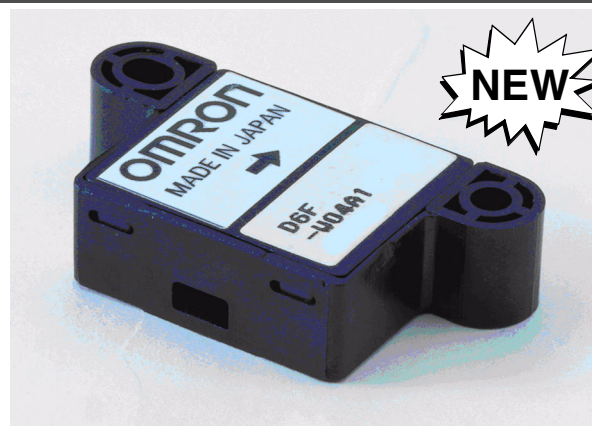


# MEMS Air Flow Sensor D6F-W

The unique dust separating structure, developed by Omron, is a compact and highly efficient Flow-Sensor.

- Dust resistant design prevents contamination in an efficient flow-sensor.
- $\pm 5\%$  Full-Scale repeatable accuracy achieves reliable air velocity measurement.
- Applications include clogged filter detection and Variable Air Volume (VAV) in ventilation.



## Ordering Information

| Description              | Gas | Flow range             | Case                | Model                  |
|--------------------------|-----|------------------------|---------------------|------------------------|
| Flow sensor              | Air | 0 - 1 m/s<br>0 - 4 m/s | Thermoplastic resin | D6F-W01A1<br>D6F-W04A1 |
| Cable connector assembly | —   | —                      | —                   | D6F-W cable            |

## Ratings

### ■ Absolute Maximum Rating

| Item                 | Symbol | Rating | Unit |
|----------------------|--------|--------|------|
| Power supply voltage | Vcc    | 26.4   | VDC  |
| Output voltage       | Vout   | 6.0    | VDC  |

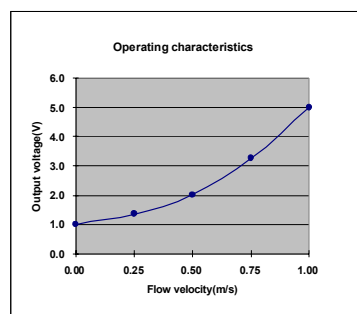
# Specifications

## ■ Sensors

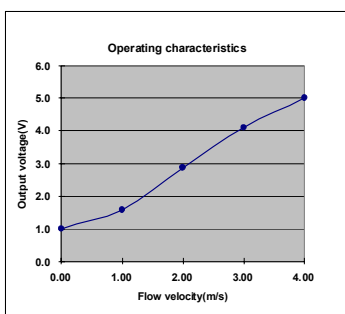
|                                 |   |           |
|---------------------------------|---|-----------|
| Model                           | D6F-W01A1   | D6F-W04A1 |
| Flow range                      | 0 – 1 m/s   | 0 – 4 m/s |
| Flow velocity                   | 25° C, 1 atmosphere   |           |
| Case material                   | Thermoplastic resin   |           |
| Application medium              | Air   |           |
| Operating temperature           | –10 to 60° C (with no ice or condensation)  |           |
| Operating humidity              | Max. 85% (with no condensation)   |           |
| Storage temperature             | –40 to 80° C (with no ice or condensation)  |           |
| Storage humidity                | Max. 85% RH (with no condensation)  |           |
| Power supply voltage            | 10.8 to 26.4 VDC  |           |
| Output signal                   | Analog output 1 to 5 VDC (non-linear output)<br>Load resistance min. 10k Ohm                                |           |
| Current consumption             | Max. 15mA (No load, Vcc = 12 to 24 VDC, 25° C)  |           |
| Insulation resistance           | 20M Ohm min. (DC 500 VDC, between lead terminal and the case)   |           |
| Dielectric withstanding voltage | 500 VAC, 50/60Hz, for one minute. Leakage current is 1mA, max.<br>(Between the lead terminals and the case) |           |

