

How to Order

Remote Type
Sensor Unit

PF2A5 **10** **01** **C**

Flow rate range

10	1 to 10 ℓ/min
50	5 to 50 ℓ/min
11	10 to 100 ℓ/min
21	20 to 200 ℓ/min
51	50 to 500 ℓ/min

Thread type

Nil	Rc
N	NPT
F	G

Port size

Symbol	Port size	Flow rate (ℓ/min)					Applicable model
		10	50	100	200	500	
01	1/8	●	●				PF2A510/550
02	1/4	●	●				
03	3/8			●	●		PF2A511/521
04	1/2					●	PF2A551

Option (Refer to page 35.)

Nil	None
C	e-con connector x 1 pc.

The cable and connector are shipped unassembled.

Lead wire (Refer to page 35.)

Nil	M12 3 m lead wire with connector
N	Without lead wire

Output specification

Symbol	Specification	Applicable display unit (monitor) model
Nil	Output for display unit	Series PF2A300
1	Output for display unit + analog output (1 to 5 V)	Series PF2A200/300
2	Output for display unit + analog output (4 to 20 mA)	Series PF2A300



Specifications

Model		PF2A510	PF2A550	PF2A511	PF2A521	PF2A551
Measured fluid		Air, Nitrogen				
Detection type		Heater type				
Rated flow range		1 to 10 ℓ/min	5 to 50 ℓ/min	10 to 100 ℓ/min	20 to 200 ℓ/min	50 to 500 ℓ/min
Operating pressure range		−50 kPa to 0.5 MPa		−50 kPa to 0.75 MPa		
Proof pressure		1.0 MPa				
Operating fluid temperature		0 to 50°C				
Linearity ^{Note 1)}		±5% F.S. or less				
Repeatability ^{Note 1)}		±1% F.S. or less (Connected with PF2A3□□), ±3%F.S. or less (Connected with PF2A2□□)				
Temperature characteristics		±2% F.S. or less (15 to 35°C, based on 25°C) ±3% F.S. or less (0 to 50°C, based on 25°C)				
Output specifications ^{Note 2)}	Output for display unit	Analog voltage output (non-linear) output impedance 1 kΩ output for display unit PF2A3□□				
	Analog output	Voltage output 1 to 5 V (within the flow rate range) Linearity: ±5% F.S. or less; allowable load resistance: 100 kΩ or more.				
		Current output 4 to 20 mA (within the flow rate range) Linearity: ±5% F.S. or less; allowable load resistance: 300 Ω or less with 12 VDC, 600 Ω or less with 24 VDC				
Power supply voltage		12 to 24 VDC (ripple ±10% or less)				
Current consumption (No load)		100 mA or less				110 mA or less
Resistance	Enclosure	IP65				
	Operating temperature range	Operating: 0 to 50°C, Stored: −25 to 85°C (with no freezing and condensation)				
	Withstand voltage	1000 VAC for 1 min. between external terminal and case				
	Insulation resistance	50M Ω or more (500 VDC Mega) between external terminal and case.				
	Vibration resistance	10 to 500 Hz with a 1.5 mm amplitude or 98 m/s ² acceleration, whichever is smaller.				
	Impact resistance	490 m/s ² in X, Y, Z directions 3 times each				
Noise resistance		1000 Vp-p, Pulse width 1 μs, Rise time 1 ns				
Weight ^{Note 3)}		200 g		240 g		
Port size (Rc, NPT, G)		1/8, 1/4		3/8		1/2

Note 1) The system accuracy when combined with PF2A2□□/3□□.

Note 2) Output system can be selected during initial setting.

Note 3) Without lead wire. (Add 20 g for the types of analog output whether voltage or current output selected.)

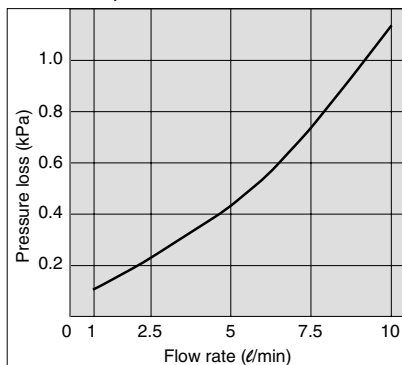
Note 4) Flow rate unit measured under the following conditions: 0°C and 101.3 kPa.

