

EAC Series Current Sensor CurrentWatch Current Sensors

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The CurrentWatch EAC Series from Eaton's electrical business combines a current transformer and signal conditioner into a single package. The EAC Series has jumper-selected current input ranges and industry standard outputs: 4 – 20 mA, 0 – 5V DC or 0 – 10V DC. This family of sensors is designed for application on "linear" or sinu-soidal AC loads. Available in split-core or solid-core housings.

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

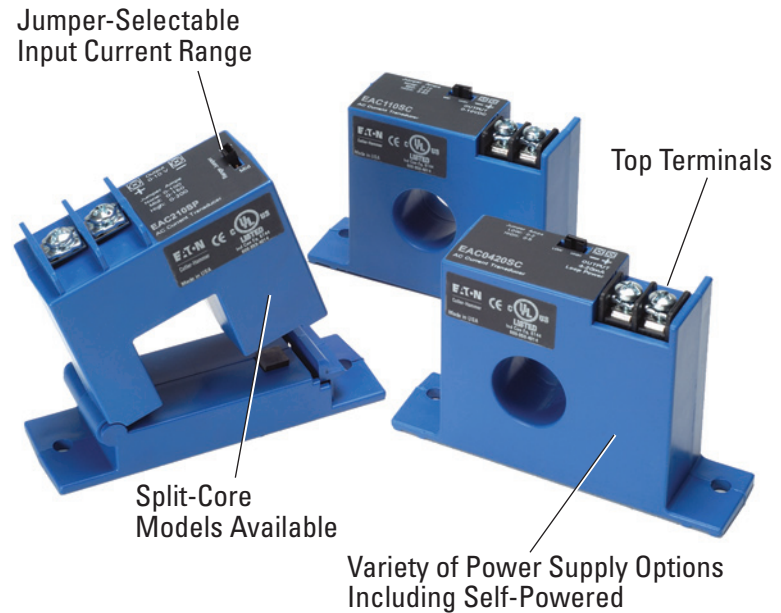
Approvals ^①

- UL Listed
- C-UL Listed



^① EACP models not listed.

AC Current Sensor with Analog Outputs and Power Supply Options

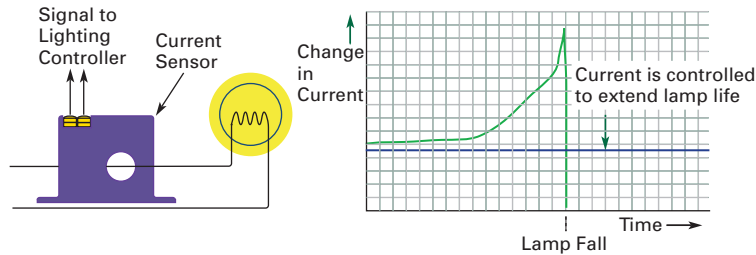


Product Features

- **Highly Accurate** — Factory matched and calibrated single-piece sensor is more accurate than traditional two-piece, field-installed solutions
- **Average Responding** — "Average Responding" algorithm gives an RMS output on pure sine waves, perfect for constant speed (linear) loads
- **Jumper Selectable Ranges** — The ability to change input ranges reduces inventory and eliminates zero and span
- **Isolation** — Output is magnetically isolated from the input for safety and elimination of insertion loss (voltage drop)
- **UL, C-UL and CE Approved** — Accepted worldwide

Typical Applications

- **Automation Equipment** — Analog current reading for remote monitoring and software alarms
- **Data Loggers** — Self-powered sensor helps conserve data logger batteries
- **Panel Meters** — Simple connection displays power consumption

Example Application — CurrentWatch EAC Series
Preventative Maintenance of a Critical Lighting System

Model Selection — CurrentWatch EAC Series

	Power Supply	Aperture Size	Output Signal	Current Range	Catalog Number	
Top Terminal Current Sensors						
Solid-Core Housings 	Self-Powered (No External Power Needed)	0.74 in. (19 mm)	0 – 5V DC	10, 20 or 50A	EAC105SC	
					100, 150 or 200A	EAC205SC
	24V DC Loop-Powered		0 – 10V DC	10, 20 or 50A	EAC110SC	
				100, 150 or 200A	EAC210SC	
			4 – 20 mA	2 or 5A	EAC0420SC	
				10, 20 or 50A	EAC1420SC	
	100, 150 or 200A	EAC2420SC				
Split-Core Housings 	Self-Powered (No External Power Needed)	0.85 in. (21.6 mm)	0 – 5V DC	10, 20 or 50A	EAC105SP	
					100, 150 or 200A	EAC205SP
	24V DC Loop-Powered		0 – 10V DC	10, 20 or 50A	EAC110SP	
				100, 150 or 200A	EAC210SP	
			4 – 20 mA	2 or 5A	EAC0420SP	
				10, 20 or 50A	EAC1420SP	
	100, 150 or 200A	EAC2420SP				
Split-Core Housings 	120V AC		4 – 20 mA	2 or 5A	EACP0420120SP ①	
				10, 20 or 50A	EACP1420120SP ①	
				100, 150 or 200A	EACP2420120SP ①	
	24V AC/DC			4 – 20 mA	2 or 5A	EACP042024USP ①
					10, 20 or 50A	EACP142024USP ①
					100, 150 or 200A	EACP242024USP ①

① Not UL listed.

■ Stocked product, typical order quantities guaranteed in stock.

Specifications — CurrentWatch EAC Series (Does Not Apply to EACP Series)

Description	Models with 0 – 5V DC Output	Models with 0 – 10V DC Output	Models with 4 – 20 mA Output
Power Supply	Self-Powered — No Power Supply Needed		12 – 40V DC Loop-Powered
Output Signal	0 – 5V DC	0 – 10V DC	4 – 20 mA
Output Limit	8.2V DC	15V DC	23 mA
Accuracy	1.0% FS		
Response Time	100 mS		300 mS
Frequency Range	50 – 60 Hz		20 – 100 Hz
Loading	1 m Ω Min. Rated Accuracy 100 k Ω Add 1.3% Error		See Power Supply Above
Isolation Voltage	UL Listed to 1,270V AC (Tested to 5kV)		
Input Ranges	Field Selectable Ranges from 0 – 200A, Additional Custom Ranges Available from Factory		
Sensing Aperture	Solid-Core: 0.74 in. (19 mm) dia. Split-Core: 0.85 in. (21.6 mm) sq.		
Housing	UL94 V0 Flammability Rated		
Environmental	Operating Temperature: -4 to 122°F (-20 to 50°C) Humidity: 0 – 95% RH, Non-condensing		
Approvals	UL 508 Industrial Control Equipment (USA and Canada), CE Certified		

Specifications — CurrentWatch EACP Series

Description	Specification
Power Supply	Models Ending -OSP: 120V AC Models Ending -USP: 24V AC/DC (40V Max.)
Output Signal	4 – 20 mA
Output Limit	22.4 mA
Accuracy	0.25% FS
Response Time	100 mS
Frequency Range	40 – 100 Hz
Loading	50 k Ω min. 500 k Ω max.
Isolation Voltage	UL Listed to 1,270V AC (Tested to 5kV)
Input Range	0 – 200A Jumper Selectable
Sensing Aperture	0.85 in. (21.6 mm)
Housing	UL94 V0 Flammability Rated
Environmental	Operating Temperature: -4 to 122°F (-20 to 50°C) Humidity: 0 – 95% RH, Non-condensing
Approvals	UL 508 Industrial Control Equipment (USA and Canada), CE Certified

Approximate Dimensions — CurrentWatch EAC Series

Description	Approximate Dimensions in Inches (mm)
Solid-Core Housing	<p>Technical drawing of the Solid-Core Housing. The top view shows a rectangular component with a length of 3.03 inches (77.0 mm) and a height of 0.93 inches (23.6 mm). A hole with a diameter of 0.19 inches (4.8 mm) is located on the left side. The side view shows a total width of 3.50 inches (88.9 mm) and a height of 2.18 inches (55.4 mm). A circular feature with a diameter of 0.74 inches (19 mm) is visible on the side. A width of 2.40 inches (61.0 mm) is also indicated.</p>
EACP Series	<p>Technical drawing of the EACP Series. The top view shows a component with a height of 1.18 inches (30 mm) and a length of 3.04 inches (77.2 mm). A hole with a diameter of 0.19 inches (4.8 mm) is on the right side. The side view shows a total length of 3.53 inches (89.7 mm) and a height of 2.25 inches (57.2 mm). A width of 2.40 inches (61 mm) is shown. Two smaller widths of 0.85 inches (21.6 mm) and 0.85 inches (21.7 mm) are also indicated. A height of 0.45 inches (11.4 mm) is shown for a specific feature.</p>
All Other Models	<p>Technical drawing of All Other Models. The top view shows a component with a height of 1.19 inches (30.2 mm) and a length of 3.04 inches (77.2 mm). A hole with a diameter of 0.19 inches (4.8 mm) is on the right side. The side view shows a total length of 3.53 inches (89.7 mm) and a height of 2.25 inches (57.2 mm). A width of 2.40 inches (61 mm) is shown. Two widths of 0.85 inches (21.6 mm) are also indicated.</p>