

THINK OUTSIDE THE WALL Box



Light +
Charge



**MODULAR.RETROFITTABLE
CALIBRATED
FUTURE-PROOF**

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From light to charging

Hybrid solutions Made in Bamberg

The future of mobility is changing, and RZB ENERGY is actively shaping it with elegant 2-in-1-combinations.

Robust products that have proven themselves for decades in wind and weather as pure outdoor lighting have been supplemented with the latest in charging technology.

The result is architecturally superior charging options, with and without light, for EVs.



Lighting and charging stations with added value

- ⊕ Modular design.
- ⊕ No separate collision protection required.
- ⊕ Tested and certified conformity with calibration law - also in a charging network.
- ⊕ ChargerReady - retrofittable charging containers.
- ⊕ Sustainable and easy to maintain thanks to replaceable components.
- ⊕ 360° service - comprehensive services from our RZB ENERGY experts.

Making E-Mobility easy

Everything from a single source



Electromobility that works

With us, you not only get the product, but also the right software for smooth billing and comprehensive support after project completion. Start now with RZB ENERGY into an electrified future!

Comprehensive service for maximum satisfaction

Our charging stations are characterised by their ease of maintenance and service orientation. Thanks to their modular design and interchangeable components, our systems contribute to a high level of sustainability and are quick and easy to maintain. However, should support be required, our qualified service team is always on hand to help you quickly and reliably. In this way, we guarantee maximum operational reliability and long-term satisfaction.



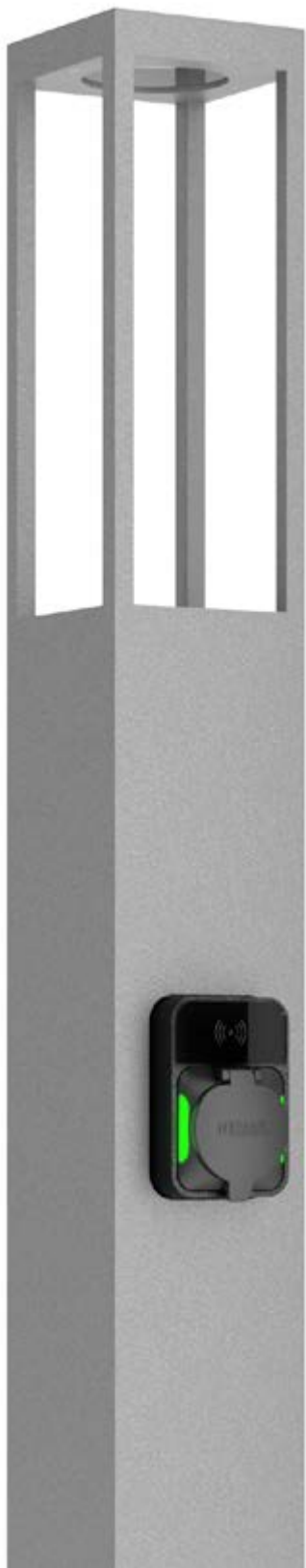
Our add-on! Comprehensive (lighting) solutions from a single source - Our portfolio offers you everything you need for an optimum concept - from standardised light to professional lighting planning. This means we can guarantee you customised solutions that meet the highest standards and perfectly fulfil your requirements.

Our service promise: We'll take care of it!

Planning, commissioning, service, maintenance - all from a single source.

As your reliable partner, we offer a service that leaves nothing to be desired. From the initial consultation and planning through to installation and maintenance - our aim is to provide a suitable solution that is precisely tailored to your needs.

With us, you are in expert hands: You can concentrate on the essentials - we take care of the details.



We do it: 360° service package

- **Optimal preparation**
Our experienced sales team and, if required, selected partners will be on hand to advise you on all the necessary measures for the charging infrastructure.
- **Customised product selection**
Charging container with post, light top unit or pipe end, matching floor attachment - the choice is yours!
- **Intelligent backend solutions**
We support you in choosing the optimum backend system, which we set up/programme according to your requirements: For efficient management of your charging processes.
- **Professional electrification**
Your specialist electrical partner will take care of the professional electrification of the charging station.
- **Fast commissioning**
We take care of commissioning your charging station for the fastest possible start.
- **Reliable maintenance**
Annual maintenance by our qualified service team is included.
- **Extended warranty**
On request, we can offer you an extended warranty.
- **Binding promise**
If things go wrong, we will be at your premises at short notice for a repair.



RZB ENERGY - for extra (service) performance





Feel free to ask for our advice.

The plus

in light and charging



Bollard systems

	LUPALO	BOCARO
Cross section	180	156
Height	1150 1400	1150 1570
Charge points	1 2	1 2
Lighting	 	 
Retrofit system	✓	✓





PRODUCT OVERVIEW

 **reddot winner 2023**
urban design



Column systems

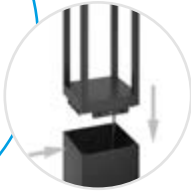
Natural stone column

LUPALO	BOCARO	EMILIARIUM	Charging container
180	156	200	180 x 124
5000	5000	1300 1650	897
1 2	1 2	1 2	1 2
			
✓	✓	-	✓

The plus of installation

There's a lot of sense in that - or in the case of RZB ENERGY: light top unit and stainless steel base. The former can be fitted in a few simple steps, while the latter provides the necessary grip.

FEATURES BOCARO



The sealed light top unit can be replaced quickly and safely as a complete module in case of maintenance.



Extremely high stability: The stainless steel base and integrated pillars in the profile cross-section provide **collision protection in accordance with IEC/TS 61439-7**, additional crash protection is not required for the charging stations. Slotted holes in the base simplify the subsequent alignment of the luminaire (bollards).

FEATURES LUPALO



The sealed light top unit can be replaced quickly and safely as a complete module using a bayonet catch in the event of maintenance.



Extremely high stability: The stainless steel base and integrated pillars in the profile cross-section provide **collision protection in accordance with IEC/TS 61439-7**, additional crash protection is not required for the charging stations. Slotted holes in the base simplify the subsequent alignment of the luminaire, especially with asymmetrically wide light distribution along a path (bollards).

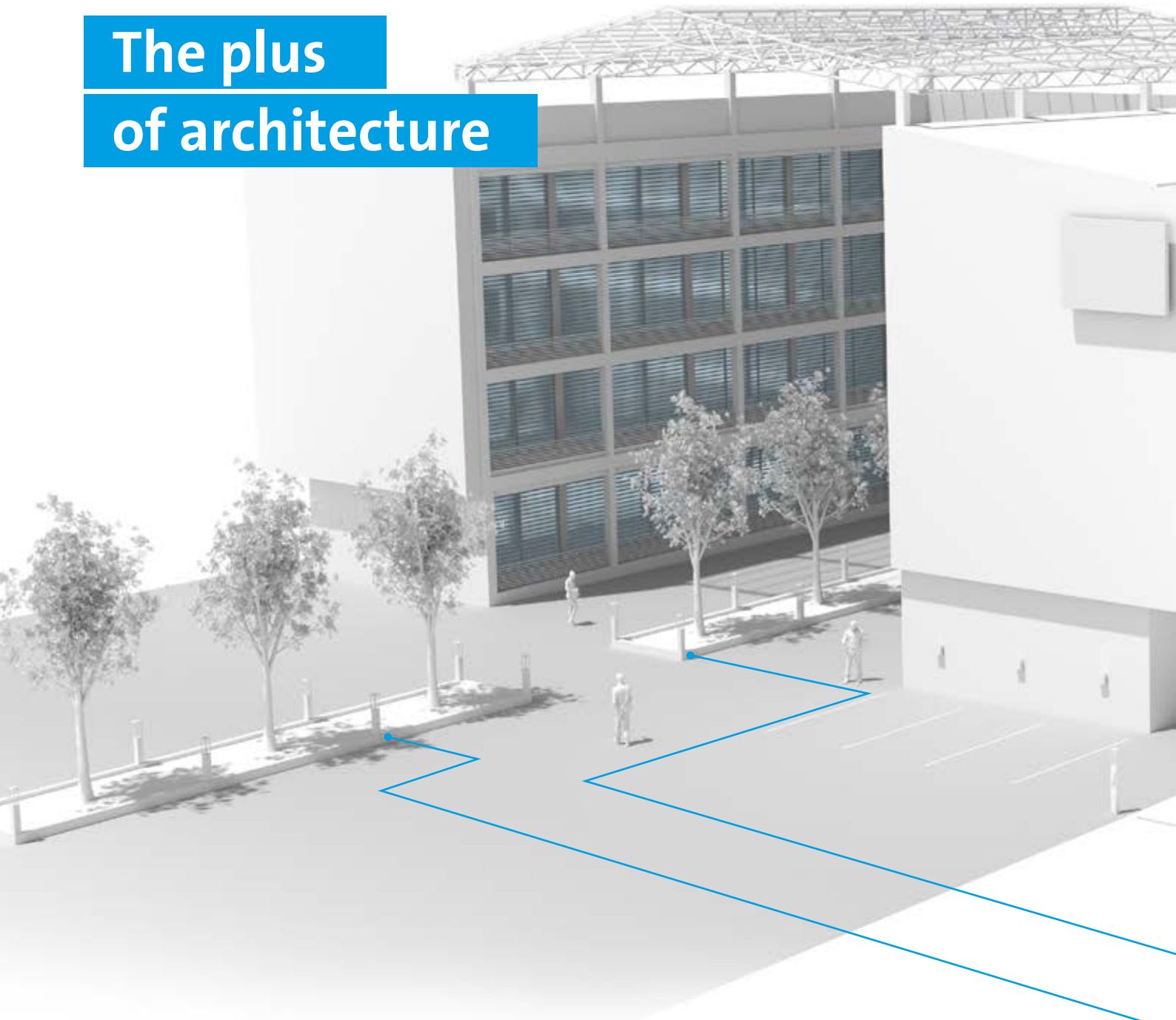
Light? Charge? Or both? Anything is possible!

The modular design of our charging stations gives you the choice.

Different light, charging as well as post tube variants can be combined as required.



