

cdc160 DC Charging Station - Official Commercial BESS Technical Overview & Datasheet

cdc160 DC CHARGING STATION: OFFICIAL COMMERCIAL BESS TECHNICAL OVERVIEW & DATASHEET

EXECUTIVE SUMMARY

The cdc160 DC Charging Station represents a paradigm shift in electric vehicle (EV) and commercial energy storage integration. As a key component of our Tier-1 storage ecosystem, this 160kW dual-gun DC fast charger is engineered for seamless compatibility with the C&I BESS portfolio, enabling PV-Storage-Charging synergy, demand charge management, and ultra-fast fleet replenishment. Rated for continuous outdoor duty, the cdc160 delivers up to 92% peak efficiency, dynamic load balancing, and integrated ISO 15118 Plug & Charge security.



SYSTEM ARCHITECTURE & SAFETY

The cdc160 operates as a smart DC dispatching node within the broader ESS micro-grid. It supports both standalone grid-tied operation and DC-bus coupled architectures when paired with our liquid-cooled battery cabinets. The dual independent guns (CCS2 / CHAdeMO optional) provide simultaneous 160kW sharing or 80kW per port for optimized fleet availability. An embedded high-speed insulation monitoring device (IMD) and emergency stop (EMO) relay are standard. Safety interlocks are rated for Category 3, PL d per ISO 13849-1, ensuring failsafe disconnection under fault conditions.

KEY FEATURES

- Dual-Gun Simultaneous Charging: Dynamic power allocation, 160kW max

shared, or 80kW each for concurrent sessions.

- BESS & PV Direct Coupling: Native CAN 2.0 & Modbus TCP interfaces to EMS, supporting peak shaving and solar self-consumption optimization.

- Extreme Weather Hardening: IP54 (charging cabinet) / IK10 (enclosure), -30°C to +50°C operational range with intelligent fan control and optional coolant heating.

- Security & Compliance: ISO 15118 (PNC), OCPP 1.6J / 2.0.1, MID-compliant active energy metering (Class 0.5s).

- 7-inch Industrial Touch HMI: Real-time SOC, session cost, remote diagnostics, and RFID / app authentication.

COMPLIANCE & STANDARDS

- IEC 61851-1, IEC 61851-23, IEC 61851-24

- EN 61000-6-2 / EN 61000-6-4 (EMC)

- UL 2202 (pending), UL 2231-1/2 (SAFETY)

- OCPP 2.0.1 certified (backward compatible)

- Grid codes: VDE-AR-N 4105, G99 (UK), IEEE 1547

TECHNICAL SPECIFICATIONS

AC Input: 400V \pm 15% 3P+N+PE, 50/60Hz

Max DC Output Voltage: 1000V

Output Current per Gun: Up to 200A (liquid-cooled cable) or 150A (standard)

Standby Self-consumption: < 35W

Display: 7" capacitive touch, anti-glare

Metering accuracy: Active energy class 0.5s (IEC 62053-22)

Communication: 4G/WiFi/Ethernet, RS485, CAN

User Authentication: RFID (ISO 14443 A/B), smartphone QR

Dimensions (W x D x H): 650 x 300 x 1650 mm (single cabinet)

Weight: 180 kg

Parameter	Specification
Max System Power	160 kW (shared) / 80 kW per gun
Nominal Voltage Range (DC)	150 - 1000 V
Cooling Method	Intelligent forced air + optional liquid cooled cable
Cell Chemistry Compatibility	LFP, NMC (BMS handshake required)
Round-Trip Efficiency (grid to EV)	≥ 92% at 160kW
Operating Temperature	-30°C to +50°C (derated >45°C)
Relative Humidity	5% to 95% non-condensing
Protection Degree	IP54 (cabinet) / IK10 (enclosure)

INDUSTRIAL DEPLOYMENT

Typical applications include depots with 8+ electric buses, heavy goods vehicle (HGV) fleet yards, and combined PV-storage-charging hubs for industrial parks. A minimum grid connection of 200A (400V) is recommended when operating without a DC-coupled BESS. For island-ready configurations, pair the cdc160 directly with our 215 kWh liquid-cooled battery cabinet, enabling 100% DC-coupling and zero grid upgrade fees.

