



## Square D H300 Micro Split Core On Off Current Switch Installation Guide

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Installation Guide  
Current Monitoring



H300

Micro Split-Core On/Off Current Switch



US Patent 7,193,428  
(other patents pending)





Z205622-0C

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## H300 Micro Split Core On Off Current Switch



**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.

NEC 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.

## **Product Overview**

The H300 is a current-sensitive switching device that monitors current (amperage) in the conductor passing

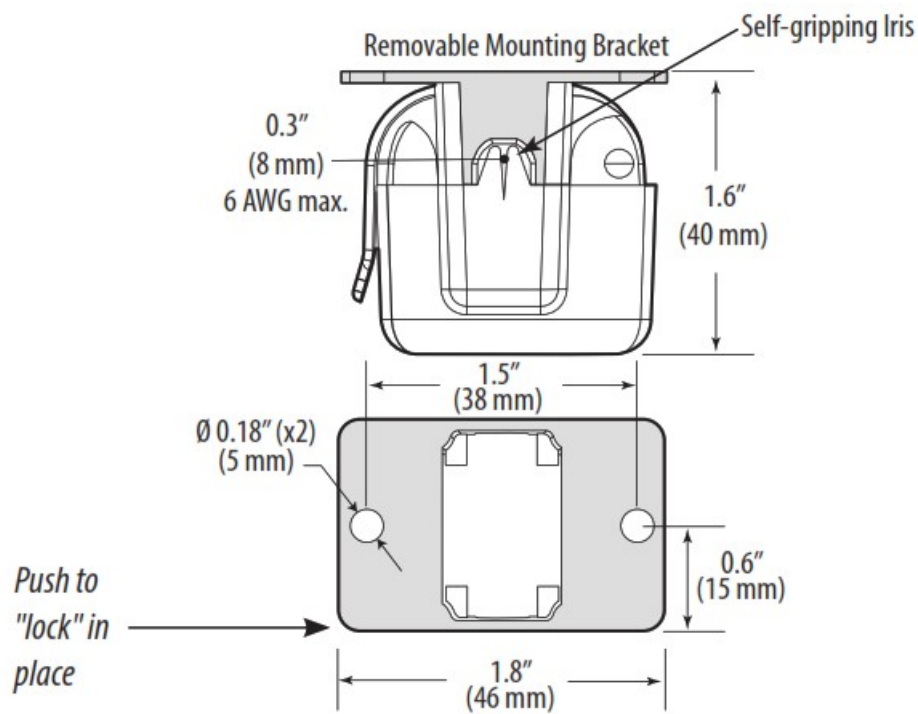
through it. A change in amperage in the monitored conductor that crosses the switch threshold causes the resistance of the FET status output to change state, similar to the action of a mechanical switch. In this model, the threshold is fixed at 150 mA AC max. The status output is suitable for connection to building controllers, or other appropriate data acquisition equipment operating at up to 30 volts. The H300 requires no external power supply to generate its output.

## Specifications

Sensor Power	Induced from the monitored conductor
Amperage Range	0.15 to 60 A continuous
Status Output Ratings	N.O. 1.0 A @ 30 Vac/dc not polarity sensitive
Insulation Class	600 Vac RMS (UL); 300 Vac (CE)
Setpoint	Fixed at 0.15 A max. (60 Hz)
Frequency Range	50/60 Hz
Temperature Range	-15 to 60 °C (5 to 140 °F)
Humidity Range	10-90% RH non-condensing
Hysteresis	10% typical
Off State Resistance	Open switch represents 1+ MΩ
On State Resistance	Closed switch represents <200 mΩ
Terminal Block Max. Wire Size	16 to 22 AWG (1.3 to 0.3 mm <sup>2</sup> )
Terminal Block Torque	7 in-lb (0.8 N-m)
Mounting Location	Not suitable for wet locations. For indoor use only.
<b>COMPLIANCE INFORMATION</b>	
Agency Approvals	UL508, CE: EN61010-1
Installation Category	Cat. III, pollution degree 2

For CE compliance, conductor shall be insulated according to IEC 61010-1.  
Product design provides for functional insulation only.

