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MNS R Power Motor Control Center
Product presentation

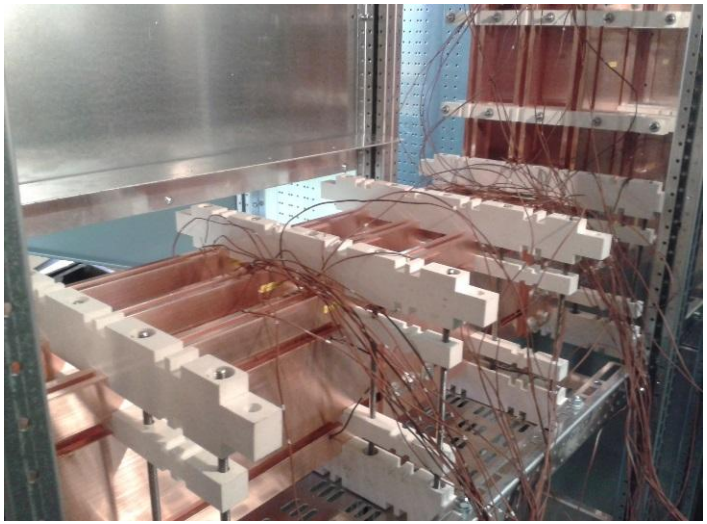
MNS R
Rear access Power Motor Control Center

- Air circuit breaker multilevel layout
- Rear Power Cables
- Three possible busbar positions: upper, lower & middle
- Power and control cables segregated
- Suitable to be joint with front and rear access MCC units
- Anti seismic execution

MNS R
Performances & technical characteristics

- Rated current Ie — 8000A
- Rated short time withstand current Icw — 120kA - 1s
- Rated peak withstand current Ipk — 264 kA
- Arc fault containment — 100kAx0,3s - 415V
- Rated operating voltage Ue — 690 Vac – 750Vdc
- Segregation form — form 4b (IEC)
  form 4 type 7 (BS)

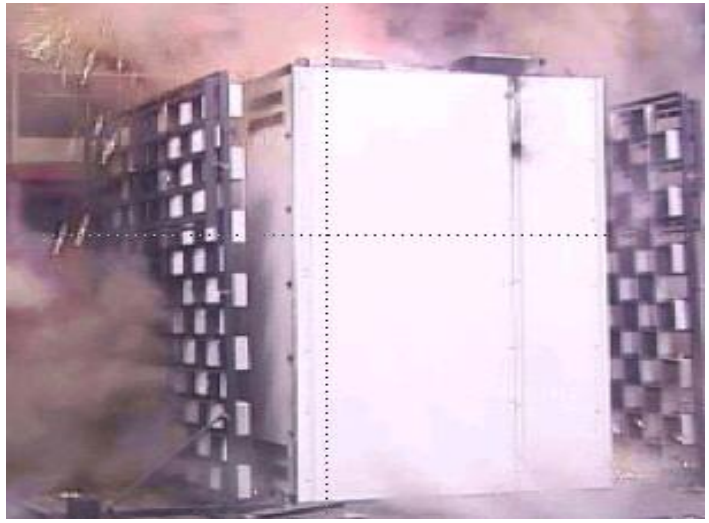
MNS R
Fully type tested according IEC standards



The MNS R has been tested and certificated according the main international standards

- IEC 60439, valid till January 2014
- IEC 61439
- IEC Publication 61166, IEEE Std 693 and UBC 1997 for seismicity
- TR 61641 for the arc proof execution

MNS R
Arc proof tested



Satisfied all the 5 criteria:

1. Doors and cover must remain closed
2. Any part of the switchgear must not be ejected
3. No holes must appear in the external housing in any part accessible to personnel
4. The arranged fabric indicators placed outside the switchgear must not get burned
5. All the switchgear earthing connections must remain effective

MNS R
Electrical characteristics: main busbars

- Rated current main busbars, Ie 8000A
- Rated current distribution busbars, Ie 4000A
- Rated short time withstand current, Icw 120kA
- Rated peak withstand current, Ipk 264kA

