



Build a better machine with Eaton solutions integrated



Build a more productive machine for a more profitable business.

As your customers demand flexibility, you need to build and retrofit machines faster and at lower costs, all while delivering a reliable, energy-efficient and safe machine. To succeed, you need to reduce startup costs and process downtime, decrease production-related energy consumption and keep personnel safe. You need Eaton.

When using Eaton's best-in-class electrical, hydraulic and filtration solutions, you will be able to exceed your customers' expectations. By working with Eaton, you can design and build highly customized machines, or retrofit existing ones, in record-breaking time with less expense. Let us help you deliver machines that perform flawlessly with unmatched energy efficiency.

EATON

Powering Business Worldwide

We serve the needs of machine builders and their customers around the world.

Eaton is a leading power management company, providing energy-efficient solutions that help our customers use electrical, fluid and mechanical power more reliably, efficiently, safely and sustainably.

We provide a breadth of innovative solutions globally that help you build a more sustainable business.

Eaton brings a new dimension of expertise.

When designed with our best-in-class electrical and hydraulic solutions, your machines will deliver higher levels of accuracy, speed, energy efficiency, reliability and flexibility. Eaton is the only provider of solutions that combine hydraulic and electrical systems for a machine with power density and precision power control.

Legacy of innovation.

Over the years, our innovative portfolio has grown, including solutions from:

- Aeroquip®
- Bussmann®
- Cutler-Hammer®
- Moeller®
- Vickers®
- Walterscheid®



Intelligent wiring solutions—inside and outside the cabinet

- SmartWire-DT® connects motor starters, soft starters, variable frequency drives, valves, circuit breakers, pushbuttons, sensors and signal towers with a logic controller
- SmartWire-DT and gateway interfaces for EtherNet/IP, Modbus® TCP, PROFINET, Powerlink, EtherCAT®, PROFIBUS® DP and CANopen®
- IP67 wiring and communication for sensors, pushbuttons and limit switches outside the cabinet



Safety

- Power lock devices designed to eliminate possible exterior arcing
- Discrete safety relays
- Programmable safety relays
- Emergency stop operators
- Machine guarding safety switches
- Safety position switches



Sensors and limit switches

- Photoelectric sensors
- Inductive proximity sensors
- IEC and NEMA mechanical limit switches
- Capacitive proximity sensors
- Power sensors for current and voltage
- Sensor cordsets, brackets and reflectors



Fuses and fuseholders

- Low-voltage power
- Control
- CUBEFuse®
- High-speed and semi-conductor
- Drive protection
- Medium-voltage
- Fuse blocks and holders
- ANSI and IEC configurations



Operator interface and lean automation solution with SmartWire-DT

- Capacitive/multi-touch operator interfaces
- Graphics panels
- Resistive touch operator interfaces
- Infrared touch operator interfaces
- HMI/PLC with SmartWire-DT
- GALILEO interactive visualization tool



Relays

- easy programmable relays
- Timing relays
- Monitoring relays
- Machine tool relays
- Terminal block relays
- Ice cube relays
- Power relays
- Solid-state relays
- Alternating relays



Main, disconnects and switches

- OEM line isolation switch for control panels
- Rotary disconnects—open and enclosed
- Compact circuit protector (CCP)
- HVAC disconnects
- AC and DC safety switches
- CEAG safety switches—AC-3, IP66 up to 180 A
- X-Switch



Surge protective devices

- High SCCR UL® DIN rail mount
- UL Type 1 heavy-duty and pro
- Surge protection and line filtering
- EMI/RFI filtering
- Data signal protection
- Panel and DIN rail mount
- Alarm contacts



Programmable controllers and remote I/O

- Compact PLC
- Modular PLC
- CoDeSys® programming software
- Remote I/O
- ELPRO wireless communication



Pushbuttons and stacklights

- 22 mm and 16 mm pushbuttons
- 30 mm pushbuttons
- Assembled pushbutton stations
- Emergency operators
- Rotary cam switches
- Stacklights
- Industrial grade toggles



Circuit breakers

- Global application breakers
- IEC rated breakers
- NEMA rated breakers
- Supplementary protectors
- Miniature circuit breakers
- Wide range of accessories



Backup power protection

- Engineered for environments with unpredictable power conditions
- FERRUPS® voltage regulating
- Single-phase and three-phase UPS



Control power transformers and power supplies

- Control power transformers from 50 to 5000 VA
- Epoxy encapsulated coils
- Face-on terminal labels
- Non-segregated medium- and low-voltage busway
- Switched mode power supplies



Motor protection

- Advanced solid-state relays
- Electronic overload relays
- Thermal overload relays
- Miniature overload relays
- Manual motor protectors/ motor protective circuit breakers
- Electronic motor protective circuit breakers



Power control

- Full range of IEC contactors
- Combination motor controllers
- Definite purpose contactors
- Electronic motor starter with thermal and magnetic protection
- NEMA rated contactors
- Manual motor starters
- Vacuum contactors
- Lighting contactors
- E-Line contactors



