

# Seagate Control Systems

Electrical Controls for Industry

1-800-472-8812

Fax 800-790-0160

We keep America's Factories Running

Celebrating Over 50 Years of Serving Our Customers!

## Overview of our product offerings



Thermocouples and RTD's



Process Controls



SCR's



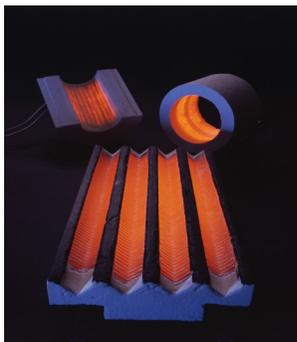
UPS Power Systems



Circuit Breakers



Operator Interfaces



Electric Heaters



Safety Systems



Power Meters

[www.seagatecontrols.com](http://www.seagatecontrols.com)

# Process Controls

## EZ Zone PM and PM PLUS Controllers

Program them with Bluetooth and free app!



PID Controller and Limit Controller in one compact package



The Watlow EZ-ZONE PM can be ordered as a PID controller, a Limit controller or BOTH.  
Program them with a FREE app!  
The NEW PM Plus offers a newly designed interface making set up easy.

## Watlow RM Rack Mount Multizone Controller



Up to 64 Control Loops

The Watlow RM Rack Mount controller is a scalable solution to process controls. The EZ-ZONE RM can be configured from 1 to 16 modules controlling from 1 to 64 loops. Because the EZ-ZONE RM controller is single-loop scalable, you only pay for what you need – exact loop count and unmatched industry flexibility for output hardware options makes your life easier. A number of serial communications options can be selected to help easily integrate the EZ-ZONE RM with a PC or PLC. Built in math functions like compare, greater than or less than, add, subtract, multiply and divide, timers, counters, logic functions like and, or, equal to, and latch make this a complete control package for many applications.

## Watlow F4T Touchscreen Controller



Watlow's F4T touchscreen controller has a 4.3" color touch display and can control up to 4 zones of control with full PID, data log, limit controller, with timers, counters, math and PLC logic. Robust algorithms for temperature, RH, and pressure. 40 profiles up to 50 steps each, with battery backup and real-time clock. Monitor up to 24 sensor inputs. Communication made easy with Ethernet Modbus TCP and SCPI, two USB host ports, 232/485 Modbus RTU and LabVIEW™ driver and SCPI protocol.

Email and text alarms now available!



# SCR Power Controls

## Watlow Aspyer—the Smart SCR



### Watlow Din-a-mite SCR

The DIN-A-MITE family is the ideal solid state replacement for mercury displacement relays (MDRs) in an easy-to-install, compact, touch-safe package. The solid state power controllers provides SCR control, heatsink, wiring and touch-safe exterior in one package. By designing the DIN-A-MITE as a total power controller unit, the need to prep wires for terminals, locate the right heatsink and determine adequate terminations is eliminated. Four DIN-A-MITE styles meet most power controller needs with ratings from 18 to 100 amps with voltages from 24 to 600V~(ac). The four models match load requirements with 1-phase, 3-phase/2-leg and 3-phase/3-leg switching. The controllers also provide a convenient DIN-rail and sub-panel mount package.



### Aspyer SCR

The Watlow Aspyer SCR is the newest addition to the Watlow family of SCR controls. Microprocessor based, this SCR has multiple firing modes including burst fire, zero cross, single cycle, current limiting and phase angle allowing you to easily control a wide variety of heaters including Nichrome wire, Moly B, silicone carbide, tungsten quartz, IR and transformer coupled loads.

With sizes from 35—700 amps this line of SCR controls can cover almost any job including heat treat furnaces, autoclaves, glass annealing, HVAC, packaging and more.

Features include heater bake out, built in SCR fuses, 100KA SCCR rating and a variety of communication options. Program it using free software and see the SCR fire and watch the power on your computer screen.

### Mercury Free

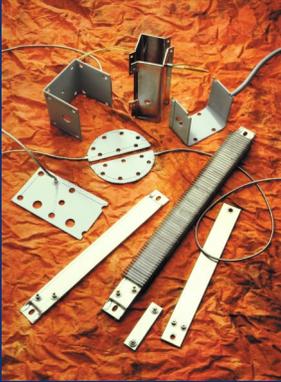


### Watlow Power Series SCR

Capabilities include single-phase and three-phase models from 65 to 250 amps. Field configurable phase angle or zero-cross firing improves application flexibility on site where you need it. 50/60Hz independent operation means you can operate almost everywhere in the world without special calibration considerations. Serial communications utilizing Modbus protocol allow for remote control setup, and monitoring of load status from a nearby computer station or control room. On-board semiconductor fusing improves reliability by protecting the SCRs from heater short circuits. Plus, on-board heater bakeout and control diagnostics can help eliminate initial start up problems. All this in a touch-safe package that can be quickly and easily mounted in your control cabinet.

# Heaters

Electric heaters for almost any application!



Strip Heaters



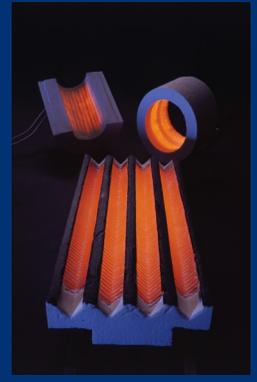
Cartridge Heaters



Band Heaters



Flexible Rubber



Ceramic Fiber



Process Heaters



Duct Heaters



Cylinder Heaters

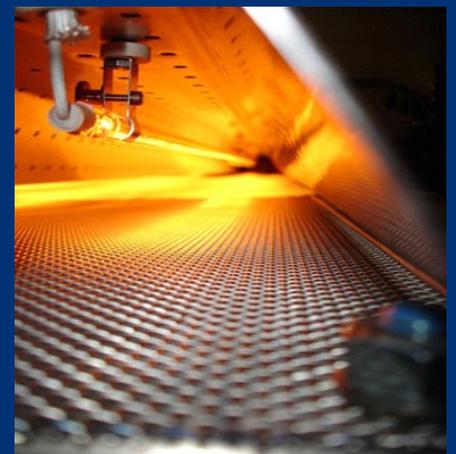


Circulation Heaters



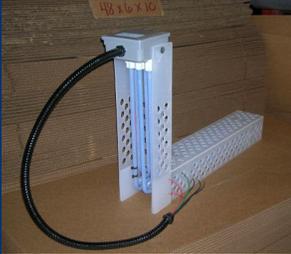
Cable Heaters

Helios Quartz Infrared Heaters put the heat right where you need it



# Heaters

## Chemically Resistant Heaters



## Wet-Area Heaters



### Briskheat Wet-Area Heaters

Water resistant designed for indoor or outdoor use and in wash down areas  
Insulated for energy efficiency  
360 degree grounded heating element  
Certified UL  
IP54 rated

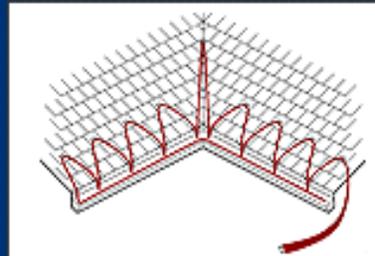
## Circulation Heaters



### Watlow's FLUENT Heater

Small lightweight robust  
High watt density low mass  
Internal T/C for high limit  
Excellent for heating gas or liquids

## Heat Trace Cable Heaters



# Speciality Heaters

## Cast Aluminum Solutions



Cast Aluminum Solutions makes circulation heaters for industrial applications where the heated material does not come in contact with the heating element. This can be important in applications like heating solvents, paints and gases achieving temperatures of up to 1112 F. The heater and process tubing are encased in various metals like aluminum and bronze. Process thermocouples are mounted internally for control or over temperature protection.



## Enclosure heaters and thermostats



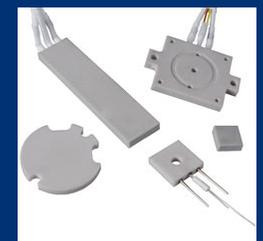
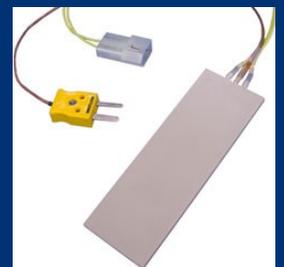
Keep your enclosures warm in the cool months with these enclosure heaters and control them with a din-rail thermostat. Enclosure heaters are available with or without a fan, with voltages from 24 vdc to 120/240 vac. Some models have an internal fan and thermostat built in. Snap these on to a din-rail or mount them to the back panel. From 30 watts to 1200 watts we've got the right heater for your job. In stock for quick delivery!



