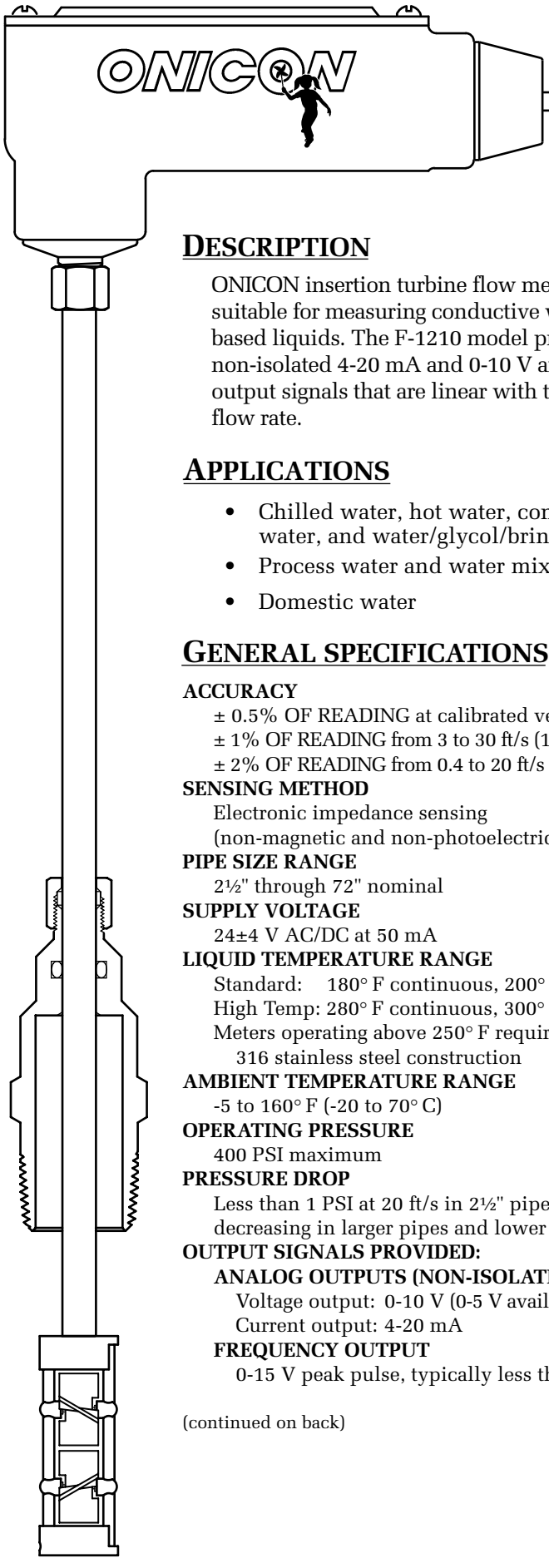


• F-1210 DUAL TURBINE • INSERTION FLOW METER ANALOG OUTPUT

ONICON INCORPORATED

Made in the USA

DESCRIPTION

ONICON insertion turbine flow meters are suitable for measuring conductive water-based liquids. The F-1210 model provides non-isolated 4-20 mA and 0-10 V analog output signals that are linear with the flow rate.

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
± 1% OF READING from 3 to 30 ft/s (10:1 range)
± 2% OF READING from 0.4 to 20 ft/s (50:1 range)

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

PIPE SIZE RANGE
2½" through 72" nominal

SUPPLY VOLTAGE
24±4 V AC/DC at 50 mA

LIQUID TEMPERATURE RANGE
Standard: 180° F continuous, 200° F peak
High Temp: 280° F continuous, 300° F peak
Meters operating above 250° F require
316 stainless steel construction

AMBIENT TEMPERATURE RANGE
-5 to 160° F (-20 to 70° C)

OPERATING PRESSURE
400 PSI maximum

PRESSURE DROP
Less than 1 PSI at 20 ft/s in 2½" pipe,
decreasing in larger pipes and lower velocities

OUTPUT SIGNALS PROVIDED:

ANALOG OUTPUTS (NON-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

(continued on back)

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.

