D6F-A5

MEMS Flow Sensor

High-accuracy Sensing with a Compact Body for Flow Rates Up to 50 L/min.

Air Analog

- **Accurately detects a mass flow rate of 10 to 50 L/min.**
- **A compact size of 30 × 78 × 30 mm (H × W × D).**

RoHS Compliant

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

Ordering Information

MEMS Flow Sensor

Flow Port Type	Applicable fluid	Flow rate range	Model
Manifold	Air	0 to 10 L/min	**D6F-10A5-000**
		0 to 20 L/min	**D6F-20A5-000**
		0 to 50 L/min	**D6F-50A5-000**

Accessory (Sold separately)

Type	Model
Cable	**D6F-CABLE1**

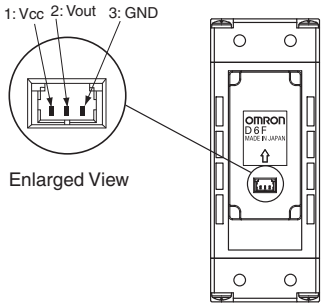
Note: Refer to *Accessories for the D6F Series* on page 39.

Connections

D6F-10A5-000
D6F-20A5-000
D6F-50A5-000

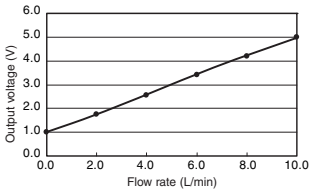
Pin No. 1: Vcc
2: Vout
3: GND
Connector 53398-03** (Made by Molex Japan)

Use the following connectors for connections to the D6F:
Housing 51021-0300 (Made by Molex Japan)
Terminals 50079 (Made by Molex Japan)
Wires AWG28 to AWG26

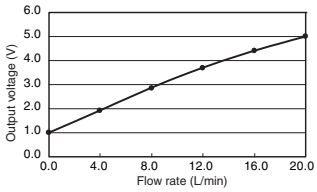


Output Voltage Characteristics

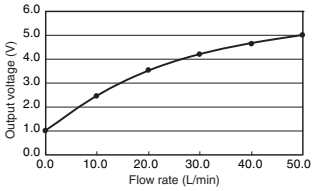
D6F-10A5-000



D6F-20A5-000



D6F-50A5-000



D6F-10A5-000

Flow rate L/min (normal)	0	2.0	4.0	6.0	8.0	10.0
Output voltage V	1.00 ±0.12	1.75 ±0.12	2.60 ±0.12	3.45 ±0.12	4.25 ±0.12	5.00 ±0.12

D6F-20A5-000

Flow rate L/min (normal)	0	4.0	8.0	12.0	16.0	20.0
Output voltage V	1.00 ±0.12	1.93 ±0.12	2.87 ±0.12	3.70 ±0.12	4.41 ±0.12	5.00 ±0.12

D6F-50A5-000

Flow rate L/min (normal)	0	10	20	30	40	50
Output voltage V	1.00 ±0.12	2.45 ±0.12	3.51 ±0.12	4.20 ±0.12	4.66 ±0.12	5.00 ±0.12

Measurement conditions: Power supply voltage of 12±0.1 VDC, ambient temperature of 25±5°C, and ambient humidity of 35% to 75%.

Characteristics/Performance

Model	D6F-10A5-000	D6F-20A5-000	D6F-50A5-000
Flow Range (See note 1.)	0 to 10 L/min	0 to 20 L/min	0 to 50 L/min
Calibration Gas (See note 2.)	Air		
Flow Port Type	Manifold		
Electrical Connection	Three-pin connector		
Power Supply	10.8 to 26.4 VDC		
Current Consumption	15 mA max. with no load, with a Vcc of 12 to 24 VDC, and at 25°C		
Output Voltage	1 to 5 VDC (non-linear output, load resistance of 10 kΩ)		
Accuracy	±3% FS (25°C characteristic)		
Repeatability (See note 3.)	±0.3% FS		
Output Voltage (Max.)	5.7 VDC (Load resistance: 10 kΩ)		
Output Voltage (Min.)	0 VDC (Load resistance: 10 kΩ)		
Rated Power Supply Voltage	26.4 VDC		
Rated Output Voltage	6 VDC		
Case	PPS/aluminum alloy		
Degree of Protection	IEC IP40 (Excluding tubing sections.)		
Withstand Pressure	500 kPa		
Pressure Drop (See note 3.)	0.8 kPa	2.9 kPa	17.2 kPa
Operating Temperature (See note 4.)	−10 to 60°C		
Operating Humidity (See note 4.)	35% to 85%		
Storage Temperature (See note 4.)	−30 to 80°C		
Storage Humidity (See note 4.)	35% to 85%		
Temperature Characteristics	±3% 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	103 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.

Dimensions (Unit: mm)

● MEMS Flow Sensors

D6F-10A5-000
D6F-20A5-000
D6F-50A5-000

Mounting Hole Dimensions