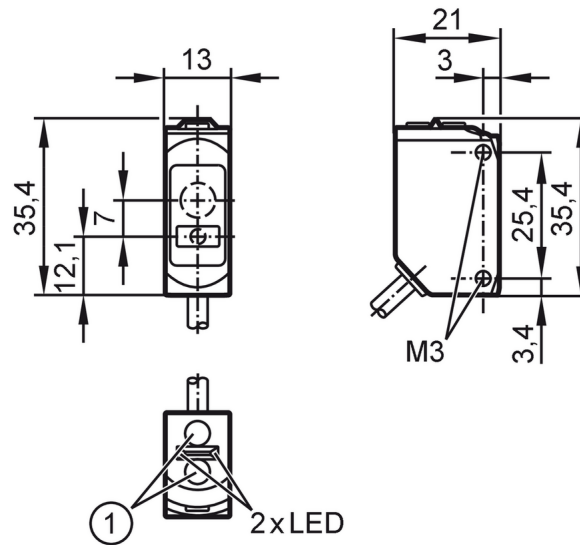


# O6H706



## Diffuse reflection sensor with background suppression

O6HLFPKG



- 1 Programmier-  
taste  
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]	1001
Short-circuit protection		yes
Type of short-circuit protection		pulsed



## Diffuse reflection sensor with background suppression

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Detection zone									
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 type	A								
Min. process cycle time	[ms] 10								
IO-Link process data (cyclical)	<table border="1"> <thead> <tr> <th>function</th> <th>bit length</th> </tr> </thead> <tbody> <tr> <td>process value</td> <td>32</td> </tr> <tr> <td>device status</td> <td>4</td> </tr> <tr> <td>binary switching information</td> <td>1</td> </tr> </tbody> </table>	function	bit length	process value	32	device status	4	binary switching information	1
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	<table border="1"> <thead> <tr> <th>Type of operation</th> <th>DeviceID</th> </tr> </thead> <tbody> <tr> <td>default</td> <td>1026</td> </tr> </tbody> </table>	Type of operation	DeviceID	default	1026				
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	<p>Caution: laser light</p> <p>laser class: 1</p> <p>EN / IEC60825-1:2007</p> <p>EN / IEC60825-1:2014</p> <p>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.</p>								
MTTF	[years] 513								

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UL approval	Ta	-25...60 °C
	Enclosure type	Type 1
	voltage supply	Class 2
	File number UL	E174191

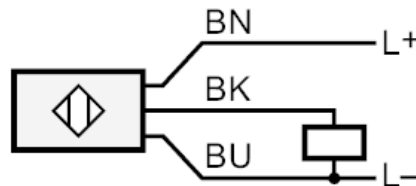
Mechanical data		
Weight [g]		60.5
Housing		rectangular
Dimensions [mm]		35.4 x 13 x 21
Materials	housing: ABS orange; upper part of the housing: PPSU black; Sealing: EPDM	
Lens material		front pane:PMMA
Tightening torque [Nm]		0.5; (screws)

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**  
Cable: 2 m, PUR, black, Ø 3.7 mm; 3 x 0.25 mm<sup>2</sup>

### Connection



black            OUT / IO-Link  
Core colours :  
BK =            black  
BN =            brown  
BU =            blue



## Diffuse reflection sensor with background suppression

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### Other data

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

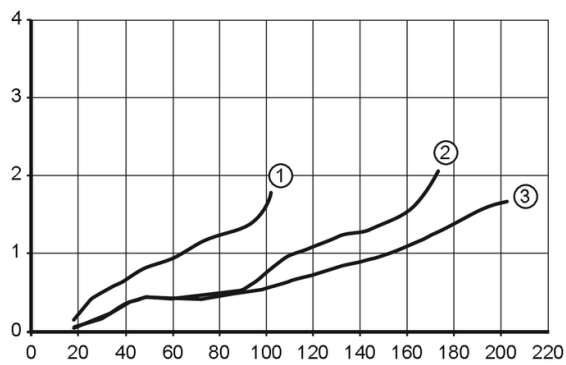
repeatability of the measured values		
Abstand	white (90 % remission)	black (6 %...90 % remission)
20 mm	0.1 mm	0.5 mm
100 mm	0.5 mm	2.0 mm
200 mm	4 mm	OL
accuracy		
Abstand	white (90 % remission)	black (6 %...90 % remission)
20 mm	$\pm 1.0$ mm	$\pm 1.3$ mm
100 mm	$\pm 5.0$ mm	$\pm 6.5$ mm
200 mm	$\pm 20.0$ mm	OL

The values apply at

Extraneous light on the object  $< 10$  klx

### Diagrams and graphs

accuracy graph



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)

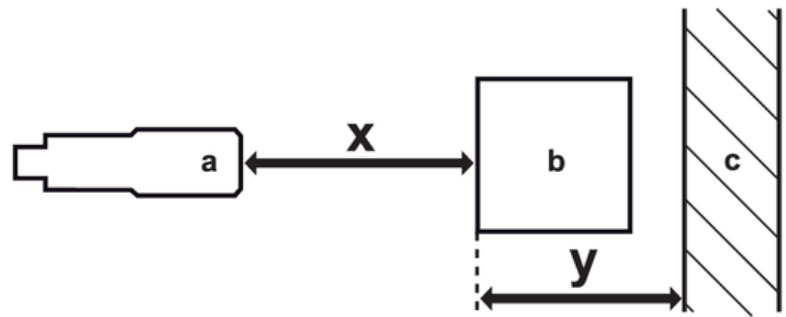
3 = object white (90 % remission) , background white (90 % remission)

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## Diffuse reflection sensor with background suppression

O6HLFPKG



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