

MEMS Air Velocity Sensor D6F-V03A1

**Unique dust separating structure,
developed by OMRON, in a compact and
highly efficient FLOW-SENSOR.**

- Unique dust segregation structure.
- +/-10% Full-Scale repeatable accuracy achieves consistent air velocity measurement, in a cost efficient package.
- Applications include clogged-filter detection and air velocity.
- RoHS Compliant



Ordering Information

Description	Case	Applicable Gas	Flow Range	Model
Velocity Sensor	PBT	Air (See note 1.)	0-3 m/sec	D6F-V03A1
Cable Connector Assembly	- - -	- - -	- - -	D6F-CABLE2

Note: 1. Dry gas must not contain large particles, eg dust, oil, mist.
2. Cable Assembly is sold separately.

Application examples

- Cassette (ceiling / suspended), multi-modular air conditioners
- Duct connected heating and air conditioning systems
- Alternative for thermal dispersion measurement
- Air & water cooled chillers, indoor packaged AC systems
- Window / split, multi-split residential AC coolers
- Air purifiers, dehumidifiers
- Fan assisted space heaters
- Air cooled, high power indoor lighting
- Mission critical PC, Workstation ventilation
- Watchdog ventilation systems

Ratings

Absolute maximum rating

Item	Symbol	Rating	Unit
Power supply	V_{CC}	12.0	VDC
Output voltage	V_{OUT}	3.0	VDC

Electrical Performance

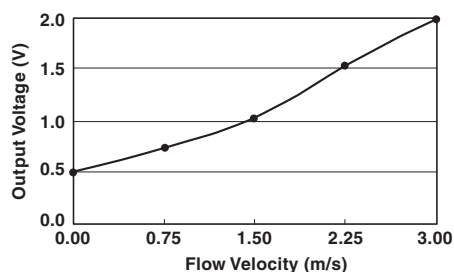
Item	Symbol	Condition	Min.	Max.	Unit
Power supply	V_{CC}	—	3.15	9.45	VDC
Operating temperature	T_{OPR}	No condensation or icing	-10	60	°C
Output voltage (max.)	V_{OH}	Load resistance: 10k Ω	- - -	2.7	VDC
Output voltage (min.)	V_{OL}	Load resistance: 10k Ω	0	- - -	VDC

Characteristics

Model	D6F-V03A1
Flow Range	0 – 3 m/s @ 25°C, 1 atmosphere
Case Material	Thermoplastic resin
Applicable Gas	Air
Operating Temperature	-10 to 60°C (with no icing or condensation)
Storage Temperature	-40 to 80°C (with no icing or condensation)
Operating and Storage Humidity	85% RH max. (with no icing or condensation)
Power Supply Voltage	3.15 to 9.45 VDC
Output Signal	0.5 to 2 VDC, Analog output (non-linear output) (Load resistance: 10k Ω min.)
Current Consumption	15mA max. (No-Load with V _{CC} = 3.3 VDC and 25°C)
Insulation Resistance	20M Ω min. at 500 VDC, between lead terminal and case
Dielectric Strength	500VAC, 50/60Hz, for 1 minute. (Leakage current typ < 1mA), between the lead terminals and case

Operating Characteristics

D6F-V03A1



D6F-V03A1

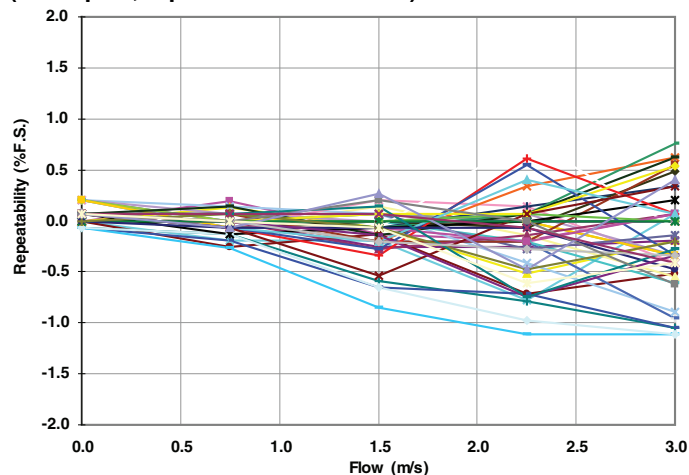
Flow Velocity (m/sec)	0	0.75	1.50	2.25	3.00
Output Voltage (VDC)	0.50±0.15	0.70±0.15	1.11±0.15	1.58±0.15	2.00±0.15

Measurement condition: Power-supply voltage 3.3VDC, ambient temperature 25°C and dry air.

