

A smart solution for integrating factory motor control

Preconfigured CENTERLINE® 2500 motor control centers save up to 90% of development, commissioning and installation time. And that's just the start.



Allen-Bradley

by ROCKWELL AUTOMATION



Motor control technology that is scalable, smarter, safer and more secure

You need a partner you can depend on.

Rockwell Automation engineers motor control solutions for the most demanding industries around the world. And customers agree, the results include increased productivity, safety and reliability year after year.

Integrating motor control into one centralized package, CENTERLINE motor control centers (MCCs) have been the smart choice for smart manufacturing and processing for more than 50 years.

With many intelligent components and custom options available, we deliver tailored solutions to meet the most demanding power, control and information needs. It's all built on a common platform. And it delivers the maximum in safety, meeting all IEC standards.

CENTERLINE 2500 MCCs are ideal for customers who want to leverage the same architecture, components, programming language and networking, regardless of location. And they know they'll receive unparalleled support from the industry-leading single source provider.

Increase your productivity

CENTERLINE 2500 low voltage motor control centers for IEC markets are:

Scalable – Integrate all of your motor control needs into a compact centralized package. The MCC is designed with backwards compatibility for fixed or withdrawable units and it offers high unit density.

Smarter – When integrated with IntelliCENTER® technology, CENTERLINE MCCs use smart motor controls in combination with built-in EtherNet/IP™ networking and pre-configured software to enhance performance by providing real-time access to information. This allows you to control, monitor and maintain operations from any location.

Safer – In combination with the standard safety options built into every CENTERLINE MCC, additional safety features include ArcShield™ and SecureConnect™ options designed to meet your safety program.

More secure – A centralized motor control solution allows tighter control of your sensitive assets. In addition, CENTERLINE motor control centers are designed to meet the newest ISA/IEC 62443-3-3 standard, providing greater peace of mind against physical and cyber threats.

Centralized motor control designed to IEC 61439-1 and 61439-2 standards

CENTERLINE 2500 motor control centers integrate your industrial motor control in one efficient, centralized and factory-ready package.

Available with smart motor control and connected real-time operational data, the MCC can help increase uptime, productivity, safety and energy savings.

- Meets IEC 61439-1, 61439-2
- Current rating up to 4000 A
- Short time rating (Icw): up to 100 kA
- Operating voltage up to 690V
- Enclosure rating up to IP54
- Arc fault containment per IEC / TR 61641



IntelliCENTER technology

Our technology features built-in EtherNet/IP, intelligent motor controls and advanced monitoring software all preconfigured and tested at the factory. With its integrated network infrastructure, intelligent motor control devices and preconfigured user interface software, you can monitor and diagnose your MCC from anywhere which:

- Reduces integration and setup time
- Improves process and diagnostic information
- Improves uptime, advance warnings and troubleshooting tools
- Provides high availability

BUILT-IN NETWORK

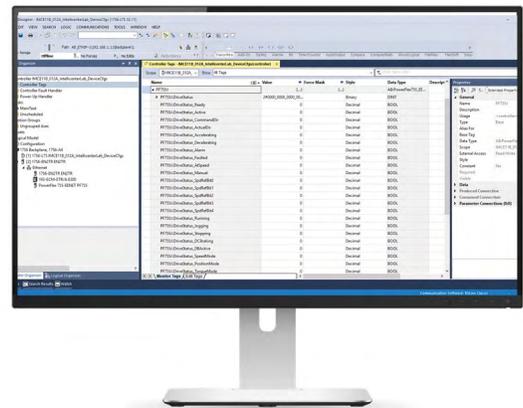
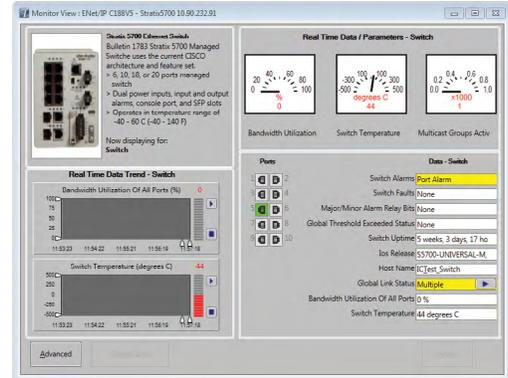
Your startup is faster with built-in cabling. Complex inter-wiring is reduced to a single 600V-rated Ethernet cable. Because the network is preconfigured and validated, device connections, IP addresses, subnet masks, custom parameter settings for PowerFlex® drives and E300™ electronic overload relay, and advanced port settings are set for you.

