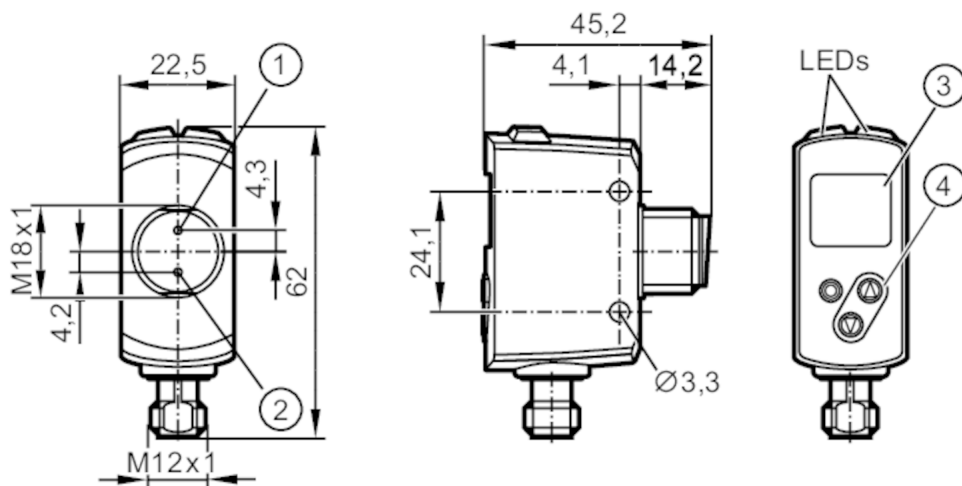


Photoelectric distance sensor

OGDLFPGK/IO-LINK/US



- 1 receiving element
- 2 transmitting element
- 3 alphanumeric display , 3-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]	< 75; (24 V)
Protection class		III
Reverse polarity protection		yes
Type of light		red light
Wave length	[nm]	650
Typ. lifetime	[h]	50000

Inputs

Inputs	Laser On/ Off
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Outputs

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

Detection zone

Max. light spot diameter	[mm]	5
Light spot dimensions refer to		at maximum range
Background suppression	[m]	< 20



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Measuring/setting range		
Measuring range	[m]	0.085...1.5
Setting range object reflectivity	[%]	6...900; (reflectivity; 6 % black paper; 100 % white paper)
Sampling rate	[Hz]	33
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
Profiles	Smart Sensor: Sensor Identification; Binary Data Channel; Process Value; Sensor Diagnosis	
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	
Supported DeviceIDs	Type of operation	DeviceID
	default	926
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		
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]	217
UL approval	Ta	-25...60 °C
	Enclosure type	Type 1
	power supply	Class 2
	File number UL	E174191
Mechanical data		
Weight	[g]	229.8
Housing	rectangular with M18 thread	
Dimensions	[mm]	61.7 x 22.5 x 45.2



Photoelectric distance sensor

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Thread designation	M18 x 1
Materials	housing: stainless steel (316L/1.4404); PPSU; ABS; PMMA; PBT / PC; EPDM; front pane: glass
Lens alignment	side lens

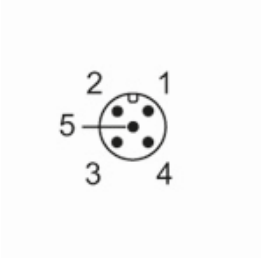
Displays / operating elements		
Display	switching status	2 x LED, yellow
		1 x alphanumeric display, 3-digit
Operating elements	3	pushbutton

Accessories	
Items supplied	lock nuts: 2

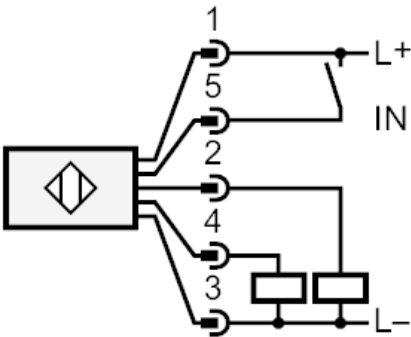
Remarks	
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; coding: A



Connection



- 2: OUT2 switching output (object reflectivity)
- 4: OUT1 switching output or IO-Link (distance)
- 5: IN Laser On/ Off



Photoelectric distance sensor

OGDLFPKG/IO-LINK/US

Other data		
Parameter	Setting range	Factory setting
Uni	cm	cm
OU1	Hno, Hnc, Fno, Fnc, OFF	Hno
SP1 [cm]	8.5...150	150
nP1 [cm]	8.5...150	20
FP1 [cm]	8.5...150	25
LG1	And,Or,Off	Off
dS1 [s]	0...0.1...5	0
dr1 [s]	0...0.1...5	0
OU2	Hno, Hnc, Fno, Fnc, OFF	Hno
SP2 [%]	6...900	6
bP2 [%]	6...900	60
dP2 [%]	6...900	30
HyL	Lo/Hi	Lo
LG2	And,Or,Off	Off
dS2 [s]	0...0.1...5	0
dr2 [s]	0...0.1...5	0
dFO [s]	0...0.1...5	0.1
dIS	ON / OFF	ON

Repeatability: 6 σ

	repeatability of the measured values	
distance	white (90 % remission)	black (6 %...90 % remission)
85 mm	8.0 mm	15.0 mm
750 mm	8.0 mm	15.0 mm
1500 mm	20.0 mm	60.0 mm

