SC50HV New
For 1500 Vdc 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

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

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

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

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## General Data

### DC side
- Max. DC voltage: 1500 V
- Min. DC voltage: 580 V
- DC voltage range for nominal power: 580 – 1300 V
- 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 % In
- 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