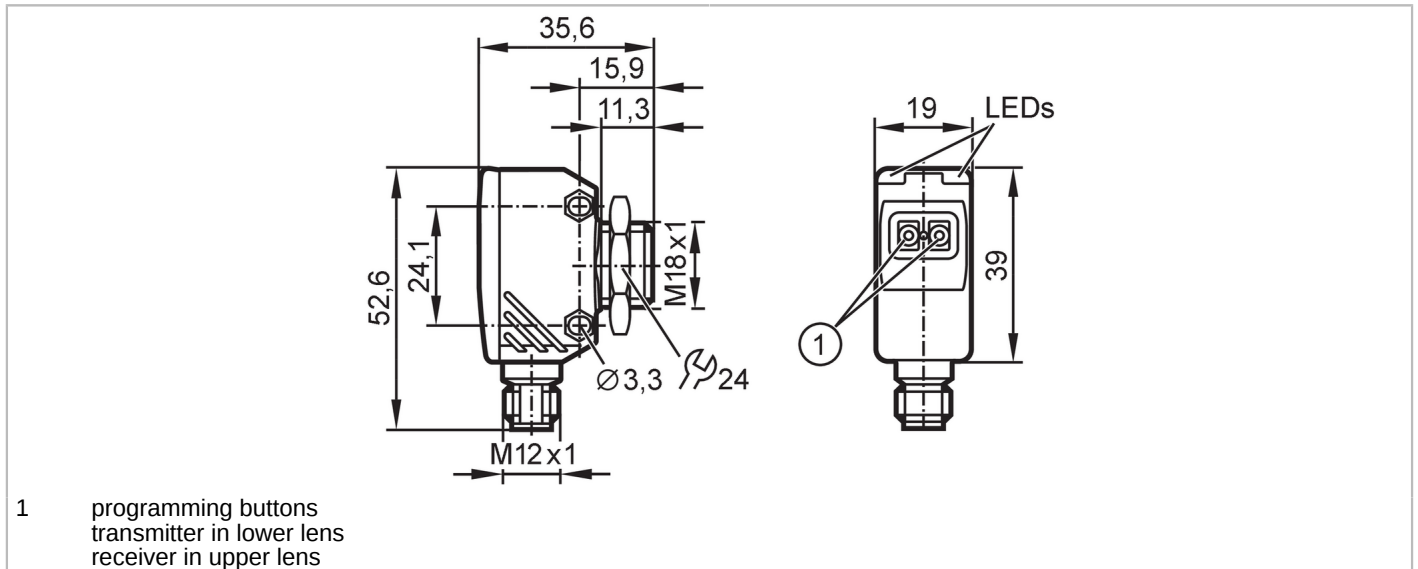


# OGH580



## Diffuse reflection sensor with background suppression

OGH-FPKG/US/CUBE



Product characteristics	
Type of light	red light
Housing	rectangular with M18 thread
Application	
Special feature	Background suppression
Function principle	Diffuse reflection sensor
Electrical data	
Operating voltage [V]	10...30 DC; ("supply class 2" to cULus)
Rated insulation voltage [V]	32
Current consumption [mA]	25
Protection class	III
Reverse polarity protection	yes
Max. power-on delay time [ms]	300
Type of light	red light
Wave length [nm]	645
Outputs	
Electrical design	PNP
Output function	light-on/dark-on mode; (programmable)
Max. voltage drop switching output DC [V]	2.5
Permanent current rating of switching output DC [mA]	200
Switching frequency DC [Hz]	1000
Short-circuit protection	yes
Type of short-circuit protection	pulsed
Detection zone	
Range [mm]	15...200; (white paper 200 x 200 mm 90% remission)



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Range on white object (90 % remission) [mm]	15...200
Range on grey object (18 % remission) [mm]	15...200
Range on black object (6 % remission) [mm]	15...200
Range adjustable	yes
Max. light spot diameter [mm]	13
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 3.1	Measuring Sensor
	Common - I&D	Identification and Diagnosis
	Function	Multiple switching signal
	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	16
	device status	4
	binary switching information	1
IO-Link functions (acyclical)	application specific tag; operating hours counter; switching cycles counter	
Supported DeviceIDs	<b>Type of operation</b>	<b>DeviceID</b>
	default	1164
Note	For further information please see the IODD PDF file under "Downloads"	

### Operating conditions

Ambient temperature [°C]	-25...60
Storage temperature [°C]	-40...60
Protection	IP 65; IP 67

### Tests / approvals

EMC	EN 60947-5-2	
MTTF [years]	782	
UL approval	Ta	-25...60 °C
	Enclosure type	Type 1
	power supply	Class 2
	File number UL	E174191

