

# **EBG** *compleo*

*The Complete Range for the Electro-mobile Infrastructure.  
Development. Production. Service. Maintenance. Made in Germany.*





## History.

### The EBG group.

- 1948 Elektro-Bauelemente GmbH is founded as a whole sale establishment in the electrical branch in Lünen
- 1978 EBG moves to the current location in the industrial area „Wethmarheide“ with a modern assembly plant and swage facility.
- 2000 Acquisition of Schröder Kunststofftechnik GmbH Including the czech sub company in Ostrava
- 2006 EBG group is now the umbrella brand for EBG Lünen, Schröder Kunststofftechnik and EBG plastics
- 2009 EBG begins to conceptualize an AC-charging station for electric vehicles
- 2012 EBG compleo becomes an independant company inside the EBG group
- 2013 Successful growth is underlined by new offices and assembly buildings in Lünen and Ostrava
- 2015 The serial production of the first DC-charger „Made in Germany“ starts
- 2016 The next milestone in the success story of compleo: team „service and operations“ starts its task after more than 6.500 charge points have been delivered

## A product of established experience.

### Power for pioneering work.

As a company and part of the family-owned EBG group, we unite the competence of over 65 years of experience and dynamic which gives us the innovation-drive to shape future mobility.

Producing and developing quality products for outdoor power distribution, not only brings a lot of experience in terms of durability and quality, the result is a new perspective for opportunities. Therefore, we were able to introduce a pioneering charging station for the emerging electric mobility in 2009: our first version of compleo.

A distinct, user-friendly design, safety features such as retractable sockets, authorization via mobile phone as well as a micro-controller were included from the very beginning into the equipment of the pilot model. Very quickly, our charging stations were involved in various pilot projects of German and international electric mobility providers and utilities.

Since then, the technology has been perpetually developed and we adapted the product line continuously to the requirements of the European market.

## Our aim. Our claim.

### Solutions as a team.

We have the highest standards for our products that we developing best as a team with our customers, business partners and employees. **team made** - because everything we do is a team effort. Working together as a team is the core and drive of our innovative strength.

**Active all over Europe.**  
**Secure - Robust - Reliable.**

EBG compleo charging stations have already proven themselves in daily use in Europe through many innovative features.

Today, EBG compleo offers a wide product range for the several applications in electric mobility, based on vast field experience.

EBG compleo products embody both the experience of six decades energy supply and the latest, most modern technology. For a high-energy future.

Our experience, flexibility and the innovation ability, are manifested in our products so that you, as our customer, obtain the highest standard of safety, comfort and user-friendliness.



**No compromise.**  
**No quality constraints.**

Products for energy supply must comply with the highest technical standards as well as the highest security standards. EBG compleo is a producer of quality without trade offs.

We are certified with DIN ISO EN 9001:2008 and 14001:2014.  
Our quality is noticeable to our customers from the very first contact.