SMART DEVICES

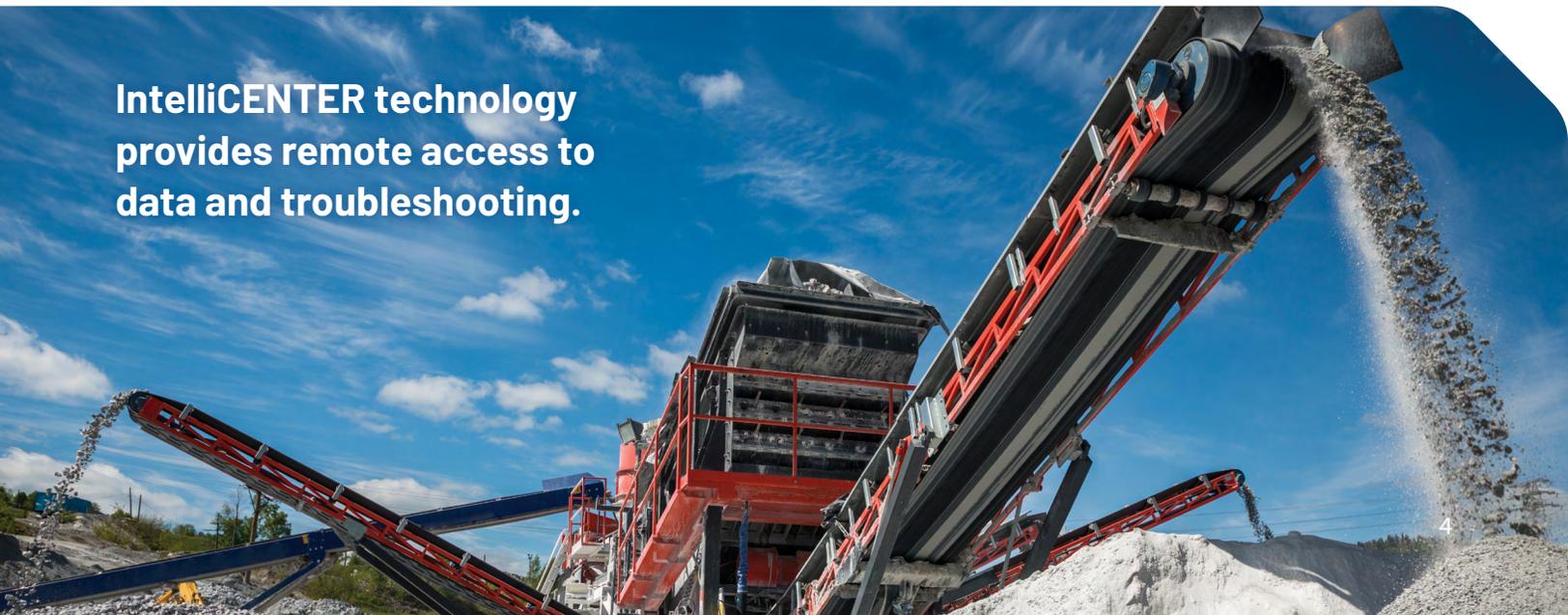
MCCs with IntelliCENTER technology combine intelligent motor control and protection devices with advanced networking and diagnostic capabilities to give you an inside look at your motor control application.

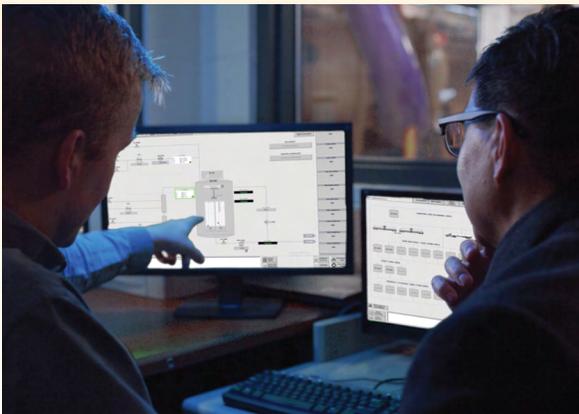
INTELLICENTER SOFTWARE

IntelliCENTER software provides the ultimate window into your MCC. It provides real-time diagnostics and MCC documentation to maximize MCC and related equipment performance.



