



EV Charging

CATALOGUE 2023



HORIZOP's eMobility Division comprises a set of products and solutions designed to facilitate Electric Vehicle (EV) charging.

We aim to provide user-friendly solutions for electric vehicle charging in different scenarios, such as urban streets, intercity roads and public or private car parks, for multiple or single users.

Our product portfolio offers a wide product range that covers slow charging (AC) and fast charging (DC).



EV Chargers

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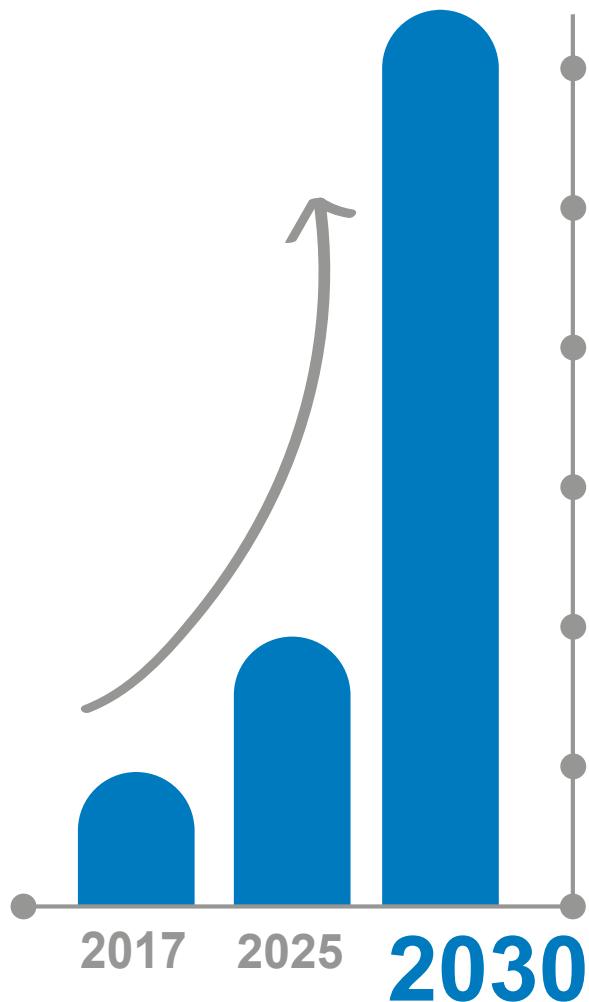
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EV charging management systems

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Who drives an EV?

The presence of an EV charger on the street or a silent EV cruising down the road were rare sights not so long ago, but they are becoming increasingly common, and forecasts indicate they will be an everyday reality sooner rather than later.



Forecasts show sales of electric vehicles increasing up to 11 million in 2025 and then surging to 30 million in 2030.

By 2040, 55% of all new car sales and 33% of the global fleet will be electric.*

*According to Bloomberg New Energy Finance

This rising interest in EVs makes knowing more about these early adopters even more important.

Who are they?

Mostly they are



Males



35 years old



Middle Class



Living in big cities

Why did they buy an EV?

