

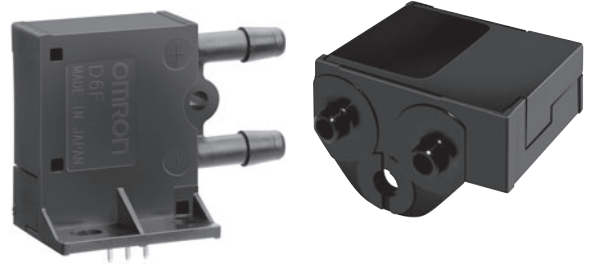
# D6F-P

MEMS Flow Sensor

▶ Air ▶ Analog

## A Compact, High-accuracy Flow Sensor with Superior Resistance to Environments.

- Anti-dust performance is improved using the Cyclon method.
- A full lineup of models with different connector types: bamboo joints, lead terminals for direct mounting on-board, and manifolds.
- High accuracy of  $\pm 5\%$  FS.



RoHS Compliant



Refer to the *Common Precautions for the D6F Series* on page 40.

## Ordering Information

### MEMS Flow Sensor

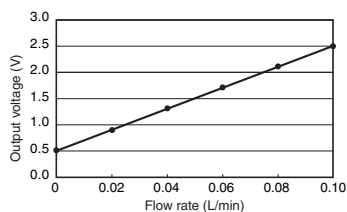
Flow Port Type	Connection	Applicable fluid	Flow rate range	Model
Bamboo joint	Lead terminals	Air	0 to 0.1 L/min	<b>D6F-P0001A1</b>
			0 to 1 L/min	<b>D6F-P0010A1</b>
Manifold	Connector		0 to 1 L/min	<b>D6F-P0010A2</b>
				<b>D6F-P0010AM2</b>

### Accessory (Sold separately)

Type	Model
Cable	<b>D6F-CABLE2</b>

## Output Voltage Characteristics

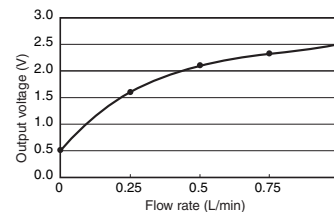
### D6F-P0001A1



Flow rate L/min (normal)	0	0.02	0.04	0.06	0.08	0.10
Output voltage V	0.50	0.90	1.30	1.70	2.10	2.50
	$\pm 0.10$	$\pm 0.10$	$\pm 0.10$	$\pm 0.10$	$\pm 0.10$	$\pm 0.10$

Measurement conditions: Power supply voltage of  $5.0 \pm 0.1$  VDC, ambient temperature of  $25 \pm 5^\circ\text{C}$ , and ambient humidity of 35% to 75%.

### D6F-P0010A1/-P0010A2/-P0010AM2



Flow rate L/min (normal)	0	0.25	0.50	0.75	1.00
Output voltage V	0.50	1.60	2.10	2.31	2.50
	$\pm 0.10$	$\pm 0.10$	$\pm 0.10$	$\pm 0.10$	$\pm 0.10$

Measurement conditions: Power supply voltage of  $5.0 \pm 0.1$  VDC, ambient temperature of  $25 \pm 5^\circ\text{C}$ , and ambient humidity of 35% to 75%.

## Characteristics/Performance

Model	D6F-P0001A1	D6F-P0010A1	D6F-P0010A2	D6F-P0010AM2
Flow Range (See note 1.)	0 to 0.1 L/min	0 to 1 L/min		
Calibration Gas (See note 2.)	Air			
Flow Port Type	Bamboo joint Maximum outside diameter: 4.9 mm, minimum outside diameter: 4.0 mm			Manifold
Electrical Connection	Lead terminals		Three-pin connector	
Power Supply	4.75 to 5.25 VDC			
Current Consumption	15 mA max. with no load and a Vcc of 5.0 V			
Output Voltage	0.5 to 2.5 VDC (Load resistance: 10 kΩ)			
Accuracy	±5% FS (25°C characteristic)			
Repeatability (See note 3.)	±1.0% FS	±0.4% FS		
Output Voltage (Max.)	3.1 VDC (Load resistance: 10 kΩ)			
Output Voltage (Min.)	0 VDC (Load resistance: 10 kΩ)			
Rated Power Supply Voltage	10 VDC			
Rated Output Voltage	4 VDC			
Case	PBT			
Degree of Protection	IEC IP40 (Excluding tubing sections.)			
Withstand Pressure (See note 3.)	50 kPa			
Pressure Drop (See note 3.)	0.005 kPa	0.19 kPa		0.67 kPa
Operating Temperature (See note 4.)	-10 to +60°C			
Operating Humidity (See note 4.)	35% to 85%			
Storage Temperature (See note 4.)	-40 to +80°C			
Storage Humidity (See note 4.)	35% to 85%			
Temperature Characteristics	±5% FS for 25°C characteristic at an ambient temperature of -10 to +60°C			
Insulation Resistance	Between Sensor outer cover and lead terminals: 20 MΩ min. (at 500 VDC)			
Dielectric Strength	Between Sensor outer cover and lead terminals: 500 VAC, 50/60 Hz min. for 1 min (leakage current: 1 mA max.)			
Weight	8.5 g			8.0 g

Note: 1. Volumetric flow rate at 0°C, 101.3 kPa.

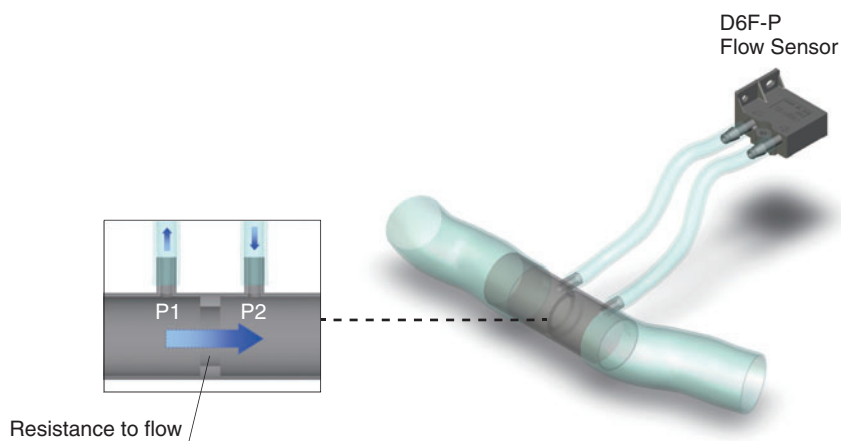
Note: 2. Dry gas. (must not contain large particles, e.g., dust, oil, or mist.)

Note: 3. Reference (typical)

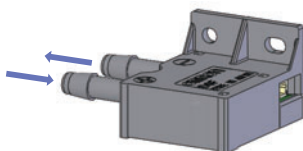
Note: 4. With no condensation or icing.

## Tubing

You can measure large flows by mounting the Sensor on a bypass.



### Mounting Direction PCB-mounting Sensor



### Manifold-type Sensor

