

PCS-9567MV-6500-V3.1
Integrated Medium Voltage Skid

NR ELECTRIC CO., LTD.

Designed for Grid Reliability and Resilience

- Full four-quadrant operation with bidirectional power conversion system
- 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.

Investment with Higher Returns

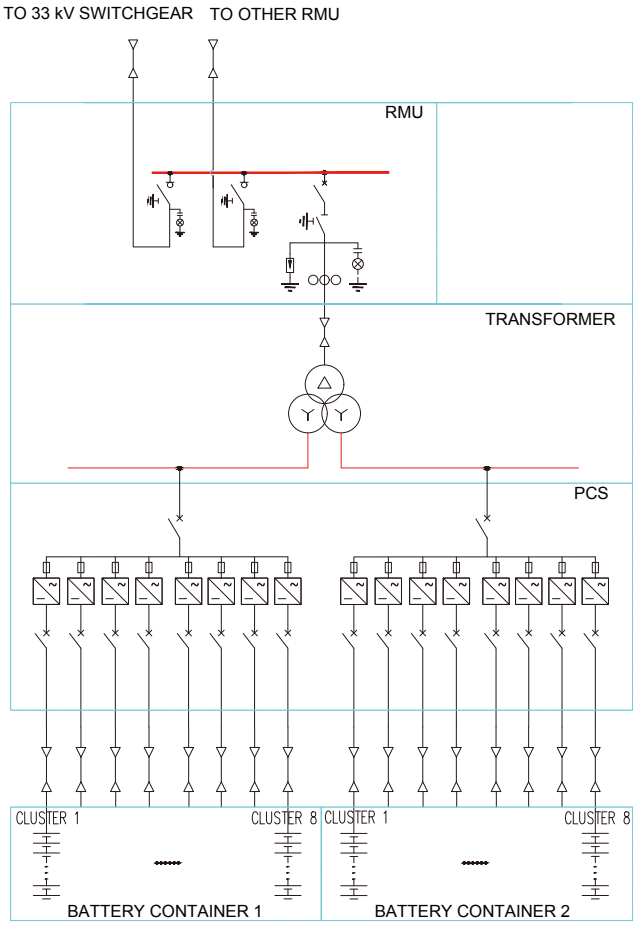
- Compressed construction lead-times through factory integrated solution.
- Reduced off-loading, on-site labor expense and transportation cost.
- Enhanced system reliability owing to reliable and qualified designs.

Easy to Install and Maintain

- 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.

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 PCS-9567MV-6500-V3.1 INTEGRATED MEDIUM VOLTAGE SKID DATASHEET

MV SKID GENERAL	
Transformer	
Rated Power (kVA)	6500
Transformer Model	Oil type[1]
Transformer Vector	Dy11-y11
Protection Level	IP54• / IP55◦
Anti-corrosion Grade	C4,M• [2] / C5,M◦ / C5,H◦
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 * 16	
DC Input Voltage Range (V)	1040 ～ 1500
Max. DC input Current (A)	455
Rated power	430kVA
Max. output power	473kVA
Max. output current	393A
Nominal AC voltages	690V
AC voltage range	-15%~10%
Nominal AC power frequency	50Hz / 60Hz
AC power frequency range	45Hz ~55Hz / 55Hz ~65Hz
Max. total harmonic distortion	< 1.5%（at rated power）
Power factor at rated power	> 0.99
Power factor range	-1~1

AC connection type	3-phase 3-wire
Max. Efficiency	＞99%[5]
Reactive Power Compensation	Four quadrant operation
Cooling method	Intelligent liquid cooling
Internal isolation method	Transformer-less
Noise	≤60dB(1m)
Protection class	IP66 for key equipment
Weight	105kg
Dimensions (W×H×D)	834mm×834mm×235mm
Protection	
DC Input Protection	Motorized Circuit breaker
AC Output Protection	Motorized Circuit breaker
DC Overvoltage Protection	Surge arrester, type II
AC Overvoltage Protection	Surge arrester, type II
Ground Fault Protection	DC IMD
Transformer Protection	Protection relay for pressure, temperature, gassing
Fire Extinguishing System	Smoke detector sensor (dry contact)
Communication Interface	
Communication Method	RJ45, CAN, RS485
Supported Protocol	IEC61850, CAN2.0, Modbus
Ethernet Switch Qty	One for standard[6]
UPS	1kVA for 15min• / 1h◦ / 2h◦
Skid General	
Dimensions (W*H*D)(mm)	6058*2896*2438 (20ft)
Weight (kg)	25000 [7]
Protection Level	IP54
Operating Temperature (℃)	-35~60, >45 derating
Storage Temperature (℃)	-40~70
Maximum Altitude (above sea level) (m)	4000, ≥3000 derating[8]
Environment Humidity	0~ 100%, No condensation
Auxiliary Power Consumption (kVA)	15 (peak)
Auxiliary Transformer (kVA)	Without• / With◦ [9]

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,M
[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] Subject to actual delivery.
[8] 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
[9] Please contact with NR for more information

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