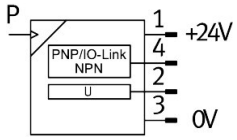
# Pressure sensor
# SPAF-P10R-Q4-L-PNLK-VB-M12

Part number: 8181231






## Data sheet

| Feature | Value |
|---|---|
| Approval | RCM |
| 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 |
| Measured variable | Relative pressure |
| Measurement method | Piezoresistive pressure sensor |
| Start value for pressure measuring range | 0 MPa<br>0 bar<br>0 psi |
| End value for pressure measuring range | 1 MPa<br>10 bar<br>145 psi |
| Overload pressure | 1.5 MPa<br>15 bar<br>217.5 psi |
| Operating medium | Compressed air to ISO 8573-1:2010 [7:4:4]<br>Inert gas |
| Note on operating and pilot medium | Ester oil < 0.1mg/m³, according to ISO 8573-1:2010 [-:-:2]<br>Lubricated operation possible |
| Media temperature | 0 °C...50 °C |
| Ambient temperature | 0 °C...50 °C |
| Accuracy in ± % FS | 1.5 %FS |
| Repetition accuracy in ± %FS | 0.3 %FS |
| Temperature coefficient 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 | NC or NO, switchable |
| Switch-on time | 3 ms |
| Switch-off time | 3 ms |
| Max. output current | 100 mA |
| Voltage drop | 1.6 V |

| Feature | Value |
|---|---|
| Analogue output | 0 - 10 V<br>1 - 5 V |
| Output characteristic curve start value | 0 V |
| Output characteristic curve end value | 10 V |
| Accuracy analogue output in ± %FS | 1.5 %FS |
| Linearity error in ± %FS | 0.3 %FS |
| Rise time | 6 ms |
| Min. load resistance voltage output | 20 kOhm |
| Display range start value | 0 %FS |
| Display range end value | 100 %FS |
| 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>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>Pressure monitoring 2 bit SSC |
| IO-Link, Service data IN | Temperature 16 bit |
| IO-Link, minimum cycle time | 0.9 ms |
| IO-Link, Data storage required | 0.5 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 | 4 |
| Electrical connection 1, type of mounting | Screw-type lock<br>Not rotatable |
| Electrical connection 1, compatible type of mounting | Compatible with rotatable screw-type lock |
| Material connector housing | High-alloy stainless steel |
| Type of mounting | With accessories |
| Mounting position | Any |
| Pneumatic connection | QS-4 |
| Product weight | 30 g |
| Material housing | Reinforced PA |
| Material in contact with the medium | Stainless steel<br>NBR<br>Reinforced PA |
| Display type | Backlit blue LCD |
| Displayable units | MPa<br>bar<br>kPa<br>psi |
| Ready status indication | Through backlighting |
| Setting options | IO-Link®<br>Teach-in<br>Via display and buttons |
| Protection against tampering | IO-Link®<br>PIN code |

| Feature | Value |
|---|---|
| Setting range threshold value | 0 %...100 % |
| 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 | Suitable for battery production with reduced Cu/Zn/Ni values (F1a) |
| Cleanroom suitability, measured according to ISO 14644-14 | Class 4 according to ISO 14644-1 |