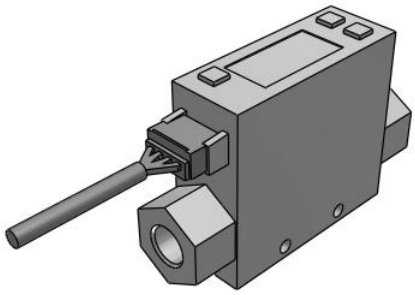


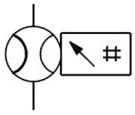
PFM7, 2-Color Display, Digital Flow Switch, Integrated Display

PFM710-F01-F

Datasheet

General series information

- This product is being discontinued and will be replaced by PF2M7 series. Update details here.
- Compact and light weight.
- Digital 2 color indication.
- Elbow piping can be used.
- Integrated flow adjustment valve.
- Several combinations are possible.
- Different mounting methods are possible.



Flow meter with digital display

Standard specifications

Piping Entry Direction	Straight
Output Specifications	F [1 PNP Outputs + Analogue (4 to 20 mA)]
Connector	Lead Wire w/Connector (2 m)
Flow Rate Range	10 [0.2 to 10 (5 for CO2) l/min]
Flow Adjustment Valve	None
Port Size	F01 (G1/8)
Unit Specification	Unit Switching Function
Calibration Certificate	None
Option	None
Instruction Manual	With Instruction Manual
Made to Order	None
Maximum operating pressure	750 kPa
Minimum operating pressure	–100 kPa
Proof pressure	1 MPa
Maximum ambient temperature	Operating: 50 °C / Stored: 60°C

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Minimum ambient temperature	Operating: 0 °C / Stored: –10 °C (with no freezing and condensation)
Approvals	CE
Flow rate	0.2 - 10 l/min (Dry air, N2, Ar) / 0.2 - 5 l/min (CO2)
Response time	1 s (50 ms, 0.5 s, 2 s can be selected)
Operating humidity range	Operating, Stored: 35 - 85%R.H. (with no condensation)
Internal voltage drop	NPN output: 1 V or less (at 80 mA) / PNP output: 1.5 V or less (at 80 mA)
Current consumption	55 mA or less
Enclosure	IP40
Repeatability	±1%F.S. or less (Fluid: Dry air) / Analogue output accuracy: ±3%F.S. or less
Linearity	Display accuracy: ±3%F.S. or less (Fluid: Dry air) / Analogue output accuracy: ±5%F.S. or less
Applicable fluid	Dry air, N2, Ar, CO2 (Air quality grade is ISO8573.1-1, 1.2 to 1.6.2.)
Rated pressure range	–70 kPa - 750 kPa
Power supply voltage	24 VDC ±10%
Switch output	NPN or PNP open collector output
Maximum load current	80 mA
Flow display range	0.2 - 10.5 l/min (Dry air, N2, Ar) / 0.2 - 5.2 l/min (CO2)
Applied voltage	28 VDC (at NPN output)
Vibration resistance	Without orifice: 10 to 500 Hz with a 1.5 mm amplitude or 98 m/s2 acceleration, in each X, Y, Z direction for 2 hrs, whichever is smaller / With orifice: 10 to 150 Hz with a 1.5 mm amplitude or 19.6 m/s2 acceleration, in each X, Y, Z direction for 2 hrs, whichever is smaller
Impact resistance	490 m/s2 in X, Y, Z directions 3 times each
Display	3-digit, 7-segment LED / 2-colour display (Red/Green) / Renewed cycle: 10 times/sec
Indicator light	OUT1: Illuminates when output is turned ON (Green) / OUT2: Illuminates when output is turned ON (Red)
Withstand voltage	1000 VAC for 1 min. between external terminal and case
Insulation resistance	50 MΩ or more (at 500 VDC measured via Megohmmeter) between external terminal and case
Temperature characteristics	±2%F.S. (15 - 35 °C) / ±5%F.S. (0 - 50 °C)
Maximum fluid temperature	50 °C
Minimum fluid temperature	0 °C (with no freezing and condensation)
Accumulated volume per pulse	0.1 L/pulse
Pressure characteristics	±5%F.S. or less (based on 0.35 MPa)
Switch output protection	Short-circuit protection, Overcurrent protection
External input type	No-voltage input (Reed or Solid state)
External input time	Input 30 ms or more
Minimum display unit	0.01 l/min
Display unit	Real-time flow rate l/min, CFM x 10-2 /Accumulated flow l, ft3 x 10-1
Accumulated flow range	Max. 999999 l
Set flow range	0.2 - 10.5 l/min (Dry air, N2, Ar) / 0.2 - 5.2 l/min (CO2)
Hysteresis	Variable
Analogue output response time	1.5 s or less (90% response)
Analogue voltage output - Output Impedance	1 - 5 V / 1 kΩ
Analogue current output	4 - 20 mA
Analogue current output - Load Impedance	50 - 600 Ω
Weight	0.200 Kg

