

MEMS Flow Sensor

D6F-01/02

High Accuracy Mass Flow Sensing

- Small size
- Fast response
- Applicable to air, non-corrosive gas
- Applications include: medical respiratory equipment, analysis apparatus



Ordering Information

Case	Gas	Flow range**	Notes	Model
PPS	Air*	0-1L/min	Integral orifice	D6F-01A1-110
		0-2L/min		D6F-02A1-110

* Contact Omron for other gases.

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

Ratings

■ Absolute Maximum Rating

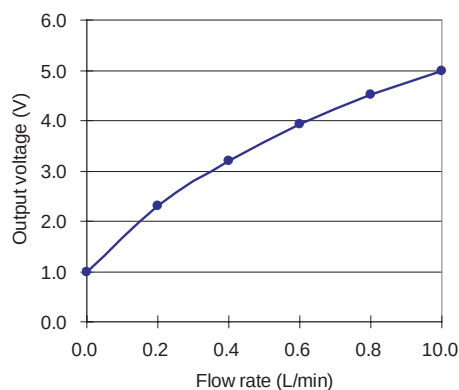
Item	Symbol	Rating	Unit
Power supply	V_{CC}	26.4	VDC
Output voltage	V_{OUT}	6	VDC

■ Electrical Performance

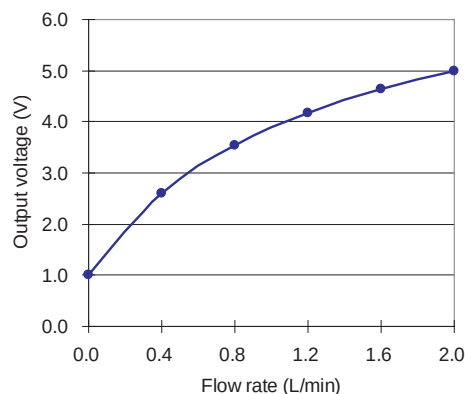
Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Power supply	V_{CC}	—	10.8	—	26.4	VDC
Operating temperature	T_{ORR}	—	-10	—	60	°C
Output voltage (max.)	V_{OH}	$V_{CC} = 12 \text{ to } 24 \text{ VDC } I_{OH} = 5 \text{ mA}$	5	—	5.7	VDC
Output voltage (min.)	V_{OL}	$V_{CC} = 12 \text{ to } 24 \text{ VDC } I_{OH} = 5 \text{ mA}$	0	—	1	VDC

Operating Characteristics

D6F-01A1-110



D6F-02A1-110



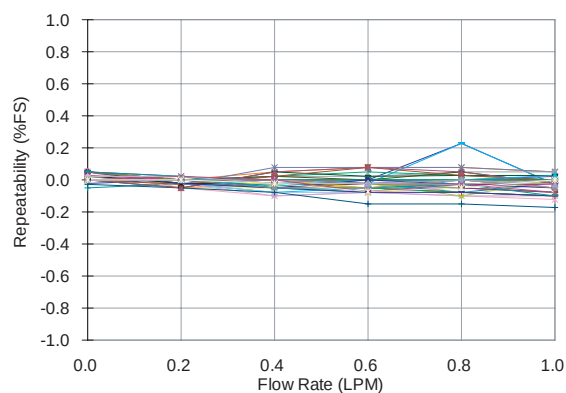
Characteristics

Model	D6F-01A1-110	D6F-02A1-110
Flow range	0-1L/min	0-2L/min
Joint type	Press-fit type (Press-fit min. external diameter: 7.4 mm, Press-fit max. external diameter: 8.6 mm) (passage diameter: 4 mm)	
Case material	PPS	
Applicable gas	Air*	
Withstand pressure	200kPa (about 30 psi)	
Accuracy	±3% F.S. max	
Operating temperature	-10 to 60 degrees (with no icing or condensation)	
Operating humidity	Under 85% RH (with no icing or condensation)	
Storage temperature	-40 to 80 degrees (with no icing or condensation)	
Storage humidity	Under 85% RH (with no ice or no dew)	
Output signal	Analog Output 1-5 VDC	
Current consumption	No-Load $V_{CC} = 12$ to 24 VDC, $V_{SS} = 0V$ 25 deg. C, max 15 mA	
Insulation resistance	More than 20M Ohm (500 VDC, between lead terminal and case)	
Dielectric strength	500 VAC, 50/60 Hz, for 1 minute. (Leakage current typ <1 mA.) Between the lead terminals and the base	
Orifice	Integral	

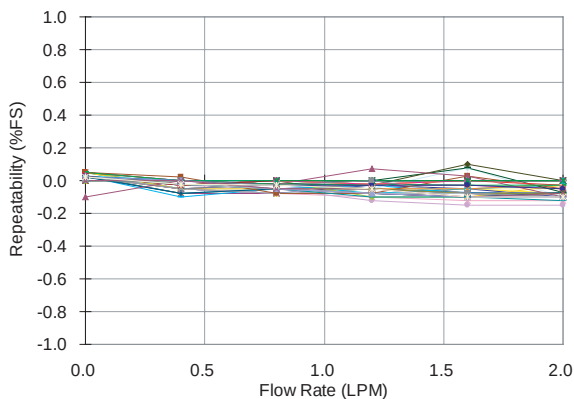
* Contact Omron for other gases.

