ABB’s innovative MNS iS 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 iS 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 iS with Condition Monitoring indicates conditions before a failure occurs, enabling pro-active maintenance possibilities.

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

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

Project implementation
MNS iS 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 iS please visit http://www.abb.com/mns
MNS iS
Unique Scalable Switchgear
MNS iS
Value inside
MNS iS Technical Data

MNS iS Standards and Approvals

Standards
- IEC 61439 series, Design verification by testing*
- IEC 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 iS 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 iS 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 iS 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 fulfill the requirements of IEC 61439 series, the verification of these tests need not be repeated.
** Derived from MNS
*** Depending on the electrical equipment

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

**DLR German Research Institute for Aerospace e. V. Jülich, Earthquake Test for Security Areas in Nuclear Power Stations**:
Generated from MNS iS.