

# D6F-A7/-L7/-N7

MEMS Flow Sensor

## Reduction of Piping time by quick joint connection

Air Gas Analog

- Low-flow rate of natural gas and LP gas can be measured.
- 10 L/min and 30 L/min of Air can be measured.
- Compact size of 30 × 84.6 × 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
Quick joint P10	Natural gas (13A)	0 to 5 L/min	<b>D6F-05N7-000</b>
	LP gas	0 to 2 L/min	<b>D6F-02L7-000</b>
	Air	0 to 10 L/min	<b>D6F-10A7-000</b>
		0 to 30 L/min	<b>D6F-30A7-000</b>

### Accessories (Sold separately)

Type	Model
Cable	<b>D6F-CABLE1</b>
Quick fastener	<b>D6F-FASTENER-P10</b>
Pipe fittings	<b>D6F-PLG1</b>

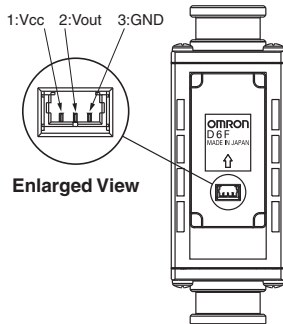
Note: Refer to *Accessories for the D6F Series* on page 39.

## Connections

**D6F-05N7-000 D6F-02L7-000**  
**D6F-10A7-000 D6F-30A7-000**

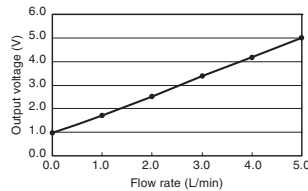
Pin No. 1: Vcc  
2: Vout  
3: GND  
Connector 53398-03\*\* (Made by Molex Japan)

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

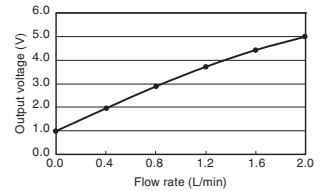


## Output Voltage Characteristics

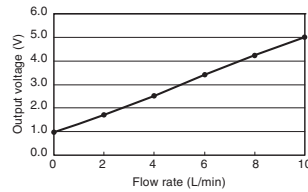
**D6F-05N7-000**



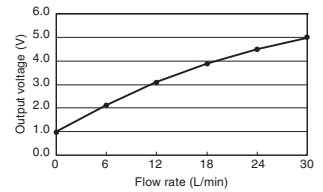
**D6F-02L7-000**



**D6F-10A7-000**



**D6F-30A7-000**



**D6F-05N7-000**

Flow rate L/min (normal)	0	1.0	2.0	3.0	4.0	5.0
Output voltage V	1.00	1.68	2.47	3.31	4.15	5.00
	±0.12	±0.12	±0.12	±0.12	±0.12	±0.12

**D6F-02L7-000**

Flow rate L/min (normal)	0	0.4	0.8	1.2	1.6	2.0
Output voltage V	1.00	1.96	2.89	3.72	4.43	5.00
	±0.12	±0.12	±0.12	±0.12	±0.12	±0.12

**D6F-10A7-000**

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

**D6F-30A7-000**

Flow rate L/min (normal)	0	6	12	18	24	30
Output voltage V	1.00	2.11	3.12	3.91	4.53	5.00
	±0.12	±0.12	±0.12	±0.12	±0.12	±0.12

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

## Characteristics/Performance

Model	D6F-05N7-000	D6F-02L7-000	D6F-10A7-000	D6F-30A7-000
Flow Range (See note 1.)	0 to 5 L/min	0 to 2 L/min	0 to 10 L/min	0 to 30 L/min
Calibration Gas (See note 2.)	Natural gas (13A)	LP gas	Air	
Flow Port Type	Quick joint P10			
Electrical Connection	Three-pin connector			
Power Supply	10.8 to 26.4 VDC			
Current Consumption	15 mA max. with no load and Vcc of 12 to 24 VDC, GND = 0 VDC, 25°C			
Output Voltage	1 to 5 VDC (non-linear output, load resistance of 10 kΩ min.)			
Accuracy	±3%F.S. (25°C characteristic)			
Repeatability (See note 3.)	±0.3%F.S.			
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	500 kPa			
Pressure Drop (See note 3.)	0.06 kPa	0.03 kPa	0.32 kPa	2.19 kPa
Operating Temperature (See note 4.)	-10 to +60°C			
Operating Humidity (See note 4.)	35 to 85%RH			
Storage Temperature (See note 4.)	-10 to +80°C		-30 to +80°C	
Storage Humidity (See note 4.)	35 to 85%RH			
Temperature Characteristics	±3%F.S. 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	72 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)

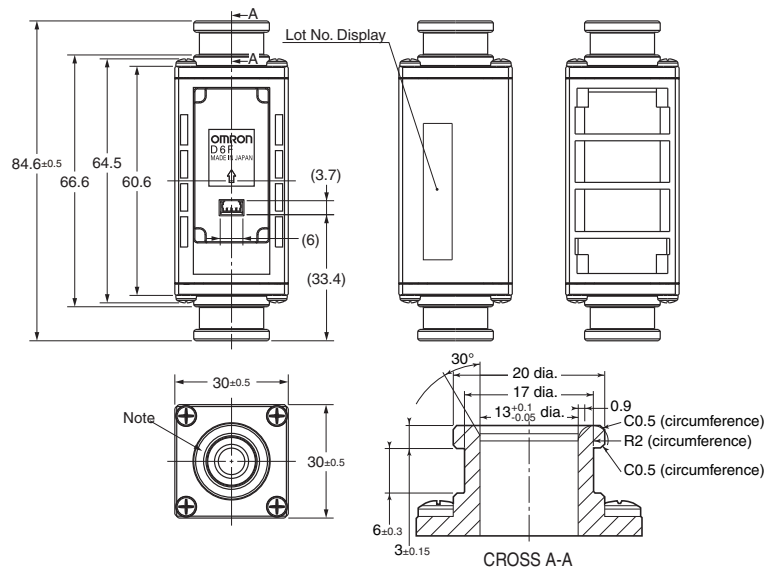
### MEMS Flow Sensors

D6F-05N7-000

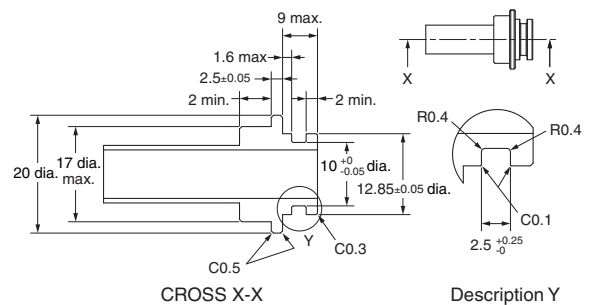
D6F-02L7-000

D6F-10A7-000

D6F-30A7-000



### Recommended Quick joint male P10 type



If using a Rc3/8 converter joint, the following is recommended.  
 REGAL JOINT CO., LTD eigyou@rjl.co.jp  
 Converter male joint (Rc3/8-Quick male joint): Adapter Rc3/8-QJM10  
 O ring: O ring P10 fluororubber (material)

Note. The Port type of pipe fitting based on "Quick Joint P10 Type".

\* P10 shows the name of an O-ring prescribed by JIS B 2401.

\* The port of O-ring ditch is based on P10 of JIS B 2406.

\* Please obtain a male joint separately.