

Safety and control solutions to transform your organization

CENTERLINE® 1500 motor control centers link people, machines and data across your entire business



Allen-Bradley

by ROCKWELL AUTOMATION



Leverage our power and process control expertise

Unlock the potential of your business.

Industrial customers around the world rely on our smart, fully integrated power and process control systems. For a good reason. Our medium voltage motor control centers improve operations for demanding environments and applications.

- Oil and gas refining
- Mining and mineral processing
- Industrial manufacturing
- Power generation
- Food and beverage production
- Water and wastewater facilities

Agile solutions help achieve your goals

Your critical applications rely on medium voltage motors for safe, dependable operation in harsh environments. CENTERLINE® 1500 medium voltage motor control centers (MCCs) provide one infrastructure to harness all your industrial power and control needs. The result: improved protection and performance of your entire system.

Our application-matched solutions meet your specific motor control requirements and configurations. This includes full-voltage, soft-start, and variable-speed drive integration.

You'll also benefit from our industry-leading technology. We can deliver process insights across your entire operation. IntelliCENTER® technology provides real-time system control, data, safety, power and process control – all on a common, scalable platform – with visibility from remote user stations.

Launching new safety standards

CENTERLINE 1500 motor control centers deliver greater peace of mind.

Our smart, scalable design lets you customize capabilities to increase productivity and safety. We build MCCs to meet your UL and NEMA requirements and much more...

A breakthrough Integrated Protective Maintenance Grounding (IPMG) device is now available! Exclusively from Rockwell Automation, the IPMG device grounds all load-side connections and load cables with the turn of a lever. This UL-approved innovation eliminates the need to manually attach hazardous temporary grounding devices. And it seamlessly incorporates in a CENTERLINE 1500 MCC power cell.

Plus, our patented ArcShield™ technology helps mitigate and protect operators from arc blasts. This safety feature helps redirect and contain an arc blast to keep operators safe. IEEE C37.20.7 compliant.

A global partner you can depend on

CENTERLINE 1500 motor control centers offer custom-tailored solutions that integrate your industrial motor and power control in one efficient, centralized package.

- Available at 2.4 kV to 6.9 kV, up to 9000 HP
- Rated up to 800 A
- CENTERLINE 1500 MCCs keep some the world's most demanding applications running
- The smart choice for power and process control for 50 years



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 to:

- Reduce integration and setup time
- Improve process and diagnostic information
- Improve uptime, advance warnings and troubleshooting tools
- Provide high availability

BUILT-IN NETWORK

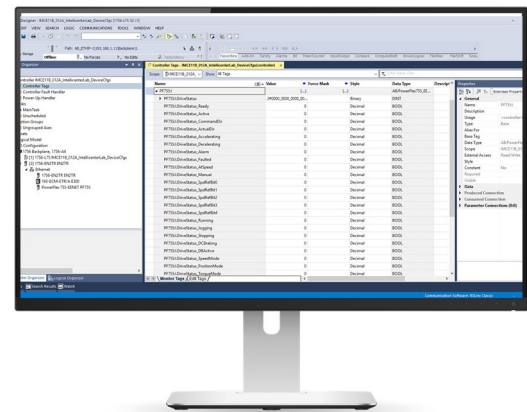
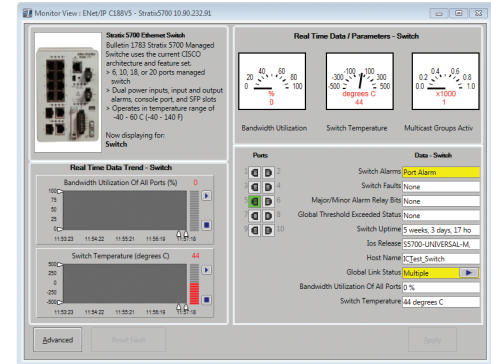
Your startup is faster with built-in cabling. Complex inter-wiring is reduced to a single 600V-rated Ethernet cable. Because the network is preconfigured and validated, device connections, IP addresses, subnet masks, custom parameter settings for PowerFlex® drives and E300™ electronic overload relay,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

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.