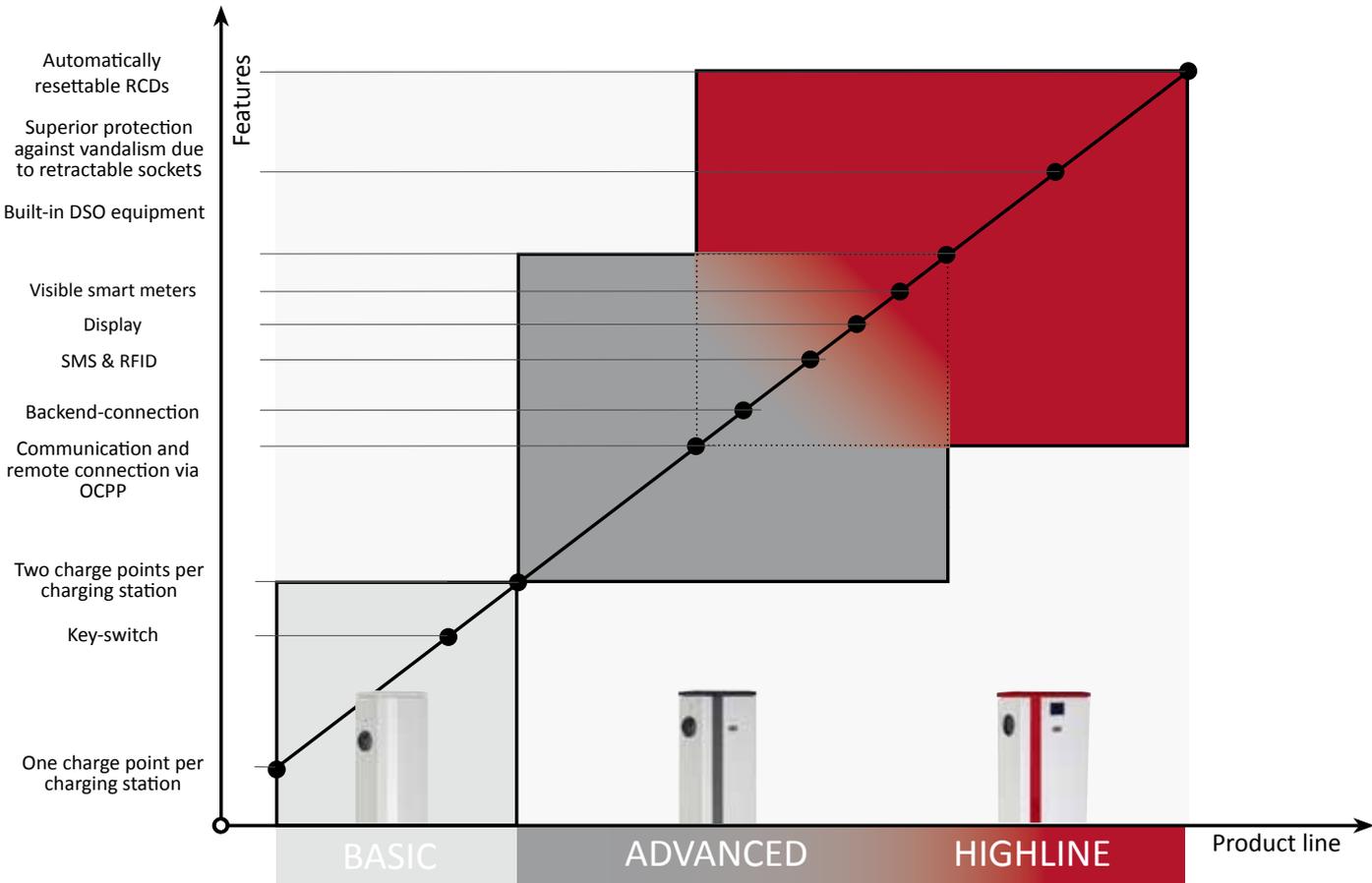
**Your requirement is priority.**  
**Charging systems to order.**

Our dynamic team with great experience, in combination with short decision processes, is able to satisfy our customers with our consulting competences.

Our customers regularly testify our competence, quick reaction time and flexibility.

**Product Line.**

**Functionalities and Application.**



**Installation variants.**

**Versatile and efficient.**

**BM Base Mounted**

Directly fixed on hard ground (concrete) or simply onto our separately available concrete base. In conjunction with our base filler, this solution is time- and cost- efficient.

**GM Ground Mounted**

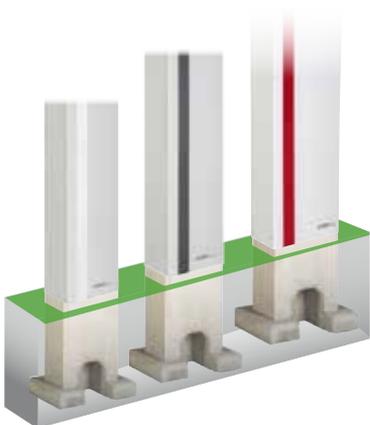
Made possible by our robust SMC casing – proven for decades and ideal for natural ground. Safe stand without foundation or concrete base

**WM Wall Mounted**

Wall-mounted charging stations are perfect solutions for private and semi-public uses such as car ports, garages and parking garages.

**FM Flush Mounted**

Elegant and inconspicuous, our flush mounted solution can be fully integrated into walls. The front plate is freely designable and with a good custom lamination nearly invisible.



**BASIC.**

**Simply charging.**





BASIC

## BASIC.

### Simply charging.

Designed for non-public areas: good, reliable, safe. The charging station Basic is the appropriate charging solution for private property e.g. your companies premises. The Basic is able to charge all current electric vehicles and plug-in hybrids with two AC charging points via mode 3 charging.

On demand, charge stations can be equipped with a RFID reader - authorization via chip or card is handled using a local whitelist within the station which is easy to set up by the customer.

The option to implement large wire cross sections as well helps to lower installation costs - the ideal solution for fleet applications with several stations in line.

As with all our charging stations, the housing is made of proven fiberglass reinforced polyester (SMC-sheet moulding compound) with superior mechanical, chemical and electrical properties designed specifically for your outdoor use. The tri-color LED status indicator and the custom-fit design with color coating, branding or screen printing smooth off the charging stations' appearance.

