

Home Solar Battery Solution

EcoFlow PowerOcean Plus Three-Phase 15/20/25/29.9kW

Unlock the Full Potential of Solar



EcoFlow PowerOcean Plus Hybrid Inverter

Technical parameters		EF HD-P3-29K9-S1	EF HD-P3-25K0-S1	EF HD-P3-20K0-S1	EF HD-P3-15K0-S1
PV1 Input	Max. Input Power (W)	20000	20000	15000	10000
	Input Voltage Range (V)	160-1000			
	MPPT Operating Voltage Range (V)	200-850			
	Start-up Voltage (V)	160			
	Nominal Input Voltage (V)	620			
	Max. Input Current per MPPT (A)	16×2			
	Max. Short Circuit Current per MPPT (A)	19×2			
	Number of Strings per MPPT	2			
	Number of MPP Trackers	1			
	Overvoltage Category	II			
PV2/PV3 Input	Max. Input Power (W)	10000			
	Input Voltage Range (V)	160-1000			
	MPPT Operating Voltage Range (V)	200-850			
	Start-up Voltage (V)	160			
	Nominal Input Voltage (V)	620			
	Max. Input Current per MPPT (A)	16			
	Max. Short Circuit Current per MPPT (A)	24			
	Number of Strings per MPPT	1			
	Number of MPP Trackers	1			
	Overvoltage Category	II			
PV Input (PV1+PV2+PV3)	Max. Input Power (W)	40 000	40 000	35 000	30 000
Battery Input	Nominal Battery Voltage (V)	800			
	Max. Continuous Charging Current (A)	40	33.3	26.6	20
	Max. Continuous Discharging Current (A)	40	33.3	26.6	20
	Max. Charging Power (W)	29900	25000	20000	15000
	Max. Discharging Power (W)	29900	25000	20000	15000
	Maximum Battery Capacity (kWh)	61.2			
AC Input (On-grid)	Nominal Input Voltage (V)	230/400, 3L+N+PE			
	Nominal Apparent Power from Utility Grid (VA)	43470			
	Max. Apparent Power from Utility Grid (VA)	43470			
	Max. AC Current from Utility Grid (A)	63			
	Nominal AC Grid Frequency (Hz)	50			
	Overvoltage Category	III			
AC Output (On-grid)	Nominal Apparent Power Output to Utility Grid (VA)	29900	25000	20000	15000
	Max. Apparent Power Output to Utility Grid (VA)	29900	25000	20000	15000
	Nominal Output Voltage (V)	230/400, 3L+N+PE			
	Nominal AC Grid Frequency (Hz)	50			
	AC Grid Frequency Range (Hz)	45-52			
	Nominal Output Current (A)	43.3	36.2	29	21.7
	Power Factor	0.8 leading ~ 0.8 lagging			
	Inrush Current	<120% of the nominal AC current for a maximum of 1 s			
	Current Total Harmonic Distortion (@Rated Power)	≤3%			
	Overvoltage Category	III			
AC Output (Backup)	Nominal Apparent Power (VA)	29900	25000	20000	15000
	Max. Output Apparent Power (VA)	35880 for 1 sec	30000 for 1 sec	24000 for 1 sec	18000 for 1 sec
	Nominal Output Current (A)	43.3	36.2	29	21.7

AC Output (Backup)	Max. Output Current (A)	52 for 1 sec	43.4 for 1 sec	34.8 for 1 sec	26 for 1 sec
	Nominal Output Voltage (V)	230/400, 3L+N+PE			
	Nominal Output Frequency (Hz)	50			
	RD Load (kW)	1.65			
	Voltage Total Harmonic Distortion (@Linear Load & @Rated Power)	≤3%			
Efficiency	Max. Efficiency	98.0%			
	European Efficiency	97.0%			
	Max. MPPT Efficiency	99.9%			
Compliance	Certificates	RCM MARK			
	Safety Standards	IEC/EN 62109-1, IEC/EN 62109-2			
	Grid-tied Standards	VDE-AR-N-4105, TOR Erzeuger Typ A, EN 50549, PTPIREE, G99, TF 3.3.1 (B1.2 for type A), CEI 0-21, C10/11, UNE, NTS, AS/NZS 4777.2			
	EMC&RF	EN 301 489-1, EN 301 489-3, EN 301 489-17, EN 300 328, EN 301 893, EN 300 440, EN IEC 61000-6-1, EN IEC 61000-6-2, EN IEC 61000-6-3, EN IEC 61000-6-4, EN 61000-3-11, EN 61000-3-12, EN IEC 62311, EN 62311, EN 50665			
Protection	AFCI	Yes			
	PV Insulation Resistance Detection	Yes			
	Residual Current Monitoring	Yes			
	PV Reverse Polarity Protection	Yes			
	Anti-islanding Protection	Yes			
	AC Overcurrent Protection	Yes			
	Backup Load Short Circuit Protection	Yes			
	AC Overvoltage Protection	Yes			
	DC Switch	Yes			
	Remote Shutdown	Yes			
	Protective Class	I			
	DC Surge Protection	Type II			
	AC Surge Protection	Type II			
General	Cascading	Up to 180kWh battery capacity* ¹			
	Operating Temperature Range (°C)	-20 to 50			
	Relative Humidity	0-100%			
	Max. Operating Altitude (m)	3000			
	Cooling Method	Intelligent air cooling			
	User Interface	LED indicator, EcoFlow app			
	Communication Method	RS485 (for meter) & CAN (for BMS) & Wi-Fi & Bluetooth & WAN & 4G			
	Wi-Fi Frequency Range (MHz)	2.4GHz: 2412-2472, 5GHz: 5180-5700, 5745-5825			
	Maximum Output Power (dBm)	<20			
	Bluetooth Frequency Range (MHz)	2402-2480			
	Maximum Output Power (dBm)	<8			
	Weight (kg)	Approx. 41			
	Dimension (W×D×H mm)	636×235×498 (±1) (with trim cover) 636×235×419 (±1) (without trim cover)			
	Noise Emission (dB)	<45* ²			
	Topology	Non-isolated			
	Self-consumption at Night (W)	<20.5			
	Ingress Protection Rating	IP65			
	Environmental Category	Outdoor/Indoor			
	Pollution Degree	PD3			
	Storage Temperature (°C)	-30 to 60			
	Mounting Method	Wall Mounted			
	Country of Manufacture	China			

*¹ For a total battery capacity of 180kWh, 3 hybrid inverters are required. One hybrid inverter can support a maximum of 60kWh.

*² Noise emission value measured under laboratory conditions: ambient temperature 25°C, free-field acoustic environment, measurement position 1m directly in front of the equipment. Actual noise levels may vary depending on load conditions, installation methods and environmental reflection characteristics. This data is only applicable to the declared test conditions.

EcoFlow PowerOcean LFP Battery

Number of Battery Packs		EF BD-5.1-S1 EF BD-B-S1	EF BD-10.2-S1 EF BD-B-S1	EF BD-15.3-S1 EF BD-B-S1	EF BD-20.4-S1 EF BD-B-S1
Performance	Battery Nominal Capacity	5.1	10.2	15.3	20.4
	Battery Usable Capacity(kWh)*1 (95% Depth of Discharge)	4.8	9.7	14.5	19.4
	Max. Discharge Power (W)	3300	6600	9900	13200
	Max. Charge Power (W)	2500	5000	7500	10000
	Nominal Voltage(V)	800			
	Operating Voltage Range(V)	720-960			
	Battery Short Circuit current (A)	200A for 300 us	400A for 300 us	600A for 300 us	800A for 300 us
	Battery Maximum Discharge Current (A)	4.4	8.8	13.2	17.6
	Battery Maximum Charge Current (A)	3.3	6.6	9.9	13.2
	Rated DC Power (kW)	Discharge: 3.3 Charge: 2.5	Discharge: 6.6 Charge: 5.0	Discharge: 9.9 Charge: 7.5	Discharge: 13.2 Charge: 10
	BatteryCell Type	LiFePO ₄			
Performance	Certicates	RCM MARK			
	Safety Standard	IEC 62619, IEC 62040-1, IEC 62477-1, ISO 13849			
	Delivery Standard	UN38.3			
	EMC	IEC 61000-6-1/3			
General	Dimension (mm)	680x183x424(±1)	680x183x848 (±1)	680x183x1272(+1)	680x183x1696(+1)
	Weight (kg)	55.5	111	166.5	222
	Installation	Floor Stand: A stack of up to 4 batteries Wall Mounted: A stack of up to 3 batteries			
	Operating Temperature (°C)	-20 to 50			
	Max. Operating Altitude (m)	3000			
	Communication Method	CAN			
	Cooling Method	Natural Convection			
	Noise Emission (dB)	≤35*2			
	Relative Humidity	0%-100% (Condensing)			
	Active Aerosol Fire Prevention Module	Integrated			
	Protection Level	IP65			
	Protective Class	I			

*1 To maintain optimal battery performance in low-temperature environments, the depth of discharge (DoD) may vary with actual temperature. This is a normal fluctuation.

*2 Noise emission value measured under laboratory conditions: ambient temperature 25°C, free-field acoustic environment, measurement position 1m directly in front of the equipment.Actual noise levels may vary depending on load conditions, installation methods and environmental reflection characteristics. This data is only applicable to the declared test conditions.

EcoFlow OCEAN 2 LFP Battery

Technical parameters		EF OCEAN 2 LFP Battery 8kWh EF BD-8-S2A	EF OCEAN 2 LFP Battery 5kWh EF BD-5-S2
Performance	Battery Nominal Capacity(kWh)	8.03	5.02
	Battery Usable Capacity(kWh) ¹	8.03	5.02
	Battery Cell Type	LiFePO ₄	LiFePO ₄
	Nominal Charging Power(kW)	4.1	2.5
	Nominal Discharging Power(kW)	4.1	3.4
	Maximum Discharging Power ¹ (kW) ²	6.4	4.08
	Nominal Voltage(V)	400 / 800	400 / 800
	Operating Voltage Range(V)	360-520 / 720-960	360-520 / 720-960
General	Dimension(WxDxH)(mm)	680 x 196 x 378	680 x 196 x 279
	Weight(kg)	67.5	46
	Installation	Floor Stand: A stack of up to 5 batteries Wall Mounted: A stack of up to 3 batteries	Floor Stand: A stack of up to 6 batteries Wall Mounted: A stack of up to 3 batteries
	Operating Temperature ² (°C) ³	-20~ 55	-20~ 55
	Storage Temperature(°C)	-25~ 60	-25~ 60
	Max. Operating Altitude ³ (m) ⁴	3000	3000
	Relative Humidity	0% ~100%	0% ~100%
	Cooling Method	Intelligent Air Cooling	Natural Cooling
	Ingress Protection Rating	IP66	IP66
	Anti-theft	Supported	Supported
	Battery Heating	Supported	Supported
	Communication method	CAN	CAN
	Country of Manufacture	China	China
	Protection	Over-charge/over-discharge protection, over-voltage/under-voltage protection, over-current protection, short-circuit protection, reverse-polarity protection, temperature protection, thermal-runaway protection, leakage-current protection, insulation protection, over-pressure protection, automatic power-off protection, emergency shutdown,Water Ingress Detection	Over-charge/over-discharge protection, over-voltage/under-voltage protection, over-current protection, short-circuit protection, reverse-polarity protection, temperature protection, thermal-runaway protection, leakage-current protection, insulation protection, over-pressure protection, automatic power-off protection, emergency shutdown
Compliance		IEC/EN 62619, IEC/EN 62040-1, IEC/EN 62477-1, ISO 13849-1, EN IEC 61000-6-1, EN IEC 61000-6-2, EN IEC 61000-6-3, EN IEC 61000-6-4, UN 38.3, SA TS 5398	IEC/EN 62619, IEC/EN 62040-1, IEC/EN 62477-1, ISO 13849-1, EN IEC 61000-6-1, EN IEC 61000-6-2, EN IEC 61000-6-3, EN IEC 61000-6-4, UN 38.3

1. Test conditions: 100% depth of discharge, 0.2C rate charge & discharge averagely at 25°C, at the beginning of life.
2. In a laboratory environment at 25°C ambient and device temperature with PowerOcean Plus Three-Phase Hybrid Inverter, the discharge time at this power is no more than 30 minutes for Ocean 2 LFP 8kWh and 20 minutes for Ocean 2 LFP 5kWh. Under different usage conditions, actual performance may vary.
3. Power may be derated when the temperature exceeds 40°C.
4. Power may be derated above 2000 m.

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Website: <https://energy.ecoflow.com/au>

Email: solutionsales.au@ecoflow.com