The FR78B provides sensitivity to low flow rates, fast response and economical pricing in a compact package to deliver a cost-effective detection solution for non-hazardous in-line applications.

The FR78B's cylindrical sensing body is encapsulated in a 1 1/4 inch plastic cube fitted with 1/4 inch 316 stainless steel inlet/outlet tubing. Total weight of this reliable little Flow Switch/Monitor is a mere 2 1/2 ounces for the flow element, yet it far outperforms its competition in the low-cost area.

The FR78B spans the range of low flow requirements, with response time as low as 1 second.

Ideal for OEM applications, the instrument comes equipped as shown with single switch point plug-in circuit card socket, and 10 feet of interconnecting Teflon cable.

Applications:
- Chemical injection/additive flow monitoring
- Seal leak detection
- Monitoring purge air flow
- Sample flow and gas chromatography
- Lube oil flow

Specifications
Setpoint Range:
- Water-based Liquids: 0.08 to 2.25 cc/sec
- Hydrocarbon-based Liquids: 0.05 to 25 cc/sec
- Air/Gas: 4.0 to 1500 cc/sec
Repeatability: 1% of full signal range at constant process conditions.
Adjustable Response Time: 1 to 150 seconds
Enclosure:
- Standard: No circuit board enclosure
- Optional: Epoxy powder coated feralloy rated for NEMA Type 4X and hazardous locations Groups B, C, D, E, F and G; EEx d IIC (meets IP66).
Agency Approvals: None
Shipping Weight (approximate): 2 lbs [1 kg]

Flow Element
Construction: All wetted surfaces 316 stainless steel with nickel braze per process specifications AMS 4777.
Process Connections:
- Standard: 0.25 inch tubing x 1.8 inches [46 mm] long with 0.028 inch [0.7 mm] wall thickness.
- Optional: 0.375 and 0.50 inch tubing
Inline Assembly A-Length: 5.3 inches [135 mm]
Operating Temperature: -100º to +350º F [-73º to +177º C]
Operating Pressure: To 1000 psig [69 bar(g)]
Interconnecting Cable: 10 ft. [3 m] Teflon

Control Circuit
Operating Temperature: -40º to +140º F [-40º to +60º C]
Input Power: 115 ±15 Vac or 230 ±30 Vac, 50/60 Hz, 22 to 30 Vdc; 6 watts maximum.
Relay Contacts: DPDT rated 2 amps at 115 Vac and 24 Vdc or 1 amp at 230 Vac. Coil de-energized at no-flow (factory default) or de-energized at flow (field selectable).
Dimensions: 3.6 inches [92 mm] diameter x 2.4 inches [61 mm] high

Options
FM71D Calibrator: P/N 010022-01

Ordering Information
FR78B-

Ordering Procedure: To order a complete Model FR78B, please fill in each numbered box above with the appropriate code from the categories below. Consult FCI on the cost of special data and documentation. Final acceptance of the part number is subject to FCI's approval.

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<tr>
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<td>A</td>
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<td>2</td>
<td>115 Vac</td>
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<tr>
<td>Hydrocarbon</td>
<td>B</td>
<td>375 inch Tube</td>
<td>3</td>
<td>230 Vac</td>
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<td>Air/Gas</td>
<td>C</td>
<td>50 inch Tube</td>
<td>5</td>
<td>24 Vdc</td>
<td>3</td>
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</tbody>
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* Extra cost feature
FR78B Flow Switch, Inline

**Low Flow Inline Monitor**

**FR78B Flow Switch, Inline**

Side View

Top View

Side View

Optional Remote NEMA Type 4 Enclosure (Circuit Board)

Wiring Diagram

**FR78B**

Pole No. 2

N/O N/C

To Sensor Element

Power Input

Com Pole No.2

N/O Pole No.1

N/C Pole No.2

**FCI is a continuous improvement company. Specifications subject to change without notice.**

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FCI is ISO 9001 certified/conformance to AS9100

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