Our chargers are equipped with a hardware-based redundant shutdown (HRS), automatic locking before of the charging process, as well as an automatic release in case of power failure.

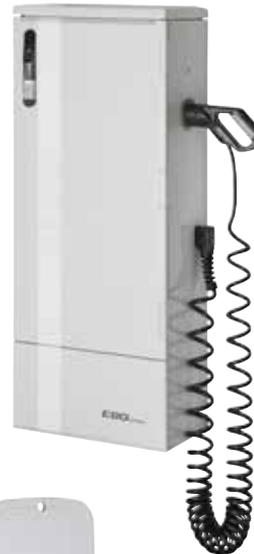
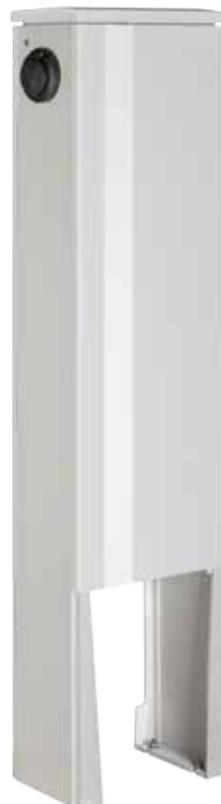
All types can also be delivered with fixed charging cables.

### BM Base Mounted

### GM Ground Mounted

### WM Wall Mounted

### FM Flush Mounted



|  |   |
|--|---|
|  | <b>AO2:</b> Type 2 socket outlet with spring loaded cover |
|  | <b>SC:</b> straight charging cable, 4m fixed              |
|  | <b>HC:</b> helical cable, 4m fixed                        |

**BASIC.**  
**Overview.**


|                                | <b>BM</b><br>Base Mounted | <b>GM</b><br>Ground Mounted | <b>WM</b><br>Wall Mounted   | <b>FM</b><br>Flush Mounted |
|--------------------------------|---------------------------|-----------------------------|-----------------------------|----------------------------|
| Charge points                  | 2                         | 2                           | 1/2                         | 1                          |
| Connection                     | AO2 SC HC                 | AO2 SC HC                   | AO2 SC HC                   | AO2                        |
| Additional Schuko outlet       | o                         | o                           | x                           | x                          |
| Power per charging point       | 3,7   11   22   1x44*     | 3,7   11   22               | 3,7   11   22               | 3,7   11                   |
| RGB-LED                        | •                         | •                           | •                           | •                          |
| Display                        | x                         | x                           | x                           | x                          |
| Key-switch                     | o                         | o                           | o                           | o                          |
| RFID-Reader (local)            | o                         | o                           | o/x                         | x                          |
| Modem GPRS  UMTS               | x                         | x                           | x                           | x                          |
| Meter (MID) per charge point   | x                         | x                           | x                           | x                          |
| Externally visible MID readers | x                         | x                           | x                           | x                          |
| RCD/MCB integrated             | •                         | •                           | x/•                         | x                          |
| Automatically resettable RCDs  | x                         | x                           | x                           | x                          |
| Conditions to VDE-AR-N 4102    | x                         | x                           | x                           | x                          |
| Backend connection OCPP        | x                         | x                           | x                           | x                          |
| Custom design Lamination       | o                         | o                           | x/o                         | x                          |
| RAL-colour varnish             | o                         | o                           | o                           | o                          |
| Concrete base                  | o                         | x                           | x                           | x                          |
| Dimension (HxWxD) mm           | 1450x310x207              | 950x310x207                 | 400x270x130<br>1000x400x220 | 570x400x220                |

• standard | x not available | o optional | \*only with connected cable SC

**ADVANCED.**  
**The Communicator.**





**ADVANCED.**

**The Communicator.**

Our bestseller for charging in semi-public areas such as to supply fleets and car parks in places where little vandalism is anticipated. Equipped with advanced communication features and safety technology.

Open for your business models: backend integration, mobile payment, sms & charge and much more.

The option to implement large wire cross sections as well helps to lower installation costs - the ideal solution for fleet applications with several stations in line.

In addition to the properties of the charging station Basic the authentication via RFID cards or mobile solutions, MID meters, visible from the outside and versions with integrated DSO equipment are just some of the impressive capabilities of the Advanced series.

Optional integration of RCD and MCB adds safety and saves on-site installation costs.

All types can also be delivered with fixed charging cables.

