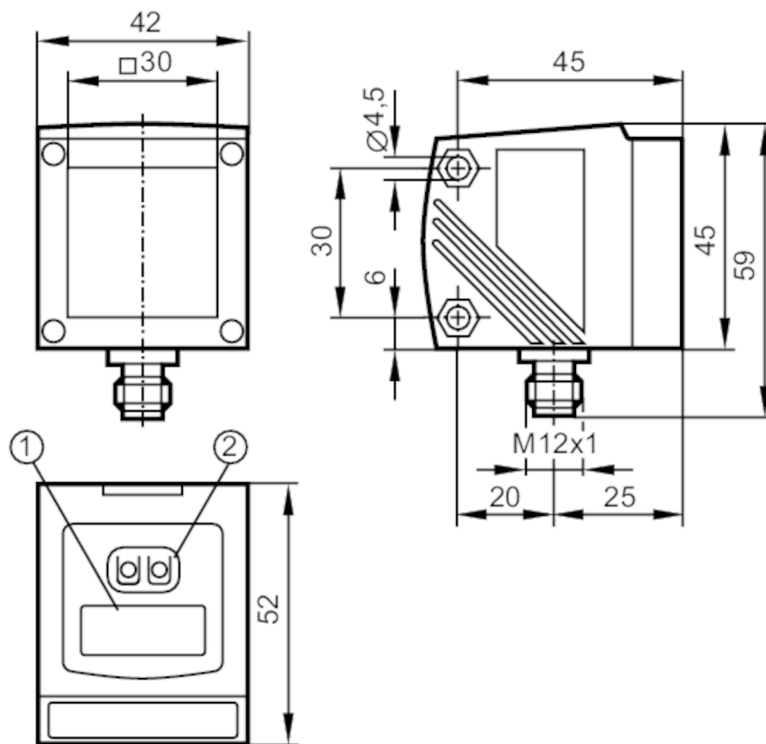


O1D110

Laser distance sensor

O1DLF3KG/IO-LINK



- 1 alphanumeric display 4-digit
2 Programming buttons



Product characteristics

Laser protection class	2
Housing	rectangular

Electrical data

Operating voltage [V]	18...30 DC; (cULus - Class 2 source required)
Current consumption [mA]	< 150
Protection class	III
Reverse polarity protection	yes
Typ. lifetime [h]	50000

Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1
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Outputs

Total number of outputs	2
Electrical design	PNP
Number of digital outputs	2
Output function	normally open / closed; (programmable)
Max. current load per output [mA]	200
Number of analog outputs	1
Analog current output [mA]	4...20; (scalable IEC 61131-2)

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Max. load	[Ω]	250
Analog voltage output	[V]	0...10; (scalable IEC 61131-2)
Min. load resistance	[Ω]	5000
Short-circuit protection		yes
Type of short-circuit protection		yes (non-latching)
Overload protection		yes
Monitoring range		
Max. light spot width	[mm]	15
Max. light spot height	[mm]	15
Light spot dimensions refer to		10 m
Background suppression	[m]	10...100
Measuring/setting range		
Measuring range	[m]	0.2...10; (white paper 200 x 200 mm 90 % remission)
Sampling rate	[Hz]	1...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	Device identification
	Function	Process data variable
	Function	Device diagnosis
	Function	Teach channel
SIO mode		yes
Required master port class		A
Process data analog		2
Process data binary		2
Min. process cycle time	[ms]	5
Supported DeviceIDs	Type of operation	DeviceID
	default	1547
Operating conditions		
Ambient temperature	[°C]	-10...60
Protection		IP 67
Tests / approvals		
EMC	EN 60947-5-2	
Laser protection class		2

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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
UL approval		Complies with 21 CFR 1040.10 except for compliance with IEC 60825-1 Ed. 3, as described in Laser Notice No. 56, dated May 8, 2019.
	Ta	-10...60 °C
	Enclosure type	Type 1
	voltage supply	Class 2
	File number UL	E174191

Mechanical data

Weight	[g]	248.1
Housing		rectangular
Dimensions	[mm]	59 x 42 x 52
Material		housing: diecast zinc; front lens: glass; LED window: PC
Lens alignment		Side sensing