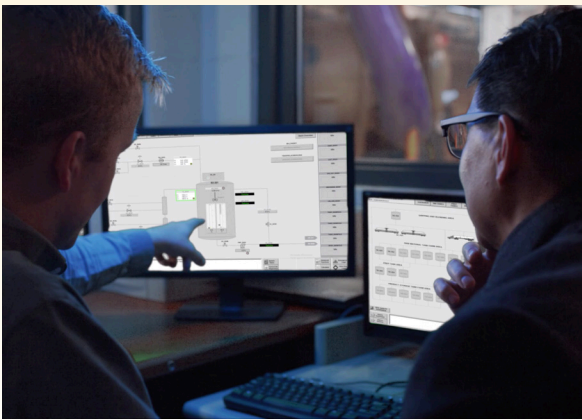
SMART DEVICES

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 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

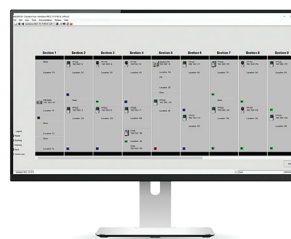
From installation to configuration to operation – IntelliCENTER technology saves time at every step.

- 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.

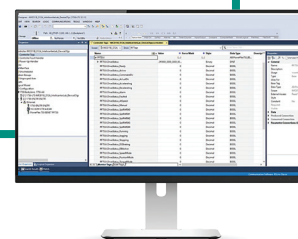
CENTERLINE 1500 MV MCC



Stratix® 5700 Ethernet switch



IntelliCENTER software



Studio 5000 Logix Designer

For more information visit rok.auto/intellicenter



Application-matched solutions to transform operations

Count on the CENTERLINE 1500 MCC family for flexible options. Select the best match for your medium voltage application.

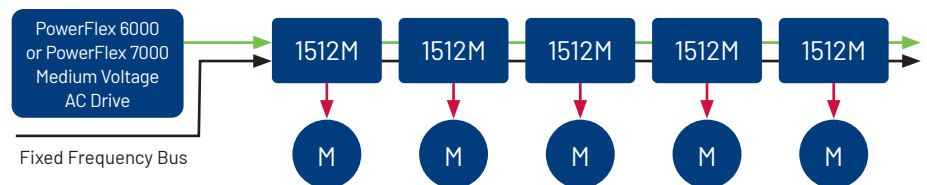
Offerings include a range of frame sizes and control formats:

- Incoming line units
- Load break switches
- Full-voltage controllers
- Reduced voltage soft starters
- Two-speed controllers
- Synchronous controllers
- Variable frequency drive input and bypass controllers
- Auxiliary cabinets

Multi-motor synchronization

To synchronize multiple motor systems, choose the option designed for seamless configuration, Allen-Bradley® PowerFlex 6000 and PowerFlex 7000 medium voltage AC drives. Unlike solutions that configure medium voltage drives and motor controllers as independent systems, our integrated solution creates a single line-up on a common bus.

The result? Less cabling, faster installation, a smaller footprint – and lower total cost of ownership.

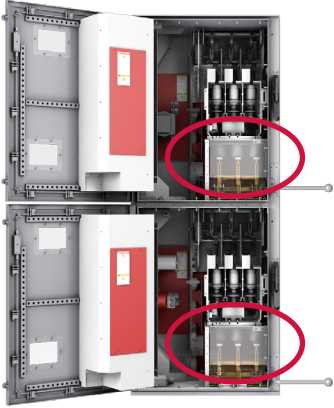


Our configurable control modules are virtually maintenance-free

While many medium voltage motor controllers use electromechanical devices for vacuum contactor control, the CENTERLINE 1500 MCC provides advanced digital control with our IntelliVAC™ control modules.

Our solid state controllers don't contain mechanical parts. They're virtually maintenance free. They offer consistent vacuum pick-up and selectable drop-out times. Plus, power loss ride-through, and anti-kiss and anti-plugging protection.

When it comes to safety, good isn't good enough



Safety starts here. We stay up at night to improve your industrial manufacturing, processing and production environments.

