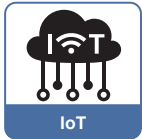
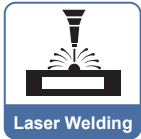
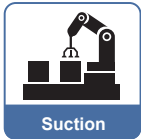


## Features

- Invertible display makes digital easier to read.
- 7 segment 8 digit LCD display.  
Accumulated flow rate display at a glance.
- Real-time monitoring.

Patented

RS485 MODBUS CONTROL



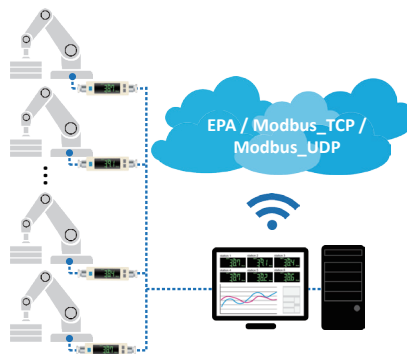
## Features Highlight

### 1 3-color LED display



	500	500	500	500
ON	Green	Red	Green	Red
OFF	Red	Green	Green	Red

### 2 Real-time monitoring



### 3 High Performance

- High Precision

Indicator accuracy  $\pm 3\%$  F.S.

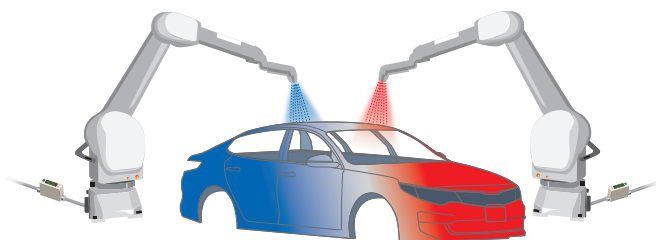
Repeatability  $\pm 1\%$  F.S.

- Multiple Output Function

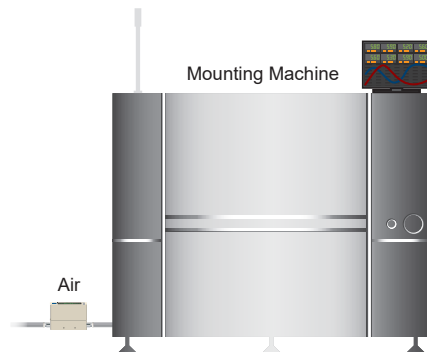
Digital Display	Instantaneous flow value Accumulated flow value
Switch Output	NPN output PNP output
Analog output	Voltage output 1~5 V Current output 4~20 mA
Accumulated Pulse Output	50ms pulse output

### 4 Wide range of applications

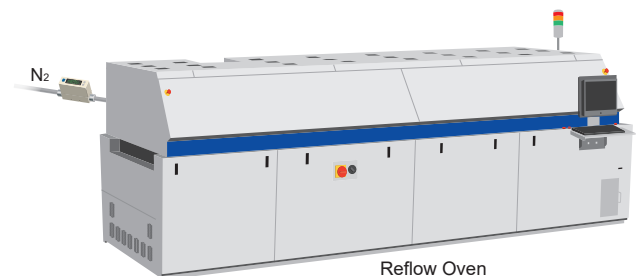
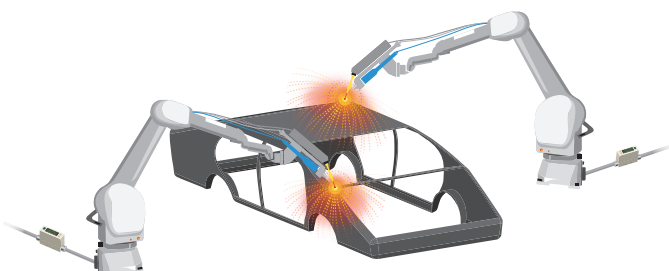
- Painting Robot :  
Air flow management of paint and coating processes



- Reflow Oven / Mounting Machine :  
N<sub>2</sub> & Air consumption of the whole equipment management