**BM Base Mounted**

**GM Ground Mounted**

**WM Wall Mounted**



|   |   |
|---|---|
|  | <b>A02:</b> Type 2 socket outlet with spring loaded cover |
|  | <b>SC:</b> straight charging cable, 4m fixed              |
|  | <b>HC:</b> helical cable, 4m fixed                        |



**BM**  
Base Mounted



**GM**  
Ground Mounted



**WM**  
Wall Mounted

|                                | BM                           | GM            | WM                          |
|--------------------------------|------------------------------|---------------|-----------------------------|
| Charge points                  | 2                            | 2             | 2                           |
| Connection                     | AO2 SC HC                    | AO2 SC HC     | AO2 SC HC                   |
| Additional Schuko outlet       | o                            | o             | o                           |
| Power per charging point       | 3,7   11   22                | 3,7   11   22 | 3,7   11   22               |
| RGB-LED                        | •                            | •             | •                           |
| Display                        | o                            | o             | o                           |
| Key-switch                     | x                            | x             | x                           |
| RFID-Reader                    | •                            | •             | •                           |
| Modem GPRS  UMTS               | • o                          | • o           | • o                         |
| Meter (MID) per charge point   | •                            | •             | •                           |
| Externally visible MID readers | • o                          | o             | o                           |
| RCD/MCB integrated             | • x                          | • o           | x/•                         |
| Automatically resettable RCDs  | x                            | x             | x                           |
| Conditions to VDE-AR-N 4102    | o                            | x             | x                           |
| Backend connection OCPP        | o                            | o             | o                           |
| Custom design Lamination       | o                            | o             | o                           |
| RAL-colour varnish             | o                            | o             | o                           |
| Concrete base                  | o                            | x             | x                           |
| Dimension (HxWxD) mm           | 1450x310x207<br>1450x410x207 | 950x310x207   | 700x310x220<br>1000x400x220 |

• standard | x not available | o optional

**HIGHLINE.**  
**The Highlight.**





**HIGHLIGHTLINE**

## HIGHLINE.

### The Highlight.

Highline BM is the concept for the highest standards of public charging infrastructure. Resistant to vandalism, the retractable type 2 sockets ensure maximum security and availability.

Innovative highlights such as a display for an improved user interface, automatically resettable RCDs to minimize service expenses and many other options can be implemented according to your application-specific indications.

Of course, the Highline BM also has all the functions of an Advanced BM.

The integration of RCD and MCB adds safety and saves on-site installation costs.



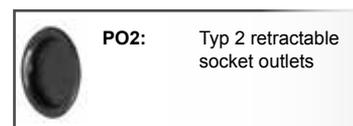
### BM Base Mounted    WM Wall Mounted



### Advantages

#### Motor driven retractable sockets.

- Resistant to vandalism
- Self-diagnostic function
- Drive force limitation
- One-hand operation
- Robust – no spring system
- High durability: >30000 cycles



**HIGHLINE.**

**Overview.**



**BM**

Base Mounted

**WM**

Wall Mounted

|                                | BM            | WM            |
|--------------------------------|---------------|---------------|
| Charge points                  | 2             | 2             |
| Connection                     | PO2           | PO2           |
| Additional Schuko outlet       | x             | x             |
| Power per charging point       | 3,7   11   22 | 3,7   11   22 |
| RGB-LED                        | x             | x             |
| Display                        | •             | •             |
| Key-switch                     | x             | x             |
| RFID-Reader                    | •             | •             |
| Modem GPRS   UMTS              | •   o         | •   o         |
| Meter (MID) per charge point   | •             | •             |
| Externally visible MID readers | •             | •             |
| RCD/MCB integrated             | •             | •             |
| Automatically resettable RCDs  | o             | o             |
| Conditions to VDE-AR-N 4102    | o             | o             |
| Backend connection OCPP        | o             | o             |
| Custom design Lamination       | o             | o             |
| RAL-colour varnish             | o             | o             |
| Concrete base                  | o             | x             |
| Dimension (HxWxD) mm           | 1450x410x207  | 950x310x207   |