Note 5) The sensor unit conforms to the CE mark.

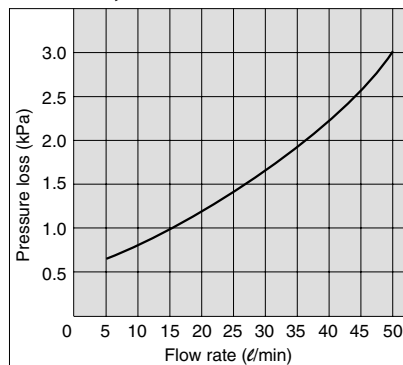
Series PF2A

Flow Characteristics (Pressure Loss)

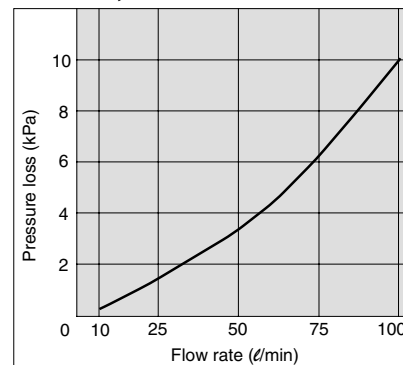
PF2A710, 510



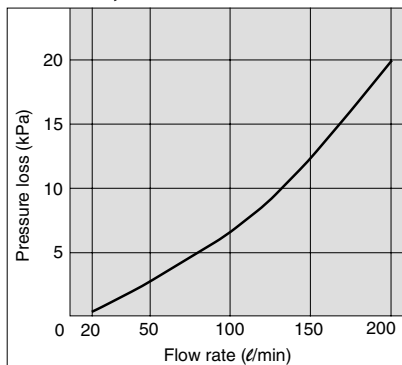
PF2A750, 550



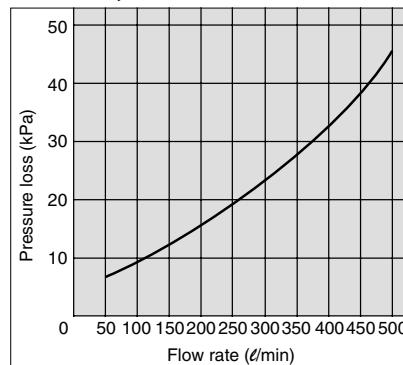
PF2A711, 511



PF2A721, 521

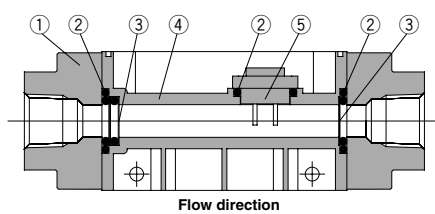


PF2A751, 551



Sensor Unit Construction

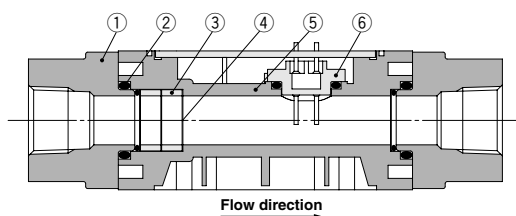
PF2A710/750
PF2A510/550



Parts list

No.	Description	Material
1	Attachment	ADC
2	Seal	NBR
3	Mesh	Stainless steel
4	Body	PBT
5	Sensor	PBT

