

# AUTOMATIONDIRECT.com

## Motor Controls

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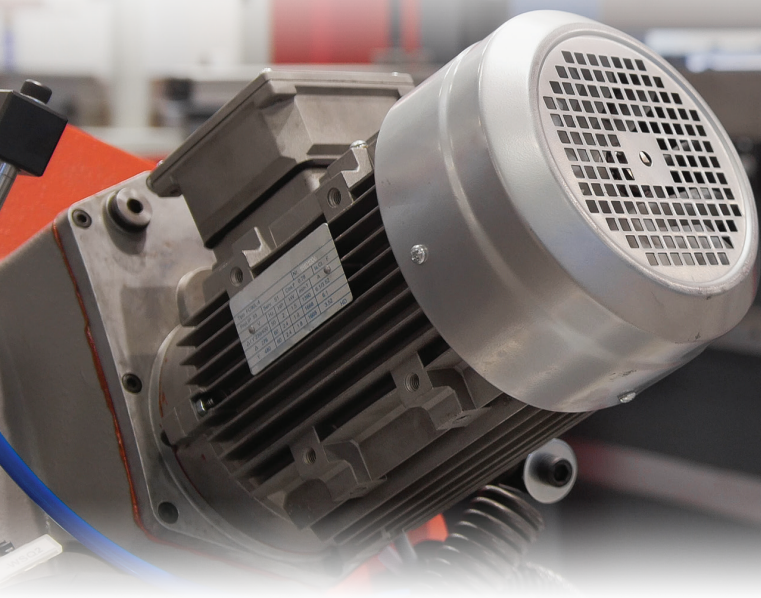
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# Affordable Motor Control now with more choices than ever



AutomationDirect has over 1,700 cost-effective motor control products that can easily start, control, and protect your motors...FOR LESS!

## IEC Magnetic Motor Starters

Starting at \$103.00 (PESW-B9D39AX-R60)

IEC motor starters are a combination of devices used to start, run, and stop induction motors based on commands from an operator or a controller. The motor starter must have at least two components to operate: a contactor to open or close the flow of energy to the motor, and an overload relay to protect the motor against thermal overload.



## IEC Manual Motor Protectors

Starting at \$40.00 (HMMP-32HR-0.16)

IEC manual motor protectors integrate a local ON/OFF control, motor overload protection, disconnecting means, instant short-circuit trip, and phase-loss protection into one device. Models are available in capacities up to 100A, from brands such as WEG, Fuji, IronHorse, and AutomationDirect.



## IEC Magnetic Contactors

Starting at \$14.00 (CWC07-01-30V24)

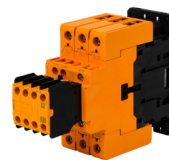
IEC magnetic contactors in capacities up to 400A are well-suited for switching and controlling motors and other heavy loads for industrial applications. Contactors are available with AC or DC coils and a wide selection of voltage ratings.



## IEC Safety Contactors

Starting at \$78.00 (CWBS9-33-30D02)

IEC safety contactors provide a safe and reliable way to control electrical power in industrial and commercial applications.



## IEC Overload Relays

Starting at \$20.00 (RW17-1D3-D008)

IEC overload relays provide reliable electronic or thermal protection from device or component overload or phase loss. Available in various amperage capacities with models offering configurable parameters, self-powered operation, and communications capabilities.



## Motor Disconnects & Controllers

Starting at \$40.50 (30002D)

Manual motor controllers and disconnects safely control and disconnect power from motors and provide an OSHA required lockout means.



# Our customers love them!

"I bought two, plus the reverser kit to make the installation easier (not actually reversing, but using it to select between two pumps.) Excellent quality."

