The MODEL U2W 2-WIRE IN-LINE amplifier converts a millivolt signal from a high impedance transducer to a current output signal. The amplifier features selectable gain ranges, selectable bridge excitation types, zero and span adjustments, output current test points and lightning protection. The inline is housed in a plastic box with a gasket for NEMA 4X protection and can be mounted to a panel.

**SPECIFICATION:**

**Power Requirements:** 8-32 volts DC

**Bridge Excitation:**
- **constant voltage:** 5 VDC @ 2.5 ma. max.
- **constant current:** 0.5 ma. w/ 3 volts compliance

**Bridge Resistance:**
- **Constant Voltage:** 2000 to 10000 ohms
- **Constant Current:** 2000 to 6000 ohms

**Output:** 4-20 ma. 2-WIRE

**Frequency Response:** 400 Hz @ 3mv/v

**Zero Adjustment Range:** +/- 15 % fine adjustment

**Span Adjustment Range:** Jumper selectable and +/- 43% fine adjustment

**Output Test Point:** 10 ohm sense resistor @ TP- and TP+

**Environment Protection:** IP-66 or NEMA 4X
Wiring:

The universal 2-WIRE in-line can be powered from a 8 to 32 volt single supply. The following diagram shows the wiring to a power supply and a readout. Note the earth ground at the transducer and the in-line, they must be the same ground and of high quality to protect the in-line and transducer from lightning transient.

**FIG 1**

Excitation Type Selection:
The inline has two types of bridge excitations available for transducers, constant
volt @ 5 Volts or constant current @ .495 milli-amps. To select constant volt move the shunts from the terminals marked I to the terminals marked V. Both sets must be on either the I terminals or the V terminals for proper operation. These shunt are locate above the span and zero adjustment controls (See Fig 2 for locations).

**Coarse Gain Setup:**

These part numbers have a fixed input range as shown below:

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>INPUT RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>060-6850-07</td>
<td>3, 5, 10 MV/V</td>
</tr>
<tr>
<td>060-6850-XX</td>
<td></td>
</tr>
<tr>
<td>060-6850-XX</td>
<td></td>
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<tr>
<td>060-6850-XX</td>
<td></td>
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<tr>
<td>060-6850-XX</td>
<td></td>
</tr>
<tr>
<td>060-6850-XX</td>
<td></td>
</tr>
</tbody>
</table>

Select the position which is closest to output of the transducer. Place the shunt in that position.

**COARSE GAIN SHUNT POSITIONS**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>EX Type</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>060-6850-07</td>
<td>V</td>
<td>5 mv/v</td>
<td>10 mv/v</td>
<td>3 mv/v</td>
</tr>
</tbody>
</table>
### Custom Gain Setup:

The maximum signal at the inputs to the two-wire is .300 volts with no gain resistor. To calculate a special gain range use the following equation.

\[
R_{\text{gain}} = \frac{200000}{(1.5/(\text{INPUT IN VOLTS}))-5}
\]

This resistor can be installed in location R15 and the RANGE shunt moved to position 1. The resistor should be a metal film with a low temperature coefficient such as a RN55D minimum.

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Panel Mounting: