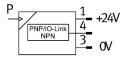
Pressure sensor SPAF-V1R-G18M-N-PNLK-M12 Part number: 8181218

FESTO





Data sheet

| Feature | Value |
|--|---|
| Approval | RCM trademark |
| CE mark (see declaration of conformity) | To EU EMC Directive In accordance with EU RoHS Directive |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC 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 0 bar 0 psi |
| End value for pressure measuring range | -0.1 MPa -1 bar -14.5 psi |
| Overload pressure | 0.5 MPa 5 bar 72.5 psi |
| Operating medium | Compressed air to ISO 8573-1:2010 [7:4:4] Inert gases |
| Note on operating and pilot medium | Ester oil < 0.1mg/m³, according to ISO 8573-1:2010 [-:-:2] Lubricated operation possible |
| Media temperature | 0 °C50 °C |
| Ambient temperature | 0 °C50 °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 Threshold value comparator Threshold value with variable hysteresis |
| Switching element function | N/C or N/O contact, switchable |
| Switch-on time | 3 ms |
| Switch-off time | 3 ms |
| Max. output current | 100 mA |
| Short circuit current rating | yes |

| Pictocol | Feature | Value |
|--|--|---|
| Firmware update Firmware u | Protocol | IO-Link® |
| Function Product URI Function Quantity detection Function Product URI Function Product URI Function Quantity detection Function Product URI Function Product URI Function Quantity detection Function Product URI Function | IO-Link, revision ID | V1.1 |
| OL-Link, SIO-Mode support Nes | IO-Link, device profile | Function locator Function Product URI Function Quantity detection |
| O-Link, prot type | IO-Link, transmission rate | COM3 |
| O-Link, process data length output O-Link, process data length input 32 bit | IO-Link, SIO-Mode support | Yes |
| O-Link, process data length input 32 bit O-Link, Process data content IN Pressure measured value 1 6 bit MDC Pressure monitoring 2 bit SSC O-Link, Service data IN Temperature 16 bit O-Link, Minimum cycle time O.9 ms O-Link, Marciarge required O.5 kB Operational voltage range DC 15 V30 V Reverse polarity protection For all electrical connections Electrical connection 1, connection type Plugs Electrical connection 1, connection system M12x1, A-coded to EN 61076-2-101 Electrical connection 1, type of mounting Compatible with rotatable screw-type lock Not rotatable Not rotatable Electrical connection 1, type of mounting Compatible with rotatable screw-type lock Not rotatable Since Since Since Since Since Since Since Since Since Since Since Since Since Si | IO-Link, port type | Class A |
| O-Link, Process data content IN Pressure measured value 16 bit MDC Pressure monitoring 2 bit SSC O-Link, Service data IN Temperature 16 bit O-Link, Innimum cycle time O.9 ms O-Link, Data storage required O.5 KB O-Link, Data storage required O.5 KB O-Link, Data storage required O.5 KB O-Link (Department of the process of the | IO-Link, process data length output | o bit |
| Perssure monitoring 2 bit SSC Ol-Link, Service data IN Temperature 16 bit Ol-Link, minimum cycle time 0.9 ms Ol-Link, Data storage required 0.5 KB Operational voltage range DC 15 V30 V Reverse polarity protection For all electrical connections Electrical connection 1, connector type Plugs 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 Compatible with rotatable screw-type lock Not rotatable Not rotatable Not rotatable Not rotatable Series-Type of mounting Compatible with rotatable screw-type lock Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable Not rotatable | IO-Link, process data length input | 32 bit |
| O-Link, minimum cycle time | IO-Link, Process data content IN | |
| O_Link, Data storage required O_S KB Operational voltage range DC 15 V30 V Reverse polarity protection For all electrical connections Electrical connection 1, connection type Plugs Electrical connection 1, connector system M12x1, A-coded to EN 61076-2-101 Electrical connection 1, number of connections/cores 4 | IO-Link, Service data IN | Temperature 16 bit |
| Operational voltage range DC 15 V30 V Reverse polarity protection For all electrical connections Electrical connection 1, connector system Plugs Electrical connection 1, number of connections/cores 4 Electrical connection 1, type of mounting Screw-type lock Not rotatable Electrical connection 1, compatible type of mounting Compatible with rotatable screw-type lock Material connector housing Nickel-plated brass Type of mounting Either: Vanale thread With accessories Mounting position optional Product weight 45 g Material housing Pa-reinforced Material in contact with the medium Stainless steel NRR Ready status indication Seady status indication Green LED Switching status indication Yellow LED Setting options 10-Link® Setting range threshold value 0 %100 % Setting range threshold value 0 %100 % Degree of protection 1P65 Corrossion resistance class CRC 2 - Moderate corrosion stress LABS (PWIS) conformity VDMA24364-B1/B2-L Suitability for the p | IO-Link, minimum cycle time | 0.9 ms |
| Reverse polarity protection For all electrical connections Electrical connection 1, connection type Plugs Electrical connection 1, connector system M12x1, A-coded to EN 61076-2-101 Electrical connection 1, number of connections/cores 4 | IO-Link, Data storage required | 0.5 KB |