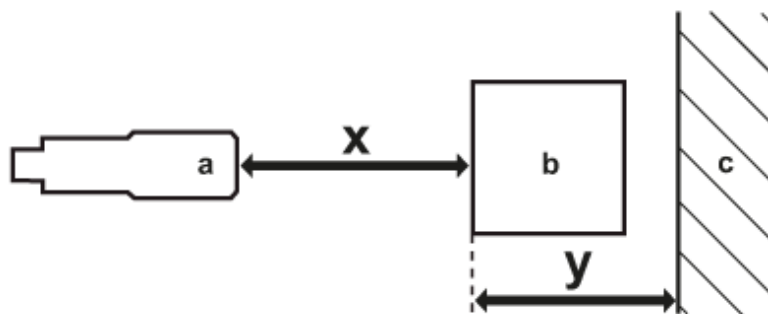
The values apply at

Extraneous light on the object	< 10 klx
constant ambient conditions	23 °C / 960 hPa
minimum power-on time in minutes	15

Photoelectric distance sensor

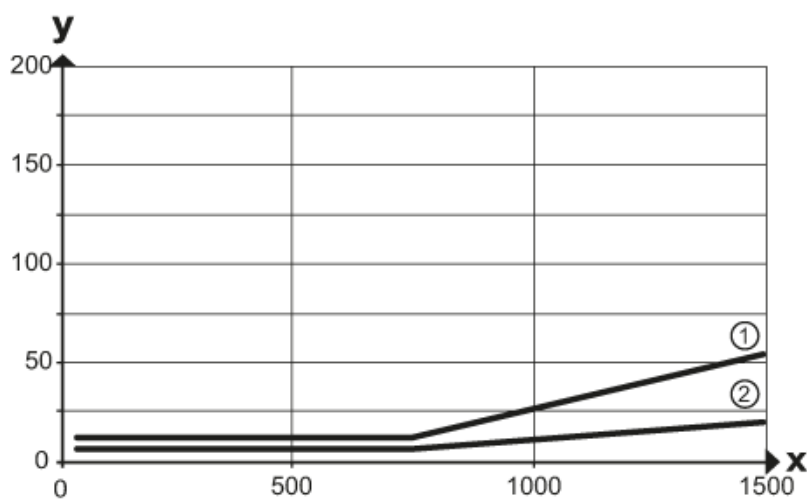
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Diagrams and graphs



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

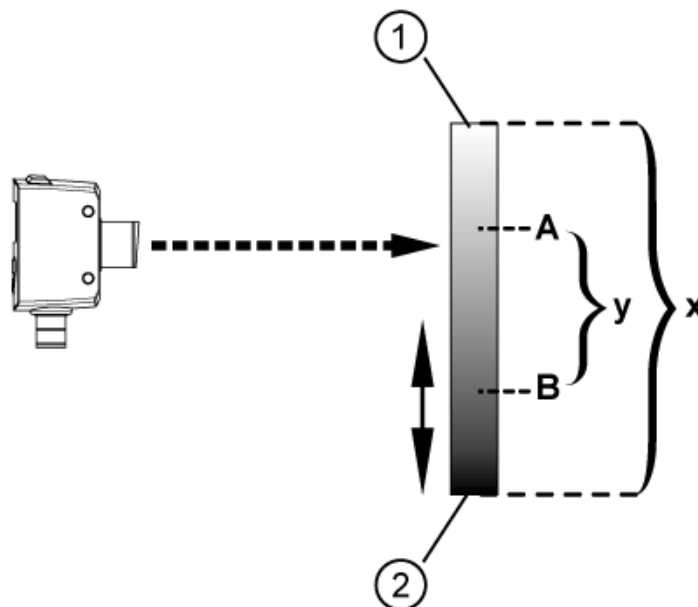
hysteresis curve for distance measurement



- x: distance sensor/object [mm]
- y: min. distance object/background [mm]
- 1 = background (black 6 % remission)
- 2 = background white (90 % remission)

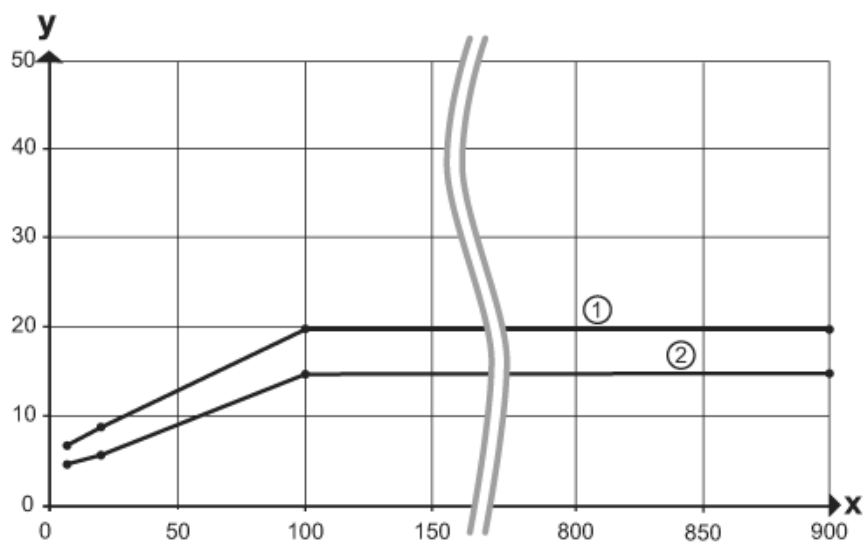
Photoelectric distance sensor

OGDLFPKG/IO-LINK/US



- 1: bright
- 2: dark
- A: switch point
- B: reset point
- x: object brightness (object reflectivity)
- y: min. reflectivity difference to be detected safely

hysteresis curve for object reflectivity



- x: object reflectivity (0..900 %)
- y: Hysteresis [%]
- 1 = optional hysteresis curve (high)
- 2 = Hysteresis Factory setting (low)