IntelliCENTER technology provides remote access to data and troubleshooting.





Connect your entire enterprise

More information – where you need it and when you need it for advanced plant asset management. EtherNet/IP helps enhance integration, reduces your MCC setup time and allows you to quickly monitor, troubleshoot and diagnose your MCC using a network that communicates with your entire enterprise.

Easily integrate your manufacturing operations network with the corporate network, helping reduce maintenance cost by reusing existing network resources and tools.

Seamlessly integrate production data and business systems by removing a network layer between devices and higher level networks without sacrificing network security. Modbus TCP/IP options are available to provide easier integration with third-party control systems.

FAST INTEGRATION

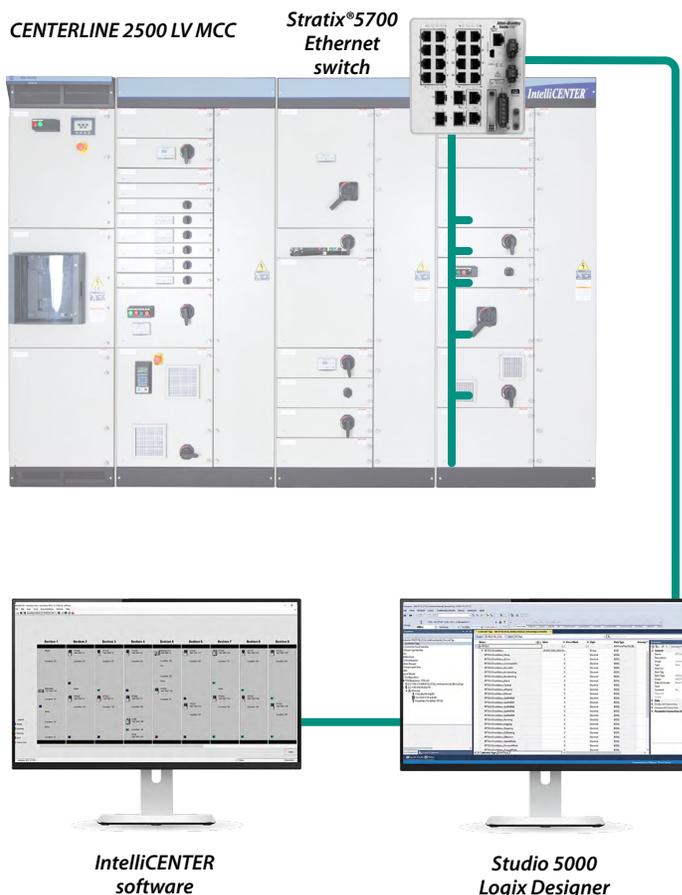
For even greater control over your operations, CENTERLINE MCCs networked with EtherNet/IP can be easily integrated into a Logix-based PlantPax® distributed control system. The Integration Assistant within IntelliCENTER software provides:

- Quick addition of intelligent motor control devices into the Studio 5000 Automation Engineering & Design Environment®.
- Reduced programming time by automatically adding intelligent devices to the Studio 5000 Logix Designer® I/O tree with appropriate EtherNet/IP network configuration
- Simplified integration by automatically creating device controller tags using the device add-on profiles

CONNECTED TECHNOLOGY

From installation to configuration to operation – IntelliCENTER technology saves time at every step.

- Save up to 90% on your wiring installation time with a pre-configured and pre-tested CENTERLINE MCC with IntelliCENTER technology.
- With IP addresses and subnet masks pre-configured for your MCC, you are ready to immediately communicate with your intelligent motor control devices and configure device parameters over the network.
- Use Studio 5000® software to leverage a single programming environment for all intelligent motor control devices.



Safety by design

CENTERLINE 2500 MCCs are engineered to increase industrial safety and mitigate risk – while increasing performance and reliability. For over 50 years, these MCCs have been the industry leaders in helping customers with motor and power control while meeting industry standards. Every CENTERLINE MCC is built with a structural foundation of standard high quality design and materials that provide the first level of protection.

