ENERVISION
Alternate energy products

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Unit 12 Transit Industrial Park,
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Hybrid (Bi-direction) Solar Inverter EA3KHD

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 increase self-consumption and achieve greater energy self-sufficiency.

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 AC utility power source to provide loads with 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, EOD, floating voltage and charge current are settable.

High efficiency and safety
- Soft-switching *technology*, improving inverter efficiency
- DSP complete digital control technology
- Small size, light weight, easy installation
- Superior protection

Intelligent monitoring
- LCD, LED display real-time operating information
- Monitoring software display real-time operating information
- Monitoring software make operating modes programmed and control
- Various communications selectable via USB, RS232, RS485, SNMP

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MODEL	EA3KHD
Rated power	3000 W
Operating mode	Flexible setup via upper computer software or LCD interface
PV INPUT	
Max. input power	4500 W
Rated input voltage	360 Vdc
Max. input voltage	500 Vdc
Start-up voltage	115 Vdc
Initial feeding voltage	150 Vdc
MPPT voltage range	250 Vdc ~ 450 Vdc
Max. input current	18 A
PV short circuit current	18 A
Number of MPPT	1
BATTERIES	
Battery type	Lithium battery
Rated voltage	51.2 Vdc
Voltage range	46.4 Vdc ~ 57.6 Vdc
Battery type	VRLAAGM maintenance-free battery
Rated voltage	48 Vdc
Voltage range	40 Vdc ~ 58 Vdc
Battery capacity	100 Ah ~ 120 Ah optimized
Rated charger power	1425 W
Max. charging current	25 A (5 A / 10 A / 15 A / 20 A / 25 A settable)
Charging curve	3-Stage
Max. charging efficiency	94%
Rated discharge power	3000 W
Max. discharge current	100 A
Discharge depth（%）	80% default
Max. discharge efficiency	94%
AC GRID INPUT	
AC start-up voltage	120 Vac
Grid voltage range	170 ~ 280 Vac
Rated grid frequency	50 Hz / 60 Hz
Allowed grid frequency	50 ± 5 Hz / 60 ± 5 Hz
AC input power	5100 VA / 5100 W
Max. input current	30 A
AC OUTPUT (connect with load）	
Rated output power	3000 VA / 3000 W
Rated output voltage	230 Vac（208 / 220 / 240Vac settable）
Rated output current	13.0 A (14.4 A / 13.6 A / 12.5 A)
Output voltage range	184 Vac ~ 264.5 Vac
Rated output frequency	50 Hz / 60 Hz
Output frequency precision	± 1%
Power factor	0.9 leading ~ 0.9 lagging
Output voltage precision	± 1%
Transient recovery time	≤ 40 ms
Peak factor	3 : 1
Linear load waveform distortion	≤ 3%
Short circuit current	45 A (100 ms)

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TRANSFER TIME	
Off-grid mode → On-grid mode	0 ms
On-grid mode → Off-grid mode	10 ms
EFFICIENCY	
MPPT efficiency	99%
Max. PV efficiency	96%
OTHERS	
Communications	RS232 / USB / RS485 / SNMP (optional)
Protection rating	IP20
Operating temperature	0 ~ 40℃（> 40℃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
Dimensions (W×D×H) (mm)	410×123×470
Packaged dimensions (L×W×H) (mm)	582 ×508 ×183
Net weight (kg)	14.42
Gross weight (kg)	16.40