

KFP01A SERIES

Digital Flow and Pressure Sensor

Features

- Flow and pressure dual sensor.
- Flow and pressure 4 digit, 7 segment dual LCD display.
- 7 segment 8 digit LCD display.
Accumulated flow rate display at a glance.
- IO-Link compatible
- Remote control
- Real-time monitoring



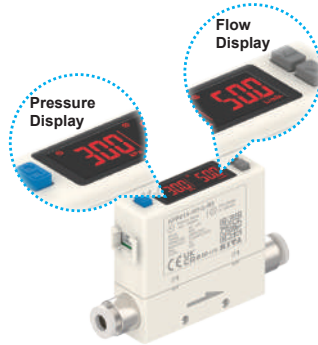
Patented



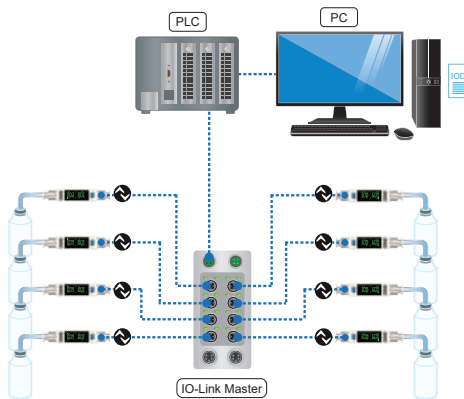
Features Highlight

1 2-in-1 Design

- Pressure and flow rate simultaneous monitoring

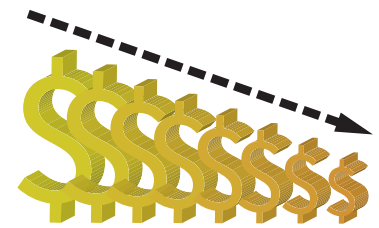


2 IO-Link compatible



3 Cost Reduction

- KFP01A series significantly reduces costs comparing with conventional product



IO-Link Specifications

Type	Device
Version	V 1.1 ※1
Communication Speed	COM2 (38.4 kbps)
Configuration File	IODD file ※2
Mini Cycle Time	4.6 ms
Process Data Length	Input data : 2 byte (2 bit BDC, 14 bit PDV), Output data : 0 byte
On Request Data Communication	Available
Data Storage Function	Available
Event Function	Available
Vendor ID	1254 (0x04E6)
Device ID	KFP01A-005-L-□ : 8 (0x000008) KFP01A-010-L-□ : 9 (0x000009) KFP01A-050-L-□ : 10 (0x00000A) KFP01A-100-L-□ : 11 (0x00000B) KFP01A-500-L-□ : 12 (0x00000C) KFP01A-101-L-□ : 13 (0x00000D) KFP01A-201-L-□ : 14 (0x00000E)

NOTE

※1 : IO-Link Interface and System Specification, V1.1.3, June 2019

※2 : The configuration file (IODD file) can be downloaded from the KITA website. (www.kita.com.tw)

