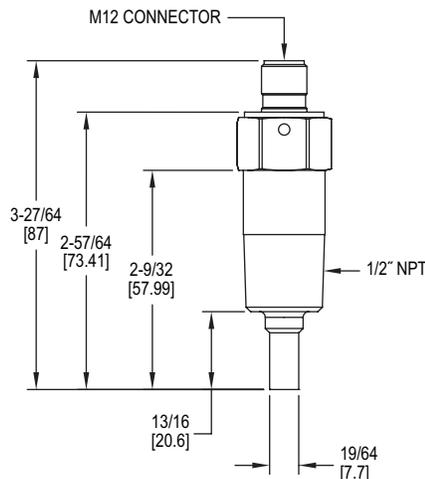




Series TDFT Thermal Dispersion Flow Transmitter

Specifications - Installation and Operating Instructions



The **Model TDFT Thermal Dispersion Flow Transmitter** has continuous frequency output. It fits applications with pipe sizes from 1/2" to 2" (12.7 to 50 mm) and features 316L stainless steel housing for use in harsh environments.

FEATURES/BENEFITS

- Flow measurement in low flow applications
- Continuous frequency signal from measured flow velocity
- Low pressure drop
- No moving parts

APPLICATIONS

- Chiller systems
- Boiler systems
- Liquid transfer systems

SAFETY INSTRUCTIONS

In order to guarantee the correct condition of the device for the operating time it is necessary to use the device only for media to which the wetted materials are sufficiently resistant.

The responsibility whether the measurement devices are suitable for the respective application lies with the operator. The manufacturer assumes no liability for consequences of misuse by the operator. Improper installation and use of the devices results in a loss of the warranty claims.

INSTALLATION

Mount the unit with the alignment mark pointing against the direction of flow. Only use a spanner or torque wrench to screw the unit in via the spanner flat (width across flats 22). Tightening torque max. 100 Nm (with stainless steel adapter) or according to ANSI B1.20.1.

Recommended Installation Conditions

Install the unit so that the sensor tip is completely covered by the medium.

- For horizontal pipes: mount unit on side (Figure 1).
- When mounted at the bottom: pipe should be free from deposits.
- When mounted at the top: pipe should be completely filled with the medium to be monitored.
- For vertical pipes: mount unit in rising pipe (medium flows upwards, Figure 2).

SPECIFICATIONS

Service: Compatible water-based fluids.	Current Consumption: <50 mA.
Wetted Materials: 316L SS.	Electrical Rating: 80 mA.
Range: 1-3 ft/s (0.05-0.7 m/s).	Output Frequency: 5 to 74 Hz.
Repeatability: ±10% at 68°F (20°C).	Electrical Connections: 1 x M12.
Temperature Limits: Ambient: -4 to 158°F (-20 to 70°C); Process: 14 to 140°F (-10 to 60°C); Storage: -40 to 158°F (-40 to 70°C).	Process Connection: 1/2" NPT.
Pressure Limit: 362 psi (25 bar).	Enclosure Rating: IP67.
Response Time: 1 to 10 s.	Housing Material: 316L SS.
Power Requirements: 24 VDC.	Mounting Orientations: Horizontal or vertical.
	Weight: 0.274 lb (124.5 g).
	Agency Approvals: CE, cULus.

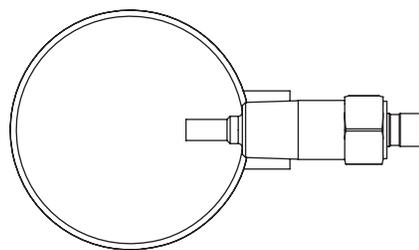


Figure 1

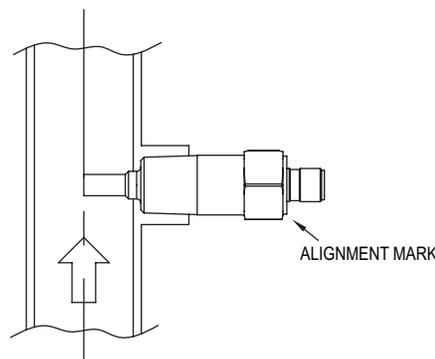


Figure 2

To avoid malfunction, a minimum distance between the sensor and bends, valves or other obstacles must be observed (Figure 3).

- Min. 5 x pipe diameter upstream (A).
- Min. 3 x pipe diameter downstream (B).

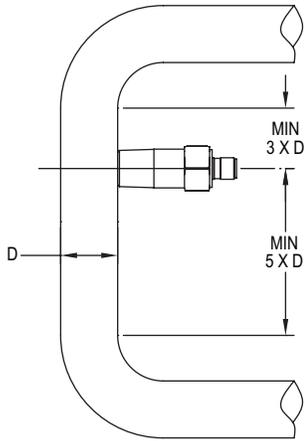
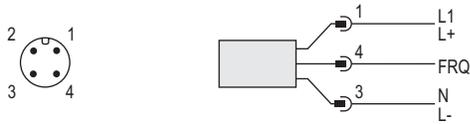


Figure 3

Electrical Connection

The unit must be connected by a qualified electrician. Installation must comply with all local and national codes. Voltage supply according to EN 50178, SELV, PELV.

See Figure 4 for wiring diagram. Make sure to disconnect supply before making electrical connections.



FRQ: FREQUENCY OUTPUT

Figure 4

Note: Do not exceed the maximum current rating. Even if it is exceeded for a short time the unit is destroyed.

FUNCTION

Volumetric flow monitoring / frequency output.

Output Curve Frequency Output (Figure 5)

1. Output frequency
2. Flow velocity
3. The unit is in the error state. Flow value below the measuring range.
4. The unit is in the error state. Flow value above the measuring range.

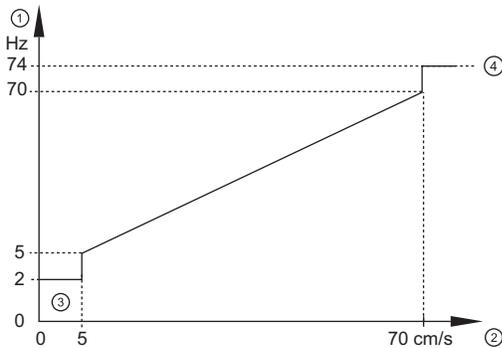


Figure 5

OPERATION

After installation and connection, check whether the device operates safely.

Cleaning Instructions

Check the sensor tip for deposits from time to time. If necessary, clean it using a soft cloth. Stubborn build-up (e.g. lime) can be removed using a common vinegar cleaning agent.

MAINTENANCE/REPAIR

Upon final installation of the Model TDFT, no routine maintenance is required. The Model TDFT is not field serviceable and is not possible to repair the unit. Field repair should not be attempted and may void warranty.

WARRANTY/RETURN

Refer to "Terms and Conditions of Sale" in our catalog and on our website. Contact customer service to receive a Return Materials Authorization number before shipping the product back for repair. Be sure to include a brief description of the problem plus any additional application notes.