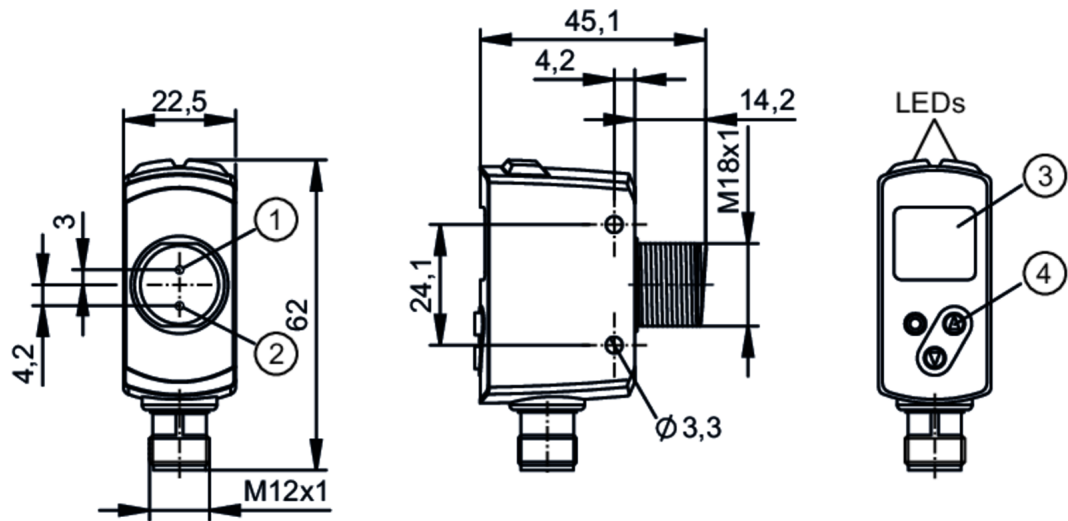


OGD550



Photoelectric distance sensor

OGDLFCKG/IO-LINK/US



- 1 receiving element
- 2 transmitting element
- 3 alphanumeric display , 4-digit
- 4 programming buttons



Product characteristics

Type of light	red light
Laser protection class	1
Housing	rectangular with M18 thread

Electrical data

Operating voltage	[V]	10...30 DC; ("supply class 2" to cULus)
Current consumption	[mA]	45; (24 V)
Protection class		III
Reverse polarity protection		yes
Type of light		red light
Wave length	[nm]	650

Inputs

Inputs	Laser On/ Off
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Outputs

Electrical design	PNP/NPN; (parameterisable)
Output function	2 x normally open / normally closed; (parameterisable)
Max. current load per output [mA]	100
Short-circuit protection	yes
Type of short-circuit protection	pulsed
Overload protection	yes

Operating mode: FINE

Switching frequency DC	[Hz]	20
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Photoelectric distance sensor

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Operating mode: STD		
Switching frequency DC	[Hz]	40
Operating mode: FAST		
Switching frequency DC	[Hz]	60
Detection zone		
Max. light spot diameter	[mm]	5
Light spot dimensions refer to		at maximum range
Background suppression	[m]	< 20
Measuring/setting range		
Setting range object reflectivity	[%]	6...900; (reflectivity; 6 % black paper; 100 % white paper)
Operating mode: FINE		
Measuring range	[m]	0.05...2
Sampling rate	[Hz]	60
Operating mode: STD		
Measuring range	[m]	0.05...2
Sampling rate	[Hz]	120
Operating mode: FAST		
Measuring range	[m]	0.05...1
Sampling rate	[Hz]	180
Software / programming		
Parameter setting options		Distance / reflectivity; hysteresis / window; sequence modulation to avoid mutual interference between up to 5 similar devices; Sensitivität
Interfaces		
Communication interface		IO-Link
Transmission type		COM2 (38,4 kBaud)
IO-Link revision		1.1.3
SDCI standard		IEC 61131-9
Profiles	Function class	Designation
	0x4000	Identification and Diagnosis
	0x8101	Locator
	0x8102	ProductURI
SIO mode		yes
Required master port type		A
Min. process cycle time	[ms]	5
IO-Link process data (cyclical)	function	bit length
	process value	2 x 16
	device status	4
	binary switching information	2
IO-Link functions (acyclical)		application specific tag; operating hours counter; switching cycles counter



