D-2 Incorporated

Precision Industrial Sensors

Test Fluid Sensor (TFS)

Continuous Flow Through Process
Conductivity & Temperature Sensor

The D-2 Inc. Test Fluid Sensor (TFS) primarily measures Conductivity using our patented AC Measurement technology and also offers an auxiliary measurement of Temperature. The flow through sensor provides precision measurement of fluid conductivity. The sensor offers customer specified ranges from 0 pS/M up to a full scale of 50,000 pS/cm. The typical range is 0 – 10,000 pS/cm as required under SAE J1696_201704; this standard defines the requirements for fluid to be used in the SAE Fuel Filter Test Procedures.

The TFS is provided in a IP67 case with internal screw terminal connections which provide two 4-20 mA loop output signals. One loop is proportional to Conductivity, and the second is proportional to Temperature. The sensor power requirement is 7 – 30 VDC to 100 mW. Liquid connections are via industry standard Swagelok ¼" compression tube connectors.

TFS Benefits & Features:

1. Extremely cost effective in flow through continuous conductivity solution.
2. AC measurement technology allows for direct measurement of flowing fluids.
3. In line Real Time quality of test fluid reporting.
4. Compact design allows installation almost anywhere.
5. Customizable for a variety of applications.

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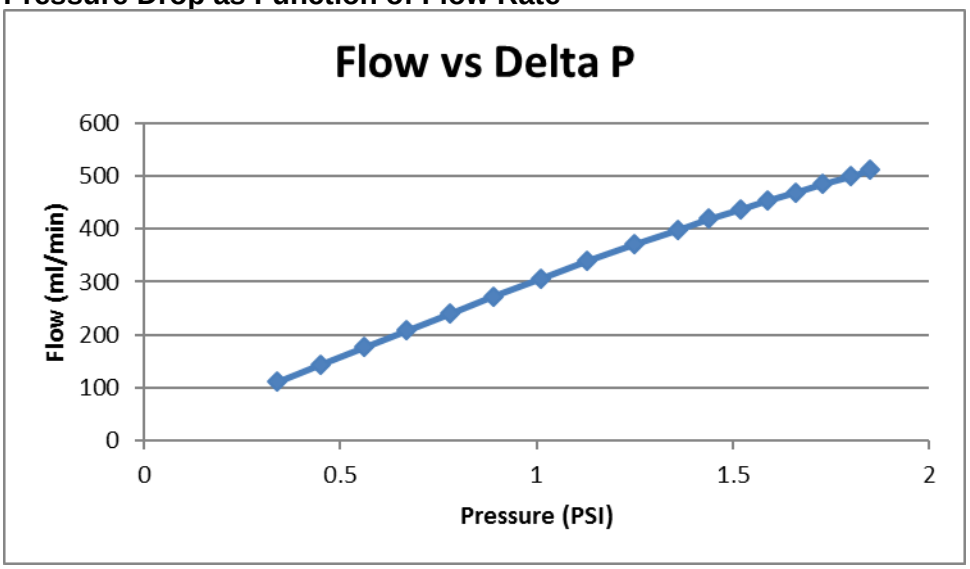
TFS Specifications

Measurement Performance

Measured Parameter	Range	Accuracy
Electrical Conductivity	Min: 1 pS/m (0.01 pS/cm) Max: 40,000 pS/cm Typical: 0-20,000 pS/cm	+/- 5 pS/cm +/- 1% of Range
Temperature	-20 → 100 Celsius *Higher and Lower Temps available via Consultation	+/-0.5

Sensor Specifications

Parameter	Specification
Environmental	**Service Pressure: 400 PSIA** **Maximum Pressure: 1200 PSIA burst pressure** **Flow Rate: 0 – 1000 ml/min** **Pressure Drop as Function of Flow Rate**  **Ambient Operating Temperature -20 → 80 °C**
Power	**7- 30 VDC @ 10 mA**
Wetted Materials	**Type 316 SS, Viton, PEEK, Delrin, GF Delrin**
Current Loops	**Passive Max Supply Voltage 36 VDC, Digital Adjustable Range, Offsett, (Rseries < 850 ohms)**

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TFS Ordering Matrix

TFS	00	06	06	00	00

Certifications

00	ASTM Pending (0 -2000 pS/M Range Only)

Wetted Materials

00	316 S.S. & PEEK, Delrin, GF Delrin

Data Output Format

06	4-20 Current Loop w/ pigtail

Instrument Style

06	Standard Housing 1/4" Swagelok “Flow-Through”

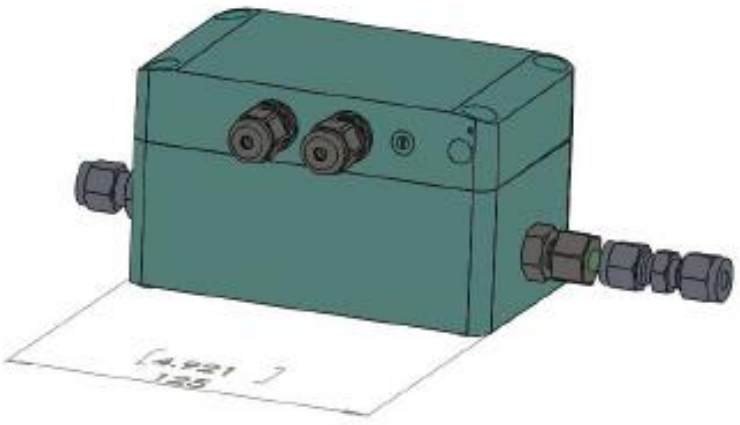
Measurement Range

00	0 - 2,000 pS/m
01	0 - 20,000 pS/m
02	0 - 2,000 pS/cm
03	0 - 10,000 pS/cm
04	0 - 20,000 pS/cm
05	0 – 40,000 pS/cm

Sensor Type

TFS	Test Fluid Sensor

This ordering matrix is a list of the TFS sensors. Additional configurations are possible please call D-2 Inc. at (508) 329-2046, or email dfougere@d-2inc.com for more information.



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