

# D6F-N2/-L2

MEMS Flow Sensor

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

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

Gas Analog



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
Natural gas (13A)	0 to 1 L/min	D6F-01N2-000
	0 to 2 L/min	D6F-02N2-000
	0 to 5 L/min	D6F-05N2-000
LP gas	0 to 2 L/min	D6F-02L2-000

### Accessory (included)

Type	Model
Cable	D6F-CABLE1

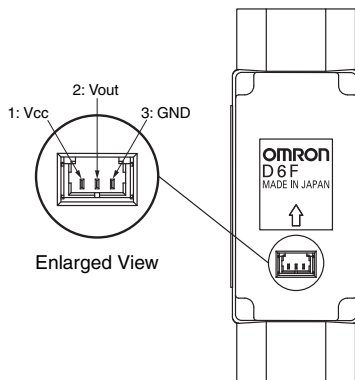
## Connections

D6F-01N2-000  
D6F-02N2-000  
D6F-05N2-000  
D6F-02L2-000

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

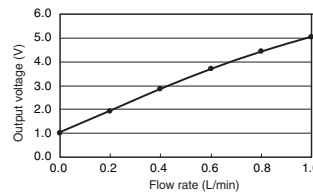
Use the following connectors for connections to the D6F:

Housing	51021 (Made by Molex Japan)
Terminals	50079 (Made by Molex Japan)
Wires	AWG28 to AWG26

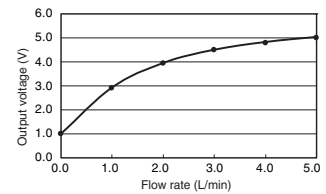


## Output Voltage Characteristics

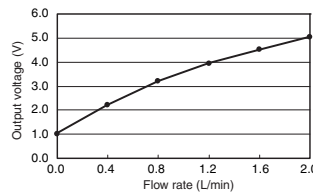
D6F-01N2-000



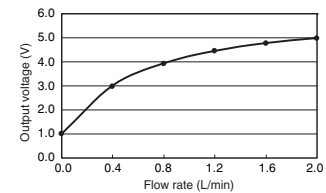
D6F-05N2-000



D6F-02N2-000



D6F-02L2-000



D6F-01N2-000

Flow rate L/min (normal)	0	0.2	0.4	0.6	0.8	1.0
Output voltage V	1.00	1.90	2.81	3.64	4.37	5.00
	$\pm 0.12$	$\pm 0.12$	$\pm 0.12$	$\pm 0.12$	$\pm 0.12$	$\pm 0.12$

D6F-02N2-000

Flow rate L/min (normal)	0	0.4	0.8	1.2	1.6	2.0
Output voltage V	1.00	2.20	3.20	3.98	4.55	5.00
	$\pm 0.12$	$\pm 0.12$	$\pm 0.12$	$\pm 0.12$	$\pm 0.12$	$\pm 0.12$

D6F-05N2-000

Flow rate L/min (normal)	0	1.0	2.0	3.0	4.0	5.0
Output voltage V	1.00	2.91	3.92	4.47	4.79	5.00
	$\pm 0.12$	$\pm 0.12$	$\pm 0.12$	$\pm 0.12$	$\pm 0.12$	$\pm 0.12$

D6F-02L2-000

Flow rate L/min (normal)	0	0.4	0.8	1.2	1.6	2.0
Output voltage V	1.00	3.02	3.95	4.47	4.79	5.00
	$\pm 0.30$	$\pm 0.08$	$\pm 0.08$	$\pm 0.08$	$\pm 0.08$	$\pm 0.12$

Measurement conditions: Power supply voltage of  $12 \pm 0.1$  VDC, ambient temperature of  $25 \pm 5^\circ\text{C}$ , and ambient humidity of 35% to 75%.

## Characteristics/Performance

Model	D6F-01N2-000	D6F-02N2-000	D6F-05N2-000	D6F-02L2-000
Flow Range (See note 1.)	0 to 1 L/min	0 to 2 L/min.	0 to 5 L/min	0 to 2 L/min.
Calibration Gas (See note 2.)	Natural gas (13A)			Propane gas
Flow Port Type	Rc 1/4 thread			
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)			±2% to ±7.5% F.S. (25°C characteristic)
Repeatability (See note 3.)	±0.2% FS			±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	Aluminum alloy			
Degree of Protection	IEC IP40 (Excluding tubing sections.)			
Withstand Pressure	200 kPa			
Pressure Drop (See note 3.)	0.017 kPa	0.033 kPa	0.10 kPa	0.14 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 -10 to 60°C			±4% FS for 25°C characteristic at -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	35.3 g			

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

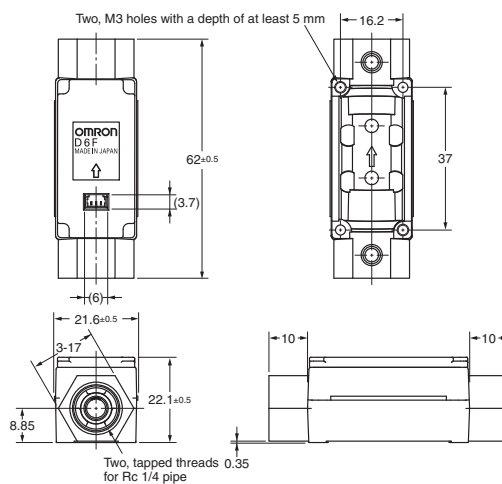
Note: 2. Dry gas. (must not contain large particles, e.g., dust, oil, or mist.)

Note: 3. Reference (typical)

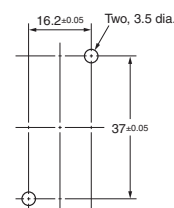
Note: 4. With no condensation or icing.

## Dimensions (Unit: mm)

**D6F-01N2-000**  
**D6F-02N2-000**  
**D6F-05N2-000**  
**D6F-02L2-000**



### Mounting Hole Dimensions



### Cable (included): D6F-CABLE1