• standard | x not available | o optional

## HIGHLINE IMS.

### Smart Meter Ready.

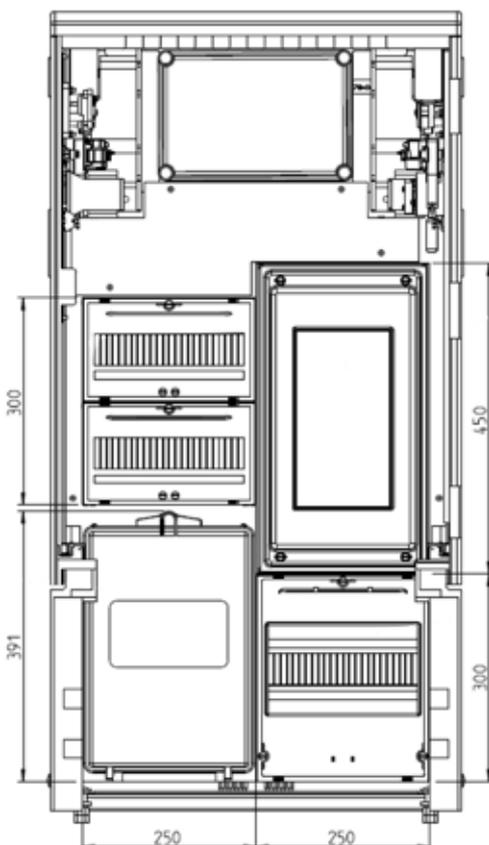
Smart Meter is on the way. The roll-out of intelligent metering and measuring systems will be presented shortly. That's why the HIGHLINE IMS was designed especially for the integration of an intelligent measuring system and meets the requirements of VDE-AR-N 4102 without exceptions.

It combines the long-standing features of our HIGHLINE series with everything necessary for the implementation of intelligent measuring systems.

The front-access solution offers optimum accessibility to the interior and offers space-saving installation in front of buildings.

The matching SMC base reduces installation work on site and can be delivered in advance, saving time and money.

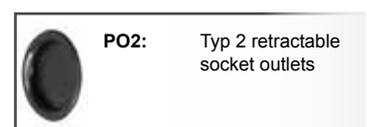
On request also available as **ADVANCED IMS!**



## The Equipment.

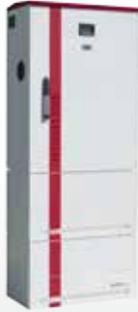
### Future-perfect.

- moveable type 2 sockets, electric motor operated
- charge station control with embedded linux
- \* smart meter for every charging point
- type B-RCDs, 40/0,03 A, on demand with automatic re-start
- SH switch 50A or 2 x 35A on demand
- counter field for 1x BKE-I or 2x BKE-I on demand
- domestic junction box KH00 type 1x3xNH00
- distance between junction box and ground level > 300 mm



**HIGHLINE IMS.**

**Overview.**



**BM**  
Base Mounted

|                                |               |
|--------------------------------|---------------|
| Charge points                  | 2             |
| Connection                     | PO2           |
| Additional Schuko outlet       | x             |
| Power per charging point       | 3,7   11   22 |
| RGB-LED                        | o             |
| Display                        | •             |
| Key-switch                     | x             |
| RFID-Reader                    | •             |
| Modem GPRS   UMTS              | •   o         |
| Meter (MID) per charge point   | •             |
| Externally visible MID readers | •             |
| RCD/MCB integrated             | •             |
| Automatically resettable RCDs  | o             |
| Conditions to VDE-AR-N 4102    | •             |
| Backend connection OCPP        | o             |
| Custom design Lamination       | o             |
| RAL-colour varnish             | o             |
| Concrete base                  | o             |
| Dimension (HxWxD) mm           | 1459x590x320  |

• standard | x not available | o optional

**CITO BM2.**

**Quick. Quiet. Strong.**



CITO



## CITO BM2.

**Quick. Quiet. Strong.**

Our CITO BM2 is based on six decades of experience in the field of energy distribution and the use of latest design and technology. It is the first 50kW DC charging station “made in Germany”. The system is built to be safe and robust and is equipped for optimal safety and high accessibility. The modular build, as well as our optimized design concept minimizes installation costs and simplifies maintenance.

The separation of user unit and power unit is highly beneficial for public spaces.



### Features.

**Light. Compact. Functional.**

**User unit:** Functional, minimalistic design.  
Safe and robust housing made of SMC

- Automatic lock of connector when not in use, unlocks upon authentication
- Illumination of connectors for safe use by customer
- Authentication via RFID or mobile
- Display (4 lines) for status prompt
- Two-colour LED status prompt for each charging point
- Integrated protection devices:
  - DC charging point: 1xMCB 100 B characteristic
  - AC charging point: 1xRCD type B and 1x MCB C characteristic
- Communication TCP/IP based: OCPP via modem or Ethernet
- Both units are separately handleable: lower replacement costs in case of damages of the user unit
- Ready to install on SMC-base (no concrete foundation necessary)
- Weight: 85kg

**Power unit:** Inconspicuous, safe and robust housing made of SMC

- Installation up to 20m distance to user unit possible
- Optional integration of power electronics
- Depending on grid operator, extension with DSO equipment possible
- Air-cooled system with optimized noise properties (<45dB)
- Ready to install on SMC-base (no concrete foundation necessary)
- Weight: 215kg (without DSO equipment)



