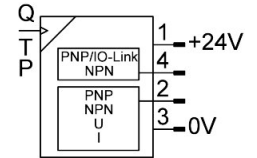


# Flow sensor SFAM-90-15000L-TG112-PNLK-PNVBA-M12

Part number: 8181252

**FESTO**



## Data sheet

| Feature                                        | Value                                                                                |
|------------------------------------------------|--------------------------------------------------------------------------------------|
| Certification                                  | RCM compliance mark                                                                  |
| CE marking (see declaration of conformity)     | As per EU EMC directive<br>As per 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                                                 |
| Pressure measuring range initial value         | 0 MPa<br>0 bar<br>0 psi                                                              |
| Pressure measuring range end value             | 1.6 MPa<br>16 bar<br>232 psi                                                         |
| Flow measuring range start value               | 150 l/min                                                                            |
| Flow measuring range end value                 | 15000 l/min                                                                          |
| Temperature measuring range start value        | 0 °C                                                                                 |
| Temperature measuring range 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 as per ISO 8573-1:2010 [7:4:4]<br>Carbon dioxide<br>Nitrogen |
| Temperature of medium                          | 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 of temperature in ± °C                | 5 °C                                                                                 |
| Repetition accuracy of pressure value in ± %FS | 0.3 %FS                                                                              |

| Feature                                        | Value                                                                                                                                                                                                                                                  |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Zero point repetition accuracy in $\pm$ %FS    | 0.2 %FS                                                                                                                                                                                                                                                |
| Repetition accuracy margin in $\pm$ %FS        | 0.8 %FS                                                                                                                                                                                                                                                |
| Temperature co-efficient in $\pm$ %FS/K        | 0.05 %FS/K                                                                                                                                                                                                                                             |
| Temperature co-efficient margin in $\pm$ %FS/K | typ. 0.1%FS/K                                                                                                                                                                                                                                          |
| Pressure influence of margin in $\pm$ %FS/bar  | 0.5 %FS/b.                                                                                                                                                                                                                                             |
| Analog output                                  | 0 - 10 V                                                                                                                                                                                                                                               |
| 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 initial value      | 0 V<br>4 mA                                                                                                                                                                                                                                            |
| End value output characteristic curve          | 10 V<br>20 mA                                                                                                                                                                                                                                          |
| Max. load resistance of current output         | 500 Ohm                                                                                                                                                                                                                                                |
| Min. load resistance of voltage output         | 20 kOhm                                                                                                                                                                                                                                                |
| Short-circuit protection                       | 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 diagnosis<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>Flow rate monitoring 2-bit SSC<br>Flow-Measured value 16 bit MDC<br>Flow rate monitoring 2-bit SSC<br>Temperature measured value 16-bit MDC<br>Temperature monitoring 2-bit SSC<br>Volume / mass pulse 1 bit SSC |
| IO-Link®, service data contents IN             | Volume / mass measured value 32-bit<br>Pneumatic energy measurement 32 bit<br>Pneumatic power measurement value 32 bit                                                                                                                                 |
| IO-Link®, minimum cycle time                   | 1.5 ms                                                                                                                                                                                                                                                 |
| IO-Link®, data memory required                 | 1 KB                                                                                                                                                                                                                                                   |
| DC operating voltage range                     | 15 V...30 V                                                                                                                                                                                                                                            |
| Reverse polarity protection                    | for all electrical connections                                                                                                                                                                                                                         |
| Electrical connection 1, connection type       | Plug                                                                                                                                                                                                                                                   |
| Electrical connection 1, connection technology | M12x1 A-coded as per EN 61076-2-101                                                                                                                                                                                                                    |
| Electrical connection 1, number of pins/wires  | 5                                                                                                                                                                                                                                                      |
| Electrical connection 1, type of mounting      | Screw-type lock<br>Compatible with rotatable screw-type lock                                                                                                                                                                                           |
| Max. cable length                              | 20 m for IO-Link® operation<br>30 m                                                                                                                                                                                                                    |
| Type of mounting                               | In-line installation                                                                                                                                                                                                                                   |
| Mounting position                              | Any                                                                                                                                                                                                                                                    |
| Pneumatic connection                           | G1 1/2                                                                                                                                                                                                                                                 |
| Product weight                                 | 600 g                                                                                                                                                                                                                                                  |
| Housing material                               | Die-cast aluminum<br>PA-reinforced                                                                                                                                                                                                                     |

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