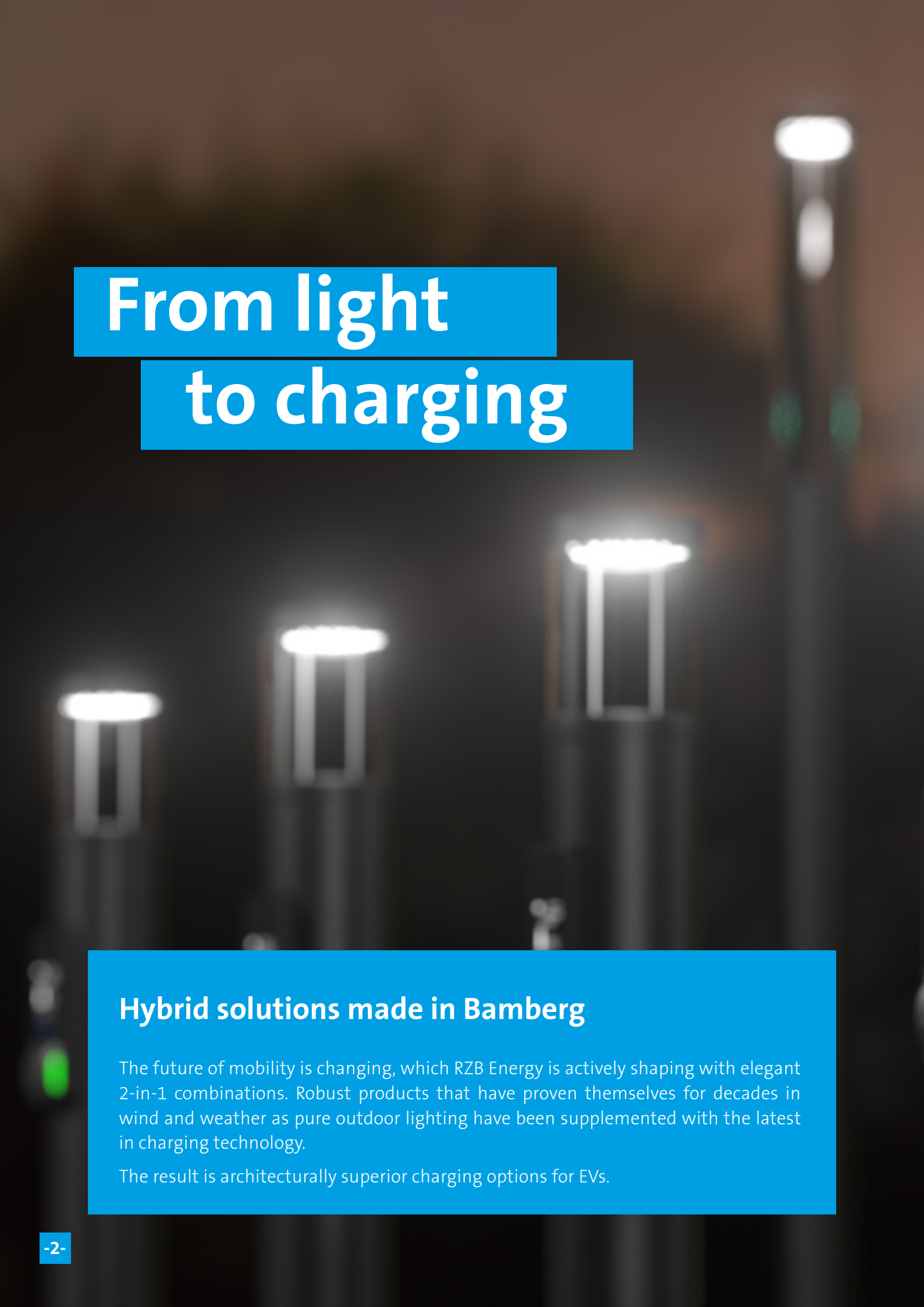
RZB ENERGY

THINK OUTSIDE THE WALL Box

Light + Charge

EN



From light to charging

Hybrid solutions made in Bamberg

The future of mobility is changing, which RZB Energy is actively shaping 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 for EVs.

Portfolio

Certified backends:

MONTA

reev

reddot winner 2023
urban design

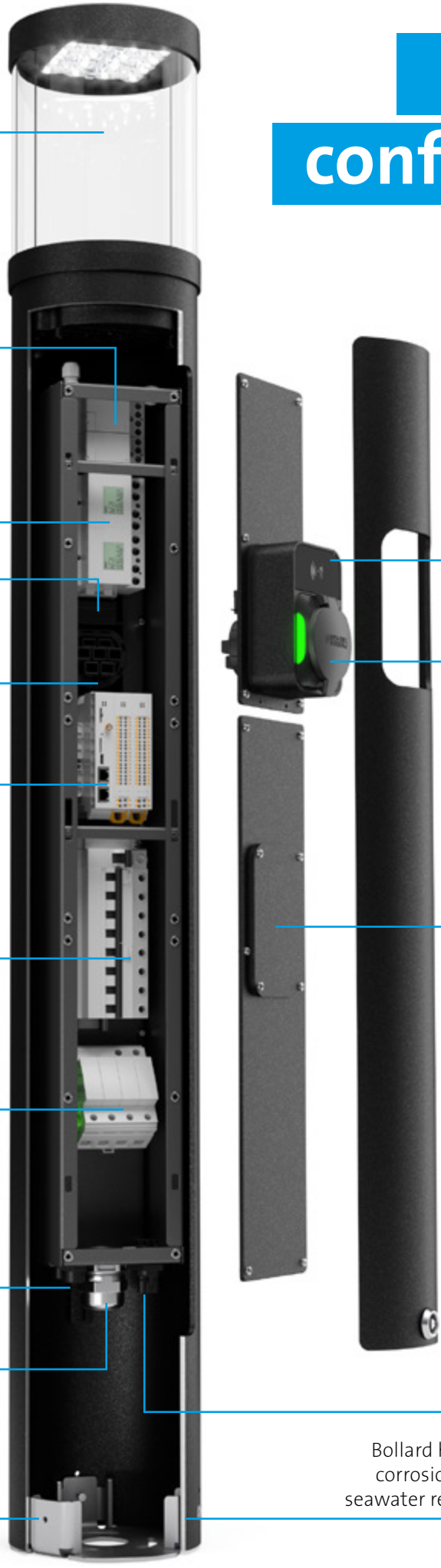
	Columns		Bollards		Wallbox
	Lupalo	Bocaro	Lupalo	Bocaro	Muralo
Diameter	180	156	180	156	257 x 148
Height	5000	5000	1150/1400	1150/1570	304
Charge points	1/2	1/2	1/2	1/2	1
Socket / cable	✓	✓	✓	✓	✓
Lighting	✓	✓	✓	✓	✗

	B BASIC	S SMART	P PRO
Charging 2.3 – 22 kW	✓	✓	✓
DC-Error detection	✓	✓	✓
Load protection	✓	✓	✓
RFID	✓	✓	✓
LAN interface	✓	✓	✓
OCPP interface	✓	✓	✓
App control (Monta)	✓	✓	✓
Solar ready	✓	✓	✓
Plug & Charge ready	✓	✓	✓
Display (optional)	✓	✓	✓
Load management	✓	✓	✓
FI circuit breaker type A/LS	✗	✓	✓
MID/ME meter	✗	✓	✓
Surge protection	✗	✗	✓
Mobile connection	✗	✗	✓
Calibrated	✗	✗	✓
Powered by MONTA			
User management	✓	✓	✓
App + Online portal	✓	✓	✓
Fleet management	✗	✓	✓
Team cards (contract dependent)	✗	✓	✓
Transaction review	✗	✓	✓
Smart queue	✗	✓	✓
Roaming	✗	✓	✓
Ad-Hoc charging	✗	✓	✓
Support	✗	✓	✓
SIM card	✗	✗	✓

