

# Flow Sensor

# Series PFMV5



## How to Order

PFMV5 **05** - **1** -      

### Measurement flow range

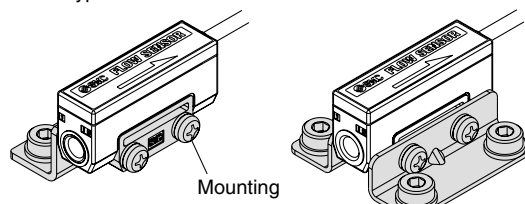
<b>05</b>	0.0 to 0.5 ℓ/min
<b>10</b>	0.0 to 1.0 ℓ/min
<b>30</b>	0.0 to 3.0 ℓ/min
<b>05F</b>	-0.5 to 0.5 ℓ/min
<b>10F</b>	-1.0 to 1.0 ℓ/min
<b>30F</b>	-3.0 to 3.0 ℓ/min

### Output specification

<b>1</b>	Analog output (1 to 5 V)
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### Option (shipped together)

<b>Nil</b>	None
<b>A</b>	With L-type bracket



\* 2 L-type brackets (with 2 mounting screws) are included.

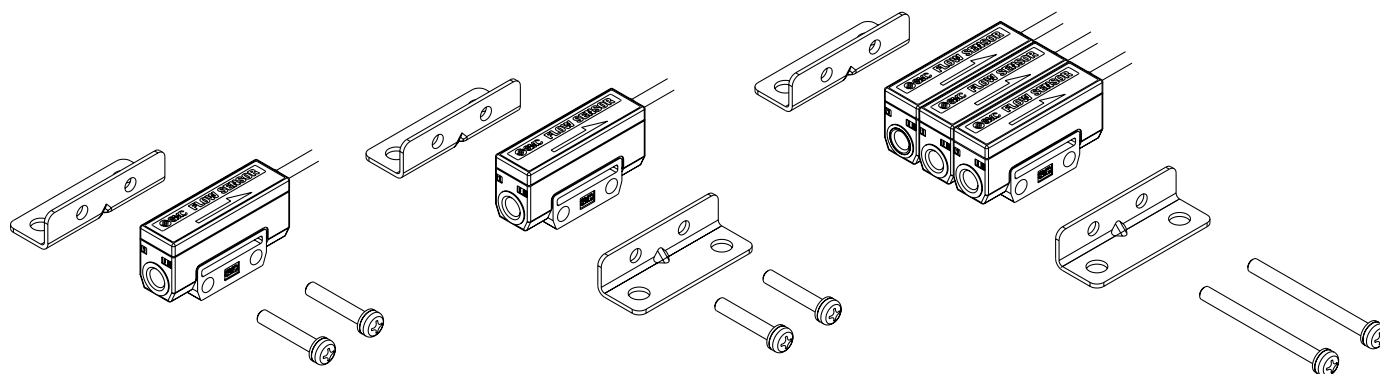
### Instruction manual

<b>Nil</b>	With instruction manual (Leaflet: Japanese and English)
<b>N</b>	None

## Option/Part No.

If a single option or manifold mounting are required, order sensors with the part numbers below separately.

Part no.	Stations	Remarks
<b>ZS-36-A1</b>	For 1 station (for single unit)	2 L-type brackets, 2 mounting screws M3 x 15L
<b>ZS-36-A2</b>	For 2 stations	2 L-type brackets, 2 mounting screws M3 x 25L
<b>ZS-36-A3</b>	For 3 stations	2 L-type brackets, 2 mounting screws M3 x 35L
<b>ZS-36-A4</b>	For 4 stations	2 L-type brackets, 2 mounting screws M3 x 45L
<b>ZS-36-A5</b>	For 5 stations	2 L-type brackets, 2 mounting screws M3 x 55L



PFM

PFMV

PF2A

PF2W

PF2D

IF

# Series PFMV5

## Specifications

Model		PFMV505	PFMV510	PFMV530	PFMV505F	PFMV510F	PFMV530F
Applicable fluid		Dry air, N <sub>2</sub> (JIS B 8392-1 1.1.2 to 1.6.2: 2003)					
Rated flow range (Flow rate range) <sup>Note 1)</sup>		0 to 0.5 ℓ/min	0 to 1 ℓ/min	0 to 3 ℓ/min	−0.5 to 0.5 ℓ/min <sup>Note 2)</sup>	−1 to 1 ℓ/min <sup>Note 2)</sup>	−3 to 3 ℓ/min <sup>Note 2)</sup>
Repeatability		±2 F.S. or less <sup>Note 3)</sup>					
Pressure characteristics (Based on 0 kPa <sup>Note 4)</sup> )		±2% F.S. or less (0 to 300 kPa) ±5% F.S. or less (−70 to 0 kPa)					
Temperature characteristics (Based on 25°C)		±2% F.S. or less (15 to 35°C) ±5% F.S. or less (0 to 50°C)					
Rated pressure range <sup>Note 5)</sup>		−70 kPa to 300 kPa					
Operating pressure range <sup>Note 6)</sup>		−100 kPa to 400 kPa					
Proof pressure		500 kPa					
Analog output (Non-linear output)		Voltage output: 1 to 5 V, Output impedance: Approx. 1 kΩ					
Response time		5 ms or less (90% response)					
Power supply voltage		12 to 24 VDC ± 10%, Ripple (p-p) ± 10% or less (with polarity protection)					
Current consumption		16 mA or less					
Environmental resistance	Enclosure	IP40					
	Fluid temperature	0 to 50°C (with no freezing and condensation)					
	Operating temperature range	0 to 50°C (with no freezing and condensation)					
	Stored temperature range	−10 to 60°C (with no freezing and condensation)					
	Operating humidity range	35 to 85% R.H. (with no condensation)					
	Stored humidity range	35 to 85% R.H. (with no condensation)					
	Withstand voltage	1000 VAC for 1 min. between whole charging part and case					
	Insulation resistance	50 MΩ or more (500 VDC Mega) between whole charging part and case					
	Vibration resistance	10 to 150 Hz with a 1.5 mm amplitude, max. 98 m/s <sup>2</sup> , in each X, Y, Z direction for 2 hrs (De-energized)					
	Impact resistance	980 m/s <sup>2</sup> in X, Y, Z directions 3 times each (De-energized)					
	Port size	M5 x 0.8 (Tightening torque: 1 to 1.5 N·m)					
	Wetted parts material	PPS, Si, Au, Stainless steel 316, C3604 (Electroless nickel plated)					
Lead wire		Vinyl cabtire cord, 3 cores ø2.6, 0.15 mm <sup>2</sup> , 2 m					
Mass		10 g (excluding lead wire)					

Note 1) Volume flow converted value under standard conditions (ANR) of 20°C, 101.3 kPa and 65% RH

Note 2) Analog output indicates 3 V when the flow rate is 0. When the flow direction is from IN to OUT, the output is changed to 5 V, and when it's from OUT to IN, the output is changed to 1 V.

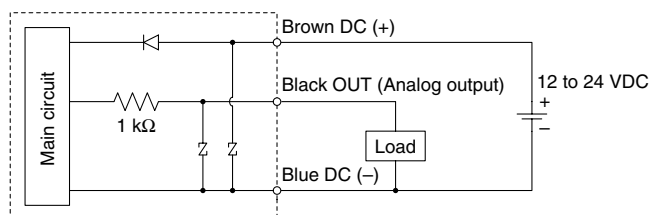
Note 3) The unit % F.S. is based on the full scale of analog 4 V (1-5 V).

Note 4) 0 kPa indicates the atmospheric release.

Note 5) Pressure range that satisfies the product specifications

Note 6) Applicable pressure range

## Internal Circuits and Wiring Examples



### Lead Wire Specifications

Rated temperature		80°C
Rated voltage		1000 V
Number of wires		3
Conductor	Material	Copper alloy wire
	Construction	7/11/0.05 mm
	External diameter	0.58 mm
Insulator	Material	Cross-linked vinyl chloride (XL-PVC)
	External diameter	0.88 mm
	Standard thickness	0.15 mm
	Colors	Brown, Blue, Black
Sheath	Material	Oil-resistant/Heat resistant vinyl
	Standard thickness	0.35 mm
	Color	Light gray (Munsell N7 equivalent)
Finished external diameter		2.6 <sup>+0.1</sup> <sub>-0.15</sub>