| Electrical connection 1, connection type Electrical connection 1, connector system Electrical connection 1, number of connections/cores Electrical connection 1, type of mounting Electrical connection 1, type of mounting Electrical connection 1, type of mounting Electrical connection 1, compatible type of mounting Compatible with rotatable screw-type lock Not rotatable Electrical connector housing Material connector housing Electrical connector housing Type of mounting Electrical connector housing Material connector housing Material connector housing Male thread G1/8 Product weight A5 8 Material housing PA-reinforced NBR PA-reinforced N | Operational voltage range DC | 15 V30 V |
| 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 Not rotatable Celectrical connection 1, compatible type of mounting Compatible with rotatable screw-type lock Material connector housing Nickel-plated brass Type of mounting Either: Via male thread With accessories Mounting position optional Material Connection Material Connection Material Connection Material Connection Material Dusing Product weight 45 g Material housing PA-reinforced Material in contact with the medium Stainless steel NBR PA-reinforced Display type ELD indicator Ready status indication Green LED Switching status indication Vellow LED Setting soptions Collaboration Vellow LED Setting angies threshold value 0%100% Setting range threshold value 0%90% Setting range threshold value 1P65 Corrosion resistance class CRC 2. Moderate corrosion stress LABS (PWIS) conformity Metals with more than 1% by mass of copper are excluded from use. Exceptions are printed circuit boards, cables, electrical plug connectors and colls. | Reverse polarity protection | For all electrical connections |
| Electrical connection 1, number of connections/cores Electrical connection 1, type of mounting Electrical connection 1, compatible type of mounting Electrical connection 1, compatible type of mounting Material connector housing Type of mounting Either: Via male thread With accessories Mounting position Poeumatic connection Male thread G1/8 Product weight A 5 g Material nontact with the medium Material in contact with the medium Eliphania status indication Each in Froduct using status indication Setting status indication Setting range threshold value Setting range threshold value Setting range hysteresis Degree of protection Degree of protection Electrical connection 1, type of mounting Metarial bousing Metarial in contact with the medium Setting range threshold value Setting range threshold value Setting range threshold value Setting range protection Degree of protection Peroce class CRC 2 - Moderate corrosion stress Metals with more than 1% by mass of copper are excluded from use. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Electrical connection 1, connection type | Plugs |
| Electrical connection 1, type of mounting Electrical connection 1, compatible type of mounting Compatible with rotatable screw-type lock Nickel-plated brass Type of mounting Either: Via male thread With accessories Mounting position Product weight At 5 g Material contact with the medium Material in contact with the medium Bisplay type LED indicator Ready status indication Setting status indication Setting status indication Setting status indication Fortection against tampering Protection against tampering Degree of protection Degree of protection Degree of protection Degree of protection Person of the side of th | Electrical connection 1, connector system | M12x1, A-coded to EN 61076-2-101 |
| Electrical connection 1, compatible type of mounting Compatible with rotatable screw-type lock Material connector housing Nickel-plated brass Type of mounting Either: Via male thread with accessories Mounting position optional Pneumatic connection Male thread G1/8 Product weight 45 g Material housing PA-reinforced Material in contact with the medium Stainless steel NBR PA-reinforced Display type LED indicator Ready status indication Green LED Switching status indication Yellow LED Setting options 10-Link® Teach-in reach-in reach-in Protection against tampering 10-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 Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Electrical connection 1, number of connections/cores | 4 |
| Material connector housing Type of mounting Either: Via male thread With accessories Mounting position optional Pneumatic connection Male thread G1/8 Product weight 45 g Material housing Material in contact with the medium Marerial in contact with the medium Share Pareinforced Material in contact with the medium Material in contact with the medium Whaterial in contact with the | Electrical connection 1, type of mounting | · · · · · · · · · · · · · · · · · · · |
| Type of mounting Either: Via male thread With accessories Mounting position optional Pneumatic connection Male thread G1/8 Product weight 45 g Material housing PA-reinforced Material in contact with the medium Stainless steel NBR PA-reinforced Display type LED indicator Ready status indication Green LED Switching status indication Yellow LED Setting options IO-Link® 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. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Electrical connection 1, compatible type of mounting | Compatible with rotatable screw-type lock |
