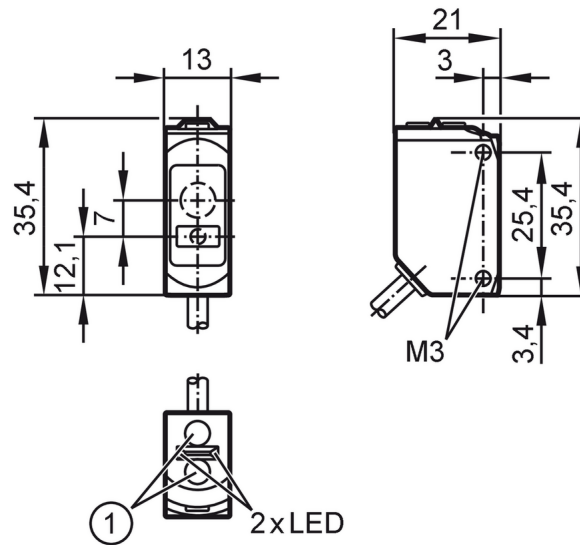


O6H701



Diffuse reflection sensor with background suppression

O6HLFPKG/0,30m/US



- 1 Programmiertaste
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 / factory automation

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]	1000
Short-circuit protection		yes
Type of short-circuit protection		pulsed

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Detection zone	
Range	[mm] 1...100; (white paper 200 x 200 mm)
Range on white object (90 % remission)	[mm] 1...100
Range on grey object (18 % remission)	[mm] 8...100
Range on black object (6 % remission)	[mm] 12...100
Range adjustable	yes
Max. light spot diameter	[mm] 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 type	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	526

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 described in Laser Notice No. 56, dated May 8, 2019.

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MTTF	[years]	513
UL approval	Ta	-25...50 °C
	Enclosure type	Type 1
	voltage supply	Class 2

Mechanical data		
Weight	[g]	33.8
Housing		rectangular
Dimensions	[mm]	35.4 x 13 x 21
Materials		housing: ABS; PPSU; Sealing: EPDM
Lens material		front pane:PMMA
Lens alignment		side lens
Tightening torque	[Nm]	0.5; (screws)

Displays / operating elements		
Display	switching status	1 x LED, yellow
	operation	1 x LED, green

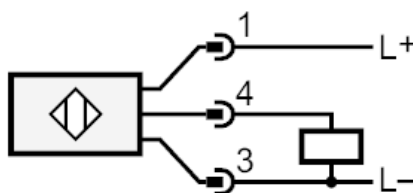
Remarks		
Remarks		operating voltage "supply class 2" according to cULus
Pack quantity		1 pcs.

Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4



Connection



4 OUT / IO-Link

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Electrical connection - plug

Cable: 0.3 m, PUR, black, Ø 3.7 mm; 3 x 0.25 mm²

Other data

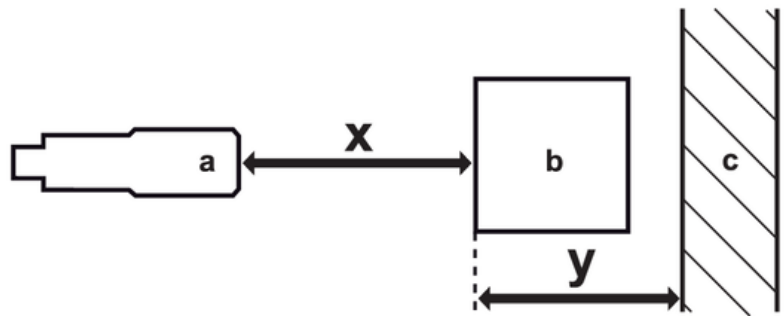
Repeatability / precision: 6 σ

	repeatability of the measured values	
distance	white (90 % remission)	black (6 %...90 % remission)
20 mm	0.1 mm	0.5 mm
50 mm	0.2 mm	1.0 mm
100 mm	0.5 mm	2.0 mm
	accuracy	
distance	white (90 % remission)	black (6 %...90 % remission)
20 mm	± 0.6 mm	± 0.9 mm
50 mm	± 1.5 mm	± 2.0 mm
100 mm	± 3.0 mm	± 4.0 mm

The values apply at

Extraneous light on the object	< 10 klx
constant ambient conditions	23 °C / 960 hPa
minimum power-on time in minutes	10
IO-Link - measuring mode	

Diagrams and graphs



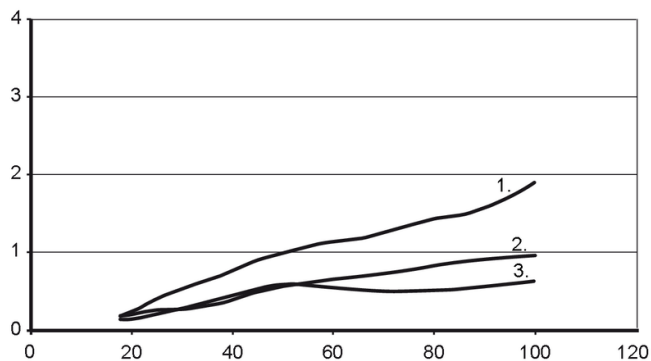
- a: sensor
- b: object
- c: background
- x: distance sensor/object [mm]
- y: min. distance object/background [mm]

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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)