- Laser Welding Robot :  
Management of shielding gas, flow rate



## Specifications

Model		005	010	050	100	500	101	201	
Fluid		Dry air, N <sub>2</sub> , CO <sub>2</sub> , Ar, Non-corrosive / Non-flammable gas							
Sensor Element	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							
		4 digital ( Flow ) / 8 digital ( Accumulated Flow ), 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 <sup>3</sup> /min	0.01 ft <sup>3</sup> /min	0.1 ft <sup>3</sup> /min	0.1 ft <sup>3</sup> /min	1 ft <sup>3</sup> /min	1 ft <sup>3</sup> /min	1 ft <sup>3</sup> /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 0.01 ft <sup>3</sup>	1 mL 0.01 ft <sup>3</sup>	0.01 L 0.1 ft <sup>3</sup>	0.01 L 0.1 ft <sup>3</sup>	0.1 L 1 ft <sup>3</sup>	0.1 L 1 ft <sup>3</sup>	1 L 1 ft <sup>3</sup>	
Accuracy ※6	Guaranteed Range	2 ~ 100 % F.S.							
	Indicator Accuracy	± 3 % F.S. ± 1 digit ※2							
	Analog Output Accuracy	± 5 % F.S. ※2							
	Repeatability	± 1 % F.S. ± 1 digit ※3							
	Linearity	± 3 % F.S. ※3							
	Temp. Characteristic	± 5 % F.S. ※3							
	Pressure Characteristic	± 5 % F.S. ± 1 digit ※4							
Switch Output		2 NPN : open collector 2 outputs Max. Load Current : 125 mA Max. Supply Voltage : 24 V DC Voltage Drop : ≤ 1.5 V				2 PNP : open collector 2 outputs Max. Load Current : 125 mA Max. Supply Voltage : 24 V DC Voltage Drop : ≤ 1.5 V			
	Output Mode	Hysteresis Mode, Window Comparator Mode, Accumulated Output, Accumulated Pulse Output							
	Hysteresis	Adjustable							
	Response Time	800 ms ( 50 ms, 80 ms, 120 ms, 200 ms, 400 ms, 1500 ms selectable )							
	Output Short Circuit Protection	Yes							
	Accumulated Pulse Output ※1	5 mL/Pulse 0.02 ft <sup>3</sup> /Pulse	10 mL/Pulse 0.04 ft <sup>3</sup> /Pulse	0.05 L/Pulse 0.2 ft <sup>3</sup> /Pulse	0.1 L/Pulse 0.4 ft <sup>3</sup> /Pulse	0.5 L/Pulse 2 ft <sup>3</sup> /Pulse	1 L/Pulse 4 ft <sup>3</sup> /Pulse	2 L/Pulse 7 ft <sup>3</sup> /Pulse	
Analog Output	Voltage Output	Voltage Output Range : 1 ~ 5 V Output Impedance : 1 KΩ							
	Current Output	Current Output Range : 4 ~ 20 mA Load Impedance : ≤ 300 Ω							
External Input		Non-voltage input, < 0.4 V, ≥ 30 ms							
Communication Interface		RS485 ※5							
Power	Power Supply Voltage	12 ~ 24 V DC ± 10 %, Ripple ( P-P ) ≤ 10 % ( UL class 2 )							
	Current Consumption	≤ 50 mA							
Environment	Working Pressure Range	-0.1 ~ 1 MPa							
	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 <sup>2</sup> ( 10 G ), 3 times each in direction of X, Y and Z								
Lead Wire		Ø4 Oil-resistance cable ( PVC ) - 26 AWG ( 0.15 mm <sup>2</sup> ) - 6 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 ( ft<sup>3</sup>/min × 10<sup>-2</sup> ) and ft<sup>3</sup> × 10<sup>-2</sup>