Main reason



Environmental benefits



Financial savings



Interest in new technology

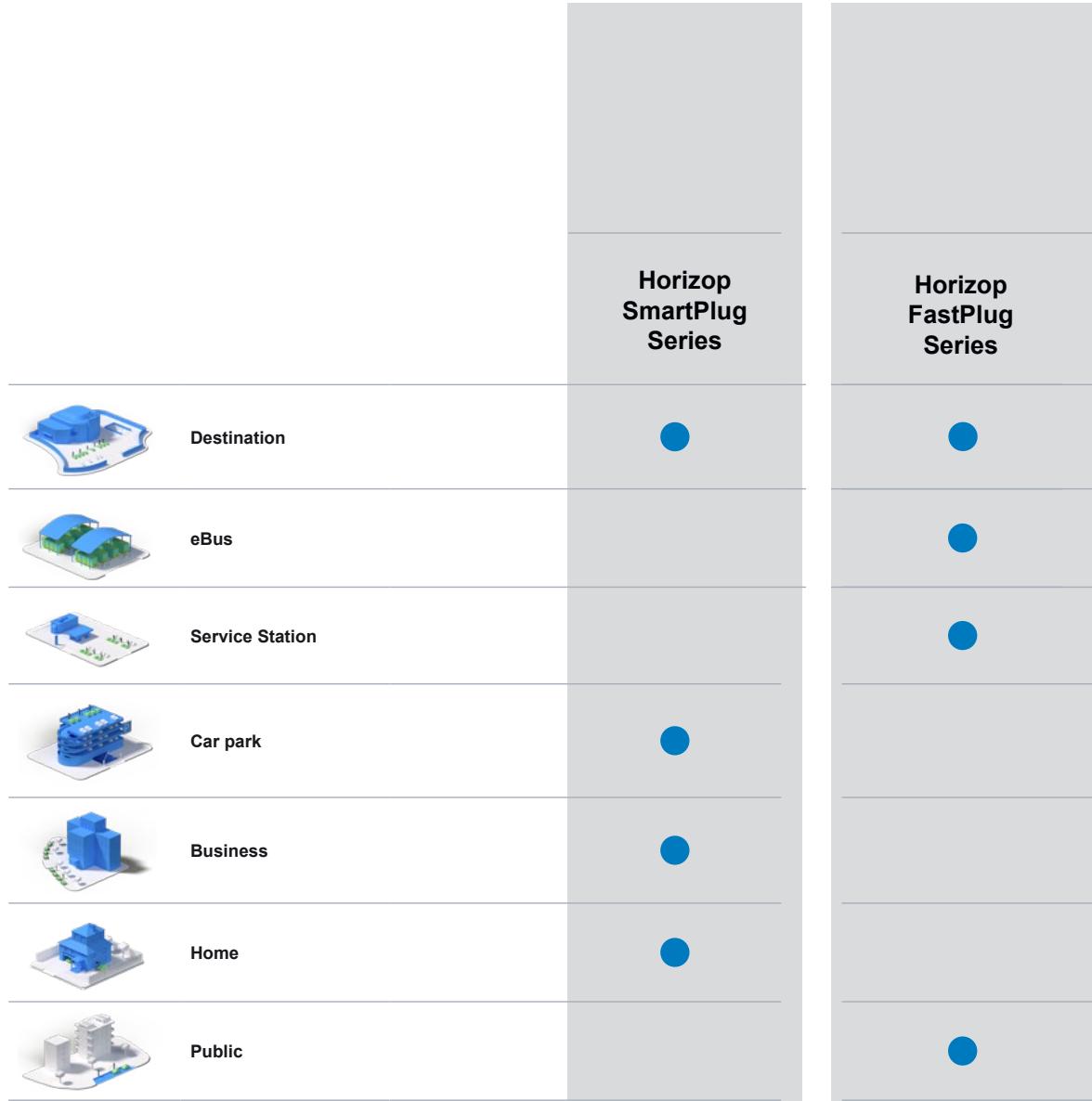


Driving benefits
(instant torque or smooth & quiet)

EV Chargers

Products by market segments





Horizop SmartPlug Series

The perfect EV charger for your digital home

Application

Designed to be installed (both indoors and outdoors) at private homes, communal blocks, workplaces.

Concept Design

SmartPlug has been designed to simplify the charging process. We developed an authorization method via app that allows the user to start charging without any interaction with the charger.

As far as the exterior design is concerned, we have kept a futuristic design that is easy to assemble by our installers and with a standard 3 year warranty with the possibility of extension to 7 years.

The SmartPlug series is the best choice to match any wall.



Product highlights

- **SmartPlug Charger App** designed to control and configure the Horizop SmartPlug: language configuration, user authentication, diagnosis and firmware upgrades, among others.
- **App charge authorization by Bluetooth** avoiding any interaction with the charger and protecting it from non-desired users.
- **Remote charging activation** is also offered by means of an ON/OFF external input signal (e.g. timer).
- **Timetable programming** to adjust the charging session to the hourly energy rates.
- Ready for internal integration of electrical protections.
- Includes **welded contactor detection** that meets with IEC 61851-1 for safety protection.
- The Horizop SmartPlug series features a reserved space in case you want to include **your own branding on it**.
- **DC leakage detection** can be ordered as an optional extra. Thus, in conjunction with the welded contactor and RCD A, the highest safety protection is guaranteed.
- Compatible with our **PowerSense sensor** (accessory), when combined with Horizop SmartPlug, it is able to dynamically adjust the electric vehicle's consumption according to the available power of the installation.
- The **LED hexagonal bar** at the front not only informs the user about the charger's status (e.g. operative, faulty...), but also the EV charging status: charging (dynamic blue light) vs charged (static blue light).
- The charger's **housing** is made of ABS plastic, which is both robust and UV resistant, providing protection against mechanical stress and severe environmental conditions.

