

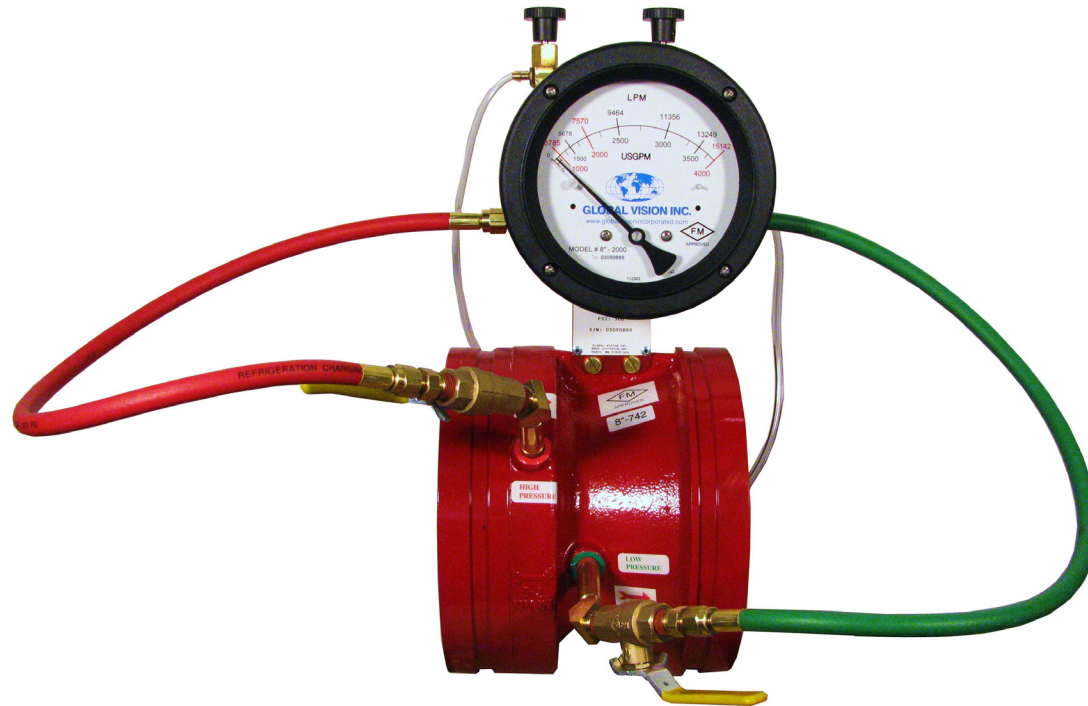


GVI

GLOBAL VISION INC

GVI FIRE PUMP TEST METERS

THE INDUSTRY LEADER IN FLOW METERS



GLOBAL VISION INC 8730 JEFFERSON HIGHWAY
OSSEO, MINNESOTA 55369 USA TEL: 763-391-0990 FAX: 763-391-7668
WWW.GVIFLOW.COM INFO@GVIFLOW.COM



WHY CHOOSE GVI?



- FM / UL LISTED FLOW METERS
- PATENTED ACCURACY OF 0.5%
- FRICTION LOSS LESS THAN 1 PSI
- 612 WARRANTY: 6YR GAUGE / 12YR VENTURI
- DIGITAL GAUGE WITH 4-20MA TRANSMITTER
- SUBSTANTIAL INVENTORY FOR QUICK SHIPPING

WITH CONTINUOUS IMPROVEMENTS AND CUTTING EDGE TECHNOLOGY, GVI HAS JUST RELEASED OUR MOST ACCURATE FLOW METER EVER.

THIS IS WHY GVI IS THE MOST REQUESTED AND MOST SPECIFIED FIRE METER IN THE WORLD.

THE GVI GAUGE IS USED IN MORE FIRE TRAINING CENTERS WORLDWIDE THAN ALL FLOW TEST METER COMPETITORS COMBINED.