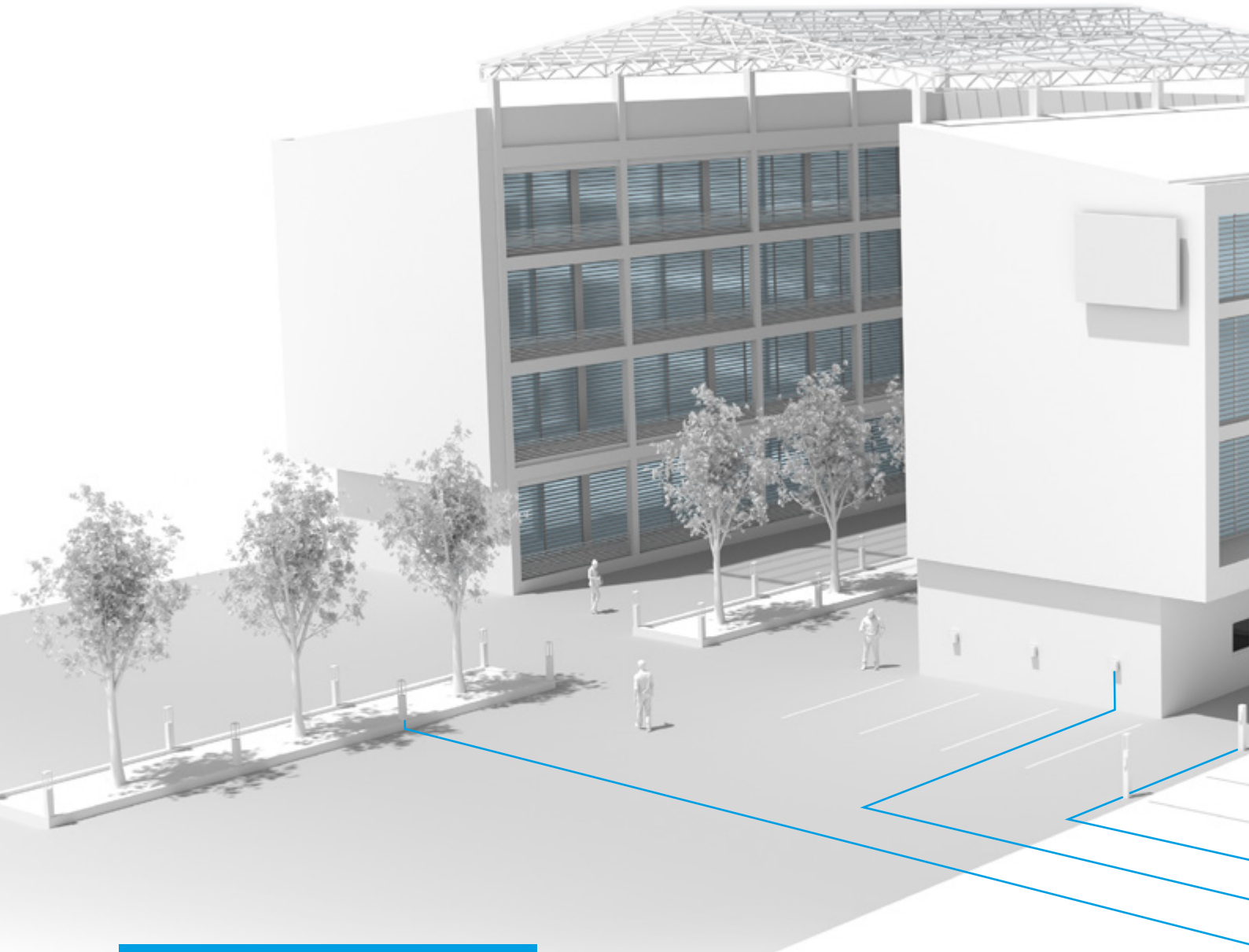
Alternative backend providers on request


08:09:10-27.03.2022
02:09
Fahrzeug verbinden
12
Startzeitpunkt
08:09:10-27.03.2022
Verbindungsdauer
00:00:01s
Geladene Energie
0.0 kWh
Ladeleistung
0.0 kW
Abrechnungsdetails
Vorgang abbrechen
PHOENIX CONTACT

Technical configuration

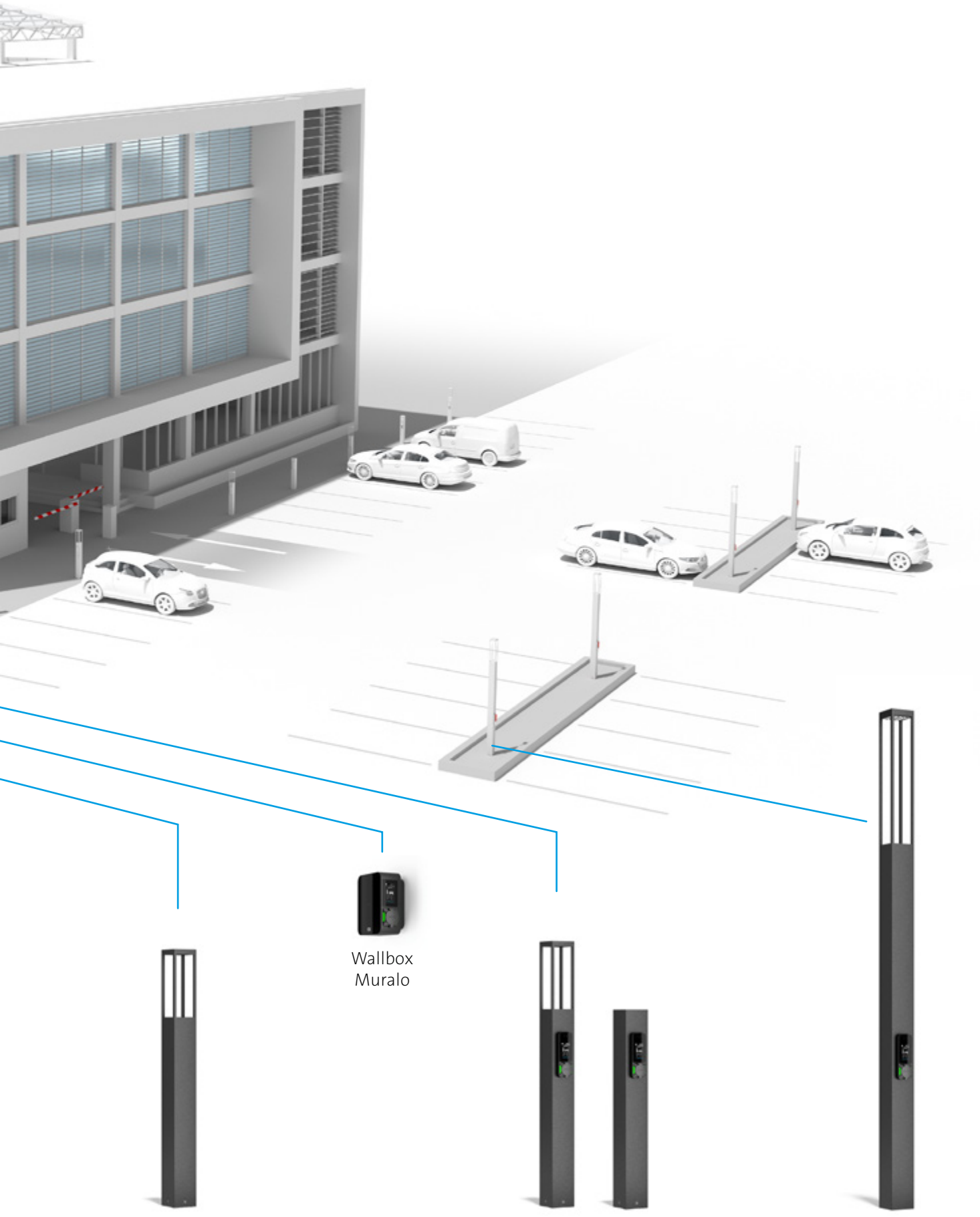


Technical changes and errors excepted. Illustration shows optional components.



E-Mobility made architectural

The appearance of outdoor spaces gets an immediate uplift with the hybrid solutions from RZB Energy. In addition, instead of multiple works by different trades, a single channel can be used for the installation of light and charging pole - all in one work step. Experienced partners such as Phoenix Contact, Wago and Monta are involved in the RZB Energy products.



Luminaire
Bocaro

Wallbox
Muralo

Luminaire and charging
bollard Bocaro

Luminaire and
charging column
Bocaro

Case studies

Application areas

Private

Private charging stations are located on private property and are accessible only to a usually very small and strictly defined group of people.

Semi-public

Semi-public charging stations are also located on a private property. However, they are only accessible to the public for certain user groups or for a limited period of time. These charging stations must meet the requirements of calibration law.

Public

Public charging stations are completely freely accessible, i.e. any person can charge their vehicle there at any time. These charging stations must comply with calibration law.

Private 1

Who: Landlord Mr. E. Vehicle for one of his rental houses with 4 tenant parties.

What: Charging solution at the parking space of the respective tenant, parking spaces are outdoors without roofing.

Quantity: 1 charging point per tenant

Access: Only the tenants of the building on their personal parking space, access control via RFID card

Accounting: Exact billing per charging point or tenant required.

Resulting requirements:

- Each tenant may only be charged for the amount of energy actually used for charging. In this example, however, the lessor has the option of measuring the amount of electricity directly via the respective electricity meter of each tenant.
- Since lessor and tenant are also in a long-term contractual relationship, the electricity meter of the flat is sufficient here. A separate electricity meter for the charging station is not required.

Product recommendation:

Lupalo Basic bollard or **Bocaro Basic** bollard with light for good illumination of the charging station and parking space.

Backend: Monta Basic

Private 2

Who: Landlord Mr. E. Vehicle, for another multi-party rental housing with 20 tenant parties.

What: Charging solution at the parking space of the respective tenants, parking spaces are partly in the underground car park, partly out doorwithout roofing

Quantity: 1 charging point per tenant

Access: Only tenants of the building, access control via RFID card

Accounting: Exact billing per charging point or tenant is necessary.

