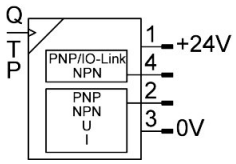
# Flow sensor
# SFAM-90-15000L-M-PNLK-PNVBA-M12

Part number: 8181249






## Data sheet

| Feature | Value |
|---|---|
| Approval | RCM<br>c UL us - Listed (Oil) |
| CE mark (see declaration of conformity) | To EU EMC Directive<br>In accordance with EU RoHS Directive |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC<br>To UK RoHS instructions |
| Note on materials | RoHS compliant |
| Flow direction | Unidirectional<br>From left to right |
| Start value for pressure measuring range | 0 MPa<br>0 bar<br>0 psi |
| End value for pressure measuring range | 1.6 MPa<br>16 bar<br>232 psi |
| Start value for flow rate measuring range | 150 l/min |
| End value for flow rate measuring range | 15000 l/min |
| Temperature measurement start value | 0 °C |
| Temperature measurement end value | 100 °C |
| Operating pressure | 1.6 MPa<br>16 bar<br>232 psi |
| Overload pressure | 2 MPa<br>20 bar<br>290 psi |
| Operating medium | Argon<br>Compressed air to ISO 8573-1:2010 [7:4:4]<br>Carbon dioxide<br>Nitrogen |
| Media temperature | 0 °C...50 °C |
| Ambient temperature | 0 °C...50 °C |
| Nominal temperature | 23 °C |
| Accuracy of pressure value in ± %FS | 1.5 %FS |
| Accuracy of flow rate | ± (3% o.m.v. + 0.3% FS) |
| Accuracy temperature in ± °C | 5 °C |
| Repetition accuracy of pressure value in ± %FS | 0.3 %FS |

| Feature | Value |
|---|---|
| Repetition accuracy offset in ± %FS | 0.2 %FS |
| Repetition accuracy span in ± %FS | 0.8 %FS |
| Temperature coefficient in ± %FS/K | 0.05 %FS/K |
| Temperature coefficient span in ± %FS/K | typ. 0.1%FS/K |
| Pressure influence span in ± %FS/bar | 0.5 %FS/b. |
| Flow characteristic curve start value | 0 l/min |
| Flow characteristic curve end value | 15000 l/min |
| Temperature characteristic curve start value | 0 °C |
| Temperature characteristic curve end value | 100 °C |
| Output characteristic curve start value | 0 V |
| Output characteristic curve end value | 10 V<br>20 mA |
| Output characteristic curve starting value | 4 mA |
| Max. load resistance current output | 500 Ohm |
| Min. load resistance voltage output | 20 kOhm |
| Short circuit current rating | Yes |
| Overload protection | Available |
| Protocol | IO-Link® |
| IO-Link, revision ID | V1.1 |
| IO-Link, device profile | Firmware update<br>Function locator<br>Function Product URI<br>Function quantity detection<br>Identification and diagnostics<br>Smart Sensor - SSP 4.1.3 |
| IO-Link, transmission rate | COM3 |
| IO-Link, SIO-Mode support | Yes |
| IO-Link, port type | Class A |
| IO-Link, process data length output | 0 bit |
| IO-Link, process data length input | 96 bit |
| IO-Link, Process data content IN | Pressure measured value 16 bit MDC<br>Pressure monitoring 2 bit SSC<br>Flow rate measurement 16 bit MDC<br>Flow rate monitoring 2-bit SSC<br>Measured temperature value 16 bit MDC<br>Temperature monitoring 2-bit SSC<br>Volume / mass pulse 1 bit SSC |
| IO-Link, Service data IN | Volume/mass measured value 32 bit<br>Pneumatic energy measurement 32 bit<br>Pneumatic power measurement 32 bit |
| IO-Link, minimum cycle time | 1.5 ms |
| IO-Link, Data storage required | 1 KB |
| Operational voltage range DC | 15 V...30 V |
| Reverse polarity protection | For all electrical connections |
| Electrical connection 1, connection type | Plug |
| Electrical connection 1, connector system | M12x1, A-coded to EN 61076-2-101 |
| Electrical connection 1, number of connections/cores | 5 |
| Electrical connection 1, type of mounting | Screw-type lock |
| Electrical connection 1, compatible type of mounting | Compatible with rotatable screw-type lock |
| Max. cable length | 20 m with IO-Link® operation<br>30 M |
| Type of mounting | On service unit |
| Mounting position | Any |
| Pneumatic connection | Manifold module |
| Product weight | 600 g |
| Material housing | Die-cast aluminium<br>Reinforced PA |

| Feature | Value |
|---|---|
| Display type | Illuminated LCD, multi-colour |
| Degree of protection | IP65 |
| Corrosion resistance class CRC | 2 - Moderate corrosion stress |
| LABS (PWIS) conformity | VDMA24364-B1/B2-L |