

HYBRID BI-DIRECTION SOLAR INVERTER

EA3KHD / EA3.6KHD
/ EA5KHD
PF 1.0



Hybrid (Bi-direction) Solar Inverter is PV energy combined with energy storage systems. It utilizes solar power, AC utility and battery power to ensure continuous power supply, and users can store the unused energy produced during the day by PV system in the battery and use it whenever they needs, even at night, it helps achieve a high self-consumption rate and greater energy self-sufficiency.

FEATURES

Operating Flexibility

- Operating modes can be programmed flexibly
- On-grid operating, easy feed-in to the grid, backflow prevention, energy self-generation and self-consumption
- Off-grid operating, no worry about grid power failure
- Solar power, battery power and utility power source to ensure continuous power
- Even with grid or PV input only, inverter can still start working without battery
- Priority of PV, battery or grid power source can be programmed flexibly
- High efficiency of battery management system, settable EOD, floating voltage and charging current

High Efficiency & Safety

- Soft-switching technology, improving inverter efficiency
- DSP complete digital control technology
- Small footprint, light weight, simplified installation
- Superior protections

Intelligent Monitoring

- LCD, LED display real-time operating information
- Real-time operating data monitoring
- Programmable operating modes
- Multi communication selectable

SPECIFICATIONS

MODEL	EA3KHD	EA3.6KHD	EA5KHD
Rated power	3000 W	3600 W	5000 W
Operating modes	Flexible setting via upper computer software or LCD interface		
PV INPUT			
Max. input power	4500 W		5500 W
Max. input voltage	500 Vdc		550 Vdc
Rated input voltage		360 Vdc	
Start-up voltage		115 Vdc	
Initial feeding voltage		150 Vdc	
MPPT voltage range	120 Vdc ~ 450 Vdc (250 Vdc ~ 450 Vdc)		120 Vdc ~ 530 Vdc (250 Vdc ~ 450 Vdc)
Max. input current	18 A		12 A
PV short circuit current	18 A		15 A
Number of MPPTs	1		2
BATTERIES			
Battery type	Li-ion battery		
Rated voltage	51.2 Vdc		
Voltage range	46.4 Vdc ~ 57.6 Vdc		
Battery type	Lead-acid battery		
Rated voltage	48 Vdc		
Voltage range	40 Vdc ~ 58 Vdc		
BMS communication	RS485		
Battery capacity	100 Ah ~ 120 Ah optimized		200 Ah optimized
Max. charger power	1500 W		2500 W
Max. charging current	25 A (5 A ~ 25 A settable)		50 A (10 A ~ 50 A settable)
Charging curve	3-Stage		
Max. charging efficiency	94%		
Rated discharge power	2000 W		2500 W
Max. discharge current		100 A	
Max. discharge efficiency	94%		
Reverse polarity protection	No		Yes
AC OUTPUT			
Rated AC power	3000 VA / 3000 W	3600 VA / 3600 W	5000 VA / 5000 W
Rated output voltage	230 Vac		
Rated output current	13.0 A	15.6 A	21.7 A
Output voltage range	170 Vac ~ 280 Vac		
Rated output frequency	50 Hz / 60 Hz		
Output frequency tolerance	50 ± 5 Hz / 60 ± 5 Hz		
Power factor	0.9 (leading) ~ 0.9 (lagging)		
THD	≤ 3%		
EPS OUTPUT			
Rated EPS power	3000 VA / 3000 W	2000 VA / 2000 W	
Rated EPS voltage	230 Vac (208 / 220 / 240 Vac settable)		
Rated EPS current	13.0 A (14.4 A / 13.6 A / 12.5 A)	8.7 A (9.6 A / 9.1 A / 8.3 A)	
EPS voltage range	184 Vac ~ 276 Vac		
Rated frequency	50 Hz / 60 Hz		
Frequency precision	± 1%		
Voltage precision	± 1%		
Crest factor	3 : 1		
Waveform distortion	≤ 3% (linear load)		
TRANSFER TIME			
EPS mode → On-grid mode	0 ms		
On-grid mode → EPS mode	10 ms		
EFFICIENCY			
MPPT efficiency	99%		
Max. PV efficiency	96%		
GENERAL DATA			
Communications	USB / RS485 (standard), SNMP / Wi-Fi / GPRS (optional)		
IP rating	IP20		
Operating temperature	0 ~ 40°C (> 40°C derating)		
Max. relative humidity	0 ~ 90%		
Max. altitude	< 1000 m (> 1000 m derating)		
Cooling	Forced ventilation		
Alarm	LED, buzzer		
Display	LED, LCD		
Noise	≤ 50 dB		
Topology	Transformerless (PV to Grid)		
Dimensions (W × D × H) (mm)	410 × 470 × 123		611 × 547 × 150
Packaged dimensions (W × D × H) (mm)	508 × 582 × 183		680 × 630 × 208
Net weight (kg)	14.4		22.3
Gross weight (kg)	16.6		25.0

● All specifications subject to change without notice.