The plus of architecture

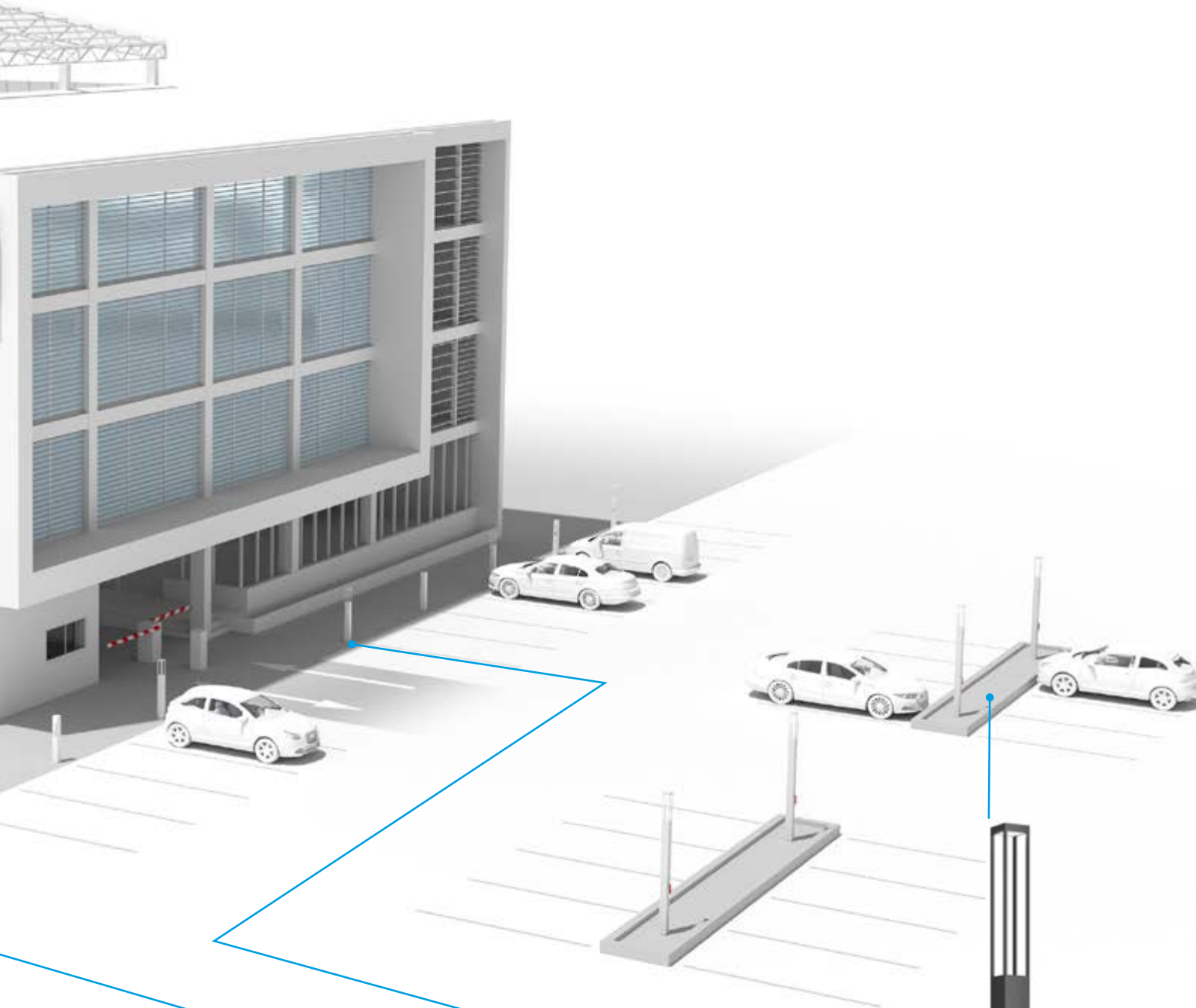


Light and charging solutions in the architectural overall concept

With RZB ENERGY, the appearance of car parks and inner-city areas can be optimally designed from an architectural point of view. What's more, instead of multiple works by different trades, a single channel can be used for the installation of the light and charging pole - in a single work step. With regard to the requirements of EU Directive 2018/844 (Energy Performance Buildings Directive), the basic installation can already be prepared with our retrofit systems.

- 2 in 1 concept, therefore no additional urban furniture required.
- Sturdy and durable materials.
- **Integrated collision protection in accordance with IEC/TS 61439-7**, an additional crash protection is not required for the charging stations.

2-IN-1 OVERALL CONCEPT



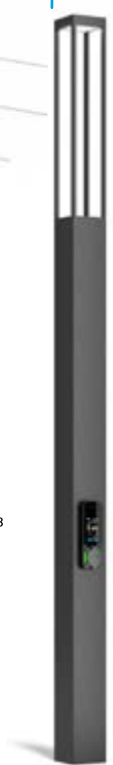
Retrofit system
BOCARO



Luminaire
BOCARO



Luminaire and charging bollard
BOCARO



Luminaire and charging column
BOCARO

The image shows two sleek, black, cylindrical charging stations standing on a paved sidewalk. Each station has a glowing light at the top and a charging port with a green indicator light. The background features a modern building with large windows and a clear sky, suggesting an urban or commercial environment.


The plus

in charging technology

Modern charging technologies enable electric vehicles to be charged quickly and efficiently and at the same time promote sustainable mobility.

- Charging power up to 22 kW per charge point.
- Charging station with 1 or 2 charging points.
- Control in a charging network with up to 12 charge points.
- For all electric vehicles with IEC 62196 type-2-plug.
- Overload protection.
- Solar-ready interface for charging current from PV plants.
- Charging solutions compliant with calibration regulations.

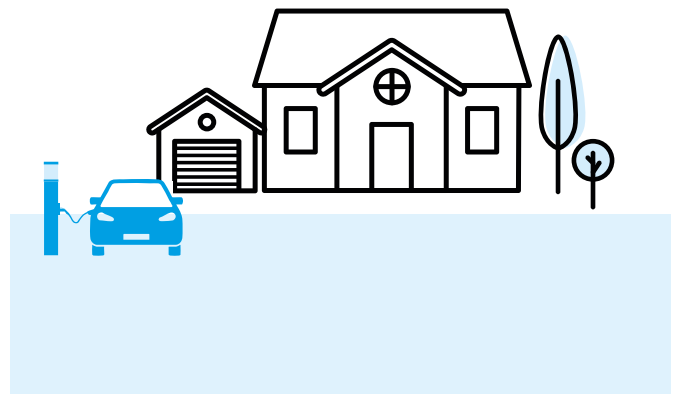
CHARGING TECHNOLOGY

	BASIC	SMART	PRO
Solution for the area	private	semi-public	public
Charging power per charge point	11 kW	22 kW	22 kW
RFID card reader	✓	✓	✓
Display			✓
DC-Error detection	✓	✓	✓
Load contactor	✓	✓	✓
Load management	✓	✓	✓
Master-slave system	✓	✓	✓
LAN interface	✓	✓	✓
OCPP interface	✓	✓	✓
Solar-ready interface	✓	✓	✓
App control (via backend)	✓	✓	✓
FI circuit breaker type A/LS		✓	✓
MID/ME meter		✓	✓
Surge protection			✓
Mobile connection			✓
CALIBRATED 			✓

THE RZB COMPLETE SOLUTION WITH BACKEND

Support	✓	✓	✓
User management	✓	✓	✓
App + Online portal	✓	✓	✓
Fleet management		✓	✓
Transaction review		✓	✓
Reservation function		✓	✓
Roaming		✓	✓
Ad-Hoc charging		✓	✓

**For every need
the right solution**



BASIC For the private sector.

These charging stations are located on private property and are only accessible to a limited and defined group of people.

Are you looking for a charging solution for your electric car in the private sector?

We offer the ideal solution if you want to charge your vehicle quickly and easily, use solar energy or are looking for a charging station with access protection. We make your entry into electromobility simple and uncomplicated. So you can start full of energy at any time.

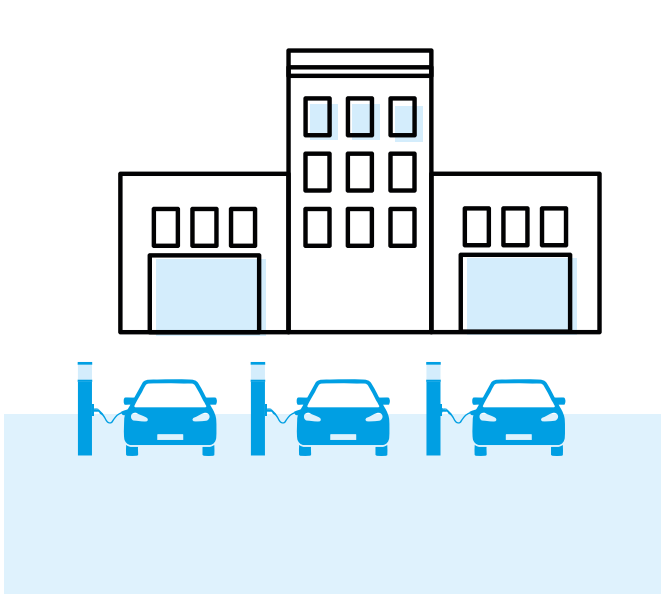
→ **Private**

→ **End customers**

Modern technology paired with practical functionality in a unique 2-in-1 concept - these are our innovative charging stations made in Germany. The combination of charging infrastructure and integrated lighting ensures safety in your surroundings and is an efficient solution for private, semi-public and public areas.

Discover the future of electromobility with our charging solutions - perfectly tailored to your individual needs. Whether stand-alone charging stations or fully networked systems, we offer a customised solution for your requirements.

CHARGING SOLUTIONS



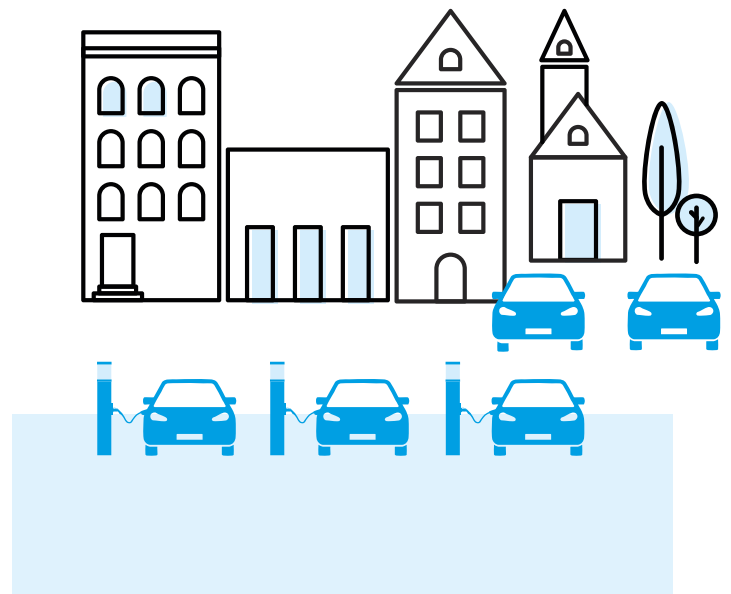
SMART

For semi-public applications.

These charging stations are also located on private property, e.g. company car parks. However, these are only accessible to certain user groups.

No matter whether you run a hotel, an office building or another company: Installing charging stations in your car parks offers you numerous advantages. A charging infrastructure is now a decisive booking criterion for hotel owners. Offer your guests a convenient way to charge their electric car overnight and increase the attractiveness of your hotel. A charging infrastructure is also a valuable asset for companies: you increase the satisfaction of your customers and employees and make an active contribution to green mobility. Thanks to their compatibility with various backend systems, our charging solutions enable uncomplicated, transparent and, above all, secure billing of charging processes.

- Commercial
- The company
- Property industry/Major landlords
- Hotel industry
- Fleet operators



PRO

For public sector applications.

Public charging stations are completely free accessible, i.e. anyone can charge their vehicle there at any time.

Charging where cars park - a forward-looking solution for cities and energy suppliers! Public spaces in particular offer great opportunities to shape the mobility of the future in a sustainable way. With lighting and charging systems that blend harmoniously into the cityscape and are available at various locations, city centres not only contribute to a better environment, but also enable energy suppliers to attract new customers. A well-developed charging infrastructure is crucial for reliable mobility with electric drives. Whether as a single charging point or networked as a charging network - there are numerous ways to successfully implement and economically operate electromobility. Rely on innovative lighting and charging systems and benefit from the advantages of a future-proof infrastructure!

- Public
- Cities and municipalities

Calibration compliant charging solutions



© Linus Lintner

When are calibration-compliant charging solutions required?

If charging processes are to be measured to the exact kilowatt hour and billed on this basis, a calibrated charging solution is required in public spaces and in many semi-public scenarios.

The high requirements and standards resulting from the German Measurement and Verification Act (MessEG) and the German Measurement and Verification Ordinance (MessEV) serve to protect consumers and are intended to ensure that the billing of charged energy is reliable and traceable.

At a glance

Technical requirements

- Tamper-proof recording and billing of charging processes.
- Meter data must be displayed at the charging point.
- Each data record must contain the following information: the measured values, the time stamp, the identification of the charging device (public key) and the identification of the user (user ID).
- Data must be stored in a tamper-proof manner, digitally signed and verifiable at all times.



For a transparent and safe charging infrastructure

RZB is a member of S.A.F.E. e.V. (Software Alliance for E-mobility), an association of charging infrastructure companies that strives for a standardised solution to fulfil the legal calibration requirements in Germany. At the centre is transparency software that checks the accuracy of the recorded charging data and prevents manipulation by third parties.

Our certification - your advantage!

We are certified according to Module B and Module D. That's good for us and even better for you, because:

- With these certifications, we guarantee that our charging stations meet the technical specifications for charging solutions that comply with all calibration requirements and can be operated in a legally compliant manner.
- You save time and effort, as the factory tests and the end-of-line test eliminate the need for additional appointments with the verification office.



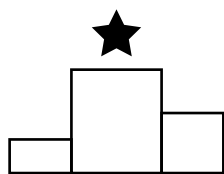
Legal certainty

Certification in accordance with Module B and Module D ensures that our charging solutions meet the applicable standardised requirements. This means that they can also be used for chargeable charging processes.



