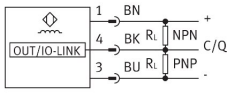
Proximity switch
SOIA-M12PNB-PNLK-M12

Part number: 8161201





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 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	Position Displacement
Measuring principle	Inductive
Measurement method	Distance sensor
Rated operating distance	0 mm...7 mm
Note on rated operating distance	SSC1.SP1: 5.95 mm SSC2.SP1: 3.5 mm Factory setting
Displacement measuring range	0 mm...7 mm
Ambient temperature	-25 °C...70 °C
Displacement resolution	0.01 mm
Repetition accuracy	±0.07 mm
Temperature drift	±10%
Switching output	PNP/NPN, switchable Push-pull
Switching element function	Switchable
Note on hysteresis	Factory setting: 5% FS
Hysteresis	1 %FS...20 %FS
Linearity error in ± %FS	3 %
Switch-on time	100 ms
Measurement range speed	1 mm/s...2100 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

Feature	Value
Max. output current	100 mA
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 Function Product URI Function Teach two values Identification and diagnostics 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 Distance monitoring 2 bit SSC Maintenance warning 1 bit DSC Motion diagnostic 2 bit DSC
IO-Link, Service data IN	Acceleration averages 32 bit Acceleration range 32 bit Acceleration value 16 bit Maintenance monitor operating time 32 bit Maintenance monitor measurement 96 bit Maintenance monitor temperature 64 bit Maintenance diagnostic 7 bit Maintenance monitor SSC 64 bit Speed 1 averages 32 bit Speed 1 value 16 bit Velocity 1 value range 32 bit Speed 2 averages 32 bit Speed 2 value 16 bit 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%
No-load supply current	17 mA
Reverse polarity protection	Yes
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	3
Electrical connection 1, type of mounting	Screw-type lock Not rotatable
Size	M12
Type of mounting	Via lock nut
Tightening torque	0 Nm...10 Nm
Mounting type	Not flush
Product weight	20 g
Housing colour	Blue Grey
Material housing	Brass PBT
Material locknut	Brass
Reference material	24 mm x 24 mm x 1 mm Structural steel, 1.0037, S235JR
Switching status indication	Yellow LED

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