COMMERCIAL EV CHARGING SOLUTIONS

Smart charging stations for every application...

futuresmart

- SINGLE & DUAL WALL CHARGERS
- PUBLIC CHARGER PILLARS
- DC FAST CHARGERS
- FULL BACK OFFICE SOLUTIONS

MADE IN EU — MADE IN EUROPE

SEAI & OZEV GRANT APPROVED

ROBUST & DURABLE

COMPREHENSIVE WARRANTIES

The European leader in charging

GARO Electric is one of the UK and Irelands main EV Charging providers and part of the long-established GARO Group.

The company's Nordic counterparts are market leaders in the region due to their extensive history, knowledge & expertise in this space.

After more than 80 years in the industry, **GARO** is the reliable supplier of all types of electric vehicle charging. With our own experts in product development and advanced technical knowledge in software and electronics, we manufacture our own quality products.

We always ensure that future technology developments can be implemented in today's GARO products. An electric car charger from GARO is a future-proof choice with reliable and knowledgeable support on hand.

CONTENTS

ABOUT GARO

Trusted EV Charging Solutions with Safety, Quality & Compliance at their Core.

GARO provide a comprehensive range of charging stations, developed to meet the demand of the entire market from small domestic settings through to all scales of commercial installation and rapid motorway locations.

Local support & trusted warranties

Manufactured in the EU and backed with full comprehensive warranties. Supported by technical experts across the UK & Ireland.

End-to-end solutions

EV charging stations with either G-CLOUD light billing & monitoring software or our complete OCPP back office solution.

GARO takes its responsibility for safety and compliance with standards extremely seriously. We have developed various ranges of Electric Vehicle Chargers to satisfy the IET BSI 18th Edition in Great Britian, Northern Ireland, and to satisfy IS10101 in Ireland.
The market requirements are quite different, and the suitable product should be chosen for the individual market.

GARO is a member of the IEC committee for Electric Vehicle chargers. GARO is always up to date with international standards, local requirements and national divergence. GARO chargers are third party tested in an independent laboratory and approved to ensure they meet all relevant standards.

KEY FEATURES & CONSIDERATIONS

DC LEAKAGE PROTECTION

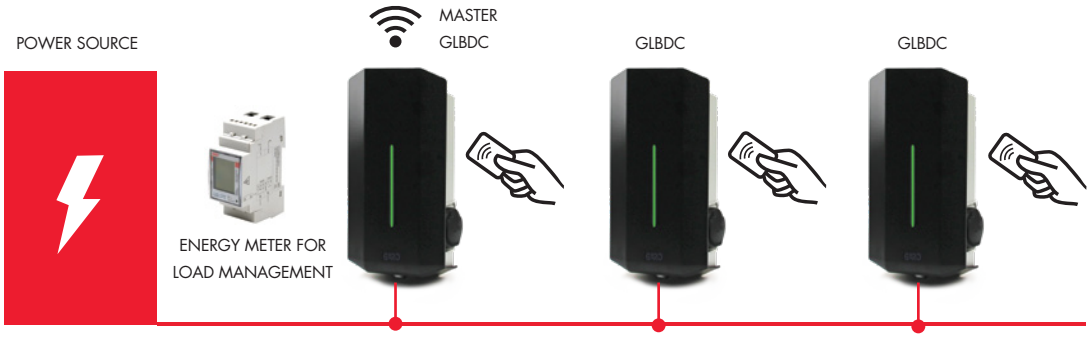
DC Leakage monitoring comes built-in. This ensures that the protective devices operate under fault conditions and negates the need for a Type B RCD.

WHAT TYPE OF RCCB OR RCBO?

The IET state that a type B RCCB or RCBO must be used due to DC leakage current, unless the manufacturer has fitted DC leakage detection equipment. All GARO Chargers have DC leakage protection built into the product. The Electrical Contractor needs to fit a type A RCCB or RCBO.

