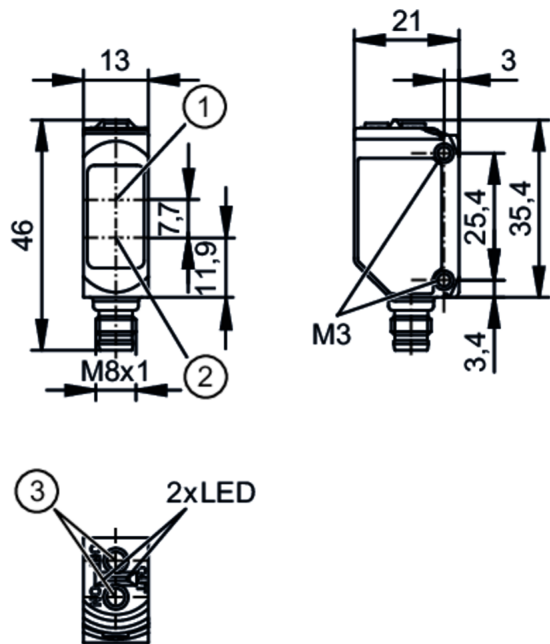


O6D100



Laser distance sensor

O6DLFCKG/IO-LINK/AS/4P



- 1 receiver
- 2 transmitter
- 3 Programming buttons



Product characteristics		
Type of light		red light
Laser protection class		1
Housing		rectangular
Electrical data		
Operating voltage	[V]	10...30 DC
Current consumption	[mA]	< 30; (24 V)
Protection class		III
Reverse polarity protection		yes
Type of light		red light
Wave length	[nm]	680
Outputs		
Electrical design		PNP/NPN; (configurable)
Output function		normally open / closed; (configurable)
Max. current load per output	[mA]	50
Factory setting		Electrical design: PNP (adjustable via IO-Link) Output function: normally open (adjustable via IO-Link)
Short-circuit protection		yes
Overload protection		yes
Operating mode: FINE (adjustable via IO-Link)		
Switching frequency DC	[Hz]	10
Operating mode: STD (adjustable via IO-Link)		
Switching frequency DC	[Hz]	22



Laser distance sensor

O6DLFCKG/IO-LINK/AS/4P

Operating mode: FAST (adjustable via IO-Link)		
Switching frequency DC	[Hz]	42
Monitoring range		
Max. light spot diameter	[mm]	5
Light spot dimensions refer to		3 m
Background suppression	[m]	< 20
Measuring/setting range		
Setting range object reflectivity	[%]	6...200; (reflectivity; 6 % black paper; 100 % white paper)
Operating mode: FINE (adjustable via IO-Link)		
Measuring range	[m]	0.02...3.3
Setting range distance	[m]	0.05...3
Sampling rate	[Hz]	22
Operating mode: STD (adjustable via IO-Link)		
Measuring range	[m]	0.02...1.1
Setting range distance	[m]	0.05...1
Sampling rate	[Hz]	70
Operating mode: FAST (adjustable via IO-Link)		
Measuring range	[m]	0.02...0.55
Setting range distance	[m]	0.05...0.5
Sampling rate	[Hz]	140
Software / programming		
Parameter setting options	Distance / reflectivity; hysteresis / window	
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1.3	
SDCI standard	IEC 61131-9	
Profiles	Smart Sensor - SSP 4.1.2	Measuring and Switching Sensor, 2 channel
	Common - I&D	Identification and Diagnosis
	Extension	Sensor control
	Function	Locator
	Function	ProductURI
SIO mode	yes	
Required master port class	A	
Min. process cycle time	[ms]	5
IO-Link process data (cyclical)	Function	bit length
	Distance	16
	reflectivity	16
	device status	4
	binary switching information	4
IO-Link functions (acyclical)	application specific tag; operating hours counter; switching cycles counter	
Supported DeviceIDs	Type of operation	DeviceID
	default	1773
Note	For further information please see the IODD PDF file at "Downloads"	

O6D100



Laser distance sensor

O6DLFCKG/IO-LINK/AS/4P

Operating conditions		
Ambient temperature	[°C]	-25...50
Storage temperature	[°C]	-30...80
Protection		IP 65; IP 67
Tests / approvals		
EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-6 HF conducted	10 V
	EN 55011	class B
Vibration resistance	DIN EN 60068-2-6	10 g (10...55 Hz) / 120 min. per axis (x, y, z)
Shock resistance	DIN EN 60068-2-27	50 g 6 shocks / 11 ms half-sine (x, y, z)
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 1040.10 except for conformance with IEC 60825-1 Ed. 3, as described in Laser Notice No. 56, dated May 8, 2019.
Mechanical data		
Weight	[g]	32.668
Housing		rectangular
Dimensions	[mm]	46 x 13 x 21
Thread designation		M8 x 1
Material		housing: PPSU; ABS; EPDM; front lens: glass
Lens alignment		Side sensing
Displays / operating elements		
Display	Switching status	1 x LED, yellow
	operating status	1 x LED, green
Operating elements	2	pushbuttons
Remarks		
Pack quantity		1 pcs.
Electrical connection - plug		
Connector: 1 x M8; coding: A		



