

215 kWh Battery Energy Storage System

BESS 215

The G33 CP 215 Cabinet is a liquid-cooled, highly integrated battery energy storage system designed for industrial, commercial, microgrid, and off-grid applications.

It combines 215 kWh LFP battery capacity, an integrated BMS, PCS, EMS, liquid cooling, fire suppression, power distribution, as well as communication and safety systems in a compact cabinet.

Technical Specifications

Dimensions (W × D × H)	1,350 × 2,000 × 1,350 mm
Weight	approx. 2,600 kg
Installation	Indoor and outdoor
Operating temperature	–30 to +55 °C
Ingress protection	IP54
Operating altitude	≤ 2000 m
Humidity	0–95 % (non-condensing)
Cooling	Liquid cooling (glycol–water)
Battery System	
Battery type	LFP (Lithium Iron Phosphate)
Battery capacity	215 kWh
Voltage range	672–864 V DC
Cell type	LFP 3.2 V / 280 Ah
Battery pack	1P48S / 43 kWh
Battery system	1P240S (5 × 48S)
Charge/discharge rate	0.5 C nominal operation
Balancing	Passive cell balancing
Battery temperature	Charging: 0 to +55 °C · Discharging: –20 to +55 °C
Power Conversion System (PCS)	
<i>On-Grid Operation</i>	
Rated power	100 kW (@ 50 °C)
Maximum power	110 kW (@ 45 °C)
Grid voltage	400 V
Grid frequency	50/60 Hz
Power factor	–0,99 to +0,99
THDi	≤ 3 % (full load)
DC component	≤ 0,5 %
Charge/discharge switching time	< 100 ms
<i>Off-Grid Operation</i>	
Output voltage	400 V
AC voltage range	400 V ±3 %
Output power	100 kW
Frequency	50/60 Hz
Load imbalance	100 % supported
Off-grid THD	≤ 3 % (linear load)

BESS CP 215 Cabinet

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BESS

**Energy Storage for
Resilient
Infrastructure**

The system supports both grid-connected and off-grid operation, enables black start, scales up to 10 units, and is suitable for capacity expansion, peak shaving, self-consumption optimization, and resilient power supply.

System Efficiency

Maximum conversion efficiency	> 98 %
Overall system efficiency	> 86 %

Fire Protection System

Extinguishing agent	Aerosol / Perfluorohexanone
Activation	Automatic and integrated
Protected areas	Battery, power distribution, control units

Communication

Interfaces	RS485 / Ethernet / CAN
Protocols	Modbus TCP/RTU, CAN 2.0
Monitoring	Local display and remote monitoring (cloud-capable)

Certification

Safety / Product and System Safety

IEC 62619: Safety requirements for rechargeable industrial cells and battery systems
IEC 63056: Safety requirements for stationary battery energy storage systems (ESS)
IEC 62477-1: Electrical safety of power electronic systems and equipment
IEC 60730-1: Automatic electrical control and regulating devices
EN 61000-6-2 / -6-4: Electromagnetic compatibility (EMC)

Grid Connection Rules (Grid Compliance)

LV (Low Voltage): VDE-AR-N 4105 (DE), CEI 0-21 (IT), EN 50549-10 (EU)
MV (Medium Voltage): VDE-AR-N 4110 (DE)
HV (High Voltage): VDE-AR-N 4120 (DE)

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