Resulting requirements:

- Each tenant may only be billed for the exact amount of energy used to charge the vehicle.
- For structural reasons, the lessor cannot bill the tenants directly via their electricity meters this time. Therefore, an electricity meter must be installed upstream or directly in the charging point. An MID-certified meter is sufficient here.
- It must be possible to clearly assign each charging point to a single user. This can be ensured, for example, by user authentication directly at the charging station via RFID chip. For easy display of the electricity meter values, a connection to a backend system via LAN or mobile communications is recommended.

Product recommendation:

Wallbox **Muralo Smart** for charging solutions in the underground car park Bollard **Lupalo Smart** or bollard **Bocaro Smart** for charging solutions outdoors.

If the landlord wants an optional solution that complies with calibration law, this is possible with the **Pro variant**.

Backend: Monta Pro

Public

Who: Charger County

What: Redesign of a public car park in the city area

Quantity: 18 charging points

Access:
public, i.e. anyone can charge their vehicle there

Accounting: Fee-based charging, i.e. a billing system is required. It must be possible to assign each user exactly his charging process and to bill him in real time, whereby the calibration law applies here due to the public accessibility.

Resulting requirements:

- Special ME meter that assigns a time stamp to each charging process.
- As of 01.07.24 in accordance with the charge point ordinance: Meter readings can be viewed (retroactively for 2 years), therefore product with display.
- Ad hoc charging via QR code, RFID or central payment terminal for common credit/debit cards must be made possible (charging app or charging card can be offered additionally).
- This results in the need for a backend system

Product recommendation:

Lupalo Pro or **Bocaro Pro** (bollard or column in each case) with at least 1 display, additional payment terminal for common debit/credit cards and with light for good illumination of charging station and parking space.

Backend: Monta license Business
(optional Enterprise for 24/7 support)

Case studies

Semi-public

Who: Company “Green Wave”

What: Charging solutions at companies parking area

Quantity: 10 charging points

Access:
Employees only, access control via RFID card or app

Accounting:
Exact billing per charging process necessary

Resulting requirements:

- Each charging procedure must be assigned exactly to the respective employee so that the amount of electricity consumed can be billed precisely to that employee.
- For this, the charging stations need an electricity meter and a backend system - which again results in the need for a LAN connection or a SIM card.
- In this example, the operator can also identify the users individually, they are regularly known to him by name. This means that the charging point must meet the requirements of calibration law.

Product recommendation:

Lupalo Pro or **Bocaro Pro**
(bollard or column) with light for good illumination of charging station and parking space.

Backend: Monta license Pro

Good to know:

The company “Green Wave” could use a backend system to make the charging points publicly accessible at certain times of the day, i.e. anyone would be allowed to use them. In this case, they would still be described as “semi-public”, but the charging stations would then have to comply with the calibration law. In addition, the requirements of the Charging Station and Price Indication Ordinance must be observed. The **Pro version** with display and additional payment terminal for common debit/credit cards would be used here.

Sample order, depending on the conditions of the site:

Lupalo with 1 charging point

10 x	Charge Unit Lupalo bollard Pro 1 charging point 811004
10 x	Light Unit Luminaire head Lupalo bollard asym. 982705.0131
10 x	Accessories buried base 983019.000
9 x	Accessories Y-distributor for through-wiring of the luminaires 983072.003
10 x	Backend Monta Pro 983055 (1 licence per charging point)

Lupalo with 2 charging points

5 x	Charge Unit Lupalo bollard Pro 2 charging points 811000
5 x	Light Unit Luminaire head Lupalo bollard asym. 982705.0131
5 x	Accessories buried base 983019.000
4 x	Accessories Y-distributor for through-wiring of the luminaires 983072.003
10 x	Backend Monta Pro 983055 (1 licence per charging point)

Projects with RZB

Brief description:

As part of the redesign of the public parking area in Charger County (see planning example “public”), the electrical installations as well as lighting systems are to be renovated in addition to the charging facilities. The team of the light planning of RZB is assigned.

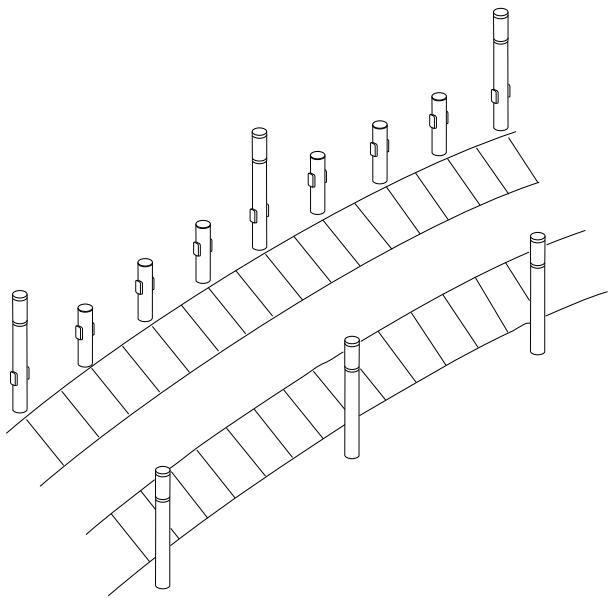
Tasks:

- Redesign of the lighting system according to the principles of standard-compliant lighting design
- User-oriented integration of charging points geared to the conditions of the location

Planning:

1. First, the determination of the luminaire type determines the further procedure. In the case of standardized post-top luminaires, the use of additional charging columns is unavoidable, since the charging technology cannot be integrated into the post. If, for example, Lupalo light columns are used, parking spaces can be equipped with light-charging combinations.

2. Charger County has chosen the Lupalo luminaire family for design reasons. The lighting system is planned on the basis of DIN EN 13201 (street lighting), which is also valid for paths, squares and parking lots and designs the lighting according to the specified lighting class (P classes).



3. The planning results in an exemplary luminaire spacing of 20 m between the light poles. In between, three charging bollards without light are installed in each case. All solutions used have two charging points each, so that a total of 18 charging points can be created.

Installation

For the commissioning and maintenance of charging stations, electricians must have certain qualifications. In Germany, these are as follows:

For commissioning:

- DIN VDE 0105-100 or DGUV 3 (formerly BGV A3).
- Qualification according to TRBS 1203 (if the system is classified as work equipment)

For the initial inspection and subsequent maintenance:

- Qualification according to TRBS 1203
- In addition, the electricians should be listed with the responsible guild.

We will be happy to put you in touch with electrical planners and qualified electricians in most European countries. Please note that many countries have specific regulations and standards. Our local sales teams, present all over Europe, are happy to help you find the right solutions.

360° lighting competence.
RZB - your partner with allround service.
- Consulting
- lighting design
- Project coordination

what you need

Light and charging or just one of the functions?

With the modular design of RZB Energy charging stations you have the choice. Below you can see what options are available and what you need for them, using the Lupalo bollard as an example.

Step 1:

- Selection of the tube termination (luminaire head or dummy cover)

--> e.g. luminaire head Lupalo bollard

Step 2:

- Selection of tube (with or without charge unit)

- With charge unit: Selection of functional level (Basic, Smart, Pro)

--> e.g. charge unit Pro with 2 charging points

Step 3:

- Selection of optional accessories:

- Mounting accessories

--> e. g. buried piece

- Electrical accessories

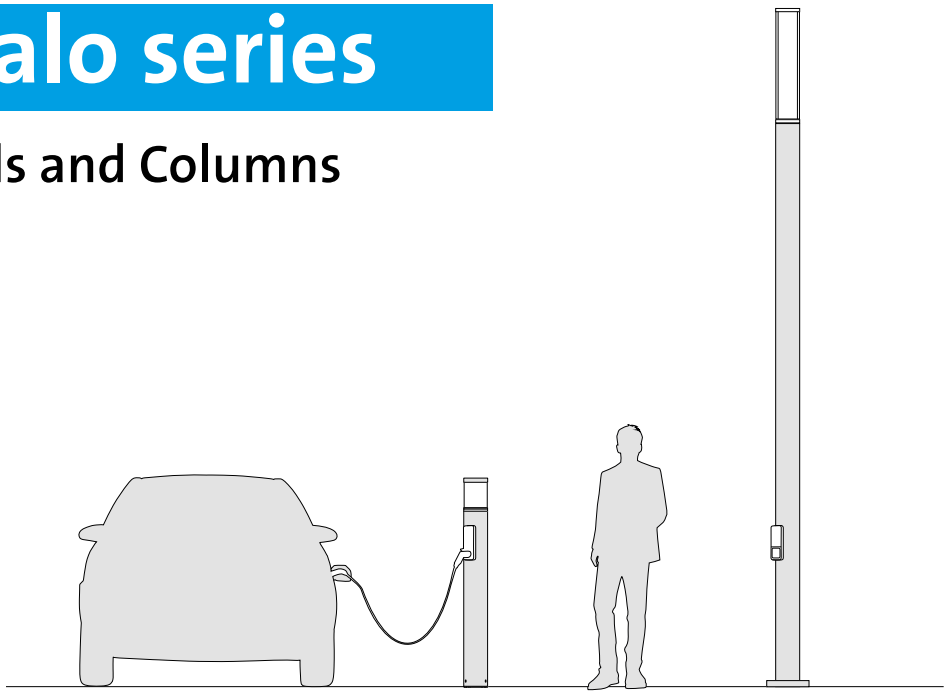
--> e.g. Y-distributor for through-wiring of the luminaire heads