Installation Flexibility - Patented dual turbine models deliver outstanding accuracy in short pipe runs.

Simplified Hot Tap Insertion Design - Standard on every insertion flow meter. Allows for insertion and removal by hand without system shutdown.

JCI ITEM #	DESCRIPTION
F-1210	Flow Meter, dual turbine, analog out
F-1299-STANLS	1200 Option, stainless wetted metal
F-STD-INSTL1	Install kit, standard, welded steel pipe
F-HTAP-INSTL2	Install kit, hot tap, welded steel pipe
F-STD-INSTL4	Install kit, standard, 2.5-3" copper tube
F-STD-INSTL9	Install kit, standard, 4" copper tube
F-STD-INSTL5	Install kit, std SS, welded steel pipe
F-HTAP-INSTL6	Install kit, hot tap, SS, welded steel pipe
F-OPT1-CONDUIT	10 ft. sealtight conduit w/ fittings
F-OPT5-PLENUM	10' plenum cable w/inline DIN connector

NOTE: Purchase of installation kit with the flow meter is STRONGLY RECOMMENDED to prevent installation difficulties and insure accurate, trouble-free operation. Contact factory for pipe materials not listed.

2161 Logan St., Clearwater, Florida 33765 Tel (727) 447-6140 Fax (727) 442-5699
www.onicon.com • sales@onicon.com

F-1210 SPECIFICATIONS cont.

MATERIAL

Wetted metal components
Standard: Electroless nickel plated brass
Optional: 316 stainless steel

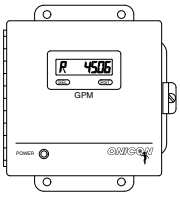
ELECTRONICS ENCLOSURE

Standard: Weathertight aluminum enclosure
Optional: Submersible enclosure

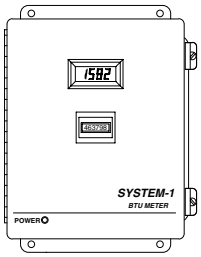
ELECTRICAL CONNECTIONS

3-wire minimum for 4-20 mA or 0-10 V output
Second analog output and/or frequency output requires additional wires
Standard: 10' of cable with ½" NPT conduit connection
Optional: Indoor DIN connector with 10' of plenum rated cable

ALSO AVAILABLE



Display Modules



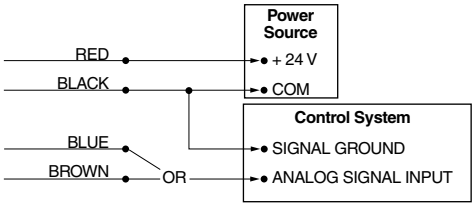
BTU Measurement Systems

F-1210 Wiring Information

WIRE COLOR CODE		NOTES
RED	(+) 24 V AC/DC supply voltage, 50 mA	Connect to power supply positive
BLACK	(–) Common ground (Common with pipe ground)	Connect to power supply negative & analog input ground
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 (non-isolated)	Both signals may be used independently
BROWN	(+) Analog signal: 0-10 V (non-isolated)	
DIAGNOSTIC SIGNALS		
ORANGE	Bottom turbine frequency	These signals are for diagnostic purposes - connect to local display or BTU Meter
WHITE	Top turbine frequency	

