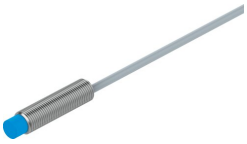
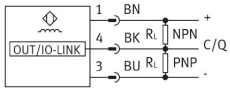
# Proximity switch
# SOIA-M8PNB-PNLK-LE

Part number: 8161196






## Data sheet

| Feature | Value |
|---|---|
| Design | Round |
| Conforms to standard | EN 60947-5-2 |
| Approval | 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 |
| Measured variable | Position<br>Displacement |
| Measuring principle | Inductive |
| Measurement method | Distance sensor |
| Rated operating distance | 0 mm...4 mm |
| Note on rated operating distance | SSC1.SP1: 3.4 mm<br>SSC2.SP1: 2.0 mm<br>Factory setting |
| Displacement measuring range | 0 mm...4 mm |
| Ambient temperature | -25 °C...70 °C |
| Displacement resolution | 0.01 mm |
| Repetition accuracy | ±0.04 mm |
| Temperature drift | ±10% |
| Switching output | PNP/NPN, switchable<br>Push-pull |
| Switching element function | Switchable |
| Note on hysteresis | Factory setting: 5% FS |
| Hysteresis | 1 %FS...20 %FS |
| Switch-on time | 100 ms |
| Measurement range speed | 1 mm/s...1100 mm/s |
| Accuracy speed | +/- 20% FS |
| Repetition accuracy speed | +/- 5% FS |
| Acceleration value range | -3270 m/s²...3270 m/s² |
| Max. switching frequency | 1400 Hz |
| Max. output current | 100 mA |

| Feature | Value |
|---|---|
| Voltage drop | 1 V |
| Inductive protective circuit | Integrated |
| Min. load current | 0 mA |
| Off-state current | 0.03 mA |
| Short circuit current rating | Pulsed |
| Overload protection | Available |
| Protocol | IO-Link® |
| IO-Link, revision ID | V1.1 |
| IO-Link, device profile | Function Object detection<br>Function Product URI<br>Function Teach two values<br>Identification and diagnostics<br>Smart Sensor - SSP 4.1.1 |
| IO-Link, transmission rate | COM2 |
| IO-Link, SIO-Mode support | Yes |
| IO-Link, port type | Class A |
| IO-Link, process data length input | 32 bit |
| IO-Link, Process data content IN | Distance measurement 16 bit MDC<br>Distance monitoring 2 bit SSC<br>Maintenance warning 1 bit DSC<br>Motion diagnostic 2 bit DSC |
| IO-Link, Service data IN | Acceleration averages 32 bit<br>Acceleration range 32 bit<br>Acceleration value 16 bit<br>Maintenance monitor operating time 32 bit<br>Maintenance monitor measurement 96 bit<br>Maintenance monitor temperature 64 bit<br>Maintenance diagnostic 7 bit<br>Maintenance monitor SSC 64 bit<br>Speed 1 averages 32 bit<br>Speed 1 value 16 bit<br>Velocity 1 value range 32 bit<br>Speed 2 averages 32 bit<br>Speed 2 value 16 bit<br>Velocity 2 value range 32 bit |
| IO-Link, minimum cycle time | 3.2 ms |
| IO-Link, Data storage required | 308 Byte |
| Operational voltage range DC | 10 V...30 V |
| Residual ripple | 20% |
| Reverse polarity protection | Yes |
| Electrical connection 1, connection type | Cable |
| Electrical connection 1, number of connections/cores | 3 |
| Cable length | 2.5 m |
| Cable sheath colour | Grey |
| Material cable sheath | PUR |
| Cable diameter | 2.9 mm |
| Nominal cross section conductor | 0.14 mm² |
| Size | M8 |
| Type of mounting | Via lock nut |
| Tightening torque | 0 Nm...3 Nm |
| Mounting type | Not flush |
| Product weight | 38 g |
| Housing colour | Blue<br>Grey |
| Material housing | Brass<br>PBT |
| Material locknut | Brass |
| Reference material | 12 mm x 12 mm x 1 mm<br>Structural steel, 1.0037, S235JR |

| Feature | Value |
|---|---|
| Switching status indication | Yellow LED |
| Storage temperature | -40 °C...85 °C |
| Degree of protection | IP65<br>IP67 |
| Immunity to magnetic fields | < 50 µT |
| Corrosion resistance class CRC | 3 - high corrosion stress |
| LABS (PWIS) conformity | VDMA24364-B2-L |