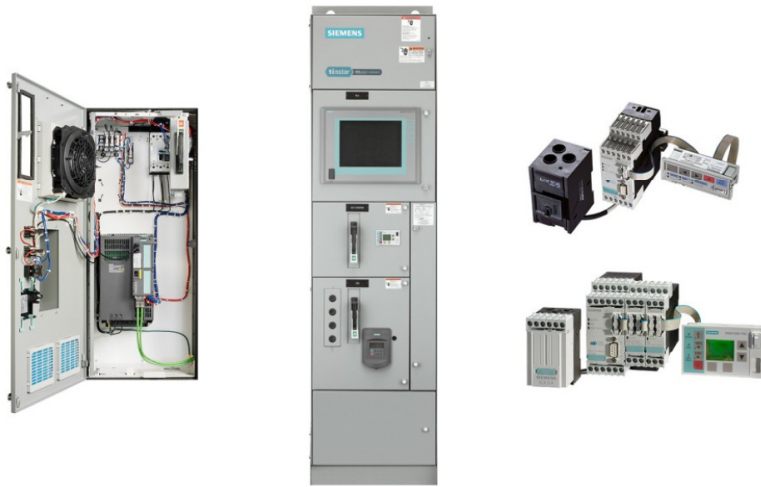




# tiastar™ smart motor control centers



Up to

# 600 V

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Profinet, EtherNet I/P, Profibus, Modbus, and other protocols available

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Multiple size options and enclosure types available

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Available for standard or arc-resistant units

## tiastar smart MCCs

tiastar smart motor control center offering includes state-of-the-art motor control technology components and features that offer optimal motor control, protection, power monitoring, communications, and automation interfacing.

Siemens smart MCCs are networked, NEMA compliant motor control centers that can communicate. They incorporate intelligent devices at the unit level to control and monitor motor operation, energy consumption, and power quality. Smart MCCs rapidly communicate with PLCs or process control systems via a data network.

Smart MCCs are internally interconnected using communication protocol, which incorporates intelligent devices such as [SIMOCODE pro](#) motor management systems, SIRIUS 3RW44 soft starters, SIMATIC PLCs, Siemens VFDs, and other smart components.

### Benefits:

- State-of-the-art smart technology - Featuring fieldbus and ethernet-based communications within the motor control centers in order to simplify your connections to process control systems and controllers.
- Smart components - SIMOCODE pro smart motor controller, SIRIUS 3RW44 soft starters, and SINAMICS G120 drives provide the best combination of performance and information to the customer.
- Flexibility - As your needs grow, available expansion modules offer new functionality.
- Troubleshooting - User-friendly diagnostics tools enable quicker fault identification for easier troubleshooting of problems.
- Reduces wiring connections.
- Improves operational diagnostics.
- Simplifies installation and troubleshooting.

Units are tested from factory to communicate with:

- Profibus
- Modbus
- Profinet
- EtherNet I/P
- Other options.

[SIMOCODE pro](#) motor management system provides a cost-effective solution for protection, control, and monitoring of direct and reversing starter applications.

SIMOCODE pro has been managing constant-speed, low-voltage motors for 30 years. It provides comprehensive protective, monitoring, and control functions. Enjoy the benefits of detailed operating, servicing, and diagnostics data – also for fail-safe disconnection of motors. Communication via PROFIBUS, PROFINET / PROFIsafe, Modbus RTU, and EtherNet/IP and OPC UA – which also lets you take advantage of the cloud.

	PROFINET IO/OPC UA	ETHERNET/IP	PROFIBUS	MODBUS RTU	
High Performance	SIMOCODE pro V PN 	SIMOCODE pro V EIP 	SIMOCODE pro V PB 	SIMOCODE pro V MR 	Current / voltage measuring module Operator panel with display max. 5 / 7 expansion modules Safety Extended control functions (e.g. positioner, pole-changing starter)
	SIMOCODE pro V PN GP 		SIMOCODE pro S 		Current measuring module Operator panel 1 expansion module Basic control functions (e.g. direct-on-line/reversing start)

A breadth of Siemens power circuit breakers, power meters, soft starters, and variable-frequency drives are compatible with tiastar MCCs.

Safety integrated components provide comprehensive and integrated solutions for the manufacturing and process industry that protects machines and the environment, while fulfilling current and future efficiency and flexibility requirements.



## tiastar Smart MCC

A Smart MCC is a networked NEMA compliant MCC that can communicate. It incorporates intelligent devices at the unit level to control and monitor motor operation, energy consumption, and power quality. It rapidly communicates with a PLC or process control system via a data network.

### Smart MCC Components

Smart MCC is internally interconnected using PROFIBUS DP which incorporates intelligent devices such as SIMOCODE pro C and V motor management systems, SIRIUS 3RW44 soft starters, SIMATIC PLCs, Siemens VFDs, and other smart components.