PF2A711/721/751
PF2A511/521/551



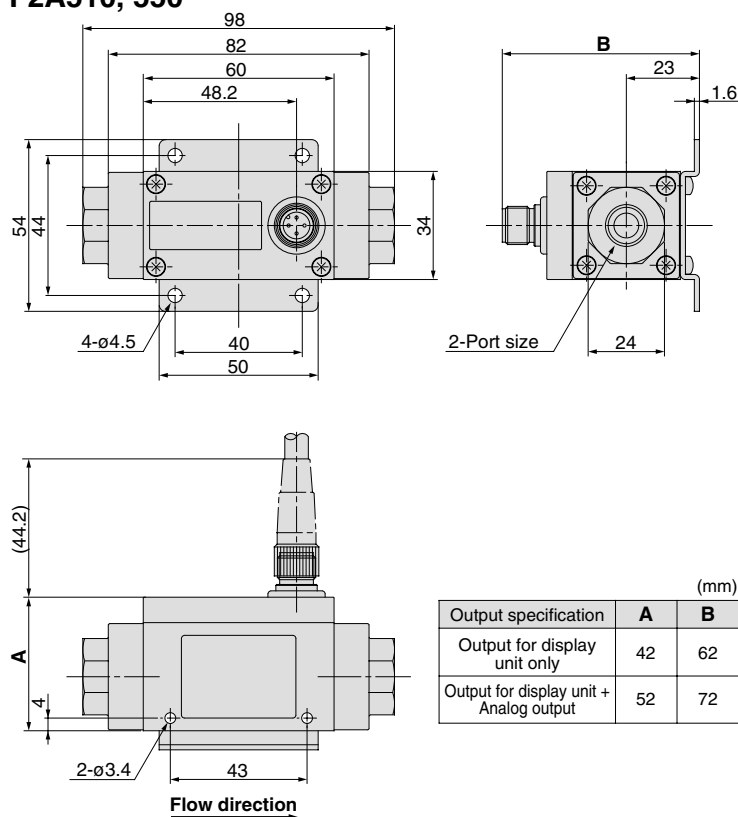
Parts list

No.	Description	Material
1	Attachment	ADC
2	Seal	NBR
3	Spacer	PBT
4	Mesh	Stainless steel
5	Body	PBT
6	Sensor	PBT

Series PF2A

Dimensions: Remote Type Sensor Unit for Air

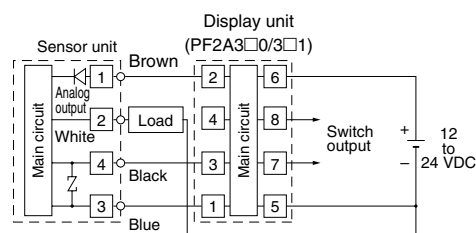
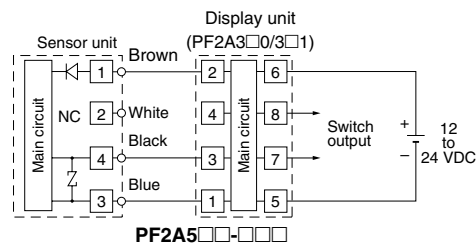
PF2A510, 550



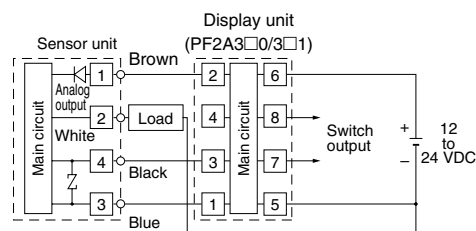
Output specification	(mm)	
	A	B
Output for display unit only	42	62
Output for display unit + Analog output	52	72

Internal circuits and wiring examples

① to ⑧ are the terminal numbers.

