

H540NS/548NS



Hawkeye™ 540NS/548NS Fractional HP Motor Status Sensor/ Command Relay

Installer's Specifications

Amperage Range	H540NS: 0.25 to 15 A; H548NS: 0.5 to 15 A
Frequency Range	50-60 Hz
Operating Temperature Range	-15°C to 50°C (5° to 122°F)
Operating Humidity Range	0-95% non-condensing
Wire to Relay Contacts	Use 12 AWG (3.3 mm ²) or larger wire*
Terminal Block Torque	Relay control terminals: 3.5 in-lb (0.4 N-m) All other terminals: 12 in-lb (1.35 N-m)

Relay:

Switching Capacity at 120 VAC	1 HP
Relay Output	SPST F.S. N.O. or N.C.
Relay Coil	24 VAC/DC; 36 mA nom

Current Sensor:

Sensor Supply Voltage	Induced
Status Output Rating	N.O. 1.0 A at 30 VAC/DC
Trip Point	H540NS: Fixed (on/off status); H548NS: Adjustable (belt loss detection)
Agency Approvals	UL508, Installation Category III

* For current loads up to 10A, use 75°C rated wire insulation. For loads greater than 10A, use 90°C rated wire insulation.

Specification Note: For CE compliance, insulate conductor according to IEC 61010-1:2001. The product design provides for basic insulation only.

⚡ ⚠ 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.

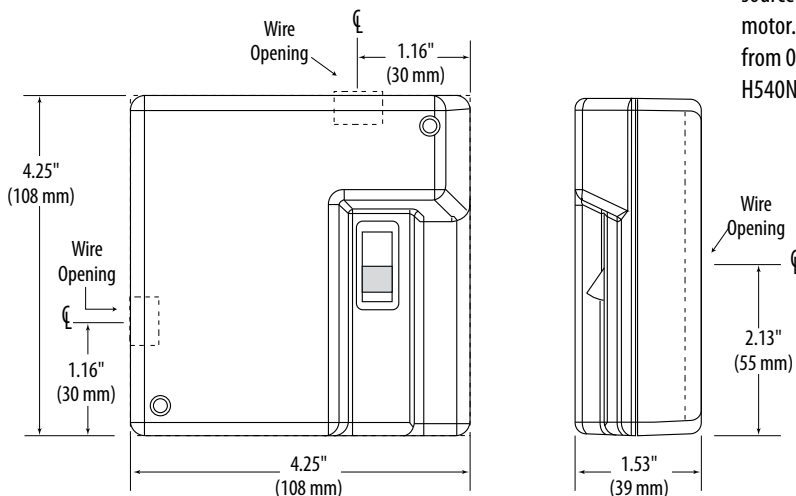
A qualified person is one who has skills and knowledge related to the construction and operation of this electrical equipment and the installation, and has received safety training to recognize and avoid the hazards involved. NEC2009 Article 100

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.

DIMENSIONS



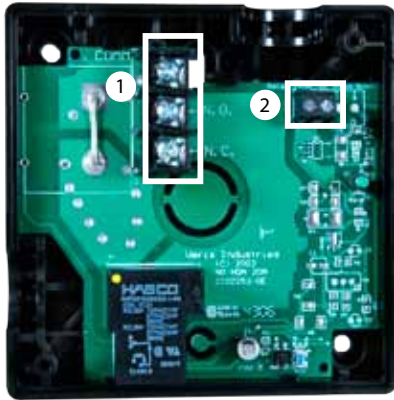
QUICK INSTALL

- Disconnect power sources prior to installation.
- Remove the sensor lid and wire the command relay connections and relay controls to the base.
- Set the relay contact jumper.
- This device has four wiring options, detailed on page 2-3 of this installation guide. Choose the option appropriate to the application and follow instructions.

OPERATION

The H540NS and H548NS devices combine a switching relay and a current status sensor into a single housing. The device is connected in series between the power source and the motor device, and the relay controls the on/off functioning of the motor. The current switch trip point is fixed at 0.25 A on the H540NS and adjustable from 0.5 to 15 A in the H548NS. The maximum load is 15 A for both devices. The H540NS and H548NS require no additional power source for operation.

WIRING BOARD



1. Line current terminals:
Common
Normally Open
Normally Closed
2. 24 VAC/DC Relay

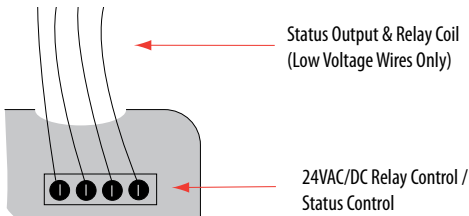
INSTALLATION

Prior to installation, disconnect and lock out all power sources.

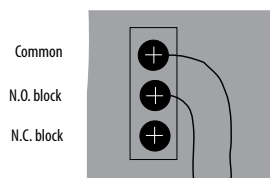
1. Open the device. Set aside the lid and the bag of hardware enclosed.



2. Wire the 24 AC/DC relay control through the top hole of the device. Use only copper conductors for command relay inputs. Tighten terminal blocks to 3.5 in-lb (0.4 N-m) torque. Keep wires away from the N. O. and N. C. jumper blocks.

