Current and Voltage Sensors

### CurrentWatch ECS Series

ECS Series CurrentWatch Current Switches



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## ECS Series CurrentWatch Current Switches

### **Product Description**

The CurrentWatch™ ECS Series from Eaton's electrical sector is a family of solidstate 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 solidstate 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.

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 electromechanical 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

### 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 flexibly 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.

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

### **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 safetyrelated 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				Catalog Number ECSNOASC ECSNOFSC ECSNOFSCY1 ECSNCASC ECSNCFSC ECSNOASP ECSNOFSP		
	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		
				Fixed 5.5A setpoint no LED	ECSNOFSCY1		
			Normally closed	Adjustable 1–150A setpoint with LED	ECSNCASC		
				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		
A PARA	(no okenna ponor nooded)			Fixed 1.5A setpoint no LED	ECSNOFSP		
			Normally closed	Adjustable 1.75–150A setpoint with LED	ECSNCASP		
				Fixed 1.5A setpoint no LED	ECSNCFSP		

### Accessories

DIN Rail Mounting Kit	ECS Series CurrentWatch Current Switches
	Description
	DIN rail mounting kit $^{\textcircled{1}}$
All and	

Note ① Sensor pictured for reference and not included in kit.

**Catalog Number** EDINKIT

### **Technical Data and Specifications**

#### **ECS Series CurrentWatch Current Switches**

Description	Specification	Description	Specification	
Power supply	Self-powered—no power supply needed	Overload	Fixed setpoint, NO models: 6 sec. at 500A; 1 sec. at 1000A	
Output	Magnetically isolated solid-state switch		All other models: 6 sec. at 400A; 1 sec. at 1000A Maximum continuous Amps: 250A	
Output rating	NO version: 0.15A at 240 Vac/dc NC version: 0.2A at 135 Vac/dc	Isolation voltage	UL listed to 1270 Vac, tested to 5000 Vac	
	Models ending Y1: 5.0A, 125 Vac, 30 Vdc	Frequency range	6–100 Hz	
Off-state leakage	<10 µA	Sensing aperture	Solid-core housings: 0.74 in (19 mm) Split-core housings: 0.85 in (21.6 mm)	
Response time	120 ms			
Setpoint range	Solid-core housings: 1–150A	Housing	UL94 V0 flammability rated	
	Split-core housings: 1.75–150A	Environmental	Operating temperature: -58° to 122°F (-50° to 50°C)	
Hysteresis	5% of setpoint		Humidity: U–95% KH, non-condensing	

### **ECS Series CurrentWatch Current Switches**

Normally open (NO) models shown



### Dimensions

Approximate Dimensions in Inches (mm)

#### **Solid-Core Housing**



**Split Core Housing** 



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