CENTERLINE 1500 MCCs deliver a new level of power and motor control safety with our new Integrated Protective Maintenance Grounding (IPMG) device. This innovation grounds all load-side connections and load cables with the turn of a lever – eliminating the need to manually attach hazardous temporary grounding devices.

The UL-approved IPMG device:

- Automatically grounds all load-side connections and load cables
- Eliminates cumbersome use of utility-style grounding balls and temporary grounding cable assemblies
- Grounds the output (load-side connections) without opening the MCC power cell door
- Seamlessly incorporates in our CENTERLINE MCC power cell

Increase safety and production efficiencies Reduce capital and operation costs

Every CENTERLINE 1500 MCC includes materials and features designed to improve performance and protection in harsh environments – delivering long-term ROI. Regardless of where you do business, you will receive unparalleled support from a single-source provider to meet all of your motor control needs.

1 ISOLATED LOW VOLTAGE COMPARTMENT

- Easy-access swing-out panel contains all MCC low voltage components
- Allows testing and troubleshooting of the power cell without medium voltage exposure
- Painted white for high visibility

2 ISOLATED POWER CELL COMPARTMENT

- Integrated non-load break isolation switch provides visual isolation and dead-front protection
- Ample space for isolated load cable connections for added safety
- Top or bottom cable entry/exit

3 SIMPLE HEAVY-DUTY MECHANICAL AND ELECTRICAL INTERLOCKING

- Non-load break isolation switch interlocks prevent switch opening when contactor is energized or if the medium voltage door is open
- Mechanical handle interlock helps keep doors closed when power cell is energized
- Positively driven auxiliary contacts provide safety interlocking of the control circuitry

4 HEAVY-DUTY STRUCTURAL COMPONENTS

- Mounting channels ease installation
- Modular design simplifies maintenance



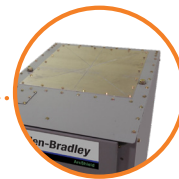
ArcShield technology – helping keep people and operations safe

ArcShield technology helps reduce arc flash hazards while providing increased protection against internal electrical arcing faults.

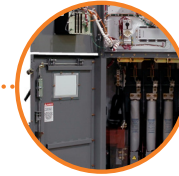
You can't predict when an arc blast will occur. So specifying motor control centers with an arc-resistant design is critically important. Greater emphasis has been placed on acknowledging arc flash dangers in standards such as the National Electrical Code (NEC), Standard

for Electrical Safety in the Workplace by the National Fire Protection Agency (NFPA), and the Institute of Electrical and Electronics Engineers (IEEE).

An arc blast can result from many factors, including dropped tools, accidental contact with electrical systems, buildup of conductive dust, corrosion, rodents or improper work procedures. When this occurs, ArcShield can help mitigate risk and provide protection from an arc flash incident.



Pressure relief plate on roof



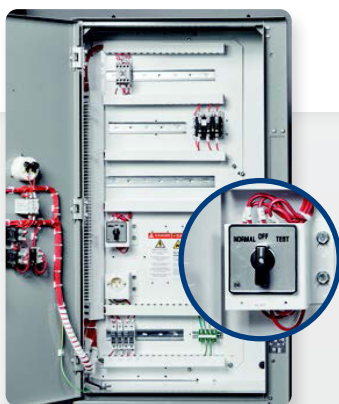
Robust door hinges and multi-point latches



Heavily reinforced structure (brackets and plates)

Heavy gauge steel on doors, sides, roof and back sheets

Viewing window in medium voltage door for isolation switch status



Low voltage compartment

- Reinforced panel shields personnel if arc flash occurs with door open (Arc-resistant Type 2B or IEEE C37.20.7, Type 2B)
- The "Normal-Off Test" circuit prevents backfeeding medium voltage through the control transformer in "Test" mode
- Provides off-line control circuit testing capabilities

Custom Solutions

CENTERLINE MCCs with ArcShield technology are available in many configurations:

- Incoming units
- One-high and two-high cabinets
- SMC-50 soft starters
- Reversing controllers
- Auxiliary cabinets

