

F02/FP02 Series

Digital flow / flow pressure sensor



F02 Series



FP02 Series

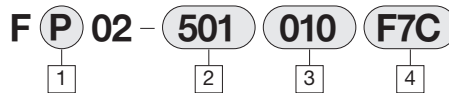
Common Characteristic

- Designed for large flow rate, and indicating accumulated flow rate
- 3 color display, and real time monitoring (RS485 Modbus RTU)
- Wide range of flow measurement with 200:1 flow ratio
- Rated range of flow rate : 2 ~ 2000 L/min

Individual Characteristic

- Easy installation & vertical display for monitoring (F02 series)
- Flow rate & pressure 4digit, 7 segment dual display (FP02 series)
- Dual sensor for flow rate / pressure (FP02 series)

How to order



1 Series

Blank	Digital flow sensor
P	Digital flow pressure sensor

2 Flow rate range

501	500 L/min
102	1000 L/min
202	2000 L/min

3 Output

010	2 NPN + Analog 1~5V
011	2 NPN + Analog 4~20mA
02	2 NPN + RS485
030	2 PNP + Analog 1~5V
031	2 PNP + Analog 4~20mA
04	2 PNP + RS485

4 Port size

F7C	Rc1/2 (For 501, 102)
F9C	G1/2 (For 501, 102)
F10C	Rc3/4 (For 202)
F12C	G3/4 (For 202)

※ Mounting bracket

BT-27	Bracket for 501, 102
BT-28	Bracket for 202

Specifications

Item		501	102	202	
Fluid		Dry air, Nitrogen, Non corrosive / flammable gas			
Sensor	Flow rate	Measured flow range	2 ~ 500 L/min	5 ~ 1000 L/min 10 ~ 2000 L/min	
		Flow direction	One direction		
Rated pressure range		-90 ~ 1000 kPa			
Display	Type	Flow rate	4 digital(flow rate) / 8 digital(accumulated flow rate), 7 segment LCD display (red/green/yellow)		
		Pressure	4 digital * 4 digital, 7 segment LCD display (red/green/yellow)		
	Instantaneous range	Display range	0 ~ 525 L/min	0 ~ 1050 L/min	0 ~ 2100 L/min
		Min. display range	LPM	1 L/min	
			CFM	0.1 ft ³ / min	
Accumulated range	Display range	9999999 L			
	Min. display range	1 L 1 ft ³			

■ Specifications

Item		501	102	202	
Display	Pressure	Display range		-100 ~ 1000 kPa	
		Min. display range	kPa	1	
			kgf/cm ²	0.01	
			bar	0.01	
			psi	0.1	
Accuracy	Flow rate	Proof range		2 ~ 100 % F.S.	
		Display accuracy		± 3 % F.S. ± 1 digit ※1	
		Analog output accuracy		± 5 % F.S. ※1	
		Repeatability		± 1 % F.S. ± 1 digit (Response time is set to 50ms ± 2% F.S.) ※2	
		Linearity		± 3 % F.S. ※2	
		Tem. Characteristic		± 5 % F.S. (Compare with ※2)	
	Pressure	Pressure characteristic		± 5 % F.S. ± 1 digit ※3	
		Proof range		0 ~ 100 % F.S.	
		Display accuracy		± 2 % F.S. ± 1 digit ※4	
		Analog output accuracy		± 2.5 % F.S. ※4	
		Repeatability		± 0.2 % F.S. ± 1 digit ※4	
		Linearity		± 1 % F.S. ※4	
		Tem. Characteristic		± 2 % F.S. (Compare with ※4)	
		Switch output			2 NPN : Open collector 2 output Max. load current : 125 mA Max. applied voltage : 28 V DC Voltage drop : ≤ 1.5 V
Response time	Flow rate		800ms (50ms, 80ms, 120ms, 200ms, 400ms, 1500ms can be selected)		
	Pressure		2.5ms (25ms, 100ms, 250ms, 500ms, 1000ms, 1500ms can be selected)		
Output mode	Flow rate		Hysteresis mode, window comparator, accumulated output, accumulated pulse output mode		
	Pressure		One point setup mode, hysteresis mode, window comparator mode		
Hysteresis			Adjustable		
Protection output			Installed		
Accumulated pulse output		5 L/Pulse	10 L/ Pulse	10 L/ Pulse	
		20 ft ³ / Pulse	20 ft ³ / Pulse	40 ft ³ / Pulse	
Analog output	Voltage output		Voltage output range : 1 ~ 5 V ※5 Output impedance : 1 KΩ		
	Current output		Current output range : 4 ~ 20 mA ※5 Load impedance : ≤ 300 Ω		
	Response time		Pressure : ≤ 50ms, Flow rate : ≤ 100ms		
External input		Specific voltage pressure, < 0.4 V, ≥ 30ms			
Serial communication		RS485 ※6			
Power	Power voltage		12 ~ 24 V DC ± 10 %, Ripple (P-P) ≤ 10 %		
	Current consumption		≤ 50 mA		
Environment	Withstand pressure		1.5 Mpa		
	IP grade		IP40		
	Fluid temperature range		0 ~ 50 °C (No condensation or freezing)		
	Ambient temperature range		Operation : 0 ~ 50 °C ; Stored : -10 ~ 60 °C (No condensation or freezing)		
	Ambient humidity range		Operation / Stored : 35 ~ 85 % relative humidity (No condensation)		
	Insulation resistance		≥ 2 MΩ (50 V DC, between case and lead wire)		
	Withstand voltage		250 V AC in 1-min (between case and lead wire)		
	Vibration		Total amplitude 1.5mm or 10G, 10Hz~55Hz~10Hz scanning for 1 minute, 2 hours each for X, Y, and Z direction		
	Shock		100 m/s ² (10 G), 3 times each for X, Y, and Z direction		
EMC		IEC 61000-6-2, IEC 61000-6-4			
Lead wire		Ø4 oil resistant cable (PVC) - 26 AWG (0.15 mm) - 6 core			