- Backend accessories

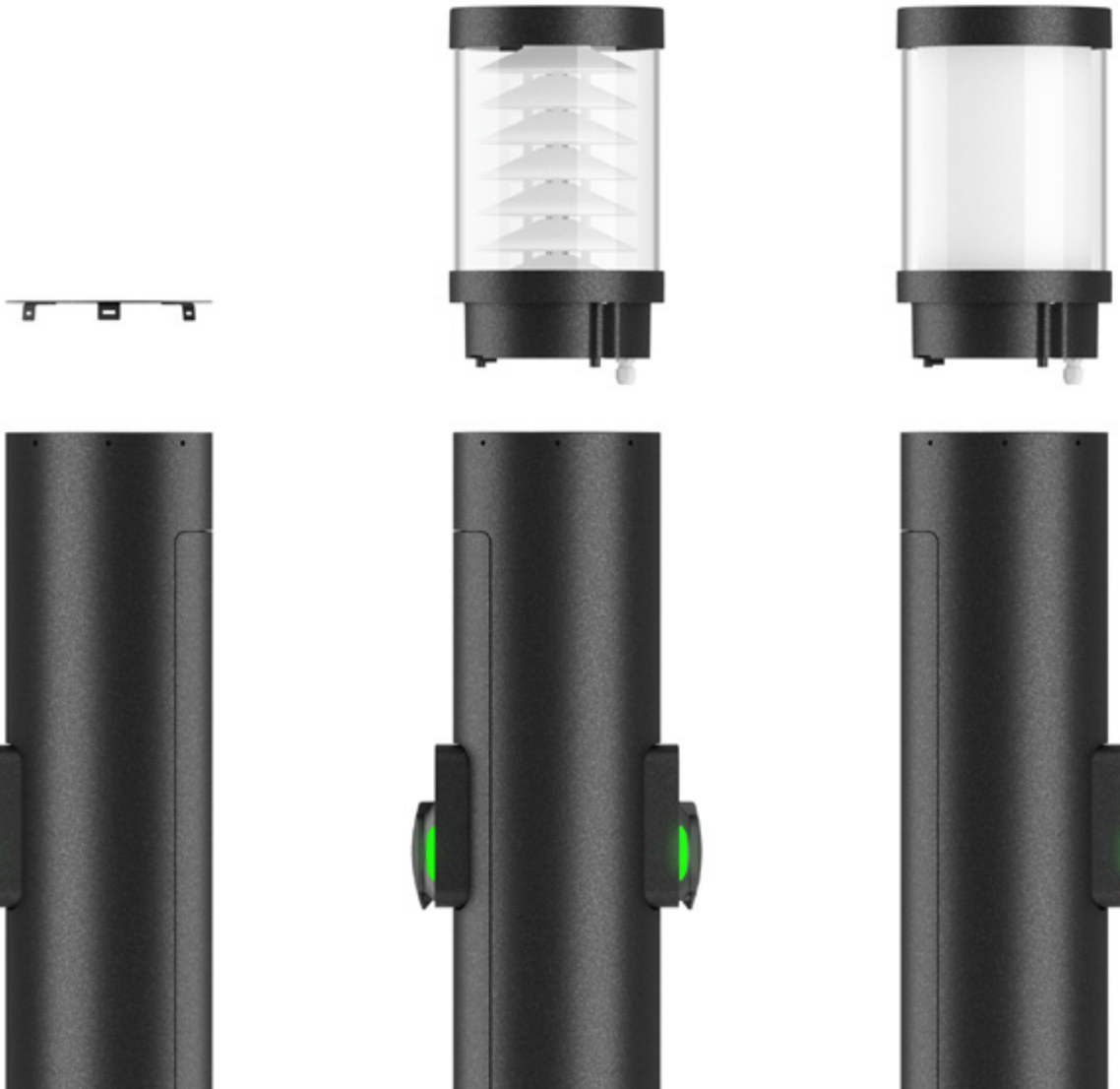
--> e.g. one Monta license Pro per charging point

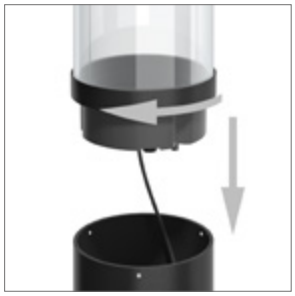
Lupalo series

Bollards and Columns



Slotted holes in the base for subsequent, simple alignment of the luminaire, especially with asymmetrically wide light distribution along a path (Bollards only)



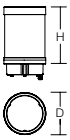


Sealed luminaire head, quick and easy to replace as a complete module in case of maintenance thanks to a bayonet lock

Lupalo bollard

Light unit

Bollards | LUPALO luminaire heads



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

Luminaire head made of corrosion-resistant aluminum, seawater-resistant powder-coated, stainless steel screws. With diaphragm valve to prevent condensation. Cover glass.

Modular design: A bollard with or without charging function is always required for the luminaire head. Please order separately!

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

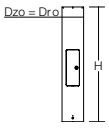
Reference number	Dimensions [mm]	Lampe	Light colour	Luminous flux [lm]	System power [W]	System-effizienz* [lm/W]	Control
Bollards - Luminaire head LUPALO							
Symmetrical light distribution for plaza lighting							
982705.00X	D 187, H 257	LED	730	3900	36	109	DALI
982705.00X.1	D 187, H 257	LED	740	4150	36	116	DALI
Asymmetrical light distribution for footpaths							
982705.01X	D 187, H 257	LED	730	3500	36	98	DALI
982705.01X.1	D 187, H 257	LED	740	3700	36	103	DALI

Bollards - Luminaire head LUPALO Laterne							
982706.00X	D 187, H 326	LED	830	810	20	41	Phase-cut
982706.00X.1	D 187, H 326	LED	840	850	20	43	Phase-cut

Bollards - Luminaire head LUPALO Tower							
982707.00X	D 187, H 326	LED	830	810	20	41	Phase-cut
982707.00X.1	D 187, H 326	LED	840	870	20	44	Phase-cut

Tube termination LUPALO No Light	
983025.00X	D 180

Modules | LUPALO - Bollard



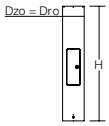
Bollard tube made of corrosion-resistant, powder-coated aluminum with fully enclosed stainless steel mounting base. With C-rail for junction box behind the pole door. Rugged stainless steel mounting base provides secure footing. Slotted holes in the base for easy subsequent alignment of the luminaire, especially in the case of asymmetrically wide light distribution along a path. Junction box on base max. 2 x 3 x 2.5 mm^2 for through-wiring.

Modular design: Please order LED luminaire head separately.

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

Module - Bollard		
612364.00X	D 180, H 1150	Bollard LUPALO H 1150

Bollard tube with integrated charging unit | LUPALO Charge unit



Type of protection: **IP 54**
Protection class: I
Impact protection: IK06

Bollard tube made of corrosion-resistant, powder-coated aluminum with fully enclosed stainless steel mounting base. The robust stainless steel mounting base provides secure footing. Slotted holes in base for easy subsequent alignment of luminaire.

Charging unit in separate aluminum box. Mounted on C-rail with 2 sliding nuts M6. Transparent plastic viewing window, to be opened via keyholes for checking/testing FI and overvoltage protection.

Modular design: Please order LED luminaire head or tube termination separately.

Available colours: anthracite, silver

Dimensions [mm]: D 180, H 1150

Standard scope of supply all variants: Charge controller, DC fault current detection, load protection, RFID scanner, LAN connection, 1 RFID tag per charging point

BASIC

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated	GSM	SPD	Colour
LUPALO Charge Basic										
811100	1	22	Type 2 socket	–	–	–	–	–	–	anthracite
811101	1	22	Type 2 socket	–	–	–	–	–	–	silver
811096	2	11	Type 2 socket	–	–	–	–	–	–	anthracite
811097	2	11	Type 2 socket	–	–	–	–	–	–	silver

SMART

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated	GSM	SPD	Colour
LUPALO Charge Smart										
811069	1	22	Type 2 socket	–	Type LS	MID	–	–	–	anthracite
811077	1	22	Type 2 socket	–	Type LS	MID	–	–	–	silver
811065	2	22	Type 2 socket	–	Type LS	MID	–	–	–	anthracite
811073	2	22	Type 2 socket	–	Type LS	MID	–	–	–	silver

PRO

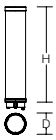
Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated*	GSM	SPD	Colour
LUPALO Charge Pro										
811004	1	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	anthracite
811012	1	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	silver
811000	2	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	anthracite
811008	2	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	silver
811002	2	22	Type 2 socket	✓	Type LS	ME	✓	✓	✓	anthracite
811010	2	22	Type 2 socket	✓	Type LS	ME	✓	✓	✓	silver

* At least one charging station with display is required for the charging park to comply with calibration law. Further provisions from the calibration law and charging station ordinance must be observed.

