

FLOW

UNIVERSAL FLOW TRANSMITTER MODEL UFT-1

DESCRIPTION

The **Model UFT-1 Flow Transmitter** is a solid-state, digital signal converter designed to operate with **Data Industrial 200 Series Flow Sensors**. Both analog (4-20 mA) and pulse outputs are provided. The **UFT-1** may be mounted in an optional **Watertight Enclosure** and with digital display of gpm or totalized flow.

FEATURES

- *Analog and pulse outputs*
- *Optional watertight enclosure*
- *Optional displays for flow rate and totalization*
- *Low cost*
- *Provides excitation voltage for flow sensors*
- *LED indication of pulse activity*

APPLICATION

ANALOG OUTPUT (RATE)

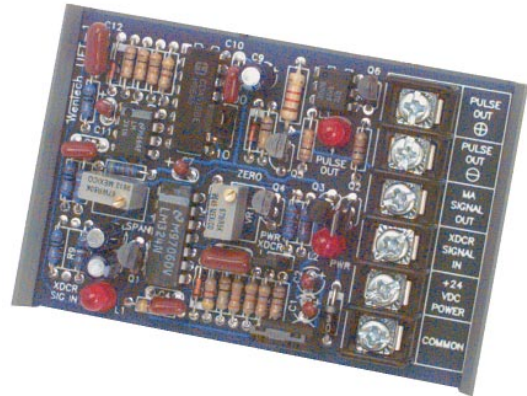
The **UFT-1** analog transmitter converts a **Data Industrial** digital flow signal into a pre-calibrated 4-20 mA signal. The **UFT-1** must be calibrated for each **Data Industrial Flow Sensor** installation. The pipe type, size, and maximum flow rate must be specified at the time of order if 4-20 mA output is to be used.

PULSE OUTPUT (TOTALIZATION)

The **UFT-1** pulse output divides the **Data Industrial** digital flow signal by a jumper-selectable 10 or 100 to provide a more usable digital pulse. The pulse output is normally used where flow totalization is required. A simple conversion formula (using the **Flow Factors for Pulse Output** table on the next page) can convert the digital pulses to totalized gallons.

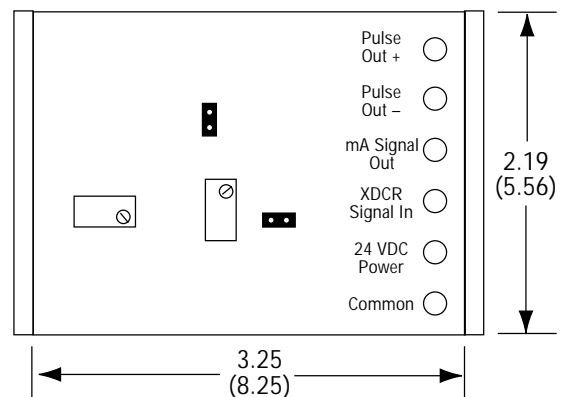
The pulse output is an optoisolated transistor switch that can be wired to source or sink pulses to totalizer equipment.

NOTE: This unit is not intended for field setup or field calibration.



DIMENSIONS

in
(cm)



