

CENTERLINE® 2500 Motor Control Centers



A Safer, Smart, Secure and Scalable Motor Control Center

Why choose a CENTERLINE 2500 MCC?

- Designed to IEC 61439-1 and IEC 61439-2 standards
- Flexibility to select fixed or withdrawable unit designs within a single column. Choosing a fully withdrawable unit design allows for faster replacement and helps reduce repair time. The CENTERLINE 2500 also has high withdrawable unit density. Each column can hold up to 24 units.
- 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 local requirements

To start designing the MCC that's right for your application, download the [CENTERLINE Builder Tool](#).



Managing motor control throughout a facility can be a headache. Streamline your operations by consolidating motor control and power distribution into a CENTERLINE 2500 IEC motor control center (MCC). The CENTERLINE 2500 is available fully assembled with a factory-installed, preconfigured and validated EtherNet/IP® network infrastructure. 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.

Additionally, CENTERLINE 2500 MCCs are manufactured in Rockwell Automation facilities throughout the world so you can have a fully operational unit installed and operating much quicker.



Built with safety and security in mind

Structural Features

Unique Center-Mounted Bus Design

- Improves heat dissipation and reduces cross-main short circuit events, helping components last longer and increasing safety.
- Front access makes installation and maintenance easier.
- Horizontal bus features a current range of 800...4000 A.
- Increases per column current carrying capacity to 600 A or 1200 A.
- Reduces energy consumption.
- Choose between three- and four-wire bus bar power systems to meet your local requirements.
- Phase-to-phase isolation maintains the reliability and integrity of the power bus system.
- Options are available for an insulated bus. An insulated bus wraps the bus in insulated material to prevent arc propagation.



Rear view of main horizontal bus with covers removed



Enclosure Design

- Optional double-front construction maximizes placement flexibility (Single-front unit design shown)
- 500 mm, 600 mm, 700 mm, 800 mm, 900 mm or 1000 mm column widths offer design flexibility
- Columns are 2300 mm tall and 600 mm or 800 mm deep
- Each column can accommodate up to 24 modules



Reduced Risk of Arcing

Horizontal to vertical bus connection uses two bolts to reduce the likelihood of hotspots. The bolts do not require maintenance.



Protective Shutters

Shutters immediately isolate the vertical bus when a unit is removed, minimizing potential exposure to an energized bus.