DYNAMIC LOAD MANAGEMENT

With dynamic load management, the charging station, or a group of charging stations, uses an external meter that is usually placed in the main distribution board on the property. The charger keeps track of how much electricity is used in the rest of the property and can therefore adjust how much electricity is used for EV charging at any given moment. At the same time, you can use the capacity you have in the property more efficiently, so that the car charges as quickly as possible - without the main fuse tripping.



WHAT DO I NEED TO PROTECT THE MAIN FUSE?

1. **GARO Charger with DLM capabilities**
   All commercial EV chargers from GARO are prepared for dynamic load management. The software required for this is always pre-installed.

2. **Energy meter**
   In order for load management to be dynamic, an external energy meter is required to be placed in your main distribution board. This meter then measures the total electricity use.

3. **Communication cable**
   The charger and the energy meter need to be able to communicate with each other. Therefore, they are connected with a communication cable. This is easy to do and normally takes place when the power cable is being installed.

KEY FEATURES & CONSIDERATIONS

COMMUNICATIONS

Wi-Fi & RFID

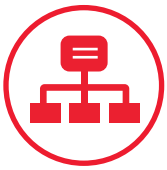
The Wi-Fi module (optional in certain models) allows the charger to be configured and updated remotely. It future-proofs the charger allowing updates for both firmware and software. The Wi-Fi module can be retro fitted.

With the Wi-Fi module fitted, the charger can also be fitted with an optional RFID reader for increased security and billing. With the addition of an energy meter it will give the user the ability to view their energy consumption on their mobile phone, tablet or web browser. Users will also have the ability to create schedules to suit their lifestyle or energy tariffs.

4G or LAN CONNECTION

GARO offers chargers with either integrated 4G modems or connection via a LAN cable. A charging station with a 4G modem can handle the communication for many charging stations through a master-slave configuration. In installations where a 4G solution would not be ideal and a LAN connection is used (e.g. underground car parks) an external modem can be fitted outside.

Talk to our GARO technical experts for assistance with project specs, potential site limitations and communication requirements.



WHICH SOFTWARE SOLUTION?

GARO are pleased to offer our full OCPP back office solution that works with all brands of OCPP compliant chargers. We also offer our G-CLOUD light billing and monitoring solution that works only with GARO chargers. The Wi-Fi module, RFID reader and an energy meter will be required to operate either software solution.

WHAT IS OCPP?

OCPP stands for Open Charge Point Protocol. This protocol allows charge points (hardware) and charge point software to talk to each other. A major advantage of OCPP is that you're not locked into one vendor/software provider for the life of the product. OCPP allows you to mix and match EV charging points and software from different providers.

Garo offers a number of EV Charge points configured with OCPP technology and ready to integrate to a payment & monitoring software solution.

See pages 20 - 23 for details of our software options.

KEY FEATURES & CONSIDERATIONS

GRANTS AVAILABLE

GARO has a range of chargers approved for OZEV & SEAI EV charging grants. Please check the model specifications and you will find OZEV noted on the appropriate models.

The grant is available for people who live in a rented property or own a flat with dedicated off-street parking. They will receive a grant of £350 against the cost of the installation.
You can only claim one chargepoint per eligible vehicle and household.

OZEV also offers a separate Workplace Charging Scheme (WCS) grant which can be claimed by any business, charity or public authority and provides up to £350 off the cost of purchasing and installing workplace charging points, up to a maximum of 40 sockets. There is an additional £250 for installs in Scotland. The additional grant is offered by the Energy Savings Trust Scotland.

The webpage below will allow you to find out more Information -

www.gov.uk/government/organisations/office-for-low-emission-vehicles

FUTURE-PROOFED SOLUTIONS

Chargers that work today and adapt to the future.

GARO EV Chargers offer a range of features and options to ensure they will stand the test of time, durable solutions with the latest technology.
GARO is ***FUTURESMART***.

- Real time diagnostics / fault reporting
- Network connectivity options
- Dynamic Load Management
- Cloud based remote management
- Minimise vandal / accident issues – IK10 rating
- IP rated (dust and water ingress) to suit the environments
- Potential for branding & customisation
- Operating Temperature Range to suit all environments
- Remote RCD testing and auto reset (option)

Trusted Solutions

All GARO EV Chargers are backed with comprehensive warranties.

