

CENTERLINE® 2500 Motor Control Centers

High Performance Motor Control Centers
Meeting IEC 60439-1

Product Description

The Allen-Bradley CENTERLINE® 2500 Motor Control Center (MCC) is designed to meet the requirements of IEC60439-1. With over 100 years of motor control experience, the CENTERLINE2500 MCC meets and exceeds your expectations for safety, performance and reliability.

CENTERLINE 2500 MCC Product Features

- Meets Global Standards
 - Designed to IEC 60439-1
 - Designed to IEC 60529
 - KEMA (TTA) Certified
- Fully withdrawable unit design for faster replacement, helping to minimize maintenance and downtime
 - Plug-in line, load, control, ground and network communications
 - Four unit positions (connected, test, disconnected and withdrawn)
 - Lever operated mechanism for tool-less withdrawal and insertion
- Built-in DeviceNet with IntelliCENTER® technology
- ArcShield™ helps you reduce arc flash hazards
- Three and four wire bus bar power systems available to help meet your local requirements
- High unit density to optimize column utilization
- Fully isolated enclosures for maximum arc containment
- Multiple column widths of 600, 700, 800, 900 and 1000 mm available for scalable solutions
- Variety of intelligent motor control options
 - Across-the-line starters
 - Soft starters
 - Variable frequency drives



Strong Performance & Reliability

The CENTERLINE 2500 MCC uses proven CENTERLINE technology for high quality and years of dependable service.

- High short circuit withstand ratings in type-tested enclosures
- Continuous bus bracing provides uniform support
- Secure plug-in line, load, control, ground and network connections provide reliable connectivity
- Factory tested for dependable start-up
- CENTERLINE Motor Control Centers with IntelliCENTER technology use built-in networking and pre-configured software to:
 - Improve performance through system-wide communications
 - Share diagnostic information for predictive maintenance
 - Initiate warnings before potential faults occur

Availability

The CENTERLINE 2500 MCC is now manufactured locally for faster delivery.

- Local manufacturing, sales and service for faster start-up, commissioning and continued support
- Over 40 unit types in a variety of sizes, combined with more than 100 options, yield millions of combinations for your applications

LISTEN.
THINK.
SOLVE.®

Safety

The CENTERLINE 2500 MCC provides you with improved safety features as a standard offering.

- Arc containment latches 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 enclosure entry
- Locking provisions provide additional safety in all four unit positions (connected, test, disconnected and withdrawn)
 - Test position disconnects 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, reduces periodic maintenance, minimizing exposure to hazardous voltages

ArcShield

CENTERLINE 2500 MCCs with ArcShield offers you better protection against harmful arc flash hazards. Using a CENTERLINE 2500 MCC with ArcShield 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 61641:2008 for arcing durations up to 300 ms¹.

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

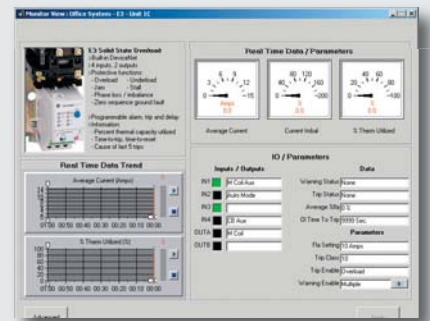
- **Enclosures with no front ventilation**
- **Pressure relief system** designed to exhaust gases through the top of the enclosure, away from personnel
- **Arc containment latches on all doors** capable of withstanding the high internal pressure generated by an arc blast
- **Insulated power bus closing plates** included at the ends of each MCC lineup

For even more protection, **optical and current sensing technology** for use with crowbar or shunt trip devices is available as an option.

