SHABANG SOLAR

HYBRID SOLAR INVERTER

3.3 kW

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Technical parameters

Rated output power	3,300 W
Technical model reference	HFP 33224
PV input	
Maximum PV input power	5,000 W
MPPT tracking voltage range	40-450 VDC
Rated PV voltage	240 VDC
Maximum PV open-circuit voltage (Voc)	500 VDC (at lowest temperature)
Maximum PV input current	18 A
MPPT tracking / input channels	1
Battery & charging	
Battery types / settings	Lead-acid / lithium; configurable charge/discharge settings
Rated battery voltage	24 VDC
Battery voltage range	21-30 VDC (default)
Maximum PV charging current	120 A
Maximum AC charging current	80 A
Maximum total charging current	120 A
AC operation	
Rated AC input / output voltage	230 VAC (220 or 240 VAC selectable)
Rated AC frequency	50 / 60 Hz
Output waveform	Pure sine wave
Off-grid AC input voltage range	165-280 VAC or 120-280 VAC (configurable)
Off-grid input frequency range	45-55 Hz at 50 Hz / 55-65 Hz at 60 Hz
Off-grid output accuracy: voltage / frequency	±2% / ±1%
Hybrid input / on-grid voltage range	187-264 VAC
Hybrid input / on-grid frequency range	47-52 Hz at 50 Hz / 57-62 Hz at 60 Hz
Hybrid / on-grid output current	14.3 A
On-grid power factor	>0.98 at rated power
General parameters	
Conversion efficiency (battery discharge)	94% peak
No-load loss (battery discharge)	1% of rated power (typical)
MPPT tracking efficiency	≥99.9%
Transfer time	10 ms (typical)
Display	LCD + LED
Cooling method	Intelligently controlled cooling fan
Communication / monitoring	RS485 / mobile app; Wi-Fi or GPRS monitoring optional
Protection	
Battery low-voltage alarm	22 VDC (default)
Battery low-voltage protection	21 VDC (default)
Anti-islanding protection	≤2 seconds
Overload / output short-circuit protection	Automatic in battery mode; AC circuit protection
Temperature protection	>90°C: inverter and charging shut down
Environment & installation	
Protection degree / installation	IP20 / wall-mounted
Operating temperature	-10 to +50°C
Storage temperature	-15 to +60°C
Noise	≤55 dB
Altitude	2,000 m; derating above 2,000 m
Humidity	0-95%, non-condensing
Dimensions & weight	
Unit dimensions (L x W x H)	325 x 275 x 102 mm
Package dimensions (L x W x H)	400 x 330 x 167 mm
Net / gross weight	5.5 kg / 6.5 kg

Functions: lithium BMS communication, battery-free operation, grid-current setting, output and charging priorities. PV and AC charging share the total charging-current limit. Optional functions depend on the ordered configuration. Specifications are subject to change without prior notice.