

MNS Switchgear Overview

Technical Data

Standards		Low Voltage Switchgear and Controlgear Assemblies – Verification by testing*	IEC 61439-1/-2	
Test certificates		ASTA, Great-Britain (resist. to accidental arcs acc. to IEC 61641 and IEC 60298, Appendix AA) DLR German Research Institute for Aerospace e. V. Jülich, Earthquake Test for Security Areas in Nuclear Power Stations IABG Industrieanlagen Betriebsgesellschaft, Vibration and shock tests Complying with Germanischer Lloyd, Hamburg		
Electrical data	Rated voltages	Rated insulation voltage U_i	1000 V 3~, 1500 V- **	
		Rated operating voltage U_e	690 V 3~, 750 V- **	
		Rated impulse withstand voltage U_{imp}	6 / 8 / 12 kV **	
		Overvoltage category	II / III / IV **	
		Degree of pollution	3	
		Rated frequency	up to 60 Hz	
	Rated current	Copper Busbars:		
		Rated current I_e		up to 6300 A
		Rated peak withstand current I_{pk}		up to 250 kA
		Rated short-time withstand current I_{sw}		up to 100 kA
		Copper Distribution bars:		
		Rated current I_e		up to 2000 A
		Rated peak withstand current I_{pk}		up to 176 kA
	Arc Fault Containment	Rated operational voltage		up to 690 V
		Prospective short-circuit current		up to 100 kA
		Duration		300 ms
		Criteria (IEC 61641)		1 to 7
	Forms of separation			up to Form 4
	Mechanical characteristics	Dimensions	Cubicles and frame	DIN 41488
Recommended height			2200 mm	
Recommended width			400, 600, 800, 1000, 1200 mm	
Recommended depth			400, 600, 800, 1000, 1200 mm	
Basic grid size			E = 25 mm acc. to DIN 43660	
Degrees of Protection		According to IEC 60529	External from IP 30 to IP 54 Internal from IP 2X	
Steel components		Frame, incl. internal subdivisions		2.0 / 2.5 mm
		Cladding, internal		1.5 / 2.0 mm
		Cladding, external		1.5 mm
Surface protection/Paint		Frame, incl. internal subdivisions		Zinc or Alu-zinc coated
		Cladding, internal		Zinc or Alu-zinc coated
		Cladding, external		Zinc or Alu-zinc coated and Powder coated RAL 7035 (light grey)
Plastic components		Halogen-free, self-extinguishing, flame retardant, CFC-free		IEC 60707, DIN VDE 0304 part 3
Optional Extras, available on request	Busbar system	Busbars	Fully insulated with heat shrinkable sleeving Silver plating Tin plating	
	Special qualification	Test certificates	See test certificates listed above	
	Paint	Enclosure	Special colours on request	

* Design verification by testing: Where an Assembly has previously been tested in accordance with IEC 60439-1, and the results fulfil the requirements of IEC 61439-1/-2, the verification of these tests need not be repeated.

** Depending on the electrical equipment