



INTERFACE SERIES

Installation & Operation Instructions
AIM1

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GENERAL INFORMATION

The AIM1 optically isolates an analog (voltage or current) input signal from its corresponding output signal. The factory calibrated output is linear and proportional (1:1 ratio) to the input signal. The AIM1 will accept a 0 to 5 VDC, 0 to 10 VDC, or 0 to 20 mA input span and output any one of those same ranges. It requires one external 24 VAC isolation transformer with floating secondary for power and has an onboard 24 VAC isolation transformer to supply the isolated output.

MOUNTING INSTRUCTIONS

Ground yourself to discharge static electricity before touching any electronic equipment, as some components are static sensitive. The interface device can be mounted in any position. If circuit board slides out of snap track, a non-conductive "stop" may be required. Use only fingers to remove board from snap track. Slide out of snap track or push up against side of snap track and lift that side of the circuit board to remove. **Do not flex board. Do not use tools.**

WIRING INSTRUCTIONS

PRECAUTIONS

- Remove power before wiring. Never connect or disconnect wiring with power applied.
- When using a shielded cable, ground the shield only at the controller end. Grounding both ends can cause a ground loop.
- This device needs to have its own Isolated Transformer. This transformer cannot be connected/or shared with any other device. It is recommended you use an isolated UL-listed class 2 transformer.
- All wiring must comply with all local and National Electric Codes.

FUNCTION SELECTIONS

STEP 1) INPUT TYPE

Set jumper block J1 for 0 – 5 Volts, 0 – 10 Volts, or 0 – 20 milliamps input signal. See **Figure 3 (p. 2)** for details.

STEP 2) OUTPUT TYPE

Set jumper block J2 and J3 for 0 -5 Volts, 0 – 10 Volts, or 0 – 20 milliamps output signal. See **Figure 3 (p. 2)** for details.

FIGURE 1: DIMENSIONS

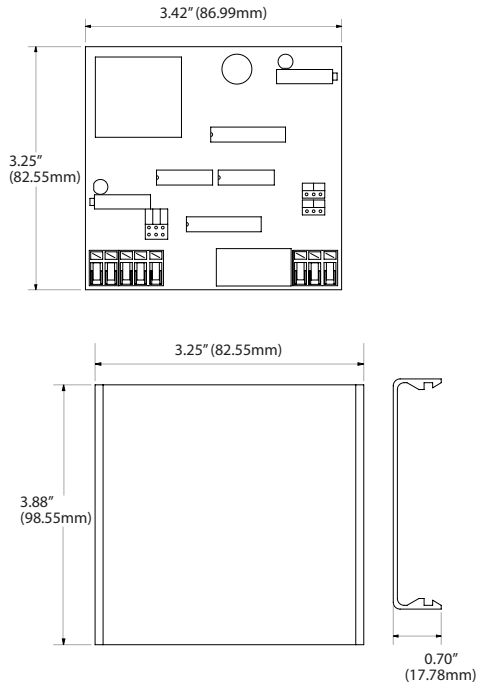


FIGURE 2: WIRING

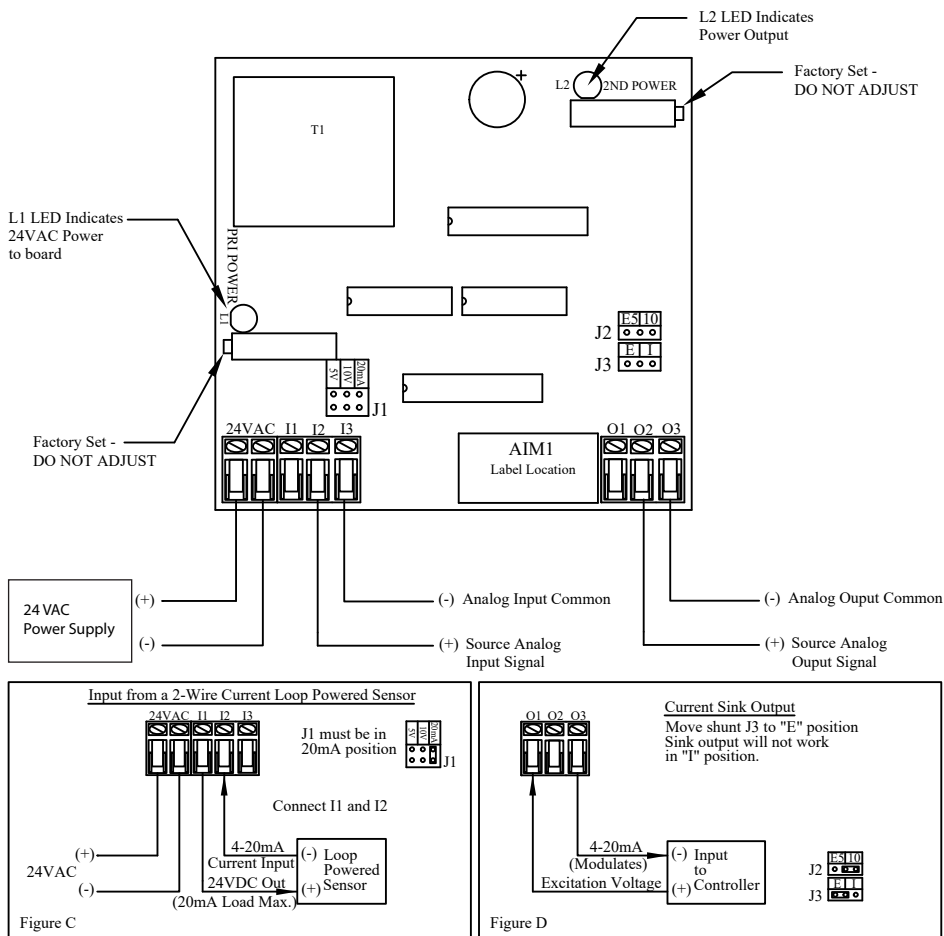
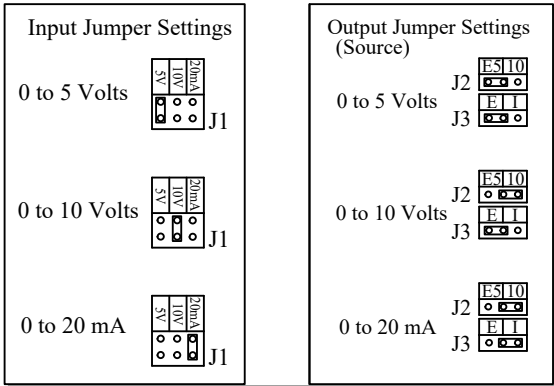


FIGURE 3: JUMPER SETTINGS



Calibration and Checkout

The AIM1 is factory calibrated as follows, unless otherwise specified: 0 – 5 Volts Input Signal 1:1 Input to Output Signal Ratio, 0 -5 Volts Output Signal.

STEP 3) WIRING CONNECTIONS (for “source” input and output)

With the power OFF connect a 24 VAC power supply to the 24VAC terminals of the AIM1.

For inputs from powered current devices, and voltage input signals, connect signal common (-) to the I3 signal input terminal of the AIM1, and the signal positive (+) to the I2 signal input terminal of the AIM1.

For 2-Wire current inputs to AIM1 requiring power see Figure C on page 1 for hook-up details.

Connect the output signal common (-) terminal O3 and the output signal positive terminal O2 to their respective terminals on the controlled device.

For current “sink” output from AIM1, see Figure D on page 1 for hook-up details.

STEP 4) POWER UP

Turn on the 24VAC power supply. Both Primary Power (PRI POWER) and Secondary Power (2ND POWER) LED indicators on the AIM1 will light.

STEP 5) OPERATION

The AIM1 will now accept an input signal and produce an isolated and proportional output signal. (Example, a 5.0 volt input signal will produce a 5.0 (\pm 0.05 volts) volt DC output signal.)

PRODUCT SPECIFICATIONS

NON-SPECIFIC INFORMATION	
Supply Voltage:	24 VAC (+/- 10%), 50/60 Hz
Supply Current:	100 mA maximum
Input Voltage Signal Range (@ Impedance):	0 to 5 VDC @ 20,000Ω, 0 to 10 VDC @ 20,000Ω
Input Current Signal Range (@ Impedance):	0-20 mA @ 250Ω
Output Voltage Signal Range (@ Impedance):	0 to 5 VDC @ 5,000Ω, 0 to 10 VDC @ 5,000Ω
Output Current Signal Range (@ Impedance):	0-20 mA (Source or Sink) @ 500Ω (Maximum Load Resistance)
Voltage Mode Accuracy:	+/- 1%
Current Sink Mode Accuracy:	+/- 2%
Current Source Mode Accuracy:	+/- 1%
Linearity:	+/- 1%
Connections:	45° Captive screw Terminal Blocks
Wire Size:	12 (3.31 mm²) to 22 AWG (0.33 mm²)
Terminal Block Torque Rating:	0.5 Nm (Minimum); 0.6 Nm (Maximum)
Operating Temperature Range:	35 to 120°F (1.7 to 48.9°C)
Operating Humidity Range:	10 to 95% non-condensing
Storage Temperature:	-20 to 150°F (-28.9 to 65.5°C)

WARRANTY

The AIM1 Series is covered by ACI's Two (2) Year Limited Warranty, which is located in the front of ACI'S SENSORS & TRANSMITTERS CATALOG or can be found on ACI's website: www.workaci.com.

