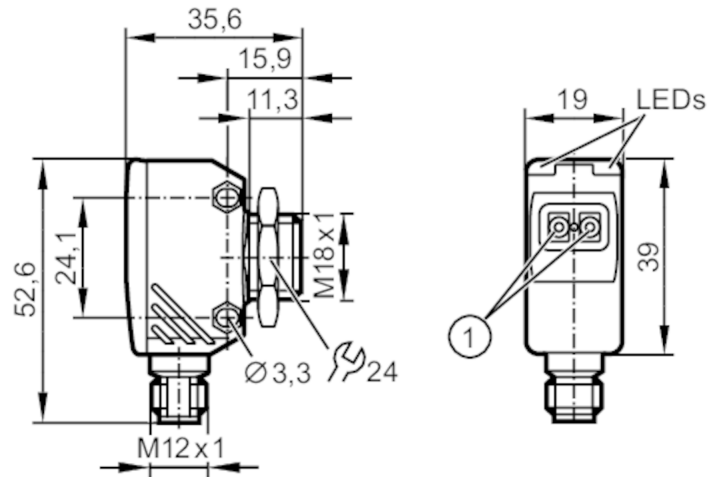


OGH581



Diffuse reflection sensor with background suppression

OGH-FNKG/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
Current consumption	[mA]	25
Protection class		III
Reverse polarity protection		yes
Type of light		red light
Wave length	[nm]	645

Outputs

Electrical design		NPN
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
Overload protection		yes

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	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	1165
Note	For further information please see the IO-Link 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
Housing	rectangular with M18 thread
Dimensions [mm]	52.6 x 19 x 35.6
Thread designation	M18 x 1
Materials	diecast zinc; PEI
Lens material	PEI

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Lens alignment side lens

Displays / operating elements

Display	switching status	1 x LED, yellow
	operation	1 x LED, green

Accessories

Items supplied lock nut: 1 x

Remarks

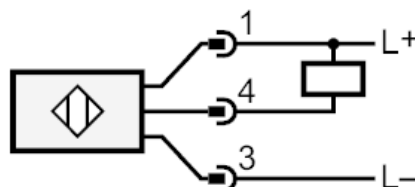
Pack quantity 1 pcs.

Electrical connection

Connector: 1 x M12; coding: A



Connection



4 OUT / IO-Link



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Other data

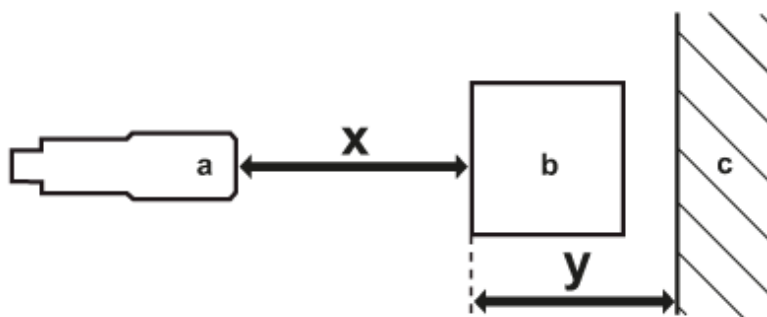
Repeatability / precision: 6 σ

	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



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

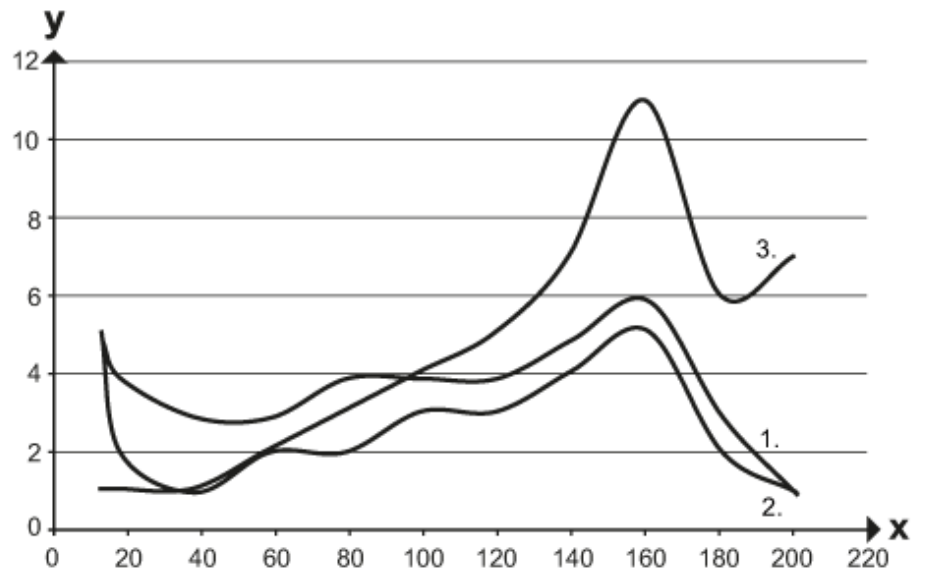
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accuracy graph



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)