

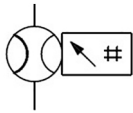
# PF3A7\*H, Digital Flow Switch for Large Flow

## PF3A712H-F20-ES

Datasheet

### General series information

- Applicable fluid: Air, N2.
- Flow range: Max. 12000 L/min.
- Flow ratio: 100:1.
- 3-color/ 2-screen display.
- Port Size: 1, 1 1/2, 2.
- Outputs: NPN/PNP and Analogue/External input.
- IP65.



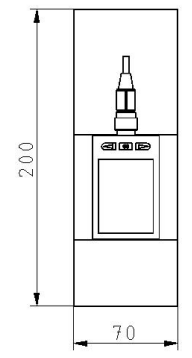
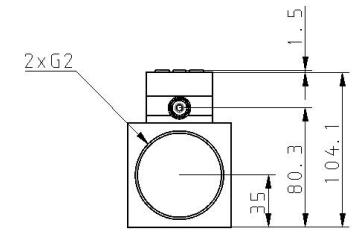
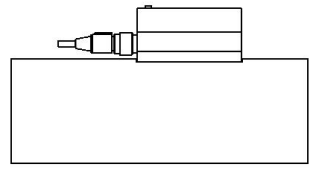
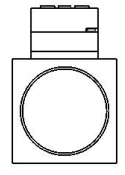
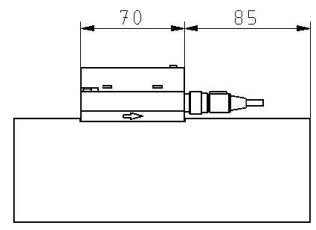
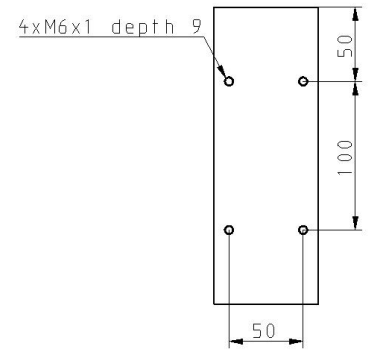
Flow meter with digital display

### Standard specifications

|                                        |                                                               |
|----------------------------------------|---------------------------------------------------------------|
| Rated Flow Range                       | 12 (120 to 12000 l/min)                                       |
| Thread Type                            | F [G (ISO 1179-1 Compliant)]                                  |
| Port Size                              | 20 (2)                                                        |
| Output Specifications                  | ES (Out: PNP; Func: Analog Voltage Output <-> External Input) |
| Lead Wire                              | w/Lead Wire and M12 Connector, 3m                             |
| Unit Specification                     | Units Selection Function                                      |
| Calibration Certificate                | None, Certificate in both English and Japanese                |
| Maximum temperature of pressure medium | 50 °C                                                         |
| Minimum temperature of pressure medium | 0 °C                                                          |
| Proof pressure                         | 2.25 MPa                                                      |
| General power supply                   | 24 VDC ±10 %                                                  |
| Approvals                              | CE marking (EMC Directive, RoHS Directive)                    |
| Response time                          | Select from 1 s, 2 s, or 5 s                                  |
| Internal voltage drop                  | PNP output type: 2 V or less (at load current of 80 mA)       |
| Current consumption                    | 150 mA or less                                                |

