CurrentWatch™ Current Sensors
ECS7 Series Current Switches

August 2007

ECS7 Series Current Switch CurrentWatch Current Sensors

Contents

The CurrentWatch ECS7 Series load monitoring switches from Eaton's electrical business are designed for overload, underload or operating window applications. Upon sensing an average operating current, the ECS7 Series self-learns and establishes a limit-alarm trip point based on ± 15% of the average expected current draw. The ECS7 Series is available in solid- or split-core housing styles.

For typical applications of the CurrentWatch ECS7 Series, see listing to the right.

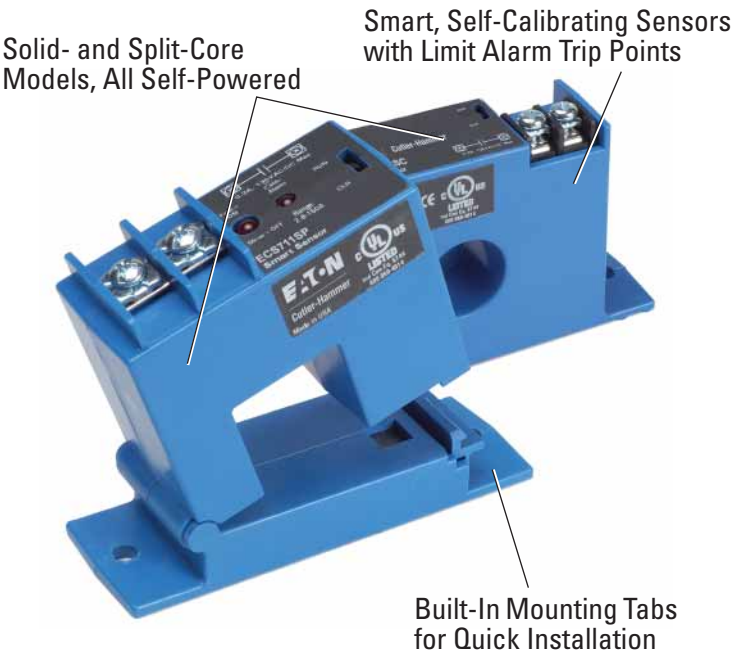
Approvals

- UL Listed
- C-UL Listed

CE

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

Self-Calibrating AC Current Switch with Solid-State Outputs



Product Features

- **Self-Powered and Self-Calibrating** — Reduces installation costs
- **Status Monitoring, Overload and Operating Window Options** — Choose the operating style that matches your application
- **Universal Output** — AC or DC compatibility with any automation system
- **UL, C-UL and CE Approved** — Accepted worldwide

Typical Applications

- **Conveyors** — Use current overload models to detect conveyor jams caused by scenarios such as side-by-sides
- **Electronic Proof of Flow** — More reliable than electro-mechanical pressure or flow switches, with no need for pipe or duct penetrations
- **Pump Protection** — Provides overload (jams) and underload (suction loss) indication

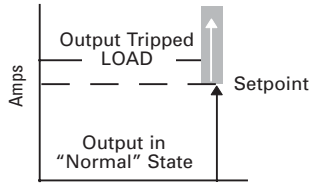
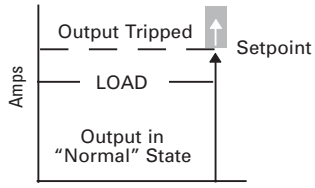
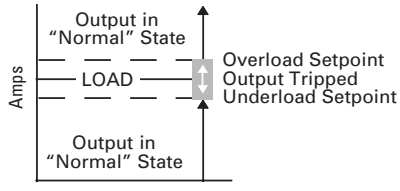
Model Selection — CurrentWatch ECS7 Series

	Power Supply	Output Type	Aperture Size	Intelligent Logic	Catalog Number
Front and Top Terminal Switches					
Solid-Core Housing 	Self-Powered (No External Power Needed)	Normally Open	0.74 in. (19 mm)	Over/Underload, 1.5 – 150A Self-Calibrating	**ECS701SC** ①
				Overload Only, 1.5 – 150A Self-Calibrating	**ECS700SC**
				Underload Only, 1.5 – 150A Self-Calibrating	**ECS702SC**
Split-Core Housing 			0.85 in. (21.6 mm)	Over/UnderLoad, 2.8 – 150A Self-Calibrating	**ECS711SP** ①
				Overload Only, 2.8 – 150A Self-Calibrating	**ECS710SP**
				Underload Only, 2.8 – 150A Self-Calibrating	**ECS712SP**

① Output is closed when current is within ± 15% window.

Stocked product, typical order quantities guaranteed in stock.

Current Switch Operation

Model	Output Diagram
Underload Only Models	
Overload Only Models	
Over/Underload Models ②	

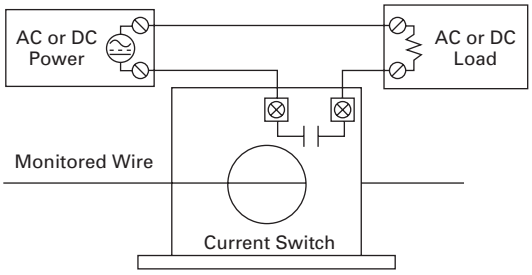
② Output is closed when current is within ±15% window.

Accessories — CurrentWatch ECS7 Series

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

Stocked product, typical order quantities guaranteed in stock.

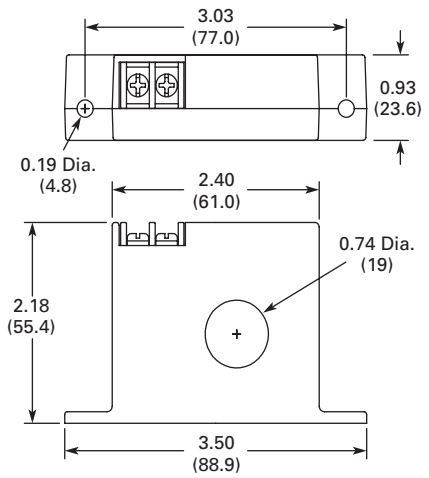
Wiring Diagram — CurrentWatch ECS7 Series



Specifications — CurrentWatch ECS7 Series

Description	Specification
Power Supply	Self-Powered — No Power Supply Needed
Output	Magnetically Isolated Solid-State Switch
Output Rating	Normally Open (N.O.) Models: 0.3A @ 135V AC/DC Not polarity sensitive
Off-State Leakage	< 10 µA
Response Time	200 mS
Setpoint Range	Solid-Core Models: 1.5 to 150A Split-Core Models: 2.8 to 150A
Setpoint	Overload Models: +15% of load Underload Models: -15% of load Operating Window: ± 15% of setpoint
Hysteresis	5% of setpoint
Overload	500A @ 6 sec., 1,000A @ 1 sec.
Isolation Voltage	UL Listed to 1,270V AC, tested to 5,000V AC
Frequency Range	6 – 100 Hz
Sensing Aperture	Solid-Core Models: 0.74 in. (19 mm) dia. Split-Core Models: 0.85 in. (21.6 mm) sq.
Housing	UL94 V0 Flammability Rated
Environmental	Operating Temperature: -58 to 122°F (-50 to 50°C) Humidity: 0 – 95% RH, Non-condensing
Approvals	UL 508 Industrial Control Equipment (USA and Canada), CE Certified

Approximate Dimensions — CurrentWatch ECS7 Series

Description	Dimensions
Solid-Core Housing	
Split-Core Housing