AFTER USING GVI FLOW METER FOR THE FIRST TIME, YOU WILL UNDERSTAND WHY WE ARE NUMBER 1.



ACCUFLOW VENTURI
PATENT
#D764,630S



CUSTOMIZED AND SPECIAL PROJECTS



GVI HOLDS FM AND UL LISTING

PRODUCTION / TESTING

GVI PRODUCES ALL VENTURIS FROM DOMESTIC U.S. THICK WALL TUBE. THIS HEAVY DUTY STEEL ENSURES OUR VENTURI WILL BE AROUND YEARS LONGER THAN THE THINNER, LIGHTWEIGHT ALTERNATIVES, SO MUCH LONGER, GVI HAS A 12 YEAR WARRANTY ON THIS VENTURI.



WITH 2
NEW CNC
LATHES AT
GVI, LEAD
TIMES ARE
IN HOURS,
NOT WEEKS



TOLERANCES
OF .005
MEAN A
PERFECT
VENTURI
EVERY TIME



AFTER MACHINING,
EVERY VENTURI IS
INSPECTED WITH
ISO CERTIFIED
TEST EQUIPMENT



NIST METER TESTING

EVERY GVI GAUGE UNDERGOES ADVANCED COMPUTERIZED TESTING BEFORE LEAVING THE FACTORY. THESE TESTS INCLUDE LEAKAGE, CALIBRATION, AND ACCURACY TESTS.

UPON SUCCESSFUL TESTING THE GAUGE IS ISSUED AN NIST CERTIFICATE TIED SPECIFICALLY TO THE SERIAL NUMBER ON THE DIAL FACE.

THE CERTIFICATION IS STORED IN A PLASTIC POUCH CONNECTED TO THE GAUGE. THIS POUCH ALSO ILLUSTRATES THE TYPICAL INSTALLATION AND THE OPERATING INSTRUCTIONS FOR THE FIRE PUMP FLOW TEST.

CONTACT YOUR GVI REP FOR DUPLICATE SHEETS OR UPDATED CERTIFICATIONS.



Line Size	Pump GPM	Meter Range Min. & Max. GPM	Meter Range Min. & Max. LPM	Model Number Grooved	Model Number Butt Weld	Model Number 150# Flanged	Model Number <Threaded> *300# FLANGED*
**1-1/4"	25	12.5 – 50	47 - 189	* 1.25"-25-G	1.25"-25-B	* 1.25"-25-F	1.25"-25-T
**2"	50	25 – 100	95 - 379	* 2"-50-G	2"-50-B	* 2"-50-F	2"-50-T
**2-1/2"	100	50 - 200	189 - 757	2.5"-100-G	2.5"-100-B	2.5"-100-F	*2.5"-100-F3
3"	150	75 – 300	284 - 1136	3"-150-G	3"-150-B	3"-150-F	*3"-150-F3
3"	200	100 – 400	379 - 1514	3"-200-G	3"-200-B	3"-200-F	*3"-150-F3
4"	250	125 – 500	473 - 1893	4"-250-G	4"-250-B	4"-250-F	*4"-250-F3
4"	300	150 – 600	568 - 2271	4"-300-G	4"-300-B	4"-300-F	*4"-300-F3
4"	400	200 – 800	757 - 3028	4"-400-G	4"-400-B	4"-400-F	*4"-400-F3
4"	450	225 – 900	852 - 3407	4"-450-G	4"-450-B	4"-450-F	*4"-450-F3
5"	450	225 – 900	852 - 3407	5"-450-G	5"-450-B	5"-450-F	*5"-450-F3
5"	500	250 – 1000	946 - 3785	5"-500-G	5"-500-B	5"-500-F	*5"-500-F3
5"	750	375 – 1500	1420 - 5678	5"-750-G	5"-750-B	5"-750-F	*5"-750-F3
6"	500	250 – 1000	946 - 3785	6"-500-G	6"-500-B	6"-500-F	6"-500-F3
6"	750	375 – 1500	1420 - 5678	6"-750-G	6"-750-B	6"-750-F	6"-750-F3
6"	1000	500 – 2000	1893 - 7570	6"-1000-G	6"-1000-B	6"-1000-F	6"-1000-F3
6"	1250	625 - 2500	2366 - 9462	6"-1250-G	6"-1250-B	6"-1250-F	6"-1250-F3