## Watlow Ultramic Advanced Heater

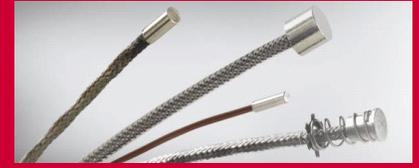


Watlow's Ultramic heater is a high performance heater in a small package, designed to be a clean, non-contaminating heater that heats up and cools down quickly. ULTRAMIC heaters can operate up to 600°C (1112°F) with an ultra-fast ramp rate of up to 150°C (270°F) per second depending on the application, heater design and process parameters. In addition to delivering excellent thermal characteristics, this heater has high electrical isolation and typically provides superior chemical resistance as compared to traditional metal heaters.

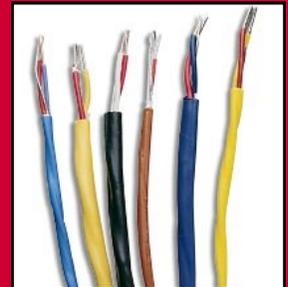


Available in either a square, rectangle or ring shape.

# Temperature Sensing and Accessories



Thermocouples, RTD's and sensors made the way you want them



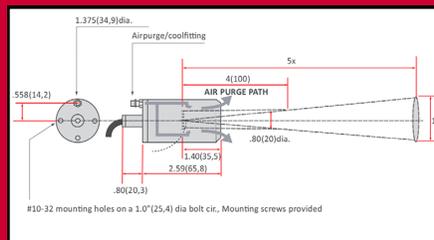
T/C wire  
Protection wells  
Jacks and Plugs  
Ceramic insulators



Watlow's True Surface sensor offers superior accuracy on measuring flat surface

Extension wire, thermowells, insulators, non contact IR sensing

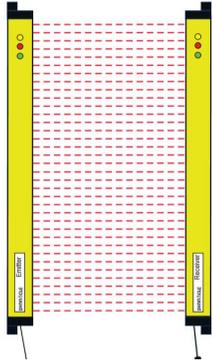
## Exergen Non-contact IR Sensors



# Safety Systems

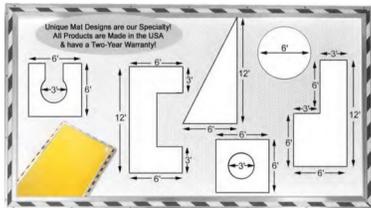


Made in the USA



## MicroGuard Light Curtain

The MicroGuard is a revolutionary new light curtain. With its thin design and advanced smart controller, an operator can easily view system faults. There are 50 diagnostic messages built into the controller which provide exact determination of the MicroGuard's status. Available in 30 different sizes with both 13 mm and 25 mm spacing.

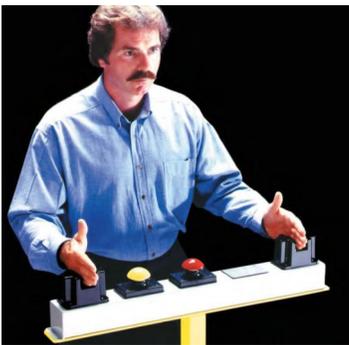


## Safety Mat Systems

Tired of the old steel safety mats? No wonder, steel electrode safety mats were designed in the mid 1950's. New Switching Device (NSD) mats have no steel electrode to bend or short. The new flexible electrode mats have a life cycle of over 5 million cycles. Made to your specifications and available in either ribbed surface, non-skid or high temperature/wet surface.



Excellent for weld splatter or wet environments!



## UltraTouch Palm Control

The UltraTouch system is designed to activate electric, pneumatic, air clutch, and hydraulic equipment such as punch presses, press brakes, molding machines, assembly equipment, tube benders, compacting presses and riveters. Virtually any machine that is currently using conventional mechanical spring loaded palm buttons can now utilize the sound ergonomic design of UltraTouch.