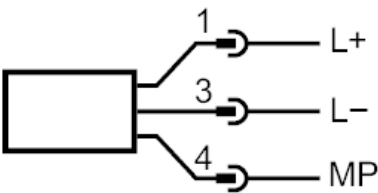
O6D100



Laser distance sensor

O6DLFCKG/IO-LINK/AS/4P

Connection



1 L+
3 L-
4 MP DO (NO/NC), IO-Link
MP: multi-function connection; NO: normally open; NC: normally closed

Other data

repeatability: ± 3 σ

Operating mode: FINE	Repeatability of the measured values	
distance	white (90 % remission)	black (6 % remission)
50	± 6 mm	± 10 mm
500	± 6 mm	± 11 mm
1000	± 8 mm	± 13 mm
1500	± 11 mm	± 17 mm
3000	± 18 mm	± 33 mm
Operating mode: STD	Repeatability of the measured values	
50	± 6 mm	± 11 mm
500	± 7 mm	± 12 mm
1000	± 8 mm	± 14 mm
Operating mode: FAST	Repeatability of the measured values	
50	± 8 mm	± 14 mm
500	± 11 mm	± 21 mm
Operating mode: FINE / STD / FAST	Repeatability of the measured values	
reflectivity		
6 %	± 2 %	
50 %	± 7 %	
90 %	± 10 %	

The values apply at

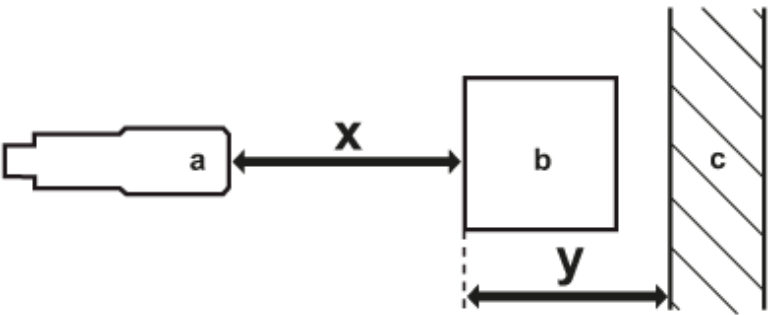
Extraneous light on the object	< 5 klx
constant ambient conditions	23 °C / 960 hPa
minimum power-on time in minutes	15



Laser distance sensor

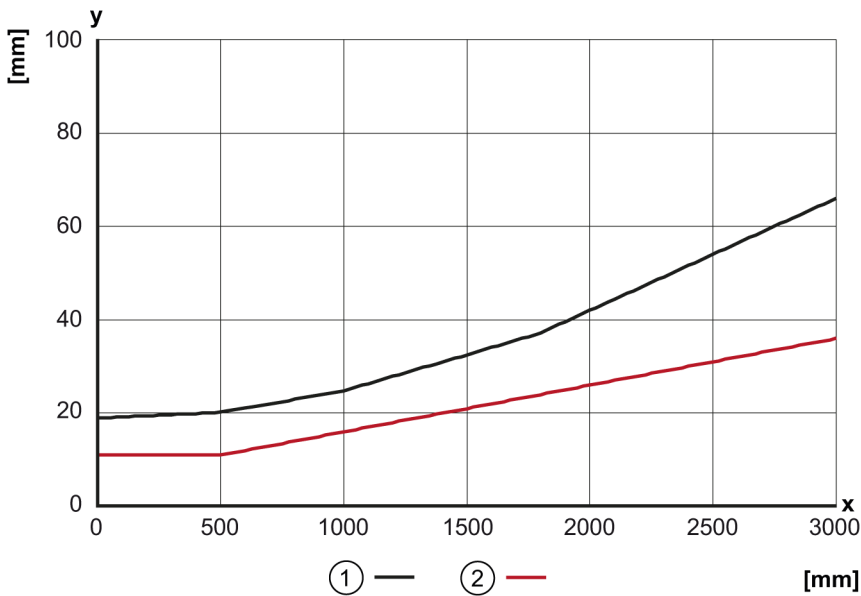
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Diagrams and graphs



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

Hysteresis graph for distance measurement / operating mode: FINE



- 1: Background any (6...90 % remission)
- 2: Background white (90 % remission)

