PCS-9567MV-10000-V2.3
Integrated Medium Voltage Skid

Designed for Grid Reliability and Resilience

- Full four-quadrant operation with bidirectional power conversion system
- State of the art three-level technology with high conversion efficiency.
- Full power operation at 1500V and wide DC voltage operation range.
- Suitable for most local standards and severe environmental conditions.
- Endured extensive quality, safety and reliability.

Easy to Install and Service

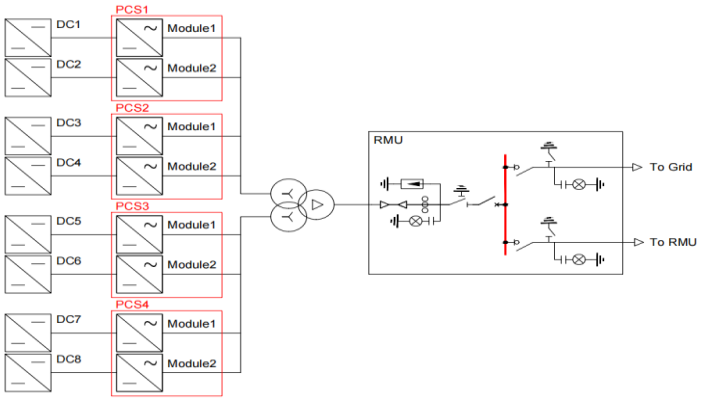
- Fully monitored solution for online analysis and fast troubleshooting.
- Convenient modular design provides easy access to all components for maintenance purposes.
- Standard size container for ease of shipment and installation worldwide.
- Pre-assembled solution, configured & tested to reduce on-site labor and project duration.

Investment with Higher Returns

- Compressed construction lead-times through factory integrated solution.
- Reduced off-loading, on-site labor expense and transportation cost.
- Enhanced system reliability owing to reliable and qualified designs.

Product Applications

- Typical applications - energy shifting, frequency regulation, peak shaving
- Grid forming control, reactive power control, L/HVRT, L/HFRT, soft start/stop, and specified power factor control.
- Compliant with international standard, CE, VDE, ISO, EN etc..
- Multiple communication interfaces such as CAN, RS485 and Ethernet



MV SKID GENERAL	
Transformer	
Rated Power (kVA)	10000● / 9000○/ 8000○
Transformer Model	Oil type[1]
Transformer Vector	Dy11-y11
Protection Level	IP54● / IP55○
Anti-corrosion Grade	C4-H● [2] / C4-VH○ / C5-M○ / C5-H○ / C5-VH○
Cooling Method	ONAN● / KNAN○
Temperature Rise	60K（Top Oil） 65K（Winding）@40℃
Oil Retention Tank	None● / Galvanized steel○ [3]
Winding Material	Aluminum● / Copper○
Transformer Oil	25# /45# mineral oil● / Natural ester insulation oil○
Transformer Efficiency	IEC standard● / IEC Tier-2○
MV Operating Voltage Range (kV)	11~33±5%
Nominal Frequency (Hz)	50 / 60
Altitude (m)	＜1000● / ＞1000○
Switchgear	
Switchgear Type	Ring Main Unit, CCV [4]
Rated voltage (kV)	12/24/36
Insulating medium	SF6● / SF6 Free (≤24kV)○
Rated frequency (Hz)	50/60
Enclosure protection degree	IP3X
Gas tank protection degree	IP67
Gas leakage rate per year	≤0.1%
Rated Operating Current (A)	630
Switchgear Short Circuit Rating (kA/s)	20kA/3s● / 25kA/3s○
Switchgear IAC (kA/s)	A FL 20kA 1S
PCS * 4	
DC Input Voltage Range (V)	1050～1500
Max. DC input Current (A)	1310*2
DC Voltage Ripple	< 2%
DC Current Ripple	< 3%
LV Nominal Operating Voltage (V)	690
LV Operating Voltage Range (V)	621～759
PCS Efficiency	98.7%[5]
Max. AC Output Current (A)	1151*2
Total Harmonic Distortion Rate	< 3%
Reactive Power Compensation	Four quadrant operation
Nominal Output Power (kVA)	1250*2
Max. AC Power (kVA)	1375*2

Power Factor Range	>0.99
Nominal Frequency (Hz)	50 / 60 Hz
Operating Frequency (Hz)	45~55 / 55~65 Hz
Connection Phases	Three-phase-three-wire
Protection	
DC Input Protection	Disconnector + Fuse inside of inverter
AC Output Protection	Motorized Circuit breaker inside of Inverter
DC Overvoltage Protection	Surge arrester, type II● / I+II○
AC Overvoltage Protection	Surge arrester, type II● / I+II○
Ground Fault Protection	DC IMD● / DC IMD+ AC IMD○
Transformer Protection	Protection relay for pressure, temperature, gassing
Fire Extinguishing System	Smoke detector sensor (dry contact)
Communication Interface	
Communication Method	CAN / RS485 / RJ45 / Optical fiber
Supported Protocol	CAN / Modbus / IEC60870-103 / IEC61850
Ethernet Switch Qty	One for standard [6]
UPS	1kVA for 15min● / 1h○ / 2h○
Skid General	
Dimensions (W*H*D)(mm)	12192*2896*2438 (40ft)
Weight (kg)	38800
Protection Level	IP54
Operating Temperature (℃)	-35~60, >45 derating
Storage Temperature (℃)	-40~70
Maximum Altitude (above sea level) (m)	5000, ⩾3000 derating [7]
Environment Humidity	0~ 100%, No condensation
Type of Ventilation	Nature air cooling● / Forced air cooling○
Auxiliary Power Consumption (kVA)	21 (peak)
Auxiliary Transformer (kVA)	Without● / With○[8]

Notes:

● **Standard** ○ **Optional**

1). If dry transformer is required, please contact with NR for more information
2). Lower protection level will be covered by C4-H
3). Standard for no supply of oil retention tank. If required to be integrated with PCS skid, please contact with NR
4). If other type of switchgear is required, please contact with NR for more information
5). Typical discharge value for each PCS running at DC 1200V under IEC62933-2-1 environment condition
6). If more ethernet switch is required, please contact with NR for more information
7). When altitude is between 3000~4000m, the system LV AV voltage shall be less than 600V; When altitude is between 4000~4500m, the system LV AC voltage shall be less than 550V; When altitude is between 4500~6000m, please contact with NR for more information
8). Please contact with NR for more information