

SC5000UD-MV-US

MV Power Converter Optimized for ST2752UX-US



HIGH YIELD

- Advanced three-level technology, max. efficiency 99%
- Effective forced air cooling, no derating up to 40°C (104 °F)
- Wide DC voltage operation window, full power operation at 1500V



SMART O&M

- Modular design, easy for maintenance
- High protection degree, easy for outdoor installation
- Optional 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 UL1741, IEEE1547, UL1741 SA/SB, and Rule 21
- Fast active/reactive power response
- L/HVRT, FRT, soft start/stop, specified power factor control and reactive power support



Type designation		SC5000UD-MV-US
DC side		
Max. DC voltage		1500 V
Min. DC voltage		1300 V
DC voltage range		1300 V ~ 1500 V
Max. DC current		1958 A * 2
No. of DC inputs		2
AC side (Grid)		
AC output power		5000 kVA @ 40 °C (104 °F)
Max. AC output current		83 A
Nominal LV / MV voltage		0.9 kV / 34.5 kV
Nominal grid frequency / Grid frequency range		60 Hz / 55 Hz ~ 65 Hz
Harmonic (THD)		< 3 % (at nominal power)
Power factor at nominal power / Adjustable power factor		> 0.99 / 1 leading ~ 1 lagging
AC side (Off-Grid)		
Nominal LV / MV voltage		0.9 kV / 34.5 kV
AC voltage distortion		< 3 % (Linear load)
DC voltage component		< 0.5% Un (Linear balance load)
Unbalance load capacity		100 %
Nominal voltage frequency / Voltage frequency range		60 Hz / 55 Hz ~ 65 Hz
Efficiency		
Max.Converter unit efficiency		99.0 %
Max.efficiency(including transformer)		98.3 %
Protection		
DC protection		DC Load switch + fuse
AC 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 mm * 2896 mm * 2438 mm 238.5" * 114.0" * 96.0"
Weight		18000kg 39683 lbs
Transformer vector		Dy1 or Dy11
Degree of protection		TYPE 3R
Operating ambient temperature range		-35 °C ~ 60 °C (> 40 °C derating) -31 °F ~ 140 °F (> 104 °F derating)
Allowable relative humidity range		0 % ~ 100 %
Cooling method		Forced air cooling + KNAN
Max. operating altitude		1000 m (standard) / > 1000 m (optional) 3280.8 ft (standard) / > 3280.8 ft (optional)
Display		LED, WEB HMI
Communication		RS485, CAN, Ethernet, Optical Fiber
Compliance		UL1741, UL1741 SA/SB, IEEE 1547:2018, Rule 21, CSA C22.2 No.107.1-16
Grid support		L/HVRT, FRT, active & reactive power control and power ramp rate control, Volt-var, Volt-watt, Frequency-watt

CIRCUIT DIAGRAM