Tested to meet safety standards

CENTERLINE 1500 MCCs with ArcShield meet rigorous IEEE C37.20.7, Type 2B Accessibility Compliant requirements for arc resistance. Only equipment that meets all five criteria levels during arcing tests is compliant:

CRITERIA

1. Doors and covers do not open (bowing allowed)
2. No parts are ejected from the equipment
3. The arc does not burn any holes in the exterior of the tested structure (in the applicable planes for the accessibility level)
4. Untreated cotton test indicators must not ignite or be perforated (equivalent to typical industrial work clothes)
5. The grounding connections remain effective

In addition, the IEEE C37.20.7 standard defines accessibility types. Type 2B accessibility means the MCC provides full perimeter protection – at the front, rear and sides of the equipment – plus access to a designated low voltage compartment even under an arc fault condition. So personnel continue to be shielded even when the low voltage door is open for maintenance.



A fully integrated CENTERLINE 1500 MCC with ArcShield technology and a PowerFlex 7000 MV AC drive

We understand the challenges of industrial applications

SMC™-50 REDUCED VOLTAGE SOFT STARTER

For maximum flexibility, choose a CENTERLINE 1500 MV MCC configuration that integrates an SMC-50 control module. This compact, multifunctional solid-state controller includes built-in electronic overload and integral bypass.

The SMC-50 controller offers a full range of starting and stopping modes as standard including:

- Soft start*
- Soft stop
- Current limit start*
- Sensorless linear acceleration* and deceleration
- Dual ramp start
- Torque control start
- Full voltage
- Pump control

CENTERLINE SMC-50 options include a combination controller for new installations, a retrofit controller designed to work in conjunction with an existing customer-supplied starter, and a modular OEM option for machine applications.

*with selectable kickstart



The SMC-50 control module includes built-in DPI communications, keypad programming and four programmable auxiliary contacts.

For new installations, the complete motor control solution features an efficient two-high design. A retrofit solution is also available for existing full voltage non-reversing controller applications.

Certifications

UL 347 FOR MEDIUM VOLTAGE MOTOR CONTROL CENTERS

UL is a global independent safety science company offering expertise across five key strategic businesses: Product Safety, Environment, Life & Health, Knowledge Services and Verification Services.

When you see the UL symbol on a product, it indicates that UL has tested and evaluated representative samples of that product and determined it meets UL and Canadian Standards Association (CSA) requirements requirements.

The UL standard for medium voltage motor control centers is UL 347. UL 347 replaces NEMA ICS 3-2005 and includes:

- Motor control centers for use on circuits having available short-circuit currents not more than 50,000 A rms symmetrical
- Applies to three-phase 50 and 60 Hz motor control centers rated not more than 7200V AC

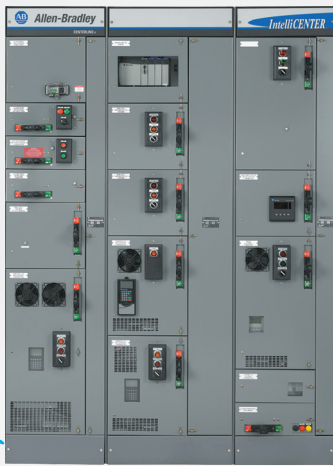
The CENTERLINE 1500 MCC meets the following standards:

- CSA Industrial Control Equipment C22.2, No. 253 (harmonized with UL 347)
- ANSI, Instrument Transformers C57.13
- IEEE
- NEC
- OSHA
- NEMA, Medium Voltage Controllers Rated 1501 to 7200V AC ICS 3-2



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.



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 2500 motor control centers

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

For more information visit rok.auto/mvmcc

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

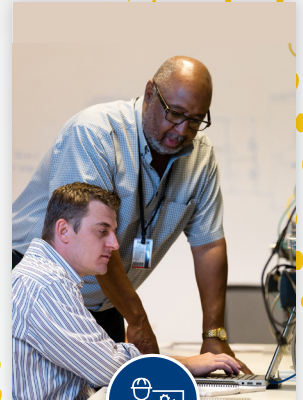


FIELD SERVICES

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.



Connect with us.    

rockwellautomation.com

expanding human possibility®

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