

SC50HV

Power Conversion System



HIGH YIELD

- Advanced three-level technology, max. efficiency 98.6%
- Effective forced air cooling, 1.1 overload capacity, no derating up to 50°C
- Wide DC voltage operation window, flexible for battery configuration

ESS APPLICATIONS

- Battery charge & dis-charge management integrated
- Bidirectional power conversion system with full fourquadrant operation
- EPS function design, can support the electrical equipment when the power grid fails
- Compatible with high voltage battery system, low system cost

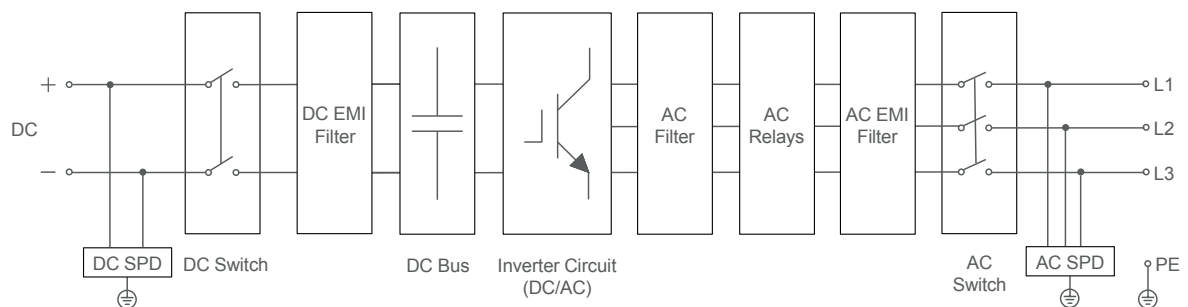
EASY O&M

- Compact design and light weight for easy installation
- Easy site commissioning & monitoring via APP
- Scalable system configuration, extend to MW power range

GRID SUPPORT

- Compliance with IEC grid standards
- Grid support including L/HVRT, soft start/stop, specified power factor control and reactive power support

CIRCUIT DIAGRAM



| System Type | SC50HV |
|---|---|
| DC Side | |
| Max. DC voltage | 1500 V |
| Min. DC voltage | 580 V |
| DC voltage range for nominal power | 580 – 1300 V (@50 °C) / 580 – 1500 V (@35 °C) |
| Max. DC current | 96.6 A |
| Max. DC power | 56 kW |
| AC Side (Grid) | |
| AC output power | 55 kVA @ 45 °C / 50 kVA @ 50 °C |
| Max. AC current | 79.3 A |
| Nominal AC voltage | 400 V |
| AC voltage range | 360 – 440 V |
| Nominal grid frequency / Grid frequency range | 50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz |
| AC current THD | < 3 % (at nominal power) |
| DC current injection | < 0.5 % I _n |
| Power factor at nominal power | > 0.99 |
| Adjustable reactive power | -100% – 100% |
| AC Side (Off-Grid) | |
| Nominal AC voltage | 400 V ± 3 % |
| AC voltage THD | < 3 % (Linear load) |
| Nominal voltage frequency / Voltage frequency range | 50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz |
| AC output power | 55 kVA @ 45 °C / 50 kVA @ 50 °C |
| Efficiency | |
| Max. charge efficiency | 98.5% |
| Max. discharge efficiency | 98.6% |
| Protection | |
| Reverse polarity protection | Yes |
| DC switch | Yes |
| AC switch | Yes |
| Overvoltage protection | DC Type II / AC Type II |
| Grid monitoring / Ground fault monitoring | Yes / Yes |
| Insulation monitoring | Yes |
| Overheat protection | Yes |
| General Data | |
| Dimensions (W*H*D) | 600*800*278 mm |
| Weight | 75 kg |
| Isolation method | Transformerless |
| Degree of protection | IP65 |
| Operating ambient temperature range | -25 to 60°C (> 50 °C derating) |
| Allowable relative humidity range (non-condensing) | 0 – 100 % |
| Cooling method | Temperature-controlled forced air cooling |
| Max. operating altitude | 4000 m (> 3000 m derating) |
| Display | LED, Bluetooth + APP |
| Self-consumption at stop | < 20 W |
| Communication | RS485 / Ethernet / CAN |
| Communication protocol | Modbus-RTU / Modbus-TCP, CAN2.0B |
| Compliance | CE, IEC 62477, IEC 61000 |
| Grid support | L / HVRT, active & reactive power control and power ramp rate control |
| Type designation | SC50HV-10 |