Photoelectric distance sensor

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Supported DeviceIDs	Type of operation	DeviceID
	Default: OGD550	1581
	OGD580 / OGD581	925
	OGD582 / OGD583	926
	OGD585 / OGD586	1065
	OGD592 / OGD593	1012
	OGD596 / OGD597	1066
Note	For further information please see the IODD PDF file under "Downloads"	
Operating conditions		
Ambient temperature	[°C]	-25...60
Note on ambient temperature	In ambient temperatures < -10 °C a warm-up time is necessary.	
	Laser is off.	
Storage temperature	[°C]	-30...80
Protection	IP 65; IP 67	
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]	319
UL approval	Ta	-25...60 °C
	Enclosure type	Type 1
	power supply	Class 2
	File number UL	E174191
Mechanical data		
Weight	[g]	133.13
Housing	rectangular with M18 thread	
Dimensions	[mm]	61.7 x 22.5 x 45.2
Thread designation	M18 x 1	
Materials	housing: stainless steel (316L/1.4404); PPSU; ABS; PMMA; PBT / PC; EPDM; front pane: PMMA	
Lens alignment	side lens	
Displays / operating elements		
Display	switching status	2 x LED, yellow
		1 x alphanumeric display, 4-digit
Operating elements	3	pushbutton
Accessories		
Items supplied	lock nuts: 2	
Remarks		
Pack quantity	1 pcs.	



Photoelectric distance sensor

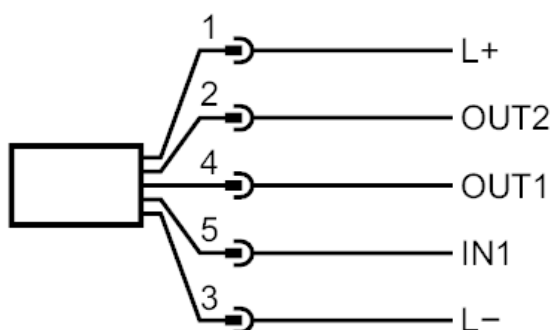
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Electrical connection - plug

Connector: 1 x M12; coding: A



Connection



1 L+	
2 OUT 2	switching output
3 L-	
4 OUT 1	switching output or IO-Link
5 IN 1	Laser On/ Off



Photoelectric distance sensor

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Other data		
Parameter	Setting range	Factory setting
SEL1	Dist / Refl	Dist
OU1	Hno, Hnc, Fno, Fnc.OFF	Hno
SP1 [mm]	50...2000	1000
SP1 [%]	6...900	10
nSP1 [mm]	50...2000	900
FSP1 [cm]	50...2000	1100
SF1 [mm]	10...500	50
bSP1 [%]	6...900	40
dSP1 [%]	6...900	30
SF1 [%]	1...100	10
dS1 [s]	0...0.1...5	0
dr1 [s]	0...0.1...5	0
SEL2	Dist / Refl	Dist
OU2	Hno, Hnc, Fno, Fnc, OFF	Hno
SP2 [mm]	50...2000	2000
SP2 [%]	6...900	6
nSP2 [mm]	50...2000	1800
FSP2 [mm]	50...2000	2000
SF2 [mm]	10...500	50
bSP2 [%]	6...900	20
dSP2 [%]	6...900	10
SF2 [%]	1...100	10
dS2 [s]	0...0.01...5	0
dr2 [s]	0...0.01...5	0
dSO [s]	0...0.01...5	0.1
diS	On / OFF	On
colr	rEd; GrEn; r1ou; G1ou; r2ou; G2ou; r-12; G-ou	G1ou
P-n	PNP,NPN	PNP
OPEr (operating mode)	FINE,STD, FAST	FINE
SEQ	auto; S1...S5	auto
CMPT	550 / 580 / 581 / 585 / 586 / 592 / 593 / 596 / 597 / 582 / 583	550