Specifications

Model		005	010	050	100	500	101	201		
Fluid		Dry air, N ₂ , CO ₂ , Ar, Non-corrosive / Non-flammable gas								
Sensor Element	Flow	Measured Flow Rate Range	0 ~ 500 mL/min	0 ~ 1000 mL/min	0 ~ 5 L/min	0 ~ 10 L/min	0 ~ 50 L/min	0 ~ 100 L/min	0 ~ 200 L/min	
		Flow Direction	Unidirection							
	Pressure	Rated Pressure Range	-100 ~ 1000 kPa							
		4 digital × 4 digital, 7 segment LCD display (Red / Green / Orange)								
Display	Instant Flow Rate	Display Range	0 ~ 525 mL/min	0 ~ 1050 mL/min	0 ~ 5.25 L/min	0 ~ 10.50 L/min	0 ~ 52.5 L/min	0 ~ 105.0 L/min	0 ~ 210 L/min	
		Minimum Setting Scale	LPM	1 mL/min	1 mL/min	0.01 L/min	0.01 L/min	0.1 L/min	0.1 L/min	1 L/min
	CFM ※1		0.01 ft ³ /min	0.01 ft ³ /min	0.1 ft ³ /min	0.1 ft ³ /min	1 ft ³ /min	1 ft ³ /min	1 ft ³ /min	
	Accumulated Flow	Display Range	99999999 mL	99999999 mL	999999.99 L	999999.99 L	9999999.9 L	9999999.9 L	99999999 L	
		Minimum Setting Scale ※1		1 mL	1 mL	0.01 L	0.01 L	0.1 L	0.1 L	1 L
			0.01 ft ³	0.01 ft ³	0.1 ft ³	0.1 ft ³	1 ft ³	1 ft ³	1 ft ³	
	Pressure Display	Display Range		-100 ~ 1000 kPa						
			kPa	1						
		Minimum Setting Scale	kgf/cm ²	0.01						
			bar	0.01						
	psi	0.1								
Accuracy	Flow ※2	Guaranteed Range	2 ~ 100 % F.S.							
		Indicator Accuracy	± 3 % F.S. ± 1 digit ※3							
		Repeatability	± 1 % F.S. ± 1 digit ※4							
		Linearity	± 3 % F.S. ※4							
		Temp. Characteristic	± 5 % F.S. ※4							
	Pressure	Pressure Characteristic	± 5 % F.S. ± 1 digit ※5							
		Guaranteed Range	0 ~ 100 % F.S.							
		Indicator Accuracy	± 2 % F.S. ± 1 digit ※6							
		Repeatability	± 0.2 % F.S. ± 1 digit ※6							
		Temp. Characteristic	± 2 % F.S. ※6							
Switch Output	Output Mode	Instant Flow	2 NPN open collector outputs Max. Load Current : 125 mA Max. Supply Voltage : 24 V DC Voltage Drop : ≤ 1.5 V			2 PNP open collector outputs Max. Load Current : 125 mA Max. Supply Voltage : 24 V DC Voltage Drop : ≤ 1.5 V				
		Accumulated Flow	One Point Set Mode, Window Comparator Mode							
		Pressure	One Point Set Mode, Window Comparator Mode							
	Hysteresis	Adjustable								
	Response Time of Digital Filter	Flow	800 ms (50 ms, 80 ms, 120 ms, 200 ms, 400 ms, 1500 ms selectable)							
		Pressure	OFF (2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms, 512 ms, 1024 ms selectable)							
	Output Short Circuit Protection	Yes								
Power	Power Supply Voltage	24 V DC ± 10 %, Ripple (P-P) ≤ 10 %								
	Current Consumption	≤ 50 mA								
Environment	Withstand Pressure	1 MPa								
	Enclosure	IP40								
	Working Fluid Temp.	0 ~ 50 °C (No condensation or freezing)								
	Ambient Temp. Range	Operation : 0 ~ 50 °C ; Storage : -10 ~ 60 °C (No condensation or freezing)								
	Ambient Humidity Range	Operation / Storage : 35 ~ 85 % R.H. (No condensation)								
	Withstand Voltage	1000 V AC in 1-min (between case and lead wire)								
	Insulation Resistance	≥ 50 MΩ (500 V DC, between case and lead wire)								
	Vibration	Total amplitude 1.5 mm or 10 G, 10 Hz ~ 55 Hz ~ 10 Hz scan for 1 minute, 2 hours each direction of X, Y and Z								
Shock	100 m/s ² (10 G), 3 times each in direction of X, Y and Z									
Lead Wire	Ø4 Oil-resistance cable (PVC) - 26 AWG (0.15 mm ²) - 5 cores									
Weight (with 2 meter lead wire)	Approx. 112.1 g (Ø6 port) ; Approx. 116 g (Ø8 port) ; Approx. 122.4 g (Rc1/4" port) ; Approx. 132.4 g (Rc1/8" port)									

NOTE

※1 : CFM (ft³/min × 10⁻²) and ft³ × 10⁻²

※2 : Accuracy : It is based on dry compressed air and KITA standard flow meter.
It is a reference only for other gases.

※3 : CONDITION : Inlet Pressure : 300 kPa, Outlet Pressure : 1 atmospheric pressure, 25 °C

※4 : CONDITION : Outlet Pressure : 1 atmospheric pressure, 25 °C

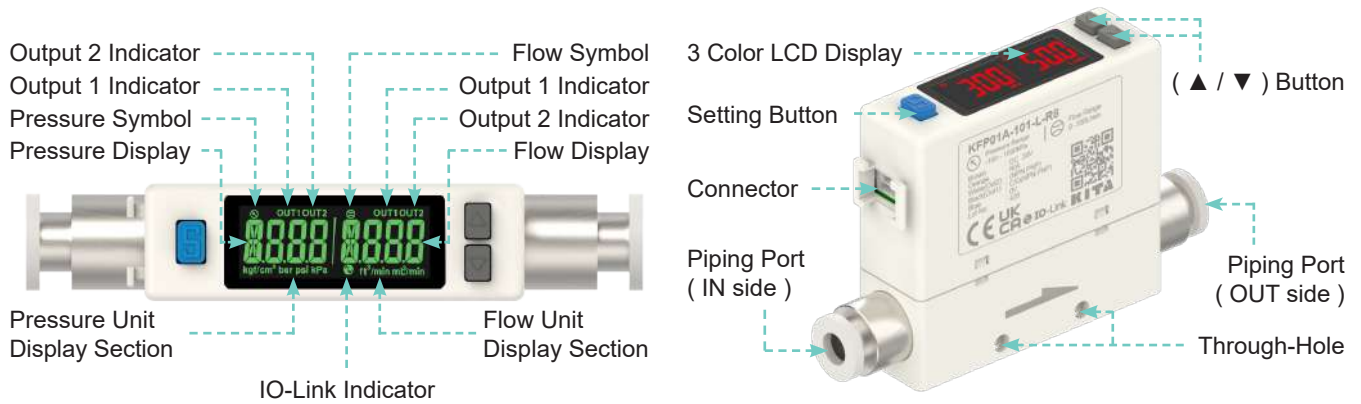
※5 : -100 ~ 1000 kPa, Outlet Pressure : 1 atmospheric pressure, 25 °C