Product Satisfaction Score  
★★★★★

On 1/20/23 Zulfiqar in SUGAR LAND, TX

Verified purchaser

Works fine . Loved automation direct very professional and quick delivery.  
Buy again? Yes

No optional ratings provided

Product Satisfaction Score  
★★★★★

On 12/6/22 Craig in FRAMINGHAM, MA

Verified user

I bought two, plus the reverser kit to make the installation easier (not actually reversing, but using it to select between two pumps.) Excellent quality.  
Buy again? Yes

Optional Ratings

Product Satisfaction Score  
★★★★★

On 3/8/22 Gabriel in ANN ARBOR, MI

Used this in combination with a PLC digital output to provide a disable for a manually controlled winch. Fit well within an existing cabinet, very good value for the price. Terminals felt very solid, haven't had any issues with it so far!

Buy again? Yes

Optional Ratings

Product Satisfaction Score  
★★★★★

On 1/18/23 Donald in BLOWING ROCK, NC

Verified purchaser

Buy again? Yes

Optional Ratings

Buy again? Yes

"Very versatile & modular. I used 4 of them to replace some very old contactors. All 4 fit in the space of one old contactor. The cost of 4 was the same as one old contactor that would be surplus. I also got the surge protection modules that just snap in to the front to protect the control side."

Product Satisfaction Score  
★★★★★

On 1/10/23 Nobuo in MARLBOROUGH, MA

Verified purchaser

It is a great product. Priced right!  
Buy again? Yes

Optional Ratings

Product Satisfaction Score  
★★★★★

On 2/6/23 Joel in OAK HARBOR, WA

Verified purchaser

Very versatile & modular. I used 4 of them to replace some very old contactors. All 4 fit in the space of one old contactor. The cost of 4 was the same as one old contactor that would be surplus. I also got the surge protection modules that just snap into the front to protect the control side.

Buy again? Yes

Optional Ratings

Product Satisfaction Score  
★★★★★

On 5/25/21 Tom in MONROE, MI

I would put the Fuji contactors up against any competitors.  
Buy again? Yes

Optional Ratings

"I like the built in aux. contacts normally open and normally closed. I also like the size of the footprint even with a 24vdc coil very versatile. In stock received in 2 days free shipping."

Product Satisfaction Score  
★★★★★

On 4/5/23 Monty in GRAND TERRACE, CA

Verified purchaser

I like the built in aux. contacts normally open and normally closed. I also like the size of the footprint even with a 24vdc coil very versatile. In stock received in 2 days free shipping.

Buy again? Yes

Optional Ratings

# Motor Controls Introduction

Most factory automation involves moving machinery driven by electric motors. These automated systems frequently use general-purpose motors with simple on/off (across-the-line) control. Although these applications seem deceptively simple, NEC article 430 provides lengthy guidelines for motor controllers, installations, and wiring. It covers the requirements and specifications for motor control components, such as:

- Disconnecting means
- Motor controllers
- Branch circuit protection
- Overload protection

## Disconnecting Means

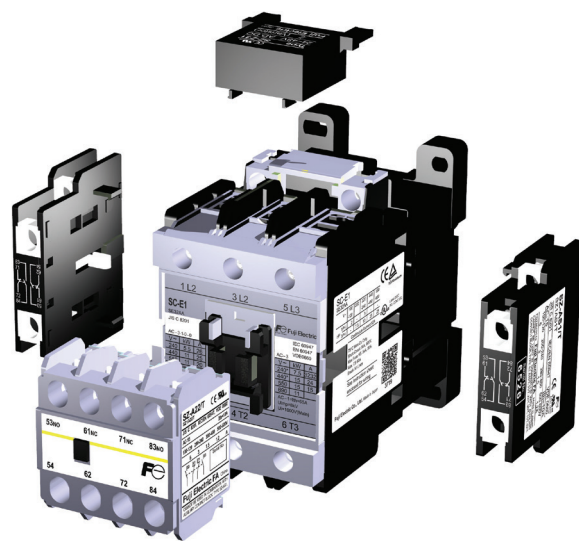
A disconnecting means must be able to open all ungrounded supply conductors and is usually required to be within sight of the controller, the motor, and the driven machinery.

## Branch Circuit Protection

Branch circuit protection devices provide short-circuit and ground fault protection. They must also be able to handle the motor starting current, which can be several times the full load amp rating (FLA) of the motor.