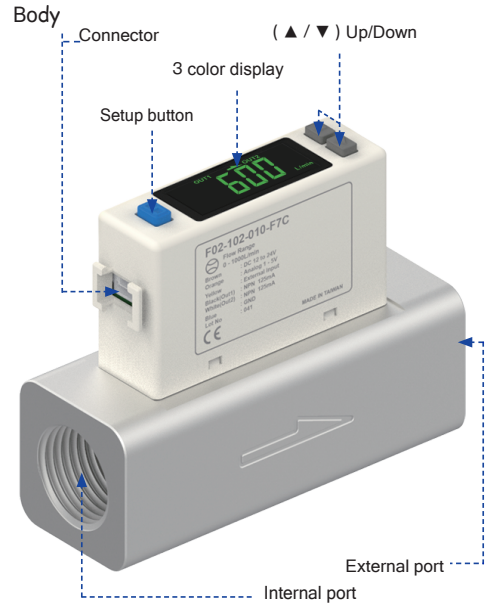
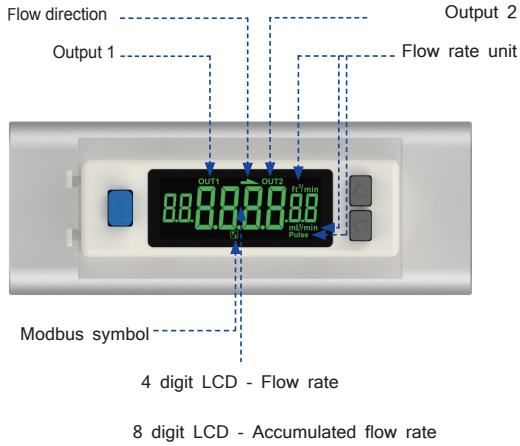
Caution

- ※ 1 : Condition : Inlet port pressure : 600kPa, Outlet port pressure : 1 atmospheric pressure, 25°C, ※ 2 : Condition : Outlet port pressure : 1 atmospheric pressure, 25°C
- ※ 3 : 0~1.0MPa, Outlet port pressure : 1 atmospheric pressure, 25°C, ※ 4 : Outlet port flow speed = 0 L/min, 25°C
- ※ 5 : Only if it's compatible with PWM output, and pressure sensor 0~1000kPa, ※ 6 : This function is only available with output option -02, and -04

F02/FP02 Series

Functions (F02 series)

LCD display



Functions (FP02 series)

LCD display