※6 : Outlet flow rate = 0 L/min, 25 °C

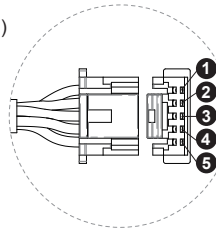
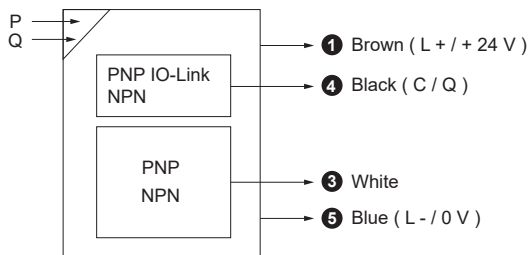
KFP01A SERIES

Digital Flow and Pressure Sensor

Panel Description



Output Circuit Wiring Diagrams



PIN No.	Line color	Content
①	Brown	Operating voltage + 24 V DC
②	Orange	Not used
③	White	Switch output OUT2
④	Black	Switch output OUT1 or IO-Link (C / Q Line)
⑤	Blue	0 V

※ NPN / PNP of switch output can be switched.

Ordering Information

K F P 0 1 A - 0 0 5 - L - R 6

Flow Rate Range

- 005 : 500 mL/min
- 010 : 1000 mL/min
- 050 : 5 L/min
- 100 : 10 L/min
- 500 : 50 L/min
- 101 : 100 L/min
- 201 : 200 L/min

Output Specifications

L : IO-Link

Port Size

- R6 : Ø6 mm, for Flow Rate Range 005, 010, 050, 100, 500
- R8 : Ø8 mm, for Flow Rate Range 101, 201
- F1C : Rc1/8", with internal threads, for Flow Rate Range 005, 010, 050, 100, 500
- F4C : Rc1/4", with internal threads, for Flow Rate Range 101, 201

Optional Parts

- BT-26 : Mounting bracket
- PA-G : Panel adapter
- PA-H : Panel adapter + Front protective lid

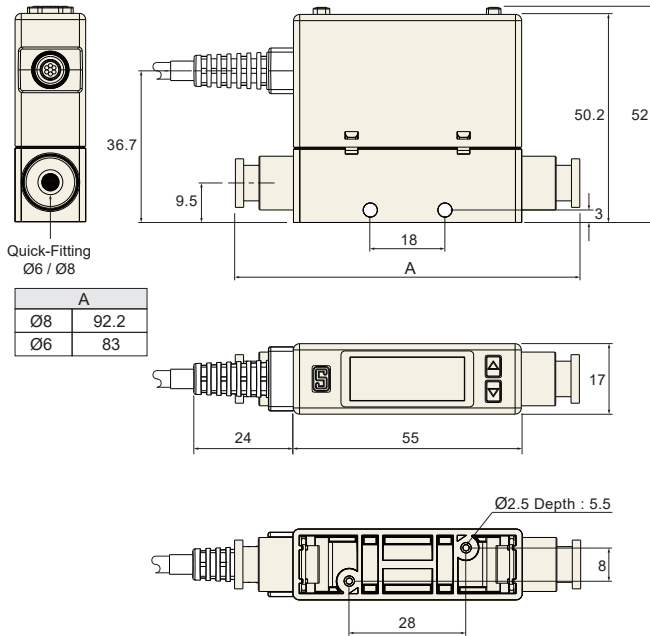
Optional Parts

- Mounting Bracket : BT-26
- Panel Adapter : PA-G
- Panel Adapter + Front Protective Lid : PA-H

