

Intelligent MCC with DFI302

Characteristics:

- MCC data can be packed and networked
- Use of a HSE Device to enable networked conventional MCC
- Availability of different integration methods
- Ethernet communication (FOUNDATION™ HSE and/or Modbus TCP)

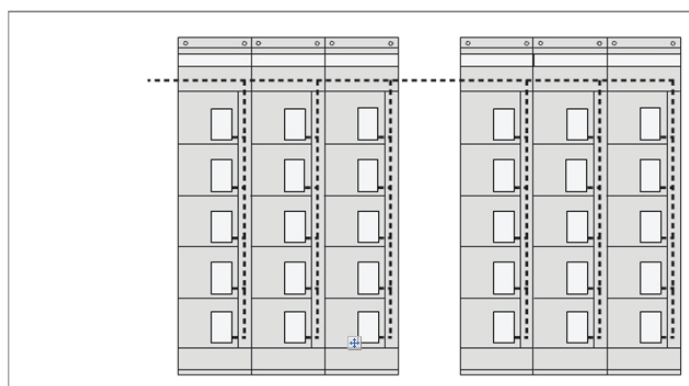
Digital networks brought new capabilities to Motor Control Center (MCC) control and supervision. In the past MCCs were always controlled and monitored by a PLC, where discrete and analog I/O had to be connected point to point to PLC.

As PLC and MCC were most of times in a different location, huge quantity of cabling and connection was necessary, and a marshalling panel was also present, to rearrange cabling from MCC to PLC cabinets. Maintenance on this type of MCC control is also complicated, as long wire runs tend to take more time to get fixed, in case of cabling rupture or malfunction.

Other problem with this approach is the poor diagnostics from MCC, as not all signals derived from MCC could be connected, to maintain an acceptable cost/benefit ratio.

Costs on this approach are high, so connections need to be carefully selected, to lower installation and material costs. Intelligent MCC does not suffer from these constraints. On this approach, Motor Starters and VFDs are networked, eliminating all cabling and also the marshalling panel, as now PLC and MCC are connected on the same network.

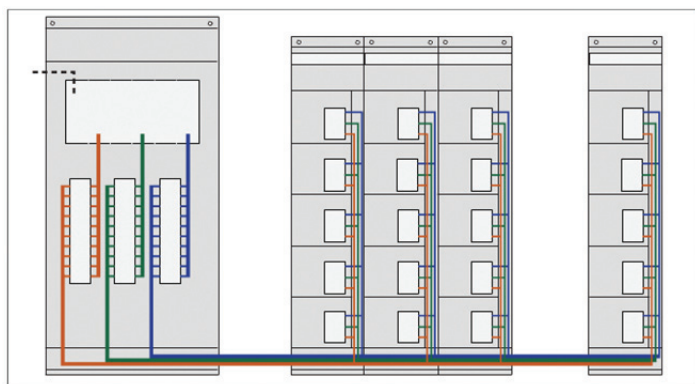
Intelligent MCC are the obvious choice for most new installations; however there are numerous existing plants with running MCCs, and investment to simply replace it by a new one is sometimes prohibitive.



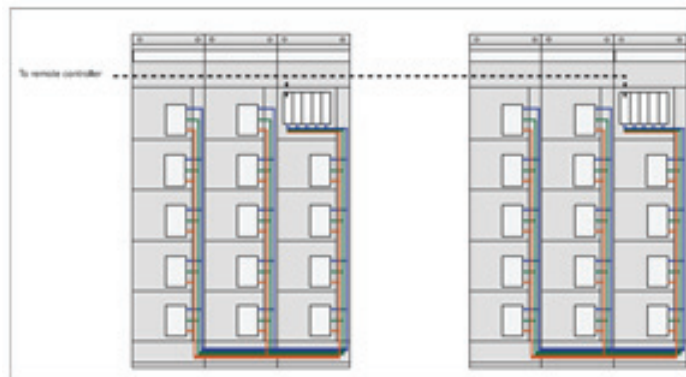
Intelligent VFD and Softstarters

One solution for cases where cost benefit for replacing MCC is bad or for complete conventional (4-20mA) plants is network MCC data, so it will be available for other PLCs and Stations, with considerable savings on material and man labor.

When choosing a solution to “package” MCC data, it is important to rely on high availability and have easy integration of this data with other plant components. A good approach would be using a HSE device, such as DFI302 to connect all conventional signals to a higher level network, such as Ethernet TCP/IP.



Conventional MCC connection



DFI302 offers a reliable and open solution for MCC integration. Such integration is possible due to openness of System302, which is based on standards such as OPC, Modbus, DNP3 and HSE, enabling smooth integration with other plant controllers. Data is available to other controller for interlock and logics, and also directly to Operation Computers, through OPC connection.



Moreover, DFI302 is not simply a Remote I/O, it also counts with local logic capabilities, where primary interlocks can be done still on MCC cabinet, and only points of interest are sent to main controllers. This saves processing power on main CPU, and increases overall response time to the system, as less data is networked.

Characteristic	SYSTEM302 Availability
Physical Points (I/O)	1024
Virtual Points	4096
Modbus-RTU	1 x EIA-232 gate
Function Blocks	up to 1200
Modbus Slave	Yes
Function Blocks	100
OPC support	Yes
DNP3 support	Yes
Foundation Fieldbus HSE/ Modbus TCP	2 x 10/100Mbps ports
VAC Power Supply	90 to 264VAC
VDC Power Supply	20 to 30VDC
Redundancy support	Yes (CPU only)

For additional information please contact us.



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