW
Communications: Ethernet, Wi-Fi access point, 4G, GPRS, GSM
Dimensions: 380 x 680 x 187 mm

› QR or RFID reader for identification & activation of charging
› 5" touch screen
› OCPP 1.6J / 2.0 HW Ready communications protocol
› IP 65 rating and working temperature -40 to 75°C
› Wall-mounted, pedestal or mobile stand installation.



RAPTION



The **RAPTION** range is designed to operate outdoors under extreme conditions, from scorching sun to snow or other harsh environments. It is easy and convenient to use, featuring a full set of functionalities: touchscreen display, LED charging status indicators, connectivity with cloud management platforms, contactless payment for bank cards, fast charging using both European and Japanese protocols, Wi-Fi, and user management.

They allow opportunity charging when rapid energy top-up is required and provide the maximum charging power available for current and future vehicle models, staying ahead of market demands.

These devices reduce electric vehicle charging times, since they are capable of extending a car's range by up to 400 km in 20 minutes, thus making long journeys possible.

COSMOS
Charging infrastructure management & monitoring solution

› Scheduler
› Notifications module
› Tariff module
› Report module
› Alarms and logs
› Ideal for multi-site and fleets.



MODE 4

DC

RAPTION 80C, 160C, 240C

Outputs: 2x CCS Combo 2 cable or
1x CCS Combo 2 cable and 1x CHAdeMO cable
Charging power: **RAPTION 80C**: 80 kW or 40+40 kW,
RAPTION 160C 160 kW or 80+80 kW,
RAPTION 240C 240 kW or 120+120 kW
Communications: Ethernet,
Wi-Fi access point, 4G, GPRS, GSM
Dimensions: 1235 x 1910 x 635 mm

› MID meter measured in DC (optional)
› RFID reader for identification and charge activation
› 15" TFT touchscreen
› OCPP 1.6J/2.0 HW Ready communications protocol
› Cable-cut detection system with local alarms and optional notification to the management platform
› Optional to add a payment terminal
› Integrated Dual Modem for wireless communications.

Sonic



The **Sonic One** range offers ultra-fast charging of up to 400 kW, significantly reducing charging times at short-stay locations such as service stations or rest areas. Its power granularity allows dynamic adjustment of energy delivery to each vehicle's needs, optimising the available resources: for example, it can allocate 360 kW to a vehicle with a low battery and 40 kW to another with lower demand, maximising the point's performance.

Designed for high-demand operational environments, it combines power, flexibility, accessibility for people with reduced mobility, and easy maintenance. It is a solution prepared to meet the current and future needs of electrical mobility.







MODE 4

DC

Sonic One NEW

Outputs: 2 CCS COMBO 2 cables
Charging power: 320 kW or 400 kW, depending on the model
Communications: Ethernet, Wi-Fi access point, 4G, GPRS, GSM
Dimensions: 1000 x 2200 x 800 mm

› MID meter measured in DC
› RFID reader for identification and charge activation
› 32" vandal-proof screen
› OCPP 1.6J/2.0 HW Ready communications protocol
› Cable cut detection system with local alarms and notification to management platform (optional)
› Option to add a payment terminal
› Integrated dual modem for wireless communications.

DLM

Controls the power, optimizes charging.

Circutor's **DLM system** is an intelligent Dynamic Load Management solution that **minimises the implementation costs of a charging network** by avoiding the need to contract additional power or modify the installation. **It optimises the available power of the installation** by efficiently redirecting it to the chargers, preventing overloads, and **maximising the performance of the charging network** by adapting its operation to the specific needs of the client.

The DLM applies intelligent power management to adjust the power allocated to the entire charging network based on the power available in the installation at any given moment. It also allows charging priorities to be set per charger, prioritising fast-charging points or chargers dedicated to higher-priority vehicles. The system can define priorities by time, set power limits per period, and even establish energy limits per charging session. Its versatile configuration allows it to adapt to each client's needs and optimise the use of the charging network in each installation.

DLM

It dynamically adjusts the power allocated to the charging network according to the availability of the installation at any time. In addition, it integrates generation from photovoltaic systems, enabling their use to feed the charging network. This increases the installation's capacity without the need to contract additional power, maximising the use of self-consumption systems.



Local solution

The DLM and chargers connect to form a local area network, integrating with the user's network without requiring an Internet connection.

Prioritisation

It offers a simple configuration to prioritise fast chargers or chargers dedicated to specific vehicles, with the option to set hourly priorities, power allocation by period, and energy limits per charging session.

Release OCPP channel

The DLM keeps the chargers' OCPP communication channel available.

Offline mode

It automatically configures the chargers to ensure uninterrupted charging service in the event of a connection loss.

