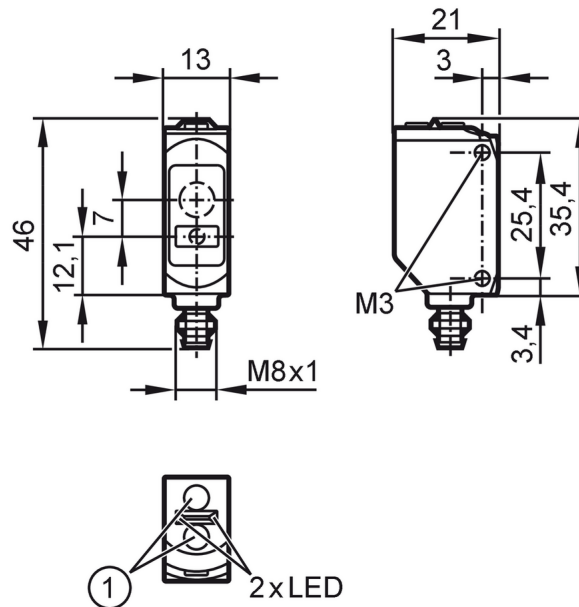


# O6H702



## 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
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



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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)	<b>function</b>	<b>bit length</b>
	process value	32
	device status	4
IO-Link functions (acyclical)	binary switching information	1
	application specific tag; operating hours counter; switch-on cycle counter	
Supported DeviceIDs	<b>Type of operation</b>	<b>DeviceID</b>
	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



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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

### Mechanical data

Weight	[g]	19.5
Housing		rectangular
Dimensions	[mm]	46 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

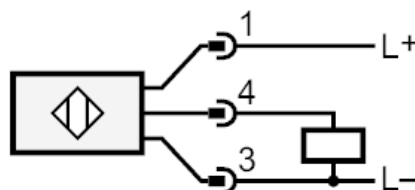
Remarks	operating voltage "supply class 2" according to cULus
Pack quantity	1 pcs.

### Electrical connection

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



### Connection



4 OUT / IO-Link



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### Other data

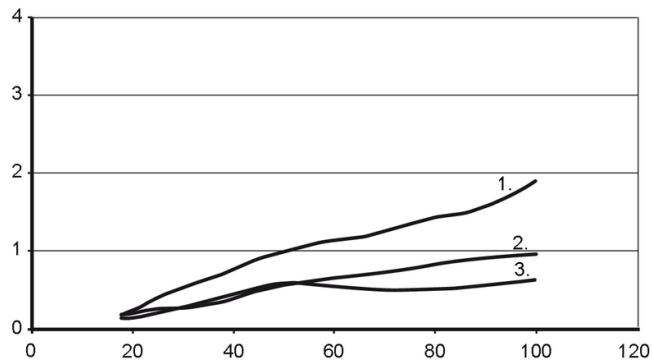
#### Repeatability / precision: 6 $\sigma$

	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	$\pm 0.6$ mm	$\pm 0.9$ mm
50 mm	$\pm 1.5$ mm	$\pm 2.0$ mm
100 mm	$\pm 3.0$ mm	$\pm 4.0$ 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

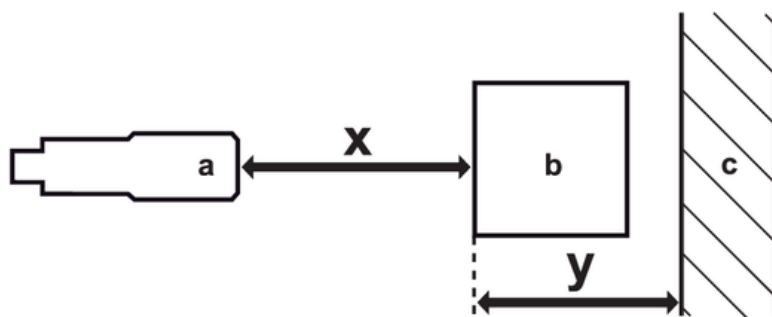


- x: distance sensor/object [mm]  
 y: min. distance object/background [mm]  
 1 = object black (6 % remission) , background white (90 % remission)  
 2 = object grey (18 % remission) , background white (90 % remission)  
 3 = object white (90 % remission) , background white (90 % remission)



## Diffuse reflection sensor with background suppression

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a: sensor

b: object

c: background

x: distance sensor/object [mm]

y: min. distance object/background [mm]