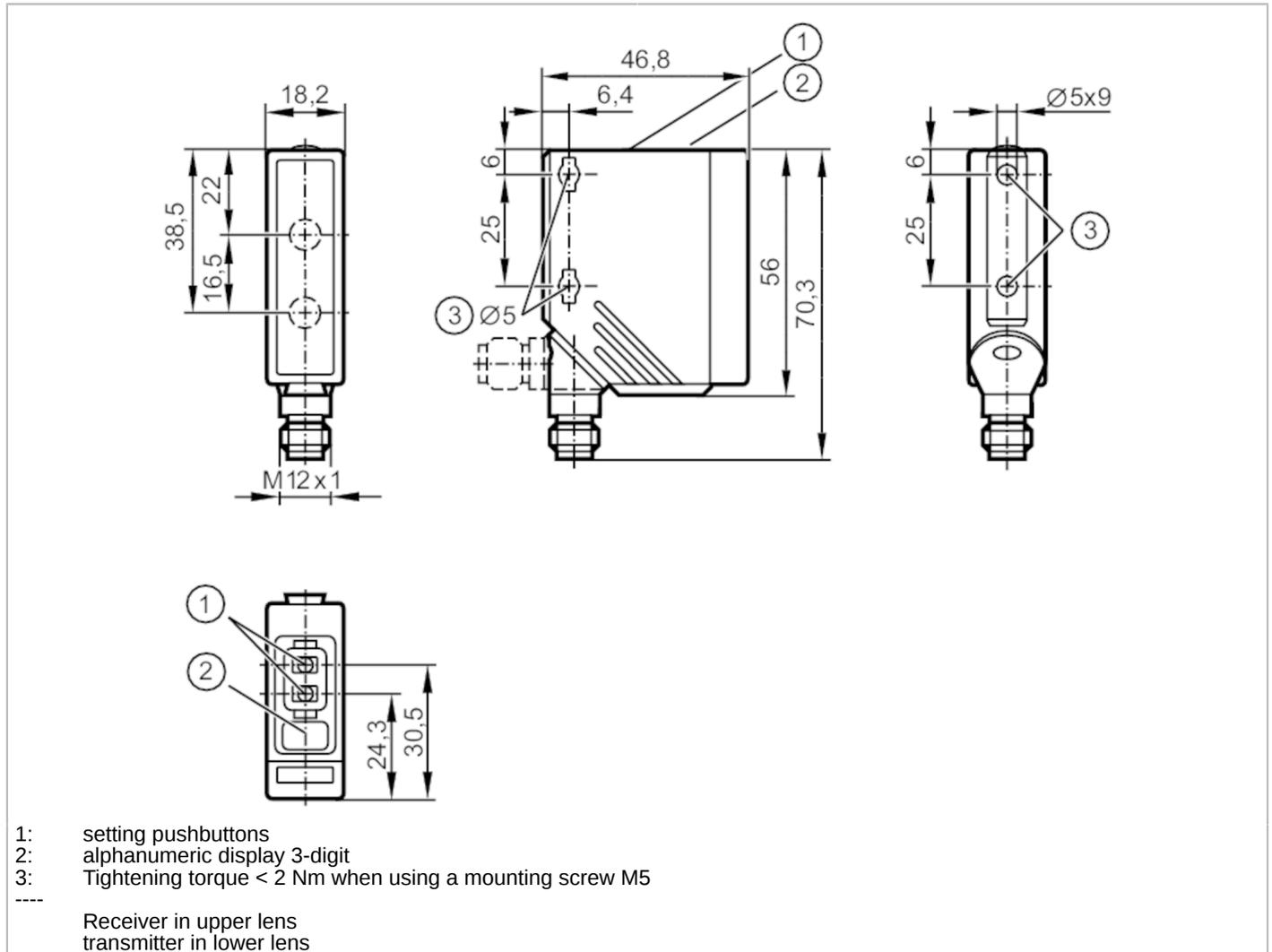


O5D100



Laser distance sensor

O5DLCPKG/US



Product characteristics

Type of light	red light
Laser protection class	2
Housing	rectangular

Application

System	Background suppression
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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

