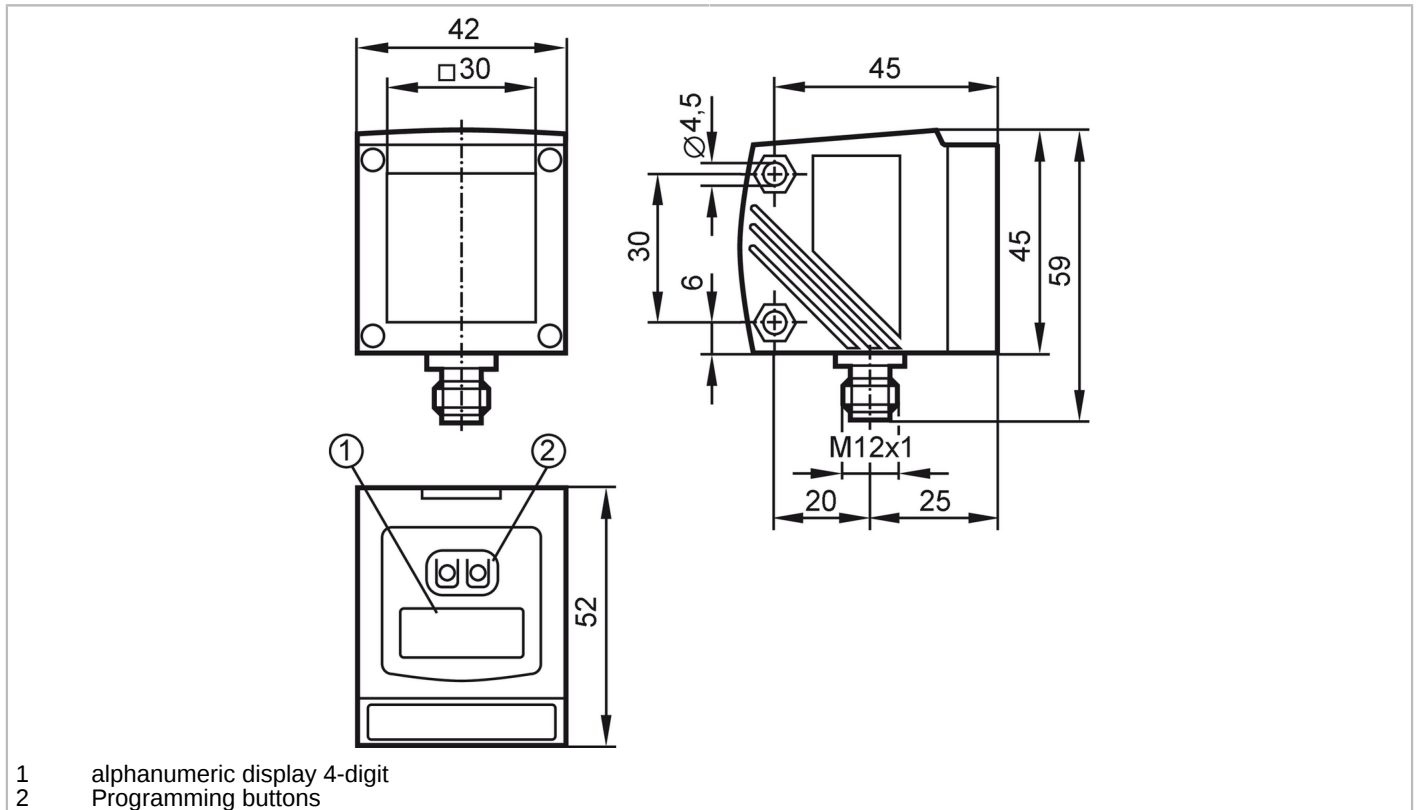


# O1D102



## Laser distance sensor

O1DLF3KG/IO-LINK



Product characteristics	
Laser protection class	2
Housing	rectangular
Application	
Application	Industrial applications
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
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; (IEC 61131-2)

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Max. load	[ $\Omega$ ]	250
Analog voltage output	[V]	0...10; (IEC 61131-2)
Min. load resistance	[ $\Omega$ ]	5000
Short-circuit protection		yes
Type of short-circuit protection		yes (non-latching)
Overload protection		yes

### Monitoring range

Max. light spot diameter	[mm]	10
Light spot dimensions refer to		3,5 m
Background suppression	[m]	0...4

### Measuring/setting range

Measuring range	[m]	0.2...3.5; (black glossy surfaces)
Sampling rate	[Hz]	1...50; (preset: 5)

### 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	3	
Min. process cycle time	[ms]	5
Supported DeviceIDs	<b>Type of operation</b>	<b>DeviceID</b>
	default	808

### Operating conditions

Ambient temperature	[ $^{\circ}$ 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 1040.10 except for conformance with IEC 60825-1 Ed. 3, as described in Laser Notice No. 56, dated May 8, 2019.
MTTF [years]	173

### Mechanical data

Weight [g]	241.7
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

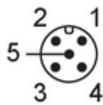
Accessories (optional)	Protective cover, E21133
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### Remarks

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

### Electrical connection

Connector: 1 x M12; coding: A; Contacts: 5



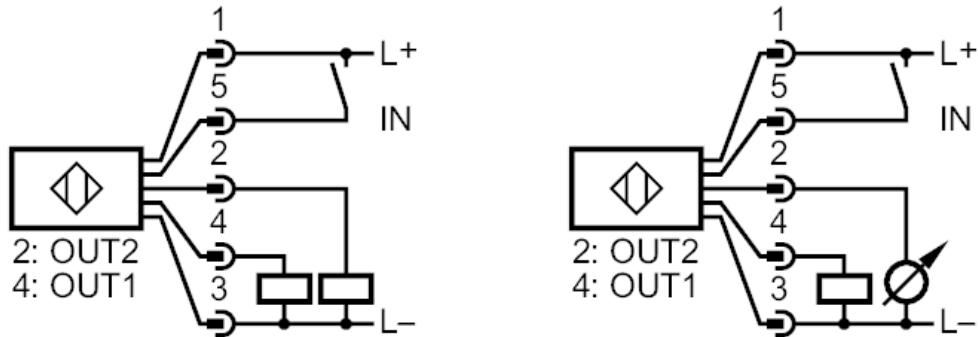
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### Connection



### Other data

Parameter	Setting range	Factory setting
Uni	mm, m, inch	mm
OU1	Hno, Hnc, Fno, Fnc	Hno
SP1 [mm]	200...3500	1000
nSP1 [mm]	200...3500	800
FSP1 [mm]	200...3500	1200
OU2	Hno, Hnc, Fno, Fnc, I, U	I
SP2 [mm]	200...3500	2000
nSP2 [mm]	200...3500	1800
FSP2 [mm]	200...3500	2200
ASP [mm]	0...3500	0
AEP [mm]	0...3500	3500
rATE [Hz]	1...50	5
dS1 [s]	0...0.1...5	0
dr1 [s]	0...0.1...5	0
dS2 [s]	0...0.1...5	0
dr2 [s]	0...0.1...5	0
dFo [s]	0...0.1...5	0
dIS	d1...3 ; rd1...3; OFF	d3

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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	± 6.5 mm	±7.5 mm	± 32 mm	± 40 mm
1000...2000 mm	± 8 mm	±9.5 mm	± 33 mm	± 40 mm
2000...3000 mm	± 17 mm	±19 mm	± 42 mm	± 50 mm
3000...3500 mm	± 23 mm	±25 mm	± 50 mm	± 55 mm

The values apply at

constant ambient conditions

23 °C / 960 hPa

minimum power-on time in minutes

10