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

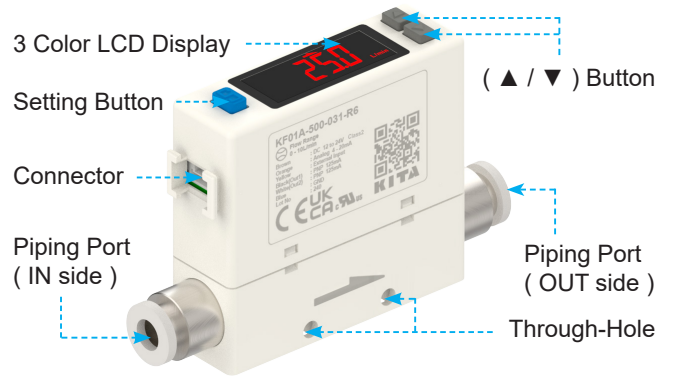
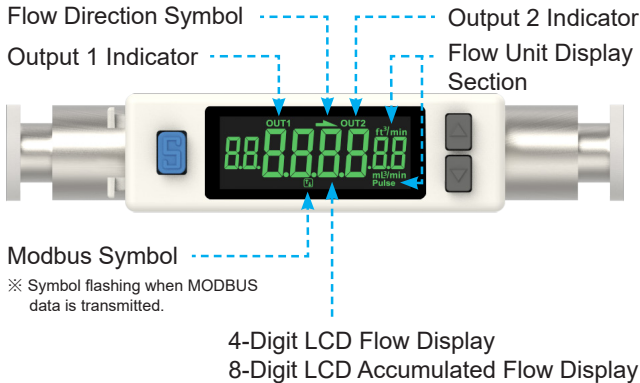
※3 : CONDITION : Outlet Pressure : 1 atmospheric pressure, 25 °C

※4 : -0.1 ~ 1 MPa, Outlet Pressure : 1 atmospheric pressure, 25 °C

※5 : This function only available for Output Specification -02 and -04.

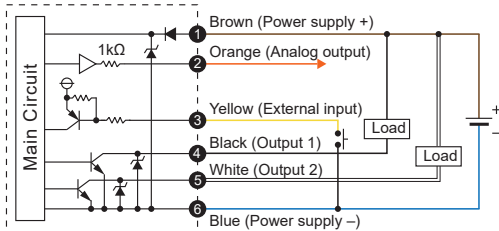
※6 : Accuracy : It is based on dry compressed air and KITA standard flow meter. It is a reference only for other gases.

## Panel Description

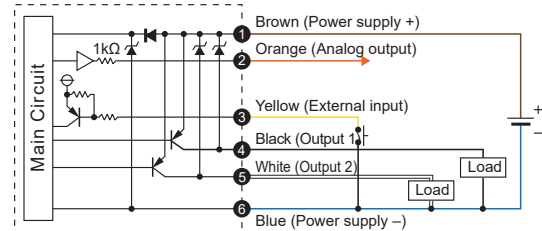


## Output Circuit Wiring Diagrams

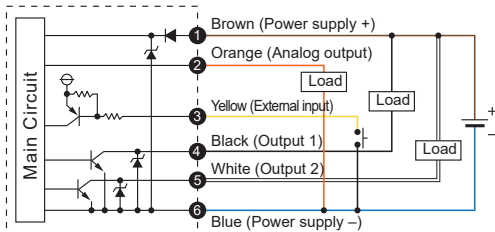
### NPN Output / Analog Voltage Output / External Input



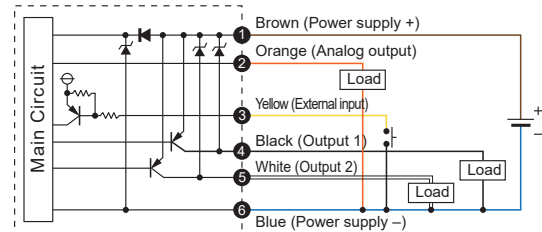
### PNP Output / Analog Voltage Output / External Input



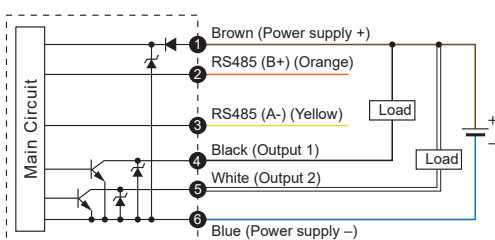
### NPN Output / Analog Current Output / External Input



