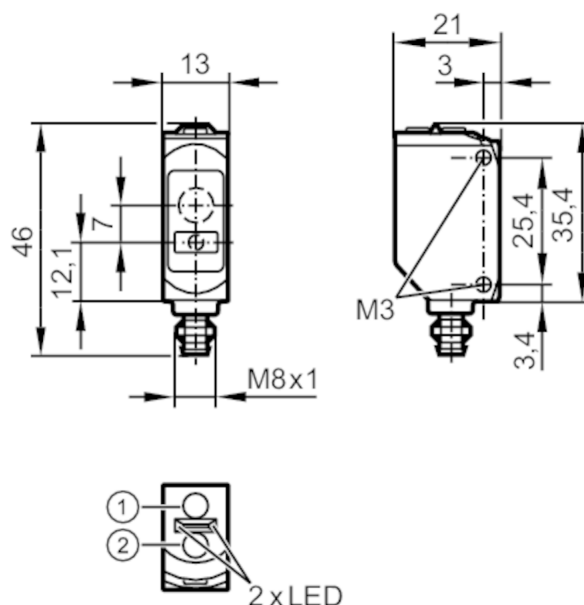


Diffuse reflection sensor with background suppression

O6HLFPKG/AS/4P



- 1 Programmieraste
receiver in upper lens
transmitter in lower lens



Product characteristics

Type of light	red light
Communication interface	IO-Link
Laser protection class	1
Housing	rectangular
Dimensions [mm]	46 x 13 x 21

Application

Special feature	Background suppression
Function principle	Diffuse reflection sensor

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



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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
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: Device Identification; Device Diagnosis; Teach Channel; Switching Channel; Process Data Variable
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



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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 except for deviations pursuant to Laser Notice No. 50, dated June 2007.
MTTF	[years]	513
Mechanical data		
Weight	[g]	19.5
Housing	rectangular	
Dimensions	[mm]	46 x 13 x 21
Materials	housing: ABS; PPSU; Sealing: EPDM	
Lens material	PMMA	
Lens alignment	side lens	
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 M8		
		

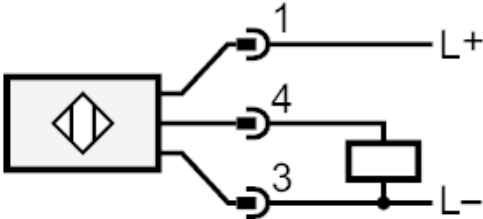
O6H702



Diffuse reflection sensor with background suppression

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Connection



4 OUT / IO-Link

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
50 mm	0.2 mm	1.0 mm
100 mm	05 mm	2.0 mm
	Accuracy	
Abstand	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

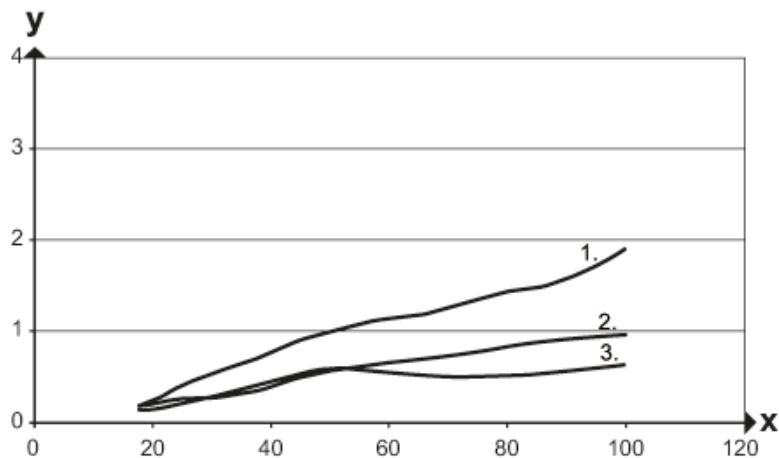
IO-Link - measuring mode



Diffuse reflection sensor with background suppression

O6HLFPKG/AS/4P

Diagrams and graphs



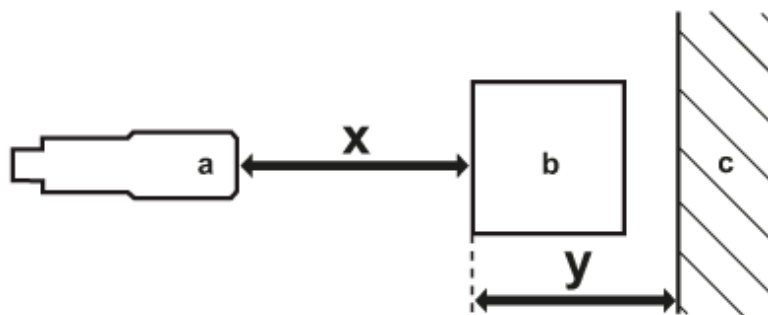
x: distance sensor/object [mm]

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)



a: sensor

b: object

c: background

x: distance sensor/object [mm]

y: min. distance object/background [mm]