CENTERLINE® 2500 Motor Control Centers

High Performance Motor Control Centers and Switch Gear Meeting IEC 61439-2

Product Description
Allen-Bradley® CENTERLINE 2500 motor control centers (MCCs) are designed to address the wide range of application requirements found throughout the world. By combining a smaller footprint and comprehensive type testing, the CENTERLINE 2500 MCC helps meet customers’ needs and growing worldwide demand for factory-ready, space-, energy- and cost-efficient motor control solutions.

Product Features
• Designed to IEC 61439-2 standards
• Flexibility to select fixed or withdrawable unit designs
  – Fully withdrawable unit design for faster replacement helps reduce repair time
  – High withdrawable unit density up to 24 units per column
• Built-in EtherNet/IP networking options to help assure reliable communication
• ArcShield™ arc resistant enclosures help you reduce arc flash hazards. Tested in accordance with IEC/TR 61641
• Three and four wire bus bar power systems available to help meet your local requirements

Available fully assembled with a factory-installed, preconfigured and validated EtherNet/IP network infrastructure – CENTERLINE 2500 MCCs are manufactured in facilities throughout the world so users can have a fully operational unit installed and operating much quicker than other motor controllers. CENTERLINE MCCs with IntelliCENTER® technology are fully-assembled MCCs with a factory-installed, preconfigured and validated EtherNet/IP network. In addition to the programming and networking infrastructure, the user interface can also be preconfigured, so the system is truly plant-floor ready when delivered. Thanks to this extensive pre-configuration and pre-testing program, users have the potential to save up to 90% on development, commissioning and installation time.

• Local manufacturing, sales and service for faster start-up, commissioning and continued support
• In-region project management ensures smooth global coordination
• Complete engineering capabilities deliver value for your solution
Structure Features

Proven CENTERLINE busdesign provides:

- Improved heat dissipation
- Easier installation and maintenance
- Increased current carrying capacity, 600 or 1200 ampere loading per column
- Reduces energy used

Optional double-front construction maximizes placement flexibility
(Single-front unit design shown)

- 600, 700, 800, 900 or 1000 mm column widths for design flexibility
- 2300 mm tall and 600 or 800 mm deep
- Accommodates up to 24 modules

Horizontal to vertical bus connection
Two-bolt connections minimize the likelihood of "hot spots"
Requires no periodic maintenance

Three and four wire bus bar power systems available for increased flexibility to meet your local requirements

- Horizontal bus current range 800 – 4000 ampere
- Bus-to-bus isolation provides reliability and integrity of the power bus system
- Insulated bus options available
Unit Features

Disconnected position — completely disconnects power and control connections

Incomer shown with air circuit breaker, which is also available with molded case circuit breaker
- Main Tie Main and other distribution
- Optional automatic transfer switches

Disconnected position
Unit can be padlocked in all positions

Standard Unit

Disconnected position

IntelliCENTER technology improves the intelligence of your MCC with built-in networking to capture information used for predictive maintenance, process monitoring, and advanced diagnostics

Scalable motor control options
- Soft-starters
- Across-the-line starters
- Variable frequency drives

Units are available as either:
- Fully withdrawable — units can be removed from the structure and have a maximum current rating of 225 A
- Fixed — units are permanently mounted to the frame of the motor control center

Units are available as either:

Higher Unit Density
- 24 module spaces per column

Load
Line
Control
Network

Load Line Control Network
Units are available as either:
- Fully withdrawable — units can be removed from the structure and have a maximum current rating of 225 A
- Fixed — units are permanently mounted to the frame of the motor control center
Safety

The CENTERLINE 2500 MCC provides you with improved safety features part of the standard offering, as well as optional safety features.

- Arc containment features, available with the ArcShield™ option, help protect against arc-flash hazards in the event of a fault
- Advanced diagnostics of IntelliCENTER software provide remote access to data and troubleshooting, minimizing the need for local entry
- Lock-out tag-out provisions provide additional safety in all four unit positions (connected, test, disconnected and withdrawn)
  - Padlocking the test position disconnects line side power allowing the control circuit to be tested without energizing the load
- Automatic shutters immediately isolate vertical bus when unit is removed
- Computerized fastening system, used for the horizontal to vertical bus connection, requires no periodic maintenance, minimizing exposure to hazardous voltages

ArcShield Arc Resistant Enclosures

CENTERLINE 2500 MCCs with ArcShield offers you better protection against harmful arc flash hazards. Using this arc resistant enclosure helps protect your personnel if an arc flash were to occur within an MCC.

CENTERLINE 2500 MCC with ArcShield provides personnel and assembly protection per IEC/TR 61641 for arcing durations up to 300 ms at 480V, 65 kA.

In combination with the standard safety features built into every CENTERLINE 2500 MCC, choosing ArcShield provides additional benefits, including:

- Internal ventilation system
- Pressure relief system designed to exhaust gases through the top of the enclosure, away from personnel
- Arc containment latches and customized hinge design on all doors capable of withstanding the high internal pressure generated by an arc blast
- Reinforced structural design

For even more arc detection and containment, optical and current sensing technology for use with fast-acting mechanical shorting of bus or shunt trip devices is available as an option.

CENTERLINE 2500 Space Saving Units

Reduce your section count and save floor space with the CENTERLINE 2500 MCC space saving units. Space saving unit designs in the CENTERLINE 2500 are currently available for PowerFlex® variable frequency drives units and soft starters units.

