

SC5000UD-MV-US-P3

MV Power Converter



HIGH YIELD

- Max. efficiency 99 %
- Wide DC voltage operation window, full power operation at 1500 V
- Intelligent air cooling, 45°C without derating



FLEXIBLE APPLICATION

- Bidirectional power conversion system with full four-quadrant operation
- VSG, VF, PQ and other operating modes
- Supports various scenarios such as high altitude, high salt spray, and high/extremely low temperature



SAFE AND RELIABLE

- TYPE 3R/C5 high protection level
- On-line insulation monitoring to ensure safety
- BMS/PCS/EMS linkage supports multiple system protection



GRID SUPPORT

- Inertia support and microsecond voltage construction
- Fast active/reactive power response
- L/HVRT, FRT, soft start/stop, specified power factor control and reactive power support



Type designation		SC5000UD-MV-US-P3	
DC side			
Max. DC voltage	1500 V		
Min. DC voltage	1000 V		
DC voltage range	1000 V ~ 1500 V		
Max. DC current	1275 A * 4	2550 A * 2	
No. of DC inputs	4	2	
AC side (Grid)			
AC output power	5000 kVA @ 45 °C (113 °F)		
Max. AC output current	83 A		
Nominal LV / MV voltage	0.69 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	0.69 kV / 34.5 kV		
AC voltage distortion	< 3 % (Linear load)		
DC voltage component	< 0.5 % Un (Linear balance load)		
Unbalance load capacity	100 %		
Nominal frequency / 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	≤ 17000 kg / 37478 lbs		
Transformer vector	Dy1		
Degree of protection	TYPE 3R		
Operating ambient temperature range	-35 °C ~ 60 °C (> 45 °C derating) -31 °F ~ 140 °F (> 113 °F derating)		
Allowable relative humidity range	0 % ~ 100 %		
Cooling method	Forced air cooling + KNAN		
Max. operating altitude	1000 m (Standard) / > 1000 m (Optional)		
Display	LED, WEB HMI		
Communication	RS485, CAN, Ethernet, Optical Fiber		
Compliance	UL1741, UL1741 SA/SB, IEEE 1547:2018, Rule 21,HECO 14H, 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