**C2**

CCS-Plug,  
straight cable, 4m

**CH**

CHAdeMO-Plug,  
straight cable, 4m

**SC**

Type 2-Plug,  
straight cable, 4m



**CITO BM2.**

**Overview.**



Power unit



**CCS**  
Base Mounted



**2in1**  
Base Mounted



**3in1**  
Base Mounted

|                                 |                 |                 |                 |
|---------------------------------|-----------------|-----------------|-----------------|
| Charge points                   | 1               | 2               | 2               |
| Connection                      | C2 <sup>1</sup> | C2/CH   SC      | C2+CH   SC      |
| Power per charging point        | 37,5/50         | 37,5/50   22/43 | 37,5/50   22/43 |
| Near field illumination         | •               | •               | •               |
| RGB Status-LED integrated       | •               | •               | •               |
| Display                         | •               | •               | •               |
| Key-switch                      | x               | x               | x               |
| RFID-Reader                     | •               | •               | •               |
| Modem GPRS   UMTS               | •   o           | •   o           | •   o           |
| Meter (MID) per AC charge point | •               | •               | •               |
| Externally visible MID readers  | x               | x               | x               |
| RCD/MCB integrated              | •               | •               | •               |
| Automatically resettable RCDs   | x               | x               | x               |
| Conditions to VDE-AR-N 4102*    | o               | o               | o               |
| Backend connection OCPP         | •               | •               | •               |
| Custom design Lamination        | o               | o               | o               |
| RAL-colour varnish              | o               | o               | o               |
| SMC base                        | o               | o               | o               |
| Dimensions User unit (HxBxT)    | 460x1530x330    | 460x1530x330    | 460x1530x330    |
| Dimensions Power unit (HxBxT)   | 1115x1210x330   | 1115x1210x330   | 1115x1210x330   |

• standard | x not available | o optional | <sup>1</sup> CHAdeMO versions on request

## CITO BM & WM.

### The compact ones.

The CITO series BM 240 is designed as a single compact unit. It offers all the technical features of the BM2 500 with an output of 24kW DC and 11/22kW AC - ideal for locations where a higher output is not economical but where fast-charging should be possible nevertheless. The integration of the power supply makes further installation unnecessary - this saves money and has a positive effect on the appearance of the environment, too.

The CITO WM 240 is the smallest charging station of the series and was designed as a wallbox with a DC charging point - perfect for semi-public areas such as car dealerships or visitor parking. Of course it is equipped with the communication technology necessary for back-end systems and authorization per RFID readers.

## Product Features.

### Cito BM 240:

- safe and robust housing made of SMC
- automatic locking of charging plug when not in use, unlocking only after authorization
- plug illumination for more user safety and comfort
- authorization per RFID or mobile communications
- four-line status display
- two-colour LED status display for each chargepoint
- included safety technology:
  - DC chargepoint 1 x MCB 100 B characteristics
  - AC chargepoint 1 x RCD type B and 1 x MCB C characteristics
- communication based on TCP/IP: OCPP via modem or ethernet
- mounting on ready-made SMC plinth (no concrete base necessary)
- weight: 135 kg



### Cito WM 240:

- compact and safe housing
- user-friendly status display
- individual housing design: foiling of the complete front on high-end acrylic glass
- air-cooled system with optimized noise properties (< 45dB)
- simple mounting due to supplied wall frame
- weight: 75 kg



#### C2

CCS-Plug,  
straight cable, 4m

#### CH

CHAdeMO-Plug,  
straight cable, 4m

#### SC

Type 2-Plug,  
straight cable, 4m



**CITO BM & WM.**

**Overview.**



**BM 240**  
Base Mounted



**WM 240**  
Wall Mounted

|                                 | BM 240       | WM 240      |
|---------------------------------|--------------|-------------|
| Charge points                   | 2            | 1           |
| Connection                      | C2+CH   SC   | C2/CH       |
| Power per charging point        | 24   11/22   | 24          |
| Near field illumination         | •            | x           |
| RGB Status-LED integrated       | •            | •           |
| Display                         | •            | •           |
| Key-switch                      | x            | x           |
| RFID-Reader                     | •            | •           |
| Modem GPRS   UMTS               | •   o        | •   x       |
| Meter (MID) per AC charge point | •            | x           |
| Externally visible MID readers  | x            | x           |
| RCD/MCB integrated              | •            | •           |
| Automatically resettable RCDs   | x            | x           |
| Conditions to VDE-AR-N 4102*    | •            | x           |
| Backend connection OCPP         | •            | •           |
| Custom design Lamination        | o            | o           |
| RAL-colour varnish              | o            | o           |
| SMC base                        | o            | x           |
| Dimensions (HxBxT) mm           | 1820x640x785 | 788x468x300 |

• standard | x not available | o optional | <sup>1</sup> CHAdeMO versions on request



## Third-Level-Support.

### The fast way to reach our experts.

Our hotline is always there for you - our experts will respond to your technical questions anytime.