Photoelectric distance sensor

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repeatability: $\pm 3 \sigma$

Operating mode: FINE	repeatability of the measured values	
Abstand	white (90 % remission)	black (6 % remission)
50...300	$\pm 2 \text{ mm}$	$\pm 3 \text{ mm}$
300...500	$\pm 2 \text{ mm}$	$\pm 3 \text{ mm}$
500...1000	$\pm 3 \text{ mm}$	$\pm 5 \text{ mm}$
1000...2000	$\pm 5 \text{ mm}$	$\pm 8 \text{ mm}$
Operating mode: STD	repeatability of the measured values	
50...300	$\pm 4 \text{ mm}$	$\pm 5 \text{ mm}$
300...500	$\pm 4 \text{ mm}$	$\pm 5 \text{ mm}$
500...1000	$\pm 4 \text{ mm}$	$\pm 5 \text{ mm}$
1000...2000	$\pm 8 \text{ mm}$	$\pm 15 \text{ mm}$
Operating mode: FAST	repeatability of the measured values	
50...300	$\pm 5 \text{ mm}$	$\pm 8 \text{ mm}$
300...500	$\pm 5 \text{ mm}$	$\pm 8 \text{ mm}$
500...1000	$\pm 5 \text{ mm}$	$\pm 19 \text{ mm}$
1000...2000	$\pm 10 \text{ mm}$	-
Operating mode: FINE / STD / FAST	repeatability of the measured values	
reflectivity		
6 %	$\pm 3 \%$	
50 %	$\pm 5 \%$	
90 %	$\pm 8 \%$	

The values apply at	
Extraneous light on the object	$< 10 \text{ klx}$
constant ambient conditions	$23 \text{ }^{\circ}\text{C} / 960 \text{ hPa}$
minimum power-on time in minutes	15

Diagrams and graphs

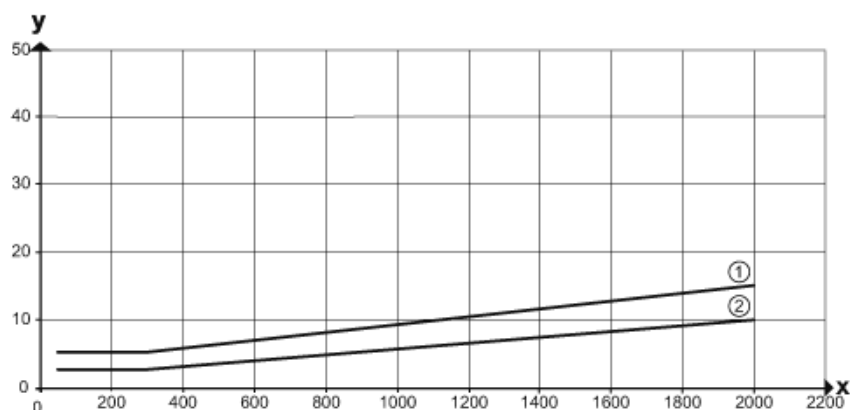
a: sensor
b: object
c: background
x: distance sensor/object [mm]
y: min. distance object/background [mm]



Photoelectric distance sensor

OGDLFCKG/IO-LINK/US

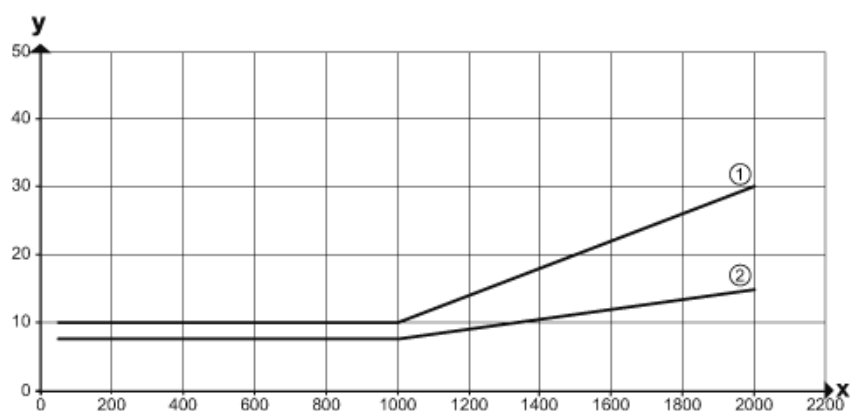
Hysteresis graph for distance
measurement / operating mode:
FINE



