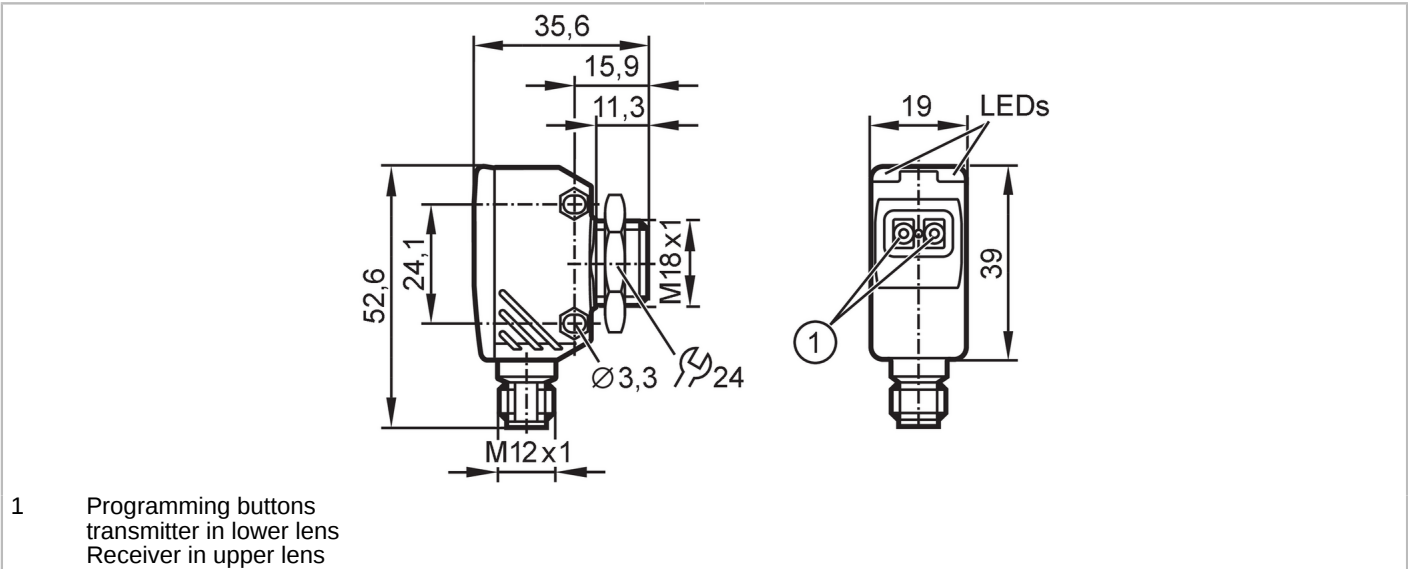




Diffuse reflection sensors with background suppression

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
Application	Industrial applications
Electrical data	
Operating voltage [V]	10...30 DC; (cULus - Class 2 source required)
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	yes (non-latching)



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Monitoring range		
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	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 class		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	1164
Note		For further information please see the IODD PDF file at "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
	voltage supply	Class 2
	File number UL	E174191
Mechanical data		
Weight	[g]	60.5
Housing		rectangular with M18 thread

OGH580



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Dimensions	[mm]	52.6 x 19 x 35.6
Thread designation		M18 x 1
Material		housing: diecast zinc; rear of the housing: PEI
Lens material		front lens:PEI
Lens alignment		Side sensing

Displays / operating elements		
Display	Switching status	1 x LED, yellow
	Power	1 x LED, green
Operating elements	Set point	pushbutton
	Output function	pushbutton

Accessories	
Items supplied	lock nut: 1

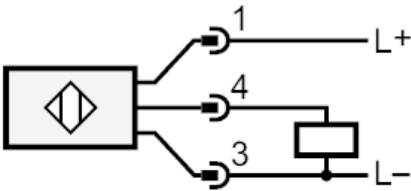
Remarks	
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4



Connection





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Other data

Repeatability / precision: 6 σ

	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	± 2.0 mm	± 2.5 mm
50 mm	± 3.5 mm	± 4.5 mm
100 mm	± 6.0 mm	± 7.5 mm
150 mm	± 7.5 mm	± 11.0 mm
200 mm	± 10.0 mm	± 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

The diagram illustrates the measurement setup for a diffuse reflection sensor. A sensor, labeled 'a', is positioned on the left. An object, labeled 'b', is positioned in the middle. A background, labeled 'c', is positioned on the right. The distance between the sensor 'a' and the object 'b' is indicated by a double-headed arrow labeled 'x'. The minimum distance between the object 'b' and the background 'c' is indicated by a double-headed arrow labeled 'y'. The background 'c' is represented by a vertical line with diagonal hatching.

a: sensor

b: object

c: background

x: distance sensor/object [mm]

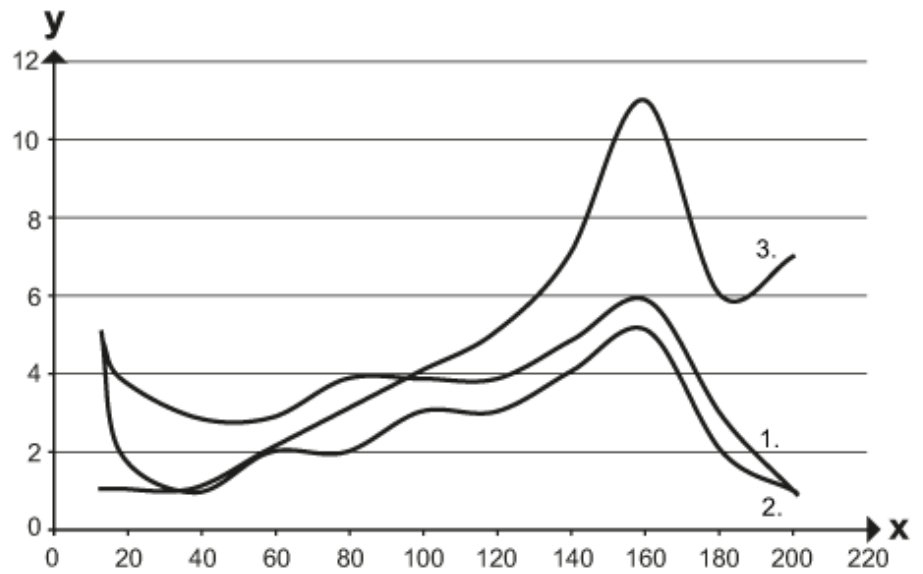
y: min. distance object/background [mm]



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Background suppression chart



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)