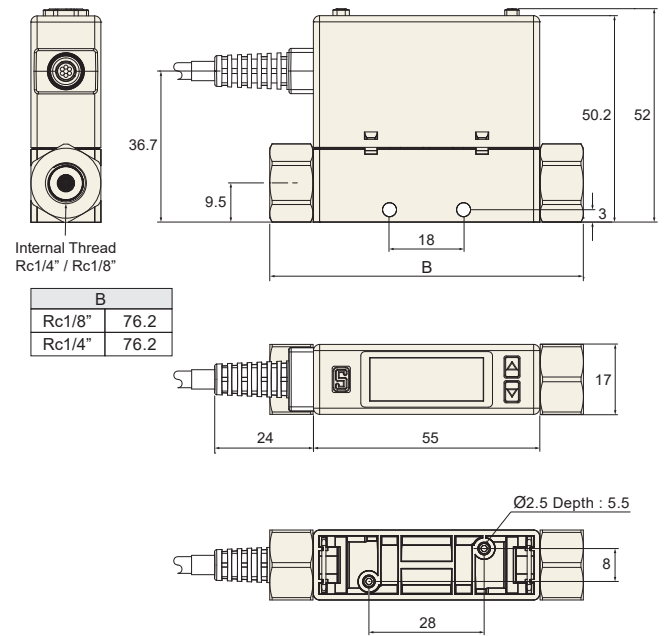


Dimensions

■ Port Size : Ø6, Ø8

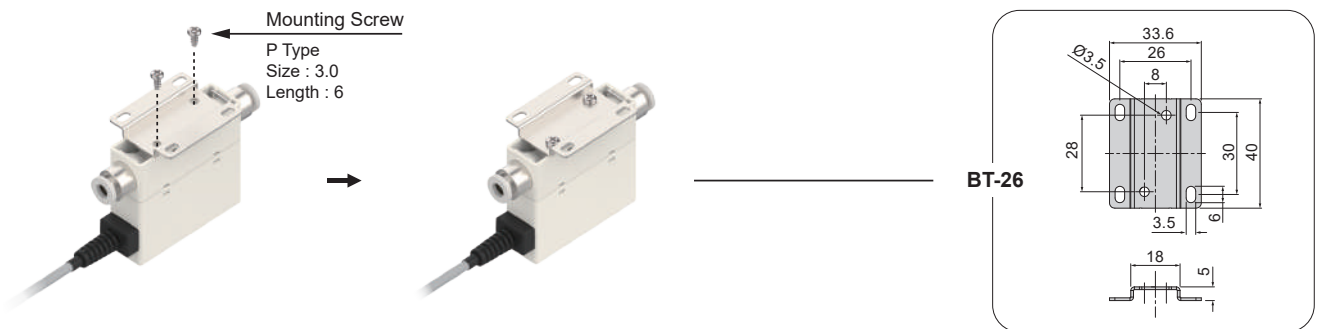


■ Port Size : Rc1/8", Rc1/4"

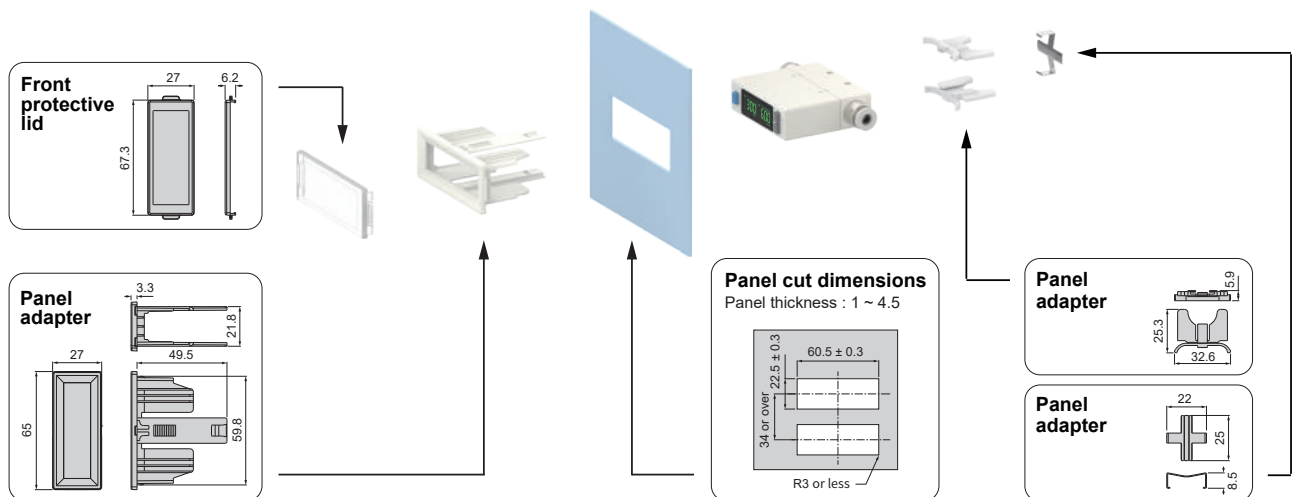


Optional Parts Dimensions

1 Mounting Bracket



2 Panel Mount Adapter + Front Protective Lid



Unit : mm