

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 ^o
AC Overvoltage Protection	Surge arrester, type II [*] / I+II ^o
Ground Fault Protection	DC IMD [*] / DC IMD+ AC IMD ^o
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 ^o / 2h ^o
Skid General	
Dimensions (W*H*D)(mm)	12192*2896*2438 (40ft)
Weight (kg)	38800
Protection Level	IP54
Operating Temperature (°C)	-35~60C, >45C derating
Storage Temperature (°C)	-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 ^o
Auxiliary Power Consumption (kVA)	21 (peak)
Auxiliary Transformer (kVA)	Without [*] / With ^[8]

Notes:

^{*}Standard ^oOptional

^[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



PCS-9567MV-10000-V2.2

Integrated Medium Voltage Skid



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NR ELECTRIC CO., LTD.





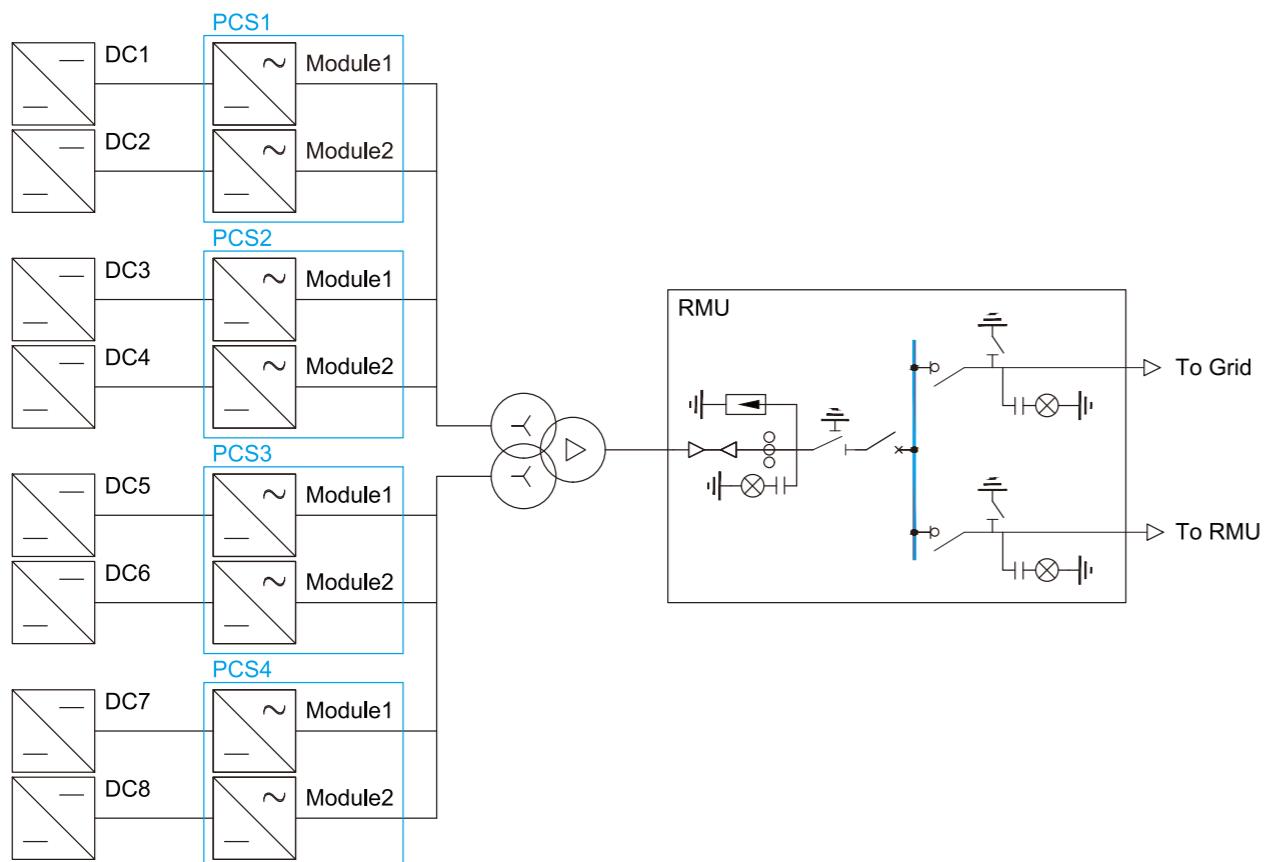
Designed for Grid Reliability and Resilience

- 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

Technical Parameters

NR MEDIUM VOLTAGE SKID - PCS-9567MV-10000-V2.2 DATASHEET

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* / ONAF°
Temperature Rise	60K(Top Oil) 65K(Winding)@40°C
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
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