

Electronics products and applications

# Electronics Solutions

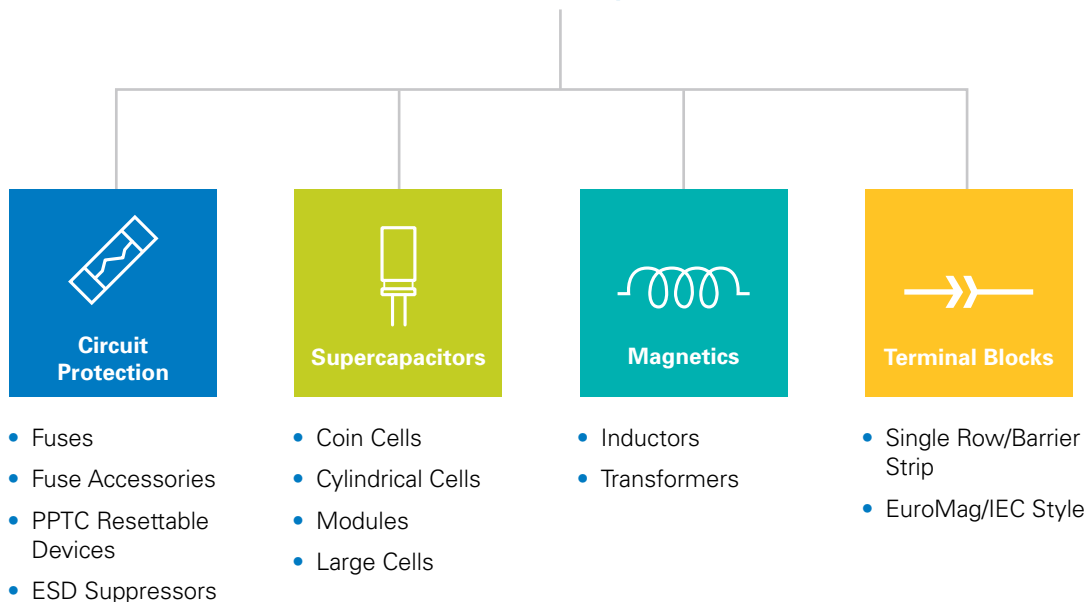
Circuit Protection, Magnetics, Supercapacitors and Terminal Blocks

**EATON**

*Powering Business Worldwide*

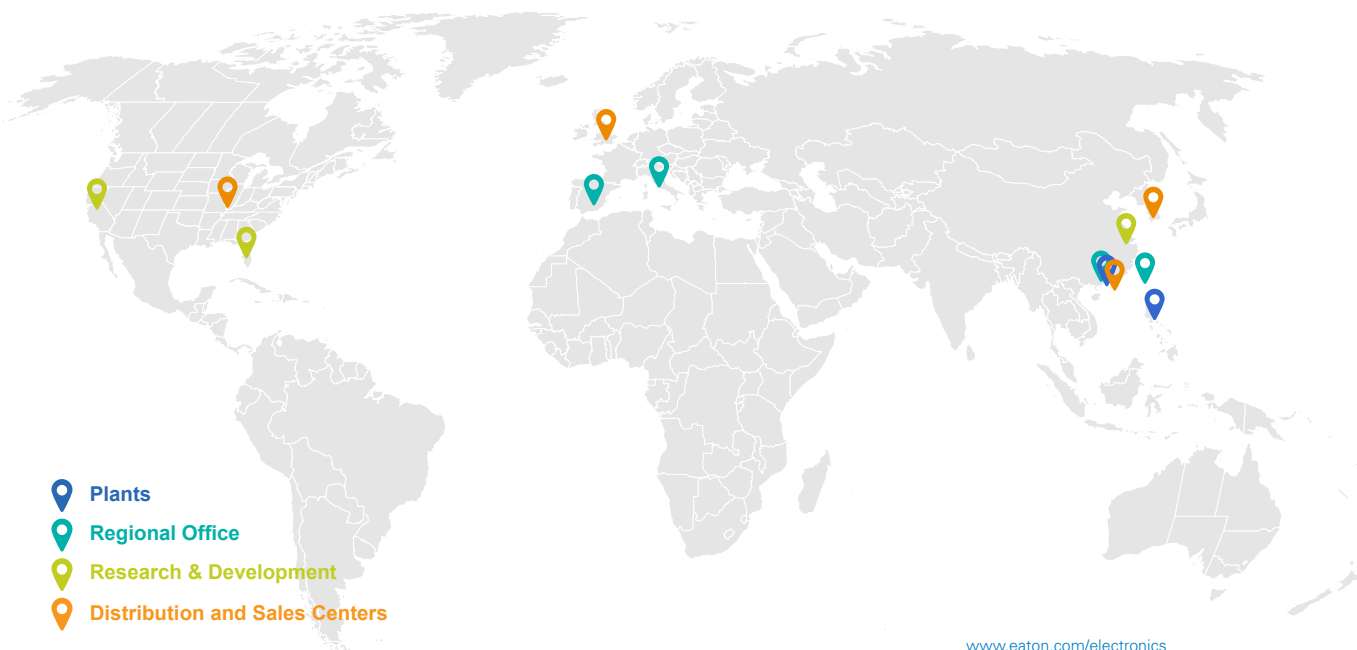
Eaton offers a range of electronics components that include power magnetics, circuit protection, supercapacitors and terminal blocks products. These products serve customers in computing, consumer, energy, industrial, medical and transportation markets.