## ■ Output Characteristic

D6F-W01A1

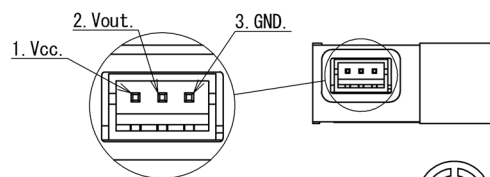


D6F-W04A1



**Note:** Air velocity is the value converted from the mass-flow in regulation wind tunnel phi 48 mm, at 25° C.  
The air velocity set to the Measurement Law is not shown; please confirm in a real environment.

## ■ Connection Method

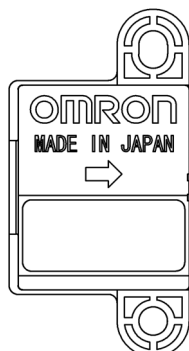


### Connector

S3B-ZR-SM2-TF

Made by JST Mfg. Do., Ltd.

- 1. Vcc.
- 2. Vout.
- 3. GND



## ■ Cable Option

|         |                              |
|---------|------------------------------|
| Type    | D6F-W CABLE                  |
| Contact | SZH-002T-P0.5                |
| Wire    | AWG #26 (A length of 200 mm) |
| Housing | ZHR-3                        |

The connector linked to this product should use the following JST Mfg.Co.,Ltd.

Contact and an electric wire

- 1. Contact: SZH-002T-P0.5  
Wire? : AWG#28 to #26 or
- 2. Contact: SZH-003T-P0.5  
Wire? : AWG#32 to #28

