

# WIRING AND CALIBRATION

## Transmitter Options W2 and W3

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# 1.

## Installation & Wiring

The transmitter board is fitted inside the enclosure of the Flo-Gage. Option W2 provides a 4-20 mA dc output in addition to a local mechanical analog readout. Option W3 operates identically, but omits the local mechanical analog output.

The transmitter measures differential pressure directly with a solid state strain gage. The differential pressure measured is independent of the mechanical measurement provide by the local mechanical indicator. The output of the transmitter is linear with *differential pressure*. The output must be linearized in the receiving device to provide a flow measurement. The transmitter is powered by an external 24 volt dc power supply provided by the user. A rated capacity of 25 mA is required.

**Startup.** Pressurize the pipeline and check the zero. Adjust the zero pot if necessary.

# 2.

## Field Calibration (4-20 mA dc)

### 2.1 Test equipment

Fluke 9600A digital multimeter or equivalent.

### 2.2 Procedure

All meters are factory calibrated. Do not adjust span unless you are certain that the meter is reading incorrectly.

**WARNING: Do not attempt to adjust the span settings without the proper test equipment including the ability to establish a known steady flow rate close to full scale. Adjustment of the span WILL affect the meter calibration.**

Connect multimeter in series with current loop. With pipeline pressurized, adjust zero pot until current output reads 4.00 mA ±0.02 mA at no flow. Establish a known flow rate through the meter as close to 95% of full scale as practical. Set the span. Span is set using the following formula:  $I = 16 Q^2 + 4.00$ ; where I=current output in mA, Q=decimal % of full scale.

% FS	Current Output	% FS	Current Output
20	4.64	70	11.84
30	5.44	80	14.24
40	6.56	90	16.96
50	8.00	95	18.44
60	9.76	100	20.00

WARNING - ADJUSTING SPAN POT  
WILL CHANGE METER CALIBRATION

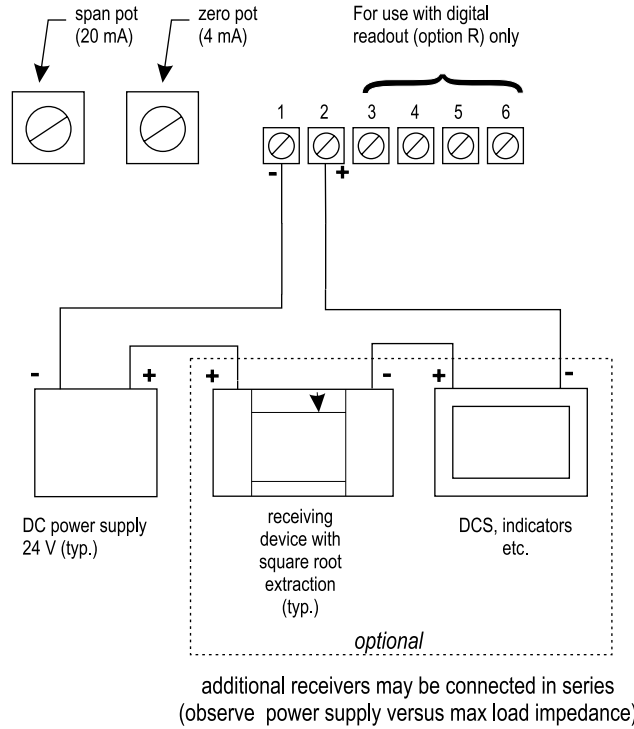


Figure 1  
Connection Diagram

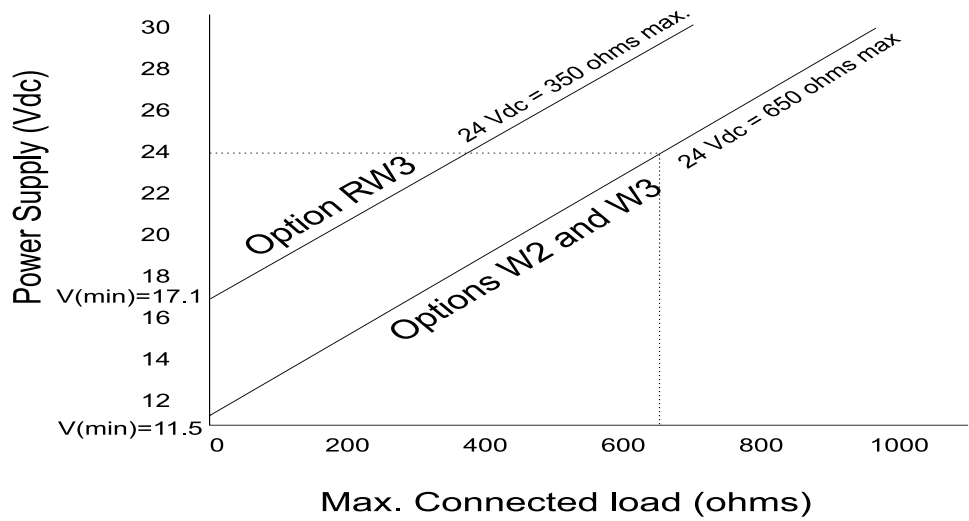


Figure 2  
Loop Impedance versus Power Supply Voltage