

Product data sheet

Characteristics

Humless Off-Grid Series 12kWh

Off-grid power supply

Multiple Source Charge & Discharge

Output Power: 3.3kW 120V

Storage Capacity: 12kWh



Specifications

Primary use	Lighting and devices: Government, Military/Security Commercial, Marine, Domestic Home
Cycle life	3,500+ cycles (daily use ~9.5 yrs)
Component reliability	3,500+ cycles
Expected usage	Daily
System efficiency	>90%

AC Charger

AC charging model	CC:Constant Current CV:Constant Voltage
Input AC voltage	90~285 Vac
Input AC frequency	50Hz OR 60Hz (±5%)
Max. power output to battery	1.8kW (120Vac), 3kW (240Vac)
Over voltage protection	Yes
Low voltage protection	Yes
Max AC amperage protection	Yes, self-limit
Temperature protection (hot/cold)	Yes/No
Efficiency	>93%
Power Factor	>0.98

DC Charger

DC Inputs	Variable (solar, wind, other)
MPPT	Yes; 99%
MPPT rated/operating Vdc range	100~300Vdc/100~300Vdc
Max. power output to battery	2kW
Over voltage protection	Yes, auto-reset
Low voltage protection	Yes
Max amperage protection	Yes, self-limit
Temperature protection (hot/cold)	Yes/No
Reverse polarity protection	Yes
Excess power saver	Yes, divert additional Power > 2.2kW
Efficiency	>90%
Arc fault circuit interrupt (AFCI)	Yes, self-protect but not UL1699B

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AC Out: Inverter

Output wave form/THD	PSW Pure Sine Wave/ <4%
Grid-tied/Back-feed detect & shutdown	No; off-grid (NOT designed to auto-tie into grid)
Output AC voltage	120+/-10V
Output AC frequency	60Hz
Inverter efficiency	≥88%
Max. constant output power	3kW
Peak output power	3.3kW
Startup peak power	9.6kW <500ms
Overload protection	Yes
Over temperature protection	Yes
Input reverse connection protection	Yes
Output short protection	Yes
By-pass functionality	Yes, 120Vac (<30 ms)
Low Voltage Protection	Yes
Parallel & Series (120Vac -> 240Vac; 3kW+3kW=6kW)	No

Front panel

Remote control access	Yes, 802.11 wireless (two way on/off/report/monitoring)
Data Logging & Storage	Yes
Phantom parasitic load	40W (system ON) / 0W (system OFF)
DC Input	Voltage: 100-300Vdc Max. Power in: 2.2kW
AC Input	Voltage: 90-285Vac Bypass-mode* + charge battery *cable sizing critical for safety
DC output 1	Voltage: ~48Vdc (Nominal match battery voltage) Current: max. 5A

Battery (incl. BMS)

Manual Disconnect System from Battery	Yes
Battery type	LFP
Battery standard voltage	48Vdc Nominal
Battery volume	250Ah
Battery Cycle Life (100% DOD; 25 degrees Celcius)	3,500+
Battery Standards	UN38.3 UL1642/CE IP20
Telco Communication	Yes RS-232/RS-435

Other

Application environment	Indoor OR outdoors in NEMA 4/5 enclosure
Normal ambient temperature	22+/-5 °C
Case temperature	< 55 °C on full load discharging status
Normal ambient moisture	<= 90%

Other (Continued)

Storage temperature	-10~+60 °C
Storage moisture	<= 90%
Altitude	2,000m
Cooling	Fan & Convection
Industrial Design	Steel powder coated, standard rack dimensions 500mm x 500mm x 998mm
Total System Weight (incl.battery)	235kg (517lbs)

Safety requirement/Standards

FCC	Conform to FCC Part 15 Subpart J Class B
CE	Yes
UL	Not certified but UL standards used in design *Does not conform to UL1741 and CSA 107.1 for utility interactive applications

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