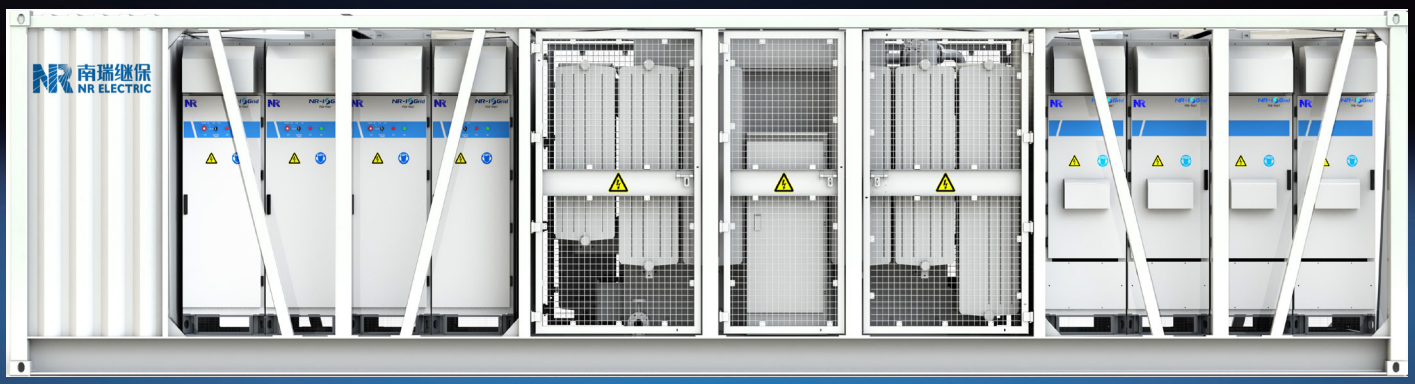


PCS-9567MV-14000-V3.1
Integrated Medium Voltage Skid

NR ELECTRIC CO., LTD.

Designed for Grid Reliability and Resilience

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

Investment with Higher Returns

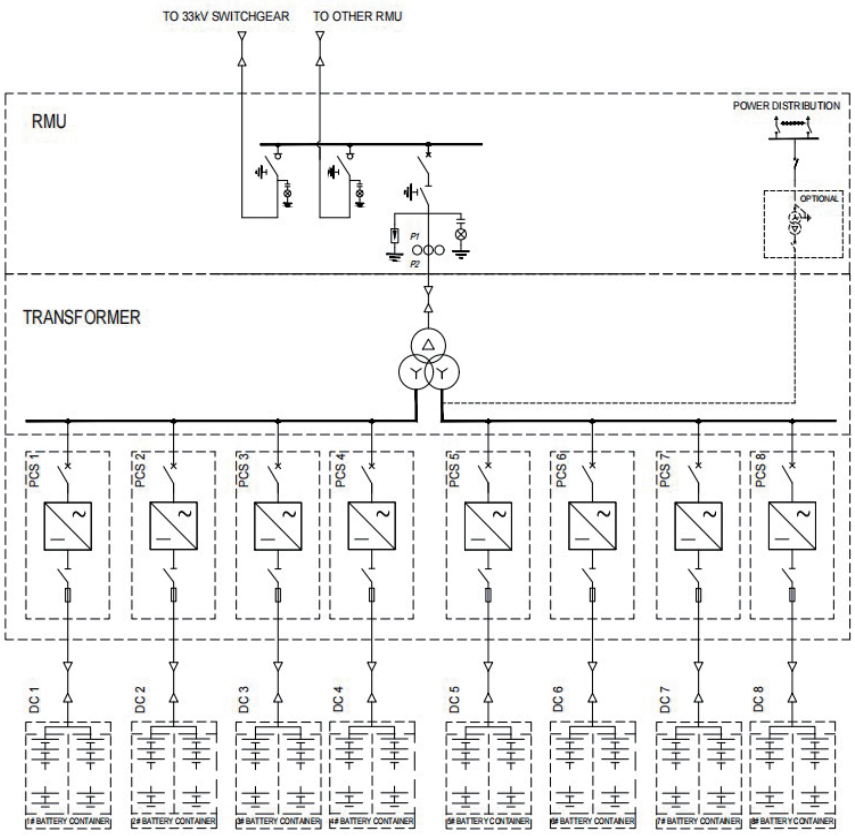
- Compressed construction lead-times through factory integrated solution.
- Reduced off-loading, on-site labor expense and transportation cost.
- Enhanced system reliability owing to reliable and qualified designs.

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-14000-V3.1 INTEGRATED MEDIUM VOLTAGE SKID DATASHEET

MV SKID GENERAL	
Transformer	
Rated Power (kVA)	14000• / 10500◦ / 7000◦
Transformer Model	Oil type[1]
Transformer Vector	Dy11-y11
Protection Level	IP54
Cooling Method	ONAF• / KNAF◦
Temperature Rise	60K（Top Oil） 65K（Winding）@40℃
Oil Retention Tank	None• / Galvanized steel◦ [2]
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)	22~33±5%
Nominal Frequency (Hz)	50 / 60
Altitude (m)	＜1000• / ＞1000◦
Switchgear	
Switchgear Type	Ring Main Unit, CCV[3]
Rated voltage (kV)	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 * 8	
DC Input Voltage Range (V)	1050～1500
Max. DC input Current (A)	1833
DC Voltage Ripple	< 2%
DC Current Ripple	< 3%
LV Nominal Operating Voltage (V)	690
LV Operating Voltage Range (V)	621～759
Max. AC Output Current (A)	1611
Total Harmonic Distortion Rate	< 3%
Reactive Power Compensation	Four quadrant operation
Nominal Output Power (kVA)	1750
Max. AC Power (kVA)	1925
Power Factor Range	> 0.99(Rated Power)
Adjustable reactive power	-100%~100%
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[4]
UPS	1kVA for 1h• / 2h◦
Skid General	
Dimensions (W*H*D)(mm)	12192*2896*2438 (40ft)
Weight (kg)	43000[5]
Protection Level	IP54
Anti-corrosion Grade	C3• / C4◦ / C5◦ [6]
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	Forced air cooling• / Nature air cooling◦
Auxiliary Power Consumption (kVA)	6 (peak)
Auxiliary Transformer (kVA)	Without• / With◦ [8]

Notes:
• Standard ◦ Optional
[1] If dry transformer is required, please contact with NR for more information
[2] Standard for no supply of oil retention tank. If required to be integrated with PCS skid, please contact with NR
[3] If other type of switchgear is required, please contact with NR for more information
[4] If more ethernet switch is required, please contact with NR for more information
[5] Refer to the actual shipping status
[6] If project is located in high salinity coastal areas, 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

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