

For Air

Digital Flow Switch

Series PF2A



Refer to www.smcworld.com for details of products compatible with overseas standards.



How to Order

Integrated Display Type

PF2A7 10 01 27 M

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	●	●				PF2A710/750
02	1/4	●	●				
03	3/8			●	●		PF2A711/721
04	1/2					●	PF2A751

Lead wire (Refer to page 35.)

Symbol	Lead wire
M12 3 m lead wire with connector	
N	Without lead wire

Unit specification

Nil	With unit switching function
M	Fixed SI unit ^{Note)}

^{Note)} Fixed units:
Real-time flow rate: ℓ/min
Accumulated flow: ℓ

Output specification

Symbol	Output specification
27	NPN open collector 2 outputs
67	PNP open collector 2 outputs

Specifications

Model		PF2A710	PF2A750	PF2A711	PF2A721	PF2A751
Measured fluid		Air, Nitrogen				
Flow rate measurement range		0.5 to 10.5 ℓ/min	2.5 to 52.5 ℓ/min	5 to 105 ℓ/min	10 to 210 ℓ/min	25 to 525 ℓ/min
Set flow rate range		0.5 to 10.5 ℓ/min	2.5 to 52.5 ℓ/min	5 to 105 ℓ/min	10 to 210 ℓ/min	25 to 525 ℓ/min
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
Minimum set unit		0.1 ℓ/min	0.5 ℓ/min	1 ℓ/min	2 ℓ/min	5 ℓ/min
Accumulated pulse flow rate exchange value (Pulse width: 50 ms)		0.1 ℓ/pulse	0.5 ℓ/pulse	1 ℓ/pulse	2 ℓ/pulse	5 ℓ/pulse
Note 1, 2)	Real-time flow rate	ℓ/min, CFM x 10 ⁻²		ℓ/min, CFM x 10 ⁻¹		
Display units	Accumulated flow	ℓ, ft ³ x 10 ⁻¹				
Operating fluid temperature		0 to 50°C				
Linearity		±5% F.S. or less				
Repeatability		±1% F.S. or less		±2% F.S. or less		
Temperature characteristics		±3% F.S. or less (15 to 35°C, based on 25°C), ±5% F.S. or less (0 to 50°C, based on 25°C)				
Current consumption (No load)		150 mA or less		160 mA or less		170 mA or less
Weight ^{Note 3)}		250 g		290 g		
Port size (Rc, NPT, G)		1/8, 1/4		3/8		1/2
Detection type		Heater type				
Indicator light		3-digit, 7-segment LED				
Operating pressure range		-50 kPa to 0.5 MPa		-50 kPa to 0.75 MPa		
Proof pressure		1.0 MPa				
Accumulated flow range ^{Note 4)}		0 to 999999 ℓ				
Output specifications ^{Note 5)}	Switch output	NPN open collector	Maximum load current: 80 mA; Internal voltage drop: 1 V or less (with load current of 80 mA) Maximum applied voltage: 30 V; 2 outputs			
		PNP open collector	Maximum load current: 80 mA Internal voltage drop: 1.5 V or less (with load current of 80 mA); 2 outputs			
	Accumulated pulse output	NPN or PNP open collector (same as switch output)				
Status LED's		Illuminates up when output is ON OUT1: Green; OUT2: Red				
Response time		1 sec. or less				
Hysteresis		Hysteresis mode: Variable (can be set from 0), Window comparator mode ^{Note 6)} : 3-digit fixed				
Power supply voltage		12 to 24 VDC (ripple ±10% 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, in each X, Y, Z direction for 2 hrs, whichever is smaller. (de-energized)				
	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				

Note 1) For digital flow switch with unit switching function. (Fixed SI unit [ℓ/min, or ℓ, m³ or m³ x 10³]) will be set for switch type without the unit switching function.)

Note 2) Flow rate display can be switched between the basic condition of 0°C, 101.3 kPa and the standard condition (ANR) of 20°C, 101.3 kPa, and 65% RH.

Note 3) Without lead wire.

Note 4) Accumulated flow rate is reset when the power supply turns OFF.

Note 5) Switch output and accumulated pulse output can be selected during initial setting.

Note 6) Window comparator mode — Since hysteresis will reach 3 digits, keep P_1 and P_2 or n_1 and n_2 apart by 7 digits or more. (In case of output OUT2, n_1, 2 to be n_3, 4 and P_1, 2 to be P_3, 4.)

Note 7) The flow switch conforms to the CE mark.