| Mounting positionVia male thread With accessoriesMounting positionoptionalPneumatic connectionMale thread G1/8Product weight45 gMaterial housingPA-reinforcedMaterial in contact with the mediumStainless steel NBR PA-reinforcedDisplay typeLED indicatorReady status indicationGreen LEDSwitching status indicationYellow LEDSetting optionsIO-Link® Teach-inProtection against tamperingIO-LinkSetting range threshold value0%100%Setting range hysteresis0%90%Degree of protectionIP65Corrosion resistance class CRC2 · Moderate corrosion stressLABS (PWIS) conformityVDMA24364-B1/B2-LSuitability for the production of Li-ion batteriesMetals with more than 1% by mass of copper are excluded from use. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Material connector housing | Nickel-plated brass |
| Pneumatic connection Male thread G1/8 Product weight 45 g Material housing PA-reinforced Material in contact with the medium Stainless steel NBR PA-reinforced Display type LED indicator Ready status indication Green LED Switching status indication Yellow LED Setting options IO-Link® 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. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Type of mounting | Via male thread |
| Product weight 45 g Material housing PA-reinforced Material in contact with the medium Stainless steel NBR PA-reinforced Display type LED indicator Ready status indication Green LED Switching status indication Yellow LED Setting options IO-Link® 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. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Mounting position | optional |
| Material housing PA-reinforced Material in contact with the medium Stainless steel NBR PA-reinforced Display type LED indicator Ready status indication Green LED Switching status indication Yellow LED Setting options IO-Link® 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. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Pneumatic connection | Male thread G1/8 |
| Material in contact with the medium Stainless steel NBR PA-reinforced Display type LED indicator Green LED Switching status indication Yellow LED Setting options IO-Link® Teach-in Protection against tampering IO-Link Setting range threshold value O %100 % Setting range hysteresis O %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. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Product weight | 45 g |
| NBR PA-reinforced Display type LED indicator Ready status indication Green LED Switching status indication Yellow LED Setting options IO-Link® Teach-in Protection against tampering IO-Link Setting range threshold value O %100 % Setting range hysteresis O %90 % Degree of protection IP65 Corrosion resistance class CRC 2 - Moderate corrosion stress LABS (PWIS) conformity WDMA24364-B1/B2-L Suitability for the production of Li-ion batteries Metals with more than 1% by mass of copper are excluded from use. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Material housing | PA-reinforced |
| Ready status indication Switching status indication Yellow LED Setting options IO-Link® 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. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Material in contact with the medium | NBR |
| Switching status indication Yellow LED Setting options IO-Link® Teach-in Protection against tampering IO-Link Setting range threshold value O %100 % Setting range hysteresis O %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. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Display type | LED indicator |
| Setting options IO-Link® Teach-in | Ready status indication | Green LED |
| Teach-in Protection against tampering IO-Link Setting range threshold value O %100 % Setting range hysteresis O %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. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Switching status indication | Yellow LED |
| 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. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Setting options | |
| 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. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Protection against tampering | IO-Link |
| Degree of protection IP65 Corrosion resistance class CRC 2 - Moderate corrosion stress 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. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Setting range threshold value | 0 %100 % |
| 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. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Setting range hysteresis | 0 %90 % |
| 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. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Degree of protection | IP65 |
| Suitability for the production of Li-ion batteries Metals with more than 1% by mass of copper are excluded from use. Exceptions are printed circuit boards, cables, electrical plug connectors and coils | Corrosion resistance class CRC | 2 - Moderate corrosion stress |
| Exceptions are printed circuit boards, cables, electrical plug connectors and coils | LABS (PWIS) conformity | VDMA24364-B1/B2-L |
| Cleanroom class Class 4 according to ISO 14644-1 | Suitability for the production of Li-ion batteries | Exceptions are printed circuit boards, cables, electrical plug connectors |
| | Cleanroom class | Class 4 according to ISO 14644-1 |