SINGLE OUTLET WALL MOUNTED CHARGERS

Simple, smart and safe - The charger of the future

GARO GLB chargers offer smart, safe and efficient vehicle charging in apartment buildings and workplaces. GAROs range of single wall mounted chargers are developed to cope with harsh climates and meet all requirements for electrical installations.

Flexible to install, both on the wall or on a post

Installing a GARO charging station is simple and flexible. Through a wide range of accessories, the charger can be installed on a wall or on a standard post (60mm). With GARO's post bracket, it is possible to install two chargers back to back, which provides an efficient installation.

Features:

Plug and Play means installers can either simply connect and walk away, or easily configure the charger to:

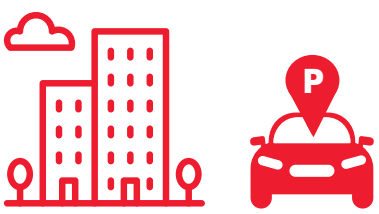
- Deliver between 3.7kW and 22kW
- Accept input to start or stop charging
- Provide remote isolation

Features of the GARO GLB Range

- Designed to withstand harsh climate, manufactured from marine grade aluminium
- Dynamic Load Management - main fuse protection
- Control - up to 32 GLB's linked as master/slave configuration
- LED Status information of the charger
- User identification - RFID reader
- DC leakage built-in, no need for separate Type B RCD
- Motorised interlock with power reserve
- Future proofed if Wi-Fi module fitted
- Mounting on either a wall or pillar/post
- IK08 & IP44
- Simple and intuitive installation
- Socket or tethered lead (5m)
- Optional customisation of appearance (complete/partial wrapping)

SUITABLE FOR:

- Apartment Buildings
- Workplaces
- Public Car Parks



Single Outlet Wall Mounted Chargers

Model Selection

		OCPP & OZEV GLB-B
Basic Charging	Y	Y
Socket or Tethered Option(5m Cable)	Either	Either
Motorised Interlock	Y	Y
Output Options 6 - 32A set by dip switch	Y	Y
Available output range set by dip switch	3.7kW - 22kW	3.7kW - 22kW
Optional Pillar	O	O
Master/Slave configuration - max 32 chargers	Y	Y
Metering	O	O
Dynamic Load Management	Y	Y
Input for timer / low tariff selection	Y	Y
Built-in DC Leakage Control	Y	Y
Communication	WiFi / LAN	4G / LAN
RFID access control	O	Y
Cloud Reporting system	O	OCPP
OCPP (Control via device / PC)	–	1.6

O = Optional Extra

* Note: Dynamic Load Management requires energy meter (sold separately)

OCPP / OZEV DC Monitoring, DLM & RFID

GLB-B-DCMT274WOL	7.4kW	Socket Type 2	LAN
GLB-B-DCMT274FCL	7.4kW	Fixed Lead Type 2	LAN
GLB-B-DCMT222WOL	22kW	Socket Type 2	LAN
GLB-B-DCMT222WOM	22kW	Socket Type 2	4G

GARO also offers a range of EV Chargers suited only to domestic homes. Details of these products can be found in our "Domestic Chargers" brochure.

Technical & Project Support

GARO engineers are on hand across the UK and Ireland to assist with project scoping, technical product queries & installation advice.

DUAL OUTLET WALL MOUNTED CHARGERS

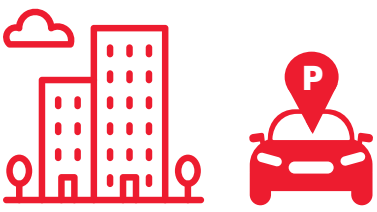
The smart charger for two electric vehicles.

GARO GTB is a dual charger suitable for charging vehicles at homes, apartment buildings or workplaces. The GTB is manufactured from marine grade aluminium and equipped with dual sockets for charging two vehicles simultaneously in a simple, safe and efficient manner. The unit can be fitted with a Wi-Fi module that allows you to activate a number of smart extra features; for example, wireless software upgrades and scheduled charging. It can also be equipped with RFID card readers.