### Major Benefits

- Reduces Wiring Connections
- Reduces Cost
- Improves Operational Diagnostics
- Simplifies Installation and Troubleshooting

## tiastar Smart MCC Network Architecture

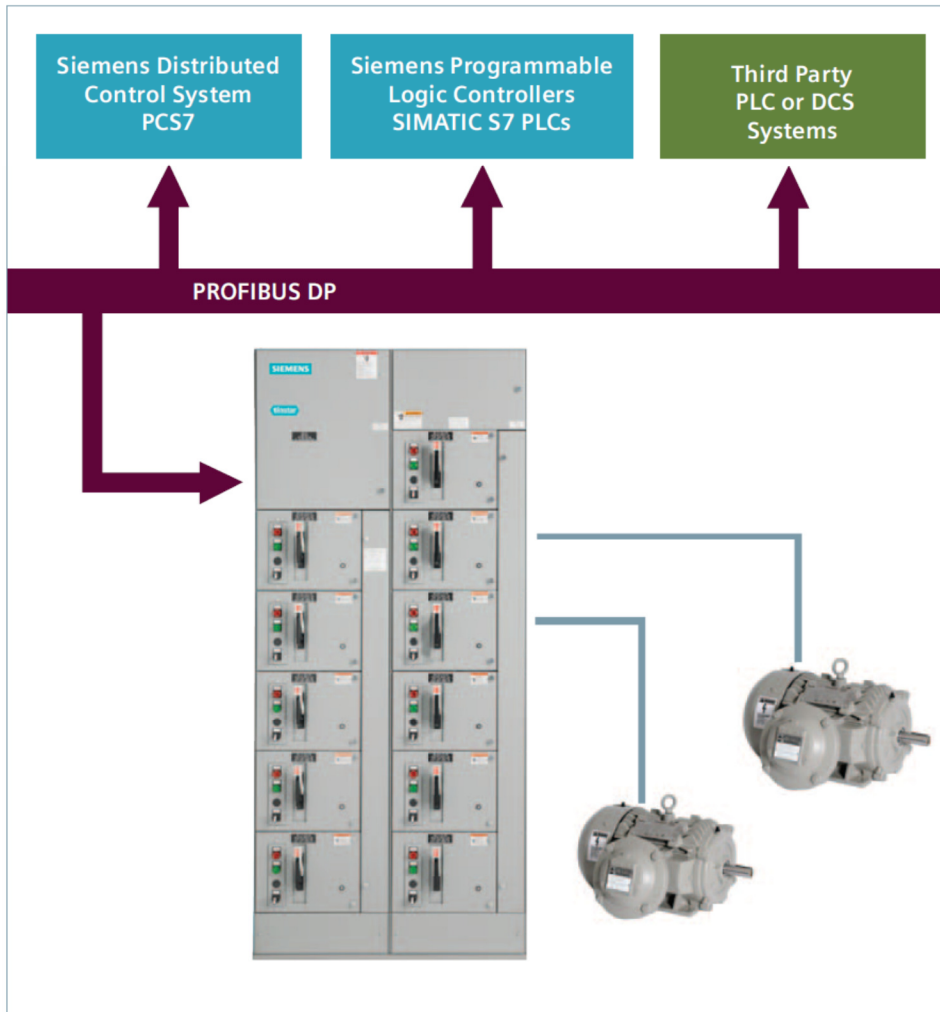


Figure 3. Example of a Smart MCC Network with PROFIBUS

## Options

A Smart MCC has the option to externally talk to other networks such as DeviceNet, Modbus RTU, Modbus TCP/IP, EtherNet/IP, and PROFINET.

VFD, RVSS Units	Available
High Density 6" Units Option	Not Available
Back-to-Back Option	Available
Double Deep Option	Available



## tiastar MCC

Motor Control Centers (MCC) have come a long way since they were introduced in 1937 as a way to save floor space by placing several starters in a single cabinet. Ideally, the best of the best must also save installation time and money.

Siemens has an installed base of Motor Control Centers dating back to 1964. Our Siemens tiastar MCCs are designed as self-contained modular units which meets UL and NEMA standards. They come with rear-mounted, self-aligning copper stabs that firmly grasp onto the bus. Brackets guide the placement of units, further assuring positive engagement with the bus. From 22mm to 30mm pilot devices, from direct starters to world-class drives, the Siemens tiastar MCC has many features and options to meet your specific needs.