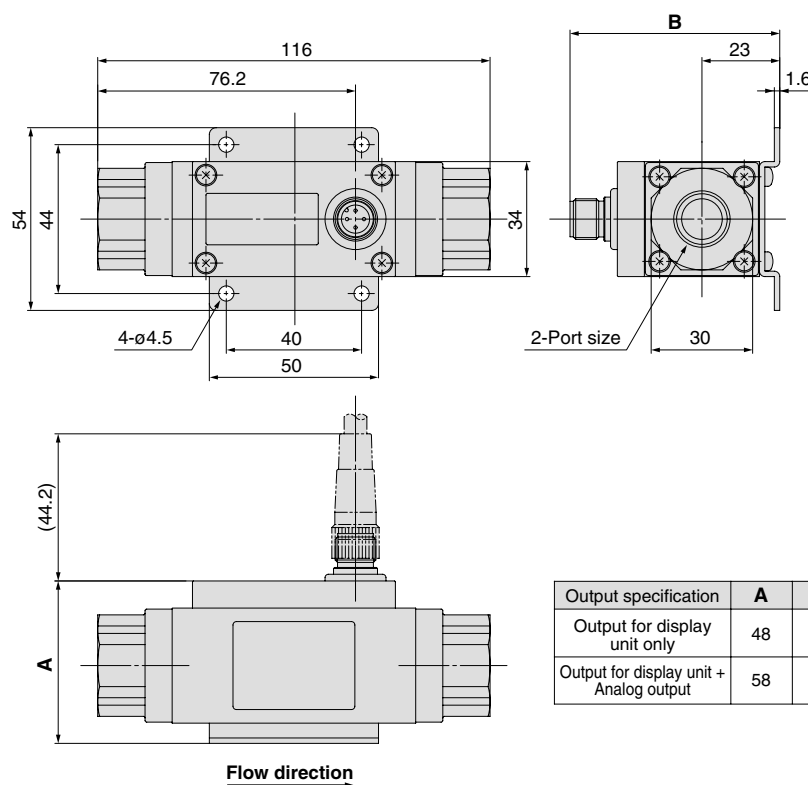


Load is an analog input equipment such as a voltmeter.
PF2A5□□-□□□-1 (With voltage output type)



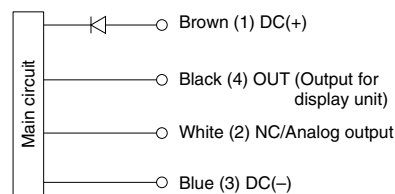
Load is an analog input equipment such as a voltmeter.
PF2A5□□-□□□-2 (With voltage output type)

PF2A511, 521, 551



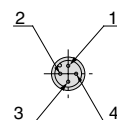
Output specification	(mm)	
	A	B
Output for display unit only	48	62
Output for display unit + Analog output	58	72

Wiring



* Use this sensor by connecting it to a SMC remote type display unit Series PF2A2□□/3□□.