The GTB always comes equipped with DC fault protection and RCD type A in accordance with electrical installation regulations and international standards. The GTB is prepared for dynamic load management, which automatically reduces the charging current and minimises the risk of tripping the main fuse. All the same great features as the GLB Single Charger range, but with the added benefit of charging two electric vehicles at the same time!

SUITABLE FOR:

- Apartment Buildings
- Workplaces
- Public Car Parks



Features of the GARO GTB Range

- Attractive design and robust construction
- Designed to withstand harsh climate, manufactured from marine grade aluminium
- Highly visible LED indication
- Can be built as a system of up to 25 chargers (50 outputs) with dynamic load management
- Can be combined with GLB+ & LS4 Chargers
- RCD type A with DC fault monitoring
- Simple, flexible installation. Mounting brackets for wall or post
- Possible to reroute power, terminal block size 16 mm
- Connection via LAN & 4G), GARO's 4G routers are available as an option if 4G is required
- Lockable service hatch, shielded inside to avoid electric shock
- Optional customisation of appearance (complete/partial foiling)
- Metering and RFID management (optional subscription service)
- Full OCPP communication to back office system (certain models)

GARO Academy

Training videos, installation guides, quick tips & online certification.

VIDEO GUIDES

Dual Outlet Wall Mounted GTB

Model Selection

	GTB+ WITH METERS OCPP & OZEV
Mode 3 Charging	Y
Socket or Tethered Option (FC)	Y
Motorised Interlock	Y
Output Options 6 - 32A (set by dipswitch)	Y
Available Output Range 7.4kW - 22kW	Y
Pillar Mounting	O
Primary Secondary Configuration (max 32)	Y
Metering	Y
Dynamic Load Management *	Y
Input for timer / low tariff selection	Y
Built-in DC Leakage Control	Y
Communication	LAN / 4G
RFID access control	Y
Cloud Reporting System	OCPP
OCPP (Control via device / PC)	1.6

O = Optional Extra

* Note: Dynamic Load Management requires energy meter (sold separately)

GTB+ OCCP & OZEV with Meters

GTB-B-DCM-T274WOARL	Single Phase	7.4KW	Type 2 Sockets	LAN, Meters, RFID, OCPP
GTB-B-DCM-T274WOARM	Single Phase	7.4KW	Type 2 Sockets	4G, Meters, RFID, OCPP
GTB-B-DCM-T222WOARL	Three Phase	22KW	Type 2 Sockets	LAN, Meters,RFID, OCPP
GTB-B-DCM-T222WOARM	Three Phase	22KW	Type 2 Sockets	4G, Meters, RFID, OCPP

GARO also offers a range of EV Chargers suited only to domestic homes.
Details of these products can be found in our "Domestic Chargers" brochure.

PUBLIC CHARGING PILLARS

Quality and design for public environments

Robust and proven chargers with high quality, future-proof connectivity & OCPP support

The GARO's LS4 station is manufactured from marine grade aluminium. Its construction allows it to be directly bolted to the ground (e.g. concrete), or mounted on a pole mounted assembly (compact LS4). The top of the charger features a 360 light indicator which displays the charge status of each station from a distance. The front illuminated surface, is available for customer logo and instructions.

The station is equipped with two illuminated type 2 sockets protected against weather conditions. It has separate protection and residual current circuit breakers for each socket and integrated electronic communication between the station and the car. The stations are equipped with intelligent controllers for each of the sockets enabling communication with OCPP.

As a part of an installed station group, (up to 25 LS4 stations), Dynamic Load Management (DLM) can be activated, which dynamically controls the power of each LS4 socket working in the group.