Horizop SmartPlug Series

General Specifications

Wireless communication	Bluetooth v4.2 + BLE
Enclosure rating	IP54 / IK10*
Enclosure material	ABS / PC
Operating temperature	-5 °C to +45 °C
Ambient temperature storage	-40 °C to +60 °C
Operating humidity	5% to 95% Non-condensing
Light beacon	RGB colour indicator
Power limit control	Mode 3 PWM control according to ISO/IEC 61851-1
Dimensions (D x W x H)	100 x 180 x 350 mm
Weight	4 kg
External input	Remote charging activation
Safety protection	Welded contactor detection

*IK08 in some components appended to the body, i.e., beacon light.

Optional devices	
Low temperature kit	-30 °C to +45 °C
Protections	DC 6mA leakage detection RCBO (RCD Type A + MCB)
Power limit control*	PowerSense sensor
Type 2 socket protection	Locking System
Type 2 charging socket	Shutter
	Type 1 straight + cable roller
Tethered cable	Type 1 spring + connector holder
	Type 2 straight + cable roller
	Type 2 spring + connector holder
Pedestal	
Customisation	Logo customisation

*Single-phase models only.

Model Specifications

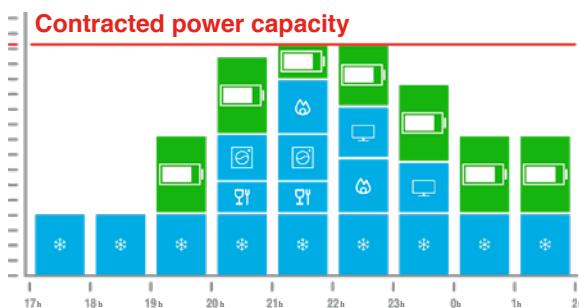
Model	SP	TP
AC power supply	1P + N + PE	3P + N + PE
AC input voltage	230 V AC +/-10%	400 V AC +/- 10%
Maximum input current	32 A	32 A
Maximum input power	7.4 kW	22 kW
Number of plugs	1	1
Maximum output power per outlet	7.4 kW	22 kW
Maximum output current per outlet	32 A	32 A
AC output voltage	230 V AC (1P + N + PE)	400 V AC (3P + N + PE)
Socket Type	1 x Type 2 Socket	1 x Type 2 Socket

Series	Protection devices	PV & HEMS communications	Operating temperature
HEX	RCD + 6 mA as an optional module (only model with cable)	RS485 is optional	LTK is optional -5 °C to +45 °C
HEX Plus	6 mA Overvoltage	RS485	-30 °C to +45 °C

PowerSense Compatible

Intelligent sensor for single-phase systems

PowerSense is a sensor that can be easily added to a fuse box to dynamically adjust the current supplied to the EV to the power available at any given time, thus avoiding overloading.



Horizop FastPlug Series

The perfect combination of power, design and reliability

Application

Designed to be installed in both public access environments (urban spaces, shopping centres, airports, road-side rest areas...) and private areas (companies with EV fleets, taxi ranks...) where vehicles need to be ready to continue their journey in less than half an hour.

Concept Design

Designed to address the main problem identified by charge point owners/operators when fast charging (low uptime), the **Horizop FastPlug** series is based on state-of-the-art modular power technology.

Another key attribute considered was its exterior design. Sophisticated, slim and robust are just some adjectives that can be used to describe this series and features that make it ideal for any type of site (from the most stylish urban area to industrial sites).