## Dimensions

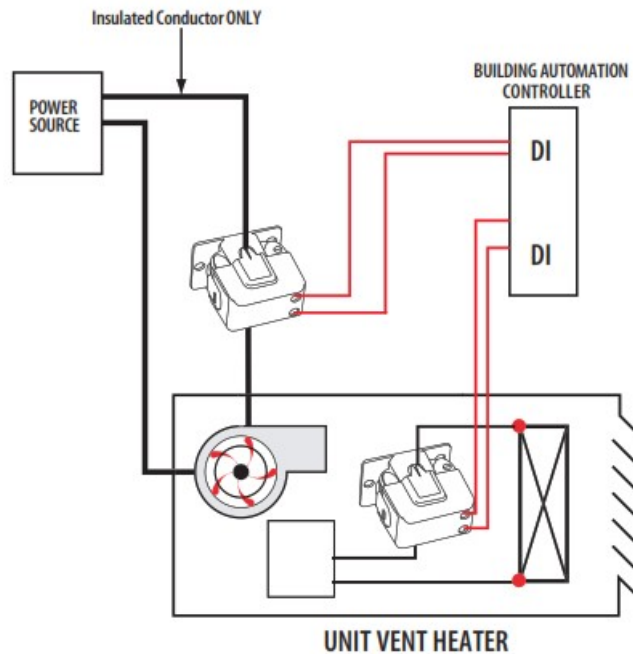


## Installation



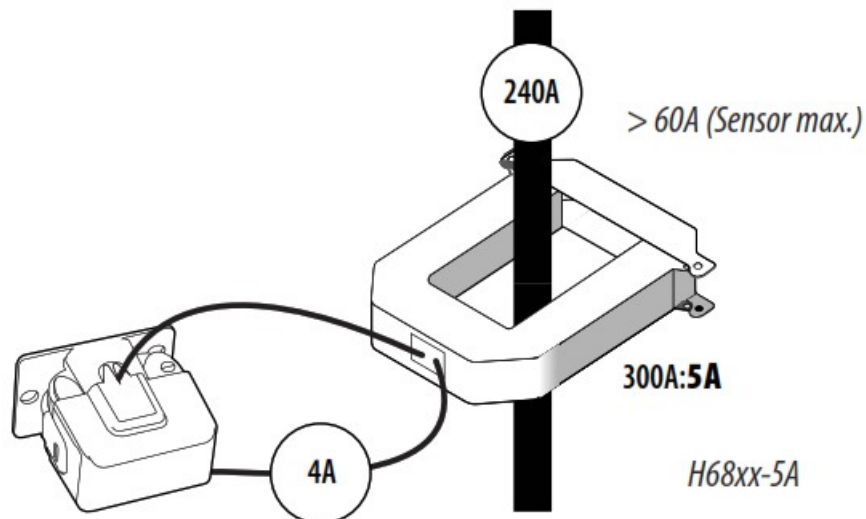
**Disconnect and lock out power to the enclosure containing the conductor to be monitored.**

1. Locate a mounting surface for the removable mounting bracket that will allow the monitored conductor to pass through the center window when it is installed and that will keep the product at least ½" (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 (solid-state contact).
4. Snap the sensor over the wire to be monitored and push the latch until it is securely closed. Clip the assembly to the mounting bracket. Important: If there is a paper inhibitor sheet between the contacts, remove before use.
5. Secure the enclosure and reconnect power.



**For load currents greater than sensor maximum rating:**

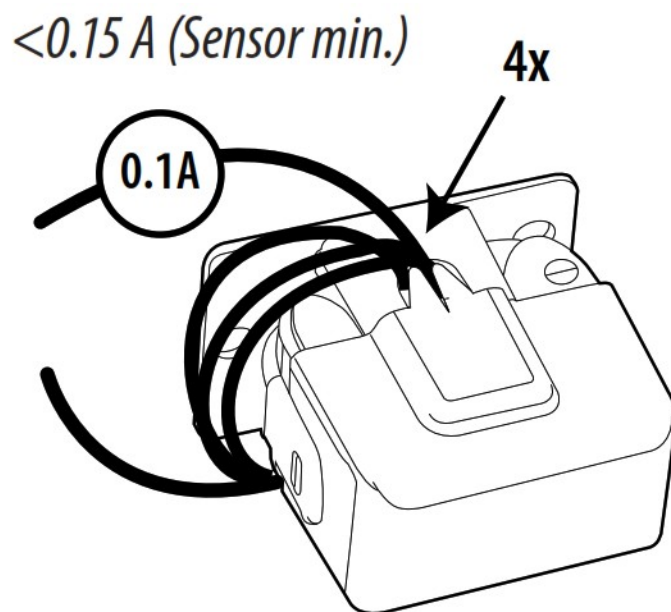
Use a 5 Amp (H68xx series) current transformer (CT) as shown. This technique can be combined with wrapping (see below) to add range for a low current load on a high current source.



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

**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) divide the normal reading by 4).



**CAUTION**  
**RISK OF EQUIPMENT DAMAGE**

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

Rated Max. Amps ÷ Number of Turns = Max. monitored Amps e.g. : 100A ÷ 4 Turns = 25 Amps max. in monitored conductor

- Failure to follow these instructions can result in overheating and permanent equipment damage.

**Troubleshooting**

Problem	Solution
No Reading at Controller	<ul style="list-style-type: none"> <li>Check for control voltage at sensor (&lt;30V)</li> <li>Check for amperage in monitored conductor (&gt; 0.15A)</li> <li>Assure that sensor core mating surfaces are clean and that the core clamp is completely closed.</li> </ul>



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**Documents / Resources**



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