Lupalo column

Light unit

Light column | LUPALO - Luminaire head



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

Modular light column consisting of luminaire head and tube. Luminaire head made of corrosion-resistant die-cast aluminum, seawater-resistant powder-coated, stainless steel screws. Diffuser glass cylinder or plastic cylinder (PMMA) clear. Standard with diaphragm valve to prevent condensation. Multichip LED with high performance refractor optics. Light distribution optimized for street or area lighting.

With glass diffuser: Optically elegant power supply via filigree steel cables between control gear and LED. Control gear with integrated overvoltage protection up to 10 kV. Control gear suitable for DC voltage. With NFC programming interface. Control gear integrated in luminaire head.

Modular design: A tube or charger module is always required for the luminaire head. Please order separately!

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

Reference number	Dimensions [mm]	Light colour	Luminous flux [lm]	System power [W]	System efficiency* [lm/W]	Control
Light columns - luminaire head - diffuser glass						
Asymmetrical linear light distribution for wide streets and paths according to DIN EN 13201						
612329.00X.76	D 187, H 905	730	5250	55	95	DALI
612329.00X.1.76	D 187, H 905	740	5550	55	101	DALI
Asymmetrical linear light distribution for narrow streets and paths according to DIN EN 13201						
612328.00X.76	D 187, H 905	730	5150	55	94	DALI
612328.00X.1.76	D 187, H 905	740	5450	55	99	DALI
Symmetrical light distribution for area lighting (e.g. plazas, pedestrian zones)						
612327.00X.76	D 187, H 905	730	5550	55	101	DALI
612327.00X.1.76	D 187, H 905	740	5800	55	105	DALI

Light columns - luminaire head - diffuser plastic (PMMA)						
Asymmetrical linear light distribution for wide streets and paths according to DIN EN 13201						
612326.00X.76	D 187, H 905	730	5050	55	92	DALI
612326.00X.1.76	D 187, H 905	740	5350	55	97	DALI
Asymmetrical linear light distribution for narrow streets and paths according to DIN EN 13201						
612325.00X.76	D 187, H 905	730	4900	55	89	DALI
612325.00X.1.76	D 187, H 905	740	5150	55	94	DALI
Symmetrical light distribution for area lighting (e.g. plazas, pedestrian zones)						
612324.00X.76	D 187, H 905	730	5550	55	101	DALI
612324.00X.1.76	D 187, H 905	740	5850	55	106	DALI

Modules | LUPALO - Column

Tube made of aluminum profile, seawater resistant powder coated. With C-rail for cable junction box. Mast door with triangular lock.

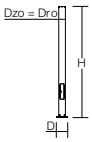
Tube with base plate		
612335.00X	D 300, H 4150	Tube (Dro) Ø 180 mm, spigot size (Dzo) Ø 180 mm

Module | LUPALO

Tube made of aluminum profile, seawater resistant powder coated. With C-rail for cable junction box. Mast door with triangular lock. Continuous ground piece with two lateral cable holes.

Tube with buried piece		
612235.01X	D 180, H 4150, HE 1000	Tube (Dro) Ø 180 mm, spigot size (Dzo) Ø 180 mm

Column tube with integrated charging unit | LUPALO - Column



Type of protection: **IP 54**
Protection class: I
Impact protection: IK08

Column tube made of aluminium profile with mounting plate with four screw holes, seawater-resistant powder-coated. Fixing of luminaire head by means of bayonet. Fixation by grub screw. Stainless steel screws. Mast door with triangular lock.

Charging unit in separate box made of aluminium. Fixed on C-rail with 2 sliding nuts M6. Transparent plastic inspection window, to be opened via keyholes for checking / testing FI and overvoltage protection.

Modular design: Please order LED luminaire head separately.

Available colours: anthracite, silver

Dimensions [mm]: D 300, H 4150, Dro 180

Standard scope of supply all variants: Charge controller, DC fault current detection, load protection, RFID scanner, LAN connection, 1 RFID tag per charging point

BASIC

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated	GSM	SPD	Colour
LUPALO Charge Basic										
811212	1	22	Type 2 socket	–	–	–	–	–	–	anthracite
811213	1	22	Type 2 socket	–	–	–	–	–	–	silver
811208	2	11	Type 2 socket	–	–	–	–	–	–	anthracite
811209	2	11	Type 2 socket	–	–	–	–	–	–	silver

SMART

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated	GSM	SPD	Colour
LUPALO Charge Smart										
811180	1	22	Type 2 socket	–	Type LS	MID	–	–	–	anthracite
811188	1	22	Type 2 socket	–	Type LS	MID	–	–	–	silver
811176	2	22	Type 2 socket	–	Type LS	MID	–	–	–	anthracite
811184	2	22	Type 2 socket	–	Type LS	MID	–	–	–	silver

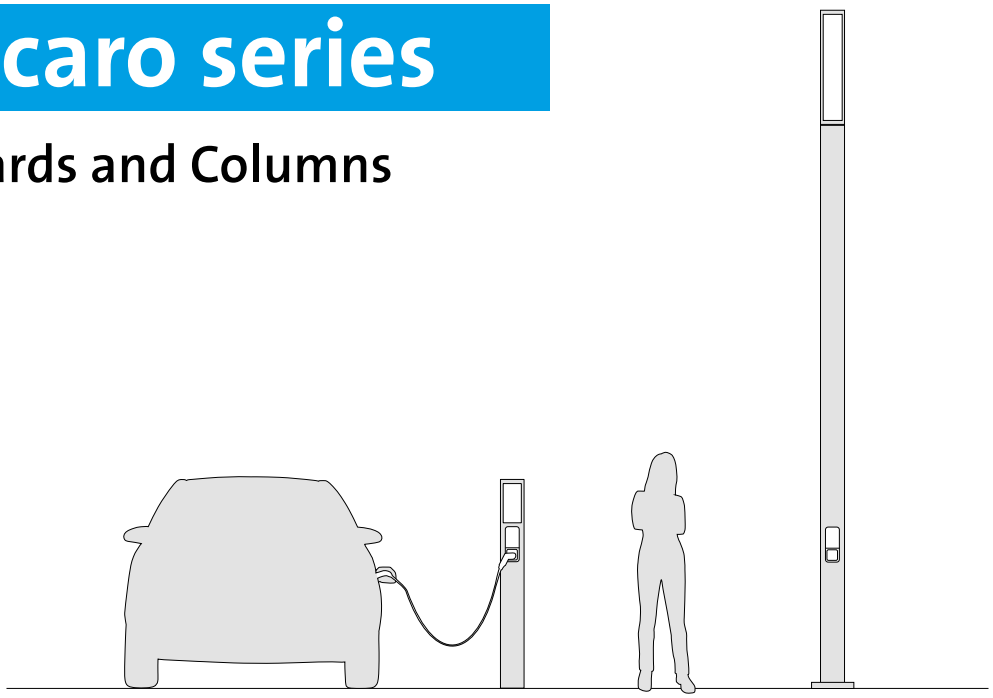
PRO

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated*	GSM	SPD	Colour
LUPALO Charge Pro										
811116	1	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	anthracite
811124	1	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	silver
811112	2	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	anthracite
811120	2	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	silver
811114	2	22	Type 2 socket	✓	Type LS	ME	✓	✓	✓	anthracite
811122	2	22	Type 2 socket	✓	Type LS	ME	✓	✓	✓	silver

* At least one charging station with display is required for the charging park to comply with calibration law. Further provisions from the calibration law and charging station ordinance must be observed.

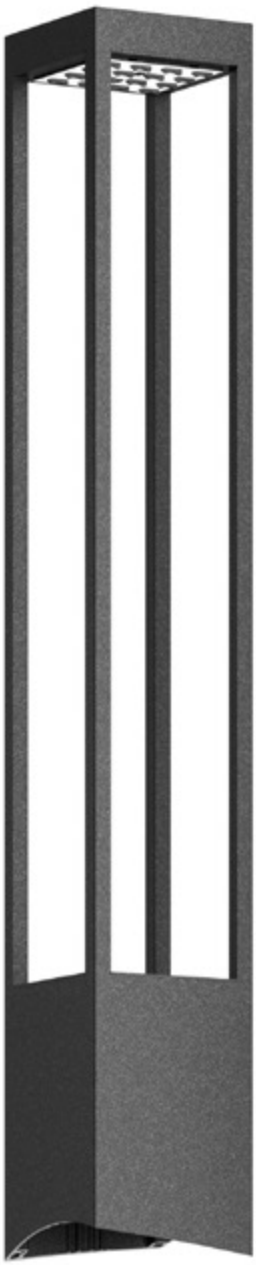
Bocaro series

Bollards and Columns

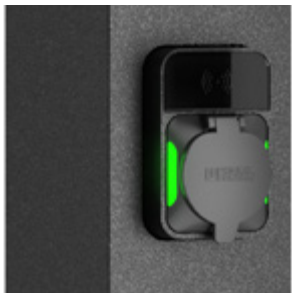


Extremely high stability due to stainless steel base (fastening with 4 screws) and integrated columns in the profile cross-section (Bollards only)

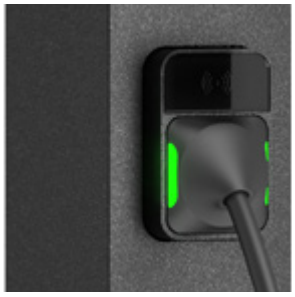
reddot winner 2023
urban design



Version with RFID,
display and socket



Version with RFID
and socket



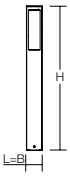
Version with RFID
and fixed
charging cable

Technical changes and errors excepted.