Features of the Garo LS4 Charging Pillar

- Simple and intuitive operation
- User identification - RFID reader
- Charger status information
- Optional integration with Back Office (OCPP)
- Built-in communication (4G or LAN)
- Ability to activate DLM (dynamic power limitation of each socket)
- Personalisation with branding
- Floor-standing or wall-mounting
- Plug & play installation
- Local and remote monitoring and control of devices
- Compact version available

STANDARD / TALL

SUITABLE FOR:

- Public Car Parks
- Shopping Centres
- Bus & Rail Stations
- Restaurants, Hotels etc

LS4 Public Charger Pillar

Model Selection

All models OCPP	LAN	MC	AU
Basic Charging	Y	Y	Y
Type 2 Sockets	x 2	x 2	x 2
Motorised Interlock	Y	Y	Y
Output Factory Set	Y	Y	Y
Dynamic Load Management*	Y	Y	Y
Metering	Y	Y	Y
Core Balanced Protection (no nuisance tripping)	Y	Y	Y
Full Open OCPP	Y	Y	Y
PC Browser Interface	Y	Y	Y
LAN	Y	O	O
4G Built in Modem	–	Y	Y
RFID access control	Y	Y	Y
DC Leakage Protection	Y	Y	Y
Suitable for Wall Mounting	–	Y	Y
OCCP Back Office Software	O	O	O
Auto Reclosing MCB / RCCB	–	Y	Y

O = Optional Extra

* Note: Dynamic Load Management requires energy meter (sold separately)

LS4 Public Charger Pillar

Model Selection

All models OCPP

Standard LAN Versions

LS4DCMT274WO-LAN	2 x 7.4kw Outlets	Metered, LAN & RFID
LS4DCMT222WO-LAN	2 x 22kw Outlets	Metered, LAN & RFID

Standard 4G Versions

LS4DCMT274WO-MC	2 x 7.4kw Outlets	Metered, RFID & 4G
LS4DCMT222WO-MC	2 x 22kw Outlets	Metered, RFID & 4G

AUTO Self Closing RCBO / RCCB

LS4M-T222W 4G AU	2 x 22kw Outlets	Metered, RFID & 4G
LS4M-T222W 4G AUC	2 x 22kw Outlets	Metered, RFID & 4G

Trusted Solutions

All GARO EV Chargers are backed with comprehensive warranties.

LS4

DC FAST CHARGERS

The future is electric

For anyone running a business that customers visit by car, whether to shop, get coffee, eat, exercise or just take a break, this is a great opportunity to attract more customers. Installing a charging station that offers fast charging will not only attract more customers, it will also reward you with greater loyalty by clearly displaying which side of the climate debate you stand on.

A quick top-up

GARO'S latest DC fast charger - Althea is not only stylish and contemporary, it is also superior in all respects in terms of remote control, operation and maintenance.

Althea can be equipped with both CCS and CHAdeMO charging cables, it is suitable for use with all electric cars that support fast charging. The straight-forward touchscreen makes the charger easy to operate.

ALTHEA DC FAST CHARGER

GARO Althea – quality that makes a difference

CHARGES ALL CARS

Althea is equipped with both CHAdeMO and CCS charging cables to ensure that all electric car models can be charged.

A QUICK POWER BOOST

During a half-hour coffee break, a car can be fast-charged enough to cover another100–180 km.

SIMPLE TOUCHSCREEN

The touchscreen and symbol-based interface make it easy to operate.

FULL CONTROL WITH RFID

An RFID card reader protects Althea from unauthorised use. If connected to a charging network, the RFID card reader can be used to identify users.

CUSTOM SCREENSAVER

The standby mode screensaver can be customised with your brand or message.

ENCLOSURE

The Althea enclosure is manufactured from proprietary metal with a modern design. The housing is made of environmentally friendly Magnelis®, which is strong, corrosion resistant and self-healing. Althea is equipped with a heating function to ensure long-term reliable operation in harsh climate conditions.

CUSTOM WRAP

Althea can be customised with your own vinyl wrap to strengthen your brand and advertise your contribution to the environment.

Althea DC Fast Charger - 50kW

Model Specification

Charging interface	CHAdeMO + CCS
Power	50 KW
Output voltage	200 - 500 VDC
Max output current	125 ADC
Input voltage	3 x 400Volt N+E 50Hz
Max input current	80 A
Max grid short circuit power	36 KA
Recommended minimum fuse	100A
IP	IP54
IK	IK10
Weight	280 kg
Height	1955 mm
Footprint	540 x 600 mm
Ambient temperature range	-30°C to +40°C
Panel material	Powdercoated steel Magnelis®
User interface	Touchscreen 10,4"
RFID	Mifare classic 1K, 4K, Ultralight
Communication	OCPP 1.6

SUITABLE FOR:

- Service Stations, Motorway Rest Stops
- Businesses wanting to provide fast charging for their customers

Technical & Project Support

GARO engineers are on hand across the UK and Ireland to assist with project scoping, technical product queries & installation advice.

Compact fast charging with Atle, 24 kW

With a power of 24 kW and equipped with CCS or with both CCS and CHAdeMO, GARO's DC charger Atle can quickly charge any electric vehicle. The robust and compact design makes it easy to install either on a wall or stand. Atle is an ideal solution for, car dealers, car repair shops, car rental companies, vehicle depots, etc.

Easy fast charging for everyone

Charging is started after identification with RFID tag. The clear touch screen is easy to operate. How long the charge takes always depends on the car, but under ideal conditions, the car can be charged at up to 120 km per hour at full power.

Robust, high-profile and connected

Atle is robust and durable with a front that can be personalised. The unique design that maintains cooling without an air filter means that the need for service is minimal. Connection via OCPP 1.6 opens up the possibility of connecting to payment service and control via operator.

Atle DC Fast Charger - 24kW

Model Specification

Charging interface	CCS / CCS + CHAdeMO
Power	24 KW
Output voltage	200 - 500VDC
Max output current	60A DC
Input voltage	3 x 400Volt N+E 50Hz
Max input current	40Amp
Max grid short circuit power	36KA
Recommended minimum fuse	50Amp
IP	IP55
IK	IK10
Weight	66Kg
Height	860mm
Footprint	507mm (W) 250mm (D)
Ambient temperature range	-25°C to +50°C (derate above +35°C)
Panel material	Steel
User interface	Touchscreen
RFID	Mifare classic 1K, 4K, Ultralight
Communication	OCPP 1.6

SUITABLE FOR:

- Businesses wanting to provide fast charging for their customers
- Popular in Car dealerships, vehicle rental locations, car repair shops etc.

G-CLOUD SOFTWARE

G-Cloud - When you want full control over all charges

G-Cloud is GARO's proprietary web-based measurement collection service, which we provide with updates and technical support. The service gives you a clear charge monitoring solution, RFID management, information on energy consumption, user and period statistics, reports and payment data for GARO charge points.

With one or more GARO charging points connected to G-Cloud you get a high quality charging solution with a comprehensive measurement collection service that can be broken down to every user, charger and period. The system is very flexible and can be scalable both in terms of number of chargers and users.

DIVIDED USER STATISTICS

Each user receives an RFID tag that allows access to the chargers connected in the area. The same user (payer) can have multiple RFID tags associated with a group, such as family or a department within the company. You can log in to G-Cloud as users or property owners. For the user, there is access to statistics on electricity consumption for their own electric car as well as the opportunity to manage their tags.

VALUE ENERGY MONITORING

For the property or business owner, G-Cloud's measurement values create a specified basis that allows you to divide the payment between individual users. In addition, the energy monitoring of each charger, user and period provides valuable data for the evaluation of each charging point's use rate and location.

SIMPLE AND EXCEPTIONAL

Charge for energy consumption in a fairly distributed way and only by those who charge their electric car. G-Cloud measures the energy consumption of each individual RFID tag from one or more charging points in the area. Each month, a specification of the charge consumption is then compiled for individuals and individual chargers.