Test Results (typical performance)

D6F-01A1 Repeatability
(5 samples, repeated 10 times each)



D6F-02A1 Repeatability
(5 samples, repeated 10 times each)

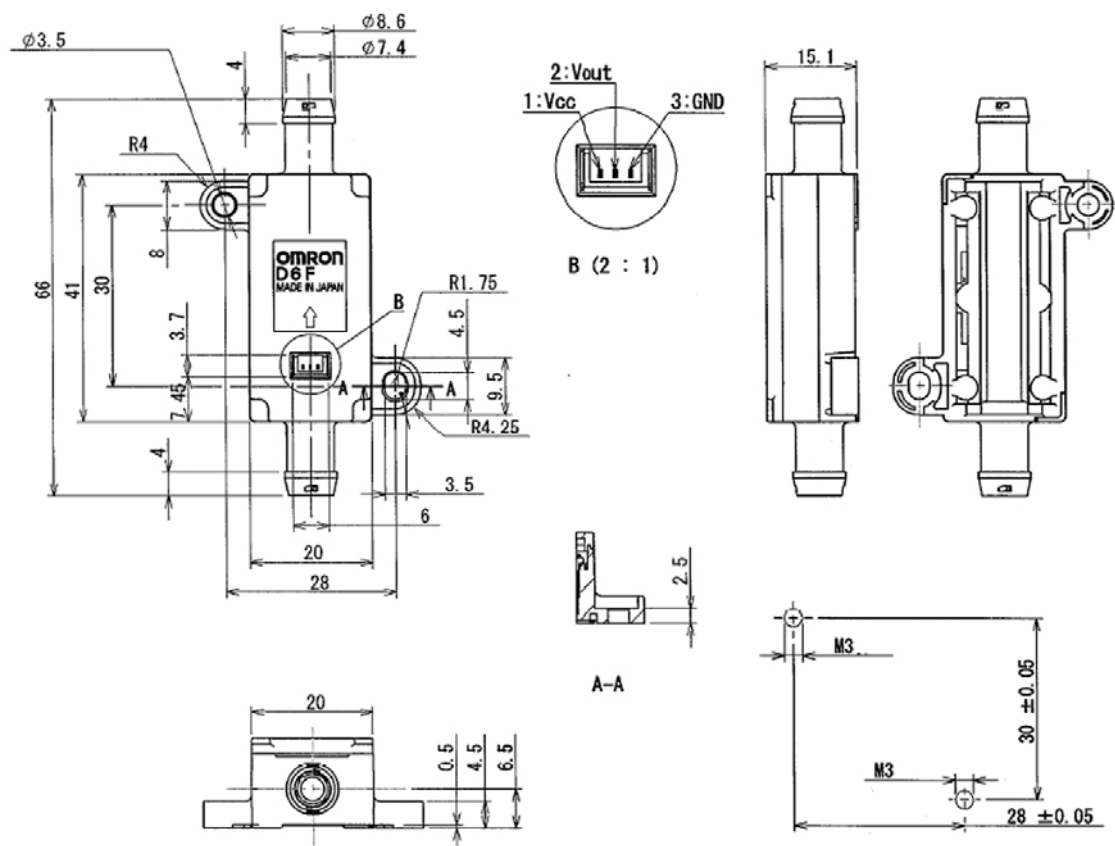


Dimensions

Unit: mm

D6F-01A1-110

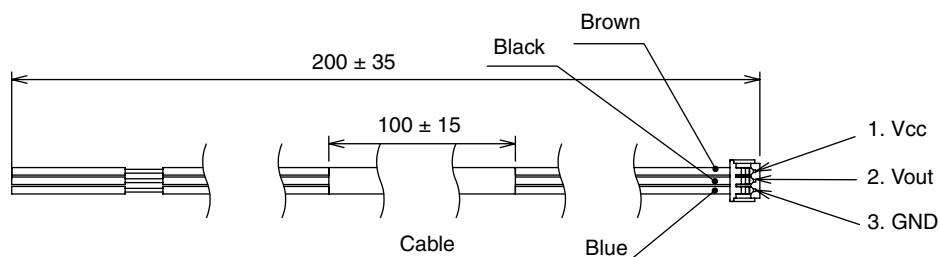
D6F-02A1-110



Note: Mount using an M3 pan head screw, tightened to 0.59 N•m max. torque.

Applicable Cable for D6F (included)

part number: D6F-CABLE1 (for replacement cables)



Housing: Molex - 51021
Terminal: Molex - 50079
Wire: 26-28 AWG

Omron Electronic Components LLC

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To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

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Cat. No. J01C-E-01

09/07

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Printed in USA