

## Power conversion system EAPCS100K



### 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)                         | 110   |
| Max. voltage of DC bus (V)                 | 850   |
| Max. current of DC side (A)                | 220   |
| Rated voltage operating range (V)          | 500 ~ 800   |
| DC voltage ripple factor (%)               | < 2%  |
| AC side                                    |   |
| Rated power (kW)                           | 100   |
| Max. output power (kVA)                    | 110   |
| AC connection mode                         | 3P4W (Three-phase four-wire)                              |
| Isolation method                           | Power frequency isolation                                 |
| Reactive power range (kvar)                | 0 ~ ± 100   |
| Grid-connected operating parameters        |   |
| Rated power grid voltage (V)               | 230   |
| Allowable power grid voltage (V)           | 195 ~ 253   |
| Rated power grid frequency (Hz)            | 50 / 60   |
| 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)                | 50/60   |
| 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)                | 1600 × 800 × 2200   |
| Weight (kg)                                | 1350  |
| 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

