

• **INLINE FLOW METER •**
MODEL F-1311 TURBINE
ISOLATED ANALOG OUTPUT



Made in the USA

DESCRIPTION

ONICON inline turbine flow meters are suitable for measuring electrically conductive water-based liquids. The F-1311 model provides isolated 4-20 mA and 0-10 V analog output signals that are linear with the flow rate.

CALIBRATION

Every ONICON flow meter is wet-calibrated in our flow laboratory against primary volumetric standards directly traceable to NIST. Certification of calibration is included with every meter.

FEATURES

Unmatched Price vs. Performance - Custom calibrated, highly accurate instrumentation at very competitive prices.

Excellent Long-term Reliability - Patented electronic sensing is resistant to scale and particulate matter. Low mass turbines with engineered jewel bearing systems provide a mechanical system that virtually does not wear.

Industry Leading Two-year "No-fault" Warranty - Reduces start-up costs with extended coverage to include accidental installation damage (miswiring, etc.). Certain exclusions apply; see our complete warranty statement for details.

APPLICATIONS

- Chilled water, hot water, condenser water, and water/glycol/brine for HVAC
- Process water and water mixtures
- Domestic water

GENERAL SPECIFICATIONS

ACCURACY

- ± 0.5% OF READING at calibrated velocity
- ± 2% OF READING from 0.8 to 38 GPM (50:1 range)

SENSING METHOD

Electronic impedance sensing
(non-magnetic and non-photoelectric)

PROCESS CONNECTIONS

Threaded or sweat union fittings
3/4" or 1"

SUPPLY VOLTAGE

24±4 V AC/DC at 100 mA

LIQUID TEMPERATURE RANGE

Standard: 180° F continuous, 200° F peak
High Temp: 280° F continuous, 300° F peak

AMBIENT TEMPERATURE RANGE

-5 to 160° F (-20 to 70° C)

OPERATING PRESSURE

400 PSI maximum

PRESSURE DROP

3 PSI at maximum flow rate

OUTPUT SIGNALS PROVIDED:

ANALOG OUTPUTS (ISOLATED)

Voltage output: 0-10 V (0-5 V available)
Current output: 4-20 mA

FREQUENCY OUTPUT

0-15 V peak pulse, typically less than 300 Hz

MATERIAL

Brass housing and stem
Sapphire bearings and tungsten carbide shaft

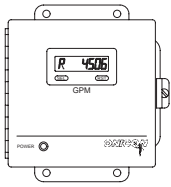
ELECTRONICS ENCLOSURE

Weather-tight aluminum enclosure

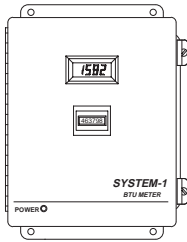
ELECTRICAL CONNECTIONS

4-wire minimum for 4-20mA or 0-10V output
Standard: 10' of cable with 1/2" NPT conduit connection
Optional: Indoor DIN connector with 10' of plenum rated cable

Also Available



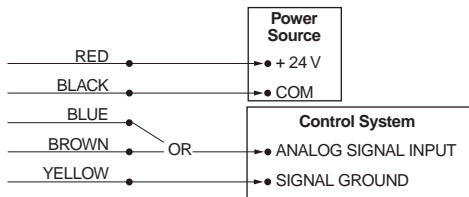
Display Modules



BTU Measurement Systems

F-1311 Wiring Diagram

Flow Meter into Control System (No Display or BTU Meter)

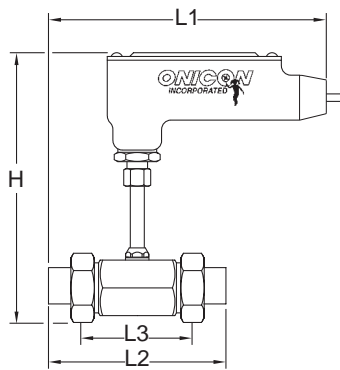


- NOTE: 1. Black wire is common with the pipe ground (typically earth ground).
 2. Frequency output required for ONICON display module or BTU meter, refer to wiring diagram for peripheral device.