- Note:**
1. Air velocity is the value converted from the mass-flow in OMRON regulation wind tunnel $\phi 48\text{mm}$.
 2. The air velocity, set to the Measurement Law, is not shown. Please confirm in a real use environment in use.
 3. Temperature characteristics:
Over ambient temperature range -10 to +60°C: within $\pm 20\%$ F.S. of detected characteristics
Of at +25°C.

Test Results (typical performance)

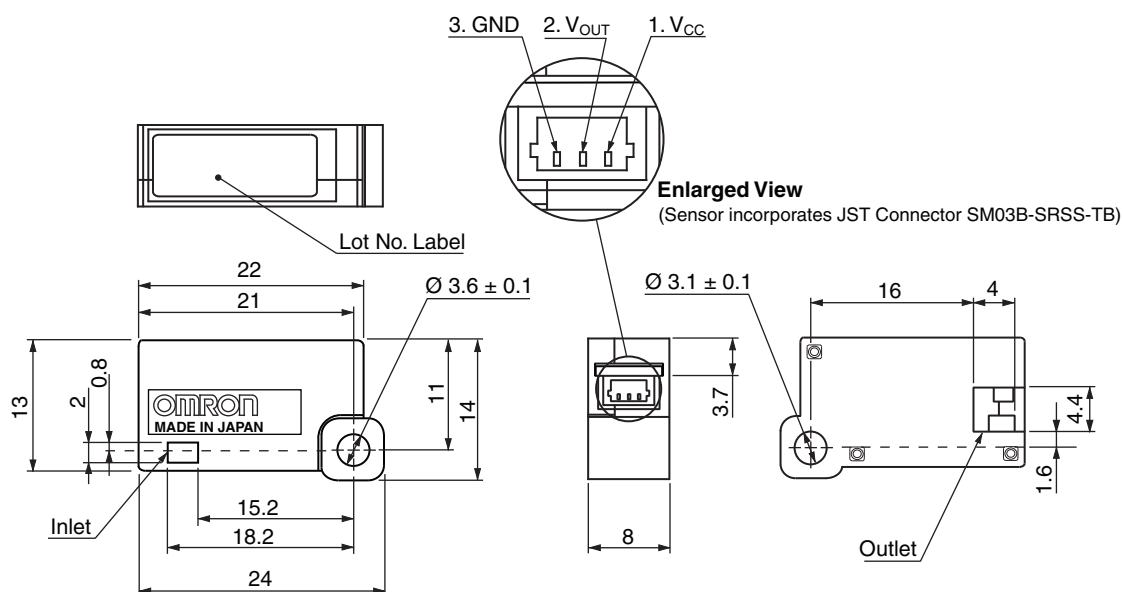
(5 samples, repeated 10 times each)



Dimensions

Unit: mm

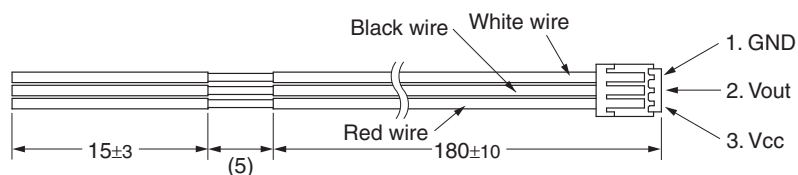
D6F-V03A1



Note: Mount using M3 panhead screws, tightened to 0.59 N•m max. torque

Applicable Cable for D6F-V03A1 (Optional - sold separately)

part number: D6F-CABLE2



JST Connector;

Housing: SHR-03V-S-B or SHR-03V-2

Terminal: SH-003T-P0.2

Wire: 28-32 AWG

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.

All sales are subject to Omron Electronic Components LLC standard terms and conditions of sale, which can be found at http://www.components.omron.com/components/web/webfiles.nsf/sales_terms.html

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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