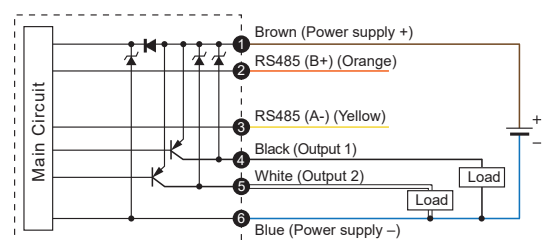
### PNP Output / Analog Current Output / External Input



### NPN Output / RS485 MODBUS Mode



### PNP Output / RS485 MODBUS Mode



※ Wiring for RS485 MODBUS : Please connect RS485 (B+) or (A-) before connecting power supply to avoid short circuit to damage to product.

## Ordering Information

**K F 0 1 A - 0 0 5 - 0 1 0 - 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

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

### Port Size

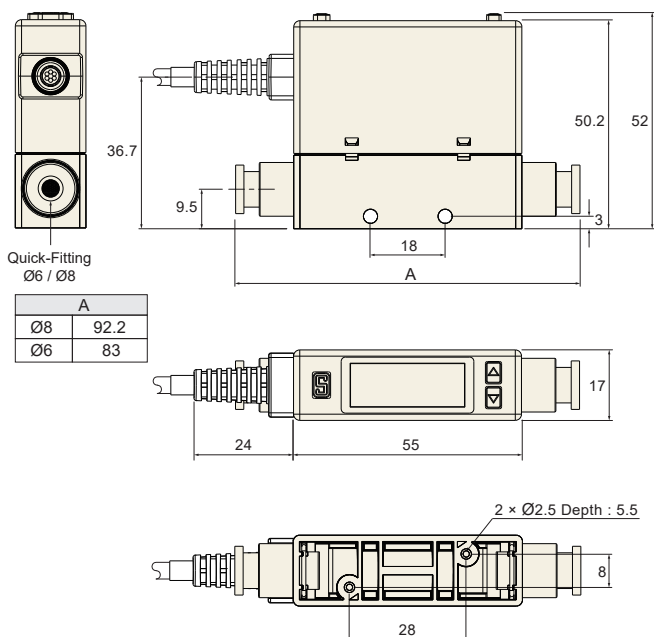
R6 :  $\varnothing 6$  mm, for Flow Rate Range 005, 010, 050, 100, 500  
R8 :  $\varnothing 8$  mm, for Flow Rate Range 101, 201  
F1C : Rc1/8", with internal threads, for Flow Rate Range 005, 010, 050, 100, 500  
F4C : Rc1/4", with internal threads, for Flow Rate Range 101, 201

### Optional Parts

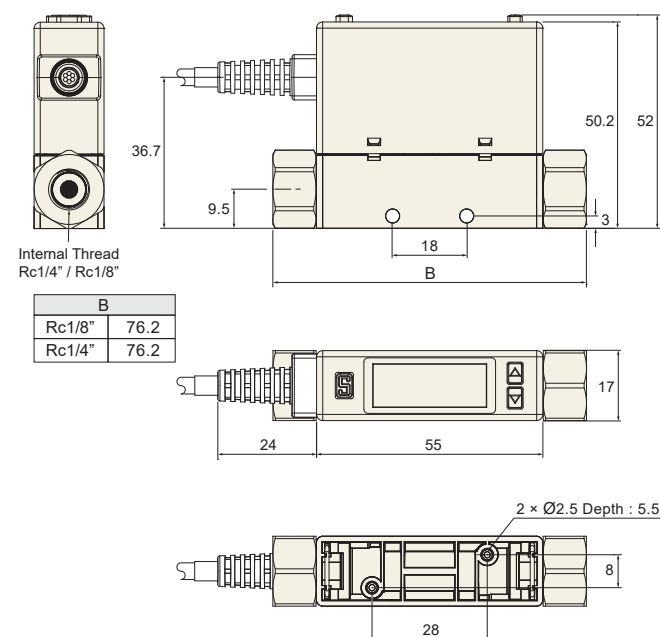
BT-26 : Mounting bracket  
PA-G : Panel adapter  
PA-H : Panel adapter + Front protective lid