- UL 845 Labeling as applicable
- CSA C22.2 No. 254-05 Labeling as applicable when specified
- Heavy-Duty Construction with up to 100kA Bus Bracing
- 600V 50/60 Hz
- NEMA Wiring
- Plug-In Units (up to Size 5 Starters)
- Door/Unit Mounted Pilot Device Panel
- High Density Compact Units available to reduce footprint

## Technical Specifications Summary – tiastar MCC

Bus and Electrical Ratings	
Horizontal Bus Ratings	600A, 800A, 1200A, 1600A, 2000A, 2500A <sup>1</sup>
Horizontal Bus Material	Copper with tin or silver plating, or Aluminum <sup>2</sup> with tin plating
Vertical Bus Ratings	300A, 600A, 800A
Vertical Bus Options	Isolated (standard) Insulated and isolated (optional) Auto Shutters (optional)
Bus Bracing	42K AIC, 65K AIC, 100K AIC
Max MCC Voltage Rating	600 V

For further bus information please see the "Bus Selection and Options" section

Enclosure	
Enclosure Type	NEMA 1 (standard), NEMA 1A, NEMA 2, NEMA 12, NEMA 3R (non walk-in)
Back-to-Back Option	Available

Dimensions	
Section Depth	15", 20", 21" (back-to-back), 31" (double deep), 41" (double deep)
Section Width	20", 24", 30", 40", 50", 60"

<sup>1</sup> NEMA 1 only and requires forced ventilation

<sup>2</sup> for 600-1200A, 65KA, 65°C

Entire horizontal bus assembly is in top 12" of the vertical section

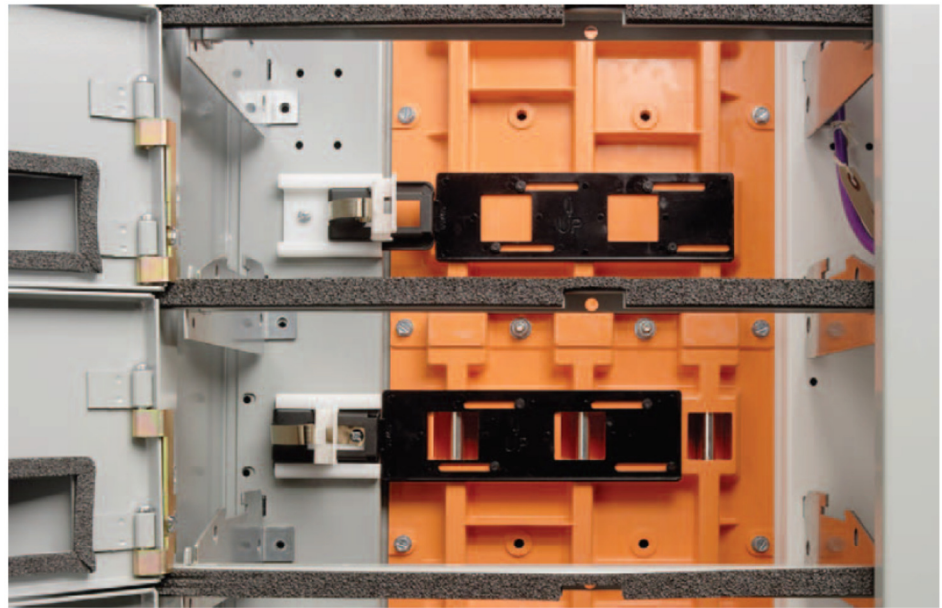
Plug-in units with integrated racking handles

Dual location pilot device panel

Clear Lexan<sup>®</sup> horizontal wireway barrier

Isolated and insulated vertical bus assembly (Optional)

Industry's best unit operating handle



# tiastar

## Arc Resistant MCC

The Type 2A Arc Resistant low voltage motor control center is a new product offering that was tested in accordance to IEEE C37.20.7, which contains and channels internal arcing fault incident energy. It provides an additional degree of protection to the personnel performing normal operating duties in close proximity to the equipment while the equipment is operating under normal conditions. Type 2A accessibility means the MCC protects the operator in front, back and sides of the equipment.

The Arc Resistant MCC is a state-of-art overarching technology. This means one can get an Arc Resistant MCC that can have various Smart components with communications, and/or High Density compact units.

### Enclosure

Enclosure Type	NEMA 1 and 1A
High Density Units Option	Available
VFD, RVSS Units	Available
Double Deep Option	Available

## Technical Specifications Summary – tiastar Arc Resistant MCC

Bus and Electrical Ratings	
Maximum Horizontal Bus	1600 A
Maximum Vertical Bus	800 A
Maximum Short Circuit Withstand Rating	65KA
Arc Flash Duration	50ms (3 cycles)
Maximum Voltage Rating	600VAC
Horizontal Bus Details	Copper Only
Incoming	MLO, MCB/MDS 1600 A max, splice to existing <sup>1</sup>

### Dynamic Arc Flash Sentry (DAS)

To complement the Arc Resistant MCC, the Dynamic Arc Flash Sentry (DAS) option is available. Dynamic Arc Flash Sentry (DAS) is a patented feature available in both Siemens MCCs and type WL Low Voltage Switchgear. The unique dual trip setting technology reduces the energy available in an arc flash event.

For more information, please see the Dynamic Arc Flash Reduction System and its Application in Motor Control Centers white paper at [www.usa.siemens.com/mcc](http://www.usa.siemens.com/mcc)