Simple module design permits direct exchange for existing palm buttons and even utilizes the existing screw holes on the run bar.

The UltraTouch system has been designed so the machine operator can initiate the machine cycle with their hand and wrist area in the neutral position and with no exertion of force or pressure. This minimizes hand, wrist and arm stresses.



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# EATON

## SM Series with TargetLock



Visible beam on all models lets you see exactly where the sensor is pointing

TargetLock takes the guesswork out of sensor alignment. The microprocessor controlled TargetLock system helps you quickly set up the sensor for optimum performance.

TargetLock LED on top of the sensor changes from off, to short flash, to long flash, to solid-on as you approach optimum thru-beam or reflex alignment. It acts in a similar fashion with diffuse sensors to help you position the target at the optimum range for size and reflectivity.



18 - 264V AC or 18 - 50V DC

## NanoView Photoeye



NanoView Photo Sensor

Eaton's NanoView Series is available in a variety of optical sensing modes, including polarized, diffuse, fixed focus, thru-beam with narrow-beam option and clear object detection. They are housed in ABS enclosures rated IP66 or better, and they feature two top-mounted indicators to clearly communicate power and output status. All models are 10–30 Vdc and carry approvals for global applications. Excellent for sensing clear objects like plastic or glass!

## Enhanced E50 Photoeye

### Eaton E50 Photoeye

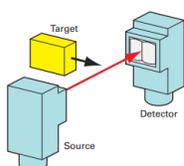
Choose from three output types, four time delay functions, six sensing modes and four connection styles to tailor the sensor to exactly meet your needs.

Sensors are available in thru beam, reflex, polarized reflex, diffuse reflective, clear object, and fiber optic sensing modes. Up to 500 foot range in thru beam, with 5 amp relay output  
Built in timer functions On Delay, Off Delay and One Shot

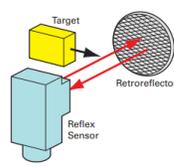


### Modes of Detection

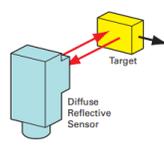
#### Thru-Beam



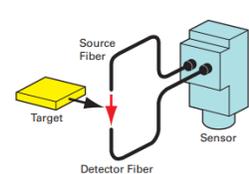
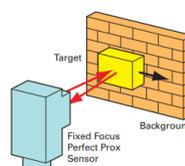
#### Reflex



#### Diffuse Reflective

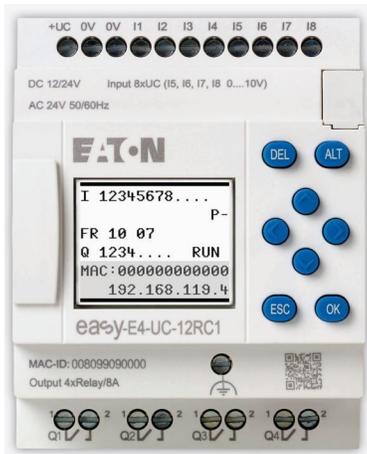


#### Perfect Prox®



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## EASY 400 Ethernet Smart Relay

Power Requirement 12...24V DC, 24V AC  
Built-in LCD Display, Keypad and Ethernet  
Integrated Web Server makes it easy to communicate to smart phones and tablets  
Up to 11 expansion modules can be connected  
Timer and counters, math, PID control and more  
4 programming languages makes it easy to set up  
Built in I/O can be analog or digital  
Starting at \$135

## AC Drives

Eaton drives are designed for industrial, HVAC, water/wastewater treatment, machinery OEM and other applications.

From simple fractional Hp drives to sensorless vector control that provide quiet motor operation and smooth low speed control.

Check out our Clean Power Drives with harmonic distortion reduction and true power factor performance to prevent transformer overheating and overloading of breakers and feeders



Starting at \$175

## Power XL Variable Speed Starter

An Electronic motor starter that can vary the speed of a motor.