Product highlights

For Charge Point Operators / Owners

- Its **modular power technology** ensures a very high uptime (reducing the non-operation expenditure), because in the event of a power module failure, the rest of the modules continue charging.
- Lower energy consumption (and therefore OPEX) is achieved due to a **sustained high efficiency level** resulting from disconnecting power modules when lower charging power is requested by the EV.
- Horizop 50 Plus is **upgradable to 350 kW**.
- It offers a unique **connector care** concept by means of the connector locking feature (optional) and floating cable design, which reduces the risk of the cable breaking.
- The **doors at the front and the back** with key access provide an easy access to the charger for quicker installation and service.
- Possible to configure as a **Master for the Master-Satellite** solution.

For Charge Point Users

- Its **14" anti-vandal daylight readable colour touchscreen** not only provides clear charging instructions (e.g. incorrect EV shift position to start the charge) and operating status (e.g. reserved charge point), but it also allows the user to select from several languages.
- User satisfaction is also increased due to its **built-in courtesy light** which both facilitates locating the charge point in dark areas and reading the messages included on operator instruction labels.
- **Accessibility for disabled users** has also been considered, complying with international standards regarding the height of connectors/ displays, facilitating their use.
- **Integrated contactless payment system:** Offers an easy, intuitive and contactless card payment experience.

Horizop FastPlug Series

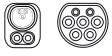
General Specifications

AC Power Supply	3P + N + PE
AC Voltage	400 V AC +/- 10%
Power Factor	>0.98
Efficiency	95% at nominal output power
Frequency	50 / 60 Hz
Electrical input protection	Main breaker disconnection
Overcurrent protection	MCB
Safety protection	RCD Type B
Network connection	Ethernet 10/100BaseTX
Interface protocol	OCPP 1.5 / 1.6J, HW ready for update to OCPP 2.0
Compliance	CE / Combo-2 (DIN 70121; ISO15118) IEC 61851-1; IEC 61851-23, 21-2 CHAdeMO compatible
Enclosure rating	IP54 / IK10
Enclosure material	Stainless steel
Operating temperature	-30 °C to +50 °C
Ambient temperature storage	-40 °C to +60 °C
Operating humidity	5% to 95% Non-condensing
RFID system	ISO / IEC14443-1/2/3 MIFARE Classic
Display HMI	14" anti-vandal colour touchscreen
Power limit control	DC & AC by software

Cable length	3 meters (CCS, CHA, Type2)
Lights for status indication	RGB colour indicator
Dimensions (D x W x H)	800 x 600 x 1570 mm (without cable engaged)
Weight	235 kg
Cooling system	Air cooling fans
Operational noise level	< 55 dB
AC Meter	Compliant with the EN 50470-1 and EN 50470-3 (MID EU)

Optional devices	
Wireless Communication	LATAM/APAC/4G LTE/GPRS/GSM
Surge protection	Four pole transient surge protector IEC 61643-1 (class II)
Cable Length	5.5 metres (all cables)
Anti-vandal connector protection	CHAdeMO, CCS (mechanical connector locking)
Type 2 charging socket	Shutter
Network hub	Switch TCP ethernet 8 ports
RFID Extension	Legic Advant / Legic Prime ISO 15693/ISO 18092, Sony FeliCa
Contactless payment	Integrated credit card payment terminal

Model Specifications

Models	CCS2	CCS2 HTACDC	CCS2 HSACDC	CCS2 CHA HSACDC	CCS2 CHA HTACDC
Maximum AC input current	76 A	108 A	108 A	108 A	108 A
Required power supply capacity	53 kVA	75 kVA	75 kVA	75 kVA	75 kVA
Maximum output power	50 to 350 kW (@400 V DC)	DC: 50 to 350 kW (@400 V DC) AC: 22 kW	DC: 50 to 350 kW (@400 V DC) AC: 22 kW	DC: 50 to 350 kW (@400 V DC) AC: 22 kW	DC: 50 to 350 kW (@400 V DC) AC: 22 kW
Output voltage range	DC: 50 - 920 V	DC: 50 - 920 V AC: 400 V	DC: 50 - 920 V AC: 400 V	DC: 50 - 920 V AC: 400 V	DC: 50 - 920 V AC: 400 V
Maximum output current	DC: Up to 500A	DC: Up to 500A AC: 32 A	DC: Up to 500A AC: 32 A	DC: Up to 500A AC: 32 A	DC: Up to 500A AC: 32 A
Connection	CCS 2	CCS 2 Type 2 Tethered cable	CCS 2 Type 2 Socket (Lock system)	CCS 2 - JEVS G105 Type 2 Socket (Lock system)	CCS 2 - JEVS G105 Type 2 Tethered cable
					

After-sales Support

“

*Customer service is not a department,
it is an attitude.*

”

We strongly believe that customer service is crucial in the EV charging infrastructure.

