



Laser distance sensor

OGDLFPKG/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

Application

Application	[m]	0.03...1.5
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Electrical data

Operating voltage	[V]	10...30 DC; (cULus - Class 2 source required)
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

Outputs

Electrical design		PNP
Output function		2 x normally open / normally closed; (configurable)
Permanent current rating of switching output DC	[mA]	100; (per output)
Type of short-circuit protection		yes (non-latching)
Overload protection		yes

Monitoring range

Range	[mm]	1500
Max. light spot width	[mm]	5
Max. light spot height	[mm]	5



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Light spot dimensions refer to	at maximum range	
Background suppression [m]	0.03...20	
Measuring/setting range		
Measuring range [m]	0.025...1.5	
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 class	A	
Process data analog	2	
Process data binary	2	
Min. process cycle time [ms]	6	
Supported DeviceIDs	Type of operation	DeviceID
	default	1065
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]	171	
Mechanical data		
Weight [g]	205.5	
Housing	rectangular with M18 thread	
Dimensions [mm]	61.7 x 22.5 x 45.2	
Thread designation	M18 x 1	
Material	housing: stainless steel (1.4404 / 316L); PPSU; ABS; PMMA; PBT / PC; EPDM; front lens: glass	
Lens alignment	Side sensing	



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Displays / operating elements

Display	Switching status	2 x LED, yellow
		1 x alphanumeric display, 3-digit

Accessories

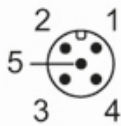
Items supplied	lock nuts: 2
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Remarks

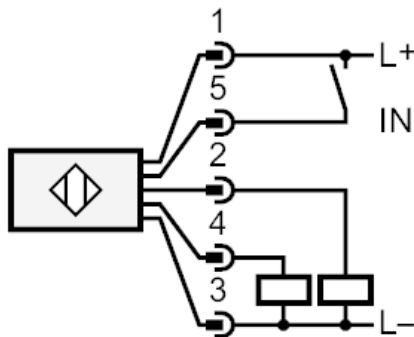
Pack quantity	1 pcs.
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Electrical connection

Connector: 1 x M12; coding: A



Connection



- 2: OUT2: Switching output
- 4: OUT1: switching output or IO-Link
- 5: IN1: Laser On/ Off



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Other data		
Parameter	Setting range	Factory setting
OU1	Hno, Hnc, Fno, Fnc, OFF	Hno
SP1 [cm]	3...150	150
nP1 [cm]	3...150	20
FSP1 [cm]	3...150	25
OU2	Hno, Hnc, Fno, Fnc, OFF	Hno
SP2 [cm]	3...150	3
nP2 [cm]	3...150	30
FP2 [cm]	3...150	35
dS1 [s]	0...0.1...5	0
dr1 [s]	0...0.1...5	0
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 % remission)
25 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

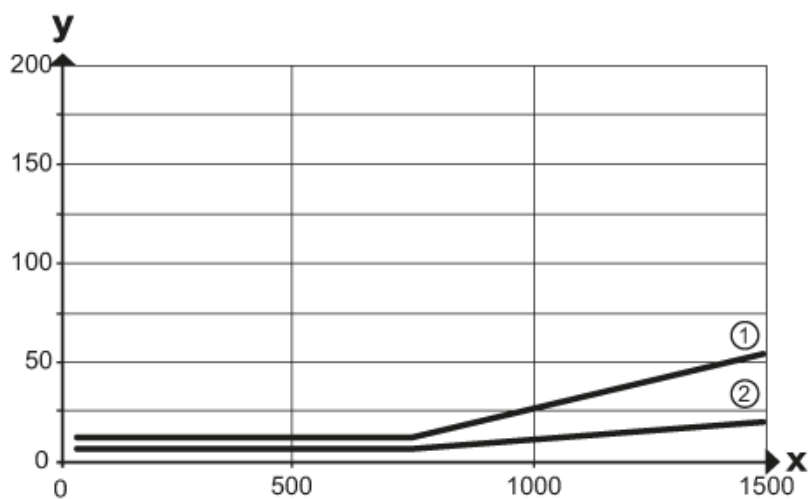


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Diagrams and graphs

Hysteresis curve for distance measurement

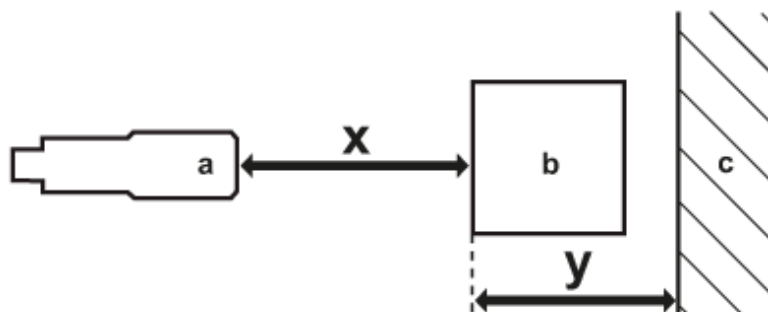


x: distance sensor/object [mm]

y: min. distance object/background [mm]

1 = background (black 6 % remission)

2 = Background white (90 % remission)



a: sensor

b: object

c: background

x: distance sensor/object [mm]

y: min. distance object/background [mm]