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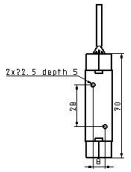
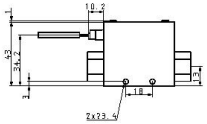
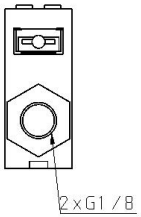
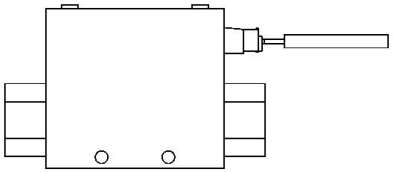
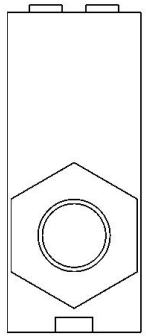
Dimensions

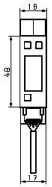




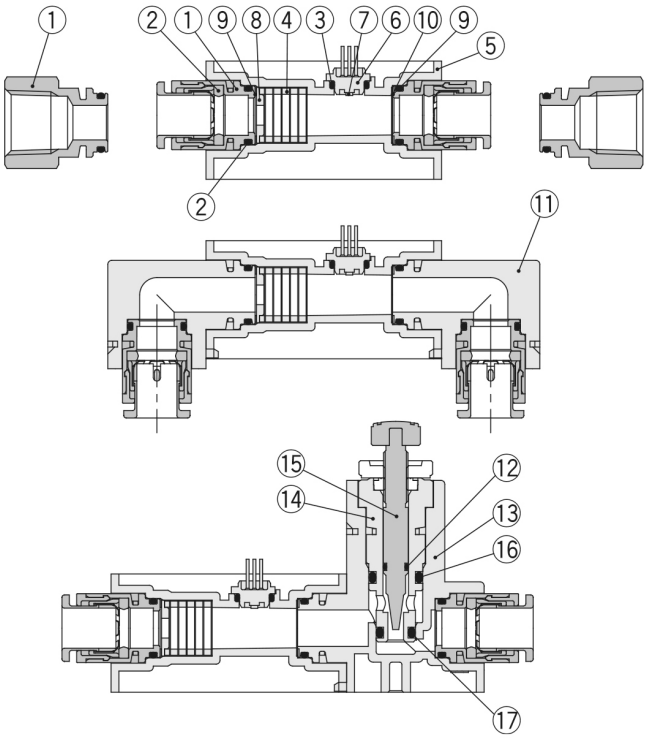








Constructions



Component Parts

No.	Description	Material	Note
1	**Fitting for piping**	Brass	Electroless nickel plated
2	**O-ring**	FKM	Fluoro coated
3	**O-ring**	HNBR	Fluoro coated
4	**Rectifying module**	Stainless steel 304	
5	**Body**	PBT	
6	**Sensor housing**	LCP	
7	**Sensor chip**	Silicon	
8	**Orifice**	Brass	Electroless nickel plated
9	**Seal**	FKM	Fluoro coated
10	**Mesh**	Stainless steel 304	
11	**Bottom piping adapter**	PBT	
12	**O-ring**	HNBR	Fluoro coated
13	**Flow adjustment valve assembly**	PBT	
14	**Body B**	Brass	Electroless nickel plated
15	**Needle**	Brass	Electroless nickel plated
16	**O-ring**	HNBR	Fluoro coated
17	**O-ring**	HNBR	Fluoro coated

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Additional information

Catalogue	PFM.pdf
Declaration of conformity	newDoC_PFMx_TF125-180EN.pdf newDoC_PFM_TF1V117EN.pdf
Installation manuals	IM_PFM7_TF2Z077EN-B.pdf
Operation manuals	OM_PFM7_OMJ0006EN-K.pdf