Space saving designs can help reduce the overall footprint of your CENTERLINE 2500 MCC while still meeting IEC standards.
**IntelliCENTER Technology**

IntelliCENTER technology enhances the intelligence of an MCC by using built-in networking to capture information used for predictive maintenance, process monitoring, and advanced diagnostics.

- IntelliCENTER software puts both real-time diagnostics and MCC documentation at your fingertips by allowing you to monitor from anywhere in the enterprise
- ActiveX controls allow seamless integration into RSView® and interfaces with third party visualization packages
- Faster start-up
  - Networking reduces complex interwiring to a single cable
  - Factory network pre-configuration validates connections, sets baud rates and assigns node addresses
  - Pre-configured screens shorten programming time
  - IntelliCENTER Integration Assistant helps to decrease programming time by exporting information regarding configured devices from the EtherNet/IP IntelliCENTER MCC directly to the controller’s programming environment, Studio 5000®
- Efficient troubleshooting
  - Trending and event logging capabilities allow you to diagnose your electrical problems
  - AutoCAD® documentation allows you to trace out wiring and understand control circuits using wiring diagrams
  - Option to substitute “as built” drawings with “as installed” drawings
  - Unit specific manuals and spare parts lists are provided electronically
- Optimized polling to provide system performance
- Option to operate in stand-alone mode
# Technical Data

| Standards | IEC 60204-1: Ed. 5.1:2009  
|           | IEC 61439-1 and -2, Ed. 2.0 b:2011  
|           | IEC/TF 61641, ED. 3.0 2014-9 | Safety of machinery – electrical equipment of machines; Part 1: General requirements  
|           | Low-voltage switchgear and controlgear assemblies; Part 1: General rule, and Part 2: Power switchgear and controlgear assemblies  
|           | Enclosed low-voltage switchgear and controlgear assemblies – guide for testing under conditions of arcing due to internal fault |
| EC Directives | 2004/108/EC  
|           | 2006/95/EC | EMC Directive  
|           | Low-Voltage Directive |
| Certifications and Markings | ABS and ABS Shipboard  
|           | CE Conformance Marked  
|           | China Compulsory Certificate (CCC)  
|           | EAC  
|           | IBC 2010  
|           | SE/ASCE 7-05 and 7-10 | http://www.rockwellautomation.com/rockwellautomation/certification/marine.page?  
|           | http://www.rockwellautomation.com/rockwellautomation/certification/ce.page?#Motor  
|           | http://www.rockwellautomation.com/rockwellautomation/certification/china.page/#motorcontrol  
|           | http://www.rockwellautomation.com/rockwellautomation/certification/gost.page/#/tab1  
|           | http://www.rockwellautomation.com/rockwellautomation/certification/certification/overview.page  
|           | http://www.rockwellautomation.com/rockwellautomation/certification/overview.page  
| Rated Voltages | Rated Operating Voltage, Ue  
|           | Rated Frequency, fn  
|           | Rated Insulation Voltage, Ui | Up to 690 V, 3 Phase  
|           | 50…60 Hz  
|           | 1000 V, 3 Phase |
| Rated Currents | Continuous Current Rating, Ie  
|           | Short Circuit Peak Withstand, Ipk  
|           | Short Time Withstand Rating, Icw  
|           | Neutral (N) | Horizontal bus – up to 4000 A; vertical bus – up to 1200 A per column(1)  
|           | Horizontal bus up to 210 kA  
|           | Horizontal bus up to 100 kA for 1 second  
|           | Full or half-rated |
| Creepage Distances and Clearances | Rated Impulse Withstand Voltage, Ur  
|           | Material Group (Overvoltage Category)  
|           | Pollution Degree  
|           | 6, 8 or 12 kV  
|           | Illa (175≤CTI<400)  
|           | 3 |
| Bus Material and Plating | Horizontal Power Bus  
|           | Vertical Distribution Bus  
|           | Protective Earth Conductor (PE) | Copper with tin plating  
|           | Copper with tin plating  
|           | Copper (optional tin plating) |
| Degrees of Protection | IEC 60529 | IP20, IP31, IP42 or IP54 |
| Forms of Separation | IEC 61439-2 | Forms 2b, 3b, 4b, or 4b Type 7 |
| Column Dimensions | Height | 2300 mm  
|           | Width | 600, 700, 800, 900 or 1000 mm  
|           | Depth | 600 or 800 mm (1200 mm double-front) |
| Units | Module Size (approx.)  
|           | Modules per Column (max.)  
|           | Withdrawable Unit Sizes  
|           | Fixed Unit Sizes | 80 mm high x 500 mm wide = 1 module  
|           | 24 of varied unit combinations  
|           | 1, 2, 3, 4, 6, 8, 10, 12 modules  
|           | 2, 4, 6, 8, 10, 12, 14, 16 modules |
| Structural Surface Treatments | Interior | G90 galvanized metal (interior painted surfaces available as custom paint requests)  
|           | Exterior | RAL 7032 Pebble Grey Paint or Munsell 6.5 Paint (additional colors available by request) |
| Environment | Storage Temperature  
|           | Operating (Ambient) Temperature  
|           | Altitude | -25…55 °C  
|           | -5…40 °C with up to 95% non-condensing humidity  
|           | Up to 1000 m without derating; derating over 1000 m |

(1) Up to 600 A top and bottom, effective 1200 A per column.  
(2) The average temperature over a 24-hour period must not exceed 35 °C.