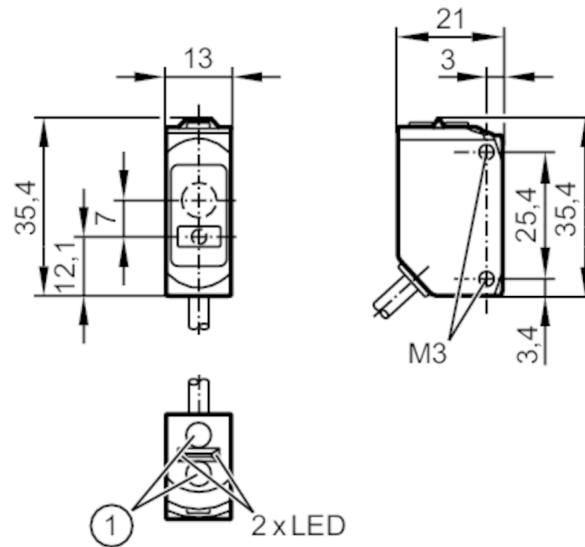


# O6H704



## Diffuse reflection sensor with background suppression

O6HLFNKG/0,30m/US



- 1 Programmier-  
taste  
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]	35.4 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	NPN
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
IO-Link device ID	526 d / 00020E h
Profiles	Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channel; Process Data Variable
SIO mode	yes
Required master port type	A
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]	33.9	
Housing	rectangular	
Dimensions [mm]	35.4 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 - plug		
Cable: 0.3 m, PUR, black, Ø 3.7 mm; 3 x 0.25 mm <sup>2</sup>		
Connector: 1 x M12		
		

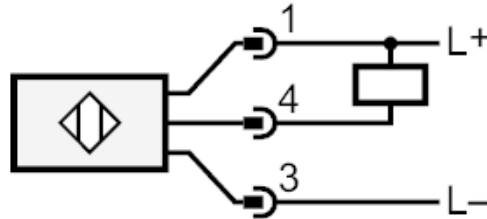
# O6H704



## Diffuse reflection sensor with background suppression

O6HLFNKG/0,30m/US

### Connection



4 OUT / IO-Link

### Other data

#### Repeatability: 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	0.5 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

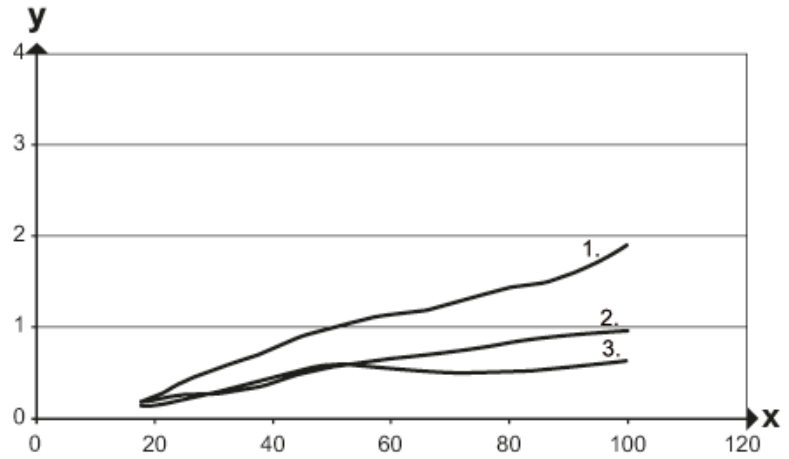
Extraneous light on the object	< 10 klx
constant ambient conditions	23 °C / 960 hPa
minimum power-on time in minutes	10
IO-Link - measuring mode	



## Diffuse reflection sensor with background suppression

O6HLFNKG/0,30m/US

### Diagrams and graphs



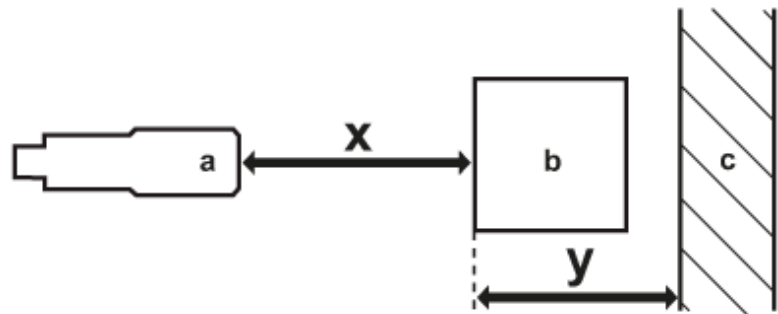
x: distance sensor/object [mm]

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]