



H40 Series

Fractional Motor Status Sensor With Command Relay

Product Overview

H40 devices combine a switching relay, a current status sensor, and a Hand-Off-Auto (HOA) switch (H40NE8A only) into a single housing. The low voltage and line voltage wires are electrically separated from each other. A hinged lid on the low voltage side allows easy relay connection (both devices) and trip point adjustment, while the high voltage side is sealed.

The H40 is connected in series between the power source and the motor device, and the relay and HOA switch control the on/off functioning of the motor. The current sensor trip point is adjustable on the from 0.25 to 16 A, with a maximum load of 16 A for both devices.

Product Identification

Part Number	Description
H40NE8A	Fractional motor status sensor with adjustable trip point, command relay, and HOA switch
H40ME8X	Fractional motor status sensor with adjustable trip point, and command relay

Specifications

Sensor Power	Induced from monitored conductor
Status Output	N.O. 1.0A@30VAC/DC
Amperage Range	0.25 to 16 A
Wire to Relay Contacts	12 AWG (3.3 mm ²) or larger
Low Voltage Terminal Block Wire Size	24 to 14 AWG (0.2 to 2.1 mm ²)
Low Voltage Terminal Block Torque	3.5 to 4.4 in-lb (0.4 to 0.5 N-m)
RELAY	
Type H40NE8A H40ME8X	SPST, N.O. SPST, N.O. or N.C. (field selectable)
Contact Ratings H40NE8A H40ME8X	16A@120/250VAC, 12A@277VAC, 1HP@120VAC, 8A@28VDC 16A@120/277VAC, 1HP@120VAC, 2HP@277VAC, 16A@28VAC
Coil Ratings	24VDC 45mA nominal, 24VAC 78mA nominal; Class 2*
OPERATING CONDITIONS	
Operating Temperature Range	-15° to 50°C (5° to 122°F)
Operating Humidity Range	0-95% RH noncondensing
Frequency	50/60 Hz
COMPLIANCE INFORMATION	
Approvals	UL508, RoHS

* In addition, coil input from other sources may be used as detailed in NEC Article 725.121.



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 using insulated conductors.

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

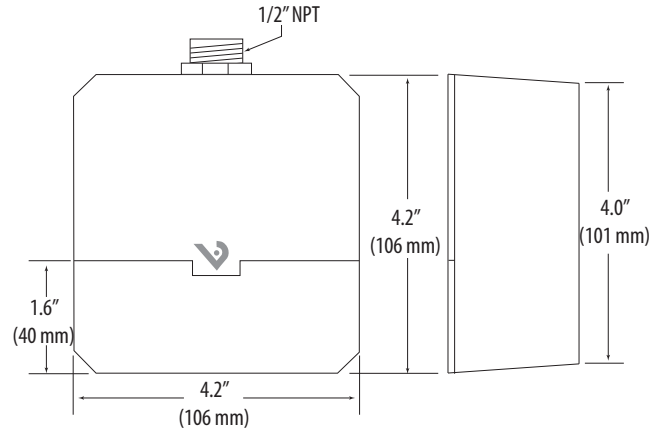
A qualified person is one who has skills and knowledge related to the construction and operation of this electrical equipment and the installation, and has received safety training to recognize and avoid the hazards involved. NEC2009 Article 100

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

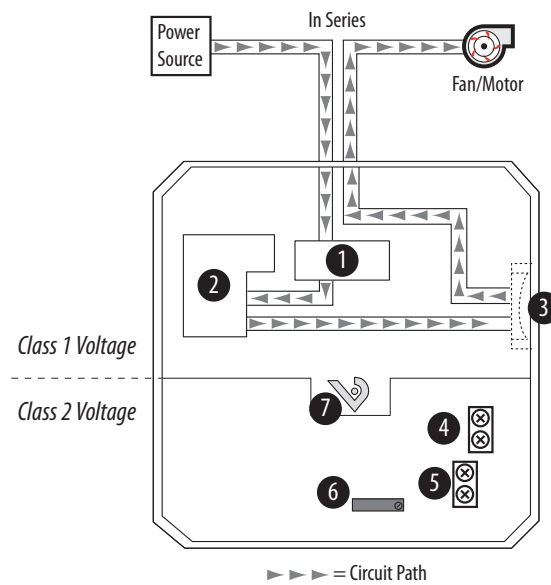
NOTICE

- 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.