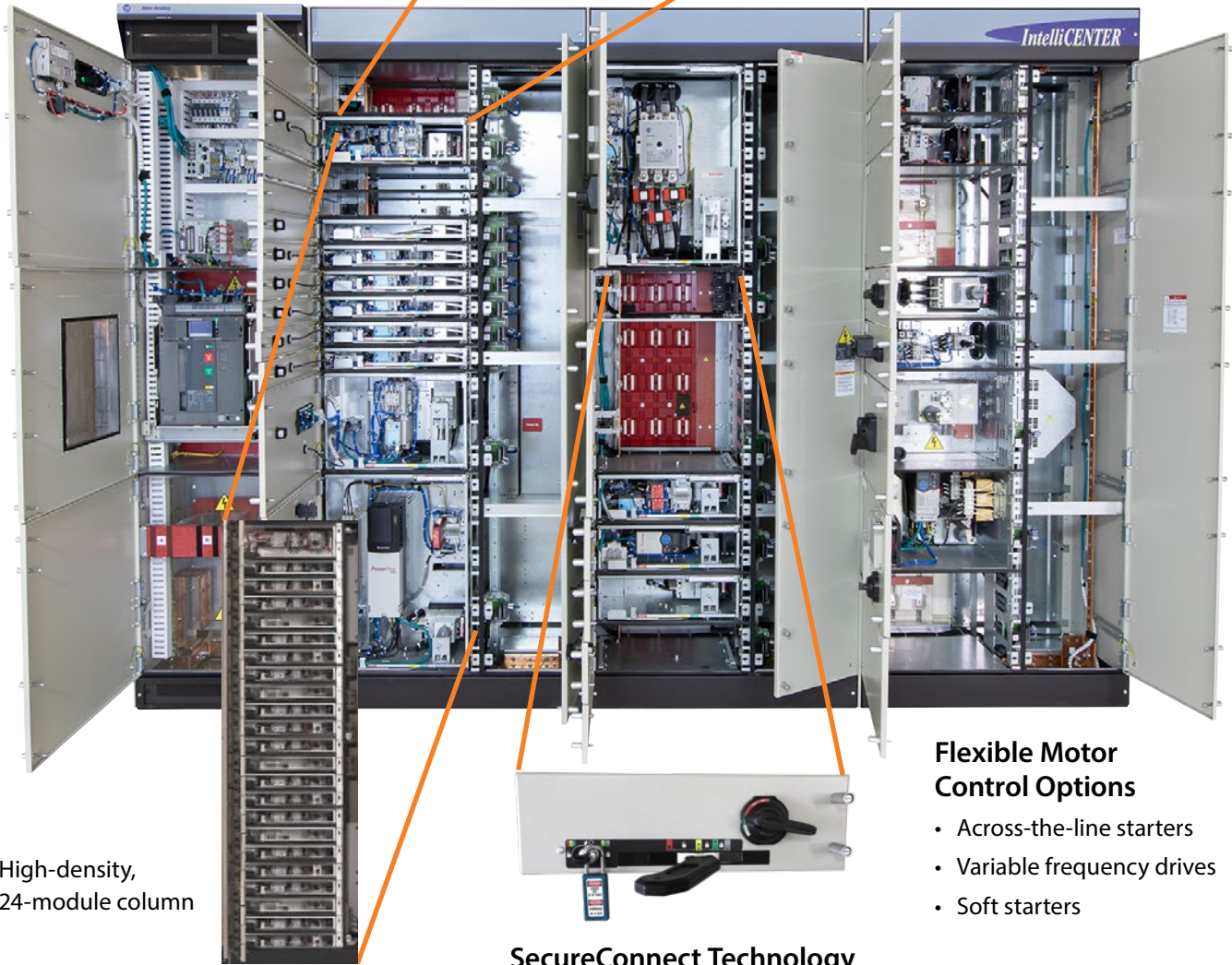
Unit Features

Circuit Protection

- Incomer shown with air circuit breaker. Also available with a molded case circuit breaker
- Features a main tie main and other distribution methods
- Optional automatic transfer switches



Unit can be padlocked in all positions



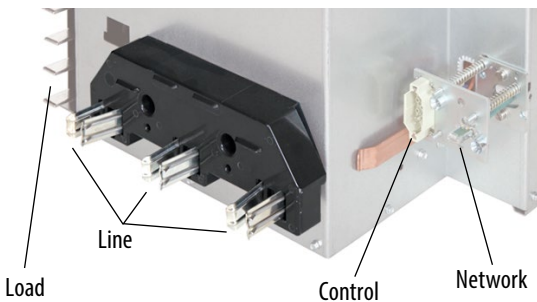
High-density, 24-module column

Flexible Motor Control Options

- Across-the-line starters
- Variable frequency drives
- Soft starters

SecureConnect Technology

The units with optional SecureConnect technology make it possible to disconnect from power and withdraw the unit with the door closed, which increases safety.



Unit rear view - withdrawable connections

Units are available as either

- **Fully withdrawable:** units can be removed from the structure and have maximum current rating of 225A
- **Fixed:** units are permanently mounted to the frame of the MCC



CENTERLINE motor control centers help mitigate risk so you have one less thing to worry about. Safety features are designed into every CENTERLINE MCC with the option to add more.

Designed into every CENTERLINE MCC are the horizontal and vertical bus, which are located at the back of the MCC to reduce the likelihood of accidental personnel exposure. Automatic shutters immediately isolate the vertical bus when a unit is removed, minimizing potential exposure to an energized bus. Robust, low maintenance design features reduce the likelihood of hotspots or failure. For example, CENTERLINE MCCs don't have point bracing, but instead have fully supported bus bars. For additional bus design safety, options are available with an insulated bus. MCCs with an insulated bus have the bus wrapped in arc-resistant insulation to help prevent arc propagation.

Additional safety options include:

ArcShield™ technology

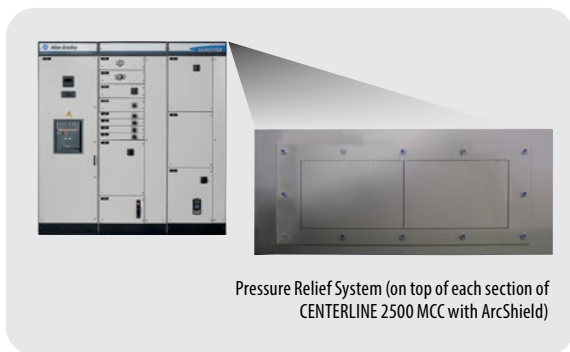
CENTERLINE 2500 MCCs with ArcShield technology offer better protection against arc flash hazards. Using an arc-resistant enclosure helps protect your personnel if an arc flash were to occur within an MCC. ArcShield technology also provides personnel and assembly protection per IEC/TR 61641 for arcing durations up to 300 ms at 480V, 65 kA.

ArcShield technology provides:

- 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.

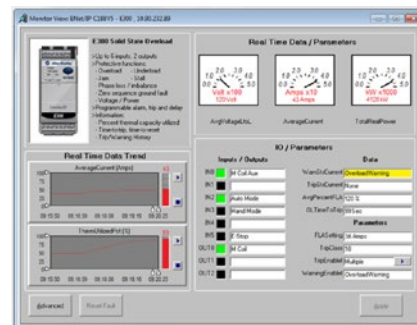
SecureConnect™ technology enables a user to connect and disconnect unit stabs without exposure to live electrical parts by keeping the unit door closed.



