Hawkeye™ 221/221SP

Split-Core Current Transducer, High Current, 4-20mA Output



RoHS Compliant CE c UL us LISTED

⚠⚠ 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.

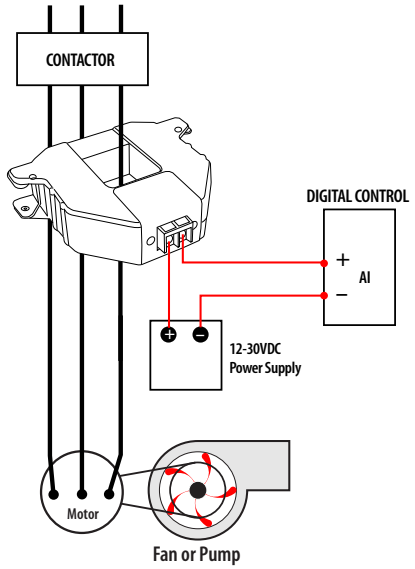
A qualified person is one who has skills and knowledge related to the construction and operation of this electrical equipment and the installation, and has received safety training to recognize and avoid the hazards involved. NEC2009 Article 100

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



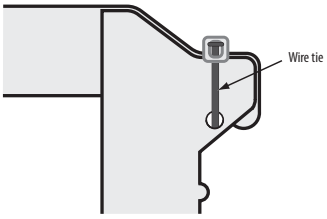
SPECIFICATIONS

Sensor Power	30mA (max.) @12-30VDC
Amperage Range	H221: 0-100A thru 0-300A (scalable) H221SP: Factory-set at a customer-specified upper limit (100, 150, 200, 250, and 300A available)
Sensor Output	4-20mA
Insulation Class	600VAC RMS, insulated conductors only
Frequency	50/60 Hz
Temperature Range	-15° to 60°C (5° to 140°F)
Humidity Range	10-90% RH non-condensing
Accuracy	±2% F.S. from 10% to 100% of selected current range
Response Time	2 sec.
Zero Adjustment	nominal output@0A: 4mA ± 0.5
Terminal Block Wire Size	12 to 22 AWG (3.3 to 0.3 mm²)
Terminal Block Torque	3.5 to 4.4 in-lb (0.4 to 0.5 N-m)
Agency Approvals	UL 508, CE
Installation Category	Cat. III, pollution degree 2

This product provides for basic insulation only.

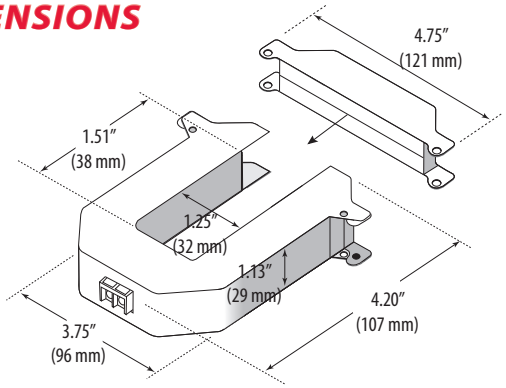
INSTALLATION

1. Disconnect and lock out power to the enclosure containing the conductor to be monitored.
2. Choose a location for the sensor. The monitored conductor must pass through the center window, and the sensor must be at least ½" (13 mm) from any uninsulated conductors. Determine cable routing for the controller connection, allowing the sensor to reach the conductor.
3. Wire the output connections between the sensor and the controller (4-20mA).
4. Snap the sensor over the conductor to be monitored.
5. Secure I-bar to main body of sensor with wire ties or other securing method.



6. Secure the enclosure and reconnect power.
7. Scale the sensor range, then scale the controller software to match the sensor's output (see Scaling section).

DIMENSIONS



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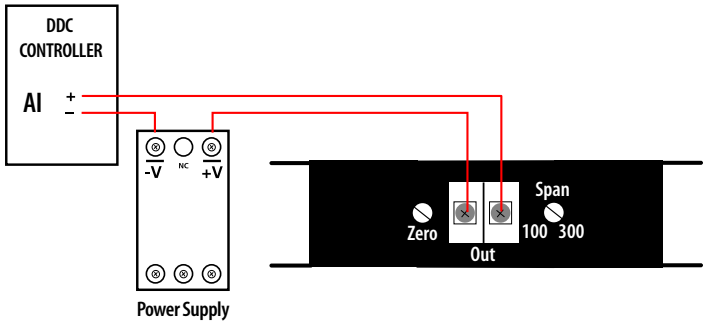
OPERATION

The H221 and the H221SP are current transducers that sense current (amperage) in the monitored conductor. The H221 amperage range is field-adjustable, with ranges of 0-100A thru 0-300A possible. The H221SP is factory-set at a range with an upper limit specified by the customer upon ordering (100A, 150A, 200A, 250A, and 300A options available for the upper limit). Both devices transform the monitored current into 4-20 mA DC output, suitable for connection to building controllers or other appropriate data acquisition equipment. The H221 and H221SP require 12-30 VDC external power supply to generate their output.

