

EVT Series VoltageWatch Voltage Sensors



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EVT Series VoltageWatch Voltage Sensors

Product Description

Eaton’s VoltageWatch™ sensor is a high-performance, true RMS sensor for sensing voltage in single- and three-phase installations. Applicable on nominal circuits of 120V, 240V and 480V, this voltage sensor provides a fully isolated analog output proportional to rated nominal voltage in both sinusoidal and non-sinusoidal (variable frequency) situations. It is housed in a slim, compact, easy-to-install DIN rail mount enclosure.

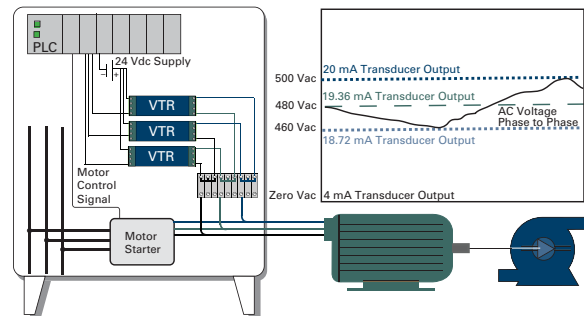
Ideal for situations where power quality is of interest or concern, the VoltageWatch sensor facilitates monitoring of supply voltage levels, identifying undervoltage or overvoltage conditions, and helping to protect critical motors and electronics. Designed with an industry-standard 4–20 mA output, VoltageWatch is easily coupled to a data logger, panel meter or PLC to enable basic trending of operational status of low voltage circuits up to real-time monitoring and reporting of supply voltage levels.

Application Description

True RMS Voltage Monitoring

- Detect below normal or “brown out” voltage conditions; protect against possible motor overheating
- Identify phase-loss conditions by detecting voltage reduction in one or more phases of a three-phase motor
- Monitor overvoltage conditions associated with regenerative voltage to help in diagnosing/avoiding motor drive issues
- Detect voltage conditions that may cause stress in or damage to soft starter components (SCRs)

Example Application—Phase Loss



Features

- **True RMS Output**—Allows for use in situations where power supplied is non-sinusoidal, such as VFD applications, poor power quality installations or other electrically harsh/challenging environments
- **Standard 4–20 mA Loop Powered Output**—Industry standard output works easily and reliably with existing controllers, data loggers and SCADA equipment
- **Input/Output Isolation**—Input and output circuitry is electrically isolated for improved safety
- **Compact DIN Rail Mount Enclosure**—Space-saving 35 mm wide enclosure mounts quickly for an attractive installation

For the most current information on this product, visit our Web site: [www.eaton.com](http://www.eaton.com)

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
- CE (Pending)
- RoHS Compliant

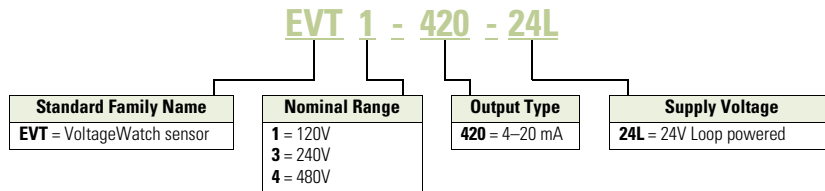


#### **⚠ DANGER**

**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.

#### Catalog Number Selection

##### VoltageWatch EVT Series—Top Terminal Current Sensors



#### Product Selection

##### EVT Series



##### VoltageWatch EVT Series—Top Terminal Current Sensors

Power Supply	Output Signal	Nominal Voltage	Catalog Number
24 Vdc loop powered	4–20 mA	120	<b>EVT1-420-24L</b>
		240	<b>EVT3-420-24L</b>
		480	<b>EVT4-420-24L</b>

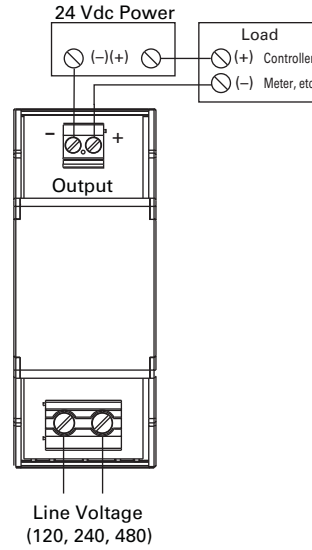
**Technical Data and Specifications**

**VoltageWatch EVT Series**

Description	Specification
Power supply	24 Vdc loop-powered
Input	120V, 240V, 480V
Input over-range	+15% of nominal range
Output	4–20 mA proportional; capped at 24 mA maximum
Response time	250 ms (to 90% value)
Accuracy	<1%
Linearity	<0.5%
Loading	<500 ohms
Isolation voltage	2500 Vac
Frequency range	40 Hz–5 kHz
Operating temperature	–22° to 140°F (–30° to 60°C)
Mounting	DIN rail compatible
Case	UL 94 V0 flammability rated; noncorrosive thermoplastic
Environmental	14° to 122°F (–10° to 50°C), 0–95% RH noncondensing
EMC/immunity	EN50081-1, EN50082-2
Ripple	<1% (peak to peak)
Listings	UL/cUL and CE pending

**Wiring Diagram**

**VoltageWatch EVT Series**



**Dimensions**

Approximate Dimensions in Inches (mm)

**Complete Unit**