### Mechanical data

Weight [g]	60.5
Housing	rectangular with M18 thread
Dimensions [mm]	52.6 x 19 x 35.6
Thread designation	M18 x 1

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Materials	housing: diecast zinc; rear of the housing: PEI
Lens material	front pane:PEI
Lens alignment	side lens

Displays / operating elements		
Display	switching status	1 x LED, yellow
	operation	1 x LED, green
Operating elements	switch point	pushbutton
	Output function	pushbutton

Accessories	
Items supplied	lock nut: 1

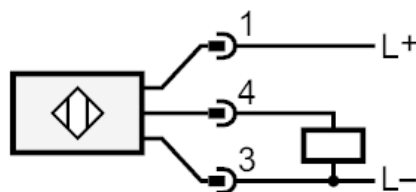
Remarks	
Pack quantity	1 pcs.

### Electrical connection

Connector: 1 x M12; coding: A



### Connection





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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	0.5 mm	1.0 mm
50 mm	0.8 mm	2.0 mm
100 mm	1.5 mm	4.5 mm
150 mm	3.0 mm	9.0 mm
200 mm	6.0 mm	20.0 mm
	accuracy	
Abstand	white (90 % remission)	black (6 %...90 % remission)
20 mm	$\pm 2.0$ mm	$\pm 2.5$ mm
50 mm	$\pm 3.5$ mm	$\pm 4.5$ mm
100 mm	$\pm 6.0$ mm	$\pm 7.5$ mm
150 mm	$\pm 7.5$ mm	$\pm 11.0$ mm
200 mm	$\pm 10.0$ mm	$\pm 17.0$ mm

The values apply at

Extraneous light on the object

< 10 klx

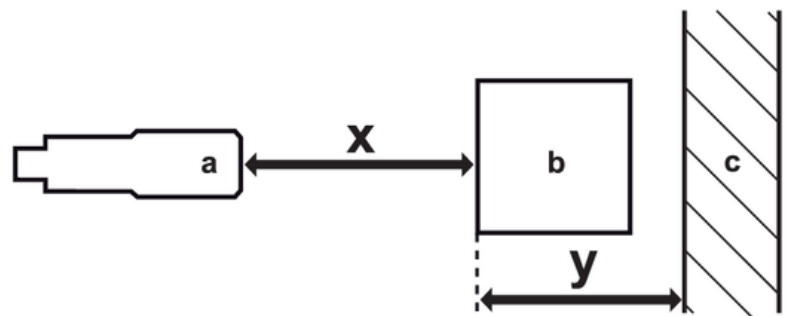
constant ambient conditions

23 °C / 960 hPa

minimum power-on time in minutes

10

### Diagrams and graphs



a: sensor

b: object

c: background

x: distance sensor/object [mm]

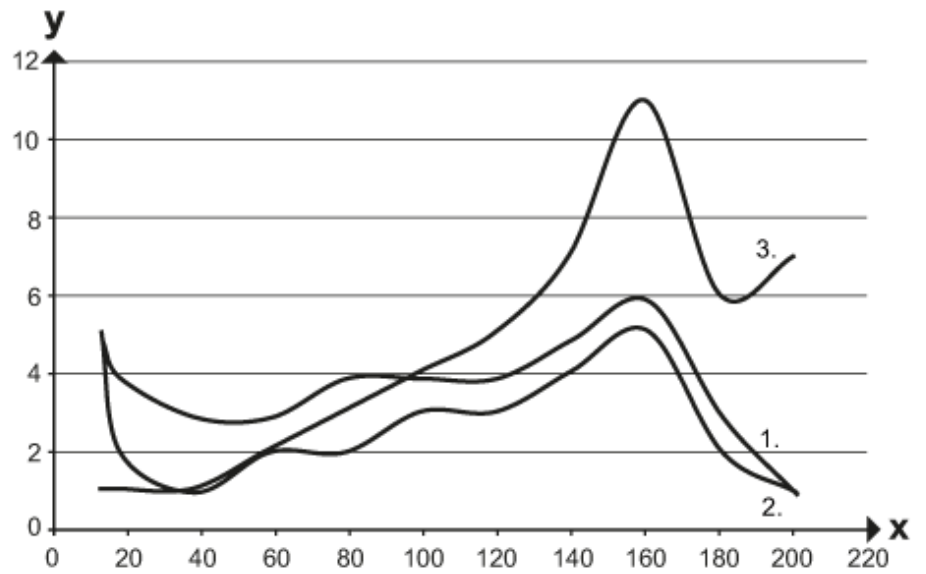
y: min. distance object/background [mm]



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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)