Soft starters and soft start controllers

- Two-phase soft start controller
- Three-phase soft starters
- OEM soft start controllers



Variable frequency drives

- PowerXL® drives family
- OEM drives (up to 11 kW / 15 hp)
- Industrial drives (up to 160 kW / 250 hp)
- Performance drives (up to 1500 kW / 2000 hp)
- Open IP20 to IP66 offering
- Enclosed NEMA® 1, 12, 3R and 4X offering



Automatic transfer switches

- Breaker-based up to 5000 A
- Contactor-based up to 3000 A
- Bypass isolation for contactor- and breaker-based solutions
- ANSI/NEMA and IEC certified
- Open or closed transfer



Hydraulic pumps and motors

- Axial piston pumps
- Fixed displacement vane pumps
- Hydraulic motors
- Bent axis and in-line piston motors



Filtration

- Automatic self-cleaning filters and strainers
- Bag and cartridge filtration
- Portable filtration
- Pipeline strainers
- Gas/liquid separators
- Hydraulic and lubrication oil filters



Fluid conveyance and management

- LifeSense® hose condition monitoring system
- Hydraulic and industrial hoses



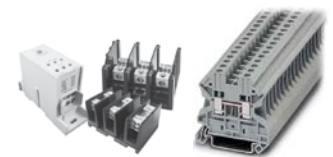
Fittings and couplings

- Couplings with corrosion protection
- Quick disconnect hydraulic couplings
- Breathers and drains
- Cable glands and accessories
- Cam-Lok™ plugs and receptacles
- Hubs
- Sealing fittings



Valves and cylinders

- AxisPro™ servo-performance proportional directional valves
- Screw-in cartridge valves
- Slip-in cartridge valves
- Modular and directional control valves
- Standard and custom-engineered industrial cylinders



Connectors

- Power distribution blocks
- Power distribution fuse blocks
- Panel-mount terminal blocks
- DIN rail terminal blocks
- Locking devices
- Passive connectivity
- Straight blade plugs and connectors
- Wire mesh grips
- IEC Pin & Sleeve devices (IP69K Certified)



Enclosures

- Non-hazardous enclosures and wireway: NEMA 1, 3, 3R, 4, 4X, 6P, 12/13
- Hazardous enclosures: NEMA 7 and 9
- Range of sizes, materials and finishes available
- Modification services



Support systems

- Strut systems: 10 channel profiles, broad offering of fittings, steel, aluminum, galvanized steel, hot dip galvanized
- Cable management: metallic and non-metallic cable ladder, perforated and solid bottom cable tray available in steel, stainless steel, aluminum, fiberglass, global certifications



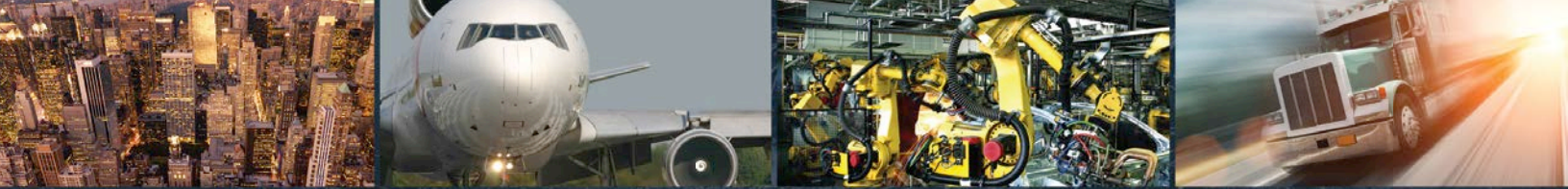
Enclosed control

- IEC magnetic starters
- NEMA magnetic starters
- Custom OEM control panels
- Combination or non-combination
- Reversing or non-reversing
- Reduced voltage starters
- Pump panels
- Lighting contactors
- Multi-speed

To learn more, visit Eaton.com/machinebuilding



SmartWire-DT logo indicates connectivity.



Energizing a world that demands more.

We deliver:

- **Electrical solutions** that use less energy, improve power reliability and make the places we live and work safer and more comfortable
- **Hydraulic and electrical solutions** that enable machines to deliver more productivity without wasting power
- **Aerospace solutions** that make aircraft lighter, safer and less costly to operate, and help airports operate more efficiently
- **Vehicle drivetrain and powertrain solutions** that deliver more power to cars, trucks and buses, while reducing fuel consumption and emissions

Discover today's Eaton.

Powering business worldwide

As a global power management company, we help customers worldwide manage the power needed for buildings, aircraft, trucks, cars, machinery and businesses.

Eaton's innovative technologies help customers manage electrical, hydraulic and mechanical power more reliably, efficiently, safely and sustainably.

We provide integrated solutions that help make energy, in all its forms, more practical and accessible.

With 2015 sales of \$20.9 billion, Eaton has approximately 97,000 employees around the world and sells products in more than 175 countries.

Eaton.com

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Printed in USA
Publication No. SA083028EN / Z18359
June 2016

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