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GVI
GLOBAL VISION INC

# GVI Digital Flow Meter
## Installation and Operating Instructions

### With 4-20ma Transmitter Output




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## 1.0 General

Please read through this information before installing and using your device. Each Model has been tested and calibrated before shipment.

## 2.0 Cautions and Warnings

**Verify the operating pressure is less than or equal to 2900 PSI**

**The Instrument is calibrated with the pressure ports in the Horizontal position.**

**Plumb process connections to the appropriate pressure ports marked + (for Hi) and - (for low).**

**Verify the process is compatible with the materials of construction of the transmitter.**

**This instrument is sensitive to external magnetic fields which may affect the ability to display a 0 reading. It is recommended that the gauge be located at least 1" from any magnetic bracket.**

**There are no user serviceable parts within the electrical enclosure. Please do not remove the lens cover.**

## 3.0 Specifications

| Title | Parameter | Value |
|---|---|---|
| **1.Pressure** | | |
| | **Diff. Pressure Range** | As specified range from 20" H20 thru 100 Psid |
| | **Overpressure L-H** | Full Static |
| | **Overpressure H-L** | Full Static |
| | **Static** | 3000 PSI |
| **2. Performance** | **Input Power** | 12-32 VDC (with Display) |
| | **Accuracy (Non-Linearity, Repeatability, Increasing Flow)** | +/- 2% (25% Flow-100% Flow) |
| | | |
| **3. Environmental** | **Temp** | 32° F to 140° F |
| | **Storage temp** | -22°F to 185°F |
| | **Weather-proof** | Type 4 |
| **4. Display** | **Digits (Main)** | 0.0.0.0.0 thru 9.9.9.9.9 |
| | **Type** | Backlit LCD |
| | **Height** | 0.315 inch |
| | | |
| **5. Construction** | **Housing** | AL |
| | **Diaphragm** | Buna_N |
| | **Port (std)** | Color Coded Flare ¼" Male |
| | | |

# 4.0 Mechanical Installation

## 4.1 Connections

The digital flow meter is supplied standard with **1/4" Male Flare connections**. The ports are individually labeled "+" for Hi (colored red) and "-" for low (colored green). When making connections to the fittings please double wrench to protect loosening / over tightening the fittings.

## 4.2 Media Compatibility

The digital flow meter is designed to be used with any gas or liquid compatible with Aluminum, Nitrile Elastomers, and SS.

## 4.4 Environment

### 4.4.1 Temperature:

The operating temperature limits are 32° F to 140° F.
Storage temperature is -22° F to 185° F.

### 4.4.2 Moisture

The assembly is moisture protected to Type 4 provided the electrical mating connectors are attached and a suitable jacketed cable is selected for a proper compression seal.

## 5.0 Electrical

### 5.1 2 Wire / 4-20 ma

The Input operating voltages and Load resistance equation for the Digital Display Flow transmitter is defined below for 2-wire / 4-20 ma.

| MODEL | INPUT VOLTAGE | LOOP RESISTOR EQUATION |
|---|---|---|
| Disp + Transmitter | 12 ~ 32 VDC | $R \leq (V_{Supply} - 15) / .02$ |

Connection for the 2 wire interface is as follows:

**Connector:** Pin 1 - + Vcc ; Pin 2 - Gnd / Signal Out

See **Figure 1** for 2 wire interface (The $R_L$ is optional. This could represent another remote display, loop resistor in a control panel, etc.).

See **Figure 2** for Field Wiring of the DIN mating connector

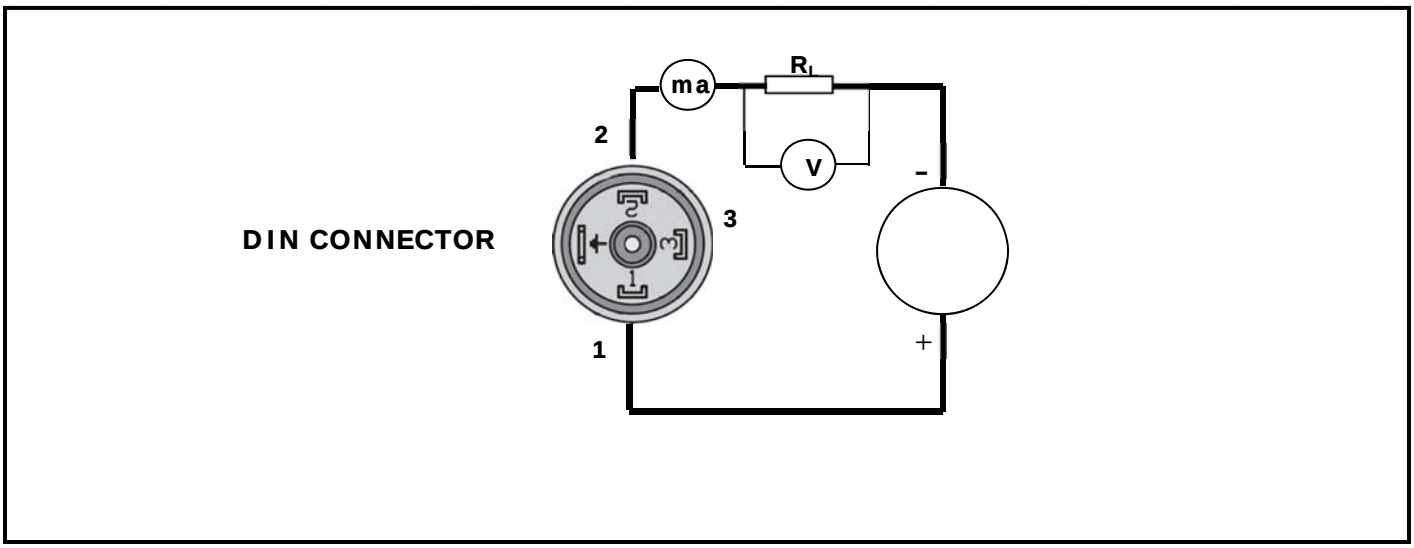



**FIGURE 1 - 2 WIRE INTERFACE**

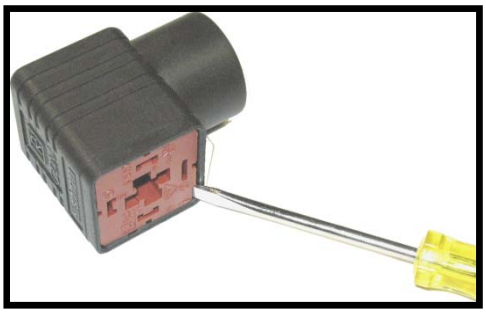
**5.2 Display:**




The display has the capability of indicating alternating flow and % flow in decimal notation. It can be configured to display only flow or % flow, or alternate between flow and % flow. ***The default shipped configuration will be flow*.**

% flow will also be continuously displayed in a bar graph across the top of the display.

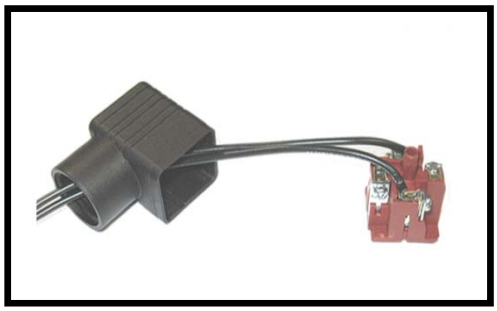
If enabled, the display can also indicate temperature in °C. The default shipped configuration will have no temperature display.



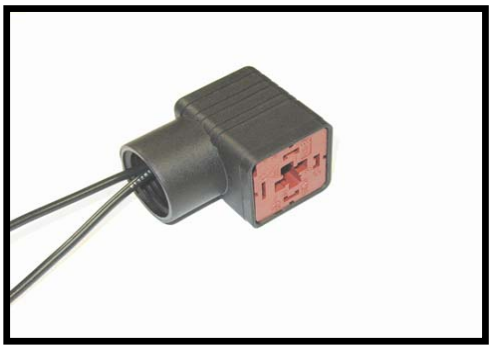
**Remove the plug-in connector from the gauge assembly and using a screwdriver pry out the insert from the connector shell.**



**Insert connection wires through the connector shell as shown.**



**Strip wire lead ends and connect to terminal locations 1 & 2 as shown. Terminals are marked.**



**Insert terminal connection insert into connector shell. Rotate if necessary to the desired clocking.**

## FIGURE 2

## 5.3 Reverse Polarity Protection:

The assembly is reverse polarity protected at the power supply inputs. The unit will not be damaged if input power is reversed.

***DO NOT APPLY AC Voltage to the input terminals.***

# 6.0 Calibration

The assembly is factory calibrated and has no user adjustments for calibration after the fact. The assembly uses a microprocessor to perform an 11 point square root linearization algorithm.

# 7.0 Placing in Service

For water service bleed all air out of the lines. For optimum accuracy, keep unit 1" minimum away from any magnetic brackets. For optimum accuracy the assembly performs best with the display horizontal.

# 8.0 Returning products for repair

Please do not tamper with the product other than the adjustments identified within this manual. If technical assistance is needed please contact the factory.

If you feel that it is necessary to return the product please contact GVI and request a Return Goods Authorization Number (RGA).When returning a product to GVI, the product should be carefully packaged and the following information should be included inside the package:

1. Name and phone / email of person to contact
2. Shipping and billing information
2. Description of the malfunction
4. Identification of any hazardous material used with the product.

## 8.0 NOTES: