SC4000UD-MV

MV Power Conversion Unit



HIGH YIELD

- Advanced three-level technology, max. efficiency 99%
- Effective forced air cooling, no derating up to 45°C
- Wide DC voltage operation window, full power operation at 1500V

SMART O&M

- Modular design,easy for maintenance
- IP65 protection degree, easy for outdoor installation
- C5 anti-corrosion degree, adjust to applications close to the sea

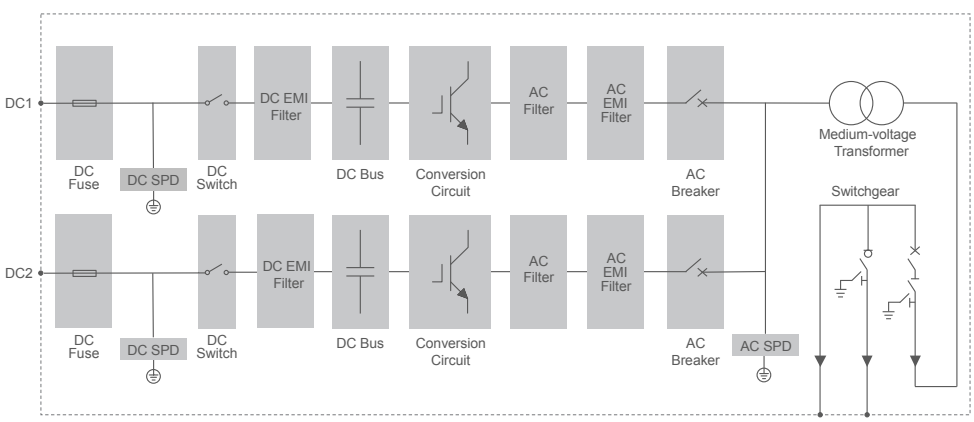
FLEXIBLE APPLICATION

- Bidirectional power conversion system with full four-quadrant operation
- Compatible with high voltage battery system, low system cost
- Battery charge & dis-charge management and black start function integrated

GRID SUPPORT

- Compliant with CE, IEC 62477, IEC 61000 and grid regulations
- Fast active/reactive power response
- L/HVRT, FRT, soft start/stop, specified power factor control and reactive power support

CIRCUIT DIAGRAM



SUNGROW
Clean power for all

Type Designation	SC4000UD-MV
DC side	
Max. DC voltage	1500 V
Min. DC voltage	1150 V
DC voltage range	1150 – 1500 V
Max. DC current	1952 A * 2
No. of DC inputs	2
AC side (Grid)	
AC output power	4000 kVA @ 45 ℃ / 4400 kVA @ 30 ℃
Converter port max. AC output current	2886 A @ 45 ℃ / 3174 A @ 30 ℃
Converter port nominal AC voltage	800 V
Converter port AC voltage range	704 – 880 V
Nominal grid frequency / Grid frequency range	50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz
Harmonic (THD)	< 3 % (at nominal power)
Power factor at nominal power / Adjustable power factor	>0.99 / 1 leading – 1 lagging
Adjustable reactive power range	-100 % – 100 %
Feed-in phases / AC connection	3 / 3
AC side (Off-Grid)	
Converter port nominal AC voltage	800 V
Converter port AC voltage range	704 – 880 V
AC voltage Distortion	< 3 % (Linear load)
DC voltage component	< 0.5 % Un (Linear balance load)
Unbalance load Capacity	100 %
Nominal frequency / Frequency range	50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz
Efficiency	
Converter max. efficiency	99 %
Transformer	
Transformer rated power	4000 kVA
Transformer max. power	4400 kVA
LV / MV voltage	0.8 kV / 20 – 35 kV
Transformer vector	Dy11
Transformer cooling type	ONAN
Oil type	Mineral oil (PCB free) or degradable oil on request
Protection	
DC input protection	DC load switch + fuse
Converter output protection	AC circuit breaker
AC output protection	MV load switch + fuse
Surge 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)	6058*2896*2438 mm
Weight	17000 kg
Degree of protection	IP54 (Converter: IP65)
Operating ambient temperature range	-35 to 60 ℃ (> 45℃ derating)
Allowable relative humidity range	0 – 100 %
Cooling method	Temperature controlled forced air cooling
Max. operating altitude	4000 m (> 2000m derating)
Display	LED, WEB HMI
Communication	RS485, CAN, Ethernet
Compliance	CE, IEC 62477-1, IEC 61000-6-2, IEC 61000-6-4
Grid support	L/HVRT, FRT, active & reactive power control and power ramp rate control, Volt-var, Volt-watt, Frequency-watt