## Dimensions

• Port Size : Ø6, Ø8

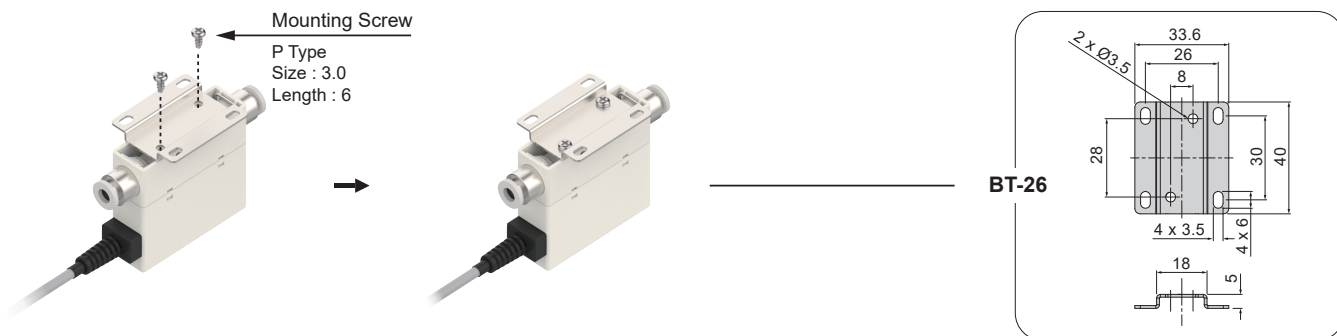


• Port Size : Rc1/8", Rc1/4"

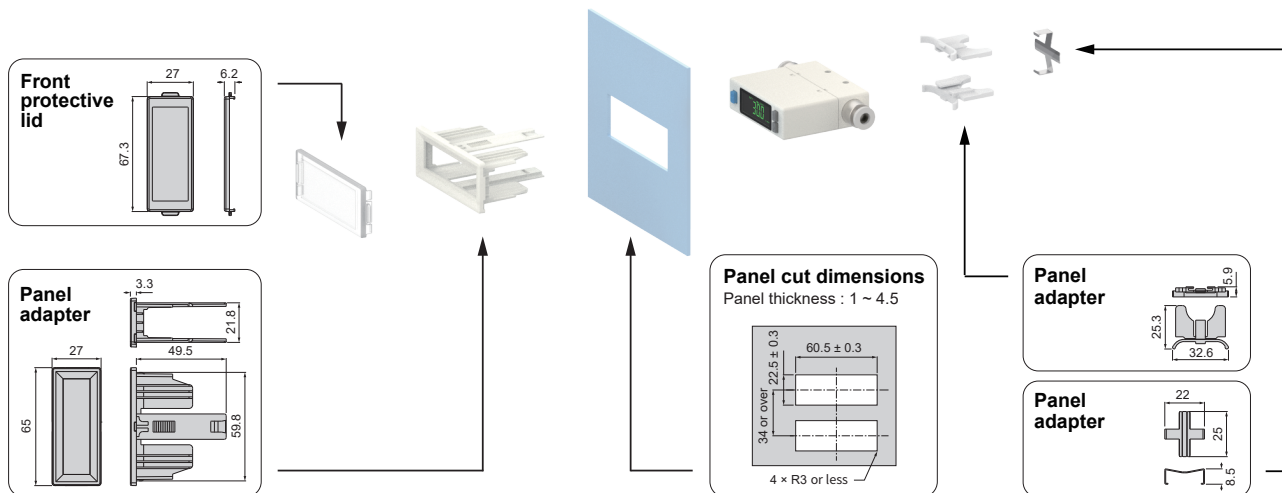


## Optional Parts Dimensions

### 1 Mounting Bracket



### 2 Panel Mount Adapter + Front Protective Lid



Unit : mm