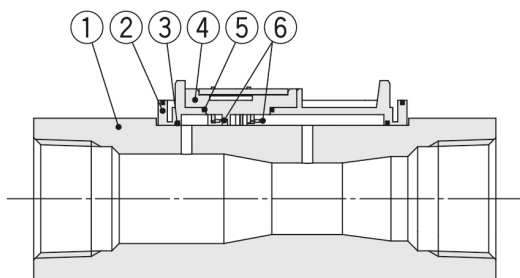
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|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating humidity range              | Operating/Stored: 35 to 85 % RH (No condensation)                                                                                                           |
| Enclosure                             | IP65                                                                                                                                                        |
| Repeatability                         | Switch output/Display: $\pm 1.0$ % F.S Analogue output: $\pm 1.0$ % F.S                                                                                     |
| Applicable fluid                      | Air, Nitrogen                                                                                                                                               |
| Rated pressure range                  | 0.1 to 1.5 MPa                                                                                                                                              |
| Maximum load current                  | 80 mA                                                                                                                                                       |
| Fluid contact material                | Aluminum alloy, PPS, HNBR [Sensor: Pt, Au, Fe, Lead glass (exempted from the RoHS application), Al <sub>2</sub> O <sub>3</sub> ]                            |
| Operating temperature range           | Operating: 0 to 50 °C, Stored: -10 to 60 °C (No freezing or condensation)                                                                                   |
| Smallest settable increment           | 10 l/min                                                                                                                                                    |
| Max. applied voltage                  | 28 VDC                                                                                                                                                      |
| Hysteresis mode                       | Variable from 0                                                                                                                                             |
| Display                               | LCD, 2-screen display (Main screen/Sub screen) Main screen: Red/Green, Sub screen: Orange Main screen: 5 digits, 7 segment, Sub screen: 6 digits, 7 segment |
| Display accuracy                      | $\pm 3.0$ % F.S.                                                                                                                                            |
| Indicator light                       | OUT indicator: Red LED is ON when output is ON                                                                                                              |
| Withstand voltage                     | 1000 VAC for 1 minute between terminals and housing                                                                                                         |
| Insulation resistance                 | 50 M $\Omega$ (500 VDC measured via megohmmeter) between terminals and housing                                                                              |
| Maximum fluid temperature             | 50 °C                                                                                                                                                       |
| Minimum fluid temperature             | 0 °C                                                                                                                                                        |
| Flow detection method                 | Thermal type                                                                                                                                                |
| Set point range Instantaneous flow    | 120 to 12600 l/min                                                                                                                                          |
| Set point range Accumulated flow      | 0 to 999,999,999,990 L                                                                                                                                      |
| Accumulated volume per pulse          | Select from 100 L/pulse or 1000 L/pulse                                                                                                                     |
| Accumulated value hold function       | Interval of 2 or 5 minutes can be selected                                                                                                                  |
| Pressure characteristics              | $\pm 2.5$ % F.S. (0.1 to 1.0 MPa, 0.5 MPa standard)                                                                                                         |
| Electrical protection                 | Polarity protection                                                                                                                                         |
| Analogue output accuracy              | $\pm 3.0$ % F.S.                                                                                                                                            |
| Accuracy temperature characteristics  | $\pm 5.0$ % F.S. (Ambient temperature of 0 to 50 °C, 25 °C standard)                                                                                        |
| Output mode                           | Select from Instantaneous output (Hysteresis mode or Window comparator mode), Accumulated output, or Accumulated pulse output                               |
| Switch operation                      | Select from Normal or Reversed output                                                                                                                       |
| Switch output protection              | Over current protection                                                                                                                                     |
| Analogue output type                  | Current output: 4 to 20 mA                                                                                                                                  |
| Impedance                             | Output impedance: Approx. 1 k $\Omega$                                                                                                                      |
| External input type                   | No-voltage input: 0.4 V or less                                                                                                                             |
| External input mode                   | Select from Accumulated value external reset or Peak/Bottom value reset                                                                                     |
| External input time                   | 30 ms or longer                                                                                                                                             |
| Display range Accumulated flow        | 0 to 999,999,999,00 L                                                                                                                                       |
| Minimum display unit                  | 10 l/min                                                                                                                                                    |
| Minimum display unit Accumulated flow | 1000 L                                                                                                                                                      |
| Length of lead wire with connector    | 3 m                                                                                                                                                         |
| Weight                                | 1.810 Kg                                                                                                                                                    |

# Dimensions



Specifications are subject to change without prior notice and any obligation on the part of the manufacturer.

## Constructions



### Component Parts

| No. | Description           | Material                               | Note     |
|-----|-----------------------|----------------------------------------|----------|
| 1   | <b>Body</b>           | Aluminum alloy                         | Anodized |
| 2   | <b>Branch passage</b> | PPS                                    | —        |
| 3   | <b>Gasket</b>         | HNBR                                   | —        |
| 4   | <b>Sensor base</b>    | PPS                                    | —        |
| 5   | <b>Gasket</b>         | HNBR                                   | —        |
| 6   | <b>Sensor</b>         | Au, Pt, Al <sub>2</sub> O <sub>3</sub> | —        |

## Additional information

|                           |                                                                                              |
|---------------------------|----------------------------------------------------------------------------------------------|
| Catalogue                 | <a href="#">PF3A7_H-D_EU.pdf</a>                                                             |
| Declaration of conformity | <a href="#">newDoC_PF3A7xH_TF1Y127EN.pdf</a><br><a href="#">newDoC_PF3A7xH_TF1V123EN.pdf</a> |
| Installation manuals      | <a href="#">IM_PF3A7xH_TF2Z086EN.pdf</a>                                                     |
| Operation manuals         | <a href="#">PF3Axx_Quickguide.pdf</a><br><a href="#">OM_PFxx_OMU0002EN-E.pdf</a>             |