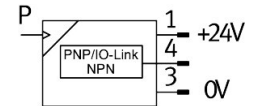


# Pressure sensor

## SPAF-P10R-Q4-N-PNLK-M12

Part number: 8181213

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                                                                                           |
| Measured variable                            | Relative pressure                                                                                        |
| Method of measurement                        | Piezoresistive pressure sensor                                                                           |
| Pressure measuring range initial value       | 0 MPa<br>0 bar<br>0 psi                                                                                  |
| Pressure measuring range end value           | 1 MPa<br>10 bar<br>145 psi                                                                               |
| Overload pressure                            | 1.5 MPa<br>15 bar<br>217.5 psi                                                                           |
| Operating medium                             | Compressed air as per ISO 8573-1:2010 [7:4:4]<br>Inert gases                                             |
| Information on operating and pilot media     | Ester oil < 0.1mg/m <sup>3</sup> , according to ISO 8573-1:2010 [---:2]<br>Lubricated operation possible |
| Temperature of medium                        | 0 °C...50 °C                                                                                             |
| Ambient temperature                          | 0 °C...50 °C                                                                                             |
| Accuracy in ± % FS                           | 1.5 %FS                                                                                                  |
| Repetition accuracy in ± %FS                 | 0.3 %FS                                                                                                  |
| Temperature co-efficient in ± %FS/K          | 0.05 %FS/K                                                                                               |
| Switching output                             | PNP/NPN switchable                                                                                       |
| Switching function                           | Window comparator<br>Threshold value comparator<br>Threshold value with variable hysteresis              |
| Switching element function                   | N/C contact/N/O contact, switchable                                                                      |
| On time                                      | 3 ms                                                                                                     |
| Switch-off time                              | 3 ms                                                                                                     |
| Max. output current                          | 100 mA                                                                                                   |
| Voltage drop                                 | 1.6 V                                                                                                    |

| Feature                                                   | Value                                                                                                                                            |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 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>Smart Sensor - SSP 4.1.1                           |
| 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                        | 32 bit                                                                                                                                           |
| IO-Link®, process data content IN                         | Pressure measured value 16 bit MDC<br>Flow rate monitoring 2-bit SSC                                                                             |
| IO-Link®, service data contents IN                        | Temperature 16 bit                                                                                                                               |
| IO-Link®, minimum cycle time                              | 0.9 ms                                                                                                                                           |
| IO-Link®, data memory required                            | 0.5 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             | 4                                                                                                                                                |
| Electrical connection 1, type of mounting                 | Screw-type lock<br>not rotatable<br>Compatible with rotatable screw-type lock                                                                    |
| Material of plug housing                                  | Brass, nickel-plated                                                                                                                             |
| Type of mounting                                          | With accessories                                                                                                                                 |
| Mounting position                                         | Any                                                                                                                                              |
| Pneumatic connection                                      | QS-4                                                                                                                                             |
| Product weight                                            | 30 g                                                                                                                                             |
| Housing material                                          | PA-reinforced                                                                                                                                    |
| Materials in contact with the media                       | High-grade steel<br>NBR<br>PA-reinforced                                                                                                         |
| Display type                                              | LED indicator                                                                                                                                    |
| Ready status indication                                   | Green LED                                                                                                                                        |
| Switching status indication                               | Yellow LED                                                                                                                                       |
| Setting options                                           | IO-Link®<br>Teach-in                                                                                                                             |
| Protection against tampering                              | IO-Link®                                                                                                                                         |
| Setting range threshold value                             | 0 %...100 %                                                                                                                                      |
| Setting range hysteresis                                  | 0 %...90 %                                                                                                                                       |
| Degree of protection                                      | IP65                                                                                                                                             |
| Corrosion resistance class (CRC)                          | 2 - Moderate corrosion stress                                                                                                                    |
| LABS (PWIS) conformity                                    | VDMA24364-B1/B2-L                                                                                                                                |
| Suitability for the production of Li-ion batteries        | Metals with more than 1% by mass of copper are excluded from use.<br>Circuit boards, lines, electrical push-in connectors and coils are excluded |
| Cleanroom suitability, measured according to ISO 14644-14 | Class 4 according to ISO 14644-1                                                                                                                 |