1: Background any (6...90 % remission)

2: background white (90 % remission)

Hysteresis graph for distance
measurement / operating mode:
STD



1: Background any (6...90 % remission)

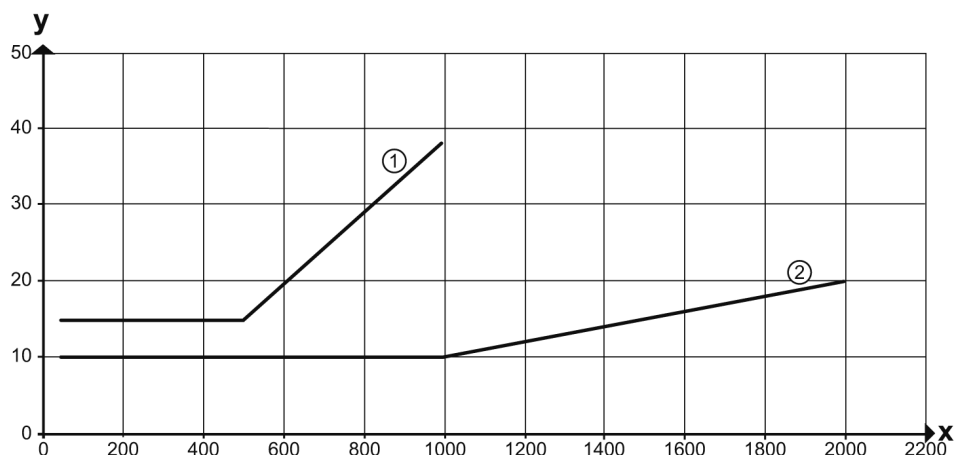
2: background white (90 % remission)



Photoelectric distance sensor

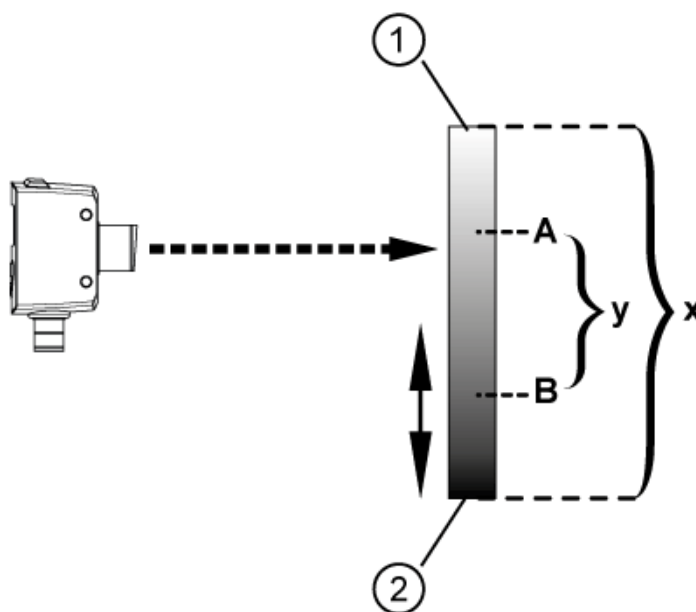
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Hysteresis graph for distance
measurement / operating mode:
FAST



1: Background any (6...90 % remission)

2: background white (90 % remission)



1: bright

2: dark

A: switch point

B: reset point

x: object brightness (object reflectivity)

y: min. reflectivity difference to be detected safely

OGD550



Photoelectric distance sensor

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hysteresis curve for object reflectivity

