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## ECS Series Current Switch CurrentWatch Current Sensors

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The CurrentWatch ECS Series from Eaton's electrical business is a family of solid-state adjustable current switches, ideal for providing status information on electrical equipment. The ECS is excellent for new installations, where the conductors run through the housing, requiring no cutting. These switches are also ideal for retrofits, since split-core models can be opened to fit around existing conductors. The current switch is accurate, reliable and easy to install.

The ECS can sense continuous currents from 1 to 150A and does not require any supply voltage, as the power required is induced from the monitored conductor. The output is a non-polarity-sensitive solid-state contact for switching AC and DC circuits up to 240V AC/DC. This switch also includes an LED indicating two states: on and below trip point, and above trip point with contacts energized. All ECS Series switches carry an unconditional five-year warranty.

Any change in current can be sensed with the ECS Series. A change in current may indicate motor failure, belt loss/slippage or mechanical failure. Any of these events can cause the current to drop significantly, tripping the switch and notifying the controller.

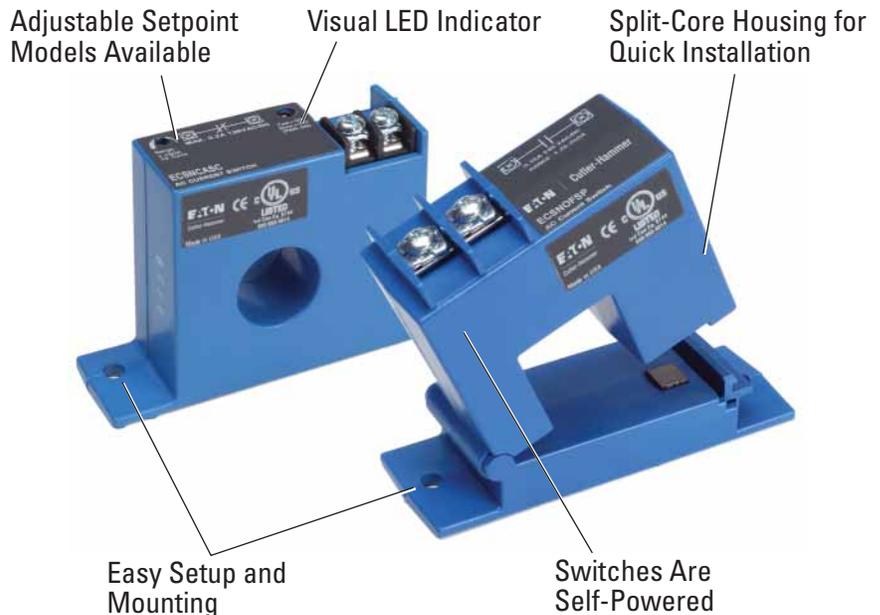
### Approvals

- UL and C-UL Listed



Unless otherwise noted, the products contained in this document are not designed or intended for use in human safety applications.

## AC Current Switches for Detecting Overcurrent Condition



### Product Features

- **Universal Outputs** — N.O. or N.C. solid-state switch for control circuits up to 240V AC/DC, compatible with most automation systems
- **Self-Powered** — Cuts installation and operating costs
- **Easily Adjustable Setpoint** — Increases application flexibility and speeds start-up
- **Solid- or Split-Core Housings** — Versions tailored for each type of installation
- **LED Indication** — Provides quick visual indication of contact status
- **Built-In Mounting Feet** — Simple, two-screw panel mount or attach with optional DIN-rail mounting kit accessory

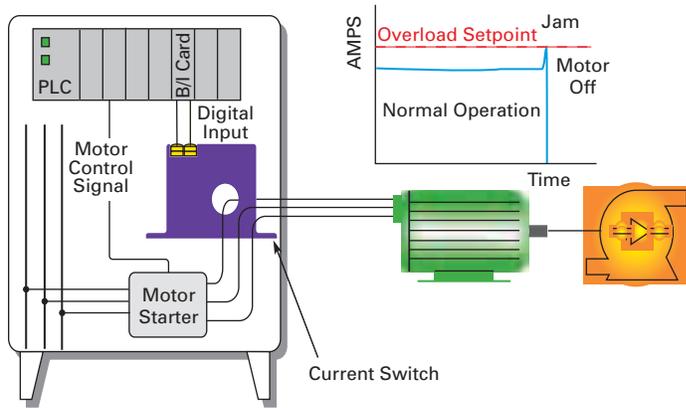
### Typical Applications

- **Electronic Proof of Flow** — Current operated switches eliminate the need for multiple pipe or duct penetrations and are more reliable than electro-mechanical pressure or flow switches
- **Conveyors** — Detect jams and overloads
- **Lighting Circuits** — Easier to install and more accurate than photocells
- **Fans, Pumps and Heating Elements** — Faster response than temperature sensors
- **Critical Motors**
- **Ancillary Equipment**

For Customer Service in the U.S. call 1-877-ETN CARE (386-2273),  
in Canada call 1-800-268-3578.  
For Application Assistance in the U.S. and Canada  
call 1-800-426-9184.

**Example Application — CurrentWatch ECS Series**

**Pump Jam & Suction Loss Protection**



**Model Selection — CurrentWatch ECS Series**

	Power Supply	Aperture Size	Output Signal	Setpoint and LED Configuration	Catalog Number
<b>Top Terminal Current Switch</b>					
Solid-Core Housings 	Self Powered (No External Power Needed)	0.74 in. (19 mm)	Normally Open	Adjustable 1 – 150A Setpoint with LED	<b>ECSNOASC</b>
				Fixed 1.0A Setpoint No LED	<b>ECSNOFSC</b>
			Normally Closed	Adjustable 1 – 150A Setpoint with LED	<b>ECSNCASC</b>
				Fixed 1.0A Setpoint No LED	<b>ECSNCFSC</b>
Split-Core Housings 	Self Powered (No External Power Needed)	0.85 in. (21.6 mm)	Normally Open	Adjustable 1.75 – 150A Setpoint with LED	<b>ECSNOASP</b>
				Fixed 1.5A Setpoint No LED	<b>ECSNOFSP</b>
			Normally Closed	Adjustable 1.75 – 150A Setpoint with LED	<b>ECSNCASP</b>
				Fixed 1.5A Setpoint No LED	<b>ECSNCFSP</b>

■ Stocked product, typical order quantities guaranteed in stock.

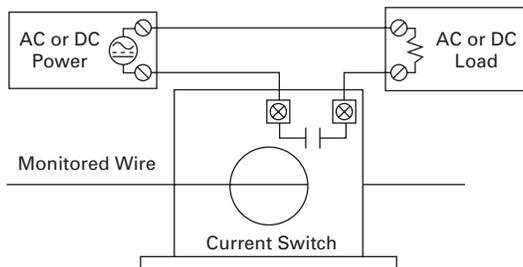
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**Accessories — CurrentWatch ECS Series**

	Description	Catalog Number
	DIN Rail Mounting Kit (Sensor pictured for reference and not included in kit)	<b>EDINKIT</b>

Stocked product, typical order quantities guaranteed in stock.

**Wiring Diagram — CurrentWatch ECS Series**



NOTE: The above diagram is for Normally Open (N.O.) models.

**Specifications — CurrentWatch ECS Series**

Description	Specification
Power Supply	Self-Powered — No Power Supply Needed
Output	Magnetically Isolated Solid-State Switch
Output Rating	N.O. Version: 0.15A @ 240V AC/DC N.C. Version: 0.2A @ 135V AC/DC
Off-State Leakage	< 10 $\mu$ A
Response Time	120 mS
Setpoint Range	Solid-Core Housings: 1 – 150A Split-Core Housings: 1.75 – 150A
Hysteresis	5% of Setpoint
Overload	Fixed Setpoint, N.O. Models: 6 sec. @ 500A; 1 sec. @ 1,000A All Other Models: 6 sec. @ 400A; 1 sec. @ 1,000A
Isolation Voltage	UL Listed to 1,270V AC, tested to 5,000V AC
Frequency Range	6 – 100 Hz
Sensing Aperture	Solid-Core Housings: 0.74 in. (19 mm) Split-Core Housings: 0.85 in. (21.6 mm)
Housing	UL94 V0 Flammability Rated
Environmental	Operating Temperature: -58 to 122°F (-50 to 50°C) Humidity: 0 – 95% RH, Non-condensing
Approvals	UL and C-UL Listed, CE Certified

**Approximate Dimensions — CurrentWatch ECS Series**

Description	Approximate Dimensions in Inches (mm)
Solid-Core Housing	<p>Technical drawing of the Solid-Core Housing showing front and side views. Dimensions include: length 3.03 (77.0), height 0.93 (23.6), hole diameter 0.19 Dia. (4.8), mounting hole distance 2.40 (61.0), total height 2.18 (55.4), hole diameter 0.74 Dia. (19), and base width 3.50 (88.9).</p>
Split-Core Housing	<p>Technical drawing of the Split-Core Housing showing front and side views. Dimensions include: length 3.04 (77.2), height 1.19 (30.2), hole diameter 0.19 Dia. (4.8), length 3.53 (89.7), mounting hole distance 2.40 (61), total height 2.25 (57.2), hole offset 0.85 (21.6), and hole offset 0.85 (21.6).</p>