- 1 Automatic Shutters** – Isolate and minimize exposure to energized vertical power bus when unit is removed, enhancing personnel safety.
- 2 Sheet metal thickness**
 - Horizontal wireway covers: 2 mm steel
 - Side/back/bottom plates: 2...2.5 mm steel
 - Doors: 2...2.5 mm steel
 - ArcShield doors: 2.5...3 mm steel
- 3 Horizontal & vertical bus** – Machine-torqued, two-bolt fastening system, for the rear horizontal to vertical bus connection, reduces maintenance and exposure to hazardous voltages. An insulated bus is available.
- 4 Structural isolation** – Two side sheets per column provide isolation between columns, helping prevent faults from propagating to adjacent sections.
- 5 Vertical power bus Standard with** – 300 A above and 300 A below the horizontal bus for an effective 600 A capacity per section Expandable to 600A/1200A.
- 6 Unit isolation** – Solid top and bottom unit support pans provide exceptional unit isolation to help prevent a single fault from cascading throughout the enclosure, and limit equipment damage.
- 7 IEC-certified components** – Allen-Bradley® drives, push buttons, pilot lights, selector switches, contactors and starters deliver proven and predictable performance over the full life of the product, to help maximize the safety, efficiency and performance of your MCC.
- 8 Interlocks** – With versatile interlock mechanism, the unit cannot be inserted or withdrawn when the disconnect handle is ON.



ArcShield technology

The CENTERLINE 2500 MCC with ArcShield™ technology offers additional protection against harmful arc flash hazards and helps protect personnel if an arc flash occurs within an MCC. This protection also helps reduce downtime by minimizing the potential damage to equipment.

Even with increased awareness of arc flash hazards, there is still a risk of internal arc generation.

An arc blast can result from many factors: dropped tools, accidental contact with live electrical systems, buildup of conductive dust, corrosion, rodents or improper work procedures. If this occurs, ArcShield technology can help mitigate and protect from an arc flash incident.

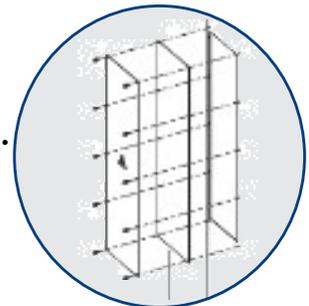
CENTERLINE 2500 MCCs with ArcShield are tested with third-party validation against the IEC/TR 61641 standard that defines tests under conditions of arcing due to internal fault. Comprehensive tests conducted under Edition 3.0, 2014-1 have passed the requirements for Class A (meets Criteria 1...5) for the main bus and unit line side, and Class C (meets Criteria 1...7) for all unit load side tests. Tested and certified to 480V, 65 kA for 300ms.



Pressure Relief System



Arc-resistant Latches



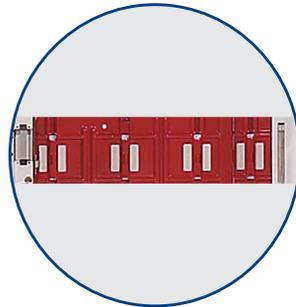
Insulating Covers on Horizontal Bus End Closing Plates



Specialized Vent/
Closing plate



Arc Baffles



Automatic Shutters

A new standard of safety

In addition to the standard safety features built into CENTERLINE MCCs, ArcShield technology provides:

- Enclosures with specialized front ventilation to help protect personnel in front of the MCC
- Internal ventilation to direct exhaust gases to the top of the MCC enclosure and the pressure relief system, without the need for extra plenums.
- A pressure relief system designed to exhaust gases through the top of the enclosure, away from personnel
- Thicker doors with reinforced hinges and arc-containment door latches that can withstand the high internal pressure of an arc blast and keep the door latched during an arcing fault
- Insulating covers on horizontal bus closing plates (on end columns) that help prevent 'burn through' from arcing faults in the horizontal bus compartment
- Additional structural bracing on both end columns to withstand the high internal pressure of an arc blast

Optional optical and current sensing technologies are available for even more protection.

SecureConnect™ units

SecureConnect technology – withdraw unit with door closed:

- Door remains closed during removal or insertion
- Withdraw lever and locking mechanism located outside
- No tools required for unit movement
- Clear indications and labels with positive stop at each position
- Lockout mechanism in each position
- Increase safety during replacement, minimizing maintenance and downtime



Functional safety as a standard order

CENTERLINE 2500 MCCs with PowerFlex 750- and 520-series variable frequency drives and Direct On Line starters can now support functional safety ratings as a standard order.