MNS R
Breakers

Air Circuit Breakers (Emax2)

- Iu up to 6300A
- Withdrawable execution

Molded Case Circuit Breakers (Tmax, Tmax XT)

- Iu up to 1600A
- Fixed, withdrawable and Plug-in version

MNS R
New Emax.2

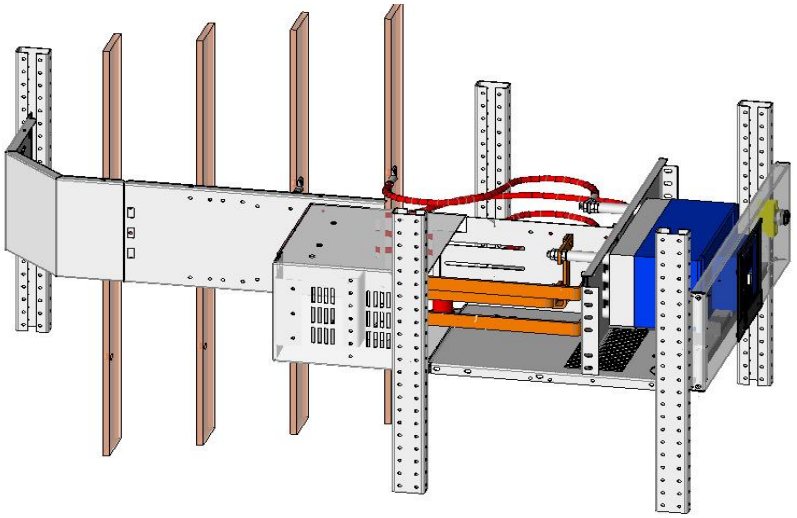
Top performances:

- E1.2, the most compact ACB on the market
- Icu = 42, 50, 66kA@440V; 42, 50kA@690V
- Icw = 42, 50kA (1s)

New trip units Ekip

- Friendly user, touch screen
- Simple interchangeability
- Integrated ammeters & Voltmeters
- Network Analyzer
- Synchrocheck

MNS R
Mechanical characteristics: segregation forms



Available up to form 4b:

segregation of the busbars from functional units and between functional units; segregation of the terminals from the functional units and from the busbars; the terminals for external conductors are not in the same compartment as the associated functional unit..

MNS R
Mechanical characteristics: from IP20 up to IP 54

First digit: protection against solid foreign objects

- 0 = No protection
- 1 = solid bodies > 50mm
- 2 = solid bodies > 12mm
- 3 = solid bodies > 2.5mm
- 4 = solid bodies > 1mm
- 5 = dust protected