## Motor Controllers

Motor controllers must have suitable ratings to stop and start the motor, and be able to interrupt the locked-rotor current of the motor. If they don't also function as disconnects, they are only required to open as many conductors as necessary to stop the motor.



## Overload Protection

Overload protection provides protection against heating due to motor overloads and failure to start. It does not protect against short circuits or ground faults, but the prolonged excessive current that can cause damage due to overheating.

Across-the-line motor starting is used when the application can run at the motor's maximum speed, where speed and voltage sags/spikes don't pose a problem. These motor starting components are commonly used when users don't need the electrical and mechanical softening effects of a soft starter, nor the speed control of a variable speed drive.

Typical devices used for across-the-line motor starting:

- Motor starters operate induction motors and protect them against running or stalled overcurrents
- Manual motor protectors provide an all-in-one motor control/protection solution, integrating control, disconnecting means, and circuit protection
- Magnetic contactors provide compact, electrically operated load control for diverse load-switching needs
- Overload relays provide reliable and accurate electronic or thermal protection from device or component overload or phase loss



# IEC Magnetic Motor Starters

IEC motor starters are used to operate polyphase induction motors and protect them against running or stalled overcurrents, with components that meet IEC standards. IEC compliant magnetic motor starters are available as open frame or enclosed manual motor starters.



Starting from  
**\$466.00**

## Eaton Freedom Series IEC Open Frame Magnetic Motor Starters

Eaton Freedom series IEC full voltage magnetic motor starters, available in ratings from 3 to 20 hp (32A) @ 480VAC, are used for starting polyphase induction motors and protecting the motor against running or stalled overcurrents. The 45mm frame motor starters are comprised of a contactor, overload relay, and heater packs (sold separately) with adjustable FLA dials.

## WEG ESW and ESWS Series Enclosed General Purpose Manual Motor Starters

WEG Electric ESW and ESWS series non-reversing and non-combination enclosed general purpose manual motor starters turn the electrical service to a motor ON and OFF. These models are available in ratings from 1/2 to 50 hp (80A) @ 575VAC with all necessary components mounted in NEMA 1 metallic enclosures, pre-wired, and ready to install.

- ESW series three-phase manual motor starters
- ESWS series single-phase manual motor starters



Starting from  
**\$100.00**

## WEG PESW and PESWS Series Enclosed Washdown Manual Motor Starters

WEG Electric PESW and PESWS series non-reversing and non-combination enclosed washdown manual motor starters turn the electrical service to a motor ON and OFF. These models are available in ratings from 1/2 to 50 hp (80A) @ 575VAC with all necessary components mounted in NEMA 4X non-metallic enclosures, pre-wired, and ready to install.

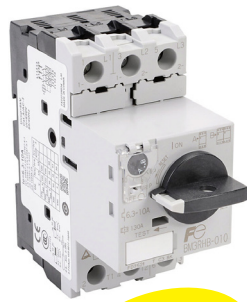
- PESW series three-phase manual motor starters
- PESWS series single-phase manual motor starters



Starting from  
**\$66.00**

# IEC Manual Motor Protectors

IEC manual motor protectors provide an all-in-one motor control/protection solution, integrating control, disconnecting means, and circuit protection.



Starting from  
**\$72.00**

## FE Fuji Electric Duo Series Manual Motor Protectors

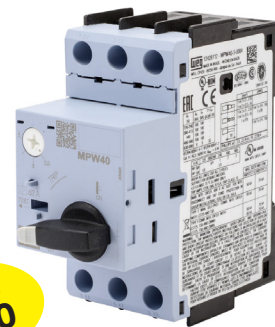
The Duo series of manual motor protectors provides optimal protection for motors by integrating the functions of a molded case circuit breaker and thermal overload relay into one compact unit. These motor protectors can be used for motor branch circuit protection without the need for any additional circuit protection device.

- BM3R series 45mm frame models in ratings up to 32A
- BM3V series 55mm frame models in ratings up to 63A
- Adjustable thermal-magnetic trip
- High short-circuit interrupt ratings up to 100kA @ 240VAC

## WEG MPW Series Manual Motor Protectors

WEG Electric MPW series manual motor protectors provide a compact solution for the operation and protection of motor applications. The MPW series meets all of the NEC requirements for combination motor starters and UL requirements for self-protected motor controllers used in Type-E and F applications.