Displays / operating elements

Display	Switching status	2 x LED, yellow
	Power	LED, green
	Distance, programming	alphanumeric display, 4-digit

Accessories

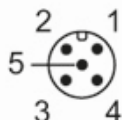
Accessories (optional)	Protective cover, E21133
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Remarks

Remarks	For more information about the measuring range / application please refer to the operating instructions.
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; coding: A



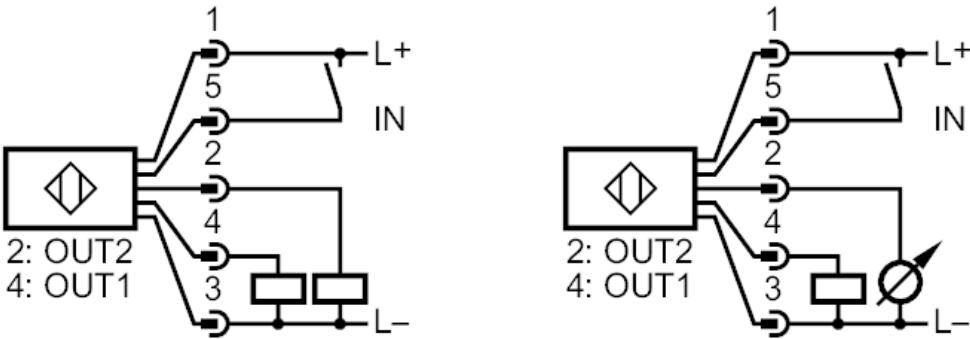
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Laser distance sensor

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Connection



Other data

Parameter	Setting range	Factory setting
Uni	mm, m	mm
OU1	Hno, Hnc, Fno, Fnc	Hno
SP1	200...9999	1000
nSP1	200...9999	800
FSP1	200...9999	1200
OU2	Hno, Hnc, Fno, Fnc, I, U	I
SP2	200...9999	2000
nSP2	200...9999	1800
FSP2	200...9999	2200
ASP	0...9999	0
AEP	0...9999	9999
rATE [Hz]	1...33	15
dS1	0...0.1...5	0
dr1	0...0.1...5	0
dS2	0...0.1...5	0
dr2	0...0.1...5	0
dFo	0...0.1...5	0
dIS	d1...3; rd1...3; OFF	d3

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Laser distance sensor

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Repeatability / Accuracy

distance	Repeatability of the measured values		Accuracy	
	white (90 % remission)	grey (18 % remission)	white (90 % remission)	grey (18 % remission)
200...1000 mm	± 4.5 mm	± 6.0 mm	± 15.0 mm	± 16.0 mm
1000...2000 mm	± 5.0 mm	± 8.0 mm	± 15.0 mm	± 18.0 mm
2000...4000 mm	± 16.0 mm	± 19.0 mm	± 25.0 mm	± 30.0 mm
4000...6000 mm	± 24.0 mm	± 33.0 mm	± 35.0 mm	± 45.0 mm
6000...10000 mm	± 50.0 mm	-	± 65.0 mm	-
Sampling rate	15 Hz			
Extraneous light on the object	< 40 klx			

Repeatability / Accuracy

distance	Repeatability of the measured values		Accuracy	
	white (90 % remission)	grey (18 % remission)	white (90 % remission)	grey (18 % remission)
200...2000 mm	± 14.0 mm	± 14.0 mm	± 24.0 mm	± 24.0 mm
2000...4000 mm	± 25.0 mm	± 30.0 mm	± 35.0 mm	± 40 mm
4000...6000 mm	± 31.0 mm	± 45.0 mm	± 41.0 mm	± 55.0 mm
6000...10000 mm	± 60.0 mm	-	± 70.0 mm	-
Sampling rate	15 Hz			
Extraneous light on the object	< 40...100 klx			
Range on black object (6 % remission)	<= 4000 klx			
The values apply at				
constant ambient conditions	23 °C / 960 hPa			
minimum power-on time in minutes	10			