



D-2 Inc.

Precision Industrial Sensors

JF-1A In-line Conductivity Sensor

ASTM D2624 Listed

The D-2 JF-1A in-line fuel conductivity sensor provides high-accuracy, long-term measurement of conductivity in fuels flowing through pipelines. In-line conductivity measurement, rather than hand sampling, provides significant benefit to operators by offering the ability to continuously measure conductivity, thereby assuring continuous compliance with conductivity level requirements. Operators are instantly alerted to out-of-spec levels of conductivity that may lead to unsafe conditions or undeliverable fuels.



The JF-1A can be connected to automated refinery/terminal management systems to provide a continuous record of product conductivity levels, for reporting purposes, eliminating the requirement for labor-intensive sampling and manual record keeping. In-line conductivity measurement also allows automated polymer addition, eliminating the requirement for manual addition and batch sampling.

The JF-1A conductivity sensor is constructed of two 316 S.S. coaxial electrode sensors, suitable for long-term immersion in fuels. The sensor is fully retractable through a 1 inch full-port ball valve, for ease of maintenance. The retractable fitting allows an adjustable insertion depth to optimize positioning of the sensor in the flow. Sensor electronics are contained in an ATEX or FM-, CSA-, CENELEC- and UL-certified explosion-proof housing, ensuring safe operation in hazardous locations. Designed for operation on a variety of pipe diameters, the low-power JF-1A operates on industry standard 2-Wire Instrument Loop providing a 4-20 mA output scaled from 0 to 500 pS/m*. A second 4-20mA output of temperature is standard. JF-1A can also be operated in a 4-wire configuration for users requiring serial data output.

*Optional Ranges Available

JF1-A Benefits

- **ASTM D2624 Listed**
- **ATEX, FM, FMc Certified**
- **Real-Time, continuous conductivity measurement for:**
 - Alerts to un-safe low conductivity conditions
 - Alerts to un-deliverable high conductivity fuels
 - Automated record keeping of conductivity value
- **Labor saving – no periodic hand sampling required**
- **Control system input capability**
- **Conductivity and temperature output capability**
- **Stainless Steel construction for long-term operation in corrosive environments**
- **Fully removable under pressure for ease of maintenance**
- **Field re-programmable**

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In-Line Fuel Conductivity Sensor Specifications

Sensors

Parameter	Conductivity	Temperature
Range	0-500 pS/m to 0-2,000 pS/m*	-20-60°C**
Accuracy	+/-2 pS/m (+/-2% of reading)	+/-0.5°C
Resolution	0.1 pS/m	0.1C
Sensor Type	316 S.S. Coaxial Electrode	Platinum
Calibration	Internal Source Zero and Scale	NIST Traceable

*User settable output range. For wider ranges define required span with order.

**ATEX certification max product temperature 40°C

System

Environmental	Service Pressure: 16 barg max pressure** Storage Temperature: -40 –80 °C
Power	2-wire, using 4-20 mA loop, 25- 40 VDC External (RS-232 4-wire) 7- 40 VDC
Outputs	2-wire 4-20 mA (conductivity and temperature) 4-wire isolated RS-232
Materials	Type 316 SS, Delrin, Cast Aluminum (Housing)
Mounting	To 1" NPT nipple, through 1" full-port ball valve
Certification	ATEX Ex II2G EExd [ia]IIC T4 FM/FMc I.S. Probe for Class 1, Division 2, GP ABCD T3C @ Ta = 60C

**100 barg version available but does not include retraction mechanism



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