- Models in ratings up to 65A
- High short-circuit interrupting ratings up to 100kA @ 480VAC when used with CLT32MPW40 current limiter
- Phase-loss sensitivity protection
- Rated for DC applications



Starting from  
**\$54.00**



Starting from  
**\$40.00**

## IRONHORSE HMMP Series Manual Motor Protectors

IronHorse HMMP series manual motor protectors offer wide ambient temperature compensation and protect against overloads, short circuits, and phase loss. A variety of accessories allows considerable flexibility in the overall system design.

- 45mm frame models in ratings up to 40A
- 55mm frame models in ratings up to 63A
- 70mm frame models in ratings up to 100A
- Adjustable thermal-magnetic trip
- Class 10 trip characteristics

# IEC Manual Motor Protectors Continued

## AutomationDirect MS25 Series Manual Motor Protectors

MS series IEC motor starter/protectors provide a cost-effective remote motor control and protection solution.

- Models in ratings up to 25A
- Pushbutton operation
- Phase-loss protection
- Undervoltage release and shunt trip devices install as options



Starting from  
**\$63.00**

# IEC Magnetic Contactors



Starting from  
**\$14.00**

## WEG CWC Series IEC Miniature Contactors

WEG Electric CWC series mini contactors are a complete solution for controlling motors and switching other loads. The CWC's compact dimensions for its IEC current rating, up to 22A, AC-3 utilization category, allow it to take up less space inside electrical enclosures while still maintaining a powerful 15 hp @460V. WEG RW series overload relays are available for use with this series.

- 7, 9, 12, 16, and 22A 3-pole models
- 7, 9, and 16A 4-pole models
- Matching direct mount overload relays

Accessories include:

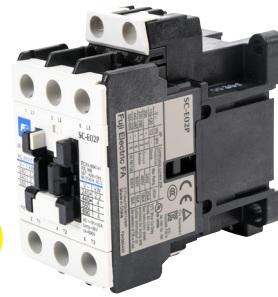
- Auxiliary contact blocks
- Surge suppressors
- Star-Delta electronic timing relays
- Wiring kits
- Mechanical interlocks
- Latch blocks

## IEC Magnetic Contactors Continued

### FE Fuji Electric Duo Series IEC Contactors

The Fuji Electric Duo series IEC contactors are fully integrated, so multiple motor speed controller solutions are possible with a minimum number of components. Models SC-E5 to SC-E7 feature SUPERMAGNET™ coils which offer high operating reliability, prevent chattering, and require no surge suppressors.

- 6 frame sizes in ratings from 5 to 100 hp (150A) @ 480VAC
- AC and DC coils rated for a wide range of voltages
- Finger protection terminals
- Low power consumption



Starting from  
**\$20.00**



Starting from  
**\$527.00**

### FE Fuji Electric Odyssey Series 3N IEC Contactors

Fuji Odyssey series IEC contactors are designed for reliable use in applications that require consistent switching, reduced coil consumption, and increased horsepower capabilities. The proprietary "SUPERMAGNET" design, standard on all contactors rated 150A and above, provides "chatter-free" operation--even if the line voltage drops to 65% of its rated value, preventing contact and coil damage.

- Available in ratings from 150 to 300 hp (361A) @ 480C
- 154mm and 169mm frame widths
- AC and DC coils rated for a wide range of voltages
- Equipped with 2 N.O. and 2 N.C. auxiliary contacts

### WEG CWB Series IEC Contactors

WEG Electric CWB series IEC contactors meet the requirements of IEC 60947 and UL 508, making them ideal for a wide range of industrial applications. These contactors allow for simple and compact mounting of surge suppressor blocks and are available with AC or DC coils.

- Available in ratings from 5 to 100 hp (125A) @ 480VAC
- "Zero-width" mechanical interlock
- 1 N.O. + 1 N.C. auxiliary built-in, additional add-on contacts available
- Matching direct mount overload relays



Starting from  
**\$29.50**

## IEC Magnetic Contactors Continued



### IRONHORSE HMC Series IEC Contactors

IronHorse HMC series contactors feature advanced technology with a sealed structure that prevents arc flash from being exposed. The series includes several frame sizes, ranging from 9 to 400A, and offers an economical solution where high-current capacity, compact size, and easy connections are important.

- 3 poles, in ratings from 5 to 300 hp (400A) @ 480 VAC
- AC and DC coils rated for a wide range of voltages
- 1 NO/NC or 2NO/NC (depending on model) auxiliary contacts included, no need to purchase separately
- NEMA size ratings on select units
- Electronic coils on select models

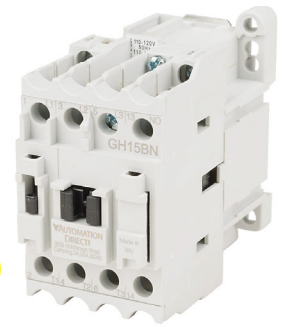


Starting from  
**\$17.50**

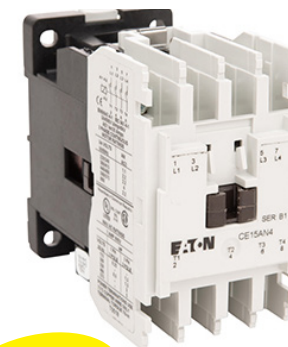
### AutomationDirect GH15 Series IEC Contactors

GH15 series IEC contactors and bimetallic overload relays are manufactured by Europe's leading maritime contactor company. The motor contactors are designed for ocean-going vessels and built to the most rigid specifications. This same design technology carries over to the GH15 line of industrial electric motor controls. These contactors are ideal for applications requiring a heavy-duty switching device with up to three poles.

- 3 poles, in ratings from 5 to 250 hp (315A) @ 480VAC
- 110/120V and 220/240V coils available
- Front or side-mounted auxiliary contacts available



Starting from  
**\$48.00**



Starting from  
**\$310.00**

### EATON Freedom Series IEC Contactors

The Eaton CE15 Freedom Series IEC contactors offer big contactor ratings in a compact frame. The 45mm frame contactors handle up to 20 hp @ 460V and are easily DIN-rail mountable in a vertical or horizontal upright position.

- 3 or 4 poles, in ratings from 3 to 20 hp (32A) @ 480VAC
- Long-life twin break, silver cadmium oxide contacts for excellent conductivity and superior resistance to welding and arc erosion
- Holding circuit contact(s) supplied standard on 3-pole models

# IEC Safety Contactors

Safety contactors provide a safe and reliable way to control electrical motors or systems in industrial and commercial applications.

## WEG CWBS Series IEC Safety Contactors

WEG Electric CWBS series IEC safety contactors comply with IEC and UL standards, featuring mechanically-linked contacts and mirror contacts to ensure safety circuits for machines and equipment operate according to international safety standards. The CWBS series safety contactors certificate is available for download on the AutomationDirect.com website.






Mechanically-linked contacts (IEC/EN 60947-5-1 – Annex L) ensure that the normally open and normally closed auxiliary contacts cannot be simultaneously closed.

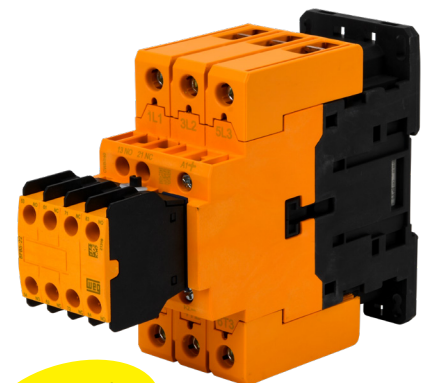
- When a normally open auxiliary contact is closed, none of the normally closed auxiliary contacts may be closed
- When a normally closed auxiliary contact is closed, none of the normally open auxiliary contacts may be closed

Mirror contacts (IEC/EN 60947-4-1 – Annex F) are normally closed auxiliary contacts mechanically linked to the main power contacts of the safety contactor. Since the mirror contacts can never be closed simultaneously with the main contacts, they provide a way for safety circuits to reliably monitor the status of the main contacts.

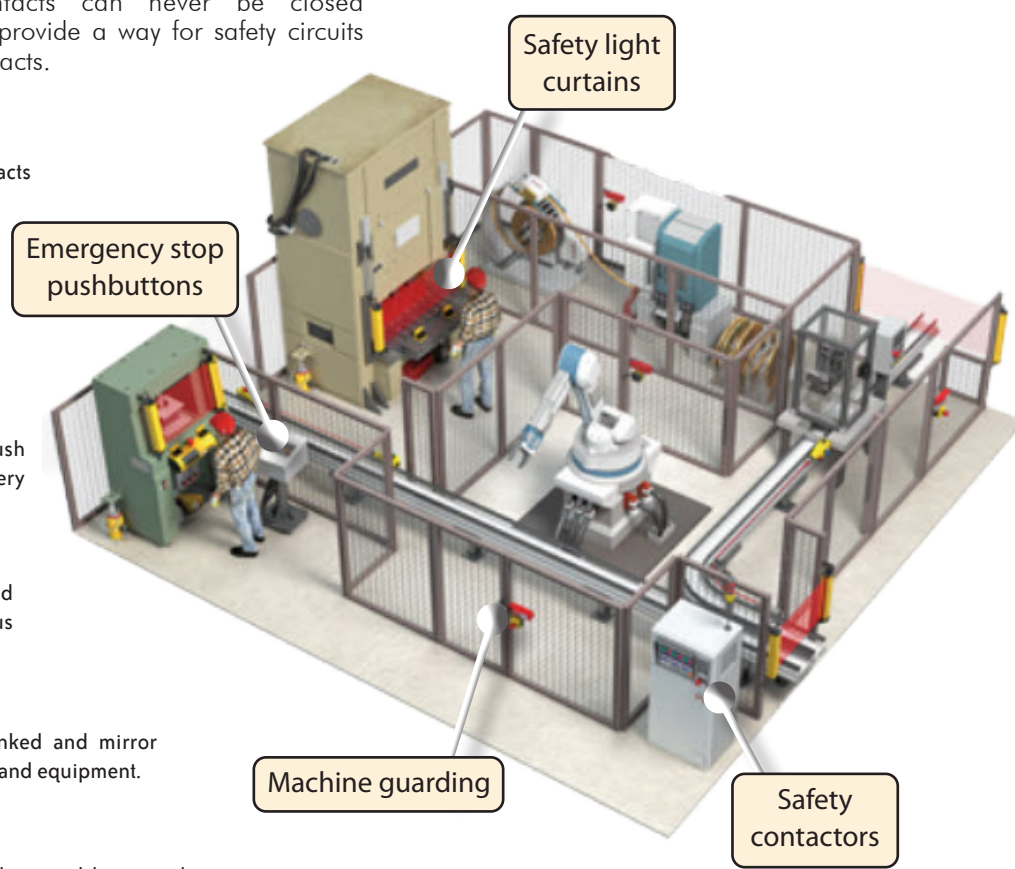
- Contactors rated from 9 to 80A
- 24 VDC or 120 VAC coils
- Includes 3 N.O. / 3 N.C. non-removable auxiliary contacts
- Easily accessible power and control terminals
- Protection against inadvertent operation
- High visibility color (safety yellow)
- Surface or DIN rail mount

## Safety Application

-  Emergency stop control stations provide one-push emergency protection for systems and machinery with exposed moving parts.
-  Safety relays monitor safety input devices and prohibit machine operation when hazardous conditions are detected.
-  IEC safety contactors feature mechanically-linked and mirror contacts to provide safe operation of machines and equipment.
-  Redundant safety contactors eliminate the risk caused by a single point of failure. If one contactor fails, the other contactor will still be able to open the circuit, preventing a hazardous condition.
- 



Starting from \$78.00



# IEC Thermal Overload Relays

IEC overload relays provide reliable and accurate electronic or thermal protection from device or component overload or phase loss.

## Fuji Electric Duo Series TK-E Overload Relays

Fuji Electric Duo series TK-E overload relays protect motor windings from burning due to overloads, locked rotor current, or open phases. They are available in 5 different frame widths and are designed to directly mount to Fuji Electric Duo SC-E02P(G) through SC-E7 series IEC contactors. Optional mounting brackets allow the overloads to be separately DIN rail or panel mounted.

- Available in ratings up to 160A
- Overload, phase-loss protection
- Isolated N.O. and N.C. contacts
- Ambient temperature compensation
- Trip indicator
- Optional base units for separate mounting



Starting from \$35.50

## WEG RW Series Bi-metallic Overload Relays

WEG RW series class 10 thermal overload relays provide extended operational service life and are designed for use with WEG CWB standard contactors and CWC miniature contactors. These relays can be mounted directly under WEG contactors to be used as across-the-line starters. Accessories are available for separate mounting. The RW series relays are available in three frame sizes and are designed to pair with an appropriate WEG contactor to create a compact motor starter.

- RW17 overloads for CWC mini-contactors for fractional to 15 hp @ 460V motor loads
- RW27 overloads for CWB9 to CWB38 contactors for 5 to 25 hp @ 460V motor loads
- RW67 overloads for CWB40 to CWB80 contactors for 30 to 50 hp @ 460V motor loads
- RW117 overloads for CWB95 to CWB125 contactors for 75 to 100 hp @ 460V motor loads

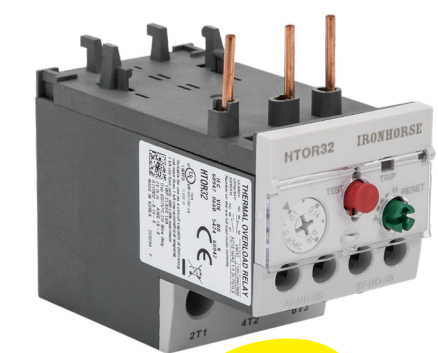


Starting from \$20.00

## IRONHORSE HTOR Series Overload Relays

IronHorse HTOR series bimetal-style overload relays protect AC circuits and motors against overloads, phase loss, long starting times, and prolonged stalling of the motor.

- Available in multiple frame sizes, in ratings up to 400A
- Phase-loss and current unbalance protection
- Class 10A trip class
- Isolated N.O. and N.C. contacts
- Adjustable trip current



Starting from \$22.00

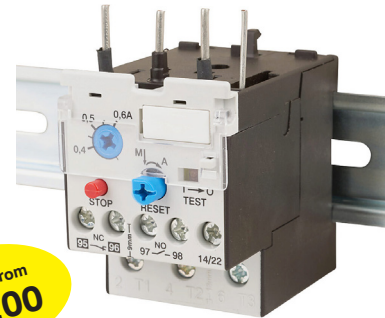
## IEC Thermal Overload Relays Continued

### AutomationDirect Overloads for GH15 Series Contactors

The RTD series adjustable motor overload relays are designed for use with the GH15 Series 45mm, 60mm, 79mm, 110mm, and 145mm contactors. The contactor and overload relay combination provides a reliable motor starter solution.

Adjustable ranges from 0.4 to 320A

- RTD32 overload relays for 45mm contactors
- RTD65 overload relays for 60mm contactors
- RTD180 overload relays for 79mm and 110mm contactors
- RTD320 overload relays for 145mm contactors



Starting from  
**\$74.00**



Starting from  
**\$262.00**

### Eaton Freedom Series IEC Thermal Overload Relays

Overload relays are provided to protect motors, motor control apparatus and motor-branch circuit conductors against excessive heating due to motor overloads and failure to start. The C306 overload relay is designed for use with Eaton Freedom series non-reversing contactors. They feature electrically-isolated N.O. or N.C. contacts and require heater packs that are sold separately.

