

Current Sensors for New Construction



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.

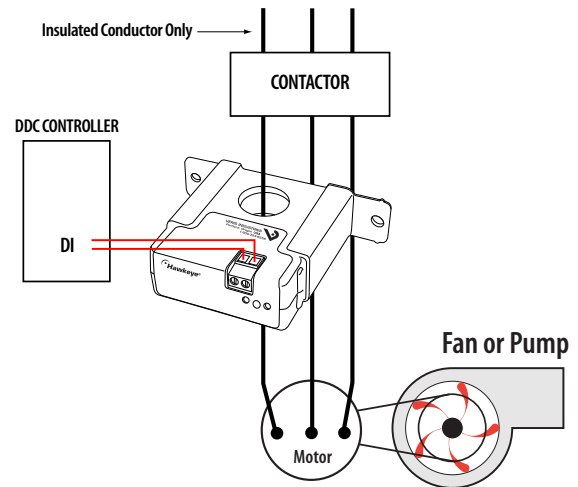
The information provided herein is intended to supplement the knowledge required of an electrician trained in high voltage installations. There is no intent to foresee all possible variables in individual situations, nor to provide all training needed to perform these tasks. The installer is ultimately responsible to assure that a particular installation will be and remain safe and operable under the specific conditions encountered.

Introduction

For monitoring load status on new construction applications, the most cost-effective solution is a digital current switch. The solid-core design provides the lowest hardware cost in applications where new wiring will be installed at the same time as the current sensor, or when removing the wiring on the primary feed can be accomplished without significant cost. Sensors come in a variety of output configurations to meet the needs of any automation control system installation. Many models have a patented integral relay that can be connected to the building control system to remotely control fans, motors, or other small loads.

Typical Installation

Current switches are typically mounted between a starter and its motor (typically in the motor control center) as shown. They are used to monitor current flow in one phase of a motor. Please refer to individual current sensor installation guides for complete information.

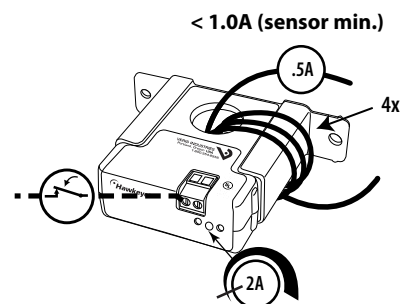


Special Installations

1. To monitor VFD loads, see Veris Note 07, "Monitoring Variable Frequency Drive Status."
2. For low currents (<1 to 2 Amps):

To provide enough current to drive the sensor, loop the primary (sensed) conductor wire through the hole in the switch several times (each loop through the "window," or hole in the current switch adds a multiple to the sensed current: 2 loops = 2x, 3 loops = 3x, etc.)

If the switch function is intermittent or unpredictable because the sensed current is known to be low, loop the wire through the switch more times till the device provides a solid output.

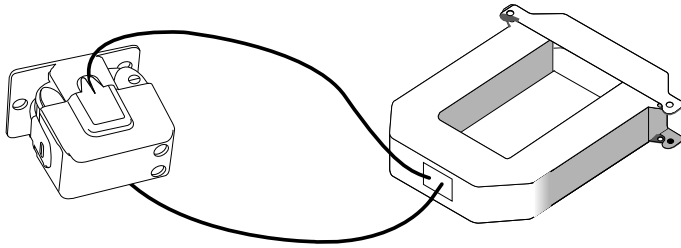


Special Installations, cont.

3. For currents higher than the product rating:

To monitor currents higher than the product ratings (135 Amps for most models in this series), a 5A current transformer (CT) can be used. Select a CT of sufficient capacity to handle the maximum circuit current, and install it so that the CT secondary wire passes through the current sensor "window" to generate a proportional current flow in the sensor.

DANGER: Five Amp output Current Transformers (CTs) can generate hazardous voltages if their secondary winding is not properly and continuously shorted.



Split-Core Products

If the wire to be sensed is difficult to remove, or the power cannot be interrupted, use split-core sensors with or without an integral relay. These devices permit the installer to snap the sensor around the conductor with no need for disconnection. See VN05 for further information.