Connector pin numbers

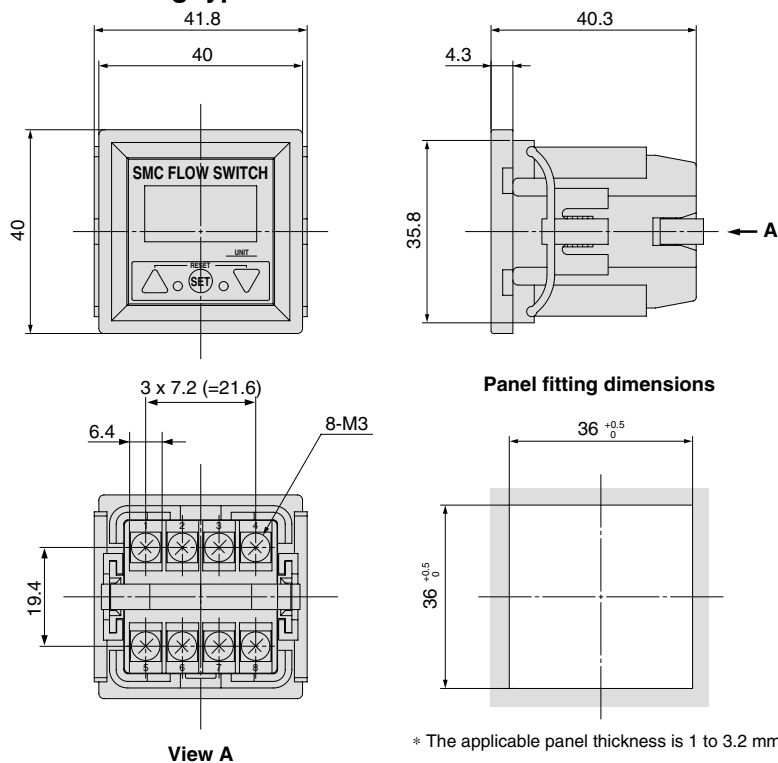


Pin no.	Pin description
1	DC(+)
2	NC/Analog output
3	DC(-)
4	OUT

Dimensions: Remote Type Display Unit **for Air**

PF2A3□□-A

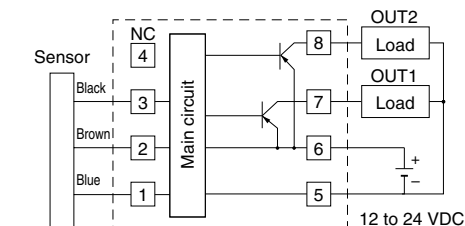
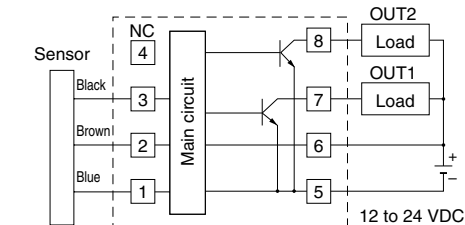
Panel mounting type



* The applicable panel thickness is 1 to 3.2 mm.

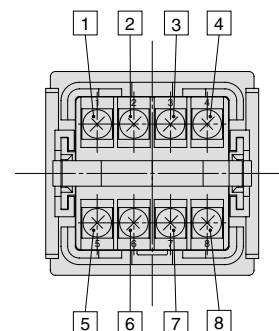
Internal circuits and wiring examples

① to ⑧ are the terminal numbers.

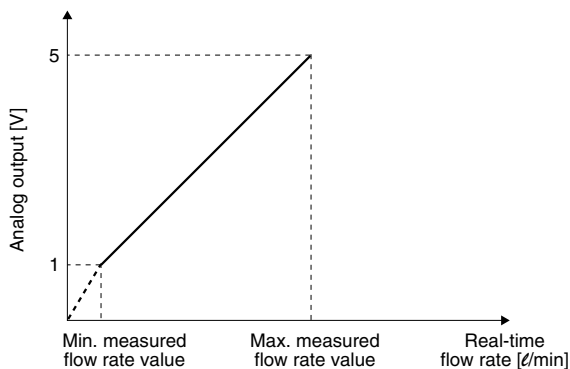


* Do not connect the white wire of the sensor to ③.

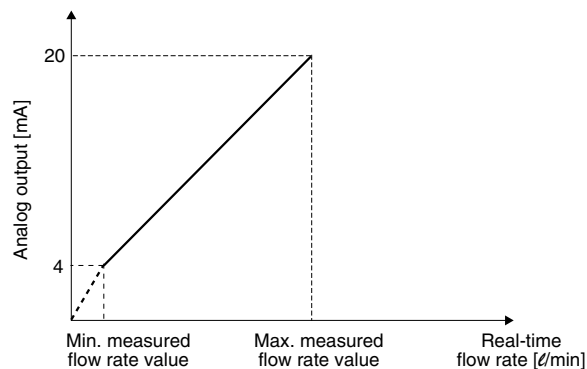
Terminal block numbers



Analog output 1 to 5 VDC



4 to 20 mA DC



Part no.	Normal condition		Standard condition	
	Min. measured flow rate value [l/min]	Max. measured flow rate value [l/min]	Min. measured flow rate value [l/min]	Max. measured flow rate value [l/min]
PF2A510-□-1	1	10	1.1	10.7
PF2A550-□-1	5	50	5.4	53.5
PF2A511-□-1	10	100	11	107
PF2A521-□-1	20	200	21	214
PF2A551-□-1	50	500	54	535

Part no.	Normal condition		Standard condition	
	Min. measured flow rate value [l/min]	Max. measured flow rate value [l/min]	Min. measured flow rate value [l/min]	Max. measured flow rate value [l/min]
PF2A510-□-2	1	10	1.1	10.7
PF2A550-□-2	5	50	5.4	53.5
PF2A511-□-2	10	100	11	107
PF2A521-□-2	20	200	21	214
PF2A551-□-2	50	500	54	535