MNS *i*S Switchgear System
Technical Overview

Power and productivity
for a better world™

MNS *i*S
Innovative Design

ABB's innovative MNS *i*S concept combines the long term experience, energy efficiency, grid reliability and industrial productivity of the well-known MNS system with advanced design in hardware and software technologies.

High protection and safety
MNS *i*S and its clear segregation of power and control compartments offer highest personal, system and supervision safety possibilities.

Standardization
Maximum simplicity due to standardized power modules – fully assembled and ready to use for a wide range of motor starter and energy distribution modules.

Lower lifecycle costs
These are defined in three ways; less downtime, less fault finding and less inventory.

Pro-active maintenance
MNS *i*S with Condition Monitoring indicates conditions before a failure occurs, enabling pro-active maintenance possibilities.

Information variety
MNS *i*S offers latest HMI technology, remote management, innovative plug & produce technology and real time plant condition monitoring.

User friendliness
MNS *i*S provides integrated user tasks, like module supervision, lifecycle management, contact temperature supervision and power loss supervision.

Project implementation
MNS *i*S helps you to reduce your project costs by offering a shorter project duration due to high standardization and reduced engineering.

For **more information** about MNS *i*S please visit
http://www.abb.com/mns

MNS *iS*
Unique Scalable Switchgear

MNS *i*S
Value inside

MNS *i*S
Technical Data

MNS *i*S Standards and Approvals

Standards
IEC 61439 series, Design verification by testing*
CEI 60439-1
DIN EN 60439-1
VDE 0660 part 500
BS EN 60439-1
UTE 63-412
Test certificates
ASTA, Great-Britain (resistance 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

MNS *i*S Mechanical characteristics

Dimensions	
Cubicles and supporting structures	DIN 41488
Basic grid size	E = 25 mm acc. to DIN 43660
Recommended height	2200 mm
Recommended width	
MCC / Withdrawable modules	
Control cable compartment	300, 400 mm
Equipment compartment	600 mm
Power cable compartment	300, 400 mm
Cubicle total	1200, 1400 mm
Incomers/ Bus couplers	
Equipment compartment (= total)	400, 600, 800, 1000 mm
Recommended depth total	600, 800, 1000, 1200 mm
Degrees of protection	
According to IEC 60529 or DIN 40050	IP 30 up to IP 54
Plastic components	
Halogen-free, self-extinguishing, flame retardant, CFC-free	IEC 60695-11-20 DIN VDE 0304 part 3
Steel components	
Frame (C shape profiles)	2.0 mm
Frame (Transverse sections)	2.5 mm
Cladding, external	1.5 mm
Cladding, internal	1.5 / 2.0 mm
Compartment bottom plates	2.0 mm
Surface protection	
Frame, incl. internal subdivisions	Zinc or Alu-zinc coated
Transverse sections	Zinc or Alu-zinc coated
Enclosure	Zinc or Alu-zinc coated and Powder coated (RAL 7035, module doors RAL 7012)
Options (on request)	
Busbars	Insulated with heat shrinkable sleeving Silver plated

MNS *i*S Electrical characteristics

Rated voltages	
Rated insulation voltage U_i	up to 1000 V 3~ ***
Rated operating voltage U_e	690 V 3~
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_{cw}	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
Rated short-time withstand current I_{cw}	up to 100 kA
Arc fault containment	
Rated operational voltage / Prospective short-circuit current	400 V / 100 kA 690 V / 65 kA
Duration	300 ms
Criteria	1 to 5
Forms of separation	up to Form 4

MNS *i*S Communication interfaces

Protocols
Profibus DP / DP V0 / DP V1
ProfiNet I/O
Modbus RTU
Modbus TCP
Interfaces
Web Interface
OPC Data Access (DA)
OPC Alarms and Events (AE)

* 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 series, the verification of these tests need not be repeated.
** Derived from MNS
*** Depending on the electrical equipment

Contact us

ABB Low Voltage Systems
Publication Editor:
ABB Automation Products GmbH
Ladenburg, Germany

Local Contacts on
www.abb.com/mns

Note:
We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

Publication No.: 1TGC910040L0201

Power and productivity
for a better world™