Single-phase to three-phase  
230 V to 3 hp

Three-phase to three-phase  
230 V to 3 hp

Three-phase to three-phase  
480 V to 10 hp

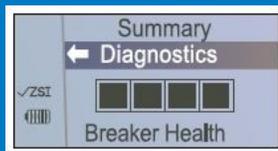
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## Eaton's Power Defense Circuit Breaker



### Breaker Health



Industry first algorithm that provides real time evaluation of the circuit breaker condition including breaker operations, short circuit fault levels, operational time, internal temperature and overloads.

Power Xpert® Release (PXR) electronic trip units are equipped with the latest microprocessor technology including advanced algorithms that notify you when your power distribution system needs to be maintained or replaced.

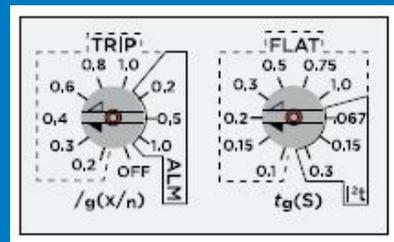
When was the last time the breaker tripped?  
How many times has this breaker tripped?

The number of interruptions and the magnitude of the energy interrupted are vital parameters to the contact wear and arc chute condition. Short circuits can be damaging to the contacts, integrity and dielectric strength of the circuit breaker. The operating temperature is recorded and saved for analysis. All of these parameters are saved in memory and available locally or through communications. Some PXR trip units have a built in LCD display to easily convey the status of the breaker.

### New Power Defense Breaker

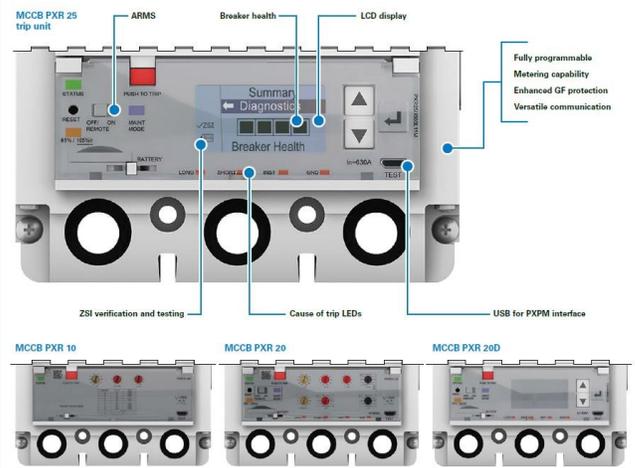
Eaton's New Power Defense  
Circuit Breaker  
A Smart Circuit Breaker

### Enhanced Ground Fault Protection



Expanded ground fault setting options trip the breaker or alarm if ground fault occurs. An OFF setting also provides flexibility in testing and troubleshooting

### Power Xpert Release (PXR) electronic trip units



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# EATON



## Eaton's Family of Limit Switches

From small precision switches to compact pre-wired watertight switches to safety switches to heavy duty plug in switches to hazardous locations, Eaton has you covered with a family of limit switches.



## Power Distribution Blocks

Eaton's CHDB Series of Power Distribution Blocks were designed for high short circuit current rating (SCCR) applications up to 200,000 amperes. They are assembled with the minimum spacing to meet UL 1953 requirements for feeder circuits in UL 508A industrial control panels, and provide significant wiring flexibility.

Available in three-pole open style and single-pole enclosed style with a variety of terminal arrangements and current-carrying capability up to 570 amperes.



IEC Contactors

## XT Line of IEC starters and Contactors

Eaton's XT line of IEC starters and contactors offers you a variety of features like built in surge suppression on coils, built in auxiliary contracts on contactors up to 32 amps, 3 pole contactors up to 2000 amps, 4 pole contactors up to 200 amps, thermal and electronic overload relays, reversing wiring kits, star delta wiring kits, and plug in accessories for the entire line.

## Freedom Series NEMA Contactors

Eaton's Freedom Series of NEMA rated starters and contactors for when you need to switch more power more often. American engineering at it's best. The Freedom Series can be ordered with either bi-metallic or electronic overloads up to 900 HP. A full line of strap on accessories are available.

Easy coil change and replaceable contacts.

Available in open and NEMA type 1,3R,4/4X, and 12 enclosures.

Standard NEMA sizes from 00 - 8.

Available in 2,3,4 and 5 pole configurations.