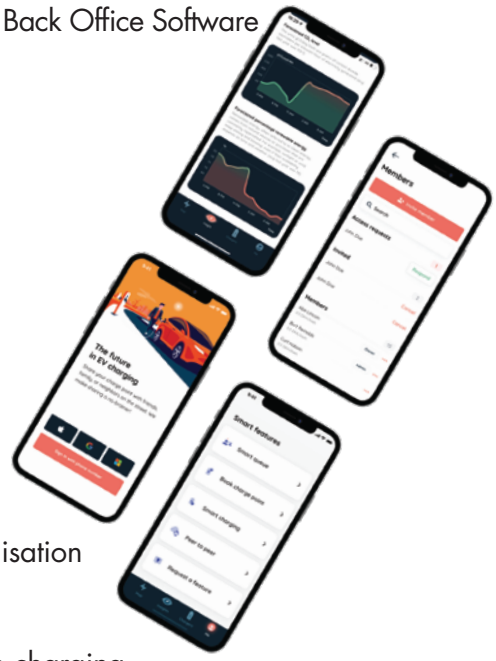
ORDER G-CLOUD

G-Cloud can be connected to both new or existing charging systems with GARO charging points.

OCPP BACK OFFICE SOFTWARE

Smart & future-proofed OCPP Charging Software

Designed specifically for Charge Point Operators and EV Drivers alike, this intuitive Back Office Software takes care of access control, utilisation statistics and revenue collection. An App is available for any user and can integrate with many payment methods

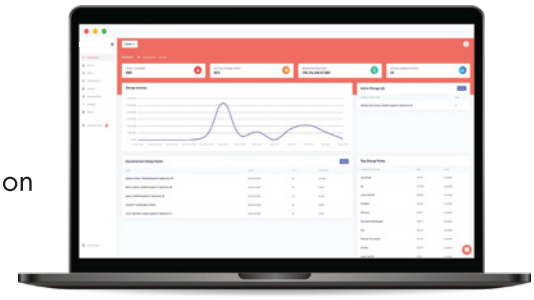


- Scalable charging system that can grow with the demand of electric vehicle drivers - connect additional chargepoints as you need them
- Easy accounting/billing as each driver's energy usage is logged and reported real-time to the user and charging manager
- Smart Queue allows users to reserve a charge session before arrival (reservation is lost after after 15 mins no show)
- Possibility to Allow Roaming on your network. Drivers outside your organisation can use your Charge Point at a cost you set.
- Company Car features allow businesses to reimburse employees for home charging
- Track CO2 emissions savings and set charging sessions to automatically commence when the grid is producing most renewable energy

GARO BACK OFFICE FEATURES

Why choose OCPP Software?

OCPP software is the future in EV charging. A major advantage of OCPP is that you're not locked into one vendor/software provider for the life of the product. OCPP allows you to mix and match EV charging points and software from different providers.



Charging Features

- Easy set up
- Extensive insights on usage and consumption
- Chargepoint Map
- Smart Queue (reserve a charge session)
- Track CO2 emissions and actively reduce them
- Multiple Payment solutions
- Ability to add your Charge Points to a public network for revenue generation

GARO G-CLOUD VS OCPP SOFTWARE

Suitable For:

- Apartment Buildings and Workplaces
- For use with GARO Charge Points Only (Not an OCPP Solution)
- Light billing & monitoring
- No direct payment options

Suitable For:

- Apartment Buildings and Workplaces
- Retail, Hospitality, Public Car Parks, Service Stations etc.
- For use with any OCPP compatible EV Charger
- Where more advanced functionality is required e.g. alerts, enhanced analytics, credit card payments etc

We are GARO

We are Futuresmart

GARO Futuresmart stands for innovation and products that are being developed for the future. Products that ensure energy saving, smarter control and that are easy to use.

GARO Futuresmart will constantly evolve through new products, training, certifications, sustainability solutions, user satisfaction, service, etc. The goal is always to make things simpler, better and smarter. For a safer and more sustainable future.

UK
+44 (0)121 3899 444 sales@garo.co.uk www.garo.co.uk
GARO Academy Online Training: www.garo.co.uk/academy
Unit 50 Enterprise Trading Estate, Pedmore Road, Brierley Hill, West Midlands DY5 1TX

Ireland
+353 (0)1 866 5360 sales@garo.ie www.garo.ie
GARO Academy Online Training: www.garo.ie/academy
Unit 19/307 Northwest Business Park, Ballycoolin, Dublin, D15 AV81