SIGNAL CONDITIONERS

Flow

6.25 GPM
Total: 12345678>

▲ ▼ ▶ ENTER

FP90-1, field mount flow transmitter, $388, shown larger than actual size.

✔ **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**

FP90 Series Starts at

$**388**

1 YEAR WARRANTY

MADE IN USA

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 integrally mounted to FP8500 Series paddlewheel sensors utilizing a mounting kit.

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.

FP8501 paddlewheel flow sensor, $215, shown actual size.

FP90-2P flow transmitter, $460, shown actual size.

F

MOST POPULAR MODELS HIGHLIGHTED!

Accessories

Model No.	Price	Description
FP90UM	$47	Universal mounting kit for remote wall or pipe mount
FP90-4X	42	NEMA 4X rear cover (panel mount)
FP90IM	47	Integral mounting kit for mounting on top of FP85XX sensors
FP90RC	16	RC filter (for relay use)
CM-4339	135	Reference Book: Flow Measurement Methods & Applications

**Standard Paddlewheel Sensors (1 fps minimum) for integral mounting
(requires FP90IM integral mounting hardware and OMEGA fitting) ±0.2 fps accuracy**

Model No.	Price	Description
FP8501	$215	½ to 4" pipe, polypropylene body/titanium shaft
FP8502	232	5 to 8" pipe, polypropylene body/titanium shaft
FP8503	427	½ to 4" pipe, PVDF body/Hastelloy C shaft
FP8504	469	5 to 8" pipe, all PVDF material

**Low flow paddlewheel sensors (0.3 fps minimum) for integral mounting (requires
FP90IM integral mounting hardware and OMEGA fitting) ±0.1 fps accuracy**

Model No.	Price	Housing Material	Shaft Material	Rotor	Pipe Size
FP8501A	$237	Polypropylene	Titanium	Black PVDF	0.5 to 4"
FP8502A	255	Polypropylene	Titanium	Black PVDF	5 to 8"
FP8503A	448	Natural PVDF	Hastelloy C	Natural PVDF	0.5 to 4"
FP8504A	466	Natural PVDF	Natural PVDF	Natural PVDF	0.5 to 4"

To Order (Specify Model Number)

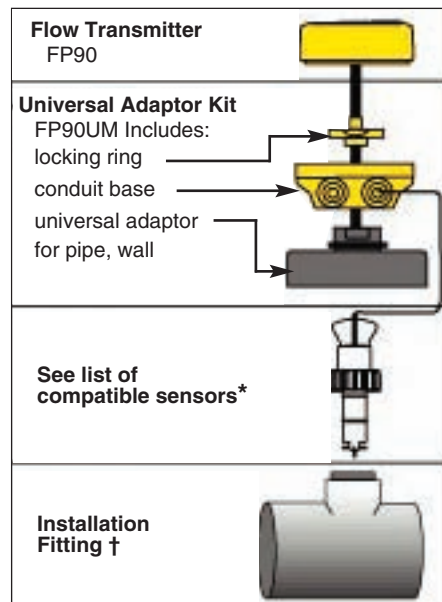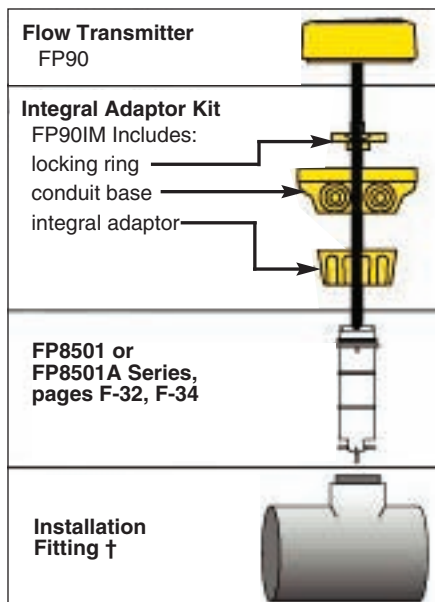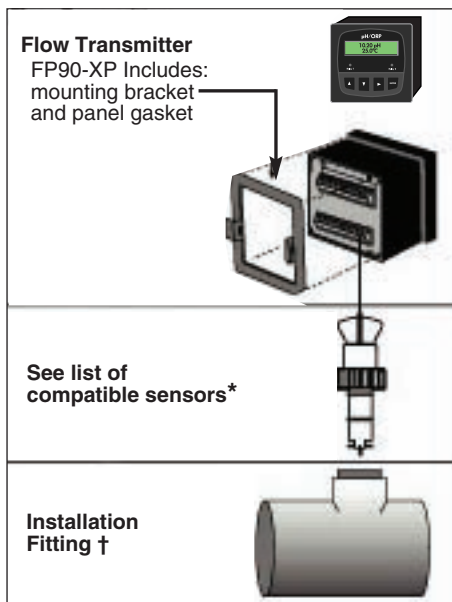| Model No.	Price	Description	Mounting	Output(s)
FP90-1	$388	Flow transmitter	Field mount*	4 to 20 mA and open collector output
FP90-2	460	Flow transmitter	Field mount*	4 to 20 mA and dual relays
FP90-3	659	Flow transmitter, dual input	Field mount*	4 to 20 mA and dual open collector outputs
FP90-1P	388	Flow transmitter	Panel mount	4 to 20 mA and open collector output
FP90-2P	460	Flow transmitter	Panel mount	4 to 20 mA and dual relays
FP90-3P	659	Flow transmitter, dual input	Panel mount	4 to 20 mA and dual open collector outputs

