

Hawkeye™ 940

Split-Core Current Switch, Fixed Trip Point,
with Command Relay



DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Follow safe electrical work practices. See NFPA 70E in the USA, or applicable local codes.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Read, understand and follow the instructions before installing this product.
- Turn off all power supplying equipment before working on or inside the equipment.
- Use a properly rated voltage sensing device to confirm power is off.
DO NOT DEPEND ON THIS PRODUCT FOR VOLTAGE INDICATION
- Only install this product on insulated conductors.

Failure to follow these instructions will result in death or serious injury.

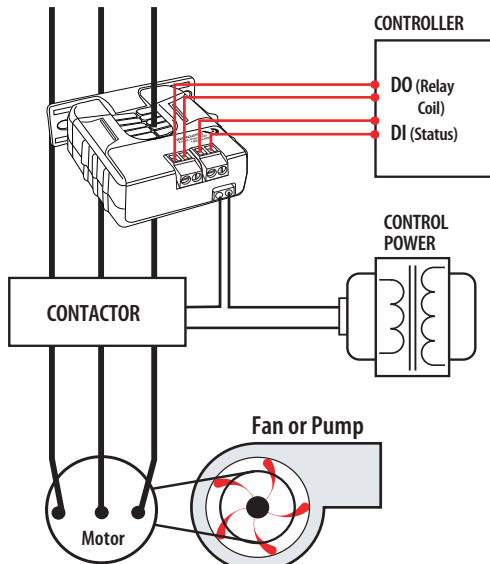
A qualified person is one who has skills and knowledge related to the construction and operation of this electrical equipment and the installation, and has received safety training to recognize and avoid the hazards involved. NEC2009 Article 100

No responsibility is assumed by Veris Industries for any consequences arising out of the use of this material.

NOTICE

- This product is not intended for life or safety applications.
- Do not install this product in hazardous or classified locations.
- The installer is responsible for conformance to all applicable codes.
- Mount this product inside a suitable fire and electrical enclosure.

WIRING EXAMPLE



SPECIFICATIONS

Sensor Power	Induced from monitored conductor
Relay Coil Power	24VAC/DC
Amperage Range	1.5 to 200 A
Status Output Ratings	N.O. 1.0A@30VAC/DC, not polarity sensitive
Insulation Class	600VAC RMS
Trip Point	Fixed at 1.5 A
Frequency	50/60Hz
Temperature Range	-15° to 60°C (5° to 140°F)
Humidity Range	10-90% RH, non-condensing
Off State Resistance	Open switch represents 1+ MΩ
On State Resistance	Closed switch represents <200 mΩ
Terminal Block Wire Size	24 to 14 AWG (0.2 to 2.1 mm ²)
Terminal Block Torque	3.5 to 4.4 in-lbs (0.4 to 0.5 N-m)
Agency Approvals	UL 508 open device listing
Installation Category	Cat III, pollution degree 2

Do not use the LED status indicators as evidence of applied voltage.
The product design provides for basic insulation only.

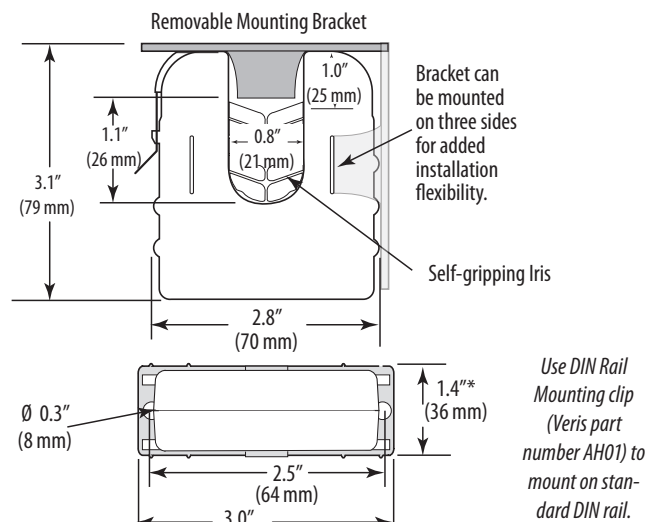
INSTALLATION



Disconnect and lock out power to the enclosure containing the conductor to be monitored.

