

Live(ly) neighbours

MNS *iS*: Innovating the low-voltage motor control center

Matthias Forstbach

Low voltage motor control centers (LV-MCCs) are omnipresent in industrial applications and the market for these is characterized by fierce competition. Customers expect LV-MCC to be affordable before being innovative. ABB has succeeded in creating a platform that is both. By using separate and modular power and control units, a large choice of combinations is possible from a small selection of basic parts. Inventory costs are cut while the customer's investment is protected.

Over the last decade, optimization of electrical devices has been the principle focus for innovation in low voltage motor control centers (LV-MCCs). The main contribution towards achieving this was the withdrawable starter module combined with intelligent motor protection and control relays. Today's Intelligent MCCs are state of the art: they are compact, modular and provide detailed motor status information.

However, customers face several difficulties with available MCCs:

- The LV-MCC requires considerable work in engineering, testing and assembly.
- Intelligent motor protection relays are an expensive add-on. This has led to a global price war in which customer benefits are scarcely mentioned.

Moreover, many customers are calling into question the validity of the intelligent MCC concept: The life cycle for electronic devices is limited to a maxi-

mum of ten years due to rapidly changing technology. Electrical apparatus, however, is designed for a minimum lifetime of 25 to 30 years. The combination of the two reduces the total equipment lifecycle considerably and threatens the customer's investment.

Customers can easily add new functions and more sophisticated technology without having to change the system platform.

Even though competition on the low voltage LV-MCC market is fierce and new products must conform to existing de-facto standards, ABB has broken new ground while remaining fully compatible to the market's requirements.

Breakthrough in MCC technology

ABB's MNS *iS* is a breakthrough in MCC technology. Power and control devices are located in separate compartments in the cubicle. Power and

control cables can also be accommodated separately facilitating maintenance and upgrades. Customers can easily add new functions and more sophisticated technology without having to change the system platform.

By standardizing the power part of the LV-MCC, the MNS *iS* has significantly reduced spare parts variants. Spatial separation of power and control modules enhances operational safety and simplicity.

Condition monitoring for maintenance planning has been improved by including a temperature measurement function in the starter module. Real time diagnostics are provided through time tags on the starter level.

MNS *iS*'s flexibility is enhanced by its ability to be controlled from multiple locations, and its open communication with higher level systems such as Distributed Control Systems, DCS.

Innovation creates strong market appeal

The launch of the MNS *iS* has created new market opportunities for ABB. And to date 19 patents have been issued. This single system scalable platform easily adapts to the needs of the vertical LV-MCC market segment. The use of standard components cut the development phase by 20 percent! Perhaps one of the biggest contributors to this success was adopting the right technologies rather than the latest ones.

ABB MNS *iS* presents a solid and reliable platform that will secure value for both ABB and its customers for a long time to come.

Matthias Forstbach

ABB Schaltanlagentechnik GmbH
Ladenburg, Germany
matthias.forstbach@de.abb.com