Online technical support, on-site assistance, training sessions, documentation and tools, new releases, recommended spare parts and a specific web-based Expert Area are some of the services you will have at your disposal to ensure HORIZOP chargers are always up and running. **This is our main goal.**

+5

Training sessions

+100

Training hours

+8

Certified partners



Spare Parts Kits

for the Horizop FastPlug Series DC charging station

Application

The Spare Parts Kits are designed for charging station service maintainers and contain all the recommended components for the Horizop FastPlug series DC charger.

Concept Design

These kits are a combination of spare parts needed to cover the most common incidents that can occur in the field. Each part is packaged separately and clearly labelled in a robust protection case making its transportation easier.

The kits also include a Service Manual and information labels in order to record information about the replaced part.



Product highlights

For charging points maintainers

Clearer

- The Spare Parts Kits provide all the spare parts recommended by HORIZOP for replacement during maintenance. This minimises the risk of ordering incorrect or unnecessary parts.

Better

- Easy maintenance through clear labelling of parts. The Spare Parts Kits centralise all the parts required and reduce the variety of components in stock.

Faster

- The Spare Parts Kits cover about 90% of the parts involved in incidents that occur in the field and allow most of the possible issues to be resolved on the first call-out.

Cost effective

- Their compact format and flexibility help to streamline logistics and preparations for service calls, reducing indirect costs.

Portable

- Its robust design allows you to take the Spare Parts Kit anywhere or send it ahead before you travel.

Low price

- Kits are less expensive than the sum of the individual parts.

Spare Parts Kits for Horizop 50 Series

Models

Horizop RepairBox 50

Kit designed with the necessary components to maintain up to 20 chargers. It is supplied in a *transportable protection box*.

Models	Series	Description	Socket type
Horizop RepairBox 50 Trio T2S32	TRIO	Kit Horizop RepairBox 50 TRIO HT1 CHA+CCS+T2 Socket 32	  
Horizop RepairBox 50 Trio T2S63	TRIO	Kit Horizop RepairBox 50 TRIO HT2 CHA+CCS+T2 Cable 63	  
Horizop RepairBox 50 Duo		Kit Horizop RepairBox 50 DUO CHA+CCS	 
Horizop RepairBox 50 CCS T2S32	CCS	Kit Horizop RepairBox 50 CCS HD1 CCS+T2 Socket 32	  
Horizop RepairBox 50 CHA T2S32	CHA	Kit Horizop RepairBox 50 CHA HT2 CHA+T2 Socket 32	 
Horizop RepairBox 50CCS	CCS	Kit Horizop RepairBox 50 CCS CCS	 
Horizop RepairBox 50CHA	CHA	Kit Horizop RepairBox 50 CHA CHA	

Horizop RepairBox 100

Kit designed with the necessary components to maintain up to 20 chargers. It is supplied in a *transportable protection box*.

Models	Series	Description	Socket type
Horizop RepairBox 100 CCS CHA	DUO	Kit Horizop RepairBox 100 CCS CHA CHA+CCS	 
Horizop RepairBox 100 Trio	TRIO	Kit Horizop RepairBox 100 TRIO T2C32/T2S32 CHA+CCS+T2 Cable/Socket 32	  

Horizop RepairBox 150

Kit designed with the necessary components to maintain up to 20 chargers. It is supplied in a *transportable protection box*.

Models	Series	Description	Socket type
Horizop RepairBox 150 CCS CHA	DUO	Kit Horizop RepairBox 150 CCS CHA CHA+CCS	 

EV Charging management systems

The best software for EV charging solution

EV charging easier, faster & efficient.

Operating several charging points in one location represents some challenges and demands solutions to overcome them. Using devices, software or solutions that allow load management, monitoring and reporting has several advantages, such as avoiding power cuts due to the grid overloading, reducing installation and operational costs and being more efficient by collecting data from your charging network.