1. Locate a mounting surface for the removable mounting bracket that will allow the monitored conductor to pass through center window when it is installed and that will keep the product at least 1/2" (13 mm) from any uninsulated conductors. Determine cable routing for the controller connection, allowing wiring to reach the mounting location.
2. Drill holes to mount the bracket to the chosen surface using the included screws.
3. Wire the output connections between the sensor and the controller and between the sensor the the relay power source.
4. Snap the sensor over the wire to be monitored and clip the assembly to the mounting bracket.
5. Secure the enclosure and reconnect power.

DIMENSIONS



PRODUCT OVERVIEW

The H940 is a current-sensitive switching device with integral command relay that monitors current (amperage) in the conductor passing through it. A change in amperage in the monitored conductor that crosses the switch (setpoint) threshold plus the hysteresis value will cause the resistance of the status output to change state, similar to the action of a mechanical switch. This status information can be fed back to a building controller that interprets the signal and separately switches the relay. The status output can also be used to switch the relay directly.

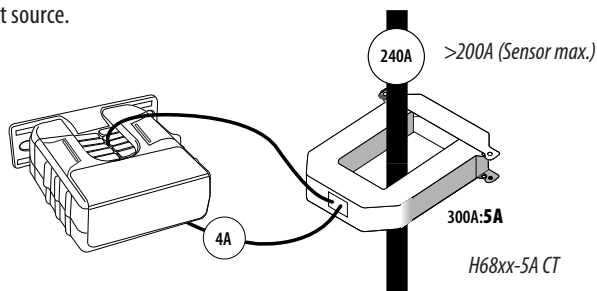
In this model, the setpoint is fixed at 1.5 A. The status output is suitable for connection to building controllers or other appropriate data acquisition equipment operating at up to 30 volts. The H940 relay requires a 24 VAC/VDC external power supply for operation.

The H940 housing offers unprecedented mounting flexibility. The mounting bracket can be attached in three different places. Additionally, the bracket is compatible with the Veris AH01 DIN Rail clip, allowing DIN mounting.

NOTES

For load currents greater than sensor maximum rating:

Use a 5 Amp (H68xx series) Current Transformer (CT) as shown. This technique can be combined with wrapping (see below) to add range for a low current load on a high current source.



⚡ DANGER: 5A CTs can present hazardous voltages. Install CTs in accordance with manufacturer's instructions. Terminate the CT secondary before applying current.

CAUTION

RISK OF EQUIPMENT DAMAGE

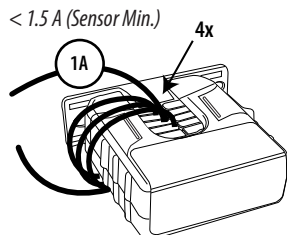
- Derate the product's maximum current for the number of turns through the sensing window using the following formula.

$$\text{Rated Max. Amps} \div \text{Number of Turns} = \text{Max. monitored Amps}$$
 e.g. : $100A \div 4 \text{ Turns} = 25 \text{ Amps max. in monitored conductor}$
- Failure to follow these instructions can result in overheating and permanent equipment damage.

For load currents less than sensor minimum rating:

Wrap the monitored conductor through the center window and around the sensor body to produce multiple turns. This increases the current measured by the transducer.

Program the controller to account for the extra turns, e.g., if four turns pass through the sensor (as shown) them divide the controller reading by 4.



RELAY RATINGS

RELAY CONTACT RATINGS		
Resistive.....	8A@250VAC, 30VDC	
Inductive.....	3.5A@250VAC, 30VDC	
TYPICAL COIL PERFORMANCE		
Voltage	AC	DC
24V.....	10mA	10mA
12V.....	20mA	
Pull In Voltage.....	20.1VDC	
Drop Out Voltage.....	5.2VDC	

TROUBLESHOOTING

Problem	Solution
No Reading at Controller	<ul style="list-style-type: none"> • Check for control voltage at sensor (<30V) • Check for amperage in monitored conductor (>1.5A) • Assure that sensor core mating surfaces are clean and that the core clamp is completely closed