Bocaro bollard

Light unit

Bollards | BOCARO



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

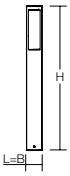
Bollard made of corrosion-resistant aluminum, seawater-resistant powder-coated. With fully enclosed stainless steel mounting base. LED protective cover toughened safety glass, clear. With mains voltage LED module. Junction box at base max. 2 x 3 x 2.5 mm^2 for through-wiring.

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

Reference number	Dimensions [mm]	Light colour	Luminous flux [lm]	System power [W]	System efficiency [lm/W]	Control
BOCARO Light						
Height H 1560 mm						
612378.00X	L 156, B 156, H 1570	830	1900	20	95	Phase-cut
612378.00X.1	L 156, B 156, H 1570	840	1950	20	98	Phase-cut

Light & Charge unit

Charging bollard | BOCARO



Type of protection: **IP 54**
Protection class: I
Impact protection: IK06 light unit, IK08 charge unit

Bollard made of corrosion-resistant, powder-coated aluminum with fully enclosed stainless steel mounting base. Seawater resistant coating.

Charging unit in separate box made of aluminum. Transparent plastic viewing window, to be opened via keyholes for checking/testing RCD and overvoltage protection.

Light & Charge version:

LED protective cover ESG glass, clear. With mains voltage LED module. Light color 830. Photometric values like bollard luminaire BOCARO. Light color 840 available on request.

Dimensions [mm]: L 156, B 156, H 1570

Charge version:

Dimensions [mm]: L 156, B 156, H 1150

Available colours: anthracite, silver

Standard scope of supply all variants: Charge controller, DC fault current detection, load protection, RFID scanner, LAN connection, 1 RFID tag per charging point

BASIC

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated	GSM	SPD	Colour
BOCARO Light & Charge Basic										
613164	1	22	Type 2 socket	–	–	–	–	–	–	anthracite
613165	1	22	Type 2 socket	–	–	–	–	–	–	silver
613160	2	11	Type 2 socket	–	–	–	–	–	–	anthracite
613161	2	11	Type 2 socket	–	–	–	–	–	–	silver

SMART

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated	GSM	SPD	Colour
BOCARO Light & Charge Smart										
613069	1	22	Type 2 socket	–	Type LS	MID	–	–	–	anthracite
613077	1	22	Type 2 socket	–	Type LS	MID	–	–	–	silver
613065	2	22	Type 2 socket	–	Type LS	MID	–	–	–	anthracite
613073	2	22	Type 2 socket	–	Type LS	MID	–	–	–	silver

PRO

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated*	GSM	SPD	Colour
BOCARO Light & Charge Pro										
613004	1	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	anthracite
613012	1	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	silver
613000	2	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	anthracite
613008	2	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	silver
613002	2	22	Type 2 socket	✓	Type LS	ME	✓	✓	✓	anthracite
613010	2	22	Type 2 socket	✓	Type LS	ME	✓	✓	✓	silver

* At least one charging station with display is required for the charging park to comply with calibration law. Further provisions from the calibration law and charging station ordinance must be observed.

Charge unit

BASIC

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated	GSM	SPD	Colour
BOCARO Charge Basic										
811324	1	22	Type 2 socket	–	–	–	–	–	–	anthracite
811325	1	22	Type 2 socket	–	–	–	–	–	–	silver
811320	2	11	Type 2 socket	–	–	–	–	–	–	anthracite
811321	2	11	Type 2 socket	–	–	–	–	–	–	silver

SMART

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated	GSM	SPD	Colour
BOCARO Charge Smart										
811292	1	22	Type 2 socket	–	Type LS	MID	–	–	–	anthracite
811300	1	22	Type 2 socket	–	Type LS	MID	–	–	–	silver
811288	2	22	Type 2 socket	–	Type LS	MID	–	–	–	anthracite
811296	2	22	Type 2 socket	–	Type LS	MID	–	–	–	silver

PRO

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated*	GSM	SPD	Colour
BOCARO Charge Pro										
811228	1	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	anthracite
811236	1	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	silver
811224	2	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	anthracite
811232	2	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	silver
811226	2	22	Type 2 socket	✓	Type LS	ME	✓	✓	✓	anthracite
811234	2	22	Type 2 socket	✓	Type LS	ME	✓	✓	✓	silver

* At least one charging station with display is required for the charging park to comply with calibration law. Further provisions from the calibration law and charging station ordinance must be observed.

Technical changes and errors excepted.

Bocaro column

Light unit

Light columns | BOCARO - Luminaire head

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

Modular light column consisting of luminaire head and column. Luminaire head made of aluminum square profile with cover made of corrosion-resistant die-cast aluminum, seawater-resistant powder-coated. Multichip LED with high-performance refractor optics. Light distribution optimized for street or area lighting. Mounting of luminaire head on column via screw connection. Control gear suitable for DC voltage.

Please order fuse box separately.

Modular design: A tube or charger module is always required for the luminaire head. Please order separately!

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

Reference number	Dimensions [mm]	Light colour	Luminous flux [lm]	System power [W]	System efficiency* [lm/W]	Control
Light column - Luminaire head						
Asymmetrical linear light distribution for wide streets and paths according to DIN EN 13201						
612350.00X	L 156, B 156, H 800	730	3700	35	106	on/off
612350.00X.1	L 156, B 156, H 800	740	3950	35	113	on/off
612350.00X.76	L 156, B 156, H 800	730	3750	37	101	DALI
612350.00X.1.76	L 156, B 156, H 800	740	4000	37	108	DALI
Asymmetrical linear light distribution for narrow streets and paths according to DIN EN 13201						
612349.00X	L 156, B 156, H 800	730	3650	35	104	on/off
612349.00X.1	L 156, B 156, H 800	740	3850	35	110	on/off
612349.00X.76	L 156, B 156, H 800	730	3750	37	101	DALI
612349.00X.1.76	L 156, B 156, H 800	740	3900	37	105	DALI
Symmetrical light distribution for area lighting (e.g. squares, pedestrian zones)						
612351.00X	L 156, B 156, H 800	730	3300	35	94	on/off
612351.00X.1	L 156, B 156, H 800	740	3550	35	101	on/off
612351.00X.76	L 156, B 156, H 800	730	3350	37	91	DALI
612351.00X.1.76	L 156, B 156, H 800	740	3600	37	97	DALI

Modules | BOCARO
Column made of aluminum profile, seawater-resistant powder-coated. Mounting plate with four screw holes, seawater-resistant powder-coated. Including fastening screws for cable transition box. Mast door with triangular lock.

Tube with base plate

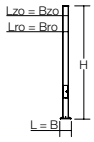
612357.00X	L 300, B 300, H 4200	Tube (Lro x Bro) 156x156 mm, spigot size (Lzo x Bzo) 156x156 mm

Modules | BOCARO
Column made of aluminum profile, seawater-resistant powder-coated. Continuous ground piece with two lateral cable holes. Including fastening screws for cable transition box. Mast door with triangular lock.

Tube with buried piece

612354.00X	L 156, B 156, H 4200, HE 800	Tube (Lro x Bro) 156x156 mm, spigot size (Lzo x Bzo) 156x156 mm

Column tube with integrated charging unit | BOCARO - Charging module



Type of protection: **IP 54**
Protection class: I
Impact protection: IK08

Column made of aluminium profile with mounting plate with four screw holes, seawater-resistant powder-coated. Fixation by grub screw. Stainless steel screws. Mast door with triangular lock.

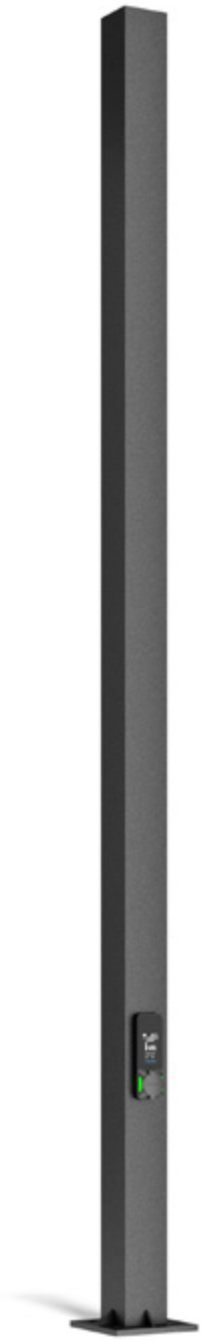
Charging unit in separate box made of aluminium. Transparent plastic inspection window, to be opened via keyholes for checking / testing FI and overvoltage protection.

