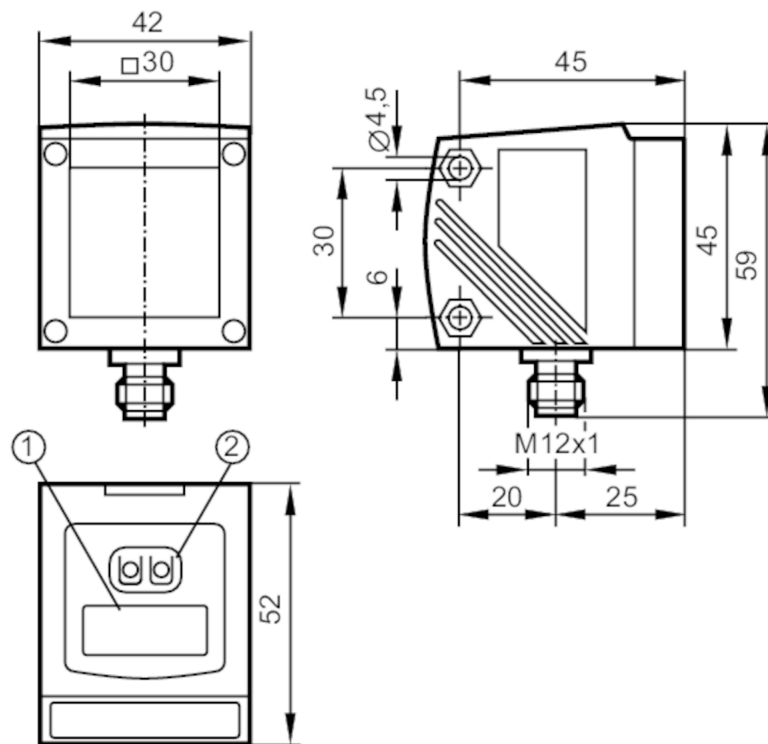


O1D108



Laser distance sensor

O1DLF3KG/IO-LINK



- 1 alphanumeric display 4-digit
2 Programming buttons



Product characteristics

Laser protection class	2
Housing	rectangular

Application

Application	[m]	0.2...100
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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

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Number of analog outputs		1
Analog current output	[mA]	4...20; (IEC 61131-2)
Max. load	[Ω]	250
Analog voltage output	[V]	0...10; (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]	25
Max. light spot height	[mm]	25
Light spot dimensions refer to		18 m
Background suppression	[m]	< 100

Measuring/setting range

Measuring range	[m]	0.2...18; (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: 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	811

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 Complies with 21 CFR 1040 except for deviations pursuant to Laser Notice No. 50, dated June 2007.
MTTF [years]	106	

Mechanical data

Weight [g]	305
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

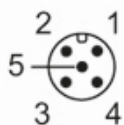
Accessories (optional)	Protective cover, E21133
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Remarks

Pack quantity	1 pcs.
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Electrical connection

Connector: 1 x M12; coding: A



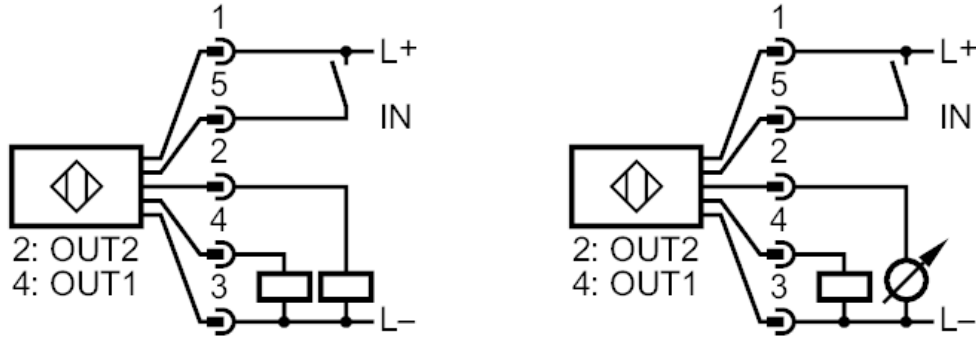
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Laser distance sensor

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Connection



- 2: OUT2 Switching output or 4...20 mA / 0...10 V
- 4: OUT1 switching output or IO-Link
- 5: IN Laser On/ Off Ein / Aus

Other data

Parameter	Setting range	Factory setting
Uni	m, inch	m
OU1	Hno, Hnc, Fno, Fnc	Hno
SP1	0.20...18.00	1.00
nSP1	0.20...18.00	0.80
FSP1	0.20...18.00	1.20
OU2	Hno, Hnc, Fno, Fnc, I, U	I
SP2	0.20...18.00	2.00
nSP2	0.20...18.00	1.80
FSP2	0.20...18.00	2.20
ASP	0...18.00	0
AEP	0...18.00	18.00
rATE [Hz]	1...15	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

	Repeatability of the measured values		Accuracy	
	white (90 % remission)	grey (18 % remission)	white (90 % remission)	grey (18 % remission)
0.20...1.0 m	± 0.45 cm	± 0.6 cm	± 1.5 cm	± 1.6 cm
1.00...2.00 m	± 0.5 cm	± 0.8 cm	± 1.5 cm	± 1.8 cm
2.00...4.00 m	± 1.25 cm	± 1.9 cm	± 2.25 cm	± 3.0 cm
4.00...6.00 m	± 2.0 cm	± 3.0 cm	± 3.0 cm	± 4.0 cm
6.00...10.00 m	± 3.5 cm	± 5.0 cm	± 4.5 cm	± 6.0 cm
10.00...18.00 m	± 5.0 cm		± 6.0 cm	
Sampling rate			15 Hz	
Extraneous light on the object			< 10 klx	
The values apply at				
constant ambient conditions			23 °C / 960 hPa	
minimum power-on time in minutes			10	

Repeatability / Accuracy

	Repeatability of the measured values		Accuracy	
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0.20...1.0 m	± 0.45 cm	± 0.6 cm	± 1.5 cm	± 1.6 cm
1.00...2.00 m	± 0.5 cm	± 0.8 cm	± 1.5 cm	± 1.8 cm
2.00...4.00 m	± 1.6 cm	± 1.9 cm	± 2.5 cm	± 3.0 cm
4.00...6.00 m	± 2.4 cm	± 3.3 cm	± 3.5 cm	± 4.5 cm
6.00...10.00 m	± 5.0 cm		± 6.5 cm	
Sampling rate			15 Hz	
Extraneous light on the object			< 40 klx	
The values apply at				
constant ambient conditions			23 °C / 960 hPa	
minimum power-on time in minutes			10	

In case of higher extraneous light on the object (up to 40 klx) the following specifications apply:

	white (90 % remission)	grey (18 % remission)	black (6 % remission)	
Measuring range	0.2...10 m	0.2...6 m	0.2...4 m	