

# SIGNAL CONDITIONERS AND FLOW SENSORS



FP85A Series

**\$371**

Basic Unit

- ✓ Front Panel Programming and Scaling
- ✓ Alphanumeric Program Display
- ✓ Both Rate and Total Indication Standard
- ✓ NEMA-4X/IP65 Front Face
- ✓ Suitable for Panel Mounting

The FP85A microprocessor-based signal conditioner provides the ultimate in system flexibility and convenience, with simultaneous 4-20 mA and open collector pulse outputs. The FP85A can be integrally mounted to FP8500 series paddlewheel sensors utilizing an FP85NM or FP85DM integral mounting kit. The FP85A can also be remotely mounted, either on a panel (front mounted, utilizing the included captive self-tapping screws to thread into the panel wall) or on a pipe, wall, or tank with a universal mounting kit. The FP85A can be remotely used with the OMEGA® FP-5100, FP-5200, FP-5300, FP-3-1500, and FP-6000 paddlewheel flow sensors.

The three front keys control all programming and scaling of the FP85A – there are no pots to tweak or internal adjustments to make. Simply enter the K-factor, and the FP85A 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 FP85A also has a 4.00 mA or a 20.00 mA output calibration signal for scaling remote readout devices.

The front panel of the FP85A is rated NEMA-4X/IP65, and the captive silicone gasket ensures moisture resistance in all mounting configurations.



Shown Smaller Than Actual Size

## SPECIFICATIONS

**Enclosure:** NEMA-4X (IP65) glass-filled polypropylene, with silicone rubber (captive) gasket and 8-32 self-tapping black oxide (captive) screws  
**Display:** 8-digit alphanumeric dot matrix

**Display Ranges:** Flow, 0.01 to 9999. units; 8-digit total  
**Display Accuracy:** ±0.1% of reading ±0.03% of total reading  
**Sensor Accuracy:** ±0.2 fps  
**Loop Resolution:** ±5 microamps  
**Loop Accuracy:** ±5 mA

## To Order (Specify Model No.)

Model No.	Price	Description
<b>Signal Conditioning Module</b>		
FP85A	\$371	Programmable module with 4-20 mA and pulse outputs
<b>Sensors for integral mounting (requires FP85NM or FP85DM integral mounting hardware) Accuracy = ±0.1 fps</b>		
FP8501	216	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	448	½" to 4" pipe, all PVDF material

For all-plastic units with PVDF shaft, add suffix "-AP" to sensor model number and add \$45 to price.

Model No.	Price	Description
<b>Integral mounting kit, for mounting on top of FP85XX sensors</b>		
FP85NM	\$46	Integral mounting with ½" NPT conduit ports
FP85DM	46	Same as FP85NM, with PG13.5 threaded DIN conduit ports
<b>Universal mounting kit, for remote mounting on pipe or wall</b>		
FP85UNM	46	Universal mounting with ½" NPT conduit ports
FP85UDM	46	Same as DP85UNM, with PG13.5 threaded DIN conduit ports

Comes with complete operator's manual.

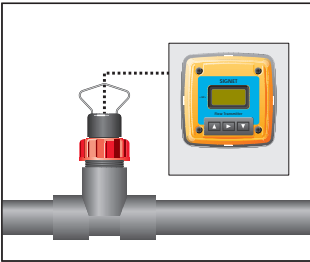
**Ordering Example:** FP85A, signal conditioning module with 4-20 mA and pulse outputs, plus FP8501A, paddlewheel flow sensor for ½" or 4" pipe with a polypropylene body, plus FP85NM, integral mounting kit with ½" NPT conduit port, \$371 + 216 + 46 = \$633. Fitting required; see pages F-63 and F-64.

# With Simultaneous Frequency and 4-20 mA Outputs

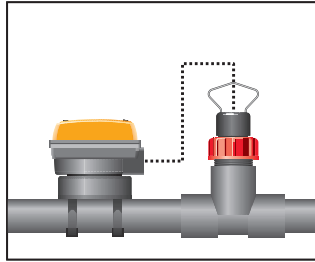


## INSTALLATION STYLES

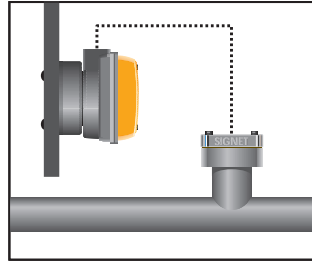
(PIPE INSTALLATION FITTINGS ARE FOUND ON PAGES F-63 AND F-64)