Trust in quality

You can rely on us as a certified manufacturer with the highest quality standards for ourselves and our development partners.



Competitive advantage

If the worst comes to the worst, a quick repair and rapid recommissioning of the charging station is possible - thanks to Module D certification, without the need for a calibration office.



Long-term cost savings

By guaranteeing the highest quality, costs for repairs are reduced in the long term. If, contrary to expectations, damage should occur, individual components of our solutions can be replaced at to save costs.



What is an end-of-line test? A test procedure (EOL test) carried out at the end of the production line to ensure that a manufactured product fulfils the defined quality standards as well as the specified functions and performance.

Compliant with calibration also in the charging network



Efficient and cost-saving charging solutions

With the RZB ENERGY solutions, a master-slave charging network with up to 12 charging points, which is compliant with calibration law, can be realised, in which only one charging column with display is required.

This allows projects to be realised in a needs-based and cost-saving manner.

Tested and certified - also in the charging network



Products that comply with calibration requirements
are available in the PRO version.

As charging stations with meters that comply with calibration law, our charging bollards and charging stations **BOCARO** and **LUPALO**, as well as the **EMILIARIUM** stone charging station fulfil all the requirements for legally compliant billing.



© RZB

What is required for a charging station that complies with calibration and how do we implement these requirements?

Requirements	Realisation by RZB
Conformity assessed Measuring system	Passed Module B certificate. Additional Module D certificate for the performance of relevant final inspections and the application of manufacturer's seals.
Display of the meter reading at the charging station	Display Display the meter readings of up to 12 charging points (in the charging network) on just one display.
Display of the public key	Display Display of the public keys of up to 12 charging points (in the charging network) on just one display.
Facility for creating a digital signature	Signable energy meter.
Encrypted data transmission, interface for reading out the data	Energy meter, Phoenix Contact Software and S.A.F.E. Transparency software.
Display of meteorologically relevant data	Unique type plate.
Presentation of manufacturer information relevant to calibration requirements	Contents of the type plate.

Intelligent control of charging currents

Planning and implementing an efficient and reliable charging infrastructure for companies, property owners and fleet operators requires a well thought-out concept.

Not only the selection of suitable hardware is crucial, but also the professional and intelligent control of energy flows and the possibility of connection and integration into an energy management system matter. Charging and load management is therefore essential for a well-planned charging infrastructure.

Charging and load management. What is that?

The available charging current is optimally distributed between the active charging points to avoid overloading the power grid.

There are basically two types:

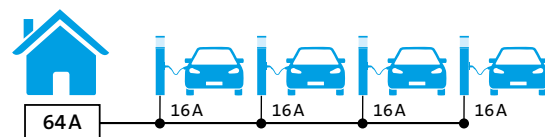
- **Static load management**
- **Dynamic load management**

Advantages

- Increased efficiency through optimal utilisation of the charging infrastructure.
- Cost reduction through reduction of peak loads.
- Scalability for the development of charging parks.
- Avoidance of grid connection extensions.
- Possibility of integrating renewable energies.

Static load management

With static load management, a constant amount of electricity is allocated to the charging park. This is distributed to all consumers in the charging park, thus preventing the target from being exceeded and expensive peak loads from being reached.



Low technical effort: Static load management requires less technical infrastructure and software, which can reduce implementation and maintenance costs.

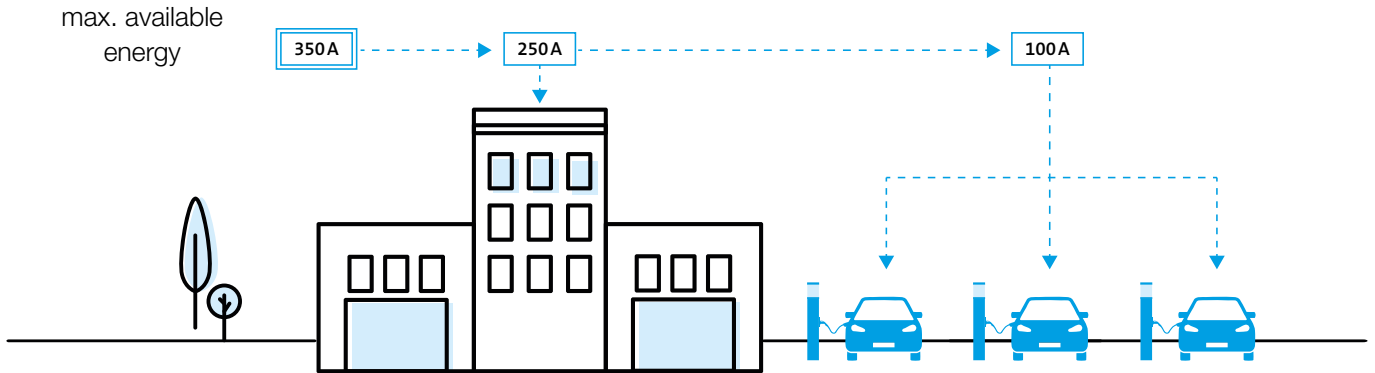
Stability: The fixed charging capacity ensures that the load is evenly distributed throughout the day, resulting in a stable system load.

Predictable costs: As the charging capacity is fixed, companies and operators can better plan and calculate energy costs.



The RZB ENERGY charging solutions are designed for static and dynamic load management thanks to the Phoenix Contact charging controller.

CHARGING AND LOAD MANAGEMENT

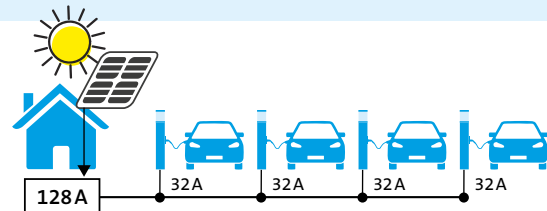
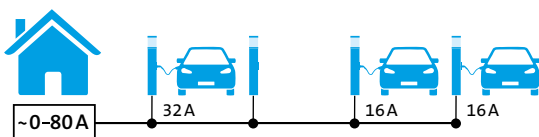


Dynamic load management

Dynamic load management is also based on a predefined maximum value of available electricity. The actual quantity arriving at the charging park is constantly remeasured at very short intervals by a charging controller and then distributed to the consumers in the charging park. This means that the property's electricity is always optimally utilised and expensive peak loads are avoided.

Higher-level load management via HEMS

If parameters such as PV surplus charging are to be implemented in the charging strategy, it is necessary to integrate the charging park into a higher-level home energy management system (HEMS for short).



Avoidance of overloads: By dynamically adjusting the charging power, the mains connection is not overloaded, resulting in a more stable power supply.

Optimum utilisation of net capacity: The available power is distributed efficiently so that all charging points can be used simultaneously without causing bottlenecks.

Cost savings: Costly peak loads are avoided, which has a positive effect on the electricity bill.

Optimisation of energy consumption: The intelligent control system adjusts energy consumption in real time, resulting in more efficient use of the available energy.

Integration of renewable energies: The system can utilise surplus energy from photovoltaic systems or other renewable sources to charge electric vehicles.

Is your building ChargerReady?

Energy Performance Buildings Directive

The smart preparation of your charging infrastructure with flexible retrofitting options from RZB ENERGY!

In today's world, it is crucial that companies and cities respond proactively to the demands of the future.

With our innovative system of empty conduits, which are already prepared to accommodate charging technology, you are taking an important step towards a sustainable and future-proof infrastructure.

As a property owner, you benefit from the flexibility offered by this concept. They not only create an appealing and functional environment but also meet the country-specific requirements arising from EU Directive 2018/844. By preparing the infrastructure now, you are ideally equipped to respond to the increasing demand for charging infrastructure when it becomes necessary in the future.

Energy Performance Buildings Directive (EPBD)

EU Directive 2018/844 defines the basis for the rapid deployment and expansion of cabling and charging infrastructure for electric mobility in new and existing buildings. All EU countries are translating these guidelines into their country-specific laws and regulations with the aim of accelerating the expansion of the necessary infrastructure and thus increasing the attractiveness of electric vehicles.

With RZB ENERGY, you can rely on a sustainable & flexibly retrofittable charging infrastructure:

- **Install bollard now:**
Retrofit charging technology later as required.
- **No double effort!**
Well thought planning avoids new earthworks.
- **Plannable light:**
Bollards with light top unit already provide lighting.
- **Modular retrofitting:**
As soon as demand increases, the charging technology is simply added.

Important for owners & investors:

- Increase in property value through prepared charging infrastructure.
- Electromobility is becoming the standard: charging infrastructure increases attractiveness for tenants and buyers.

ENERGY PERFORMANCE BUILDINGS DIRECTIVE

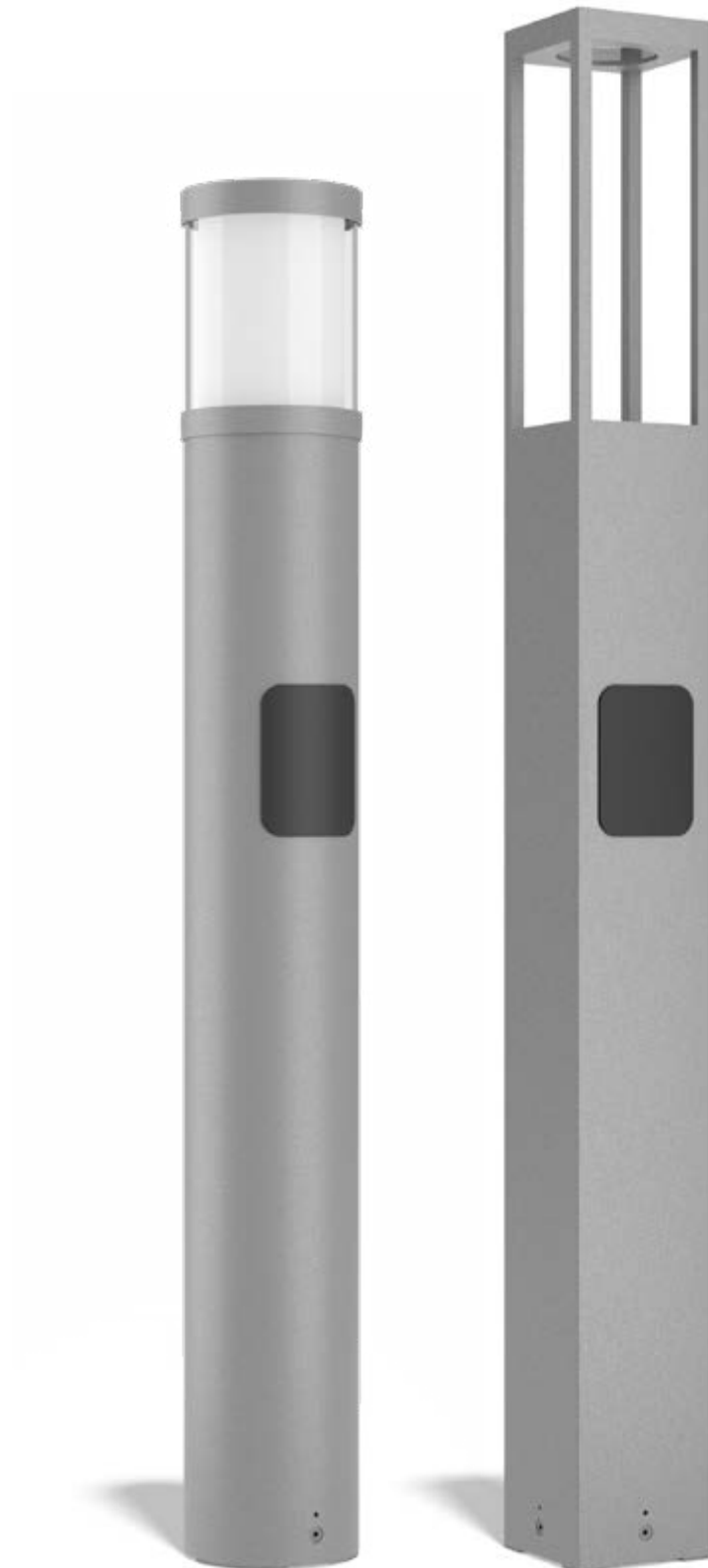
For sustainable and innovative mobility!