Modular design: Please order LED luminaire head separately.

Available colours: anthracite, silver

Dimensions [mm]: L 300, B 300, H 4200, Lro 156, Bro 156

Standard scope of supply all variants: Charge controller, DC fault current detection, load protection, RFID scanner, LAN connection, 1 RFID tag per charging point



BASIC

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated	GSM	SPD	Colour
BOCARO Charge Basic										
811436	1	22	Type 2 socket	–	–	–	–	–	–	anthracite
811437	1	22	Type 2 socket	–	–	–	–	–	–	silver
811432	2	11	Type 2 socket	–	–	–	–	–	–	anthracite
811433	2	11	Type 2 socket	–	–	–	–	–	–	silver

SMART

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated	GSM	SPD	Colour
BOCARO Charge Smart										
811404	1	22	Type 2 socket	–	Type LS	MID	–	–	–	anthracite
811412	1	22	Type 2 socket	–	Type LS	MID	–	–	–	silver
811400	2	22	Type 2 socket	–	Type LS	MID	–	–	–	anthracite
811408	2	22	Type 2 socket	–	Type LS	MID	–	–	–	silver

PRO

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated*	GSM	SPD	Colour
BOCARO Charge Pro										
811340	1	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	anthracite
811348	1	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	silver
811336	2	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	anthracite
811344	2	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	silver
811338	2	22	Type 2 socket	✓	Type LS	ME	✓	✓	✓	anthracite
811346	2	22	Type 2 socket	✓	Type LS	ME	✓	✓	✓	silver

* At least one charging station with display is required for the charging park to comply with calibration law. Further provisions from the calibration law and charging station ordinance must be observed.

eMiliarium

Stone bollards

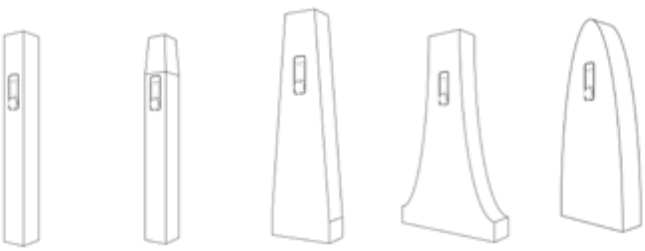
design by

SIMONE BOLDRIN
ARCHITETTURA

The charging columns of the eMiliarium series originate from the cooperation between **RZB Energy** and the Bamberg-based **natural stone factory Hermann Graser**, a leading company in the natural stone industry.

The company‘s particular strength is the combination of traditional stonemasonry techniques with innovative production processes, such as the automated processing of natural stone with industrial robots.

Form options:



Stone options:

light

dark

www.emiliarium.com/en

Technical changes and errors excepted.

Stone Bollard with integrated charging unit | eMiliarium

Type of protection: **IP 54**
Protection class: I
Impact protection: IK08

Housing made of milled natural stone.

Charging unit in separate box made of aluminium. Transparent plastic viewing window, to be opened via keyholes for checking / testing of FI and overvoltage protection.

Dimensions of the straight column shown: L 200, W 200, H 1650
(other form options on request)

Standard scope of supply all variants: Charge controller, DC fault current detection, load protection, RFID scanner, LAN connection, 1 RFID tag per charging point

SMART

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated	GSM	SPD	Stone option
eMiliarium Charge Smart										
811702	1	22	Type 2 socket	–	Type LS	MID	–	–	–	light
811705	1	22	Type 2 socket	–	Type LS	MID	–	–	–	dark
811703	2	22	Type 2 socket	–	Type LS	MID	–	–	–	light
811704	2	22	Type 2 socket	–	Type LS	MID	–	–	–	dark

PRO

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated*	GSM	SPD	Stone option
eMiliarium Charge Pro										
811690	1	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	light
811698	1	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	dark
811686	2	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	light
811694	2	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	dark
811688	2	22	Type 2 socket	✓	Type LS	ME	✓	✓	✓	light
811696	2	22	Type 2 socket	✓	Type LS	ME	✓	✓	✓	dark

* At least one charging station with display is required for the charging park to comply with calibration law. Further provisions from the calibration law and charging station ordinance must be observed.

Accessories for eMiliarium

Precast foundation

983070.000	L 400, B 400, H 600	Precast concrete foundation for eMiliarium stone bollards

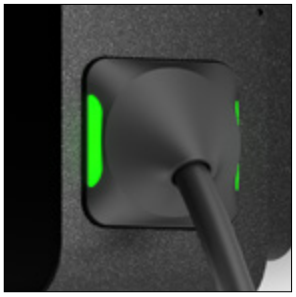
Foundation anchor

983071.000	L 740, B 220, H 414	Foundation anchor for eMiliarium stone bollards

Muralo

Wall boxes

Version with RFID and socket



Version with RFID and fixed charging cable

Version with RFID, display and fixed charging cable

Wallbox | Muralo

Type of protection: **IP 54**
Protection class: I
Impact protection: IK06

Housing made of aluminum, seawater resistant powder-coated. Cover made of ceramic-coated toughened glass. Simple installation and electrical connection due to separate wall fitting. Contacting of the front housing by means of plug-in connector, fixing with grub screws.

Dimensions [mm]: L 257, B 148, H 304

Available colours: anthracite, silver

Standard scope of supply all variants: Charge controller, DC fault current detection, load protection, RFID scanner, LAN connection, 1 RFID tag per charging point

BASIC

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated	GSM	SPD	Colour
Muralo Charge Basic										
811684	1	22	Type 2 socket	–	–	–	–	–	–	anthracite
811685	1	22	Type 2 socket	–	–	–	–	–	–	silver

SMART

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated	GSM	SPD	Colour
Muralo Charge Smart										
811680	1	22	Type 2 socket	–	Type LS	MID	–	–	–	anthracite
811682	1	22	Type 2 socket	–	Type LS	MID	–	–	–	silver

PRO

Reference number	Charging points	Power/ Port [kW]	Connector	Display	FI	Energy meter	Calibrated*	GSM	SPD	Colour
Muralo Charge Pro										
811672	1	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	anthracite
811676	1	22	Type 2 socket	–	Type LS	ME	✓	✓	✓	silver
811673	1	22	Type 2 socket	✓	Type LS	ME	✓	✓	✓	anthracite
811677	1	22	Type 2 socket	✓	Type LS	ME	✓	✓	✓	silver

* At least one charging station with display is required for the charging park to comply with calibration law. Further provisions from the calibration law and charging station ordinance must be observed.

Accessories

for all charging solutions

Accessories I RFID tags
Housing plastic, blue.

RFID tags

983084.006	L 50, B 30, H 4	RFID tag blue

Accessories | Backend Monta
One license is required per charging point.

Backend Monta

983055	Licence Monta Pro
983056	Licence Monta Business

QR code sticker

983113.008	QR code sticker small

for all charging solutions with light

Accessories for through-wiring

983072.003	L 96, B 59, H 38	Y-distributor for through-wiring of the luminaires

for bollards with charging function

Aluminium buried base with anti-sink protection and fixing set

983019.000	D 190, H 806	Bollard 156 x 156 mm

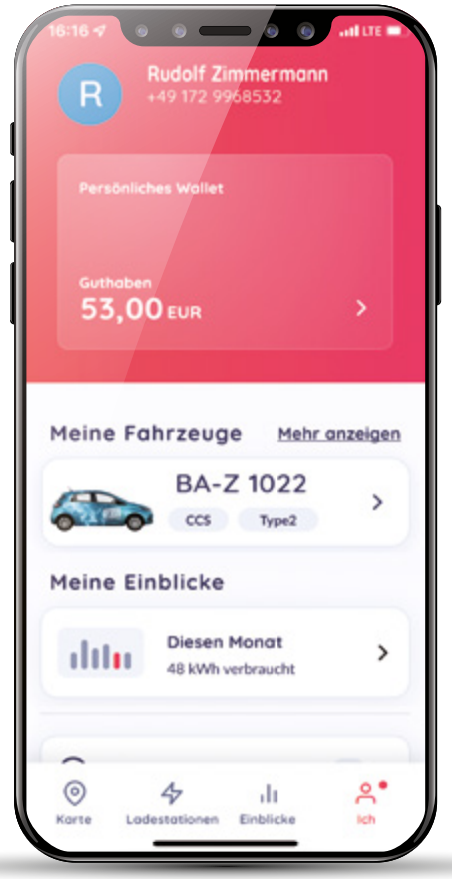
for luminaires without charging function

Accessories | Fuse box
Housing: plastic. Contact protection in accordance with VBG 4. Input for 3 cables 5 x 16 mm^2. One D01 / E14 Fuse. 2 outgoing lines.

