

# MEMS Mass Flow Sensor D6F-03A3-000

**Compact, sensors featuring MEMS technology for precision mass airflow measurement.**

- Precision unidirectional mass airflow up to 3 LPM
- Fast Response (< 5 msec, typical)
- Ultra-compact size 36.6 (L) x 8 (W) x 16.8 (H) mm
- Low power consumption
- RoHS Compliant



## Ordering Information

Description	Case	Applicable gas	Flow range**	Model
Mass Flow Sensor	Thermoplastic resin / Aluminum Alloy	Air*	0-3L/min	D6F-03A3-000
Cable Connector Assembly	- - -	- - -	- - -	D6F-CABLE2

**Note:** Cable Assembly is sold separately.

\* Contact Omron for other gases.

\*\*Mass flow converted to volumetric flow (standard liters per minute) at 0°C and 1 atm.

## Application examples

- Pick and place systems
- Industrial processes
- Leak detection
- Spectroscopy
- Mass flow controllers
- Scientific / test equipment
- Environmental comfort controls
- Fuel cell controls

## Ratings

### Absolute Maximum Rating

Item	Symbol	Rating	Unit
Power supply	$V_{CC}$	26.4	VDC
Output voltage	$V_{OUT}$	6	VDC

### Electrical Performance

Item	Symbol	Condition	Min.	Max.	Unit
Power supply	$V_{CC}$	—	10.8	26.4	VDC
Operating temperature	$T_{OPR}$	No condensation or icing	0	50	°C
Output voltage (max.)	$V_{OH}$	Load resistance: 10k $\Omega$	5	5.7	VDC
Output voltage (min.)	$V_{OL}$	Load resistance: 10k $\Omega$	0	1	VDC

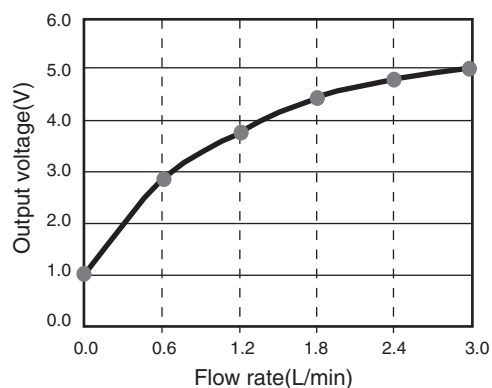
# Characteristics

<b>Model</b>	<b>D6F-03A3-000</b>
<b>Flow rate @ 0°C and 101.3 kPa</b>	0-3L/min
<b>Case material</b>	Thermoplastic resin
<b>Applicable gas*</b>	Air
<b>Electrical connection</b>	Connector (3 wire)
<b>Withstand pressure (max.)</b>	200kPa (about 30 psi)
<b>Accuracy</b>	±5% F.S. max of detected characteristics at 25°C
<b>Operating temperature</b>	0 to 50°C (with no icing or condensation)
<b>Storage temperature</b>	-10 to 60°C (with no icing or condensation)
<b>Operating and Storage humidity</b>	85% RH max (with no icing or condensation)
<b>Power supply voltage</b>	10.8 to 26.4 VDC
<b>Output signal</b>	1 to 5 VDC, Analog Output (Load resistance: 10kΩ)
<b>Current consumption</b>	15 mA max. (No-Load with V <sub>CC</sub> = 12 to 24 VDC, V <sub>SS</sub> = 0V and 25°C)
<b>Insulation resistance</b>	20MΩ min. at 500 VDC, between lead terminal and case
<b>Dielectric strength</b>	500 VAC, 50/60 Hz, for 1 minute. (Leakage current typ <1 mA.), between the lead terminals and case

\* Contact Omron for other gases.