Why is our EV charging software important?



Avoids powers cuts caused by limited grid capacity.



Reduces investment costs by avoiding the need to upgrade installations.



Reduces operational costs thanks to intelligent load balancing



Makes your management more efficient thanks to monitoring.

EV charging software

The best software for EV charging solution:



Supermarkets



Hotels



Service stations



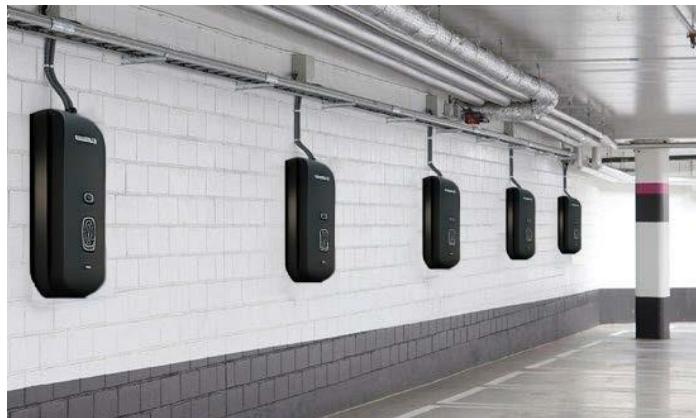
Car park



Business



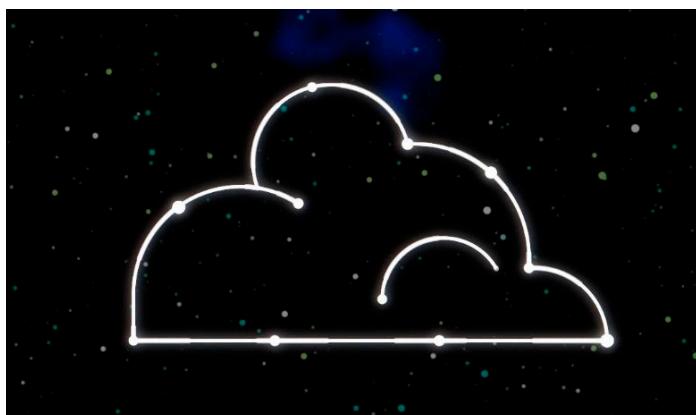
Public charge



LOAD MANAGEMENT

Dynamic Load Management (DLM)

Dynamic Load Management (DLM) is **software** that allows for charging several EVs simultaneously in less time using the available power more efficiently and balancing it between the EV chargers.



USAGE MANAGEMENT

Charge Horizon

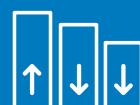
Charge Horizon is a **cloud-based platform for monitoring and reporting**. It is a platform designed to collect and store data from a specific set of EV chargers located in car parks, offices and communal blocks.



Create and customise your charging hub according to your needs.



Build a variety of AC and DC charger combinations using different power levels.



Reduce your initial investment and your operating costs.



Easily add more chargers as you need them.



Manage your chargers' power without needing to have them connected to a remote back-office.



Provide your customers with fast charging at an affordable price without having to make a large investment.

Dynamic Load Management (DLM)

Load Management

Main problems

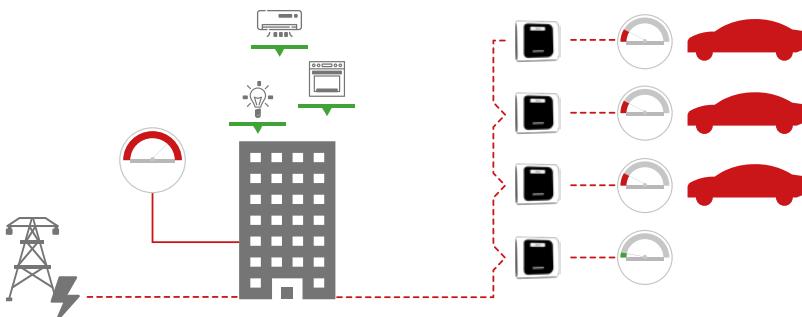
EV drivers want to charge their vehicles faster, especially in public and semi-public spaces, while charging service providers want to reduce their costs. The constant growth in EV charging creates new challenges:

- How to avoid overloading the grid and causing power cuts.
- How to minimise the investment required to upgrade installations.
- How to set up an EV charging system capable of simultaneous charging.