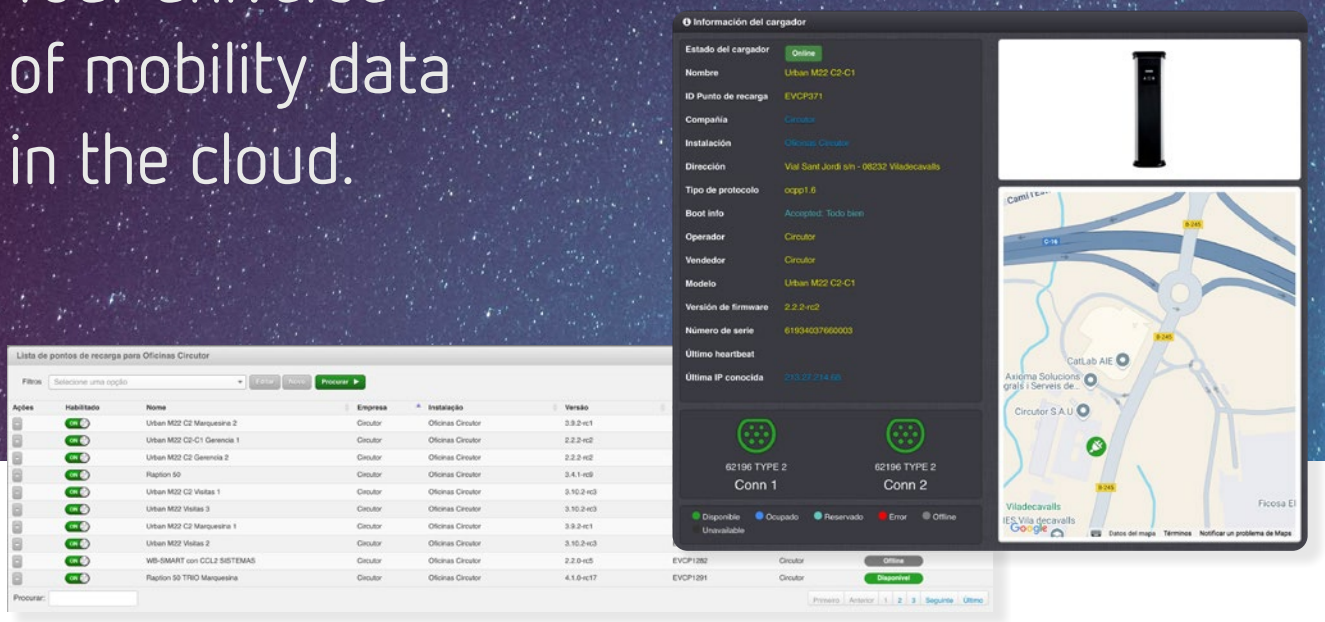


It is a local solution, installed directly where the charging network is located. This Circutor system does not use the OCPP communication channel, leaving it free for connecting the chargers to other charging point management platforms, making it a complementary solution for charger power management

This Power Management system is compatible with both AC and DC chargers, and also integrates energy from photovoltaic installations. It takes into account the power generated when determining the available power for the charging network at any given moment. This functionality allows users to harness the energy from their self-generation systems to supply the chargers in their network, providing the option to increase the installation's capacity without contracting additional power, simply by implementing self-consumption systems such as photovoltaic panels.

COSMOS

Your universe of mobility data in the cloud.



User management

Manage your charging network, as well as its permissions and profiles, as needed.

Remote control & monitoring

Remote control of each charging point. Quickly and easily locate and check the status of the chargers that make up the charging network.

Alerts module

Stay informed on the status of the charging network

Customizable reports

Automatically design, generate, and send reports and invoice simulations by email.



COSMOS is a cloud-based platform designed to collect and store data from an electric vehicle charging network, providing advanced control over it. It features an intuitive, customisable menu and dashboard that make managing the charging network easy for the user. The platform allows remote control of each charging point, registration of charging customers, detailed diagnostics of charger status and usage, and automatic generation and sending of reports and simulated invoices for charging sessions by email.

COSMOS not only offers advanced control over the charging network through an intuitive interface, but also improves the user experience. Charging clients can use a mobile app to operate the chargers and receive automatic notifications about the vehicle's charging status.

Cloud platform

App

Monitoring & reports

Charging experience

Use the app to operate the chargers and receive automatic notifications about the vehicle's charging status.

Diagnostics

Get detailed information on each charging point's activity.

Rates

Create hourly rates or fixed costs, detailed in the simulated invoices.

Compatible with other brands

Connect non-Circutor EV chargers using OCPP.

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