STANDARD MODEL LIST



Line Size	Pump GPM	Meter Range Min. & Max. GPM	Meter Range Min. & Max. LPM	Model Number Grooved	Model Number Butt Weld	Model Number Flanged
8"	1000	500 – 2000	1893 - 7570	8"-1000-G	8"-1000-B	8"-1000-F
8"	1250	625 – 2500	2366 - 9462	8"-1250-G	8"-1250-B	8"-1250-F
8"	1500	750 – 3000	2839 - 11356	8"-1500-G	8"-1500-B	8"-1500-F
8"	2000	1000 – 4000	3785 - 15142	8"-2000-G	8"-2000-B	8"-2000-F
8"	2500	1250 – 5000	4731 - 18925	8"-2500-G	8"-2500-B	8"-2500-F
8"	3000	1500 – 6000	5678 - 22712	8"-3000-G	8"-3000-B	8"-3000-F
10"	1500	750 – 3000	2839 - 11356	10"-1500-G	10"-1500-B	10"-1500-F
10"	2000	1000 – 4000	3785 - 15142	10"-2000-G	10"-2000-B	10"-2000-F
10"	2500	1250 – 5000	4731 - 18925	10"-2500-G	10"-2500-B	10"-2500-F
10"	3000	1500 – 6000	5678 - 22712	10"-3000-G	10"-3000-B	10"-3000-F
10"	3500	1750 – 7000	6624 - 26495	10"-3500-G	10"-3500-B	10"-3500-F
10"	4000	2000 – 8000	7570 - 30283	10"-4000-G	10"-4000-B	10"-4000-F
10"	4500	2250 – 9000	8518 - 34068	10"-4500-G	10"-4500-B	10"-4500-F
12"	2500	1250 – 5000	4731 - 18925	* 12"-2500-G	* 12"-2500-B	* 12"-2500-F
12"	3000	1500 – 6000	5678 - 22712	* 12"-3000-G	* 12"-3000-B	* 12"-3000-F
12"	3500	1750 – 7000	6624 - 26495	* 12"-3500-G	* 12"-3500-B	* 12"-3500-F
12"	4000	2000 – 8000	7570 - 30283	* 12"-4000-G	* 12"-4000-B	* 12"-4000-F
12"	4500	2250 – 9000	8518 - 34068	* 12"-4500-G	* 12"-4500-B	* 12"-4500-F
12"	5000	2500 - 10000	9464 - 37854	12"-5000-G	12"-5000-B	12"-5000-F



**1026
Carbon Steel**

316 stainless

Duplex S.S.

Super Duplex

Monel

NiAlumBrz

90-10 Cu-Ni

Aluminum

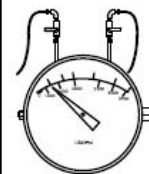
Brass

Epoxy

CONSTRUCTION & SPECIFICATIONS

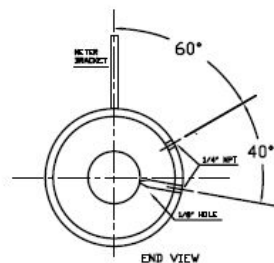
MATERIALS: 1026 MACHINED CARBON STEEL
VALVES: 1/4" BRASS BALL
FLANGE OPT: 150# ANSI B 16.5
300# ANSI B 16.5
ID TAG: ALUMINUM

METER DATA

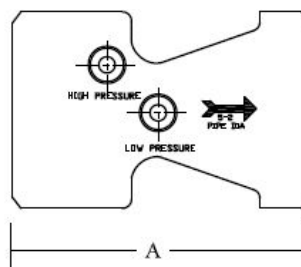


CONSTRUCTION: ALUMINUM BODY
OPERATION: DIAPHRAGM (BUNA CONVOLUTED)
TEMPERATURE: 180°F / 80°C
PRESSURE: 500 PSIG - 3450 KPA
APPROX. WEIGHT: 3.75 LBS (1.7 KGS)

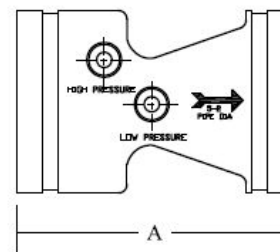
4" DIAL STANDARD - 6" DIAL AVAILABLE



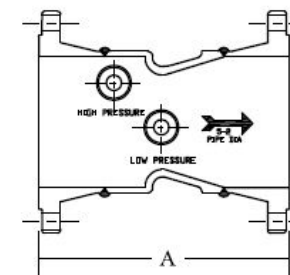
BUTT WELD / GROOVED



BUTT WELD



GROOVED



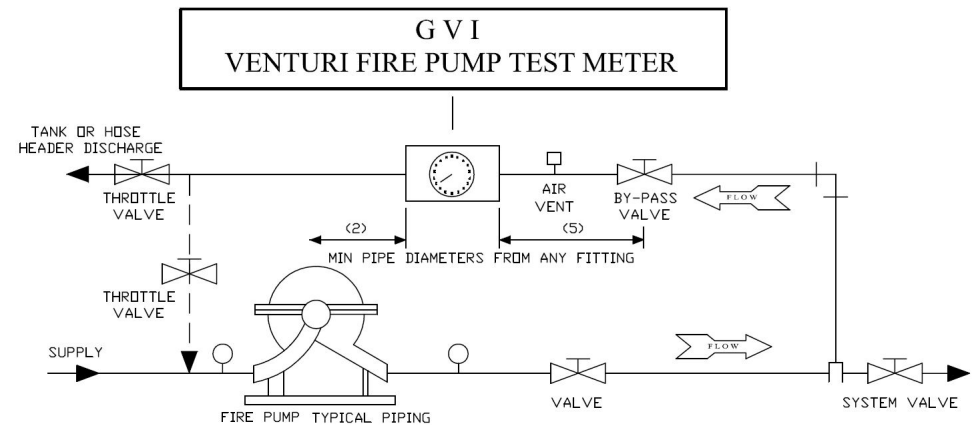
FLANGED

SIZE	BUTT WELD & GROOVED		150 # FLANGED		300# FLANGED	
	"A" DIM	APPROX. WEIGHT	"A" DIM	APPROX. WEIGHT	"A" DIM	APPROX. WEIGHT
1-1/4"	4.875	10 lbs.	—	—	—	—
2"	5.000	11 lbs.	—	25 lbs.	—	—
2-1/2"	4.000	11 lbs.	9.250	25 lbs.	10.000	35 lbs.
3"	4.000	13 lbs.	9.375	40 lbs.	10.250	50 lbs.
4"	5.375	15 lbs.	11.375	50 lbs.	12.125	65 lbs.
5"	6.000	20 lbs.	13.000	60 lbs.	13.750	80 lbs.
6"	7.000	25 lbs.	14.000	75 lbs.	14.750	115 lbs.
8"	7.250	35 lbs.	15.250	120 lbs.	16.000	175 lbs.
10"	8.000	60 lbs.	16.000	170 lbs.	17.250	225 lbs.
12"	10.000	65 lbs.	19.000	225 lbs.	20.250	345 lbs.

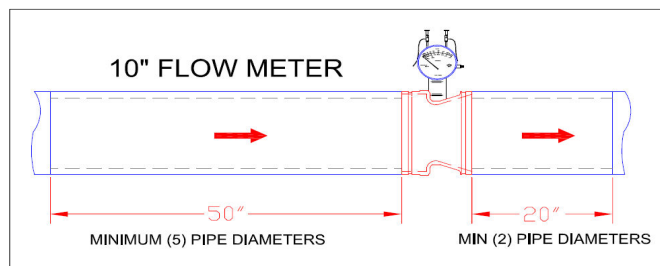
INSTALLATION / OPERATION



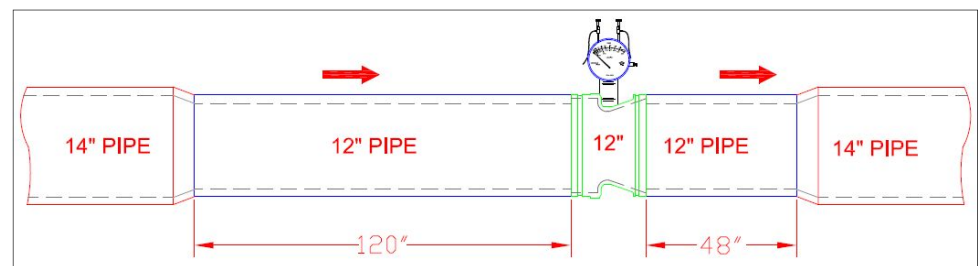
1. CLOSE THE SYSTEM VALVE
2. OPEN THE BY-PASS VALVE AND THROTTLE VALVE
3. PURGE AIR FROM METER AS FOLLOWS:
 - OPEN BALL VALVE ON RED AND GREEN HOSES
 - OPEN THE HIGH SIDE BLEEDER KNOB UNTIL A STEADY STREAM OF WATER IS COMING FROM THE CLEAR HOSE
 - CLOSE HIGH PRESSURE BLEEDER KNOB
 - REPEAT FOR LOW PRESSURE SIDE
 - ENSURE BOTH BLEEDER KNOBS ARE CLOSED
4. START FIRE PUMP, READ METER IN GPM/LPM/M3H
5. REFER TO PUMP REQUIREMENTS AND ADJUST THROTTLE VALVE FOR THIS REQUIREMENT
6. AFTER TEST, OPEN SYSTEM VALVE AND CLOSE THE BY-PASS AND THROTTLE VALVES



TYPICAL FLOW LOOP CONFIGURATION
CAN BE INSTALLED VERTICALLY OR HORIZONTALLY



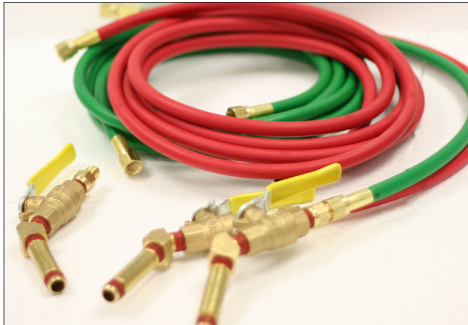
TYP. INSTALL WITH 5/2 PIPE DIAMETERS.
CLEAR OF OBSTRUCTIONS, VALVES, OR BENDS.



IF REDUCERS ARE USED, LENGTHEN THE MIN PIPE DIA.
TO 10/4 TO ENSURE ACCURACY IS MAINTAINED.



REPLACEMENT HOSES



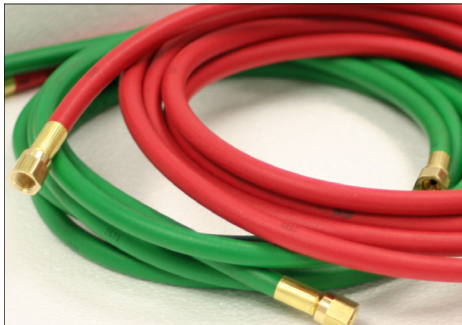
Replacement Hoses with Full Brass Fittings

GREEN HOSE

24-FPH-F-GRN	2' Green fire pump hose with brass fittings
36-FPH-F-GRN	3' Green fire pump hose with brass fittings
60-FPH-F-GRN	5' Green fire pump hose with brass fittings
120-FPH-F-GRN	10' Green fire pump hose with brass fittings
180-FPH-F-GRN	15' Green fire pump hose with brass fittings

RED HOSE

24-FPH-F-RED	2' Red fire pump hose with brass fittings
36-FPH-F-RED	3' Red fire pump hose with brass fittings
60-FPH-F-RED	5' Red fire pump hose with brass fittings
120-FPH-F-RED	10' Red fire pump hose with brass fittings
180-FPH-F-RED	15' Red fire pump hose with brass fittings



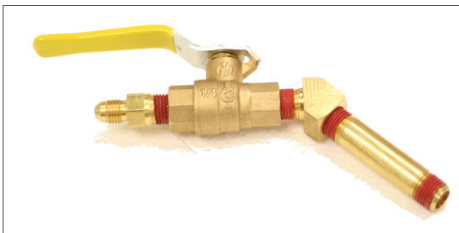
Replacement Hoses WITHOUT Brass Fittings

GREEN HOSE

24-FPH-GRN	2' Green fire pump hose only
36-FPH-GRN	3' Green fire pump hose only
60-FPH-GRN	5' Green fire pump hose only
120-FPH-GRN	10' Green fire pump hose only
180-FPH-GRN	15' Green fire pump hose only

RED HOSE

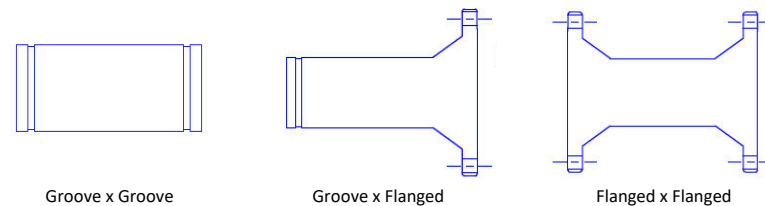
24-FPH-RED	2' Red fire pump hose only
36-FPH-RED	3' Red fire pump hose only
60-FPH-RED	5' Red fire pump hose only
120-FPH-RED	10' Red fire pump hose only
180-FPH-RED	15' Red fire pump hose only



Brass Fitting Assembly

BFA1 - Single assembly
BFA2 - Brass fitting pair

GVI Spooling Pieces



FLOW METER ACCESSORIES



CONTACT YOUR GVI REPRESENTATIVE FOR ADDITIONAL
INFORMATION ON REPLACEMENT PARTS AND ACCESSORIES.



ANALOG GAUGE



DIGITAL GAUGE



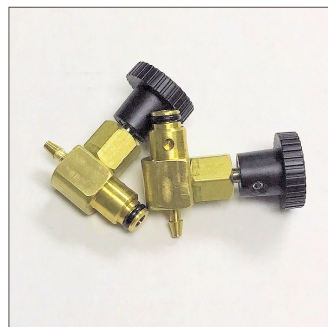
DIGITAL BATTERY PACK



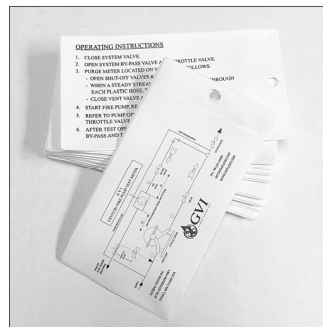
HARD STORAGE CASE



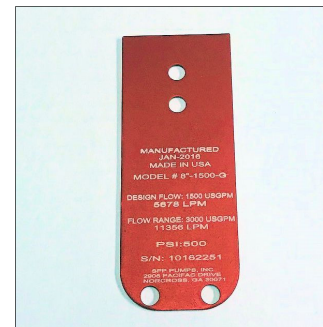
CLEAR BLEED HOSE



BLEEDER VALVES



INSTRUCTION POUCH



ENGRAVED I.D. TAG



AUTO AIR VENT



GVI Digital Flow Meter Installation and Operating Instructions

With 4-20ma Transmitter Output



GVI Digital Flow Meter / Transmitter

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" H2O 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	$R \leq (V_{\text{Supply}} - 15) / .02$

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

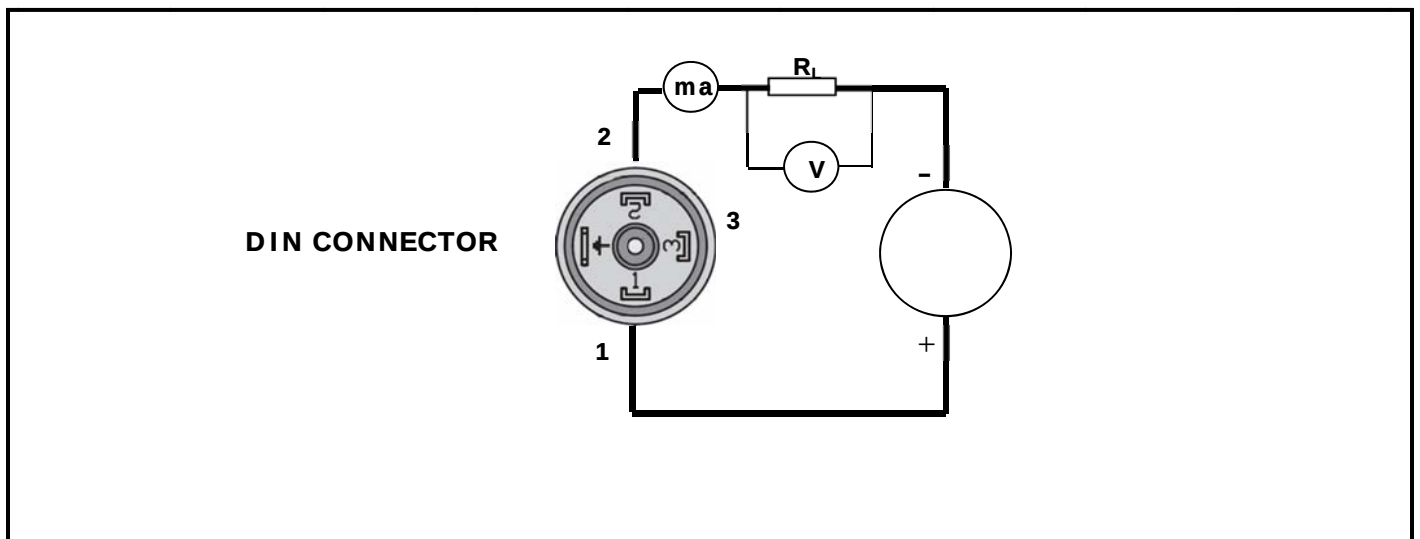


FIGURE 1 - 2 WIRE INTERFACE

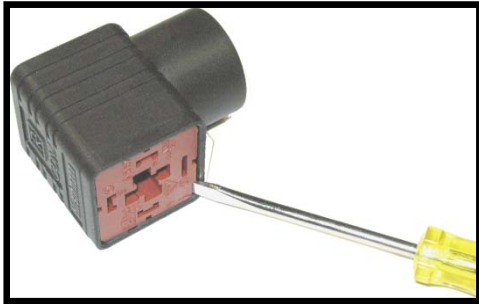
5.2 Display:



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.

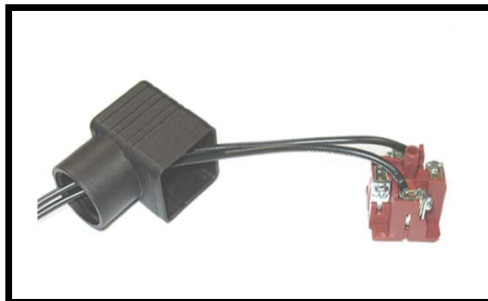
If enabled, the display can also indicate temperature in °C. The default shipped configuration will have no temperature display.



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.