Discover our retrofit systems now.



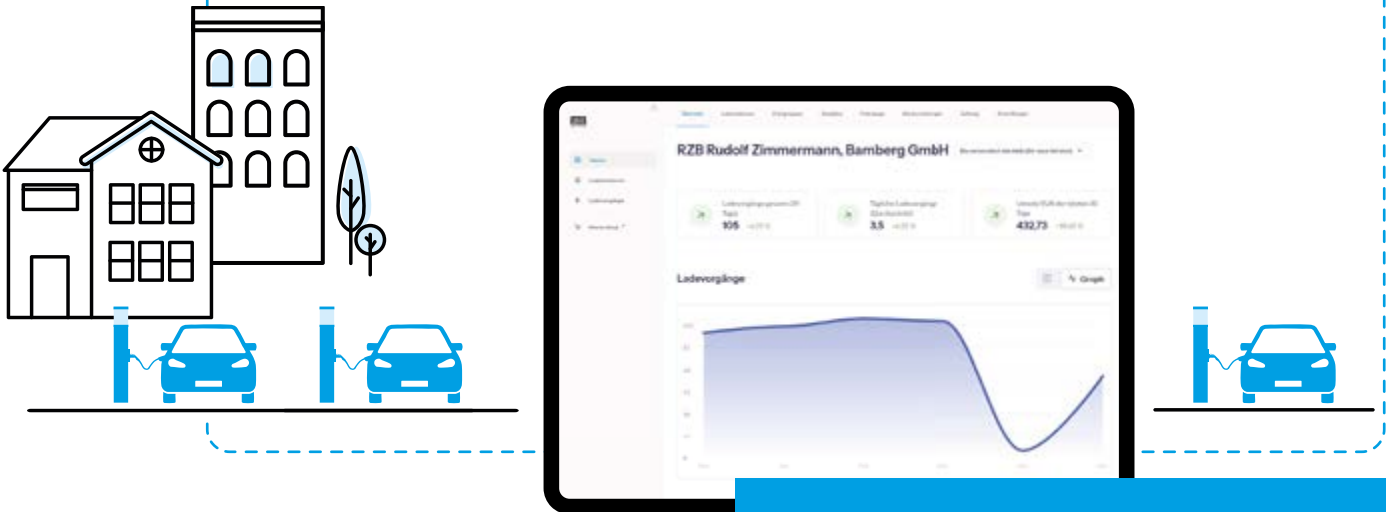
Ideally equipped for the future.

Retrofit systems Page 44 - 50



Backend-System

Made by RZB ENERGY



What is a Backend?

A backend is used for data processing as part of a software application.

It consists of different levels, e.g. a database, the business logic and an integration level, and is designed for scalability, security, performance and reliability.

At a charging station, the backend enables the automation of many processes as well as the control and management of the charging infrastructure and payment transactions.

Advantages of a backend

The backend connection of the charging station is a basic requirement for simple management of the charging infrastructure. Monitoring, user management, remote maintenance for fast problem solving and simple, legally compliant cost accounting can all be controlled and managed centrally.

- **Monitoring:** The backend provides a real-time overview of the status of the charging points, enables to monitor and control the charging processes and helps to quickly identify faults.
- **User management:** It enables easy activation of the charging station for different user groups, including third-party users through roaming.
- **Remote maintenance:** In the event of problems, the operator or technician can access the system remotely to find solutions quickly.



Compatible backend systems: RZB ENERGY charging stations can be connected to a variety of backend systems via OCPP. We work together with selected partners and can therefore offer you suitable and future-proof complete e-mobility solutions for every application. Further information can be found on our website.

The complete solution from and with RZB ENERGY

The trouble free way to your own charging infrastructure with billing system - with our backend solution.

Getting started with your own charging infrastructure is now easier than ever! Imagine purchasing a charging station and receiving all the necessary components such as software, monitoring, operation and billing at the same time.

We offer a comprehensive solution: from selecting the charging station, planning and commissioning to billing and services - everything from a single source and "ready to charge".

Best of all, the entire process is extremely straightforward for you. After a digital onboarding, we take care of the complete processing and invoicing.

Install, onboard, and charge – get started with electric mobility in a relaxed manner with our solution.

Our backend solution includes:

- Unlimited number of team members
- Portal
- Dashboard
- Transaction overview
- Smart-Queue
- Load management
- Extended team functions
- Pay with Team Wallet
- Team charge cards
- Pay by invoice
- Subsidised charging station
- Roaming
- Public API
- Customised onboarding to make customer-specific settings.
- Support via telephone, e-mail or video conference during RZB business hours.
- Outside of business hours, a chatbot provides support.



Simply order:

983057	Backend licence for one charging point, for a period of 24 months.
983057AGM	Activation fee Master
983057AGS	Slave activation fee
983113.008	QR code sticker for Ad-Hoc charging

Our partners (others available upon request)

Monta

chargeIQ

freshmile

-chargepoint+

vaylens

chargecloud

reev

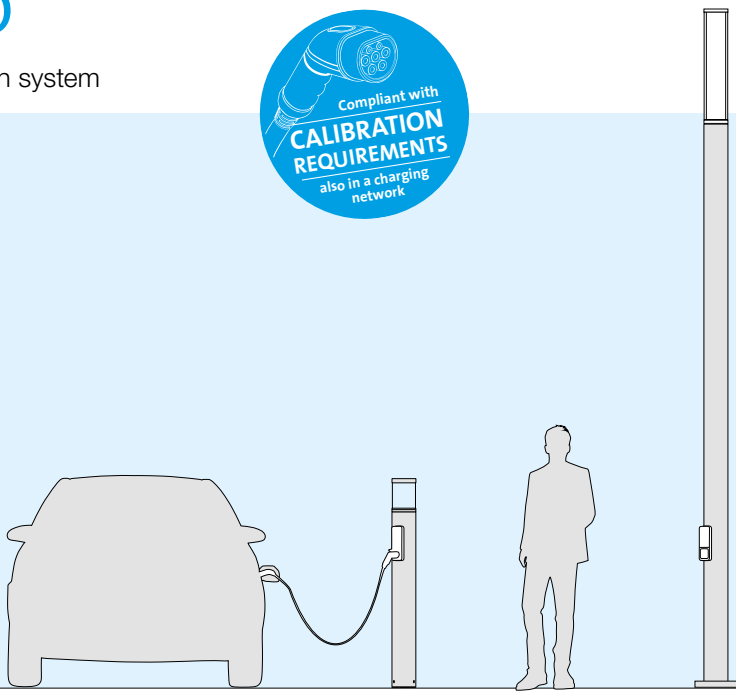
enio
energy in operation

eCarUp

VIRTA

LUPALO

Bollard and column system



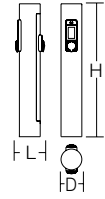


Charging bollards



Bollard system | LUPALO - Charging bollards

Type of protection: IP 54
 Protection class: I
 Impact resistance: IK08
 Dimensions [mm]: D 180, L 213, H 1150



Charging bollard of the modular bollard system LUPALO with EV charger in accordance with IEC 61851-1 mode 3. Standpipe made of corrosion-resistant aluminium profile, seawater resistant powder-coated. Inspection door with triangular lock. Fully enclosed stainless steel mounting base also serves as collision protection in accordance with DIN IEC/TS 61439-7, an additional crash protection is not required.

Elongated hole in the base for subsequent, simple alignment of the bollard. Integrated charging container made of aluminium in the standpipe attached to the C-track. Transparent plastic viewing window for checking safety devices and charge controllers. Charging bollard pre-installed ready for connection.

Charge points equipped with type-2-charging sockets incl. hinged lid, connector lock, status indicator and RFID card reader for authentication. 1 user RFIF tag included in scope of delivery per charge point. Control in a charging network with up to 12 charge points possible.

Standard range of all variants: charge controller, DC leakage current detection, load contactor, load management, LAN connection, OCPP (1.6) interface for billing systems, solar ready interface for charging current from PV systems.

Note modular design: To operate the charging bollard, a light top unit or a pipe end is required, please order separately.

BASIC

Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant	Colour
Charging bollards LUPALO - BASIC equipment variant for private areas										
811100	1	11	Type 2 socket	-	-	-	-	-	-	anthracite
811101	1	11	Type 2 socket	-	-	-	-	-	-	silver
811096	2	11	Type 2 socket	-	-	-	-	-	-	anthracite
811097	2	11	Type 2 socket	-	-	-	-	-	-	silver

SMART

Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant	Colour
Charging bollards LUPALO - SMART equipment variant for the private and semi-public areas										
811069	1	22	Type 2 socket	-	Type A/LS	-	-	MID	-	anthracite
811077	1	22	Type 2 socket	-	Type A/LS	-	-	MID	-	silver
811065	2	22	Type 2 socket	-	Type A/LS	-	-	MID	-	anthracite
811073	2	22	Type 2 socket	-	Type A/LS	-	-	MID	-	silver

PRO



Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant*	Colour
Charging bollards LUPALO - PRO equipment variant for public areas										
811004	1	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	anthracite
811012	1	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	silver
811000	1	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	anthracite
811006	1	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	silver
811001	2	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	anthracite
811008	2	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	silver
811002	2	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	anthracite
811010	2	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	silver

* For compliance with the law on weights and measurements, at least one charging station with display is required in relation to the charging network. Stand-alone charging stations compliant with calibration regulations (without a charging network) must always be equipped with a display. Further provisions of the calibration law and charging station ordinance must be observed.



Pipe end LUPALO

Pipe end for the modular bollard system LUPALO. For using the charging columns without light top unit. Aluminium, seawater resistant, powder-coated.

Pipe end LUPALO

983025.0031	D 180, H 16	Colour anthracite
983025.004	D 180, H 16	Colour silver

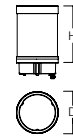
Bollard system | LUPALO POLLER - Light top unit

Type of protection: IP 65
 Protection class: II
 Impact resistance: IK06

Light top unit of the modular bollard system LUPALO. Light top unit made of corrosion resistant pressure die-cast aluminium (seawater resistant powder-coated). Stainless steel screws. For top mounting on compatible system post. Fastening of the light top unit to the post via a bayonet. Membrane valve to prevent condensation. Non-yellowing clear glass cylinder for consistently high light transmission. Connecting cable included.

Note modular design: A post or a charging bollard is always required for the light top unit. Please order separately.

Available colours (X): 31 = anthracite, 4 = silver



Light top unit

LUPALO POLLER

Non-yellowing clear glass cylinder for consistently high light transmission. LED module with optimised optic lenses for sophisticated lighting solutions. Light distribution optimised for road or area lighting. Control gear with integrated surge protection.

Reference number	Dimensions [mm]	Light source	Light colour	Luminous flux [lm]	System power [W]	System efficiency [lm/W]	Lighting Control	Light distribution
Light top unit LUPALO POLLER								
982705.00X	D 187, H 243	LED	730	3900	36	108	DALI	symmetrical
982705.00X.1	D 187, H 243	LED	740	4150	36	115	DALI	symmetrical
982705.01X	D 187, H 243	LED	730	3500	36	97	DALI	asymmetrical
982705.01X.1	D 187, H 243	LED	740	3700	36	103	DALI	asymmetrical



LUPALO LATERNE

Non-yellowing opal glass cylinder. With mains voltage LED module. Symmetrical light distribution.

Reference number	Dimensions [mm]	Light source	Light colour	Luminous flux [lm]	System power [W]	System efficiency [lm/W]	Lighting Control	Light distribution
Light top unit LUPALO LATERNE								
982706.00X	D 187, H 243	LED	830	810	20	41	Phase-cut	symmetrical
982706.00X.76	D 187, H 243	LED	830	1000	16	63	DALI	symmetrical
982706.00X.1	D 187, H 243	LED	840	850	20	43	Phase-cut	symmetrical
982706.00X.1.76	D 187, H 243	LED	840	1100	16	69	DALI	symmetrical



LUPALO TOWER

Non-yellowing clear glass cylinder with translucent glare suppression louvres. With mains voltage LED module. Symmetrical light distribution.

Reference number	Dimensions [mm]	Light source	Light colour	Luminous flux [lm]	System power [W]	System efficiency [lm/W]	Lighting Control	Light distribution
Light top unit LUPALO LATERNE								
982707.00X	D 187, H 243	LED	830	810	20	41	Phase-cut	symmetrical
982707.00X.76	D 187, H 243	LED	830	1250	16	78	DALI	symmetrical
982707.00X.1	D 187, H 243	LED	840	870	20	44	Phase-cut	symmetrical
982707.00X.1.76	D 187, H 243	LED	840	1350	16	84	DALI	symmetrical

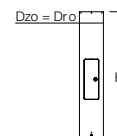


Bollard system | LUPALO - System tubes

Post tube of the modular LUPALO bollard system. Standpipe made of corrosion-resistant aluminium profile, seawater resistant powder-coated. Inspection door with triangular lock. Fully enclosed stainless steel mounting base. C-rail for socket/cable distribution box. Elongated hole in the base for subsequent, simple alignment of the bollard. Connection box on base, max. 2 x 3 x 2.5 mm² for through wiring. Please order fuse box separately.

Note modular design: Please order light top unit separately.

Available colours (X): 31 = anthracite, 4 = silver



Post tubes

Bollard post LUPALO

612364.00X	D 180, H 1150
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Charging columns

Column system | LUPALO - Charging columns

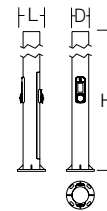
Type of protection: IP 54
 Protection class: I
 Impact resistance: IK08
 Dimensions [mm]: D 180, L 230, H 4200

Charging column of the modular column system LUPALO with EV charger in accordance with IEC 61851-1 mode 3. Standpipe made of corrosion-resistant aluminium profile with base plate, seawater resistant powder coated. Inspection door with triangular lock. Integrated charging container made of aluminium in the standpipe attached to the C-track. Transparent plastic viewing window for checking safety devices and charge controllers. Charging column pre-installed ready for connection.

Charge points equipped with type-2-charging sockets incl. hinged lid, connector lock, status indicator and RFID card reader for authentication. 1 user RFIF tag included in scope of delivery per charge point. Control in a charging network with up to 12 charge points possible.

Standard range of all variants: charge controller, DC leakage current detection, load contactor, load management, LAN connection, OCPP (1.6) interface for billing systems, solar ready interface for charging current from PV systems.

Note modular design: To operate the charging column, a light top unit is required, please order separately.



BASIC

Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant	Colour
Charging column LUPALO - BASIC equipment variant for private areas										
811212	1	11	Type 2 socket	-	-	-	-	-	-	anthracite
811213	1	11	Type 2 socket	-	-	-	-	-	-	silver
811208	2	11	Type 2 socket	-	-	-	-	-	-	anthracite
811209	2	11	Type 2 socket	-	-	-	-	-	-	silver

SMART

Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant	Colour
Charging column LUPALO - SMART equipment variant for the private and semi-public areas										
811180	1	22	Type 2 socket	-	Type A/LS	-	-	MID	-	silver
811188	1	22	Type 2 socket	-	Type A/LS	-	-	MID	-	anthracite
811176	2	22	Type 2 socket	-	Type A/LS	-	-	MID	-	anthracite
811184	2	22	Type 2 socket	-	Type A/LS	-	-	MID	-	silver

PRO

Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant*	Colour
Charging column LUPALO - PRO equipment variant for public areas										
811116	1	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	anthracite
811124	1	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	silver
811110	1	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	anthracite
811118	1	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	silver
811112	2	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	anthracite
811120	2	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	silver
811114	2	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	anthracite
811122	2	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	silver

* For compliance with the law on weights and measurements, at least one charging station with display is required in relation to the charging network. Stand-alone charging stations compliant with calibration regulations (without a charging network) must always be equipped with a display. Further provisions of the calibration law and charging station ordinance must be observed

Column system | LUPALO - Light top unit

Type of protection: IP 65
 Protection class: II
 Impact resistance: IK06

Light top unit of the modular column system LUPALO. Light top unit made of corrosion resistant pressure die-cast aluminium (seawater resistant powder-coated). Stainless steel screws. Non-yellowing clear glass or PMMA plastic cylinder. For top mounting on compatible system post. Membrane valve to prevent condensation. Connecting cable included.

LED module with optimised optic lenses for sophisticated lighting solutions. Light distribution optimised for road or area lighting. Control gear with integrated surge protection. With NFC programming interface.

Note modular design: A post or a charging column is always required for the light top unit. Please order separately.

Available colours (X): 31 = anthracite, 4 = silver



Light top unit



Reference number	Dimensions [mm]	Light source	Light colour	Luminous flux [lm]	System power [W]	System efficiency [lm/W]	Lighting Control	Light distribution
Light top unit LUPALO - Diffuser glass								
Asymmetrical linear light distribution for wide streets and paths according to DIN EN 13201								
612329.00X.76	D 187, H 850	LED	730	5250	55	95	DALI	asymmetrical
612329.00X.1.76	D 187, H 850	LED	740	5550	55	101	DALI	asymmetrical
Asymmetrical linear light distribution for narrow streets and paths according to DIN EN 13201								
612328.00X.76	D 187, H 850	LED	730	5150	55	94	DALI	asymmetrical
612328.00X.1.76	D 187, H 850	LED	740	5450	55	99	DALI	asymmetrical
Symmetrical light distribution for area lighting (e.g. squares, pedestrian zones)								
612327.00X.76	D 187, H 850	LED	730	5550	55	101	DALI	symmetrical
612327.00X.1.76	D 187, H 850	LED	740	5800	55	105	DALI	symmetrical

Light top unit LUPALO - Diffuser plastic

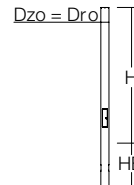
Asymmetrical linear light distribution for wide streets and paths according to DIN EN 13201								
612326.00X.76	D 187, H 850	LED	730	5050	55	92	DALI	asymmetrical
612326.00X.1.76	D 187, H 850	LED	740	5350	55	97	DALI	asymmetrical
Asymmetrical linear light distribution for narrow streets and paths according to DIN EN 13201								
612325.00X.76	D 187, H 850	LED	730	4900	55	89	DALI	asymmetrical
612325.00X.1.76	D 187, H 850	LED	740	5150	55	94	DALI	asymmetrical
Symmetrical light distribution for area lighting (e.g. squares, pedestrian zones)								
612324.00X.76	D 187, H 850	LED	730	5550	55	101	DALI	symmetrical
612324.00X.1.76	D 187, H 850	LED	740	5850	55	106	DALI	symmetrical

Column system | LUPALO - System tubes

Post tube of the modular LUPALO column system. Standpipe made of corrosion-resistant aluminium profile, seawater resistant powder-coated. Inspection door with triangular lock. C-rail for socket/cable distribution box. Connection box on base, max. 2 x 3 x 2.5 mm² for through wiring. Please order fuse box separately.

Note modular design: Please order light top unit separately.

Available colours (X): 31 = anthracite, 4 = silver



Post tubes



Luminaire tube with ground-plate

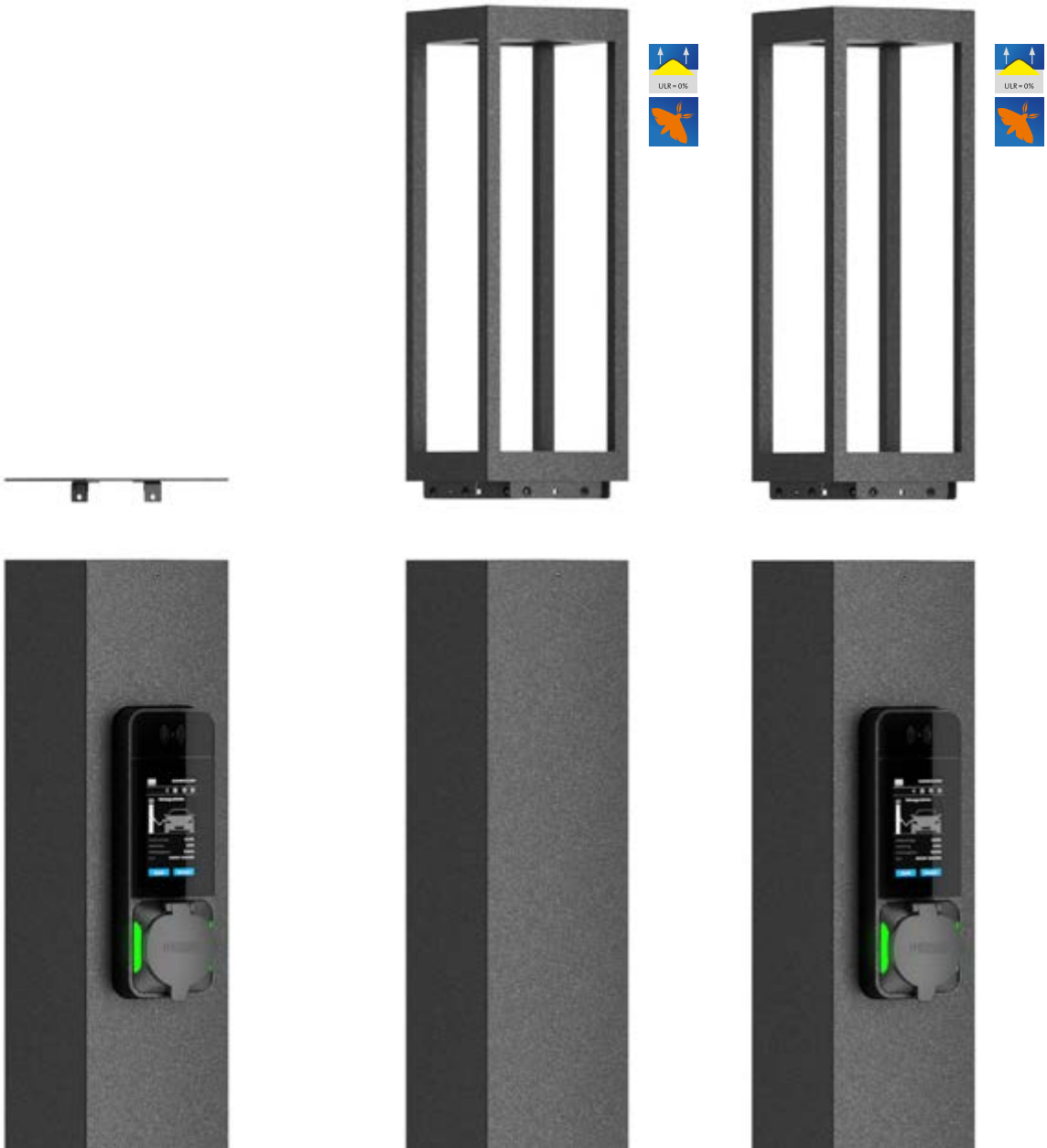
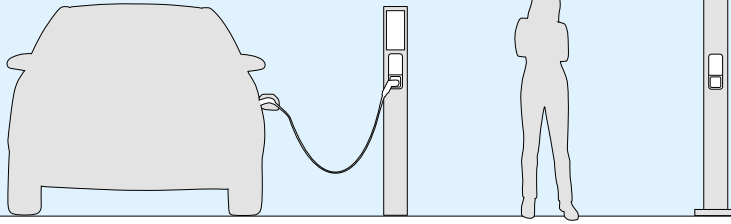
Mounting plate with four screw holes, seawater resistant powder-coated.

612335.00X	D 300, H 4150	Tube (Dro) Ø 180 mm, Spigot size (Dzo) Ø 180 mm
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Luminaire tube height 3000 / 3700 / 5000 mm on request.

BOCARO

Bollard and column system





reddot winner 2023
urban design



Version with RFID,
display and socket



Version with
RFID and socket

Charging bollards



Bollard system | BOCARO - Charging bollards

Type of protection: IP 54
 Protection class: I
 Impact resistance: IK08
 Dimensions [mm]: L 200, B 156, H 1150



Charging bollard of the modular bollard system BOCARO with EV charger in accordance with IEC 61851-1 mode 3. Standpipe made of corrosion-resistant aluminium profile, seawater resistant powder-coated. Inspection door with triangular lock. Fully enclosed stainless steel mounting base also serves as collision protection in accordance with DIN IEC/TS 61439-7, an additional crash protection is not required. Elongated hole in the base for subsequent, simple alignment of the bollard. Integrated charging container made of aluminium in the standpipe attached to the C-track. Transparent plastic viewing window for checking safety devices and charge controllers. Charging bollard pre-installed ready for connection.

Charge points equipped with type-2-charging sockets incl. hinged lid, connector lock, status indicator and RFID card reader for authentication. 1 user RFIF tag included in scope of delivery per charge point. Control in a charging network with up to 12 charge points possible.

Standard range of all variants: charge controller, DC leakage current detection, load contactor, load management, LAN connection, OCPP (1.6) interface for billing systems, solar ready interface for charging current from PV systems.

Note modular design: To operate the charging bollard, a light top unit or a pipe end is required, please order separately.

BASIC

Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant	Colour
Charging bollards BOCARO - BASIC equipment variant for private areas										
811464	1	11	Type 2 socket	-	-	-	-	-	-	anthracite
811465	1	11	Type 2 socket	-	-	-	-	-	-	silver
811462	2	11	Type 2 socket	-	-	-	-	-	-	anthracite
811463	2	11	Type 2 socket	-	-	-	-	-	-	silver

SMART

Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant	Colour
Charging bollards BOCARO - SMART equipment variant for the private and semi-public areas										
811459	1	22	Type 2 socket	-	Type A/LS	-	-	MID	-	anthracite
811461	1	22	Type 2 socket	-	Type A/LS	-	-	MID	-	silver
811458	2	22	Type 2 socket	-	Type A/LS	-	-	MID	-	anthracite
811460	2	22	Type 2 socket	-	Type A/LS	-	-	MID	-	silver

PRO



Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant*	Colour
Charging bollards BOCARO - PRO equipment variant for public areas										
811453	1	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	anthracite
811457	1	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	silver
811450	1	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	anthracite
811454	1	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	silver
811451	2	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	anthracite
811455	2	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	silver
811452	2	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	anthracite
811456	2	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	silver

* For compliance with the law on weights and measurements, at least one charging station with display is required in relation to the charging network. Stand-alone charging stations compliant with calibration regulations (without a charging network) must always be equipped with a display. Further provisions of the calibration law and charging station ordinance must be observed



Pipe end BOCARO

Pipe end for the modular BOCARO bollard system. For using the charging columns without light top unit. Aluminium, seawater resistant, powder-coated.

Pipe end BOCARO

983315.0031	L 156, B 156, H 22	Colour anthracite
983315.004	L 156, B 156, H 22	Colour silver

Bollard system | BOCARO - Light top unit

Type of protection: IP 66
 Protection class: I
 Impact resistance: IK06

Light top unit of the modular bollard system BOCARO. Light top unit in square aluminium profile, with cover in non-corrosive die-cast aluminium, seawater resistant powder-coated. Stainless steel screws. For top mounting on compatible system post. Fastening of the light top unit to the post via screw connection. Membrane valve to prevent condensation. Mains voltage LED module with protective cover made of clear toughened glass. Symmetrical light distribution. Connecting cable included.

Note modular design: A post or a charging bollard is always required for the light top unit. Please order separately.

Available colours (X): 31 = anthracite, 4 = silver



Light top unit



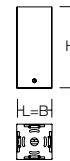
Reference number	Dimensions [mm]	Light source	Light colour	Luminous flux [lm]	System power [W]	System efficiency [lm/W]	Lighting Control	Light distribution
Light top unit BOCARO								
612382.00X	L 156, B 156, H 446	LED	830	1550	20	78	Phase-cut	symmetrical
612382.00X.1	L 156, B 156, H 446	LED	840	1550	20	78	Phase-cut	symmetrical

Bollard system | BOCARO - System tubes

Standpipe of the modular BOCARO bollard system. Standpipe made of corrosion-resistant aluminium profile, seawater resistant powder-coated. Fully enclosed stainless steel mounting base. Elongated hole in the base for subsequent, simple alignment of the bollard. Inspection door with triangular lock. C-rail for socket/cable distribution box. Connection box on base, max. 2 x 3 x 2.5 mm² for through wiring. Please order fuse box separately.

Note modular design: Please order light top unit separately.

Available colours (X): 31 = anthracite, 4 = silver



Post tubes



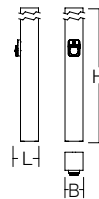
Reference number	Dimensions [mm]
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Bollard tube BOCARO	
612386.00X	L 156, B 156, H 360
612387.00X	L 156, B 156, H 660
612388.00X	L 156, B 156, H 1154

Charging columns

Column system | BOCARO - Charging columns

Type of protection: IP 54
 Protection class: I
 Impact resistance: IK08
 Dimensions [mm]: L 200, B 156, H 4200



Charging column of the modular column system BOCARO with EV charger in accordance with IEC 61851-1 mode 3. Standpipe made of corrosion-resistant aluminium profile with base plate, seawater resistant powder coated. Inspection door with triangular lock. Integrated charging container made of aluminium in the standpipe attached to the C-track. Transparent plastic viewing window for checking safety devices and charge controllers. Charging column pre-installed ready for connection.

Charge points equipped with type-2-charging sockets incl. hinged lid, connector lock, status indicator and RFID card reader for authentication. 1 user RFIF tag included in scope of delivery per charge point. Control in a charging network with up to 12 charge points possible.

Standard range of all variants: charge controller, DC leakage current detection, load contactor, load management, LAN connection, OCPP (1.6) interface for billing systems, solar ready interface for charging current from PV systems.

Note modular design: To operate the charging column, a light top unit is required, please order separately.

BASIC

Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant	Colour
Charging column BOCARO - BASIC equipment variant for private areas										
811436	1	11	Type 2 socket	-	-	-	-	-	-	anthracite
811437	1	11	Type 2 socket	-	-	-	-	-	-	silver
811432	2	11	Type 2 socket	-	-	-	-	-	-	anthracite
811433	2	11	Type 2 socket	-	-	-	-	-	-	silver

SMART

Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant	Colour
Charging column BOCARO - SMART equipment variant for the private and semi-public areas										
811404	1	22	Type 2 socket	-	Type A/LS	-	-	MID	-	anthracite
811412	1	22	Type 2 socket	-	Type A/LS	-	-	MID	-	silver
811400	2	22	Type 2 socket	-	Type A/LS	-	-	MID	-	anthracite
811408	2	22	Type 2 socket	-	Type A/LS	-	-	MID	-	silver

PRO

Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant*	Colour
Charging column BOCARO - PRO equipment variant for public areas										
811340	1	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	anthracite
811348	1	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	silver
811334	1	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	anthracite
811342	1	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	silver
811336	2	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	anthracite
811344	2	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	silver
811338	2	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	anthracite
811346	2	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	silver

* For compliance with the law on weights and measurements, at least one charging station with display is required in relation to the charging network. Stand-alone charging stations compliant with calibration regulations (without a charging network) must always be equipped with a display. Further provisions of the calibration law and charging station ordinance must be observed

Column system | BOCARO - Light top unit

Type of protection: IP 65
 Protection class: II
 Impact resistance: IK08

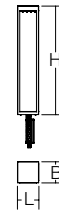
Light top unit of the modular column system BOCARO. Light top unit in square aluminium profile, with cover in non-corrosive die-cast aluminium, seawater resistant powder-coated. Stainless steel screws. For top mounting on compatible system post. Membrane valve to prevent condensation. Connecting cable included.

Multi-chip LED with high-performance refractor optics. LED protection cover made of clear toughened safety glass. Light distribution optimised for road or area lighting. Control gear with integrated surge protection. With NFC programming interface.

MultiLumen: 3 steps adjustable luminous flux. Factory setting is the highest luminous flux.

Note modular design: A post or a charging column is always required for the light top unit.
Please order separately.

Available colours (X): 31 = anthracite, 4 = silver



Light top unit



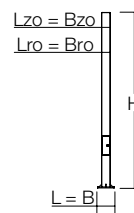
Reference number	Dimensions [mm]	Light source	Light colour	Luminous flux [lm]	System power [W]	System efficiency [lm/W]	Lighting Control	Light distribution
Light top unit BOCARO								
Asymmetrical linear light distribution for wide streets and paths according to DIN EN 13201								
612350.00X	L 156, B 156, H 800	LED	730	1900...3700	16...35	119	on/off	asymmetrical
612350.00X.76	L 156, B 156, H 800	LED	730	3750	37	101	DALI	asymmetrical
612350.00X.1	L 156, B 156, H 800	LED	740	2000...3950	16...35	125	on/off	asymmetrical
612350.00X.1.76	L 156, B 156, H 800	LED	740	4000	37	108	DALI	asymmetrical
Asymmetrical linear light distribution for narrow streets and paths according to DIN EN 13201								
612349.00X	L 156, B 156, H 800	LED	730	1850...3650	16...35	116	on/off	asymmetrical
612349.00X.76	L 156, B 156, H 800	LED	730	3750	37	101	DALI	asymmetrical
612349.00X.1	L 156, B 156, H 800	LED	740	1950...3850	16...35	122	on/off	asymmetrical
612349.00X.1.76	L 156, B 156, H 800	LED	740	3900	37	105	DALI	asymmetrical
Symmetrical light distribution for area lighting (e.g. squares, pedestrian zones)								
612351.00X	L 156, B 156, H 800	LED	730	1700...3300	16...35	106	on/off	symmetrical
612351.00X.76	L 156, B 156, H 800	LED	730	3350	37	91	DALI	symmetrical
612351.00X.1	L 156, B 156, H 800	LED	740	1800...3550	16...35	113	on/off	symmetrical
612351.00X.1.76	L 156, B 156, H 800	LED	740	3600	37	97	DALI	symmetrical

Column system | BOCARO - System tube

Standpipe of the modular BOCARO column system. Standpipe made of corrosion-resistant aluminium profile, seawater resistant powder-coated. Inspection door with triangular lock. C-rail for socket/cable distribution box. Connection box on base, max. 2 x 3 x 2.5 mm² for through wiring. Please order fuse box separately.

Note modular design: Please order light top unit separately.

Available colours (X): 31 = anthracite, 4 = silver



Post tubes



Luminaire tube with ground-plate

Mounting plate with four screw holes, seawater resistant powder-coated.

612357.00X L 300, B 300, H 4200 Tube (lro x bro) 156x156 mm, Spigot size (lzo x bzo) 156x156 mm

Luminaire tube height 3200 / 3700 mm on request.

EMILIARIUM

Natural stone charging columns



Aesthetics and technology in perfection

Our granite charging poles not only offer maximum stability and durability, but also impress with their timeless design - a perfect symbiosis of durability and innovation.

The EMILIARIUM series is the result of an exclusive co-operation between the Bamberg natural stone works Hermann Graser and RZB ENERGY. Designed by Simone Boldrin Architettura, it combines fine natural materials with state-of-the-art charging technology - for a sustainable and stylish solution in the field of electromobility.

design by

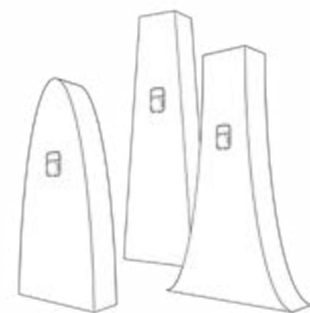


SIMONE BOLDRIN
ARCHITETTURA



© A.G.W. Barthel

Predestined for use in historic cityscapes and sophisticated architecture.



Robust rock

Granite is one of the most common types of stone and is characterised by its exceptional durability and resistance. The stone is insensitive to heat, robust and resistant to extreme weather conditions, de-icing salt, frost and acid.

Granite processing

After quarrying, the granite blocks are transported to the Hermann Graser natural stone factory in Bamberg, where they are cut with diamond circular saws and precisely processed with robots. After shot-blasting the surface, the charging container is installed.

Shape variants and customisation

Simone Boldrin Architettura has developed an innovative design in which different elements build on each other and can be harmoniously combined. The result is a product that is not only aesthetically pleasing, but also ecologically and economically sustainable.

The EMILIARIUM can be customised, e.g. with reliefs or engravings as well as other information that is communicated directly and permanently via the surface of the monolith.