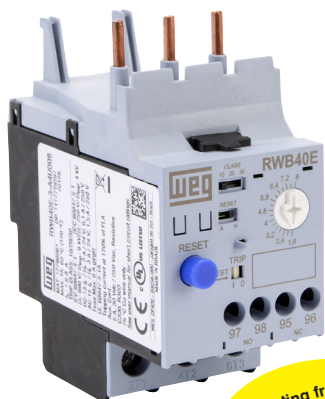
- Selectable manual or automatic reset operations
- Interchangeable Class 20 heater packs  $\pm 24\%$  to match motor FLA and calibrated for 1.0 and 1.15 service factors (ordered separately)
- Integral load lugs which allow field wiring prior to heater pack installation
- Phase-loss protection
- Ambient temperature compensation

## IEC Solid State Overload Relays

### WEG RW-E Series Solid State Overload Relays

WEG Electric RW-E series solid state overload relays are suitable for protecting motors in a wide range of industrial applications including those where long starting time is required. Motors used in low, medium, or heavy-duty applications can be properly protected by simply selecting the proper trip class on the DIP-switches. These overload relays mount directly on WEG CWB series contactors.

- Adjustable for trip class 10, 20, or 30
- Self-powered
- Wide 5:1 adjustment range
- Thermal memory
- Phase-loss protection
- Phase unbalance protection



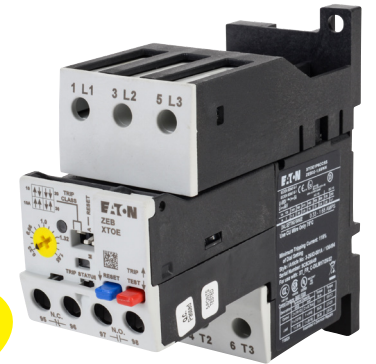
Starting from  
**\$53.00**

## Eaton XT Electronic Series Overload Relays

Eaton XT series electronic overload relays are the most compact, high-featured, and economical products in their class. The XT is a self-powered electronic overload relay, available in ratings up to 175A, and designed to cover the entire power control spectrum including NEMA, IEC and DP contactors.

These relays can be used with any brand or style of contactor, and accessories provide remote reset capability.

- Motor protection includes thermal overload, phase-loss, selectable phase imbalance, and selectable ground fault (on select models)
- Broad FLA range (0.33 - 175A)
- Selectable trip class (10A, 10, 20, 30)
- Separate mounting to NEMA, IEC and DP contactors



Starting from  
**\$102.00**

## Definite Purpose Contactors

Definite purpose contactors are designed for application-specific use, such as HVAC or compressors, providing reliable load control that can handle diverse switching needs.



Starting from  
**\$10.50**



### WDP Series Definite Purpose Contactors

DP Contactors are electrically operated switching devices used for switching power or motor circuits most commonly found in applications including resistance heating, air-conditioning, and refrigeration. DP contactors are suitable for a wide range of low-cycle duty applications that require low-cost switching of single- and three-phase loads.

- 1-, 2-, and 3-pole configurations with 25A, 30A, or 40A ratings
- 3-pole configurations with 50A or 60A ratings
- 24, 120, 230, or 480 VAC coils
- Enclosed coil on all 3-pole frame sizes
- Open coil on all 1- and 2-pole frame sizes

## Motor Disconnects & Controllers

### BRYANT® Manual Motor Controllers/ Motor Disconnects

Bryant has designed a compact motor controller that also meets the rigorous demands of a motor disconnect. Bryant's motor controllers are listed as "Suitable as Motor Disconnect" under UL Standard 508 - Industrial Control Equipment - qualifying them to perform both operations in one compact package. By utilizing Bryant's compact motor controllers and motor disconnects, you benefit from the convenience of one device fulfilling two needs. AutomationDirect offers three versions of manual motor controllers (MMCs) and industrial motor disconnects:

- Toggle switch AC motor controllers
- Enclosed toggle switch AC motor controllers
- Enclosed NEMA 4X rotary switch AC motor controllers



Starting from  
**\$40.50**

For information on our Bryant pin and sleeve mechanical interlocks please see our [Circuit Protection brochure](#)