O5D100



Laser distance sensor

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Inputs / outputs		
Number of inputs and outputs	Number of digital outputs: 2	
Outputs		
Total number of outputs	2	
Electrical design	PNP	
Number of digital outputs	2	
Output function	normally open / closed; (complementary)	
Max. current load per output [mA]	100	
Switching frequency DC [Hz]	11	
Short-circuit protection	yes	
Type of short-circuit protection	yes (non-latching)	
Overload protection	yes	
Monitoring range		
Max. light spot diameter [mm]	5	
Light spot dimensions refer to	2 m	
Detection range hysteresis [%]	< 2.5	
Note on monitoring range hysteresis	black 6 % remission	
Background suppression available	yes	
Background suppression [m]	< 20	
Measuring/setting range		
Measuring range [m]	0.03...2	
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 - SSP 0	Generic Profiled Sensor
	Function	Multiple switching signal
	Function	Process data variable
SIO mode	yes	
Process data analog	1	
Process data binary	1	
Min. process cycle time [ms]	6.4	
Supported DeviceIDs	Type of operation	DeviceID
	default	372
Operating conditions		
Ambient temperature [°C]	-25...60	
Note on ambient temperature	at ta < -10 °C warm-up is necessary, laser is off	
Protection	IP 65; IP 67	
Max. immunity to extraneous light [klx]	10; (on the object)	

O5D100



Laser distance sensor

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Tests / approvals		
EMC	EN 60947-5-2	
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		2
Notes on laser protection	Caution:	Laser light
	Power:	<= 4,0 mW
	Wave length:	650 nm
	pulse:	1,3 ns
	Do not stare into beam.	
	Avoid exposure to the laser light.	
	laser class:	2
		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.	
MTTF	[years]	151

Mechanical data		
Weight	[g]	61.6
Housing		rectangular
Dimensions	[mm]	56 x 18.2 x 46.8
Material		housing: PA; Front framework: stainless steel; operator interface: TPU (urethane); lens: PMMA
Lens alignment		Side sensing

Displays / operating elements		
Display	Switching status	LED, yellow Switching output PIN 4
	Power	LED, green
	Display	alphanumeric display, 3-digit
Display unit		cm

Remarks		
Pack quantity		1 pcs.

Electrical connection

Connector: 1 x M12; coding: A



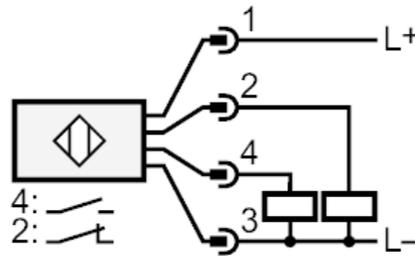
O5D100



Laser distance sensor

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Connection



4: OUT / IO-Link

Other data

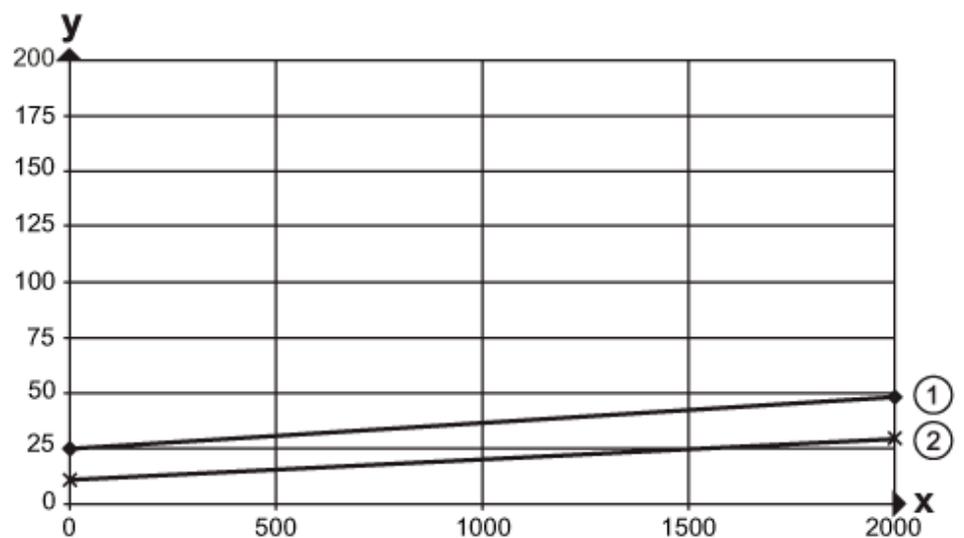
Accuracy

	Accuracy			
distance	black (6 % remission)	white (90 % remission)		
0 mm	± 15 mm	± 15 mm		
500 mm	± 15 mm	± 15 mm		
1000 mm	± 15 mm	± 15 mm		
1500 mm	± 20 mm	± 20 mm		
2000 mm	± 30 mm	± 20 mm		

Extraneous light on the object < 10 klx

Diagrams and graphs

Hysteresis graph



x: distance [mm]

y: Hysteresis [mm]

1 = background black 6 % remission

2 = background white 90 % remission