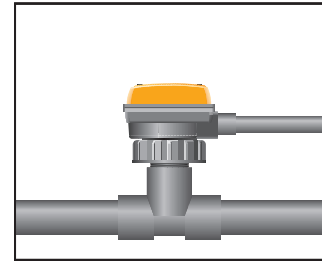
Panel mount



Pipe mount



Wall mount



Integral

### Sensor Wetted Parts:

**FP8501A, FP8502A:** body: glass-filled polypropylene; shaft: titanium (PVDF optional); rotor: PVDF

**FP8503A:** body and rotor: PVDF; shaft: Hastelloy C (PVDF optional)

### Loop Power:

2-wire mode: 17 to 30 Vdc @ 20 mA max

3-wire mode: 17 to 30 Vdc @ 68 mA max

**Current Output:** 4 to 20 mA, 2-wire

**Loop Impedance:** 50 Ω max. @ 10 Vdc; 100 Ω max.

@ 12 Vdc; 1000 Ω max. @ 30 Vdc

**Pulse Output:** Sensor frequency, optically isolated open-collector transistor, max. current sink 10 mA @ 30 Vdc

**Frequency Range:** 0.5 to 500 Hz max., scalable from 0.01 to 9999 engineering units

**Response Time: Loop:** 100 ms; **Display:** 1 sec

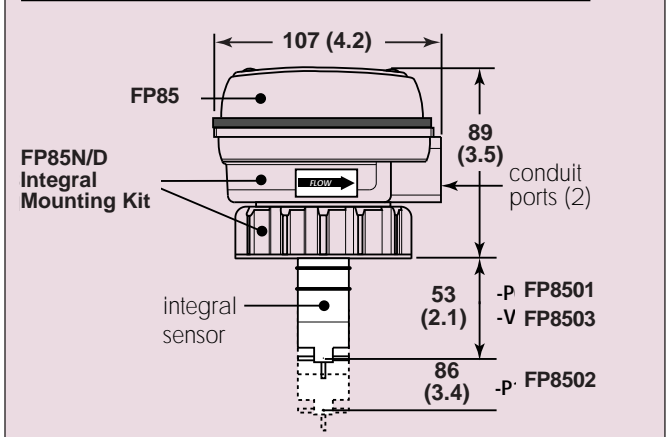
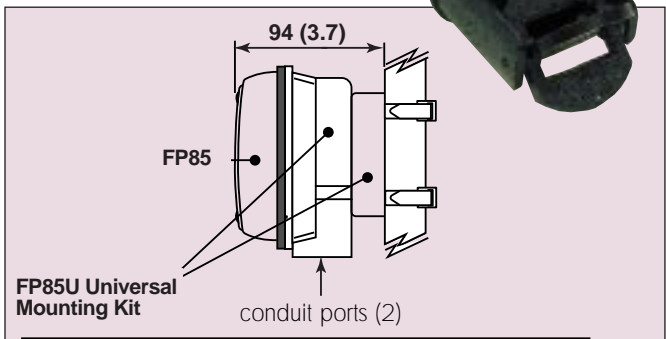
**Operating Ambient:** -15 to 70°C (5 to 158°F)

**Storage Temp.:** -15 to 80°C (5° to 176°F)

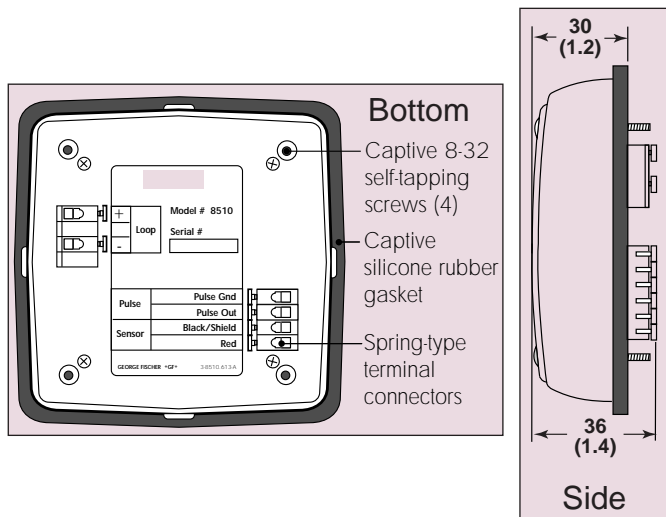
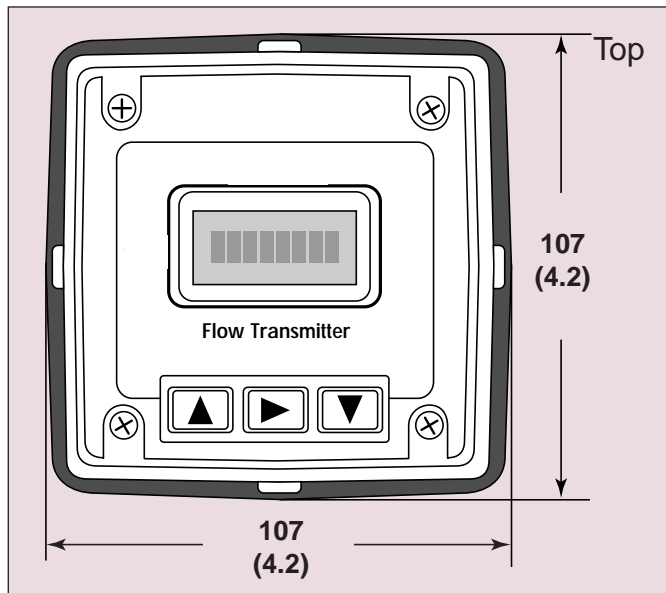
**Shipping Wt:** 0.5 kg (1 lb) for each item



FP8500 Series Flow Sensor



## Dimensions in mm (in)





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