Dimensions



Product Diagram



1. Current Sensor: In-series with the motor
2. Relay: Enables actuation of the circuit by a control system
3. HOA Switch (H4ONE8A only): Provides local control of the motor
 - HAND - When the switch is in this position, the motor is always on.
 - OFF - When the switch is in this position, the motor is always off.
 - AUTO - When the switch is in this position, the control system commands the motor.
4. Relay Coil terminal block: Wire the output signal from the control panel to actuate the relay. 24 VAC/DC, 45 mA nominal.
5. Current Sensor Status terminal block
6. Setpoint Adjustment Screw: Adjust the trip point from 0.25 to 16 A
7. Status LED:
 - Left side of V: Green = Output Contact Closed; Red = Output Contact Open
 - Right side of V: Green = Coil is energized

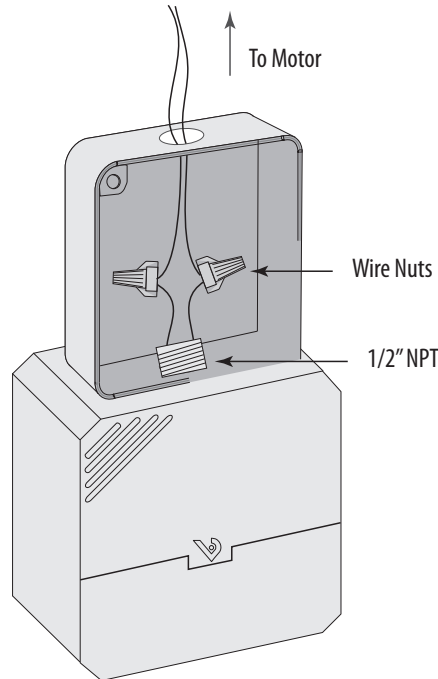
Only the terminal blocks and the setpoint adjustment screw are accessible through the hinged lid. Other components are in the sealed high voltage compartment.

Installation

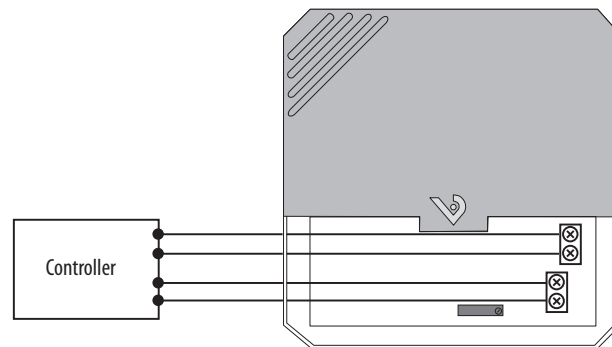


Disconnect and lock out all power sources.

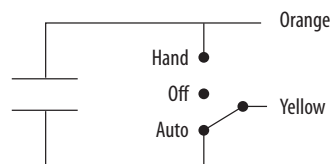
1. Insert the 1/2" nipple into a knockout hole on a standard junction box. Use the nut (included) to ensure a secure fit.
2. Use a wire nut to connect the line side wires on the H40. The H40NE8A has two high voltage wires (orange = normally open, yellow = common), while the H40ME8X has three (blue = normally closed, orange = normally open, yellow = common).



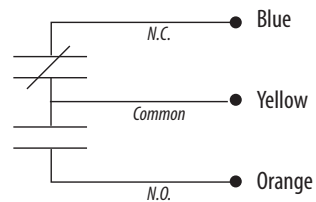
3. Gently pry open the low voltage compartment. Connect the relay coil and status terminal blocks to the control wiring.



H40NE8A



H40ME8X



4. Reconnect the power.
5. Use a small screwdriver to adjust the setpoint screw to the desired trip point (between 0.25 and 16 A).
6. Close the low voltage lid.

Calibration

Testing the status output of this sensor with a digital ohmmeter may yield inaccurate, but relative, readings of switching (e.g. 6 MΩ). Use an analog volt-ohm meter for readings similar to loop values.

The LED status indicator is built into the Vers "V" logo on the front of the device. The right half of the V is green whenever the coil is energized. The left side of the V changes color to indicate the status of the current sensor, as shown below.

Status Closed



Status Open



To calibrate the sensor, first establish normal load conditions. Then choose A or B below.

A. For Under-Current Status Indication (belt loss, fan & pump status)

1. Turn the setpoint screw clockwise until the LED indicates a Status Open state (left side of the V is red).
2. Turn the setpoint screw counter-clockwise until the LED indicates a Status Closed state (left side of the V is red).
3. Turn the setpoint screw ½ turn counter-clockwise for operational margin.

The sensor is now calibrated to provide indication of current flow below normal full load amps.

Output Status	
Normal	Closed
Alarm	Open

B. For Over-Current Status Indication (locked rotor)

1. Turn the setpoint screw counter-clockwise until the LED indicates a Status Closed state (left side of the V is green).
2. Turn the setpoint screw clockwise until the LED indicates a Status Open state (left side of the V is red).
3. Turn the setpoint screw clockwise ½ turn for operational margin.

The sensor is now calibrated to provide indication of current flow above normal full load amps.

Output Status	
Normal	Open
Alarm	Closed