

Retroflective sensing sensor, Sn=2m, 4L, 10-30VDC, NPN, PNP, M18, insulated material, M12



Part no. LSO-R18P-B2000-PD Article no. 281986 Catalog No. -

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Basic function			Optical proximity switches
Part group reference			LSO
Product range			Reflected-light barrier
Description			For combination with light-barrier reflector
Operating range	S_{d}	mm	2000
Style		mm	M18 x 1
Housing			Insulated material
Terminal connection			Plug-in connection M12 x 1
Maximum load current	I _e	mA	150

Technical data

General

Standards	IEC/EN 60947-5-2	
Ambient temperature	40 - +70	
Degree of Protection	IP67	
Characteristics		
Range	mm 2000	

Range		mm	2000
Rated operating voltage	U _e	V DC	10 - 30
Maximum load current	I _e	mA	< 150
Operating current in the switched state at 24 V DC	I _b	mA	25
Max. operating frequency (resistive load)	f	Hz	≦ ₁₆₀
Overcurrent release		mA	220
Readiness delay	t_v	ms	100
Switching state display		LED	Yellow
Alarm display		LED	Yellow, flashing
Operating voltage display		LED	red
Fault display		LED	Green, flashing
Short-circuit and reverse polarity protection			•
Output function			Programmable
Style			
Threaded barrel		mm	M18 x 1
Connection options			
Cable, open			•
Connector M12, "A"-keyed			•
Enclosure material			

PBT

5

25

Nm

Nm

Stainless steel 1.4301

Metal Notes

Plastic

Metal

Plastic

Switching range S_d [mm] with LSO

Enclosure nut tightening torque

The switching range is defined conform to IEC/EN 60947-5-2. It relates to reflected-light beams on a white paper card with a 90 % degree of reflection and

- 100 mm edge length with $S_d < 400 \ mm$
- 200 mm edge length with $S_d \stackrel{}{=} 400$ mm

Correction factor with LSO as an optical sensor:

Paper, matt white, 200 g/m 2 1.0 x S_d Metal, gloss 1.2...1.6 x S_d Aluminium, black anodized 1.1...1.8 x S_d

Expanded polystyrene, white 1 x S_d

Cotton, white 0.6 x $\ensuremath{\text{S}}_d$

PVC, grey $0.5 \times S_d$

Wood, untreated 0.4 x S_d

Carton, black, gloss $0.3 \times S_d$

Carton, black, matt 0.1 x S_d

Short-circuit protection monitored

DC-operated proximity switches are proof against short-circuit. The device is not damaged by the effects of a short-circuit. No matter how long its duration. Once the fault has been cleared, the switch is immediately ready for operation again.

Design verification as per IEC/EN 61439

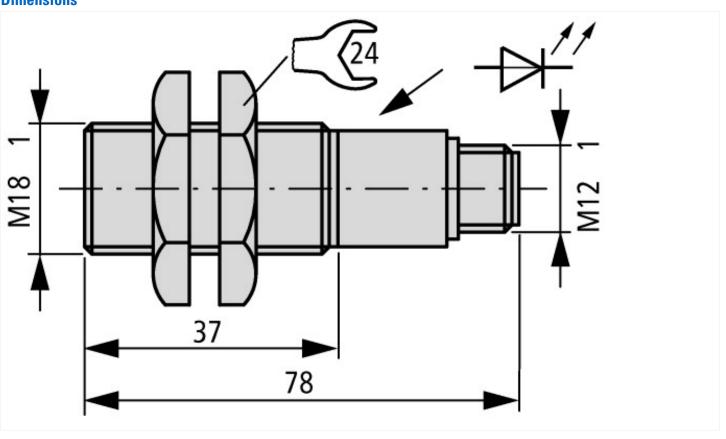
Technical data for design verification		
Operating ambient temperature min.	°C	40
Operating ambient temperature max.	°C	70

Technical data ETIM 6.0

Sensors (EG000026) / Reflection light barrier (EC002717)			
Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Optoelectronic sensor / Reflection light barrier (ecl@ss8.1-27-27-09-02 [AKP251010])			
Pre failure notice		No	
Nith time function		No	
Rated switching distance	mm	2000	
Max. switching distance	mm	2000	
Max. output current	mA	150	
Reflector included		No	
Analogue output 0 V 10 V		No	
Analogue output 0 mA 20 mA		No	
Analogue output 4 mA 20 mA		No	
Analogue output -10 V +10 V		No	
Nith other analog output		No	
Setting procedure		Manual adjustment	
Vith communication interface analog		No	
Vith communication interface AS-Interface		No	
Vith communication interface CANOpen		No	
Vith communication interface DeviceNet		No	
Nith communication interface Ethernet		No	
Vith communication interface INTERBUS		No	
Vith communication interface PROFIBUS		No	
Vith communication interface RS-232		No	
Vith communication interface RS-422		No	
Vith communication interface RS-485		No	
Nith communication interface SSD		No	
Vith communication interface SSI		No	
lumber of semiconductor outputs with signalling function		0	
lumber of contact energized outputs with signalling function		0	
lumber of protected semiconductor outputs		0	
lumber of protected contact energized outputs		0	
ype of interface for safety communication		-	
Type of electric connection		Connector M12	
Type of switching output		PNP	
ype of switch function		Programmable/configurable	

Explosion safety category for dust None Construction type housing Vinder, screw-thread Width sensor mm 0 Height of sensor mm 0 Length of sensor mm 59 Watterial of optical surface mm 59 Material of optical surface mm 9 Material of optical surface mm 0 Material profected output mm 0 Max. output current at profected output mm 0 Min. reflector distance mm 0 Min. reflector distance ms 0 Min. reflector distance ms 0 Min. reflector distance ms 0 Ambient temperature ms 0 Time of reaction ms 10 Tomansission range of the safety field ms 10 Switching voltage use at K5 6HZ t 0 Switching voltage use at AC 50HZ t 0 Rated control supply voltage Us at AC 50HZ t 0 R			
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Material housing Image: Company of the safety field output Max. output current at protected output mA 0 Min. reflector distance mm 0 40-70 Ambient temperature "C 40-70 Time of reaction ms 100 Transmission range of the safety field m 0 Switching frequency Hz 160 Type of safety acc. IEC 61496-1 V 0 Switching voltage of OSSD at state "high" V 0 Rated control supply voltage Us at AC 50HZ V 0 Rated control supply voltage Us at AC 60HZ V 0 Rated control supply voltage Us at AC 60HZ V 0 Rated control supply voltage Us at DC V 0 Voltage type DC With monitoring function downstream switching devices M No Laser protection class N No Wavelength of the sensor N Infrared light Type of light Infrared light Light dot N N With restart blockage	Switch function		-
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Voltage type With monitoring function downstream switching devices Laser protection class Wavelength of the sensor Type of light Light dot With restart blockage Suitable for safety functions DC No No No No No No No No No N	Rated control supply voltage Us at AC 60HZ	V	0 - 0
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Light dot mm² 0 With restart blockage No Suitable for safety functions No	Wavelength of the sensor	nm	0
With restart blockage No Suitable for safety functions No	Type of light		Infrared light
Suitable for safety functions No	Light dot	mm²	0
	With restart blockage		No
Degree of protection (IP) IP67	Suitable for safety functions		No
	Degree of protection (IP)		IP67

Dimensions



Additional product information (links)

AWA1360-2158 Optical Proximity Switches

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ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/21580404.pdf