Fuse box

61199.009	L 265, B 72, H 75	Fuse box

* not suitable for Bocaro bollards



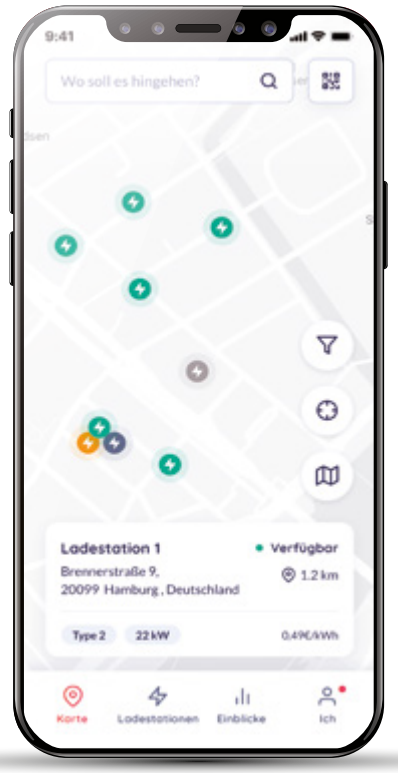
Monta backend

What is a backend system?

As a part of a software application, a backend system is used for data processing. It consists of various layers, such as a database, the business logic and an integration layer, and is designed for scalability, security, performance and reliability.

The “Powered by Monta” advantage

The fit between software and hardware requirements has been checked and the interface of all RZB ENERGY solutions is preconfigured for the Monta software at the factory. This makes commissioning the charging stations with Monta extremely time-saving for the electrician.



Monta backend

Different payment options

Users can pay for charging using Google Pay, Apple Pay, credit card or debit card via Payter payment terminal.

Roaming in a global network

Charging stations connected to Monta are visible on many other charging apps if desired.

User management

The Monta software offers a solution for managing different user and price groups as well as access authorizations. Entire vehicle fleets can be easily organized with team charging cards, for example.

Smart Queue

Monta's Smart Queue system links free charging stations with waiting cars.

Reserving charging stations

Monta software allows charging stations to be reserved for specific users.

Transaction overview

The intuitive Monta app and the online portal offer the opportunity to view all relevant transaction data (e.g. consumption, prices, use of renewable energies).

Self-Healing

Thanks to "Self-Healing" algorithms, errors and bugs in the software are repaired automatically.

Security

With Monta, charging stations always automatically run on the latest firmware update, so security-related innovations are always taken into account.

Basic

Ideal for a small restaurant, office or hotel

- **No monthly subscription**
- **Available or free via the Monta website**
- **Max. 3 charge points**
- Unlimited team members
- Email & chat support
- Portal

Pro

Perfect for smaller sites that need to manage multiple charge points

- Unlimited team members
- Email & chat support
- Technical support (phone)
- Portal
- **Dashboard**
- **Transaction overview**
- **Smart Queue**
- **Load management**

Business

Optimal for company fleets and larger sites such as housing associations and companies

- Unlimited team members
- Email & chat support
- Technical support (phone)
- Custom support options
- Portal
- Dashboard
- Transaction overview
- Smart Queue
- Load management
- **Advanced team features**
- **Pay with Team Wallet**
- **Team charge keys**
- **Pay by invoice**
- **Sponsored charge point**
- **Roaming**

Enterprise

Best for large scale charging across multiple sites and the complete user experience

- Unlimited team members
- Email & chat support
- Technical support (phone)
- Custom support options
- Portal
- Dashboard
- Transaction overview
- Smart Queue
- Load management
- Advanced team features
- Pay with Team Wallet
- Team charge keys
- Pay by invoice
- Sponsored charge point
- Roaming
- **24/7 support**
- **Enterprise security**
- **Public API**
- **available on demand**

Featurama

API B S P

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 B S P

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 P

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 B

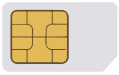
This detects errors in current and interrupts the charging stations power supply in fractions of a second to protect people from potentially dangerous electric shocks.

FI / LS circuit breaker S P

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.

GSM Module P

GSM stands for Global System for Mobile Communications and is the basic mobile communications standard in many parts of the world.



LAN interface B S P

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 B S P

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 P

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.

B Basic version

S Smart version

P Pro version

S 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.

P 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 Monta, for example. can be obtained.

B S P 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, the backend system of Monta, but also of many other providers can be installed on the charging station.

B S P Plug & Charge ready

Suitable vehicles authenticate themselves by connecting to the charging station. Communication between the vehicle and the charging station is handled in the background by the software; no additional apps, cards or anything else are needed to pay for vehicle charging.

B S P 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.

B S P 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.

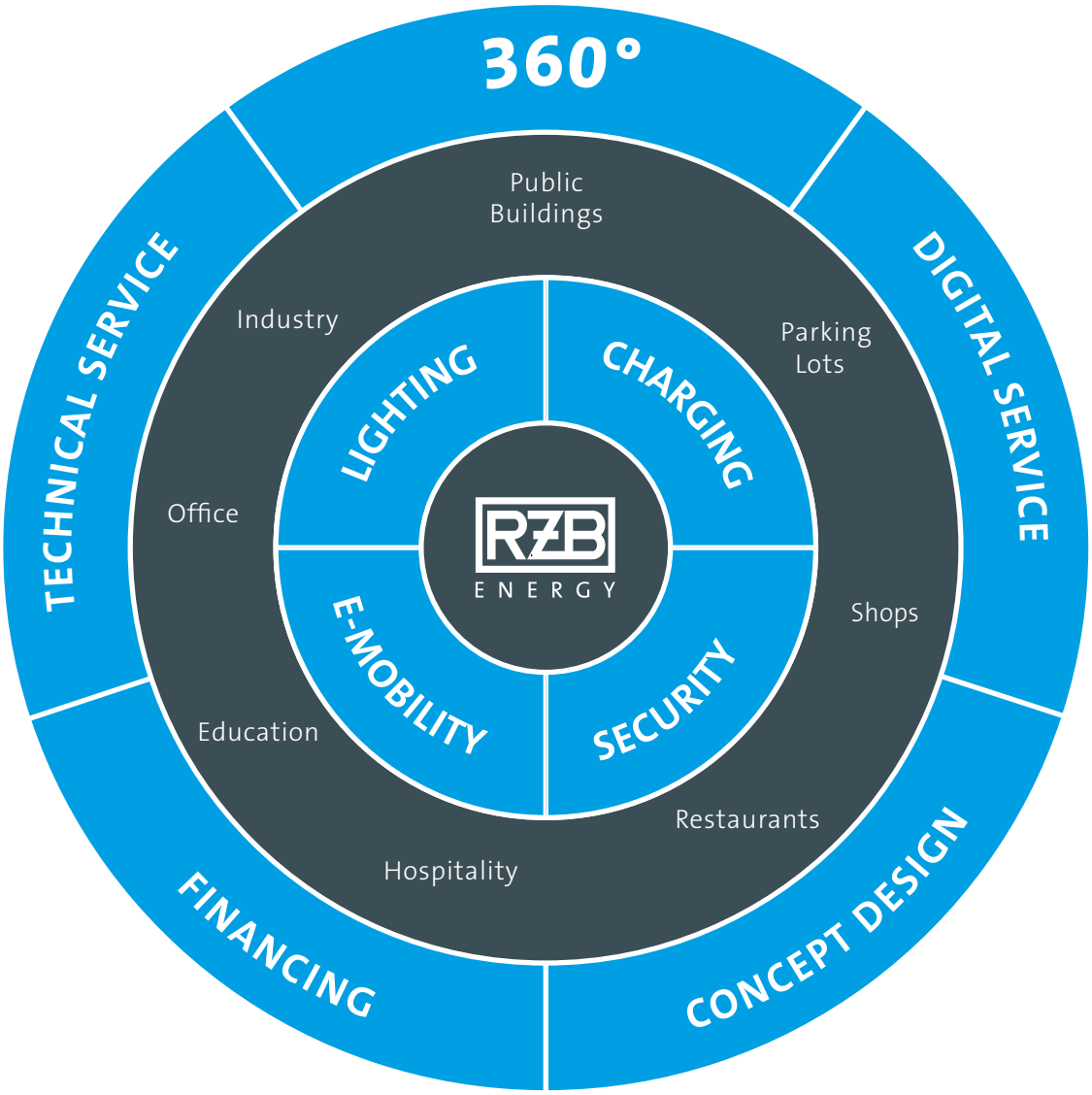
P Transparent

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.

P 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.

RZB Energy



As a light and lighting expert, RZB Rudolf Zimmermann, Bamberg GmbH has over 80 years' experience as a manufacturer of professional solutions, "Made in Germany".

With the new brand of RZB Energy, we have commenced activities in a new, exciting segment. The company, with a history of innovation, has a huge level of technological, vertical integration and produces almost 10,000 products each day in Bamberg.

Certification under DIN-ISO 9001 and most recently with the award of the EcoVadis silver medal for sustainable activities document the approach of the organisation to responsible development. In addition, important electrical, mechanical and photometric measurements are completed in our house-internal laboratories, in turn also certified. Across the group, around 800 people work on producing solutions for now and the future.

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