

PADDLEWHEEL FLOW AND TEMPERATURE SENSOR/TRANSMITTER SYSTEM

FP7002 Series



- ✓ Measures Both Flow and Temperature
- ✓ Wide Chemical Compatibility
- ✓ 4 to 20 mA or 1 to 5 Vdc Field-Selectable Output
- ✓ NEMA 4 (IP65) Housing
- ✓ Compact Industrial Design Includes Both Paddlewheel Flow Sensor/Transmitter and Temperature Sensor/Transmitter in One Assembly
- ✓ Factory Calibrated—Easy to Install

The FP7002 Series is a combination paddlewheel flow and temperature sensor with integral signal conditioner/transmitter in a rugged NEMA-4 aluminum housing.

FP7002 Series is ideal for applications that require a remote long-distance flow and temperature sensor. When ordered with an FP7000 Series installation fitting, the sensor/transmitter is factory calibrated to match the flow rate of the fitting selected. For example, if the user orders an FP7002 sensor/transmitter with an FP7010 PVC fitting, the analog output of the transmitter will be factory calibrated to give 20 mA output at the max flow rate of 50 GPM and 4 mA out at 0 GPM. The user can also convert an analog output to a 1 to 5 Vdc output without recalibrating the system.

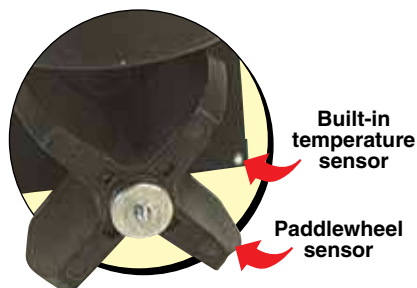
The FP7002 also features an independent temperature sensor/transmitter with an industry-standard 2-wire, 4 to 20 mA loop output scaled over a 0 to 100°C (32 to 212°F) temperature range.



SYS/FP7002A/FP7010-GI system includes an FP7002A flow/temperature sensor with FP7010-GI fitting, calibrated for 3 to 50 GPM flow.

Provides Two Independent Analog Outputs For Flow and Temperature Measurement

CONNECT AN FP7002 TRANSMITTER TO i-Series[®] METERS WITH EMBEDDED INTERNET AND MONITOR A PROCESS FROM ANYWHERE VIA THE INTERNET!



Built-in temperature sensor

Paddlewheel sensor

PADDLEWHEEL OUTPUT SPECIFICATIONS

Accuracy: ±2% FS
Repeatability: ±1% FS
Power: 12 to 18 Vdc @ 50 mA max
Output: 3-wire, 4 to 20 mA (1 to 5 Vdc with external 250 Ω resistor)
Max Loop Resistance:
 $\Omega = (V \text{ supply} - 12V) / 0.02 \text{ A}$

FP7002 Wetted Materials:

Sensor Body: Polypropylene
O-Ring: FKM
Paddle: PVDF
Locking Nut: PVC

FP7002A Wetted Materials:

Sensor Body: Polypropylene
O-Ring: FKM
Paddle: PVDF
Locking Nut: Brass

Fluid Temperature/Pressure Range:

Do not exceed maximum ratings of the piping. Depending on the material of the fitting, the operating temperature/pressure may be limited by the piping and not by the sensor. For all PVC tee fittings, do not exceed 150 psig @ 27°C (80°F), 100 psig @ 38°C (100°F), 60 psig @ 49°C (120°F) or 30 psig @ 60°C (140°F), owing to the insert in the tee. FP7000 sensor: 0 to 26°C (32 to 80°F) up to 150 psig; max pressure decreases 1.1 psig per each 0.56°C (1°F) above 27°C (80°F) for a max temperature of 93°C (200°F) at 18 psig max

Weight:

FP7002: 0.3 kg (0.75 lb)
FP7002A: 0.4 kg (1 lb)

Max Viscosity: 5 cps

TEMPERATURE OUTPUT SPECIFICATIONS

Temperature Range:

0 to 100°C (32 to 212°F)

Accuracy: ±1.7°C (3.1°F)

Power: 12 to 18 Vdc @ 30 mA

Output: 2-wire, 4 to 20 mA

(1 to 5 Vdc with external 250 Ω resistor)

Max Loop Resistance:

$\Omega = (V \text{ supply} - 12V) / 0.02 \text{ A}$



SYS/FP7002/FP7007 system includes an FP7002 flow/temperature sensor with FP7007 fitting, calibrated for 2 to 30 GPM flow.

MEASURES FLOW!



Program a DPI8-EI to accept the 4 to 20 mA signal from the FP7002 and to display the flow rate in the engineering units of your choice.

MEASURES TEMPERATURE!



Program a DPI8-EI to accept the 4 to 20 mA signal from the FP7002 and to display the temperature in the engineering units of your choice.

DPI8-EI indicator shown. Visit newportUS.com/dpi_series for complete details.

To Order Visit newportUS.com/fp7002 for Pricing and Details	
Model No.	Description
FP7002	Paddlewheel flow and temperature sensor/transmitter for PVC fittings (includes PVC locking nut)
FP7002A	Paddlewheel flow and temperature sensor/transmitter for galvanized iron fittings (includes brass locking nut)

Required Installation Fittings

PVC, Schedule 40*		Galvanized Iron Tee		
Model No.	Lay Length meter (inch)	Model No.	Pipe Size (NPT)	Range (GPM)
FP7007	0.53 (21)	FP7007-GI	¾	2 to 30
FP7010	0.66 (26)	FP7010-GI	1	3 to 50
FP7012	0.79 (31.3)	FP7012-GI	1¼	5 to 90
FP7015	0.95 (37.5)	FP7015-GI	1½	7 to 125
FP7020	1.27 (50)	FP7020-GI	2	11 to 205
FP7025	1.59 (62.5)	FP7025-GI	2½	15 to 285
FP7030	1.91 (75)	FP7030-GI	3	25 to 460

*All PVC fittings include 36" of PVC pipe on the flow inlet and 12" of PVC pipe on the flow outlet.

Accessories

Model No.	Description
PSS-12	12V single-output power supply
TX4-100	4-conductor shielded cable, 30 meter (100')

Each transmitter/fitting system comes factory calibrated with operator's manual.

Note: Your transmitter and fitting must be ordered as a system; see examples below.

Ordering Examples: FP7002 sensor/transmitter with the FP7007 PVC fitting—use model number SYS/FP7002/FP7007.

SYS/FP7002A/FP7007-GI, sensor/transmitter with ¾" galvanized fitting.