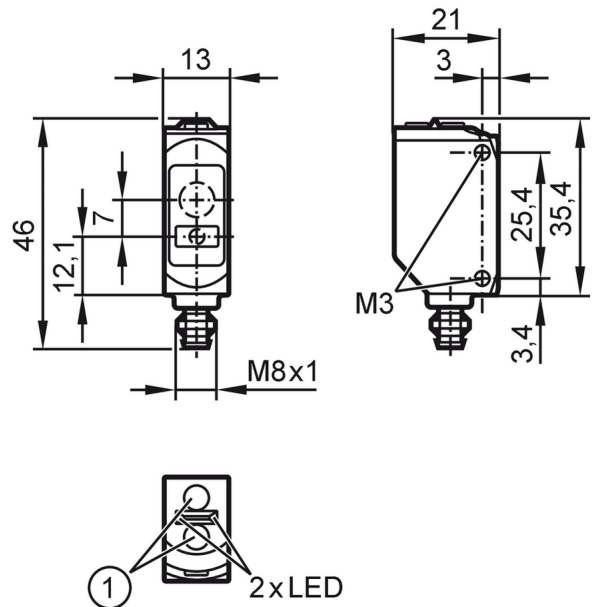




Diffuse reflection sensors with background suppression

O6HLFPKG/AS/4P



- 1 Programmieraste
Receiver in upper lens
transmitter in lower lens



Product characteristics

Type of light	red light
Laser protection class	1
Housing	rectangular

Application

Special feature	Background suppression
Function principle	Diffuse reflection sensor
Application	Industrial applications

Electrical data

Operating voltage	[V]	10...30 DC
Current consumption	[mA]	16; ((24 V))
Protection class		III
Reverse polarity protection		yes
Type of light		red light
Wave length	[nm]	650

Outputs

Electrical design		PNP
Output function		light-on/dark-on mode; (selectable)
Max. voltage drop switching output DC	[V]	2.5
Permanent current rating of switching output DC	[mA]	100
Switching frequency DC	[Hz]	1003
Short-circuit protection		yes



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Type of short-circuit protection	yes (non-latching)	
Monitoring range		
Range [mm]	1...200; (white paper 200 x 200 mm)	
Range on white object (90 % remission) [mm]	1...200	
Range on grey object (18 % remission) [mm]	8...170	
Range on black object (6 % remission) [mm]	12...100	
Max. light spot diameter [mm]	2.2	
Light spot dimensions refer to	at maximum range	
Background suppression available	yes	
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
Profiles	Smart Sensor - SSP 0	Generic Profiled Sensor
	Function	Device identification
	Function	Multiple switching signal
	Function	Process data variable
	Function	Device diagnosis
	Function	Teach channel
SIO mode	yes	
Required master port class	A	
Min. process cycle time [ms]	10	
IO-Link process data (cyclical)	Function	bit length
	process value	32
	device status	4
	binary switching information	1
IO-Link functions (acyclical)	application specific tag; operating hours counter; switch-on cycle counter	
Supported DeviceIDs	Type of operation	DeviceID
	default	1026
Operating conditions		
Ambient temperature [°C]	-10...60	
Protection	IP 65; IP 67	
Tests / approvals		
EMC	EN 60947-5-2	
Laser protection class	1	
Notes on laser protection	Caution:	Laser light
	laser class:	1
		EN / IEC60825-1:2007
		EN / IEC60825-1:2014
		Complies with 21 CFR 1040.10 except for conformance with IEC 60825-1 Ed. 3. as



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		described in Laser Notice No. 56, dated May 8, 2019.
MTTF	[years]	513
UL approval	Ta	-25...40 °C
	Enclosure type	Type 1
	voltage supply	Class 2
	File number UL	E174191

Mechanical data		
Weight	[g]	19.1
Housing		rectangular
Dimensions	[mm]	46 x 13 x 21
Material		housing: ABS orange; upper part of the housing: PPSU black; sealing: EPDM
Lens material		front lens:PMMA
Tightening torque	[Nm]	0.5; (screws)

Displays / operating elements		
Display	Switching status	1 x LED, yellow
	Power	1 x LED, green

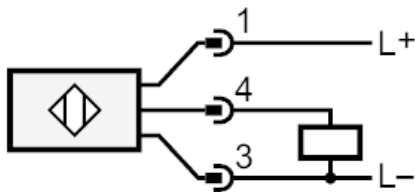
Remarks		
Remarks		cULus - Class 2 source required
Pack quantity		1 pcs.

Electrical connection

Connector: 1 x M8; coding: A; Contacts: 4



Connection





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Other data

Repeatability / precision: 6 σ

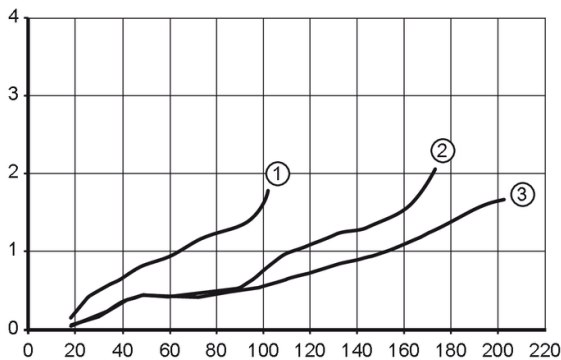
	Repeatability of the measured values	
Abstand	white (90 % remission)	black (6 %...90 % remission)
20 mm	0.1 mm	0.5 mm
100 mm	0.5 mm	2.0 mm
200 mm	4 mm	OL
	Accuracy	
Abstand	white (90 % remission)	black (6 %...90 % remission)
20 mm	± 1.0 mm	± 1.3 mm
100 mm	± 5.0 mm	± 6.5 mm
200 mm	± 20.0 mm	OL

The values apply at

Extraneous light on the object < 10 klx

Diagrams and graphs

Background suppression chart

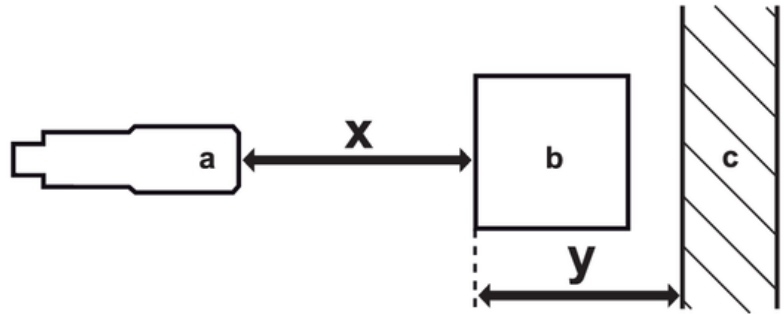


- x: distance sensor/object [mm]
y: min. distance object/background [mm]
1 = object black (6 % remission) , Background white (90 % remission)
2 = object grey (18 % remission) , Background white (90 % remission)
3 = object white (90 % remission) , Background white (90 % remission)



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- a: sensor
- b: object
- c: background
- x: distance sensor/object [mm]
- y: min. distance object/background [mm]