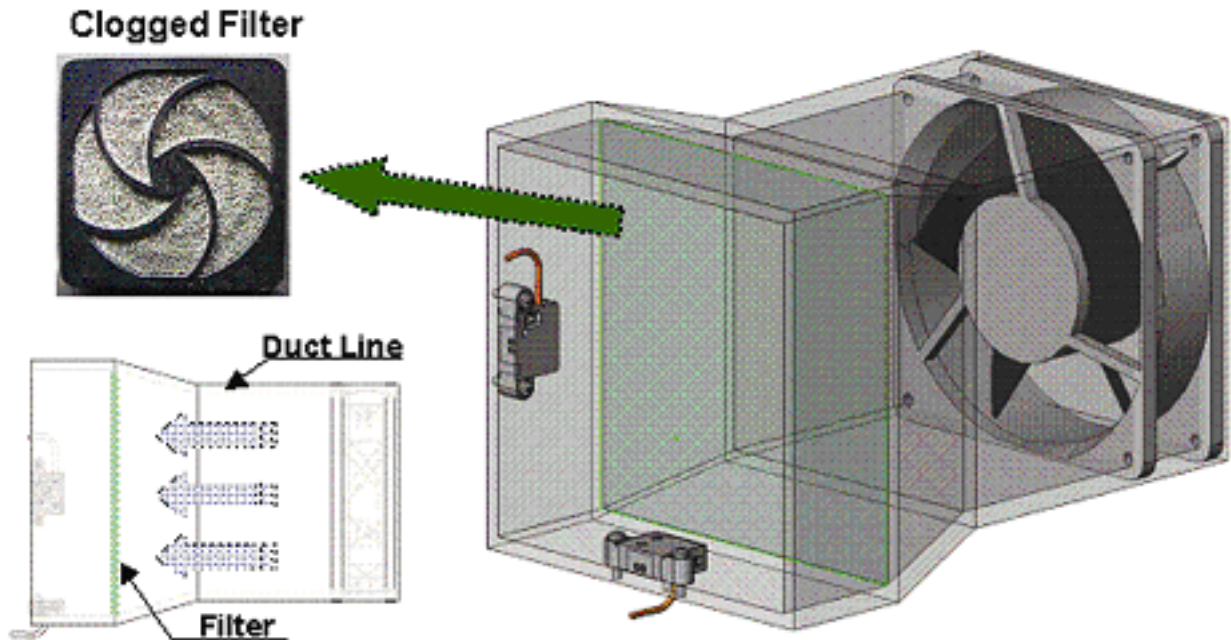
Housing: ZHR-3

## Application Example

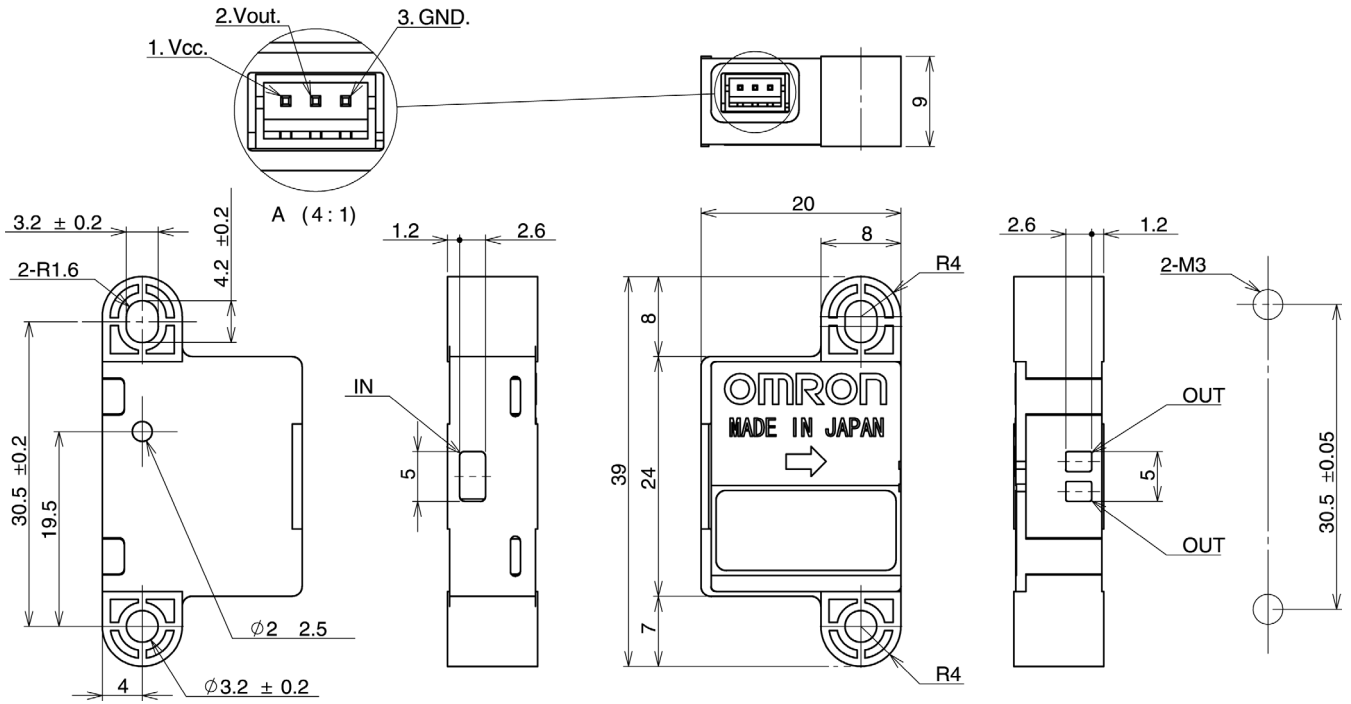
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### ■ Clog Avoidance

The D6F-W air flow sensor detects the pressure drop over the filter as it becomes more completely contaminated with particles. The moment the drop exceeds a certain threshold, a warning signal is sent out, indicating the need for filter replacement.



# Dimensions



# Omron Electronic Components, LLC

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