The FP90 Series flow transmitter is an advanced solution that converts the signal from many flow sensors into a 4 to 20 mA signal for long distance transmission. Configuration flexibility is maximized with two optional relays for process control, two packaging options for integral/pipe mount or panel installation, and scalability for virtually any flow range or engineering unit. State-of-the-art electronic design ensures long-term reliability, signal stability, and simple user setup and operation. The FP90 can be remotely used with the OMEGA® FP-5100, FP-5200, FP-5300, FP-5060, FP-2541, FP-5600, FP-3-1500 or FP-6000 flow sensors and an FP90UM mounting kit. The FP90-XP units are designed to be panel mounted. The three front keys control all programming and scaling of the FP90—there are no pots to tweak or internal adjustments to make. Simply enter the K-factor and the FP90 displays rate with field-adjustable decimal point, mA output value, total (field selectable for resettable or non-resettable operation) and the date of the last reprogramming. The 8-digit alphanumeric LCD shows every program step in clear language, allowing display in any engineering units and timebase in seconds, minutes, hours or days. A special pushbutton sequence permits entry into the programming, thus providing security against unauthorized reprogramming.

The FP90 Series flow transmitter

**Starts at $388**

- Permanent and Resettable Totalizers
- Scalable Outputs
- Relay Options
- Mounting Versatility
- Simulate Function
- 2 x 16 Character Dot Matrix LCD
- Chemical Resistant Enclosure and Self-Healing Window
- Large Pushbuttons
- Clearly Marked Terminal Labels Application
- Flow Control and Monitoring
- Filtration or Softener Regeneration
- Effluent Totalization
- Pump Protection
- Feed Pump Pulsing
- Ratio Control
- Water Distribution
- Leak Detection

The FP90 can be remotely used with the OMEGA® FP-5100, FP-5200, FP-5300, FP-5060, FP-2541, FP-5600, FP-3-1500 or FP-6000 flow sensors and an FP90UM mounting kit. The FP90-XP units are designed to be panel mounted. The three front keys control all programming and scaling of the FP90—there are no pots to tweak or internal adjustments to make. Simply enter the K-factor and the FP90 displays rate with field-adjustable decimal point, mA output value, total (field selectable for resettable or non-resettable operation) and the date of the last reprogramming. The 8-digit alphanumeric LCD shows every program step in clear language, allowing display in any engineering units and timebase in seconds, minutes, hours or days. A special pushbutton sequence permits entry into the programming, thus providing security against unauthorized reprogramming.
**SPECIFICATIONS**

**Compatibility:** Flow Sensors with frequency outputs

**Accuracy:** ±0.5% of reading @ 25°C

**Enclosure Rating:** NEMA 4X (IP65) front

**Case:** PBT

**Window:** Polyurethane coated polycarbonate

**Keypad:** Sealed 4-key silicone rubber

**Weight:** Approx. 325 g (12 oz)

**Display:** Alphanumeric 2 x 16 LCD

**Update Rate:** 1 second

**Contrast:** User selected, 5 levels

**Environmental Operating Temperature:**
- -10 to 70°C (14 to 158°F)
- Storage Temperature:
  - -15 to 80°C (5 to 176°F)

**Relative Humidity:** 0 to 95%, non-condensing

**Standards and Approvals:** CSA, CE, UL listed

**Electrical Sensor Input:**
- **Range:** 0.5 to 1500 Hz

**Sensor Power:**
- 2-Wire: 1.5 mA @ 5 Vdc ±1%
- 3 or 4 Wire: 20 mA @ 5 Vdc ±1%

**Optically isolated from current loop**

**Short circuit protected**

**Current Output:**
- 4 to 20 mA, isolated, fully adjustable and reversible

**Power:** 12 to 24 Vdc ±10%, regulated

**Max Loop Impedance:**
- 50 Ω max @ 12 V
- 325 Ω max @ 18 V
- 600 Ω max @ 24 V

**Update Rate:** 100 ms

**Accuracy:** ±0.03 mA

**Relay Output:**
- Mechanical SPDT contacts:
  - Hi, Lo, Pulse, Off

**Maximum Voltage Rating:**
- 5 A @ 30 Vdc, 5 A @ 250 Vac resistive load

**Hysteresis:** User adjustable. Max 300 pulses/min.

**Open-Collector Output:**
- Hi, Lo, Pulse, Off Open-collector, optically isolated, 50 mA max, sink, 30 Vdc max, pull-up voltage. Max 300 pulses/min.

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**To Order (Specify Model Number)**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Price</th>
<th>Description</th>
<th>Mounting</th>
<th>Output(s)</th>
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<td>FP90-1</td>
<td>$388</td>
<td>Flow transmitter</td>
<td>Field mount*</td>
<td>4 to 20 mA and open collector output</td>
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<td>460</td>
<td>Flow transmitter</td>
<td>Field mount*</td>
<td>4 to 20 mA and dual relays</td>
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<td>659</td>
<td>Flow transmitter, dual input</td>
<td>Field mount*</td>
<td>4 to 20 mA and dual open collector outputs</td>
</tr>
<tr>
<td>FP90-1P</td>
<td>388</td>
<td>Flow transmitter</td>
<td>Panel mount</td>
<td>4 to 20 mA and open collector output</td>
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<td>FP90-2P</td>
<td>460</td>
<td>Flow transmitter</td>
<td>Panel mount</td>
<td>4 to 20 mA and dual relays</td>
</tr>
<tr>
<td>FP90-3P</td>
<td>659</td>
<td>Flow transmitter, dual input</td>
<td>Panel mount</td>
<td>4 to 20 mA and dual open collector outputs</td>
</tr>
</tbody>
</table>

Comes complete with operator’s manual.

* Field mount transmitters require FP90IM integral mounting kit for FP8500 or FP8500A sensor or FP90UM for all other compatible sensors.

**Ordering Examples:**
- FP90-1 field mount flow transmitter, FP90IM integral mounting kit, FP8501A paddlewheel sensor, FP-5310 installation fitting for 1” PVC pipe, $388 + 47 + 237 + 163 = $835
- FP90-1 field mount flow transmitter and OCW-3, OMEGACARESM extended warranty program, $388 + 97 = $485.

OMEGACARESM extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARESM covers parts, labor and equipment loaners.
**SYSTEM CONFIGURATIONS FOR FP90 AND FPM5750**

The panel mount and universal mount transmitters are compatible with the following sensors: FP-5060, FP-5100, FP-5200, FP-5300, FP-2540, FP-5600, FP-3-1500 and FP-6000. See the page references below.

† Fittings purchased separately. See FP Series fittings on pages F-35 and F-36.

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Panel Mount - 1/4 DIN Size

**Integral Adaptor Kit**
FP90IM Includes:
- locking ring
- conduit base
- integral adaptor

**Universal Adaptor Kit**
FP90UM Includes:
- locking ring
- conduit base
- universal adaptor for pipe, wall

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* The panel mount and universal mount transmitters are compatible with the following sensors: FP-5060, FP-5100, FP-5200, FP-5300, FP-2540, FP-5600, FP-3-1500 and FP-6000. See the page references below.

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**Compatible Flowmeter**

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<tr>
<td>FP-6000</td>
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- **pH and Conductivity**
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- **Data Acquisition**

- **Pressure, Strain and Force**
  Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Strain Gages, Torque Transducers, Valves

- **Heaters**