3 Phase reversing and non-reversing full voltage

Available with either AC or DC coils



NEMA Rated Contactors

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# EATON

## Uninterruptible Backup Power Systems

No matter what your power needs are, we have a UPS back up power system to fit.



### 1. Desktop and tower UPS

- a. The Eaton 3S UPS also fits easily on top of or under a desk.
- b. The Eaton 5P tower UPS fits under a desk or in a network closet.

### 2. Wall-mount UPS

The Eaton 5P rackmount UPS includes hardware to mount it to a wall.

### 3. Rackmount UPS

The Eaton 9PX UPS ranges from 700 VA to 11 kVA.

### 4. Two-in-one rackmount/tower UPS

The Eaton 5PX UPS can be mounted in a rack or installed as a tower model.

### 5. Scalable UPS

- a. The Eaton BladeUPS is a scalable, redundant rackmount UPS.
- b. The Eaton 9PXM is also a scalable, redundant UPS.
- c. The Eaton 93PM is a vertical or horizontal scalable white or grey space solution.

### 6. Large tower UPS

The Eaton Power Xpert 9395 UPS is designed to be a central backup for multiple loads, including data centers.

Ask for our free UPS handbook. Or call our technical sales department for more details.



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# Power Meters and Software

You can't manage what you can't measure!

## IQ 100/250 Power Meters

Measure and display real time information about critical power  
Eaton's IQ 100/250 meters provide direct-reading metered values for the most critical power aspects, such as watts, watt demand, wathours, voltageamperes (VA), VA-hours, vars, varhours and power factor.

The Reading Type indicator shows what type of information you're viewing, such as minimum/maximum.

These lights show how loaded the circuit is, from 10 to 100 percent, relative to the programmed maximum.

The scaling factor shows the scale of the displayed value, which varies between low- and high-voltage applications.

The Parameter Designator shows the parameter being displayed, such as volts, amps, frequency, power or energy.

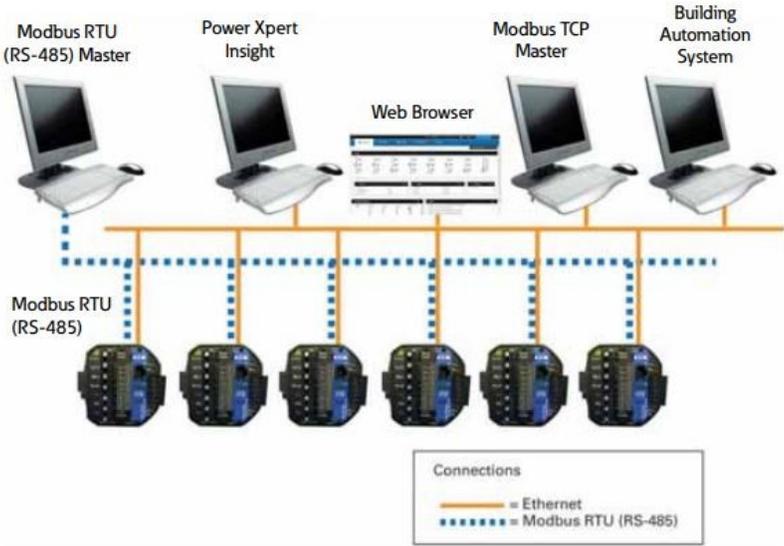
The watthour test pulse is used to verify the accuracy of the meter.

Configurable Auto Scroll can display all key values in turn or show a fixed display.

**Optional WIFI Surface mount**

Network these meters with Power Xpert Insight Software  
Or use the built in web server

Power Xpert Meter  
You can't manage what you can't measure



Series  
4000/6000/8000

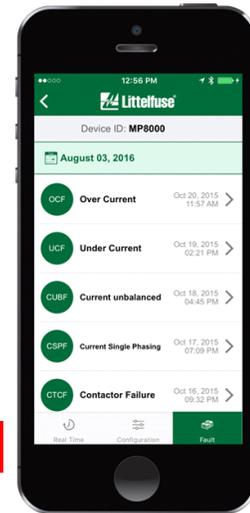
Features  
Built in web page  
Built in Ethernet  
Email on alarm  
6MHz sampling  
Memory up to 8GB

