

Essential Hybrid 5

Spec Sheet



Solar String Input Data

Max Allowed PV Power	10,400W
PV Input Voltage	370V (100~500V)
PV Input Current	20A + 20A
Starting Voltage/Min Voltage	150V
Number of MPPT/Range (V)	2 125-425V
Solar Strings Per MPPT	2+2
MPPT Efficiency	99.90%

AC Output Data

Grid Type (Single Phase Only)	120V 1P
Rated AC Output Current (A)	4,800W
Peak Power (Off-Grid)	10,000W 10S
Rated AC Output Current (A)	40 A
Parallel Stacking	Yes - Up to 8
Frequency	60/50Hz
Max continuous AC passthrough (A)	50A
Max Efficiency	97.6%
Idle Consumption Typical-No Load	60W
Sell Back Power Modes	Limited to Household/ Fully Grid-Tied
Design (DC to AC)	Transformerless DC
Response Time (Grid-Tied to Off-Grid)	5ms
Power Factor	+/-0.8 - 1.0

Battery Input Data (Optional)

Type	Lead-Acid or Li-Ion
Nominal DC Input	48V
Capacity	50-9900AH
Voltage Range	40V-60V
Continuous Battery Charging Output	120A
Charging Curve	3-Stage w/Equalization
Grid to Battery Charging Efficiency	96.0%
External Temperature Sensor	Included
Current Shunt for Accurate % SOC	Integrated
External Gen Start Based on Voltage or % SOC	Integrated
Communication to Lithium Battery	CanBus & RS485

General

Dimensions (H x W x D)	22.8 x 13 x 9.1 in
Weight	51lbs (62lbs package)
Enclosure	IP65 / NEMA 3R
Ambient Temperature	-25 60°C, >45°C Derating
Noise	<30 dB
Installation Style	Wall-Mounted
Wi-Fi & LAN Communication	Included
Standard Warranty	5 Years

Protections & Certifications

PV Input Lightning Protection	Yes
Grid Sell Back-UL1741-2010/2018, IEE -E1547z-2003/2014, FCC 15 Class B	Yes
Anti-Islanding Protection	Integrated
PV String Input Reverse Polarity Detection	Integrated
PV Arc Fault Detection NEC 690.11	Integrated
Insulation Resistor Detection	Integrated
Residual Current Monitoring Unit	Integrated
Output Over Current Protection	Integrated
Output shorted Protection	Integrated
Surge Protection	DC Type II/AC Type II