Epprechtstein granite
shot-peened



Kösseine granite
shot-peened



EMILIARIUM



NATURAL STONE COLUMN

Charging station | EMILIARIUM

Type of protection: IP 54
 Protection class: I
 Impact resistance: IK08
 Dimensions [mm]: L 200, B 200, H 1300/1650 (with display)

Stone charging station EMILIARIUM with EV charger in accordance with IEC 61851-1 mode 3. Natural stone column with square cross section in granite. Shot-peened surface, edges rounded by shot-peening. Inspection opening with natural stone plate and stainless steel locking system for secure closure. Charging container made of aluminium integrated. Transparent plastic viewing window for checking safety devices and charge controllers. Charging column pre-installed ready for connection.

Charge points equipped with type-2-charging sockets incl. hinged lid, connector lock, status indicator and RFID card reader for authentication. 1 user RFIF tag included in scope of delivery per charge point. Control in a charging network with up to 12 charge points possible.

Standard range of all variants: charge controller, DC leakage current detection, load contactor, load management, LAN connection, OCPP (1.6) interface for billing systems, solar ready interface for charging current from PV systems.



Charging station

SMART

Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant	Colour
Charging column EMILIARIUM - SMART equipment variant for the private and semi-public areas										
811703	1	22	Type 2 socket	-	Type A/LS	-	-	MID	-	light grey
811705	1	22	Type 2 socket	-	Type A/LS	-	-	MID	-	dark grey
811702	2	22	Type 2 socket	-	Type A/LS	-	-	MID	-	light grey
811704	2	22	Type 2 socket	-	Type A/LS	-	-	MID	-	dark grey

PRO

Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant	Colour
Charging column EMILIARIUM - PRO equipment variant for public areas										
811690	1	22	Type 2 socket	-	Type A/LS	SPD-Typ-2	-	ME	✓	light grey
811698	1	22	Type 2 socket	-	Type A/LS	SPD-Typ-2	-	ME	✓	dark grey
811692	1	22	Type 2 socket	✓	Type A/LS	SPD-Typ-2	✓	ME	✓	light grey
811700	1	22	Type 2 socket	✓	Type A/LS	SPD-Typ-2	✓	ME	✓	dark grey
811686	2	22	Type 2 socket	-	Type A/LS	SPD-Typ-2	-	ME	✓	light grey
811694	2	22	Type 2 socket	-	Type A/LS	SPD-Typ-2	-	ME	✓	dark grey
811688	2	22	Type 2 socket	✓	Type A/LS	SPD-Typ-2	✓	ME	✓	light grey
811696	2	22	Type 2 socket	✓	Type A/LS	SPD-Typ-2	✓	ME	✓	dark grey

* For compliance with the law on weights and measurements, at least one charging station with display is required in relation to the charging network. Stand-alone charging stations compliant with calibration regulations (without a charging network) must always be equipped with a display. Further provisions of the calibration law and charging station ordinance must be observed.



 **Accessories**
Page 52 - 53







RETROFIT SYSTEMS

Standpipes, light top unit, charging container

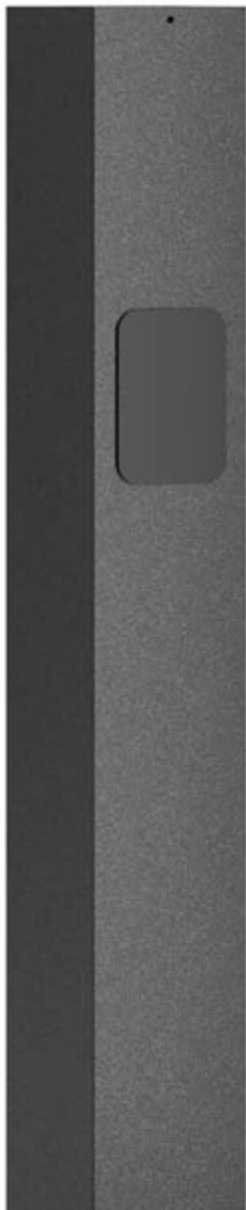
LUPALO

Bollard system



BOCARO

Bollard system



Charging container



RZB ENERGY

Retrofit system

Install bollard now ...

STEP
2

Module selection

- Different light top units available
- Pipe end

STEP
1

Tube selection

- Incl. blind cover for 1 or 2 charging points
- With or without display

STEP
3

Accessories selection

- Installation accessories
- Electrical accessories
- Services

- Illuminate parking spaces now in a standardized manner - simply retrofit charging infrastructure later.
- Tidy appearance thanks to secure stowage of the connection cables for the charging infrastructure.
- Expansion of charging points as needed.
- Save costs! Earthworks are only necessary once.

READY FOR THE FUTURE

Thinking about tomorrow's charging infrastructure today!

Our flexible retrofit system is already prepared to accommodate charging technology. Thanks to the one-off planning and installation, you create a future-proof basis that allows you to react flexibly to increasing demand. Simply perfect for gradually meeting the growing demand for charging infrastructure.

... retrofit charging technology later.



Retrofit charging containers

- Equipment
 - BASIC
 - SMART
 - PRO

Plan smart & save now!

The future is flexible. With RZB ENERGY, you are too. Let the RZB ENERGY team advise you and take the step towards a sustainable and future-proof charging infrastructure together with us!

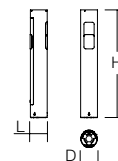
RETROFIT SYSTEM

LUPALO



Bollard system | LUPALO - System tube (suitable for retrofitting)

Standpipe of the modular bollard system LUPALO with recesses for later retrofitting of a charging container. Standpipe made of corrosion-resistant aluminium profile, seawater resistant powder-coated. Blank covers for the recesses made of plastic, anthracite. Inspection door with triangular lock. Integrated C-track. Fully enclosed stainless steel mounting base. Elongated hole in the base for subsequent, simple alignment of the bollard. Connection box on base, max. 2 x 3 x 2.5 mm² for through wiring.



Note modular design: Please order light top unit or pipe end separately.

Available colours (X): 31 = anthracite, 4 = silver

Bollard post LUPALO

983090.00X	D 180, H 1150	Recess for 1 charging point with charging socket
983090.01X	D 180, H 1150	Recess for 1 charging point with charging socket incl. display
983091.00X	D 180, H 1150	Recesses for 2 charging points with charging socket
983091.02X	D 180, H 1150	Recesses for 1 charging point with charging socket and 1 charging point with charging socket incl. display

Pipe end LUPALO

Pipe end for the modular bollard system LUPALO. For using the charging columns without light top unit. Aluminium, seawater resistant, powder-coated.

Pipe end LUPALO

983025.0031	D 180, H 16	Colour anthracite
983025.004	D 180, H 16	Colour silver

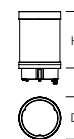
Bollard system | LUPALO - Light top unit

Type of protection: IP 65

Protection class: II

Impact resistance: IK06

Light top unit of the modular bollard system LUPALO. Light top unit made of corrosion resistant pressure die-cast aluminium (seawater resistant powder-coated). Stainless steel screws. For top mounting on compatible system post. Fastening of the light top unit to the post via a bayonet. Membrane valve to prevent condensation. Non-yellowing clear glass cylinder for consistently high light transmission. Connecting cable included.



Note modular design: A post or a charging bollard is always required for the light top unit.

Please order separately.

Available colours (X): 31 = anthracite, 4 = silver



Bollard system | LUPALO POLLER

Non-yellowing clear glass cylinder for consistently high light transmission. LED module with optimised optic lenses for sophisticated lighting solutions. Light distribution optimised for road or area lighting. Control gear with integrated surge protection.

Reference number	Dimensions [mm]	Light source	Light colour	Luminous flux [lm]	System power [W]	System efficiency [lm/W]	Lighting Control	Light distribution
Light top unit LUPALO POLLER								
982705.00X	D 187, H 243	LED	730	3900	36	108	DALI	symmetrical
982705.00X.1	D 187, H 243	LED	740	4150	36	115	DALI	symmetrical
982705.01X	D 187, H 243	LED	730	3500	36	97	DALI	asymmetrical
982705.01X.1	D 187, H 243	LED	740	3700	36	103	DALI	asymmetrical

LUPALO LATERNE

Non-yellowing opal glass cylinder. With mains voltage LED module. Symmetrical light distribution.

Reference number	Dimensions [mm]	Light source	Light colour	Luminous flux [lm]	System power [W]	System efficiency [lm/W]	Lighting Control	Light distribution
Light top unit LUPALO LATERNE								
982706.00X	D 187, H 243	LED	830	810	20	41	Phase-cut	symmetrical
982706.00X.1	D 187, H 243	LED	840	850	20	43	Phase-cut	symmetrical

LUPALO TOWER

Non-yellowing clear glass cylinder with translucent glare suppression louvres. With mains voltage LED module. Symmetrical light distribution.

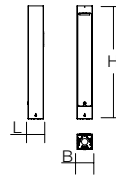
Reference number	Dimensions [mm]	Light source	Light colour	Luminous flux [lm]	System power [W]	System efficiency [lm/W]	Lighting Control	Light distribution
Light top unit LUPALO LATERNE								
982707.00X	D 187, H 243	LED	830	810	20	41	Phase-cut	symmetrical
982707.00X.1	D 187, H 243	LED	840	870	20	44	Phase-cut	symmetrical

Bollard system | BOCARO - System tube (suitable for retrofitting)

Standpipe of the modular bollard system BOCARO with recesses for later retrofitting of a charging container. Standpipe made of corrosion-resistant aluminium profile, seawater resistant powder-coated. Blank covers for the recesses made of plastic, anthracite. Inspection door with triangular lock. Integrated C-track. Fully enclosed stainless steel mounting base. Elongated hole in the base for subsequent, simple alignment of the bollard. Connection box on base, max. 2 x 3 x 2.5 mm² for through wiring.

Note modular design: Please order light top unit or pipe end separately.

Available colours (X): 31 = anthracite, 4 = silver



BOCARO



Bollard post BOCARO

983092.00X	L 161, B 156, H 1150	Recess for 1 charging point with charging socket
983092.01X	L 161, B 156, H 1150	Recess for 1 charging point with charging socket incl. display
983093.00X	L 161, B 156, H 1150	Recesses for 2 charging points with charging socket
982093.02X	L 161, B 156, H 1150	Recesses for 1 charging point with charging socket and 1 charging point with charging socket incl. display

Pipe end BOCARO

Pipe end for the modular bollard system BOCARO. For using the charging columns without light top unit. Aluminium, seawater resistant, powder-coated.

Pipe end BOCARO

983315.0031	L 156, B 156, H 22	Colour anthracite
983315.004	L 156, B 156, H 22	Colour silver

Bollard system | BOCARO - Light top unit

Type of protection: IP 66

Protection class: I

Impact resistance: IK06

Light top unit of the modular bollard system BOCARO. Light top unit in square aluminium profile, with cover in non-corrosive die-cast aluminium, seawater resistant powder-coated. Stainless steel screws. For top mounting on compatible system post. Fastening of the light top unit to the post via screw connection. Membrane valve to prevent condensation. Mains voltage LED module with protective cover made of clear toughened glass. Symmetrical light distribution. Connecting cable included.

Note modular design: A post or a charging bollard is always required for the light top unit. Please order separately.

Available colours (X): 31 = anthracite, 4 = silver



Reference number	Dimensions [mm]	Light source	Light colour	Luminous flux [lm]	System power [W]	System efficiency [lm/W]	Lighting Control	Light distribution
Light top unit BOCARO								
612382.00X	L 156, B 156, H 446	LED	830	1550	20	78	Phase-cut	symmetrical
612382.00X.1	L 156, B 156, H 446	LED	840	1550	20	78	Phase-cut	symmetrical

RETROFIT SYSTEM

Charging container



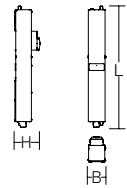
Retrofit system | Charging container

Type of protection: IP 54
 Protection class: I
 Impact resistance: IK08
 Dimensions [mm]: L 897, B 124, H 180

Charging container with EV charger in accordance with IEC 61851-1 Mode 3 for retrofitting to the modular bollard systems. Housing made of sheet steel, powder-coated. Transparent plastic viewing window for checking safety devices and charge controllers. Charging container pre-installed ready for connection

Charge points equipped with type-2-charging sockets incl. hinged lid, connector lock, status indicator and RFID card reader for authentication. 1 user RFIF tag included in scope of delivery per charge point. Control in a charging network with up to 12 charge points possible.