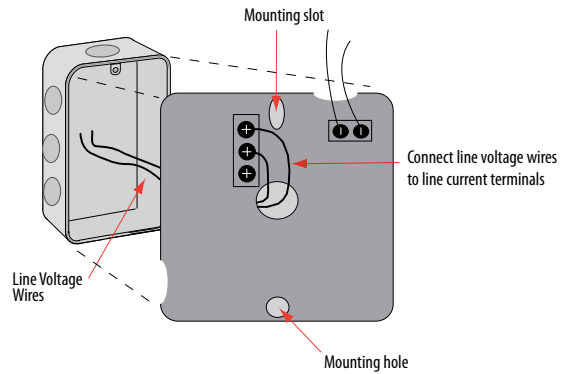


3. Wire the line current from the controller to the Common terminal. Wire the second line to either the N. O. terminal or the N. C. terminal. The device is shown here as wired to the N.O. block. Tighten line current terminal blocks to 12 in-lb (1.35 N-m) torque.



4. Select one of the following mounting configurations (a, b, c, or d) to match your installation.

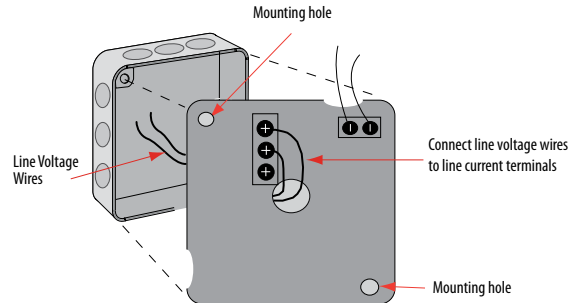
a.) duplex box:



Wire the 12 AWG lines from the controller through the back of the device, to the line current terminals. Tighten line current terminal blocks to 12 in-lb (1.35 N-m) torque.

Use the base as a template for mounting to the wall using the mounting hole and slot shown.

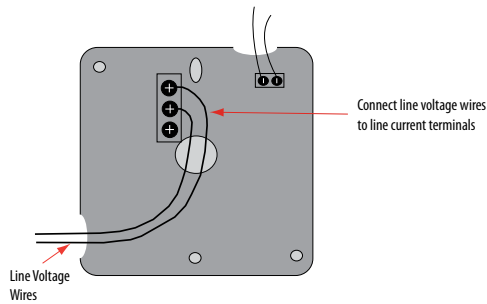
b.) 4S junction box:



Wire the 12 AWG lines from the controller through the back of the device, to the line current terminals. Tighten line current terminal blocks to 12 in-lb (1.35 N-m) torque.

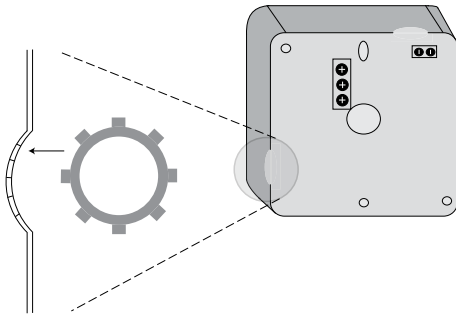
Use the base as a template for mounting to the wall using the mounting holes shown.

c.) surface mounting:

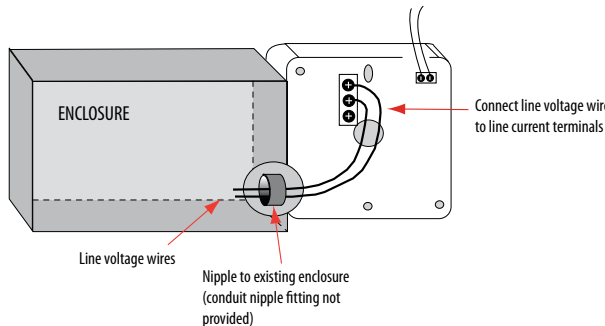


Wire the 12 AWG lines from the controller through the side of the device, onto the line current terminals. Tighten line current terminal blocks to 12 in-lb (1.35 N-m) torque.

d.) nipple mount to another enclosure:



Insert the conduit nuts (provided) into the slots in the side hole of the device for additional weight support.



Wire the 12 AWG lines from the controller through the side of the device, from the enclosure to the line current terminals. Tighten line current terminal blocks to 12 in-lb (1.35 N-m) torque.

5. Use the knockout seal to cover any unused holes in the housing. Attach the cover, securing with the screws provided.

NOTE: If a conduit is used, connect the conduit to the mounting hub before connecting it to the device. Be sure to support the H540NS/548NS housing when nipple-mounted to another enclosure, or the unit may shift on opening, potentially causing undue stress on the wiring and the terminals.

CALIBRATION (H548NS ONLY)

Note: Testing the solid-state status output of this sensor with a digital ohmmeter may yield inaccurate, but relative readings of switching (e.g. 6 MΩ). Use an analog V-O-M for readings similar to loop values. Calibration to be done while motor is running normally.

1. For under-current status indication: (Belt loss, fan & pump status)

- Turn the set point screw clockwise until the status closed LED goes out and the status open LED comes on.
- Turn the set point screw counter-clockwise until the status open LED goes out and the status closed LED comes on.
- Turn the set point screw 1/2 turn counter-clockwise.
- The sensor is now calibrated to provide indication of current flow below normal full load amps.

Output Status:

Normal: Output closed

Alarm: Output open

2. For over-current status indication: (Locked rotor)

- Turn the set point screw counter-clockwise until the status open LED goes out and the status closed LED comes on.
- Turn the set point screw clockwise until the status closed LED goes out and the status open LED comes on.
- Turn the set point screw clockwise 1/2 turn
- The sensor is now calibrated to provide indication of current flows above normal full load amps

Output Status:

Normal: Output open

Alarm: Output closed

