

Technical Datasheet

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Technical description

The chargeBIG charging system consists of a central control unit – the chargeBIG charging cabinet – with up to 36 single-phase charging points with fixed cable and type 2 plugs. On customer request, charging points with three-phase charging capacities can be integrated. The central charging cabinet contains the necessary electronic components such as charging controller, central energy measurement, residual current circuit breaker and over-voltage protection. The charging solution is in compliance with the German trademark law. Further information about the charging system and the service portfolio of chargeBIG at www.chargeBIG.com.

Electrical data

Rated current (configurable connection values)	Complete system with 18 charging points: 125 A (min. 63 A); with 36 charging points: 250 A (min. 100 A); complete system three-phase with N conductor (connection to low voltage main distribution) At disconnection point for supply cable in the control cabinet: Disconnecting blade for max 630A (without fuse function). Disconnecting blade can be replaced by fuse. Selectivity must be given. Individual charging points single-phase with 6-32 A dynamic or three-phase with 32 A
Grid voltage (Europe)	230 V / 400 V
Grid frequency	50 hertz
Grid type	TT / TN / TNS / TNCS
Protection class	I
Over-voltage category	Type 2 according to EN 61643-11
Rated short time current strength	< 6kA effective value according to EN 61439-1
Fuse protection (in the house installation)	Complete system with 18 charging points: 63 to 125 A Complete system with 36 charging points: 100 to 250 A
Fault current protection and DC current fault detection (charging cabinet)	30mA RCD type A and 6 mA RDC-MD for every charging point
Integrated electricity meter (charging cabinet)	Tested and approved according to MID, with slip-on current transformer, central for load management, measuring system for billing on request
Charging capacity	Single-phase 1.4 to 7.2kW dynamically controlled depending on connected load, number of connected vehicles and control parameters
Output voltage	230V single-phase / 400V three-phase

Protection class

IP protection class device	Charging cabinet (IP55), plug (IP44)
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Connections

Cable	Charging cabinet: wiring from above or below via modular cabinet
Connection cross section Minimum cross section (depending on cable and installation method)	Between the connection point and the charging cabinet: e.g. underground cable NYCWY 4 x 120 nm / 70 mm ² SW Between charging cabinet and charging point: cable 4 x 6 mm ² or 7 x 6 mm ² , see standard DIN VDE 0285-525-2-51, max. 70 m Example cable 4 x 6 mm ² for single-phase charging points NYY-J with / without empty tube or cable 7 x 6 mm ² for three-phase charging points
Supply terminal	Bolt connection terminal 120 mm ² / 240 mm ² with cable lug
Charging cable variants	Standard type 2 single-phase cables: up to 32 A / 230 VAC according to EN 62196-1, length 3.5 m; three-phase charging capacity or length > 3.5 m possible

Environmental conditions

Operating temperature range charging point	-35 °C to +70 °C (with direct sunlight)
Operating temperature range charging cabinet	-25 °C to +55 °C (without direct sunlight)
Temperature behavior	Within the respective specified operating temperature ranges, the system provides the charging current continuously. In order to increase the charging availability, the charging current specification is dynamically reduced if the temperature is not allowed to be exceeded. After cooling down, the charging current specification is increased again.
Cooling system	Passive (active cooling for extra charge)
Storage temperature range	up to 70 °C
Permissible relative humidity	5% to 95% non-condensing
Altitude	max. 2000 m above sea level

Communication, functions and interfaces

Authentication	chargeBIG Backend/App, OCPP-Communication
Network interfaces	LAN, WLAN (optional), integration into the building management system via OPC-UA (other interfaces on request)
Mobile communications	LTE
Load management	Phase individual, highly dynamic and central load management for 18 to 100+ charging points with integration of other loads, generators (photovoltaic) and battery storage
Charging strategies	First come first serve, prioritization of individual charging points, integration of higher charging capacities (22 kW), further charging strategies on request

Mechanical data

Complete system chargeBIG dimensions in mm (height x width x depth)	Charging cabinet indoor (1950 x 1850 x 400); Charging cabinet outdoor (2050 x 2000 x 600) Each including modular cabinet for meter solution / billing charging pillar: stainless steel square tube (1170 x 100 x 100) plus plug holder (approx. 90 x 107 x 107) Wall mounting plug holder (110 x 110 x approx. 100)
Requirements foundation for charging points dimensions in mm (height x width x depth)	Foundations (> 400 (min. frost line) x 500 x 500) Concrete C30/37 LP for XC4, XD1, XF4 (e.g. C25/30 LP for XC4, XD1, XF2) Reinforcing steel: BSt 500 S (e.g. BSt 500 M) or screw foundation
Requirements foundation for charging cabinet	Depending on the dimensions of the charging cabinet, the selected supply line variant and the installation location