D6F-A1

MEMS Flow Sensor

A Compact, High-accuracy Sensor That Measures Low Flow Rates.

Air Analog

- **High accuracy of ±3% FS.**
- **Flow rates can be measured without being affected by temperature or pressure.**

RoHS Compliant

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

Ordering Information

MEMS Flow Sensor

Applicable fluid	Flow rate range	Model
Air	0 to 1 L/min	**D6F-01A1-110**
	0 to 2 L/min	**D6F-02A1-110**

Accessory (included)

Type	Model
Cable	**D6F-CABLE1**

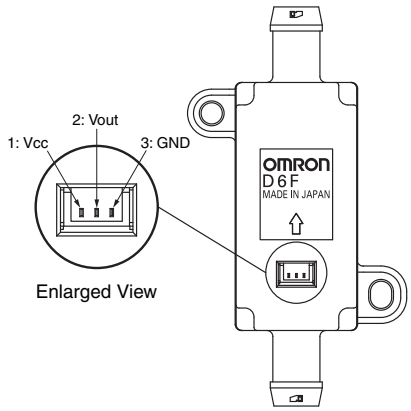
Connections

D6F-01A1-110
D6F-02A1-110

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

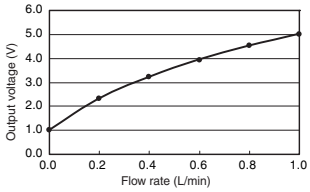
Use the following connectors for connections to the D6F:
Housing 51021-0300 (Made by Molex Japan)
Terminals 50079 (Made by Molex Japan)
Wires AWG28 to AWG26

Tubes Install tubes made of materials such as rubber or urethane so that they will not come out.
For urethane tubes, tubes with an outer diameter of 12 mm and an inner diameter of 8 mm are recommended.

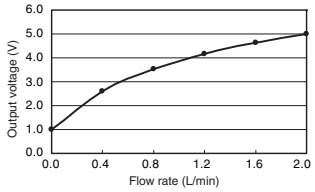


Output Voltage Characteristics

D6F-01A1-110



D6F-02A1-110



D6F-01A1-110

Flow rate L/min (normal)	0	0.2	0.4	0.6	0.8	1.0
Output voltage V	1.00 ±0.12	2.31 ±0.12	3.21 ±0.12	3.93 ±0.12	4.51 ±0.12	5.00 ±0.12

D6F-02A1-110

Flow rate L/min (normal)	0	0.4	0.8	1.2	1.6	2.0
Output voltage V	1.00 ±0.12	2.59 ±0.12	3.53 ±0.12	4.18 ±0.12	4.65 ±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%.

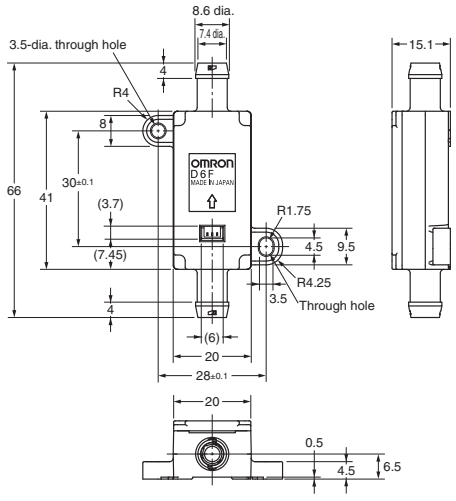
Characteristics/Performance

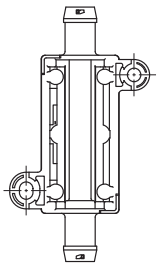
Model	D6F-01A1-110	D6F-02A1-110
Flow Range (See note 1.)	0 to 1 L/min	0 to 2 L/min.
Calibration Gas (See note 2.)	Air	
Flow Port Type	Bamboo joint Maximum outside diameter: 8.6 mm, Minimum outside diameter: 7.4 mm	
Electrical Connection	Three-pin connector	
Power Supply	10.8 to 26.4 VDC	
Current Consumption	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	
Degree of Protection	IEC IP40 (Excluding tubing sections.)	
Withstand Pressure	200 kPa	
Pressure Drop (See note 3.)	0.42 kPa	1.06 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	±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	12.8 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.

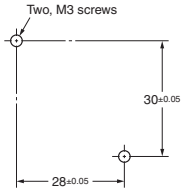
Dimensions (Unit: mm)

D6F-01A1-110
D6F-02A1-110

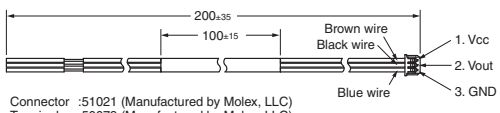




Mounting Hole Dimensions



Cable (included): D6F-CABLE1



Connector :51021 (Manufactured by Molex, LLC)
Terminal :50079 (Manufactured by Molex, LLC)
Wire :0.14SQ