

ECS Series CurrentWatch Current Switches



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Product Description

The CurrentWatch™ ECS Series from Eaton’s electrical sector 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 240 Vac/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.

For the most current information on this product, visit our Web site: www.eaton.com

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.

Application Description

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**

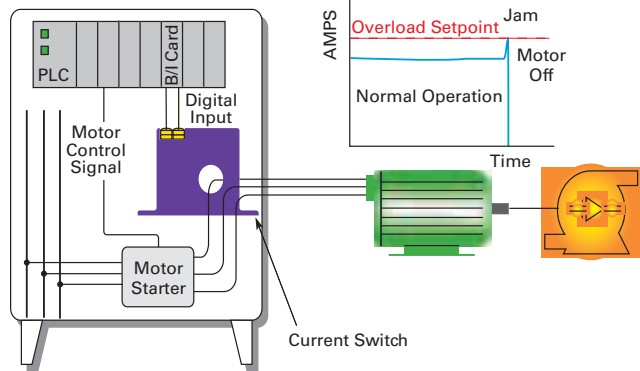
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Example Application— Pump Jam and Suction Loss Protection



Features

- **Universal Outputs**—NO or NC solid-state switch for control circuits up to 240 Vac/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

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.

Standards and Certifications

- UL Listed
- cUL Listed
- CE Certified





⚠ DANGER

THIS SENSOR IS NOT A SAFETY DEVICE AND IS NOT INTENDED TO BE USED AS A SAFETY DEVICE. This sensor is designed only to detect and read certain data in an electronic manner and perform no use apart from that, specifically no safety-related use. This sensor product does not include self-checking redundant circuitry, and the failure of this sensor product could cause either an energized or de-energized output condition, which could result in death, serious bodily injury, or property damage.

Product Selection

ECS Series CurrentWatch Current Switches

Top Terminal Current Switches

	Power Supply	Aperture Size	Output Signal	Setpoint and LED Configuration	Catalog Number
Solid-Core Housing 	Solid-Core Housing				
	Self powered (no external power needed)	0.74 in (19 mm)	Normally open	Adjustable 1–150A setpoint with LED	ECSNOASC
				Fixed 1.0A setpoint no LED	ECSNOFSC
	Self powered (no external power needed)	0.74 in (19 mm)	Normally closed	Fixed 5.5A setpoint no LED	ECSNOFSCY1
				Adjustable 1–150A setpoint with LED	ECSNCASC
				Fixed 1.0A setpoint no LED	ECSNCFSC
Fixed 1.0A setpoint no LED				ECSNCFSC	
Split-Core Housing 	Split-Core Housing				
	Self powered (no external power needed)	0.85 in (21.6 mm)	Normally open	Adjustable 1.75–150A setpoint with LED	ECSNOASP
				Fixed 1.5A setpoint no LED	ECSNOFSP
	Self powered (no external power needed)	0.85 in (21.6 mm)	Normally closed	Adjustable 1.75–150A setpoint with LED	ECSNCASP
				Fixed 1.5A setpoint no LED	ECSNCFSP
				Fixed 1.5A setpoint no LED	ECSNCFSP
Fixed 1.5A setpoint no LED				ECSNCFSP	

Accessories

DIN Rail Mounting Kit



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Description	Catalog Number
DIN rail mounting kit ①	EDINKIT

Note

① Sensor pictured for reference and not included in kit.

Technical Data and Specifications

ECS Series CurrentWatch Current Switches

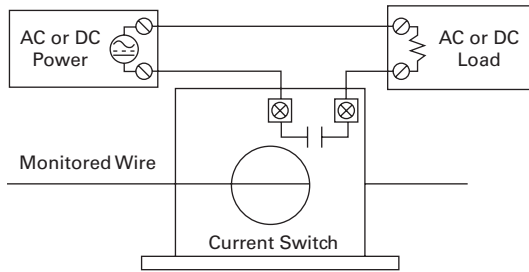
Description	Specification
Power supply	Self-powered—no power supply needed
Output	Magnetically isolated solid-state switch
Output rating	NO version: 0.15A at 240 Vac/dc NC version: 0.2A at 135 Vac/dc Models ending Y1: 5.0A, 125 Vac, 30 Vdc
Off-state leakage	<10 μ A
Response time	120 ms
Setpoint range	Solid-core housings: 1–150A Split-core housings: 1.75–150A
Hysteresis	5% of setpoint

Description	Specification
Overload	Fixed setpoint, NO models: 6 sec. at 500A; 1 sec. at 1000A All other models: 6 sec. at 400A; 1 sec. at 1000A Maximum continuous Amps: 250A
Isolation voltage	UL listed to 1270 Vac, tested to 5000 Vac
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

Wiring Diagram

ECS Series CurrentWatch Current Switches

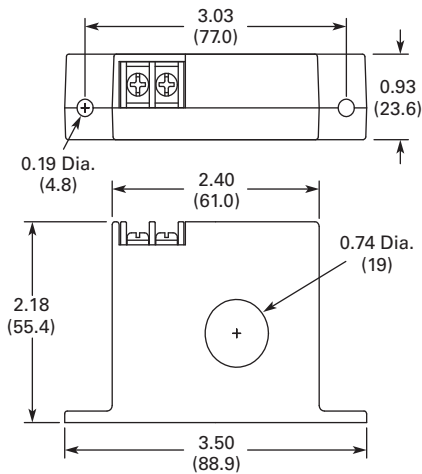
Normally open (NO) models shown



Dimensions

Approximate Dimensions in Inches (mm)

Solid-Core Housing



Split Core Housing