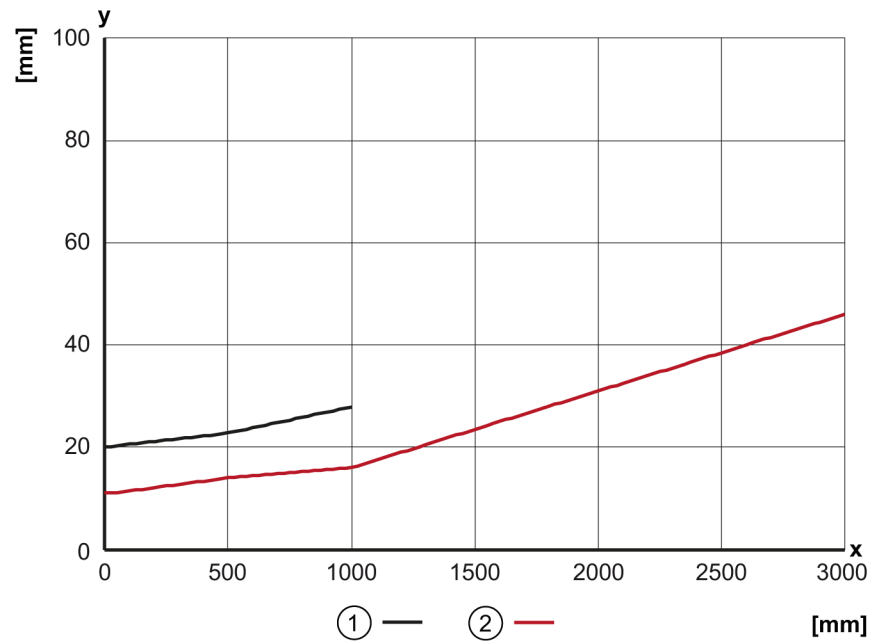
O6D100



Laser distance sensor

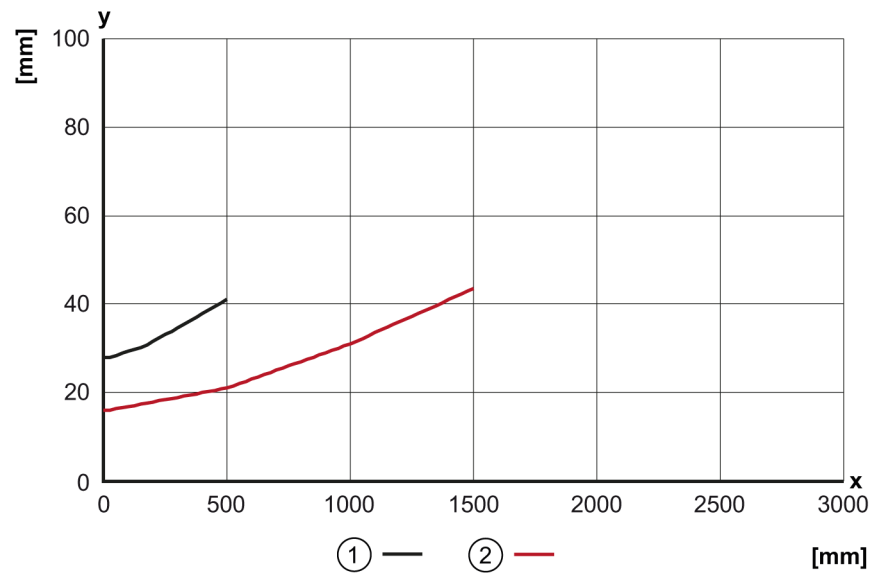
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Hysteresis graph for distance measurement / operating mode: STD



- 1: Background any (6...90 % remission)
- 2: Background white (90 % remission)

Hysteresis graph for distance measurement / operating mode: FAST

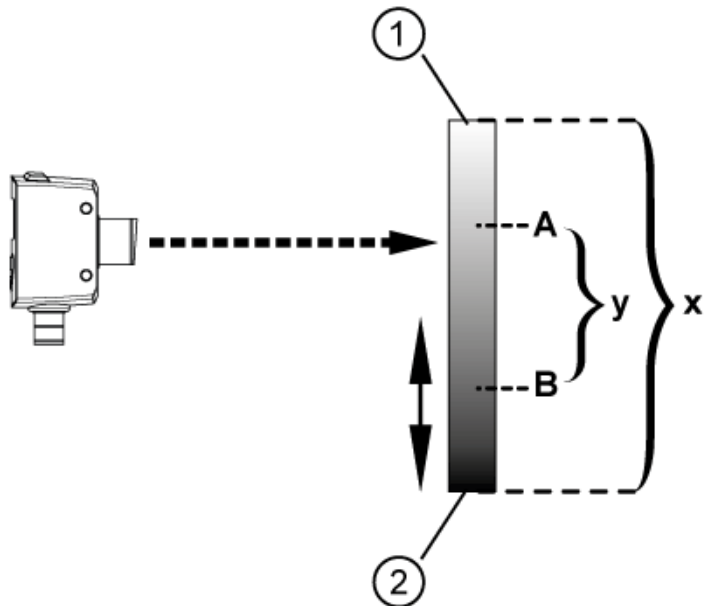


- 1: Background any (6...90 % remission)
- 2: Background white (90 % remission)

O6D100

Laser distance sensor

O6DLFCKG/IO-LINK/AS/4P



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

Hysteresis curve for object reflectivity

