



D3

BIEVC Battery Integrated EV Charging Solution

Energise the Revolution

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D3: BIEVC Battery Integrated EV Charging Solution

200 kW Charging Power | 2 Charging Connectors | 175 kWh Battery

The D3 is a 200 kW battery-integrated charging system engineered for EV charging sites with limited grid supply. Using LFP battery technology and managed through both local and cloud-based EMS, it dynamically balances power between the grid, batteries, EV chargers, and renewable inputs. Its fully liquid-cooled design supports 1P sustained discharge, enabling high-power charging even where AC grid capacity is limited. With bidirectional B2G capability up to 35 kW, the D3 supports peak load shaving, renewable integration, and grid capacity expansion. The D3 is designed and developed in Australia by eLumina.



Product Highlights

- **Grid-friendly** – 200 kW charging output with only ~35 kW grid draw — eliminates the need for costly grid upgrades at constrained sites.
- **Bidirectional B2G** – Up to 35 kW battery-to-grid feedback, with 1P (175 kW) sustained battery discharge for high-power charging events.
- **Liquid-cooled LFP battery** – 175 kWh / 285 Ah liquid-cooled LFP battery rack with UL-certified cells and a two-level BMS structure.
- **Dual CCS2 connectors** – Two CCS2 connectors at up to 250 A and 1000 V each, with dynamic power switching for efficient allocation between vehicles.
- **Solar-ready option** – Optional 40 kW MPPT solar DC input (300–900 Vdc) on the P1 variant for on-site renewable integration.
- **Smart energy orchestration** – Built-in EMS supports on-grid and off-grid operation, auto smart-wake sentinel, OCPP 1.6J back-end and OTA updates.
- **Safety-first design** – Multi-layer protection — aerosol fire suppression, directional explosion-proof panel, IP65 cabinet, electrical isolation and multi-sensor environmental monitoring.

D3 Data Sheet

200kW / 175kWh BIEVC Battery Integrated EV Charging Solution

AC Grid Interface	AC input voltage	3-phase + N + PE, 380 / 400 Vac $\pm$ 10%, 45 – 65 Hz
	AC input current	68 A (with RCD function)
	AC max input power (G2B)	35 kW
	AC max output power (B2G, optional)	35 kW @ 65 A
	Power factor	$\geq$ 0.99 above half load
	THDi	$\leq$ 3 % at rated input
	Standby power	170 W (including 43-inch advertising display)
	Off-grid support	Battery can charge the vehicle off-grid; does not support powering AC loads
Electric Vehicle Charging	EV charging point	2 connectors (CCS2)
	EV charging power	Max 200 kW (Standard) / 160 kW (P1 with PV)
	EV charging current	250 A per connector
	EV charging voltage	150 – 1000 Vdc (constant-power range 300 – 1000 Vdc)
	EV charging power transfer	Dynamic power transfer via Power Switching Matrix
	CCS PLC communication	DIN 70121 and ISO 15118
	Current regulation accuracy	$\leq \pm 1$ %
	Voltage regulation accuracy	$\leq \pm 0.5$ %
PV MPPT Input (Optional, P1)	PV channels	1 $\times$ MPPT channel
	PV input power	40 kW
	PV input voltage	300 – 900 Vdc
	PV max input current	70 A
Metering	AC grid side	1 AC energy meter
HMI	Display	43-inch LCD touchscreen (10-inch LCD optional), IK08, anti-UV, Android APK
	Indicator LED	Green (operation), Red (warning), Yellow (on-grid charging), Blue (discharging); fire alarm light and buzzer
	Back-end protocol	OCPP 1.6J, OTA updates
Dimensions	W $\times$ D $\times$ H	1400 mm $\times$ 1350 mm $\times$ 2200 mm
	Weight	2 746 kg (cabinet 2 590 kg + 6 $\times$ 26 kg modules)

D3 Data Sheet

Power Module Configuration		
Max 6 Power Module Slots	LCG 40 kW	DC/DC converter, 40 kW / 1 kV - max 5 × (Standard) or 4 × (P1 with PV)
	LCG MPPT 40 kW	DC/DC converter, 40 kW / 1 kV with MPPT - max 1 × (P1 variant only); replaces 1 × LCG 40 kW
	LBG 35 kW	Bidirectional AC/DC inverter, 35 kW / 1 kV - 1 × ; enables B2G feedback
	Power Switching Matrix	Dynamic DC bus allocation between connectors and battery
175 kWh Liquid-Cooled Battery Rack		
Battery System	Energy Storage Battery	175 kWh / 285 Ah liquid-cooled LFP battery rack. Battery voltage 537.6 – 691.2 Vdc; 1P sustained discharge (175 kW)
	Battery BMS	2-level BMS structure: pack-level BSU + HV control BMU
	Thermal Management	Fully liquid-cooled battery design
	Fire Suppression System	Aerosol fire extinguisher with directional explosion-proof panel and emergency fan
	Safety Design	Enhanced electrical isolation between subsystems; UL-certified battery cells
	Environment Sensors	Water / humidity / smoke / temperature / door-access sensors; optional harmful gas detector
	Battery Protection Class	IP67 (battery pack); IP65 cabinet / IP55 air-conditioning unit

D3 Data Sheet

Operating Environment		
Environmental	Operating temperature	–30 °C to +50 °C (–40 °C to –30 °C operational, performance not guaranteed; cold start at –40 °C)
	Storage / transport temperature	–30 °C to +60 °C
	Relative humidity	≤ 95 % RH, non-condensing
	Altitude	≤ 2000 m (power derating above 2000 m)
	Atmospheric pressure	80 – 110 kPa
	Cooling method	Liquid cooling
	Acoustic noise	< 60 dB @ 1 m at full load (ambient <40 °C)
	Cabinet construction	Double-layer powder-coated cabinet with 40 mm physical thermal insulation
Certification & Compliance		
Certification	Certification	TÜV CE
	EMC / EMI	EN 61000-6-2, EN 61000-6-4, EN IEC 61851-21-2
	Electrical safety	EN 62477-1, EN IEC 61851-1, EN IEC 61851-23
	Payment Methods Accepted	Optional EFTPOS terminal
Warranty		
Warranty	Standard warranty	2 years (extended warranty available)

* The product is continuously evolving. Please refer to the latest datasheet for current specifications. B2G operation requires DNSP and grid-operator approval in accordance with AS/NZS 4777.2 and local regulatory requirements. “1P sustained discharge” denotes battery discharge at a rate equal to its rated capacity per hour.