F-1210 Wiring Diagram

Flow Meter Only - No Display or BTU Meter

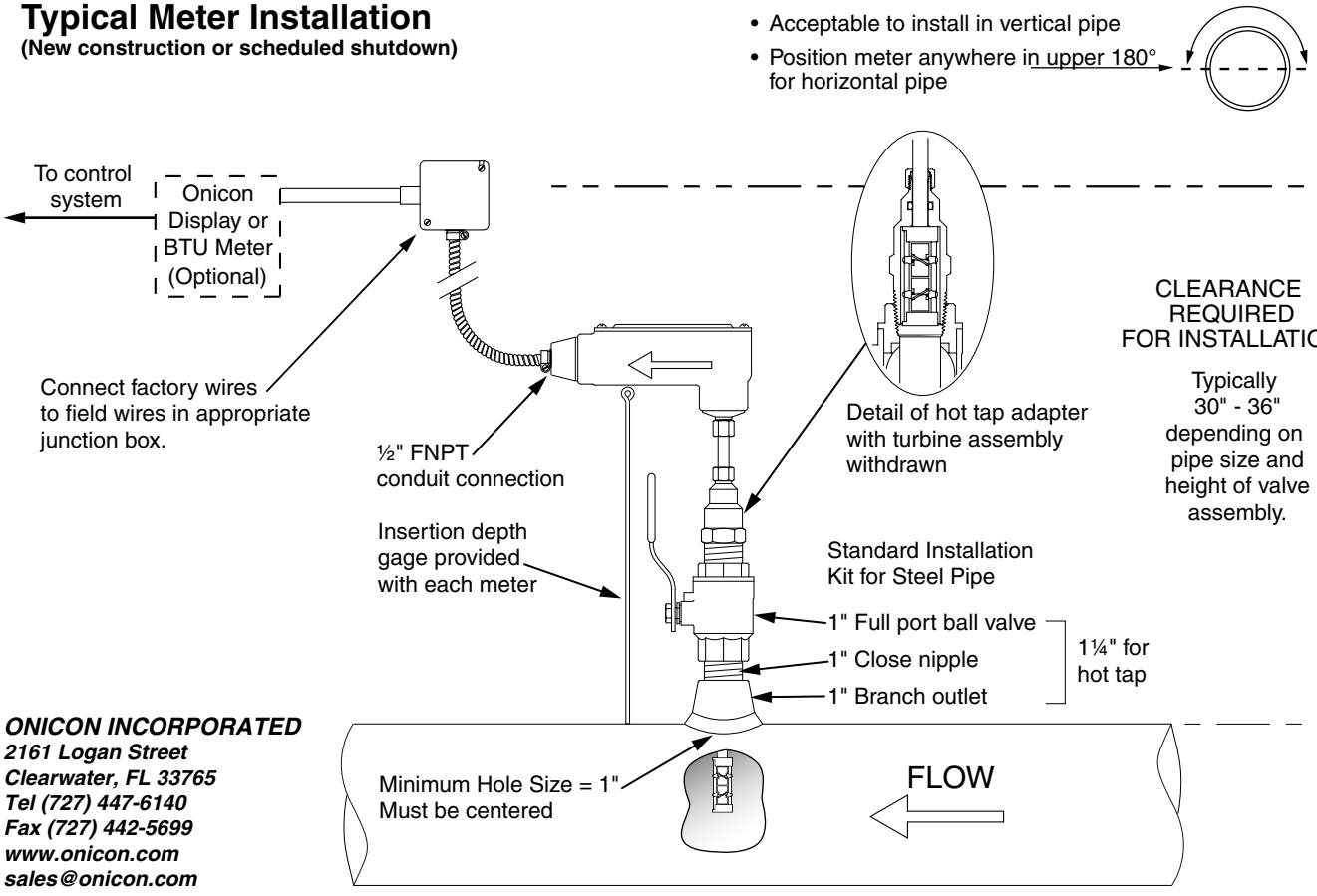


NOTE: 1. Black wire is common with the pipe ground (typically earth ground).
2. Frequency output required for ONICON display module or BTU meter, refer to wiring diagram for peripheral device.

Typical Meter Installation

(New construction or scheduled shutdown)

- Acceptable to install in vertical pipe
- Position meter anywhere in upper 180° for horizontal pipe



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Note: Installation kits vary based on pipe material and application. For installations in pressurized (live) systems, use "Hot tap" 1¼ inch installation kit and drill hole using a 1 inch wet tap drill.