Comes complete with operator's manual.

*Field mount transmitters require FP90IM internal 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,** OMEGACARE℠ extended warranty program, $388 + 97 = **$485.**

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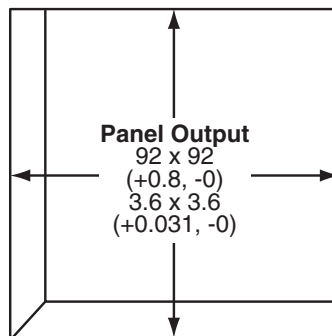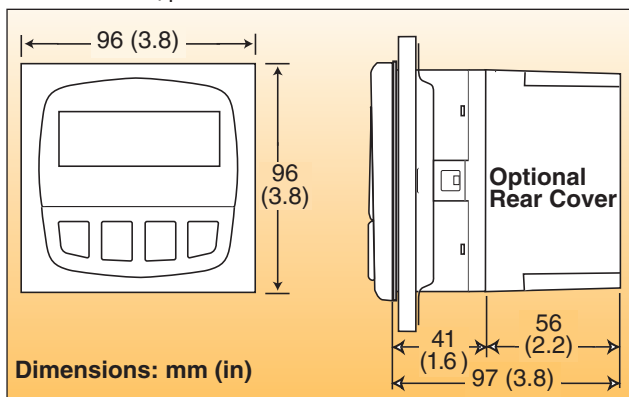
SYSTEM CONFIGURATIONS FOR FP90 AND FPM5750

Flow Transmitter
FP90-XP Includes:
mounting bracket
and panel gasket

See list of compatible sensors*

Installation Fitting †

Flow Transmitter
FP90

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

FP8501 or FP8501A Series, pages F-32, F-34

Installation Fitting †

Flow Transmitter
FP90

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

See list of compatible sensors*

Installation Fitting †

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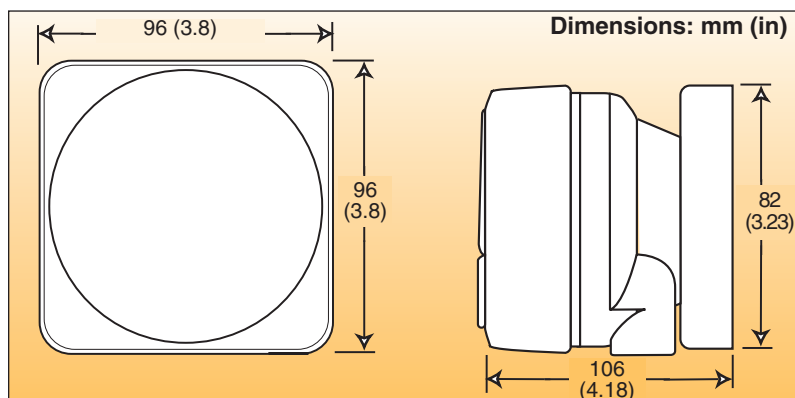
† Fittings purchased separately. See FP Series fittings on pages F-35 and F-36.

Panel Mount - ¼ DIN Size

96 (3.8)

96 (3.8)

Optional Rear Cover

41 (1.6)   56 (2.2)
97 (3.8)

Dimensions: mm (in)

Panel Output
92 x 92
(+0.8, -0)
3.6 x 3.6
(+0.031, -0)

* Transmitter Compatibility

Compatible Flowmeter	Page
FP-5060/70	F-91, 92
FP-5100	F-29
FP-5200	F-30
FP-5300	F27, 28
FP-2540	F-38
FP-5600	F-34
FP-3-1500	F-38
FP-6000	F-39

Technical Books Available Online!

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96 (3.8)

96 (3.8)

Dimensions: mm (in)

82 (3.23)

106 (4.18)

F-33

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