## Eaton's Electronics Components



## Worldwide Presence

Every day Eaton develops and delivers innovative new technologies and solutions that touch people at home, work and play. Technology makes it possible for all of us to accomplish things we once thought impossible. By engaging thought leaders in science, technology, innovation and engineering, we passionately pursue ideas and products that are changing how we live. For Eaton, innovation is more than just a process, it is the creative realization of the impact we can have on the lives of people around the world.



COMPUTING  
CONSUMER  
ENERGY  
INDUSTRIAL  
MEDICAL  
TRANSPORTATION

	CIRCUIT PROTECTION							TERMINAL BLOCKS		MAGNETICS							SUPERCAPACITORS							
	Ferrule Fuse (1/4 inch)	Ferrule Fuse (3 mm)	Ferrule Fuse (5 mm)	Radial Leaded Fuse	SMD Fuses	Fuse Accessories	ESD Suppressors	Resettable PTCs	EuroMag Blocks & Plugs	Single Row Terminal Blocks	Automotive	Multi Phase & V-Core	High Current	Shielded Drum	Legacy Surface Mount Inductors	Common Mode Inductors	Transformers	Application Specific Solutions	Thru-Hole Inductors	Coin Cells	Small Cylindrical Cells	Large Cells	Modules	
Servers	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●			●	●
Storage					●		●						●	●	●			●			●	●		●
Wired Communication	●	●		●	●	●	●		●	●				●	●									
Wireless Communication	●													●	●			●						●
Personal Computing/ Peripherals	●	●	●	●	●		●	●			●	●	●	●	●	●	●	●	●	●				
Personal Communications		●		●	●		●	●						●				●						
Wearable Electronics					●		●	●						●				●						
Set-Top Boxes	●	●	●	●	●	●	●	●					●	●	●	●	●	●	●	●				
TV/Monitor/Display	●	●	●	●	●	●	●	●				●	●	●	●	●	●	●	●					
Toys	●	●	●		●	●	●	●						●	●			●						
Appliances	●	●	●	●	●	●	●		●				●	●	●	●	●	●	●	●				
Generation	●	●				●			●	●			●					●					●	●
Distribution	●	●				●			●	●			●		●		●	●					●	●
Metering	●	●				●			●				●	●				●	●		●	●		
Manufacturing Automation	●	●	●	●	●	●	●		●	●			●	●	●	●		●			●	●	●	●
Test & Measurement	●	●	●	●	●	●	●		●	●			●	●	●	●	●	●	●		●	●		
Building & Home Control	●		●	●	●	●	●	●	●	●			●				●	●			●	●		
Lighting & Security	●		●	●	●	●	●		●	●			●	●	●	●	●	●	●		●	●	●	
Mission Critical Power	●	●	●	●	●	●				●				●				●					●	●
Personal	●	●	●	●	●	●	●	●					●	●			●	●			●			
Consumable							●						●											
Equipment	●		●	●	●	●	●		●	●			●					●			●	●	●	●
Hospital Systems	●		●	●		●	●											●					●	●
Under-the-Hood					●					●	●	●						●					●	
Safety Systems					●						●	●									●	●		
Lighting					●						●	●	●	●	●	●	●	●						
Infotainment					●		●				●	●	●					●						
Interior					●		●				●	●	●	●				●						
Drive/Traction											●	●					●	●					●	●

Eaton features a broad variety of Bussmann™ Series circuit protection products including one-time fuses, accompanying fuse accessories, PPTC resettable devices, and ESD suppressors. With over 100 years of circuit protection expertise, Eaton is committed to designing and manufacturing the most innovative portfolio of circuit protection products for numerous applications including industrial, automotive, energy management, computing, medical and consumer products.

## Ferrule Fuses

- Vast product offering in both UL and IEC designs
- Available with axial leads
- Multiple fast acting and time delay performance characteristics

### ¼ Inch



### 5 mm Ferrule Fuse



### 3 mm Ferrule Fuse



## Ferrule Fuse Accessories (available for ¼ inch and 5 mm)

- PCB Fuseclips
- In-line fuseholders
- Panel-mount fuseholders
- Fuseblocks for both ¼ inch & 5 mm



## SMD Fuses



- Multiple footprints: from 1.6 mm x 0.81 mm to 12.4 mm x 4.5 mm sizes
- Options available up to 250 Vac/125 Vdc and 50 A
- Can provide excellent cycling performance
- Both time delay and fast acting performance

## ESD Suppressors



- Multiple technologies for multiple applications
- Product footprints down to 0201 (Imperial)
- Ultra-low capacitance
- Protects wide range of data speeds

## Radial Fuses



- Square and circular fuse bodies, same land pattern
- Protects in primary and secondary circuits
- Various performance features in same footprint
- Global agency certifications

## Resettable PTCs



- Surface mount and radial product types
- Multiple footprints for both product types
- Multiple voltage ratings for numerous applications
- Device “resets” after fault is cleared to allow current flow

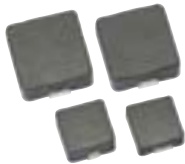
Eaton offers a wide range of power magnetics components for a broad array of applications. Its automotive solutions allow for a wide operating temperature range and is built for rugged environments. Aside from automotive, Eaton's inductor and transformer families are offered in a wide variety of sizes, have high current capabilities and high power densities.

## Toroid



- Wide variety of sizes
- Closed magnetic path, very good EMI shielding
- High inductance/current rating
- Dual winding options can be used in multiple configurations
- Multiple core materials available

## High Current



- High power density
- High operating temperature
- Ferrite, powder, and composite core options
- Pressed and two-piece construction options
- Magnetically shielded options
- Good EMI shielding

## Multi-phase & Vcore



- High current
- Controlled DCR
- Low DCR, low losses
- High efficiency
- Dual conductor, two-turn option available
- Magnetically shielded, Good EMI shielding

## Power over Ethernet (PoE)



- Flyback and forward topologies
- Versatile design allows multiple output variations
- 1500 V isolation
- Input range from 29.5 V- 60 V
- 4 power levels available (4, 7, 13 and 26 Watt)
- Low leakage inductance

## Configurable



- 500 V isolation
- Six winding device offering over 500 inductor and transformer configurations
- Five size options available
- 1 W to 70 W power options

## Application Specific



- Designed to specific requirements
- Standard and custom platforms
- Modified standard product options
- IC reference design platforms
- Commercial and automotive grade inductor and transformer options

## Unshielded Drum



- High current capability vs. size
- Desirable for high ripple current applications
- Wide range of inductance options available

## Shielded Drum



- Compact size
- Wide variety of shapes, sizes, inductance values and current options
- Magnetically shielded, Good EMI shielding
- Dual winding options can be used in multiple configurations
- Ferrite core (high efficiency)

## Common-mode



- 300 V isolation
- 3 sizes
- High temperature operation

## Automotive



- AEC-Q200 qualified
- Wide operating temperature
- Variety of shapes and sizes
- Good EMI shielding

Eaton supercapacitors are unique, ultra-high capacitance devices utilizing electrochemical double layer capacitor (EDLC) construction combined with new, high performance materials. This combination of advanced technologies allows Eaton to offer a wide variety of capacitor solutions tailored to specific applications that range from a few microamps for several days to hundreds of amps for seconds.

## Coin Cells



- 0.1 F to 1.5 F with operation up to 5.5 V
- Industrial temperature range up to 85 °C
- Ideal for RealTime Clock backup and battery swap ride-through
- Available in horizontal, vertical and cylindrical mounting configurations
- REACH, RoHS, SVHC compliant

## Small Cylindrical



- 0.22 F to 110 F and operating voltages up to 3.0 V designed for mounting on PCBs
- Industrial temperature range -20 °C to +85 °C with voltage derating
- Product families are optimized for low DC resistance (HV, TV) and high temperature life time (HB)
- Operating life up to 20 years (depending upon voltage and temperature)
- REACH, RoHS, SVHC compliant, UL registered

## Large Cells



- 300 F to 3000 F and operating voltages up to 2.7 V
- Industrial temperature range -40 °C to +85 °C with voltage derating
- Low DC ESR for highest efficiency and power
- High capacity, low ESR cells for integration into modules for a wide variety of applications
- REACH, RoHS, SVHC compliant, UL registered.

## Modules



- Multi-cell modules for easy integration into large high voltage and high energy systems.
- Meet application requirements for rack mounting or harsh environments.
- 16 V to 64 V operating voltages with integrated cell balancing, temperature monitoring, and monitoring.
- REACH, RoHS, SVHC compliant, UL registered.

## Single Row/Barrier Strips

Eaton features a family of North American style, single row terminal blocks that support a broad range of electronic and electrical OEM applications. These highly configurable terminal blocks allow users to create the right product for their application using a wide variety of terminal types, mounting options, base types, fastener options, quick connects, jumpers, markings, covers, and more.

### Features:

- Power ratings up to 50 A to 600 V
- Multiple wire and board terminations in the same footprint
- High configurability fits a majority of applications
- Can build to specific, per pole customer requirements

**A0 & CB0**



**A1 & CB11**



**A2, LP2 & CB2**



**A3, LP3 & CB3**



**A38 & B38**



**A/B4**



## EuroMag/IEC Style

Euromag PCB terminal blocks come in a variety of terminal options to make connections easy with different wire-entry orientations to solve wire routing issues. With straight-to-board, plug and header, screwless, 2-tiered and 3-tiered configurations, the vast majority of wire-to-board applications can be easily met with the Eaton's EuroMag terminal block product portfolio.

### Features:

- Modular and mold-to-length designs
- Pitch range from 2.54 mm to 15.00 mm
- Wire ratings from 2-24 AWG
- Accommodates applications up to 600 V

**Headers & Plugs**



**High Current**



**Screwless**



**Cage & Screw**



**Spring & Screw**



**Tiered**



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[www.eaton.com/electronics](http://www.eaton.com/electronics)

## Tools

### Eaton's Electronics Product Selection Tools



#### PARAMETRIC SEARCH

Drill down into the Eaton Electronics product database to find the right part for your application.



#### IC MATCHING

Find the Eaton Electronics parts called out on IC manufacturers' demo and evaluation boards.



#### CROSS REFERENCE

Find a cross to a competitor's product or to an alternate Eaton Electronics part number.



#### SUPERCAPACITOR CALCULATOR

Determine your calculated requirements and design capability.



#### TERMINAL BLOCK SELECTOR

Find the right terminal block for any application.

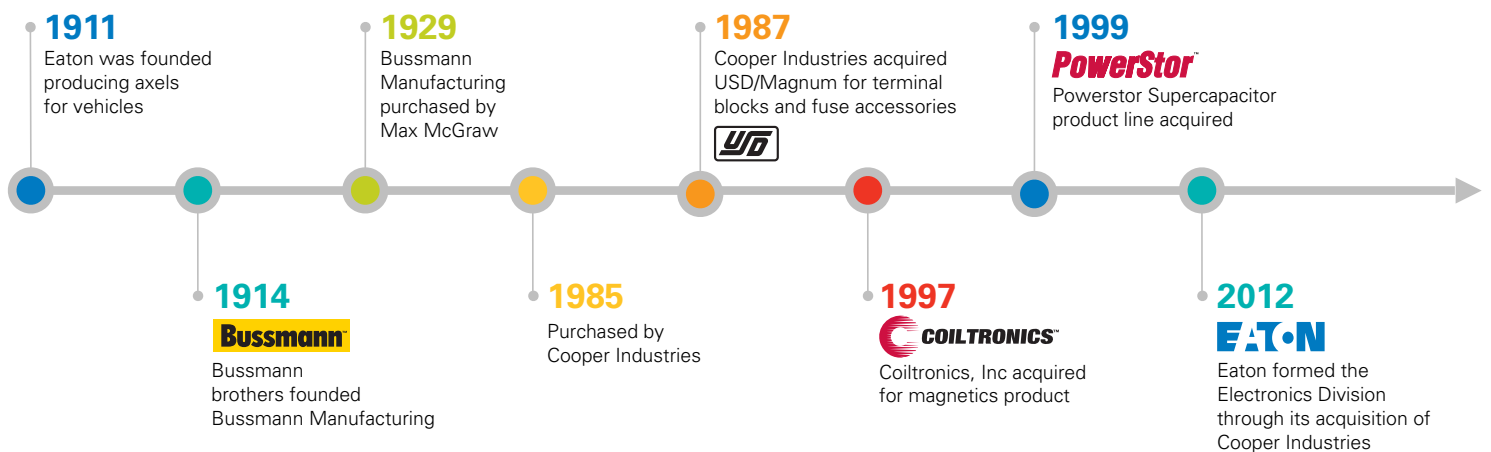


#### AUTOMOTIVE ELECTRONICS SOLUTIONS

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## 100+ Years of History



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