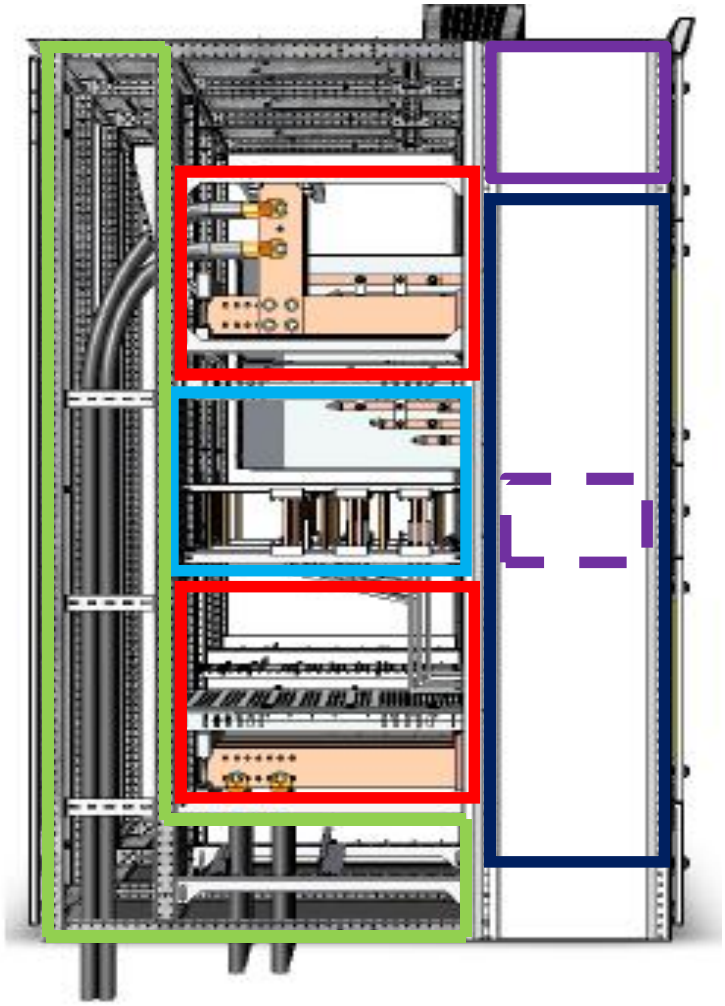
Second digit: protection against Water

- 0 = No protection
- 1 = vertically dripping water
- 2 = dripping water (15° tilted)
- 3 = sprayed water (60° tilted)
- 4 = splashing water (all direction)

MNS R
Construction details: busbars

- Omnibus and distribution busbars segregated
- Metallic Segregations
- Busbar Treatment
  - Bare
  - Tinned
  - Silvered
  - Sleeved
- Connection to the distribution bars by cables or by copper bars

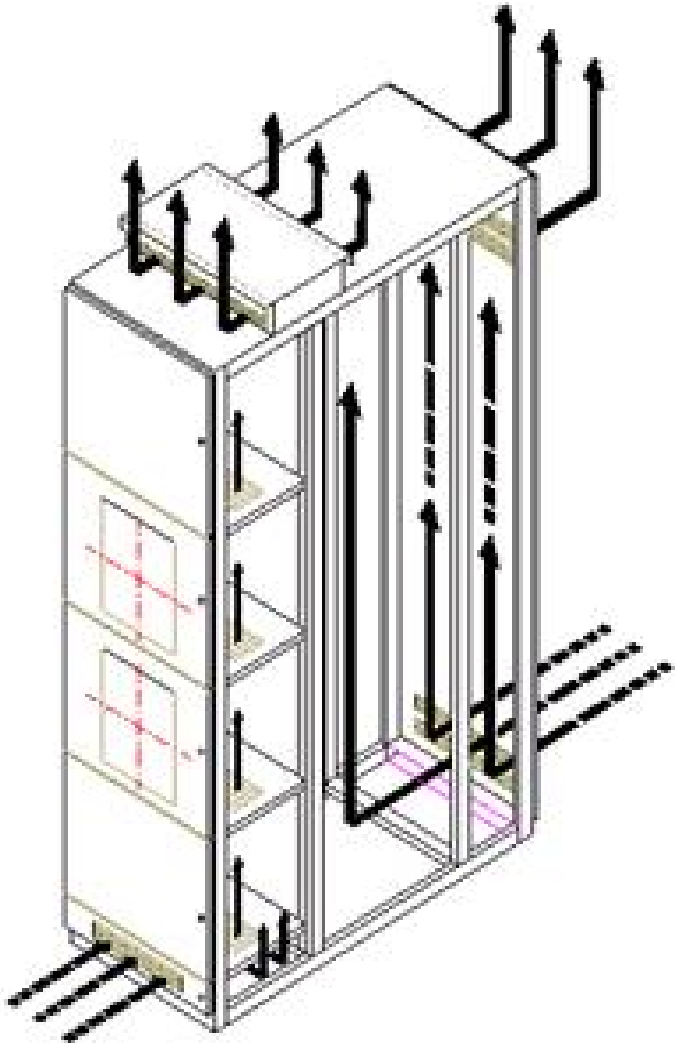
MNS R
Construction details: compartments



The panels are composed by:

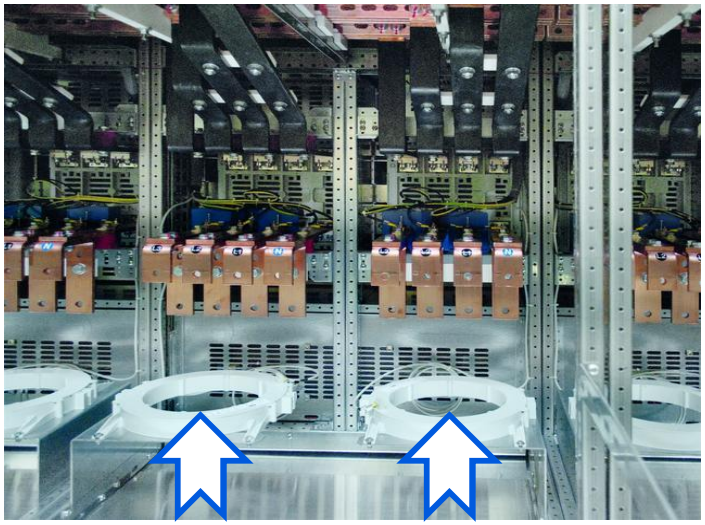
- Auxiliary instrumentation compartment
- Breakers compartment
- Breakers connections
- Power Cables compartment
- Busbars compartment (central position)

MNS R
Construction details: ventilation



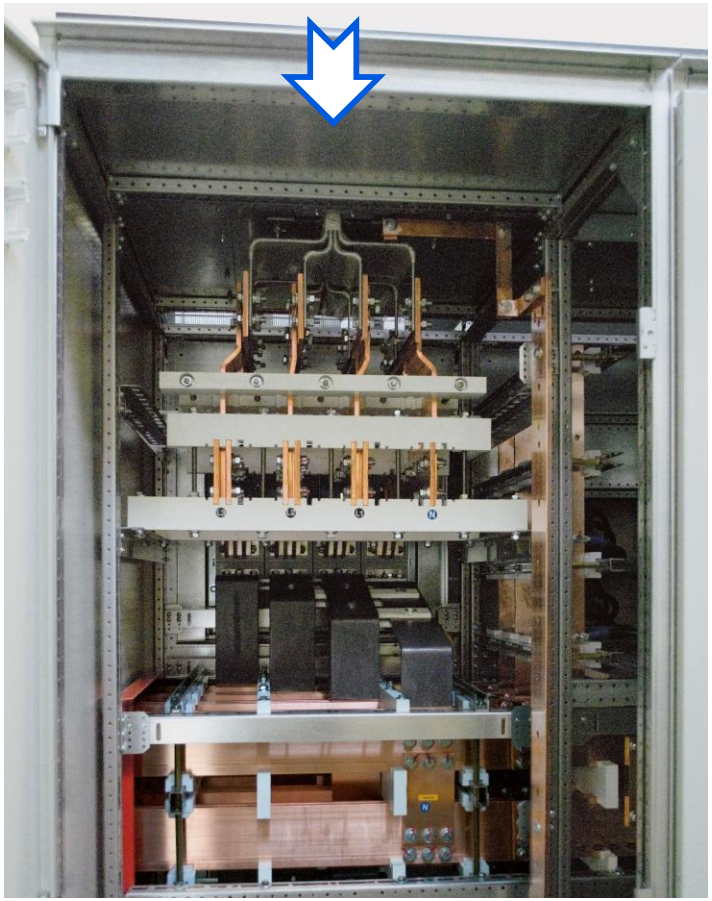
- A natural air flow is provided by grids located on both sides of the panel
- A ventilation Chimney placed on the roof is providing the right ventilation to grant the correct heat dissipation to the installed equipments
- The Chimney has also the function to evacuate the hot basses and the smoke after internal arcs

MNS R
Construction details: cables connections



- Easy access for connection and maintenance
- Single core and multi core cables
- Power cables segregated from other components
- Choice of rear closing doors (with hinge) or closing plates (without hinges) according available rear space

MNS R
Construction details: Bus duct connection

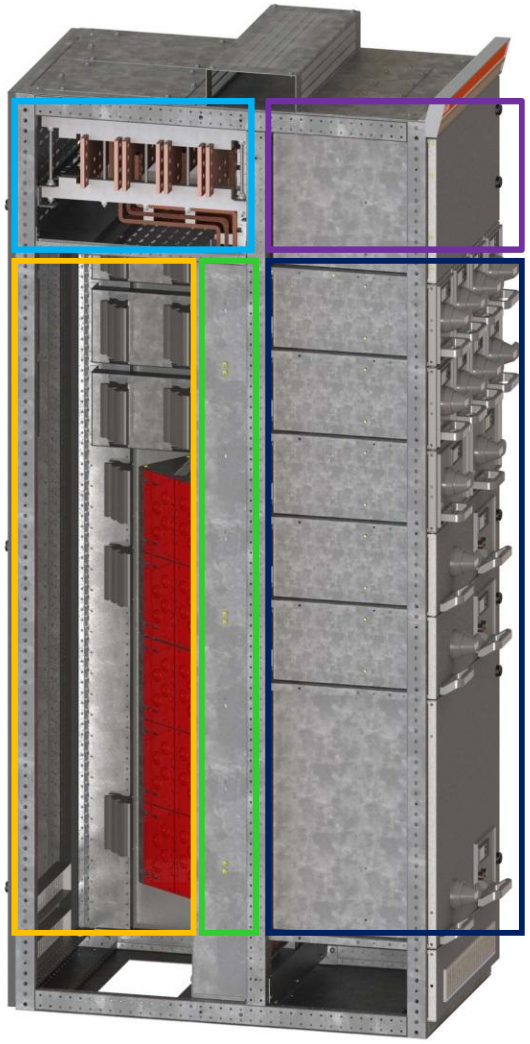


Suitable for direct connect to bus duct system from the top and from the bottom

MNS R
Rear Access Motor Control Center

- Direct connection to power center section
- MCC Compact cubicles, 600mm wide
- Withdrawable unit also equipped with VSD type ABB ACS850

MNS R
MCC Rear Panels



The panels are composed by:

- Auxiliary instrumentation compartment
- Feeder
- Cables connection
- Main Busbars (top position)
- Distribution busbars

MNS R
MCC Panels: Motor feeders withdrawable modules

The withdrawable modules are exactly the same of the MCC front access type MNS3

That bring big advantages for the customers that can reduce spare part and can use the technicians already trained on MNS3

MNS R
MCC Panels: Multi Functional wall

Multifunction wall:

- Segregation and insulation of the distribution busbars
- Segregation of the main busbars from the functional units
- Free Fault zone: sensible reduction of possible to have an internal arc
- IP2X guarantee also with drawers removed

MNS R
MCC Panels: «Intelligent» modules

- Possibility to install intelligent modules inside the withdrawable units
- Like ABB M10x complete of
  - Protections (26, 27, 37, 46, 49, 51LR, 66…)
  - Measuring (A, V, Hz, kW, kVA, kWh….)
  - Communication (Profibus DP, Modbus RTU)

MNS R
Front access PMCC

- Connection to MNS *iS* or MNS3.0 MCC units by means of a busbars transition panel
- Back-to-back solution on the MCC panels to reduce the footprint

MNS R
……. the best choice for:

Aruba:	New Data Center Arezzo,	Italy
Telecom:	Rozzano Data Center,	Italy
Satorp:	Jubail Export Refinery,	Saudi Arabia
Emerson:	Test laboratory	Slovakia
GULF:	Dubai Airport phase II	UAE
3SUN:	Microfilm factory for solar panel	Italy
Rosetti:	West Franklin platform	UK

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