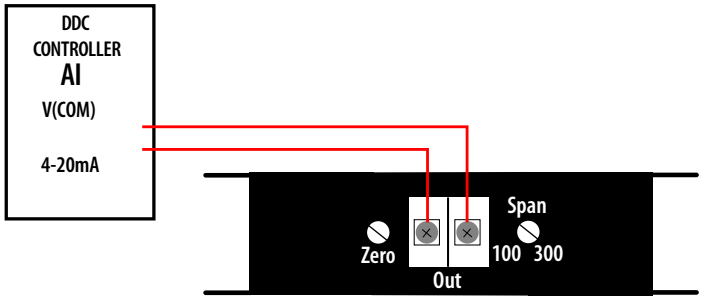
WIRING

Output is not polarity sensitive. 12-30 VDC external power needed.

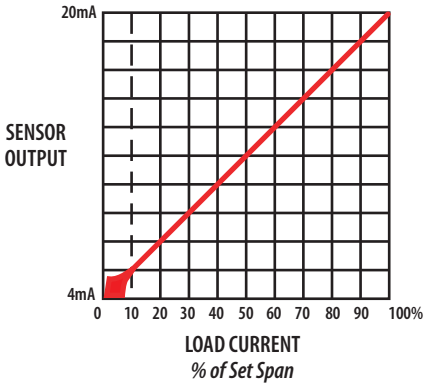
External Power



Sinking or Sourcing Panel



SCALING

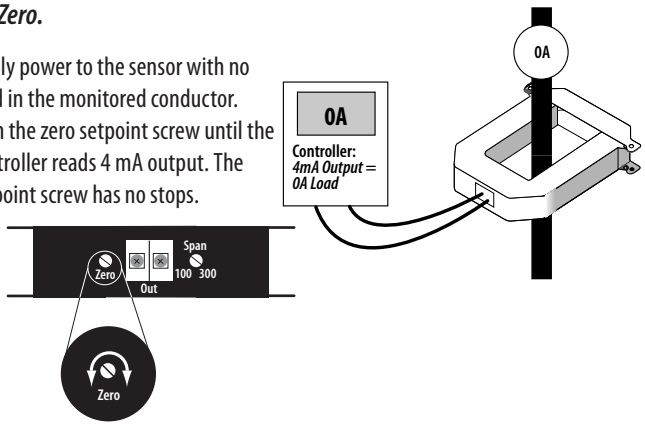


CALIBRATION (H221 ONLY)

Note: The H221SP is factory-calibrated.

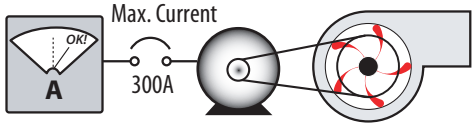
1. ***Set Zero.***

Apply power to the sensor with no load in the monitored conductor. Turn the zero setpoint screw until the controller reads 4 mA output. The setpoint screw has no stops.

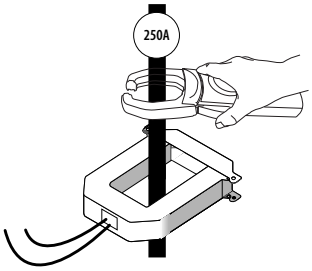


2. ***Calculate the maximum and target readings.***

A. Determine the maximum current to be measured.



B. Find the actual current using an external measurement device, such as a portable amp clamp.



C. Calculate target output:

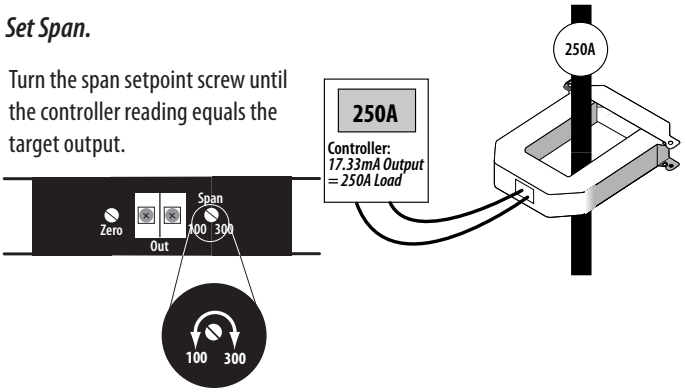
If A = the max. current, and B = the reading from the amp clamp, then:

$$\text{target output} = 16\text{ mA} \times \frac{B}{A} + 4\text{ mA}$$

$$\text{e.g. target output} = 16\text{ mA} \times \frac{250}{300} + 4\text{ mA} = 17.33\text{ mA}$$

3. ***Set Span.***

Turn the span setpoint screw until the controller reading equals the target output.



TROUBLESHOOTING

Problem	Solution
No Reading at Controller	• Confirm that a 12-30 VDC power supply is in series with the sensor output terminals and the control panel analog input terminals. • Assure that sensor core mating surfaces are clean and that the core clamp is completely closed.

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