

Honeywell

E-Mon F-3500 Series Insertion Electromagnetic Flow Meter

SPECIFICATION DATA



Calibration

Every electromagnetic flow meter is wet calibrated in a flow laboratory against standards that are directly traceable to N.I.S.T. A certificate of calibration accompanies every meter.

FEATURES

Exceptional Performance & Value - F-3500 series insertion electromagnetic flow meters provide a degree of accuracy and reliability normally only found in expensive full bore devices

Excellent Long Term Reliability - insertion style electromagnetic flow meters employ a low maintenance, non-moving parts technology to sense flow. State-of-the-art electronics and patented design features help maintain accuracy over time.

Proprietary Design Advantage - F-3500 insertion electromagnetic flow meters utilize patented design features that significantly enhance performance. The dual-electrode design and continuous auto-zero function combine to improve accuracy and sensitivity — particularly at flow rates.

Simplified Hot Tap Insertion Design - Standard on every insertion flow meter, this feature allows for insertion and removal by hand, without a system shutdown.

DESCRIPTION

The F-3500 series insertion electromagnetic flow meters are suitable for measuring electrically conductive liquids in a wide variety of applications. Each F-3500 provides a single analog output for flow rate, a high resolution frequency output to drive peripheral devices, a scalable pulse output for totalization and an empty pipe alarm signal. Optional remote displays and Btu measurement systems are also available.

Applications

- Chilled water, hot water, condenser water & water/glycol solutions for HVAC
- Process water & water mixtures
- Domestic/municipal water



Fig. 1. F-3500 Series Insertion Electromagnetic Flow Meter combined with the System-10 BTU meter form an energy measurement system with unsurpassed accuracy and reliability.



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SPECIFICATIONS

NOTE: Specifications are subject to change without notice.

Accuracy:

± 1.0% of reading from 2 to 20 ft/sec
 ± 0.02 ft/sec below 2 ft/sec

Flow Range: 0.25 ft/s to 20 ft/s (80:1 turndown)

Sensing Method: Electromagnetic sensing (no moving parts)

Conductivity Range: 20 to 60,000 iSiemens/cm

Pipe Size Range: 3” through 72” nominal diameter

Input Power:

20 – 28 VDC, 250mA @ 24 VDC
 20 – 28 VAC 60 Hz, 6 VA

Liquid Temperature Range: 15° to 250° F

Ambient Temperature Range: -5° to 150° F

Operating Pressure: 400 PSI maximum

Output Signals Provided:

Analog Output (Isolated): Selectable: 4-20mA, 0-10V or 0-5V

Frequency Output: 0 – 15 Volt peak pulse, 0 – 500Hz

Scalable Pulse Output:

Isolated solid state dry contact
 Contact rating: 50VDC, 100mA maximum
 Pulse Duration: 0.5, 1, 2 or 6 seconds

Material

Wetted metal components: 316 stainless steel

Sensor head: Polysulfone

Electronics Enclosure: Weathertight NEMA 4 aluminum enclosure

Electrical Connections: 10’ of PVC jacketed cable with 1/2” NPT conduit connection

**Table 1. Operating Range For Common Pipe Sizes
 0.25 to 20 ft/sec**

Pipe Size (inches)	Flow Rate (GPM)
3	6 - 460
4	10 - 800
6	15 - 1,800
8	39 - 3,100
10	61 - 4,900
12	87 - 7,050
14	105 - 8,600
16	137 - 11,400
18	174 - 14,600
20	216 - 18,100
24	313 - 26,500
30	557 - 41,900
36	760 - 60,900

Wiring Information

Table 2. F-3500 Wiring Information

Wire Color	Description	Notes
RED	(+) Supply Voltage: 24 VDC, 250 mA or 24 VAC, 60 Hz, 6 VA	Connect to power supply (+): DC (+) or AC (line)
BLACK	(-) Isolated Supply Voltage Common	Connect to power supply (-): DC (-) or AC (neutral)
GREEN/ YELLOW	Earth ground connection	Required to operate the meter
GREEN	(+) Isolated Frequency Output	Required when connecting to a display or BTU
YELLOW	(-) Frequency Output Common meter	
BLUE	(+) Isolated Analog Output	Configurable as a 4-20 mA, 0-10 Volt or 0-5 Volt Output
BROWN	(-) Isolated Analog Output Common	
GRAY VIOLET	Scaled Output Isolated Dry Contact	Scalable dry contact pulse output for totalization
DIAGNOSTIC SIGNALS		
ORANGE WHITE	Master Alarm, Dry Contact	Dry contact closure signal indicating fault condition

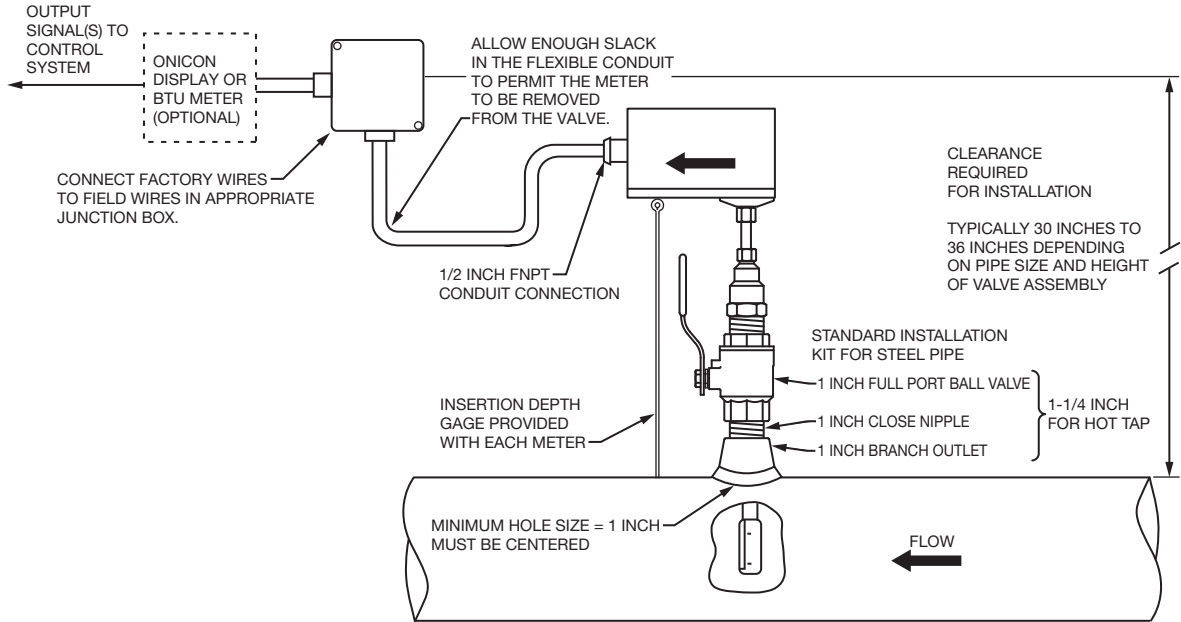
Typical Meter Installation

(New construction or scheduled shutdown)

- Install in vertical or horizontal pipe
- For horizontal pipe, position meter anywhere in upper 240° (see Fig. 2)



Fig. 2. Meter installation range for horizontal pipe.



NOTE: INSTALLATION KITS VARY BASED ON PIPE MATERIAL AND APPLICATION. FOR INSTALLATIONS IN PRESSURIZED (LIVE) SYSTEMS, USE "HOT TAP" 1-1/4 INCH INSTALLATION KIT AND DRILL HOLE USING A 1 INCH WET TAP DRILL.

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Fig. 3. Typical Meter installation.

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