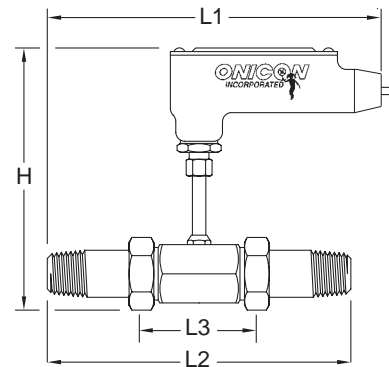
F-1311 Wiring Information

WIRE COLOR CODE		NOTES
RED	(+) 24 V AC/DC supply voltage, 100 mA	Connect to power supply positive
BLACK	(-) Common ground (Common with pipe ground)	Connect to power supply negative
GREEN	(+) Frequency output signal: 0-15 V peak pulse	Required when meter is connected to local display or BTU meter
BLUE	(+) Analog signal: 4-20 mA (isolated)	Use yellow wire as (-) for these signals. Both signals may be used independently.
BROWN	(+) Analog signal: 0-10 V (isolated)	
YELLOW	(-) Isolated ground	Use for analog signals only

Inline Flow Meter Dimensions

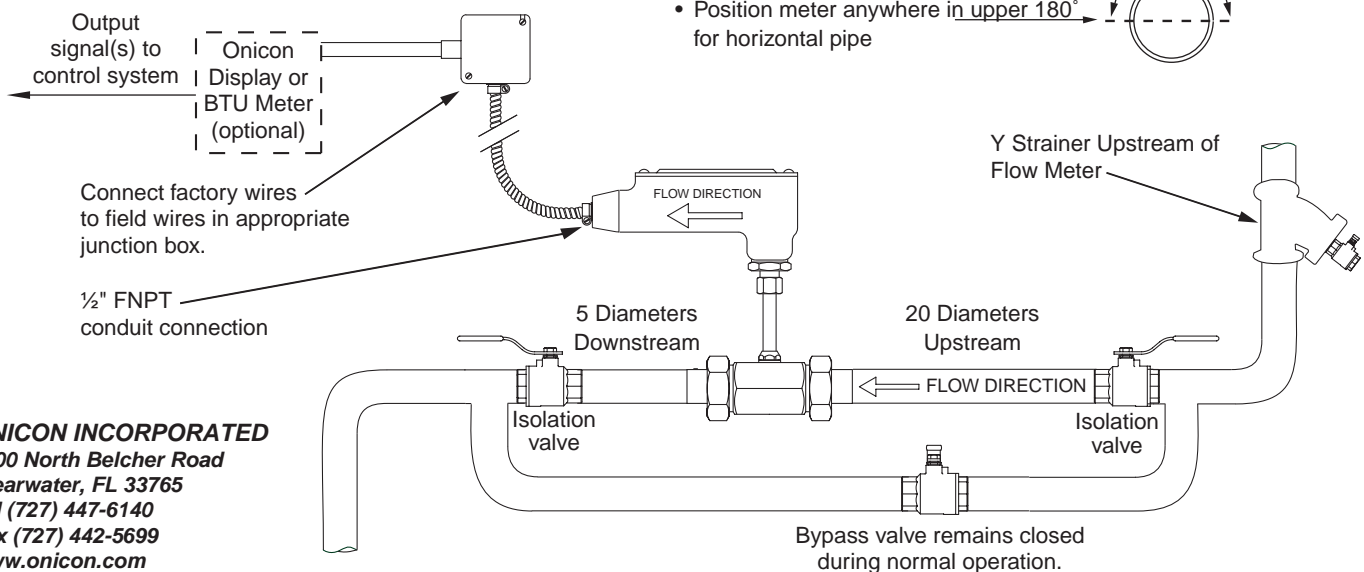


Sweat		Threaded
9"	L1	10 1/4"
5 3/8"	L2	8 5/8"
3 1/4"	L3	3 1/4"
8"	H	8"
2"	MAX WIDTH	2"



Typical Meter Installation

(New construction or scheduled shutdown)



- Flush piping system thoroughly before installing meter
- Acceptable to install in vertical pipe
- Position meter anywhere in upper 180° for horizontal pipe

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