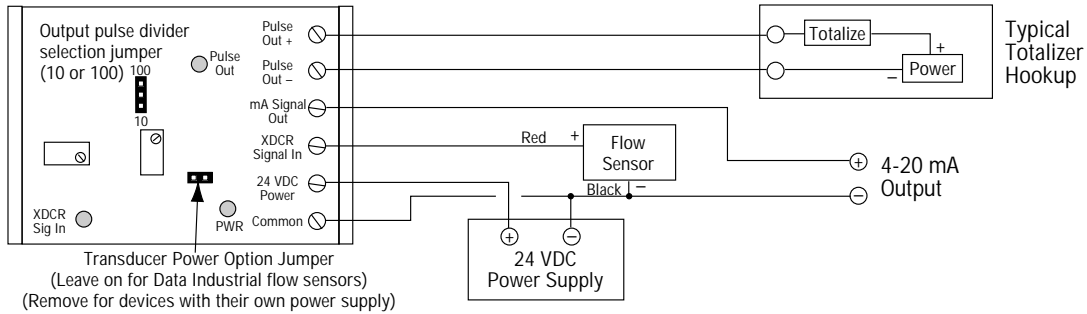
SPECIFICATIONS

Supply voltage	24 VDC @ 60 mA	Max loop resistance	(4-20 mA output)750 ohms @ 24 VDC
Operating temp range	32° to 140°F (0° to 60°C)	Output switch rating	40 VDC @ 200 mA
Operating humidity	5-95% noncondensing	Accuracy	±0.5%
Input	Dry or electronic contact	Step response	5 seconds from 10-90%
Output	4-20 mA and solid-state switch		

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WIRING



INSTALLATION AND CALIBRATION

The **UFT-1 Transmitter** can be mounted in any position. The optional **Watertight Enclosure** provides a watertight seal against contaminants.

While field calibration is not required with the **UFT-1**, flow conversion must be accomplished at the monitoring computer. The information below is provided for making the conversion calculations.

FLOW RATE

$$\text{Flow (gpm)} = \frac{(\text{mA measured} - 4 \text{ mA}) \times \text{Maximum gpm}}{16}$$

Maximum gpm is the flow rate at 20 mA output on the transmitter and must be specified at the time the **UFT-1** is ordered for proper calibration.

TOTALIZED FLOW

$$\text{Totalized Gallons} = (\text{Flow Factor}) \times (\text{Output Divider}) \times (\text{Total Pulses})$$

For totalized m^3 , multiply the above by 0.00379.

Output Divider = 10 or 100 depending on jumper-selection.
Flow factors per pulse are shown in the table at the right.

FLOW FACTORS FOR DATA INDUSTRIAL FLOW SENSORS

MODEL	PIPE SIZE	FLOW FACTOR	GALLONS/PULSE	
			JUMPER IN 10 POSITION	JUMPER IN 100 POSITION
220P-1.5	1 1/2"	0.03118	0.3118	3.118
220P-2	2"	0.04611	0.4611	4.611
228B-2	2"	0.04579	0.4579	4.579
* 228C-2	2"	0.04731	0.4731	4.731
250B-0.5	1/2"	0.005646	0.05646	0.5646
250B-0.75	3/4"	0.007514	0.07514	0.7514
250B-1	1"	0.007015	0.07015	0.7015
250B-1.25	1 1/4"	0.01280	0.1280	1.280
250B-1.5	1 1/2"	0.01780	0.1780	1.780
220B	3"	0.07280	0.7280	7.280
220B	4"	0.1396	1.396	13.96
220B	5"	0.2457	2.457	24.57
220B	6"	0.3611	3.611	36.11
220B	8"	0.6710	6.710	67.10
220B	10"	1.080	10.80	108.0
220B	12"	1.630	16.30	163.0
220B	14"	1.944	19.44	194.4
220B	16"	2.502	25.02	250.2
220B	18"	3.158	31.58	315.8

NOTES

- Flow factors for a Model 225 and 226 are the same as Model 220
- Flow factor for Model 228S is the same as 228C.
- P Series sized for SCH 80 PVC pipe.
All others series sized for SCH 40 black iron pipe.

ORDERING INFORMATION

UFT-1	Basic Transmitter for pulse output
A**	Analog Output Calibrated 4-20 mA
E	Enclosed in Watertight Enclosure
1	Flow Totalization Display, Enclosed
2	Flow Rate Display, Enclosed
3	*Flow Totalization + Rate Display

UFT-1 **A** **E** **2**

Example: UFT-1AE2 Basic Transmitter with calibrated 4-20 mA flow rate output, (4 mA = no flow 20 mA = max. flow) enclosed with LCD flow rate indication.

* When a UFT-1AE3 is ordered the UFT-1A will be in one enclosure and the Totalizer and Rate Display will be in a separate enclosure.

**Pipe size and schedule, and maximum flow rate must be specified at time of order.