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**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 Current-Watch EAC Series, see listing to the right.

**Approvals** ①

- UL Listed
- C-UL Listed

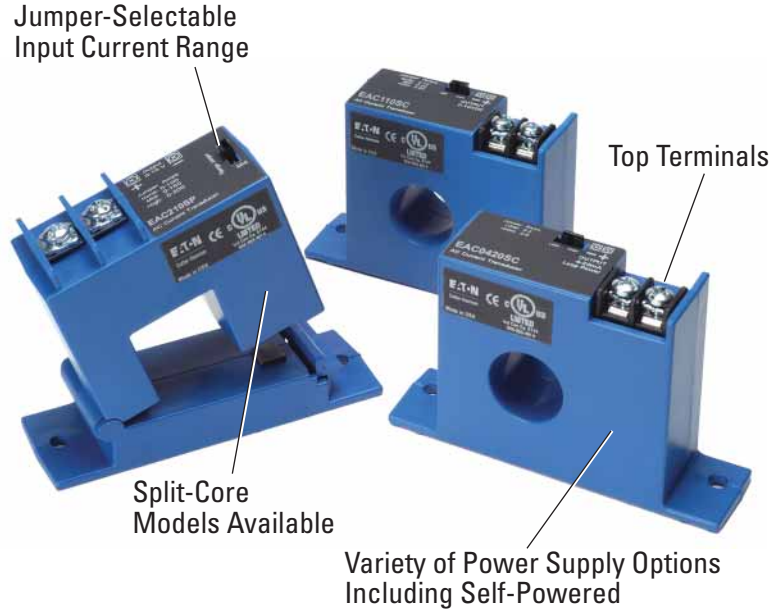


① EACP models not listed.



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

**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

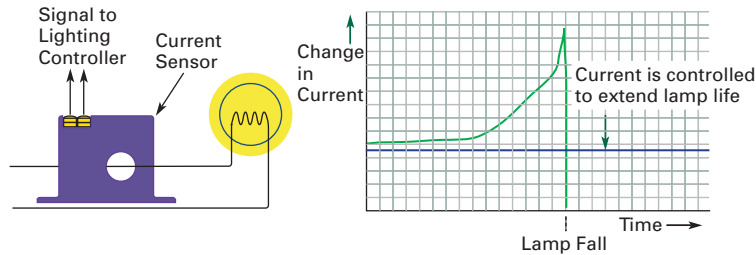
**Typical Applications**

- **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

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 EAC Series

#### Preventative Maintenance of a Critical Lighting System



### Model Selection — CurrentWatch EAC Series


	Power Supply	Aperture Size	Output Signal	Current Range	Catalog Number
<b>Top Terminal Current Sensors</b>					
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
			0 – 10V DC	10, 20 or 50A	EAC110SC
	100, 150 or 200A			EAC210SC	
	24V DC Loop-Powered		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
			0 – 10V DC	10, 20 or 50A	EAC110SP
	100, 150 or 200A			EAC210SP	
	24V DC Loop-Powered		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.

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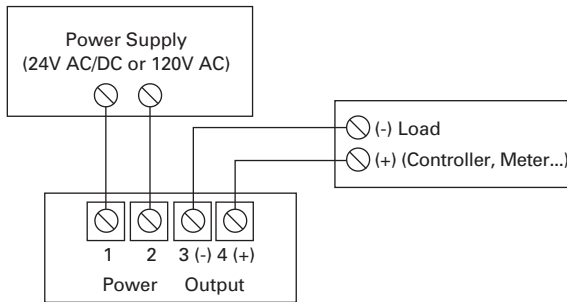
**Accessories — CurrentWatch EAC Series**

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

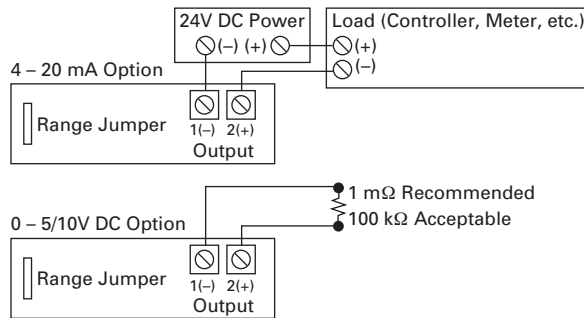
■ Stocked product, typical order quantities guaranteed in stock.

**Wiring Diagram — CurrentWatch EAC Series**

**EACP Models**



**All Other Models**



Notes: Pressure plate screw terminals.  
12 – 22 AWG solid or stranded.  
Field adjustable setpoint.

**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 $\Omega$ Min. Rated Accuracy 100 k $\Omega$ 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 $\Omega$ min. 500 k $\Omega$ 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

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Approximate Dimensions — CurrentWatch EAC Series

Description	Approximate Dimensions in Inches (mm)
Solid-Core Housing	<p>Technical drawing of the Solid-Core Housing. The front view shows 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 width of 2.40 inches (61.0 mm) and a total height of 2.18 inches (55.4 mm). A circular feature with a diameter of 0.74 inches (19 mm) is shown on the side. The base width is 3.50 inches (88.9 mm).</p>
EACP Series	<p>Technical drawing of the EACP Series. The front view shows 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 located on the right side. The side view shows a total length of 3.53 inches (89.7 mm) and a width of 2.40 inches (61 mm). The height of the side view is 0.45 inches (11.4 mm). Two internal features are shown with widths of 0.85 inches (21.6 mm) and 0.85 inches (21.7 mm). The base height is 2.25 inches (57.2 mm).</p>
All Other Models	<p>Technical drawing of All Other Models. The front view shows 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 located on the right side. The side view shows a total length of 3.53 inches (89.7 mm) and a width of 2.40 inches (61 mm). The height of the side view is 2.25 inches (57.2 mm). Two internal features are shown with widths of 0.85 inches (21.6 mm) and 0.85 inches (21.6 mm).</p>