With direct access to all necessary systems, our service&operations team is able to solve problems per remote support or will quickly assign a technician visit to your site.

Our ticket system enables you to comfortably keep track of the current status - of course we will inform you as soon as the mission is successfully completed.

## We Take Care.

### For a reliable infrastructure.

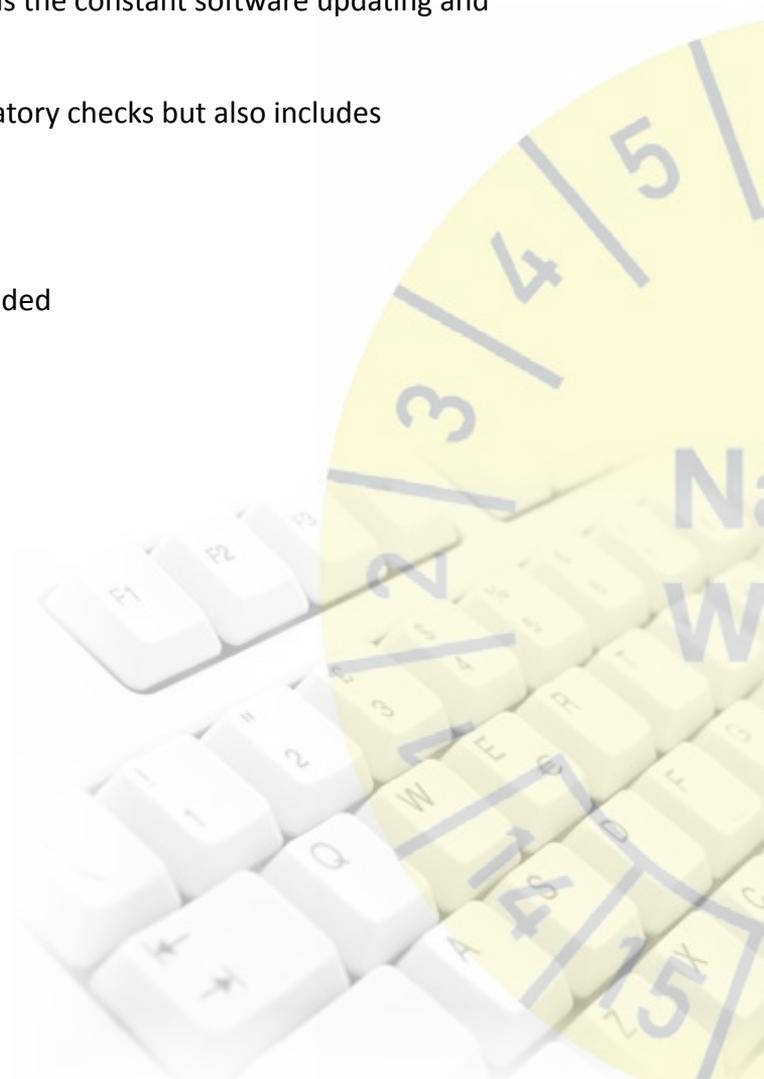
The foundation of a safe and reliable charging infrastructure is the constant software updating and hardware check-up on site.

Our check-up service does not only contain the legally mandatory checks but also includes

- visual exterior check for damage or faults
- cleaning of housing, sockets and socket lids
- checking the display for mechanical damage
- visual check of interior for damages or faults, cleaning included
- humidity check
- check-up of electrical components
- check-up of PWM signal
- simulation of charging process, diagnosis
- check-up of circuit breaker, functional test
- replacement of wear parts
- DGUV A3
- documentation

We will also offer individual maintenance modules and options of a warranty extension.

Please contact us!