Standard range of all variants: charge controller, DC leakage current detection, load contactor, load management, LAN connection, OCPP (1.6) interface for billing systems, solar ready interface for charging current from PV systems.



BASIC

Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant	Colour
Charging container - BASIC equipment variant for private areas										
983032.0031	1	11	Type 2 socket	-	-	-	-	-	-	anthracite
983031.0031	2	11	Type 2 socket	-	-	-	-	-	-	anthracite

SMART

Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant	Colour
Charging container - SMART equipment variant for the private and semi-public areas										
983030.0031	1	22	Type 2 socket	-	Type A/LS	-	-	MID	-	anthracite
983029.0031	2	22	Type 2 socket	-	Type A/LS	-	-	MID	-	anthracite

PRO



Reference number	Charging units	Power/charging point [kW]	Charge connector	Display	Earth leakage circuit breakers	Over voltage-/surge protection	Radio LTE/2G	Energy meter	Calibration law compliant	Colour
Charging container - PRO equipment variant for public areas										
983300.0031	1	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	anthracite
983301.0031	1	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	anthracite
983298.0031	2	22	Type 2 socket	-	Type A/LS	Type-2-SPD	-	ME	✓	anthracite
983027.0031	2	22	Type 2 socket	✓	Type A/LS	Type-2-SPD	✓	ME	✓	anthracite

* For compliance with the law on weights and measurements, at least one charging station with display is required in relation to the charging network. Stand-alone charging stations compliant with calibration regulations (without a charging network) must always be equipped with a display. Further provisions of the calibration law and charging station ordinance must be observed

Accessories
 Page 52 - 53



ACCESSORIES

Accessories for all charging stations



RFID tags

RFID tag for authorisation on charging stations. The RFID tag can be read and described contactless via RFID technology.

RFID tag

983084.006	L 50, B 30, H 4	RFID tag for authorisation on charging stations
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AC charging cable

Mobile AC charging cable with vehicle charging plug and infrastructure charging plug for charging electric vehicles with alternating current (AC) with type 2 vehicle charging sockets, compatible with type 2 infrastructure charging sockets at charging stations for electromobility. Cable 5 m, black, straight, with protective cap

AC charging cable

983398.003	L 5000, B 70, H 137	AC charging cable, black
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Accessories for bollard and column systems



Twist lock

Turning bolt incl. key to secure the inspection door.

Twist lock

983059.004	D 30, H 34	Turning bolt incl. key
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Labelling for bollard and column systems



Charging point labelling

Quality film from 3M. Matt white foil. Sheet with self-adhesive digits from 1-12. Motif size approx. 35 x 44 mm.

Charging point labelling

991208.002	Charging point labelling digits 1-12
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Accessories for bollard and column systems with light top unit for through-wiring

Y branch

Y-distributor, plug connector, double connection socket, 5-pin. For looping through the light attachments.
Cable diameter 6-10 mm. Connection cross-section 0.75-4 mm².

Y branch

983072.003	L 96, B 59, H 38	Y-distributor for through-wiring, 5-pole
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Mounting accessories for bollard systems

Buried base

Ground piece for mounting charging bollards. Aluminium buried base with anti-sink protection and fastening set.
Stainless steel fastening screws (3 x M8). Bolt circle Ø 100 mm.

Buried base

983019.000	D 190, H 806
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Finished part foundation

Precast concrete foundation for the installation of charging bollards. The faster alternative to in-situ concrete.

Finished part foundation

983119.000	L 260, B 260, H 600
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Mounting accessories for natural stone charging points

Finished part foundation

The charging bollard can be mounted on the prefabricated foundation, into which the foundation anchor is already integrated. This means that the charging bollard remains flexible and can be removed without leaving any residue if necessary. The prefabricated foundation is 20 cm below the final floor surface, so that any floor covering can be seamlessly laid right up to the charging station.
Prefabricated foundation including holes for power supply and fastening material for the natural stone charging pole.

Finished part foundation

983070.000	L 400, B 400, H 600	Prefabricated foundation with integrated foundation anchor.
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Foundation anchor

The charging station can be anchored to an on-site foundation using the foundation anchor. The station can be reversibly inserted into the foundation anchor, allowing it to be easily replaced or dismantled at any time. After removing the charging station, the foundation anchor can simply be covered with a granite stone.
Foundation anchor including fastening material for the natural stone charging station.

Foundation anchor

983071.000	ca. L 220, B 220, H 220	Foundation anchor for on-site foundation.
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FEATURAMA

API

An API (Application Programming Interface) is a set of definitions and protocols that facilitate communication between different software applications. An API allows applications to interact with each other in a specific way without requiring detailed knowledge of the other application's internal workings.



DC-error detection

DC fault current detection continuously monitors the DC circuit and detects when an unusual current flow occurs that could indicate a fault current. This ensures ensures that the charging infrastructure is safe and reliable.



Conformity with calibration law

For charging processes in which the charged amount of energy is charged, measurement with calibrated devices is required in a number of regions. The performance of this calibration is normatively regulated.



FI-circuit breaker

This detects errors in current and interrupts the charging stations power supply in fractions of a second to protect people from potentially dangerous electric shocks.



FI / LS circuit breaker

In addition to the function of the FI circuit breaker, the FI/LS serves to protect the lines from overheating. This is required for charging columns that are connected with higher cable cross-sections, as the line protection does not come from the sub-distribution for these.



LAN-interface

In the case of charging stations located close to buildings, these can often be connected to existing wired network structures. This eliminates the need to connect to the mobile network to transmit transaction information..



Load protection

This is used to monitor the power supply to the charging station. If necessary, the charging unit's amperage is limited to avoid overloading the power grid. Likewise, the load protection controls the release of the current from the controller to the socket so that the socket is voltage-free when no vehicle is connected to the charging station.



ME-energy meter

In order for a charging station to be compliant with calibration laws, a special ME meter with signature function must be installed, which adds a date stamp to each charging process.



MID-energy meter

The MID meter is a measuring meter approved in accordance with the European Measuring Instruments Directive, which is used for the accurate measurement of energy consumption. This provides the basis for a fair billing system.



Mobile connection

If there is no possibility of a network connection via LAN, a network connection via mobile radio can be established for the exchange of transaction data. This requires SIM cards with a corresponding data volume, which can be obtained from the usual mobile phone providers.



Ocpp

Is the most widely used standardized communication protocol in Europe and Asia for management and billing of e-charging processes. By means of this interface, a backend system can be installed on the charging station.



RFID

RFID transponders can be used for authentication at the charging station - e.g. in the form of a charging card or key fob. The principle is familiar from debit cards in contactless payment transactions.



Solar-ready

Enables electric vehicles to be charged with their own solar power. The necessary interfaces for charging with surplus electricity from photovoltaic systems are built in. This is part of the calibration law.



Transparent

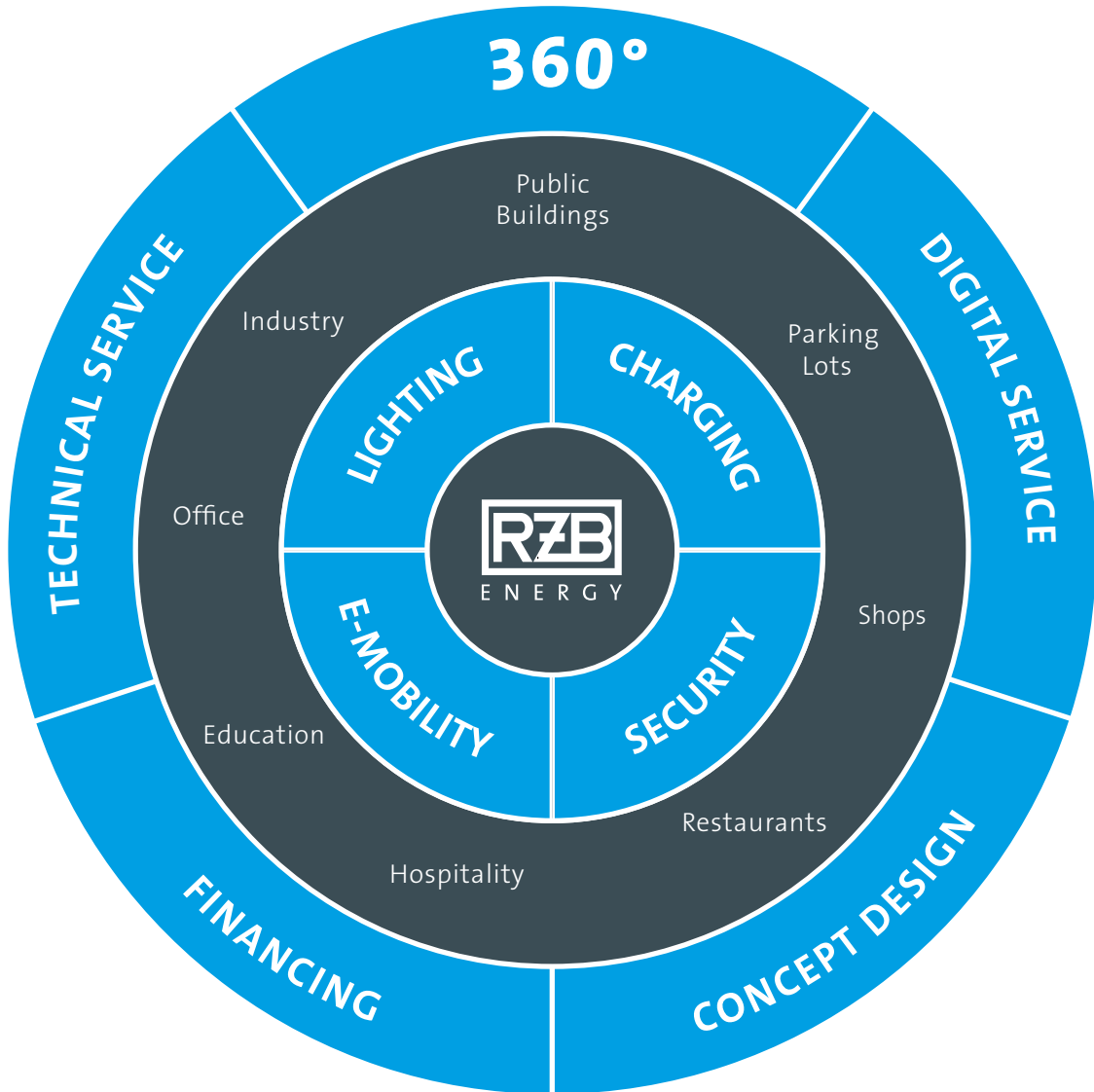
With the S.A.F.E. transparency software, the consumer has the possibility to check digitally signed measured values of charging processes for their validity. This enables them to ensure that the values values have not been manipulated by third parties. This demand for transparency and traceability is also anchored in calibration law.



Overload protection SPD

To protect technical systems and components from sudden voltage surges, surge protection devices are used in charging stations. In the event of a lightning strike, for example, these ensure the reliable discharge of surge currents. These components are also referred to as SPD's: Surge Protection Devices.





As a multi-specialist, RZB Rudolf Zimmermann, Bamberg GmbH has stood for highly efficient products and excellent lighting quality "Made in Germany" for over 85 years.

The focus is on the development and production of indoor, outdoor, and safety luminaires, as well as lighting management systems. With the RZB ENERGY brand, the long-established company is turning its attention to the future topic of electromobility and presenting smart, integrated charging solutions for a sustainable infrastructure.

Certification to DIN-ISO 9001, validation to EMAS and the annual assessment by the EcoVadis rating agency

illustrate the company's quality and environmental management activities and mentality.

Important electrotechnical, mechanical and lighting tests can be carried out in our in-house laboratories. The certification for modules B and D authorises RZB to manufacture, test and market charging stations in accordance with the German Measurement and Verification Act.

In the RZB Group, over 800 specialists develop and produce smart solutions "for tomorrow".



**WE BRING
POWER TO
THE STREET**

**More
information!**



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