Historical Trend  
Embedded web server  
supports graphical trend charts such as voltage, current, power, and energy

# Littelfuse Bluetooth Motor Overload



**One of our best sellers!**



The MP8000 are advanced motor protection electronic overload relays, fully programmable via Bluetooth® using an iPhone® or Android™ smartphone or tablet with the Littelfuse App. It is easy to use and arc-flash safety is increased because the app allows settings to be modified and real-time operational information viewed. Viewing operational information and faults on the app does not require the user to open the control panel. The MP8000 protects any motor drawing 0.5-1,000 full load Amps (external CTs are required above 100 Amps). It is designed for single or 3-phase systems with operating voltages of 90-690 VAC (use of external potential transformers can extend upper voltage range above 690 VAC). Common applications include conveyor systems, HVAC equipment, saws and grinders, fan motors, and almost any pumping application.

Protection is unsurpassed by combining overload, voltage, phase loss and reversal, voltage and current unbalance, power monitoring, and underload in one package. For standalone applications, the Bluetooth® interface can be used when paired with a smartphone or tablet. The units also feature an Ethernet communications port that can be used to form an Ethernet Modbus TCP/IP or Ethernet/IP network. Units can be remotely monitored and controlled from a PC, or SCADA system, and data logging through a PC with the optional MP8000 software or other software program using the MP8000 memory map. This capability allows for a simple cost-effective way to further enhance arc-flash safety.

## ATC Power Alert



ATC UPA-130

The ATC Power Alert tells you when power is on in your control panel. You don't need to open the door to see if power is on .

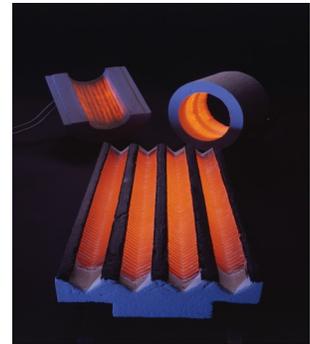
8 detectors visually alert you to the presence of dangerous AC or DC (stored energy) potentials occurring between any combinations of the 4 monitored lines, L1, L2, L3, and ground. Two LED's indicators are assigned to each input line and are designated as + and -

Works on single or 3 phase power. Fits a 1.25 knockout.

**Reduce the risk of electrical arc flash**

### Your Source for Industrial Electrical Controls Since 1970

AC Drives	Danfoss, Eaton
Chart Recorders	FDC, Partlow
Circuit Protection	Altech, Cutler Hammer, Eaton, LS
Connectors and Cables	Arrow Hart, Eaton, ILME, Mencom
Contactors	Altech, Eaton, LS
Cooling Fans	Genesis, Pfannenberg
Counters	ATC, KEP
Current Sensors	ACI, Eaton, NK Technology, SSAC
Distribution Blocks	Altech, Erico, Eaton
Disconnected Switches	Altech, Eaton
Encoders	Encoder Products
Electrical Enclosures	Altech, Allied Moulded, Saginaw
Heaters	Chromalox, Durex, Briskheat, Bucan, Watlow
Heat Trace	Briskheat, Chromalox
IR Sensors	Exergen, Raytek
Level Controls	Flowline, SSAC
Limit Switches	Eaton
Motor Starters	Cutler Hammer, Eaton, LS
Operator Interface	Eaton, KEP, Panel Mate
Phase Monitors	Diversified Electronics, SSAC, Macromatic, Littelfuse
Photoelectric Sensors	Eaton
PLC's	Eaton
Power Supplies	Altech, Eaton, Genesis
Proximity Switches	Eaton, ISSC
Pressure Sensors	Dwyer
Relays and Sockets	Altech, Eaton
Safety	Eaton, Pinnacle
SCR Controls	Control Concepts, Chromalox, Spang, Watlow
Temperature Controls	Chromalox, FDC, Partlow, Watlow
Terminal Blocks	Altech, Eaton
Thermocouples & RTD's	Pyromation, Watlow
Timers	ATC, Macromatic, SSAC
Tower Lights and Buzzers	Altech, Eaton, Signaworks
Transducers	Bellofram, Dwyer
Ultrasonic Sensors	Migatron
Uninterruptible Power	Eaton



Thank you for over 50 years of business!