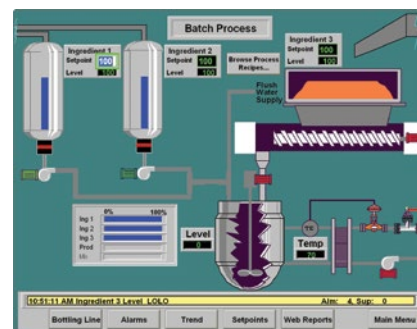


IntelliCENTER® software provides advanced diagnostics, which allows for remote access to data and troubleshooting, minimizing the need for local entry. Features include:

- 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 standalone mode

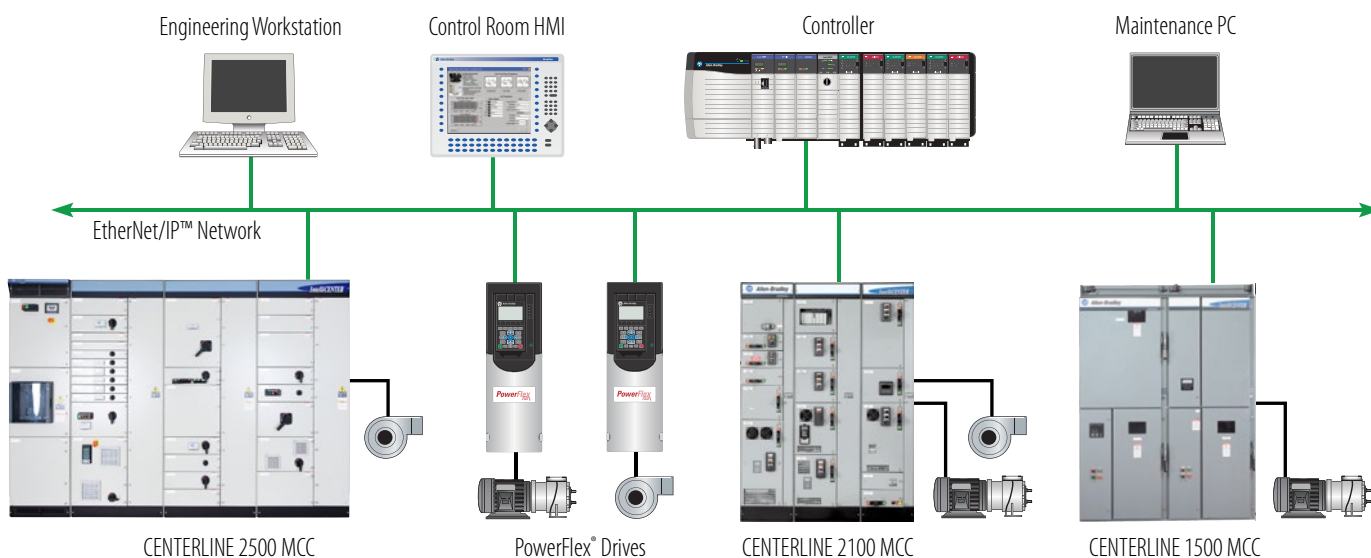


Elevation view quickly diagnoses the condition of the motor controls in the MCC



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

CENTERLINE 2500 in your facility



Technical Data





Standards	EN 60204-1: 2006+A1:2009 EN 61439 1:2011 EN 61439-2:2011 IEC/TR 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	2011/65/EU 2014/30/EU 2014/35/EU	RoHS Directive EMC Directive Low Voltage Directive
Certifications and Markings	ABS and ABS Shipboard CE Conformance Marked China Compulsory Certificate (CCC) DEKRA EAC RETIE Seismic SII Approval	2500-CT015, 2500-CT016, and 2500-CT017 2500-CT008 and 2500-CT009 2500-CT010, 2500-CT011, 2500-CT012, 2500-CT013, and 2500-CT022 2500-CT018, 2500-CT019, 2500-CT020, and 2500-CT021 MCC-CT001 2500-CT024 MCC-CT011 2500-CT014
Rated Voltages	Rated Operating Voltage, U_e Rated Frequency, f_n Rated Insulation Voltage, U_i	Up to 690V, 3 Phase 50...60 Hz 1000V, 3 Phase
Rated Currents	Continuous Current Rating, I_c Short Circuit Peak Withstand, I_{pk} Short Time Withstand Rating, I_{cw} 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, U_{imp} Material Group (Overvoltage Category) Pollution Degree	6 kV, 8 kV, or 12 kV IIIa ($175 \leq CTI < 400$) 3
Bus Material and Plating²	Horizontal Power Bus Vertical Distribution Bus Protective Earth Conductor (PE)	Copper with tin plating Copper with tin plating Copper (optional tin plating), Copper unplated
Degrees of Protection	IEC 60529	IP20, IP42 or IP54
Forms of Separation	IEC 61439-1	Forms 2b, 3b, 4b Type 5, or 4b Type 7
Column Dimensions	Height Width Depth	2300 mm 500, 600, 700, 800, 900 or 1000 mm 500, 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, 4, 6, 8, 10, 12 modules 2, 4, 6, 8, 10, 12, 14, 16 modules
Structural Surface Treatments	Interior Exterior	Z275 galvanized metal (interior painted surfaces available as custom paint requests) 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 ³ 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) Standard plating; consult Rockwell Automation for plating options.

(3) The average temperature over a 24-hour period must not exceed 35 °C.

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Publication 2500-PP004H-EN-P – September 2020

Supersedes Publication 2500-PP001G-EN-P – October 2015

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