FLUKE®

Instruction Sheet

2620A-101

Current Shunt Resistors

Item	Description	Part No.	Quanity
1	Resistor, Shunt Set	103168	3
1	Installation Instruction Sheet	949651	1

The following installation instructions are for the 2620A -101 Current Shunt Resistors (PN 936567).

Overview

The 2620A-101 Current Shunt Resistors are mounted inside the Universal Input Module using the same screw terminals that accept the user's input wiring. The 2620A-101 option contains 12 resistors for measuring up to 12 current channels. It includes:

- Triple-position resistor assemblies (3 pieces)
- Single-position resistor assemblies (3 pieces).

Figure 1 shows the electrical configuration of the resistors.

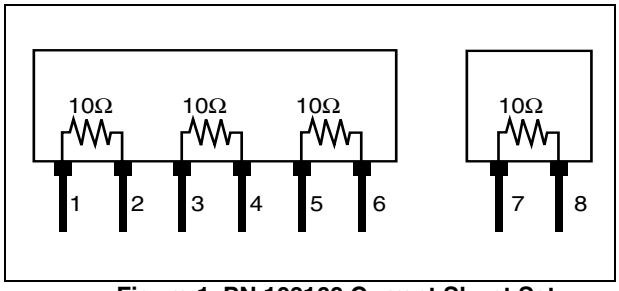

Figure 1. PN 103168 Current Shunt Set

Purpose

The current shunts are 10 Ω, +/-0.08% resistors which support current measurement up to 100 mA. The resistors are placed in series with the circuit to be measured. The voltage across the resistor is directly proportional to the current flowing through it. The data acquisition instrument processes the resultant voltage into an equivalent current for display and recording (See Figure 2.)

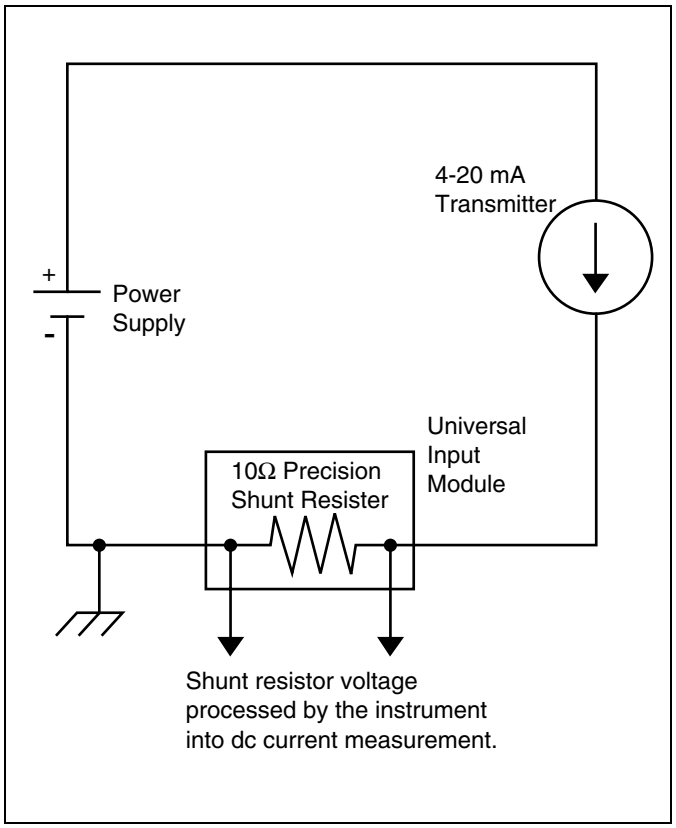

Figure 2. Position of Current Shunt Resistor in a Measurement Circuit

Compatibility

The 2620A-101 is compatible with any Fluke data acquisition instrument that uses an Universal Input Module. Note that the 2620A-101 is designed for use with STRANDED wire. It is difficult to assure reliable connections if solid wire is used.

Equipment Requirements

All necessary materials are supplied with the 2620A-101.

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Installation Instructions

Refer to Figures 3 and 4 for the following instructions.

1. Remove the Universal Input Module from the rear panel of the instrument by pressing the release tab on the bottom of the module and pulling the module free.
2. Loosen the two large screws on top and open the module.
3. Loosen the screws for the selected measurement channel(s) and place the shunt resistor(s) in position with the white side up (Figure 3). You can connect up to 12 measurement channels with each 2620A-101.
4. Connect the associated wires to H (high-positive) and L (low-negative)for each channel and tighten the securing screws. The wires used should be STRANDED (not solid) and the screws must be tight, to ensure a good connection.
5. Thread the wires through the strain-relief pins and out the back of the module.
6. Close the module cover, secure the large screws and insert the module into the connector slot at the rear of the instrument until it latches into place.

Testing Installation

1. Power the measurement circuit to draw a known level of current.
2. Configure the instrument and supporting software (if applicable) to measure current on the selected channel.
3. Verify that the measured current is within expected tolerances.

This completes the installation test of the kit.

Express your Current Measurements in Engineering Units

The Fluke Data Acquisition instrument you are using can also scale your readings into your engineering units by means of its Mx + B scaling capability. The M and B coefficients are calculated as follows:

M = (Display Hi -Display Lo)/(Input Hi - Input Lo)

B = Display Lo - (M * Input Lo)

For example, suppose you are using a 0-1000 psi pressure transducer which outputs 4-20 mA. You could use the instrument's Mx+B scaling to perform the engineering units conversion as follows:

M = (1000 - 0) / (20 - 4) = 1000/16 = 62.5

B= 0 - (62.5 * 4) = 0 - 250 = -250

By enabling the Mx+B scaling for the channel and entering the values M = 62.5 and B = -250 you can cause your Fluke Data Acquisition Unit to display and record the readings in the desired engineering units, in this case psi.

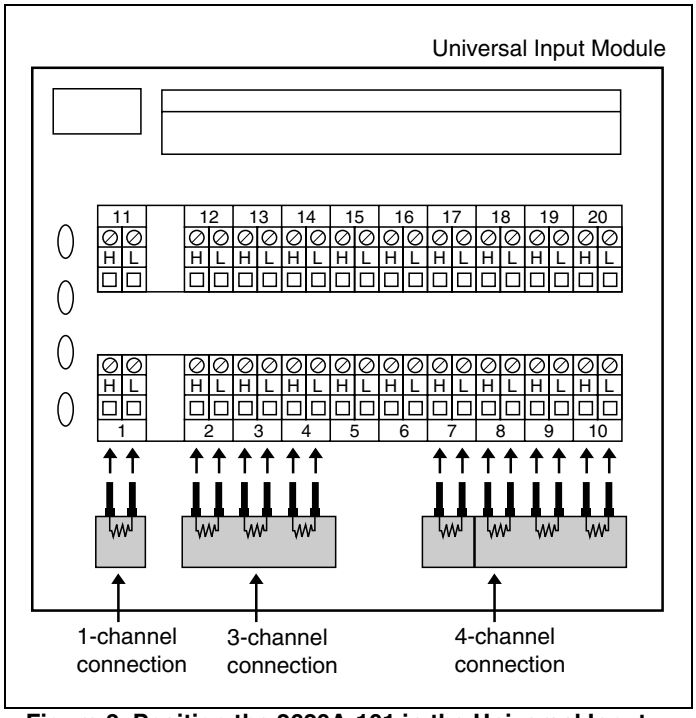

Figure 3. Position the 2620A-101 in the Universal Input Module (white side up)

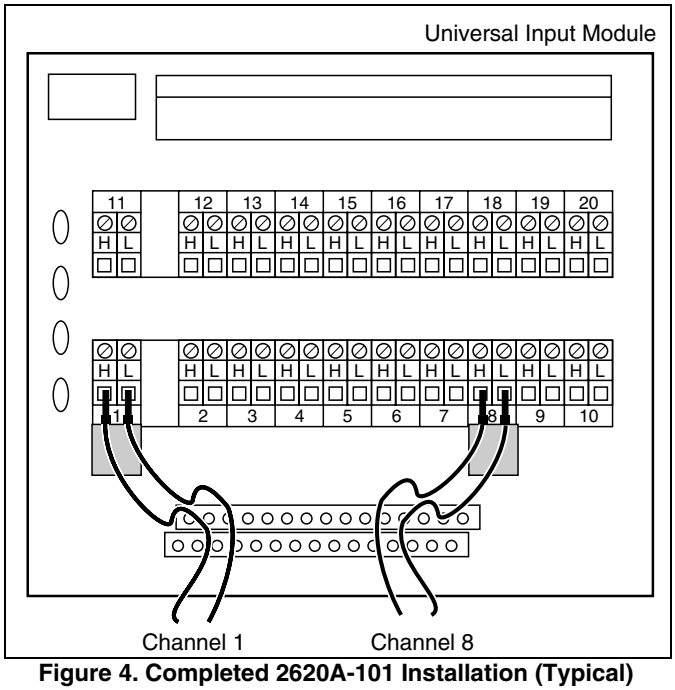

Figure 4. Completed 2620A-101 Installation (Typical)