# Operating Characteristics

## D6F-03A3-000

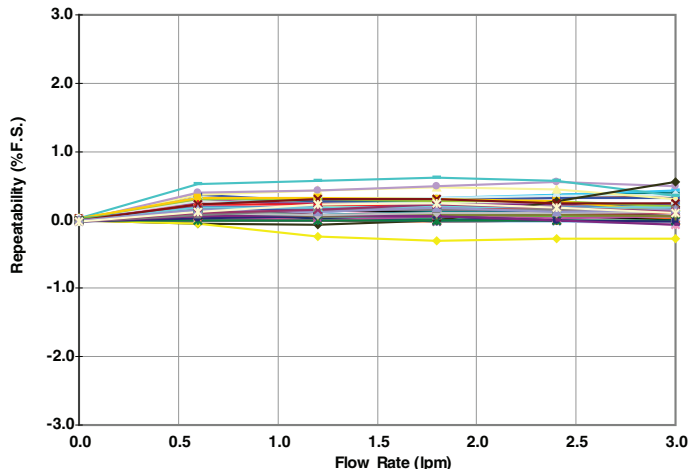


## D6F-03A3-000

<b>Flow Rate (LPM)</b>	0	0.6	1.2	1.8	2.4	3.0
<b>Output Voltage (VDC)</b>	1.00 ± 0.2	2.83 ± 0.2	3.77 ± 0.2	4.34 ± 0.2	4.72 ± 0.2	5.00 ± 0.2

# Test Results (typical performance)

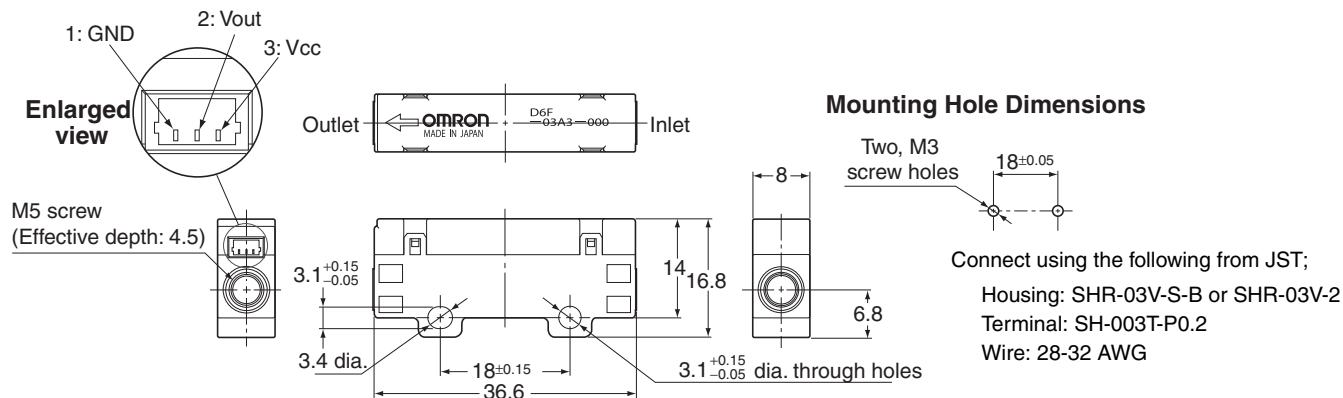
(5 samples, repeated 10 times each)



## Dimensions

Unit: mm

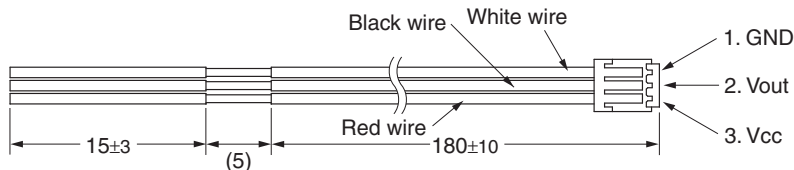
### D6F-03A3-000



- Note: 1.** When installing the pipes, use M5 screws for the joints and tighten to a torque of 1.5 N•m max. Use sealing tape to make the joints airtight.
- Note: 2.** Mount to a flat surface using an M3 pan head screw, tightened to 0.59 N•m max. torque.

### Applicable Cable for D6F-03A3-000 (Optional - sold separately)

part number: D6F-CABLE2



**Note:** Be sure to read the precautions and information common to all D6F sensors, contained in the Technical User's Guide, "D6F Technical Information" for correct use.

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**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**  
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

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