

## Power conversion system EAPCS500K



### Features

- Smooth switching between grid-connected and off-grid modes
- Having two charging modes of grid-connected constant current and constant power, which can make online seamless switching to meet needs in a variety of applications
- Having multiple battery interfaces and BMS communication function
- Accepting the dispatching in real time from the upper level computer, dispatching active power and reactive power via PQ mode or droop mode to meet the requirement of grid-connected charge and discharge
- Having functions of second frequency modulation and second voltage regulation when operating independently in off-grid mode
- Adjustable range of power factor: -1~1
- Flexible and configurable multiple communications, such as RS485, Ethernet
- Using advanced GBT power module; effective system protection functions; safe and reliable
- Wide DC voltage input range
- Color LCD-touch screen display, configurable operating parameters
- Simplified installation, easy operation and maintenance

### Technical data

DC side	
Max. DC power (kW)	550
Max. voltage of DC bus (V)	850
Max. current of DC side (A)	1050
Rated voltage operating range (V)	500 ~ 800
DC voltage ripple factor (%)	< 2%
AC side	
Rated power (kW)	500
Max. output power (kVA)	550
AC connection mode	3P4W (Three-phase four-wire)
Isolation method	Power frequency isolation
Reactive power range (kvar)	0 ~ ± 500
Grid-connected operating parameters	
Rated power grid voltage (V)	230
Allowable power grid voltage (V)	195 ~ 253
Rated power grid frequency (Hz)	50
Allowable power grid frequency (Hz)	47.0 ~ 52.0
Total current harmonic distortion rate (%)	< 3% (full load)
Power factor	-0.9 ~ 0.9 (adjustable)
Transfer time of charging/discharging (ms)	≤ 100
Off-grid operating parameters	
Rated output voltage (V)	220
Voltage deviation	< 1%
Voltage unbalance (%)	< 1%
Total voltage harmonic distortion rate (%)	< 1.5%
Rated output frequency (Hz)	50
Dynamic voltage transient range (%)	< 10%
Output overvoltage protection value (V)	242
Output undervoltage protection value (V)	198
System parameters	
Max. efficiency (%)	> 98.7% (without transformer); > 97.2% (with transformer)
Standby loss (W)	< 50
Allowable ambient temperature (°C)	-20°C ~ 55°C
Allow relative humidity (%)	0 ~ 95% (non-condensing)
Installation altitude (m)	> 3000 m (derating)
Noise (dB)	< 65 dB
Dimensions (W × D × W) (mm)	2400 × 800 × 2000
Weight (kg)	2500
IP rating	IP 20 (indoor)
Cooling method	Air cooling
Insulation resistance (MW)	> 2
Dielectric strength (V)	2500
Communication interfaces and protocol	RS485, Ethernet Modbus/TCP
Human-computer interface	Touch screen

### Block diagram

