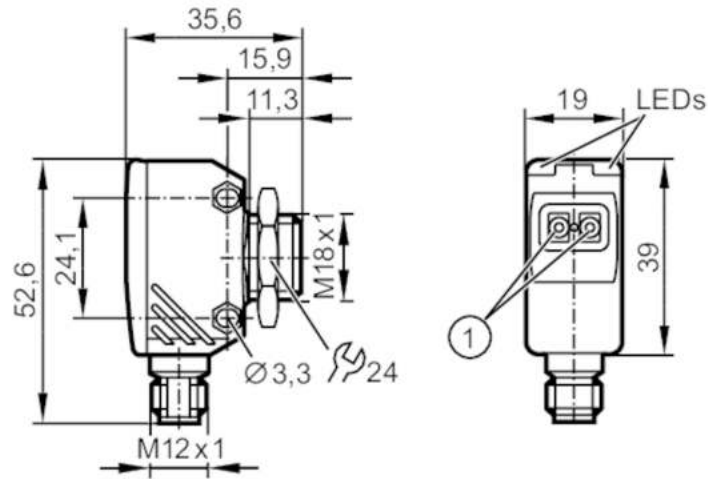


# OGH580



## Diffuse reflection sensor with background suppression

OGH-FPKG/US/CUBE



- 1 programming buttons  
transmitter in lower lens  
receiver in upper lens



### 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



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Detection zone		
Range	[mm]	15...200; (white paper 200 x 200 mm 90% remission)
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		Measuring Sensor, Identification and Diagnosis, Switching Signal Channel, Teach Channel
SIO mode		yes
Required master port type		A
Min. process cycle time	[ms]	10
IO-Link process data (cyclical)	function	bit length
	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	Type of operation	DeviceID
	Default	1132
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	diecast zinc; PEI
Lens material	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

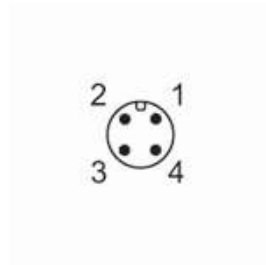
Items supplied	lock nut: 1
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### Remarks

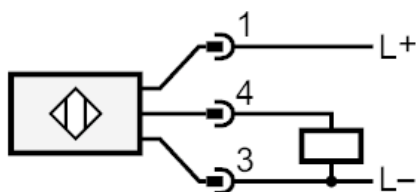
Pack quantity	1 pcs.
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### Electrical connection

Connector: 1 x M12; coding: A



### Connection





## Diffuse reflection sensor with background suppression

OGH-FPKG/US/CUBE

### 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

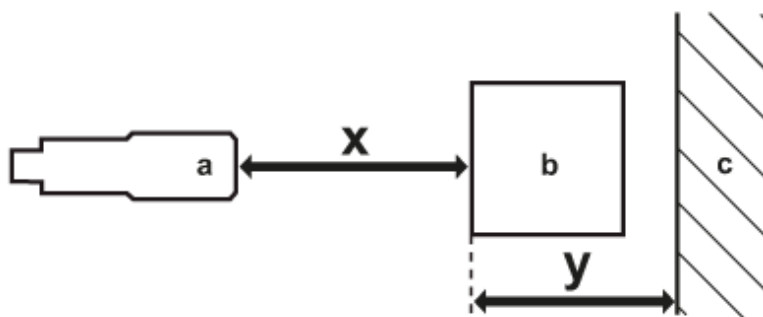
constant ambient conditions

23 °C / 960 hPa

minimum power-on time in minutes

10

### Diagrams and graphs



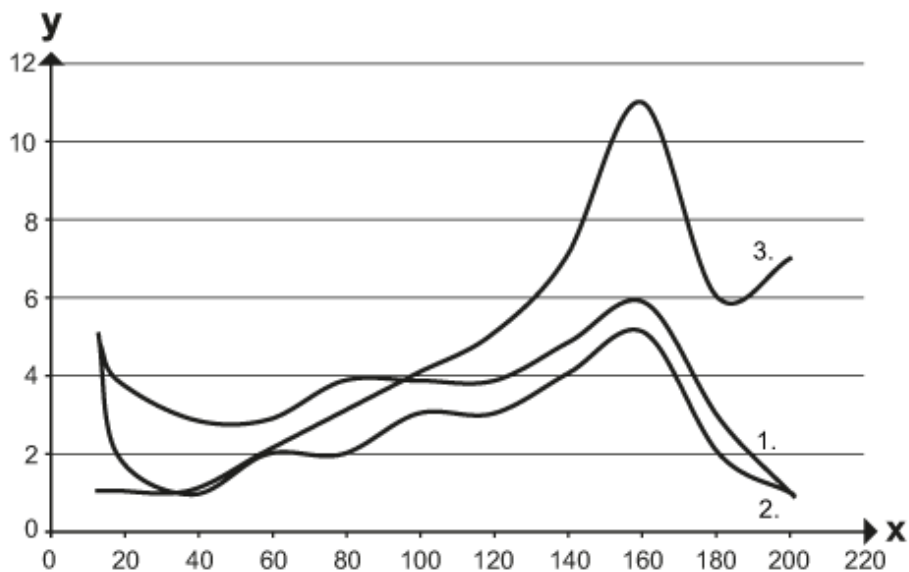
- a: sensor
- b: object
- c: background
- x: distance sensor/object [mm]
- y: min. distance object/background [mm]



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OGH-FPKG/US/CUBE

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)