DISTRIBUTION SOLUTIONS

MNS® Digital Motor Control Center (MCC)
Scalable solutions for process industries

We know that motor starting matters. Over 30 years ago ABB launched the first digital motor controller for low-voltage systems. Today we provide integrated motor starting solutions for direct online, softstart and variable speed drives.

With MNS Digital MCC you are able to optimize your process and reduce your Capex. The MCC provides you with solutions to tailor your motor starting requirements across your installations.

Direct online motor starting provides the most cost-effective and compact design for an optimized footprint. For control and protection, smart relays ensure enhanced availability and provide fundamental data for condition monitoring.

90 percent of all motors are used in full speed applications, where a variable speed drive (VSD) offers limited process value. The optimal compromise between a direct online and a VSD is to control start up speed and torque using the PSTX softstarter.

Where the process requires premium motor control, with precise speed and torque control, ABB offers ACS 880 with direct torque control (DTC).

These solutions coupled with Emax 2, Tmax XT circuit breakers, and with temperature monitoring options enable 24/7 data collection and analysis with the on-site ABB Ability™ Condition Monitoring for electrical systems (CMES), without interfering with other operation or control applications.

The MNS Digital MCC is ready for cloud connectivity offering further data analysis and predictive maintenance.

The process control systems required for motor control are connected through standard communication protocols (Profibus, Profinet, Modbus RTU, Modbus TCP). In addition air circuit breakers also support the communication to electrical controls via the IEC 61850 protocol.

Benefits

Simplicity
- Reduction of external cabling, all devices integrated into the switchgear assembly.
- No PLC (programmable logic controller) required.
- Easy implementation of last minute modification by software.

Safety
- Fully certified to IEC 61439-2 providing improved performance and availability.
- Arc fault certified to IEC 61641 Ed 3 Class C enhancing personnel safety.
- Maintenance performed when needed ensuring safe switchgear operation and availability.
Flexibility
- Digital switchgear can be easily adapted and customized, if requirements change.
- Easy upgrade of conventional systems to digitally enhanced modules, original power cabling and assembly footprint remain unchanged.
- Possibility to utilize new functions in the cloud, without changing the equipment physically.
- Supporting remote service and troubleshooting.

Customize
Scalable, modular and flexible platform
- Modular: Use of fixed, plug-in or withdrawable technology depending on your needs.
- Easily exchange and upgrade of the components and devices.
- Add new features to an existing installation with minimal effort.
- Flexible, configurable MNS platform.

Easy to connect
- Connection to DCS, SCADA and ABB Ability platform, non-intrusive to each other.

Analyze
Data available throughout lifetime
- Data monitoring from commissioning throughout life time.
- Analysis improves over time with more details collected.

Availability of system and data
- Availability of critical process data.
- Access your data even in the case of device failures.

Optimize
Efficient maintenance
- Shift from planned maintenance to condition based.
- Reduce reactive maintenance costs.
- Plan ahead with condition reports.

Energy management
- Better energy management.
- Full transparency to prioritize investment and optimization steps.
- Optimize operating costs and achieve savings of up to 30%.

Continuous operation
- Avoid unplanned outages conduct maintenance where and when necessary.

Economize
Lifecycle and performance management
- Easy replacement.
- Upgrading equipment costs 30% less.

Reduced infrastructure investment
- Ethernet infrastructure.
- PLC free design, reducing infrastructure investment by up to 20%.