This situation requires an intelligent system to manage the charge and this is where Dynamic Load Management (DLM) comes in.

► WITHOUT DYNAMIC LOAD MANAGEMENT

Main supply overload



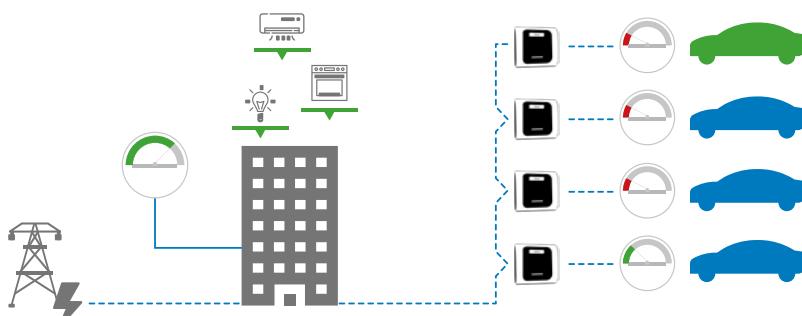
Try the DLM solution

Dynamic Load Management (DLM) is a software-based solution designed for managing energy when several charging stations work simultaneously. DLM allows for charging several EVs simultaneously in the most efficient way by using the remaining available power dynamically and balancing it between the EV chargers. It also allows increasing the number of charging stations without increasing the contracted power.

Therefore, DLM could be installed on sites where the electric installation is fully allocated to electric vehicles or on sites where another facility is sharing the maximum available power.

► WITH DYNAMIC LOAD MANAGEMENT

Main supply protected



Product highlights:

OCPP



OCPP

Chargers can be simultaneously controlled via OCPP communication by other external smart devices.



BMK (OPTIONAL)

It measures power supply in real time, dynamically adjusting the available power depending on the electric vehicles.

POWER OPTIMISATION

Optimise the charge of the EV by automatically adapting to the maximum available power of the installation.



REMOTE MONITORING

Remotely monitor all installation's power consumption installation in real time.



OFFLINE OPERATION

Whenever there's a failure in network communication DLM allows to keep charging, saving the information until reconnection occurs.



CONTROL THE LIMITS

Never exceed the contracted power thanks to its automatic power regulation, avoiding extra costs, grid overload and blackout situations by overconsumption.



LOCAL POWER MANAGEMENT

DLM is allocated at the same place where charge points are installed, easing any maintenance service.



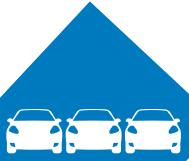
EV PRIORITY CHARGERS

Prioritize one or several EV chargers depending on your needs.

Designed for:



CAR PARKS



EV FLEETS



COMMUNAL BLOCKS



WORKPLACES

Charge Horizon

Usage Management

Application

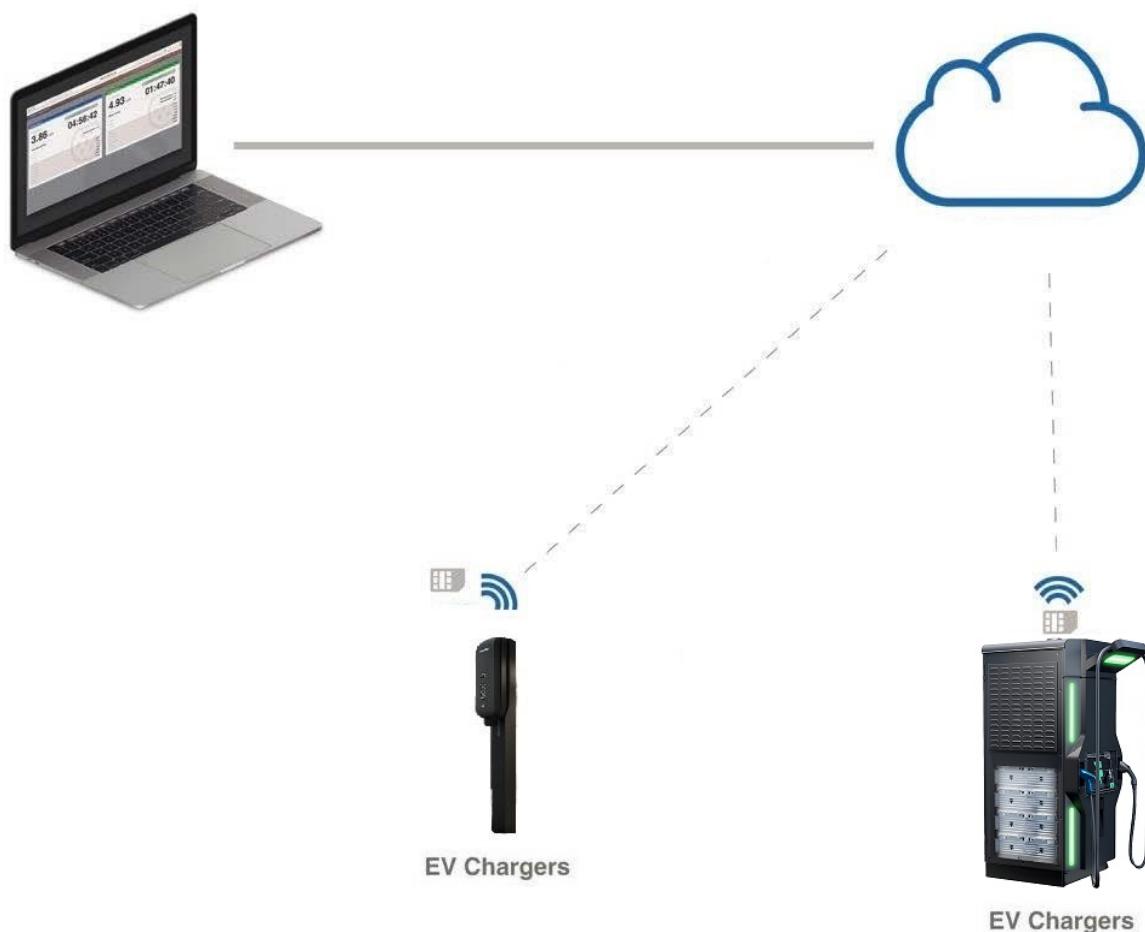
Designed by HORIZOP to collect and store data from a specific set of EV chargers for monitoring and reporting. This cloud-based platform has an easy and intuitive dashboard and offers customisable reports according to user, charger, consumption and tariff, including invoice simulation.

Perfect for...

Fleet managers, building managers, car park operators and other operators with similar needs as they will be able to easily register and unsubscribe users.



Charge Horizon is a cloud platform based on OCPP 1.6J that gathers data from a specific set of EV chargers and helps you create and manage your own charging network. Therefore, monitoring, controlling the chargers remotely and/or reporting processes is simpler and automatic.



Charge Horizon Usage Management

Product highlights:



DASHBOARD

Easily obtain a general overview and the most significant data about an installation or a group of installations at a simple glance.



MAP

Locate and check your chargers' status on a map in a very easy and quick way.



PARKING GUIDANCE

Availability of free parking spaces and occupancy analysis.



TARIFFS

Hourly rates and/or fixed costs detailed on billing simulations..



REGISTER/ UNSUBSCRIBE USERS

Manage the authorised users of your charging network as well as their permissions and profiles as required.



EV CHARGER LOG DISPLAY

Reduce the fault resolution time and obtain a detailed diagnosis if any charger is not working properly.



CUSTOMISABLE REPORTS

Design, generate and send reports automatically by e-mail, as well as invoice simulations with consumption data, times, rates...



COMPATIBLE WITH OTHER BRANDS

Connect other EV chargers, aside from Horizop, as long as they comply with the OCPP 1.6 protocol.

Licenses:

Create your own scalable Partner Network according to your needs.

Professional
Advanced

Real-time charge points dashboard		
Charging network map		
Configuration (company, facility, chargers, users and car park)		
Monitoring of charging points and parking guidance system		
Remote control of charging points (start, stop, unlock, reboot and diagnostic)		
Access to historical reports (customer/operator invoice and charge point alarms)		
Create new charge point tariffs for reporting		
Parking guidance dashboard customisable		

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