

ADAPTIVE Pantograph Booster

For fully automated ultra-fast charging

- of public transport busses
- during regular stops
- with limited power grid connection.



- 300 kW total charging power
- 40 kW+ network connection
- Efficient integration of local renewable energies
- Sustainable and longlasting energy storage system
- No hazardous materials



GREEN TECH
MADE IN
GERMANY

Technical properties flywheel-integrated charger	Power input	400 V AC, 50 Hz, 63 A to 250 A
	Power output	150 VDC to 1000 VDC, up to 500 A
	Charging power boost	300 kW
	Charging power nominal	60 kW
	Number of connectable pantographs	2, optional 1
	Energy meter	Exact allocation of charged energy to the vehicle
Energy storage system	Type of energy storage	Flywheel; ring-type / hollow cylinder flywheel
	Flywheel rotor material	Carbon fiber winding
	Flywheel bearing system	Contact free magnetic bearings
	Flywheel operating atmosphere	High Vacuum
Technical properties energy storage system	Rated power	200 kW
	Usable energy capacity	20 kWh
	Efficiency	92 % (DC roundtrip)
	Cycle life	> 1,000,000
	Calendrical life	25 years
	Dimensions (W x L x H)	1.2 m x 2.4 m x 2.9 m
	Weight	5.5 t
Communication and energy management	Communication to CPO backend	OCPP 1.6
	Data connection to CPO backend	4G, 5G & LAN
	Data connection to remote maintenance backend	4G, 5G & LAN
	Energy Management	Internal energy management
	Interface protocol to external energy management / SCADA	Optional: Modbus TCP, EtherCAT or customer specific
Standards & Safety	Conformity	CE
	Protection class flywheel-integrated charger	IP 55, IK 10
	Operating noise level	< 65 dBA
	Sustainability	No battery chemicals, recyclable at end of lifetime
	Place of manufacture	Germany
Maintenance	On site maintenance of flywheel-integrated charger	By trained personnel
	Intervals	Yearly
	Remote maintenance	Continuous monitoring
Surrounding conditions	Operating temperature	- 20° C to 40 °C
	Humidity (non condensing)	< 85%
	Storage temperature	- 10 °C to + 70 °C
Installation	Distance flywheel-integrated charger to pantograph	max. 100 m
	On-site foundation for flywheel-integrated charger	Concrete foundation
	Transport	Fully assembled energy storage system