This includes SISTEMA files and support subsystems up to SIL 3, PLe, CAT 4, making it easier to design and install a safety system.

MCCs with functional safety are:



Scalable - Can be applied to multiple units and multi-motor zones applications



Smarter - Integrated network or hardwired controller architecture



Safer - Pre-configured units with safety performance level claims



More secure - Part of a security-enabled architecture

Guardmaster units



The Guardmaster® logo is added to the MCC unit door for select Direct On Line starters, PowerFlex 750-series and PowerFlex 525 drive units with functional safety.

The label indicates the verification and validation plan has been implemented:

- Tests are performed and documented in the factory before the order ships
- Completed for every unit that has the sticker

Motor control options

AC drives available as standard order:

- PowerFlex 750 subsystems up to SIL 3, PLe, CAT 4
- PowerFlex 520 subsystems up to SIL 3, PLe, CAT 3

Safety starters available as standard order:

- Full voltage reversing and non-reversing up to SIL 3, PLe, CAT 3

Safety distribution subsystems available as special order:

- Single/Multiple Motor Safety Zones up to SIL 3, PLe, CAT 4
- Networked / Software Configurable Safety Zones up to SIL 3, PLe, CAT 4

Multi-motor E-Stop safety functions examples:

- CAT 1 Hardwired using Safety Relay
- CAT 3 Hardwired using Safety Monitoring Relay
- CAT 3 Hybrid using 1734 Safety Remote I/O
- CAT 3 Integrated Safety



Certifications

CENTERLINE 2500 MCCs go through a rigorous certification process to ensure they meet today's global standards. Delivered from ISO 9001 facilities, the equipment meets global electrical, performance and safety requirements.

EC Directives

2011/65/EU RoHS Directive
2014/30/EU EMC Directive
2014/35/EU Low Voltage Directive

Standards

EN 61439-1:2011
EN 61439-2:2011
EN 60204-1:2006 + A1:2009
EN 63000:2018
GB 7251.12-2013
GB/T 7251.12:2013
ICC-ES AC156
IEC/TR 61641:2014
IEC 61439-1:2011
IEC 61439-2:2011
IEC 60529:2013
ISO/IEC 17067:2013

Certifications

ABS
CE
CCC
DEKRA
EAC
RETIE
Seismic
SII
UKCA

For more information about product certification, visit: rok.auto/certifications



The family of CENTERLINE MCCs



CENTERLINE 2500 motor control centers

Designed to address the wide range of IEC application requirements found throughout the world, CENTERLINE 2500 MCCs offer fixed or withdrawable units, high density columns and fully type tested standard designs.



CENTERLINE 2100 motor control centers

Industry-leading CENTERLINE 2100 MCCs deliver integrated low voltage control and power in one rugged, centralized package that meets UL and NEMA standards – and offers the maximum in safety, performance and reliability.



CENTERLINE 1500 motor control centers

Available in a wide range of configurations from across-the-line to solid-state SMC™ starters, medium voltage NEMA CENTERLINE 1500 MCCs provide the flexibility to select the best match for your application.

Learn more at rockwellautomation.com

The right expertise, at the right time.

We empower your lifecycle and digital transformation journey with our expansive domain knowledge.



CONSULTING SERVICES

- Digital transformation & The Connected Enterprise
- Data science & analytics
- Enterprise technology
- Automation FEED / FEL
- Safety & risk management



PROFESSIONAL SERVICES

- Main Automation Contractor (MAC)
- Modernization & migration engineering
- Program and project management & implementation
- Global rollouts



CONNECTED SERVICES

- OT networks & cybersecurity
- Managed services
- OT infrastructure as a service
- Remote support
- Predictive/prescriptive analytics



FIELD SERVICES

- Asset repair, remanufacturing and management
- Safety assessment and remediation
- On-site technical support



WORKFORCE SERVICES

- E-learning
- Instructor-led & virtual training
- Workforce assessments
- Virtual reality / augmented reality

To learn how we can help you solve your unique business challenges, contact your local authorized Allen-Bradley® distributor or Rockwell Automation sales office, or visit: [rok.auto/lifecycle](https://www.rockwellautomation.com/lifecycle).



Connect with us.    

[rockwellautomation.com](https://www.rockwellautomation.com) — expanding human possibility®

AMERICAS: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444
EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640
ASIA PACIFIC: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

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