

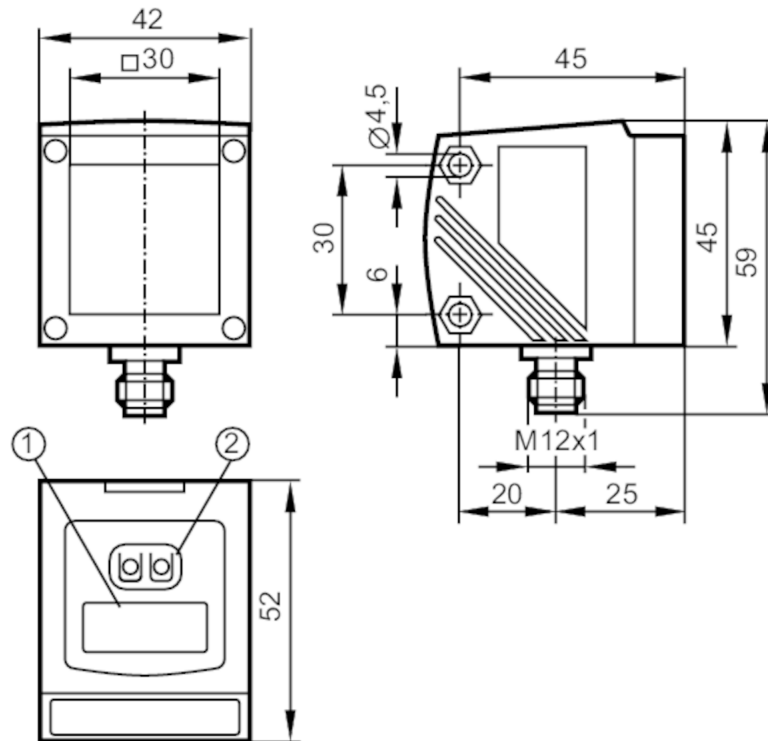
# O1D105



## Laser distance sensor

O1DLF3KG/IO-LINK

When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
- 2 Programming buttons



### Product characteristics

Laser protection class	2
Housing	rectangular

### Electrical data

Operating voltage [V]	18...30 DC
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

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Analog current output	[mA]	4...20; (scalable IEC 61131-2)
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: Device Identification; Device Diagnosis; Device Teach Channel; Binary Data Channel; Process Data Variable
SIO mode		yes
Required master port class		A
Process data analog		2
Process data binary		2
Min. process cycle time	[ms]	6
Supported DeviceIDs	<b>Type of operation</b>	<b>DeviceID</b>
	default	809

### 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]	107

### Mechanical data

Weight	[g]	244.5
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

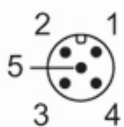
Accessories (optional)	Protective cover, E21133
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### Remarks

Remarks	cULus - Class 2 source required
Pack quantity	1 pcs.

### Electrical connection

Connector: 1 x M12; coding: A



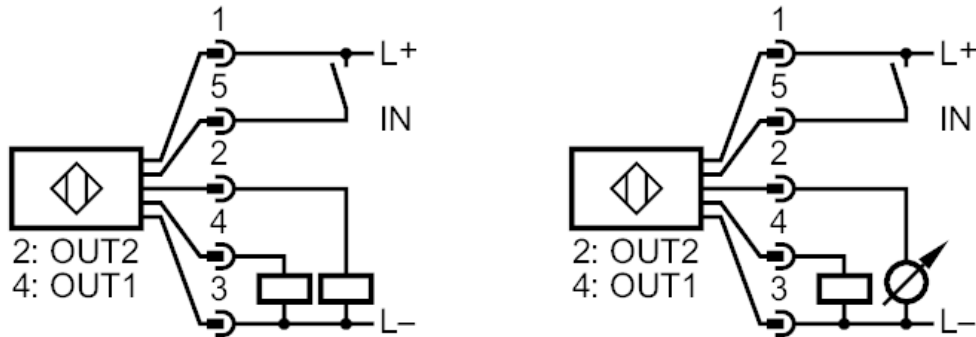
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### Connection



- 2: switching output or analog output 4...20 mA / 0...10 V
- 4: switching output or IO-Link
- 5: IN1 Laser On/ Off

### Other data

Parameter	Setting range	Factory setting
Uni	mm, m, inch	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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### Repeatability / Accuracy

	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			

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	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			