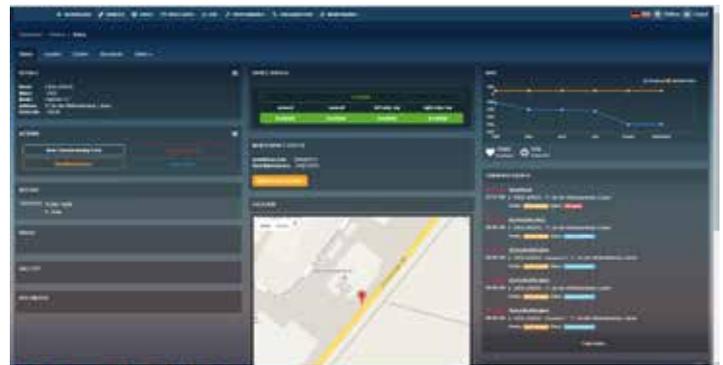
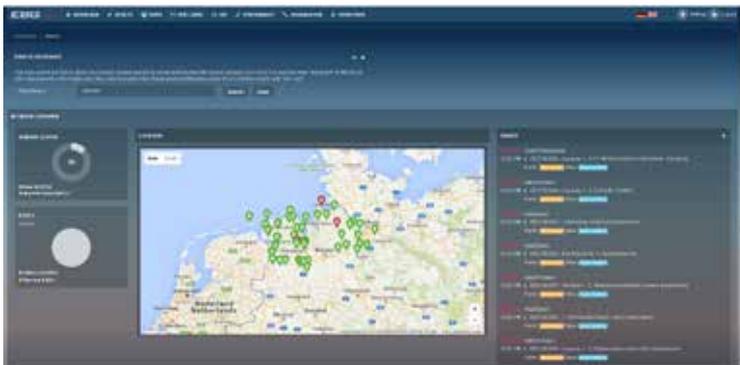


## The Control Bridge. EBG Backend System.

We are a full-range supplier of charging infrastructure solutions. This includes not only reliable hardware, but also innovative and application-specific monitoring and control-software for smooth operation and integration into your system landscape.

The backend system offers a permanent overview of the use and availability of your charging infrastructure and it gives you the ability to control them.

Status display of all charging stations, remote maintenance and diagnostics, firmware updates, notification system, as well as various evaluation and data export options are just some of the many functions of the EBG compleo backend system.



Ranging from our attractive starter-pack to our all inclusive professional package, we will have a solution for your specific needs. All charging stations from the ADVANCED-, HIGHLINE- and CITO- family are also capable of being integrated into other existing Backed systems via OCCP.



### Overview

- Number of charging stations
- Type of charging stations
- Locations



### Status

- Vacant / In Use
- Online / Offline
- Ready for operation / Fault



### Alerting

- Automatic e-mail notification in case of failure
- Multiple addresses possible
- Escalation increments



### Authorization

- Adding valid user IDs
- Removal of user IDs
- Specify validity period



### Remote Control

- Start / stop a charging operation
- Unlocking the plug
- Charging station reset
- Download diagnostic file
- Firmware updates



### Statistics

- Per user ID
- Per charging station
- Data export options



### Interfaces

- Roaming platforms
- Billing platforms
- In-House smartphone app

## SMC-casing.

### Excellent properties.

Fiberglass reinforced SMC is an excellent material: lightweight, durable, shock resistant, weather resistant, self extinguishing, resistant to creeping currents. These are the reasons why we press this plastic into high-end casings, in which all our products are enclosed. This makes them temperature resistant and protects them from physical challenges such as vandalism.

The robust construction grants high rupture resistance and due to the labyrinth-vents optimal protection from condensation. This makes it a perfect enclosure, especially for the outdoors.

### Innovation

- arbitrary placement of GPRS/UMTS modem
- RFID reader succinct with surface of enclosure
- arbitrary placement of remotely readable meters

### Environment

- no corrosion
- recyclable material
- 54% less CO2 emission during production in perspective to steel

### Sustainability

- labyrinth ventilation
- long life i.a. due to lack of rubber gasket
- impact resistant

### Efficiency

- established technology
- standardized production procedure
- thousand fold in use with PSCs and OEMs

### Safety

- full isolation
- creep current resistant
- self extinguishing
- resistant to vandalism
- poke-proof ventilation
- anti graffiti varnish possible

### Installation

- low weight (<50% in respect to comparable charging stations mate of metal)
- easy access to electrical components
- low condensation



## The robust lightweight.

### For a sustainable infrastructure.

Electric mobility, viewed as a whole, means sustainable product innovations from all participants in and around the electric vehicles. This includes the use of regenerative energy, as well as the deployment of environment friendly resources to actively reduce pollution load.

Lightweight charging stations in SMC enclosures simplify on-site installation and save over 100 kg CO2 per produced and delivered unit, compared to charging stations made of sheet metal, steel or stainless steel. This is comparable to a 1000 km trip with a small car of the newest emission class.



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