¹ 300ms rating is available for systems at 415V (max), with 65kA (max) available current



CENTERLINE 2500 with ArcShield pressure relief system



Unit monitor view of IntelliCENTER software showing advanced diagnostics and trip status



Structure Features

Proven CENTERLINE bus design provides:

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

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

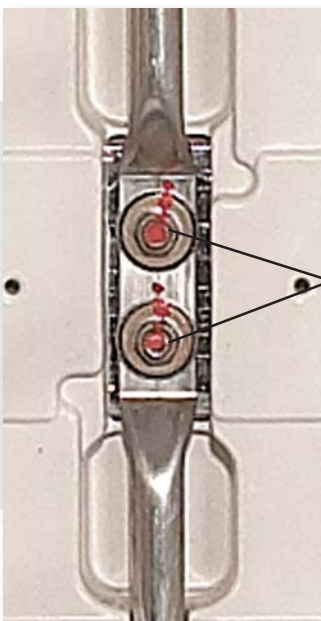
2300 mm tall

- Accommodates up to 24 modules



600 or 800 mm deep

600, 700, 800, 900 or 1000 mm column widths for design flexibility



Horizontal to Vertical Bus Connection

- Two-bolt connections minimize the likelihood of "hot spots"

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

Horizontal bus current range 800 - 4000 ampere

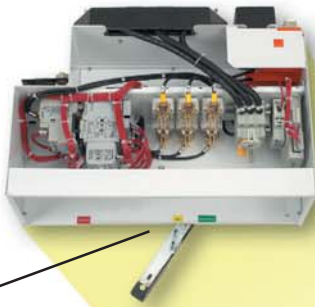
Bus to bus isolation provides reliability and integrity of the power bus system



Unit Features

Four unit positions (connected, test, disconnected and withdrawn)

Test Position – Provides safe means to test the control circuit without energizing the load

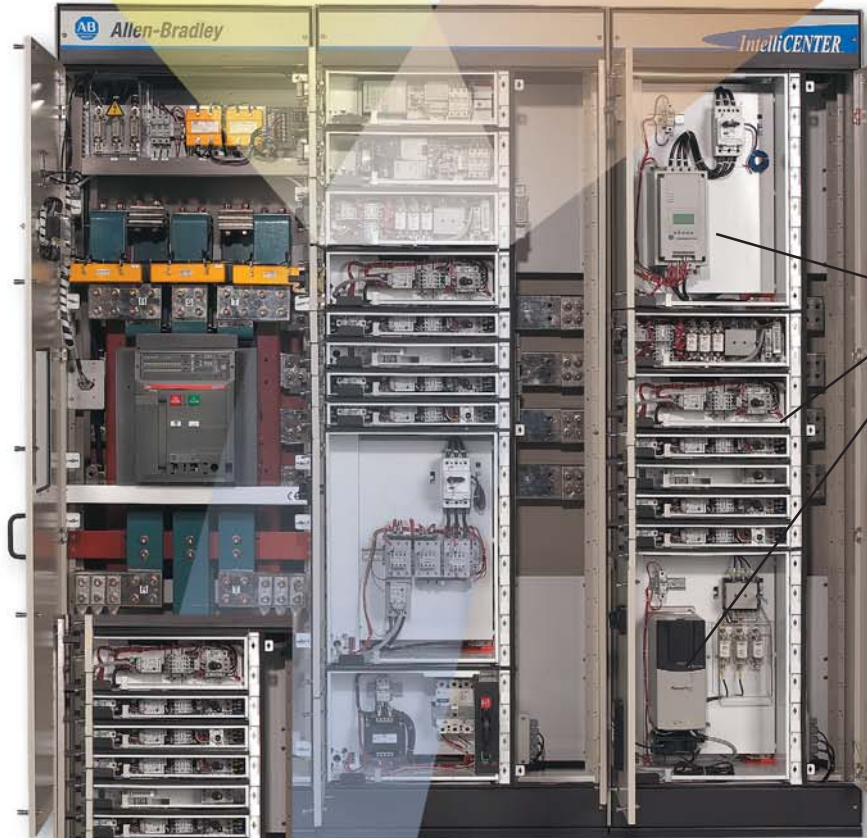


Disconnected Position – Completely disconnects power and control connections



Shown with air circuit breaker

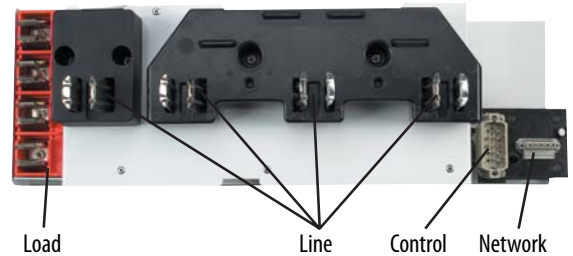
- Also available with molded case circuit breaker or bolted pressure disconnect switch



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

Higher Unit Density

- 24 module spaces per column

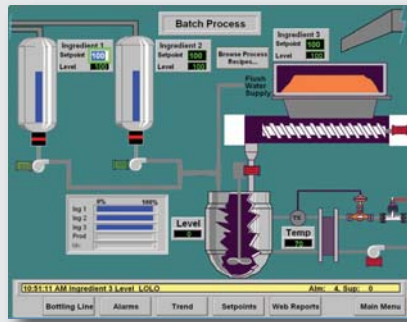


Fully withdrawable unit design for faster replacement

IntelliCENTER Technology

IntelliCENTER Technology improves the intelligence of your MCC using built-in DeviceNet to capture information used for predictive maintenance, process monitoring and advanced diagnostics.

- IntelliCENTER Software, using NetLinx open network architecture, features pre-configured screens and allows for monitoring 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
- 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



IntelliCENTER software, with ActiveX controls, allows users to easily view powerful information and change parameter values in devices



Elevation View quickly diagnoses the condition of the motor controls in the MCC



Technical Data

Standards EN 60439-1:1999 + A1:2004 EN 60204-1:2006	Low-voltage switchgear and controlgear assemblies Part 1: Type-tested and partially type-tested assemblies Safety of machinery - Electrical equipment of machines Part 1: General requirements	
EC Directives 2006/95/E 2004/108/EC	Low voltage Directive EMC Directive	
Rated Voltages Rated Operating Voltage, U_e Rated Frequency, f_n Rated Insulation Voltage, U_i	Up to 690V, 3 Phase 50-60 Hz 1000 V, 3 Phase	
Rated Currents Continuous Current Rating, I_c Short Circuit Peak Withstand, I_{pk} Short Time Withstand Rating, I_{cw}	Horizontal Bus Up to 4000 A Up to 176 kA up to 80 kA, 1 s	Vertical Bus Up to 1200 A Up to 110 kA Up to 50 kA, 1 s
Creepage Distances and Clearances Rated Impulse Withstand Voltage, U_{imp} Material Group (Overvoltage Category) Pollution Degree	6, 8 or 12 kV IIIa ($175 \leq CTI < 400$) 3	
Bus Material and Plating Horizontal Bus Vertical Bus Protective Earth Conductor (PE)	Copper (optional tin plating) Copper with tin plating Copper (optional tin plating)	
Degrees of Protection IEC 60529	IP 20, 40, 42, 54	
Forms of Separation IEC 60439-1	Forms 3-4b	
Column Dimensions Height Width Depth	2300 mm 600, 700, 800, 900 or 1000 mm 600 or 800 mm (1200 mm double-front)	
Units Module Size Maximum Modules per Column Withdrawable Unit Sizes	80 mm high x 500 mm wide=one module 24 1, 2, 3, 4, 6, 8, 10, 12 modules	
Structural Surface Treatments Interior Exterior	High Visibility White Paint RAL 7032 Pebble Grey or Munsell 6.5 Paint	
Environment Storage Temperature Operating (Ambient) Temperature Humidity Altitude	-25°C to +55°C -5°C to +40°C Up to 50% at +40°C Up to 1000 m	