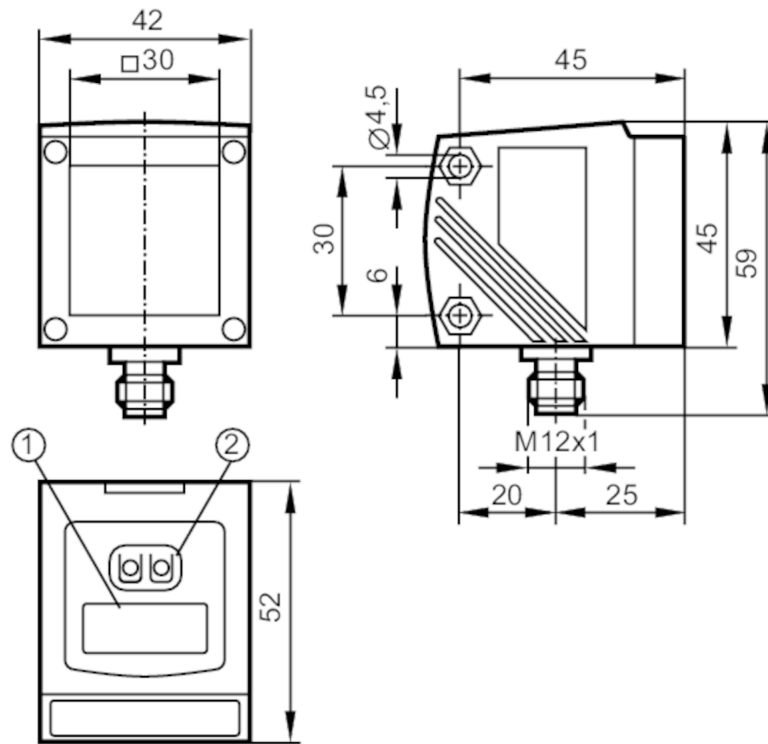


# O1D100



## 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; (configurable)
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	[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]	15
Max. light spot height	[mm]	15
Light spot dimensions refer to		10 m
Background suppression	[m]	0...19

### Measuring/setting range

Measuring range	[m]	0.2...10; (white paper 200 x 200 mm 90 % remission)
Sampling rate	[Hz]	1...50

### 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	806

### 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 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]	182	

### Mechanical data

Weight [g]	243.5
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

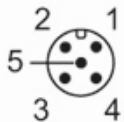
Accessories (optional)	Protective cover, E21133
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### Remarks

Remarks	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



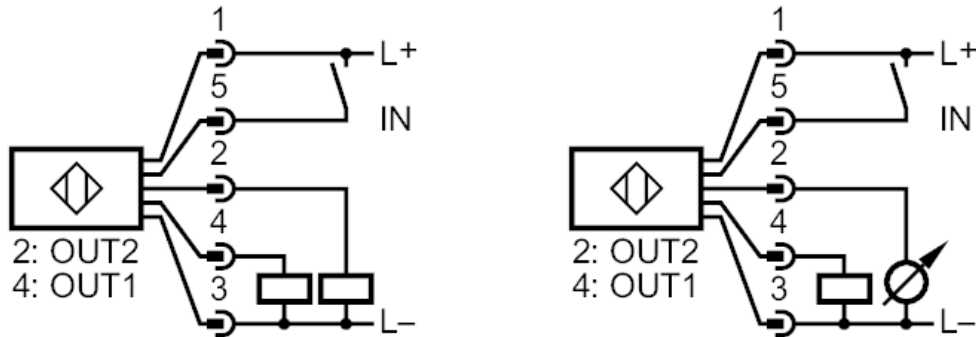
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## Laser distance sensor

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### Connection



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

### Other data

Parameter	Setting range	Factory setting
Uni	mm, m, inch	mm
OU1	Hno, Hnc, Fno, Fnc	Hno
SP1 [mm]	200...9999	1000
nSP1 [mm]	200...9999	800
FSP1 [mm]	200...9999	1200
OU2	Hno, Hnc, Fno, Fnc, I, U	I
SP2 [mm]	200...9999	2000
nSP2 [mm]	200...9999	1800
FSP2 [mm]	200...9999	2200
ASP [mm]	0...9999	0
AEP [mm]	0...9999	9999
rATE [Hz]	1...50	50
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	± 5.0 mm	±7.5 mm	± 15.0 mm	± 18.0 mm
1000...2000 mm	± 5.5 mm	±10.0 mm	± 15.0 mm	± 20.0 mm
2000...4000 mm	± 17.5 mm	±22.5 mm	± 25.0 mm	± 32.0 mm
4000...6000 mm	± 27.5 mm	±40.0 mm	± 35.0 mm	± 50.0 mm
6000...10000 mm	± 60.0 mm		± 70.0mm	
Sampling rate	50 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...1000 mm	± 16.5 mm	±16.5 mm	± 26.5 mm	± 26.5 mm
1000...2000 mm	± 16.5 mm	±16.5 mm	± 26.5 mm	± 26.5 mm
2000...4000 mm	± 30.0 mm	±37.0 mm	± 40.0 mm	± 47.0 mm
4000...6000 mm	± 37.0 mm	±57.0 mm	± 47.0 mm	± 67.0 mm
6000...10000 mm	± 75.0 mm	—	± 85.0mm	—
Sampling rate	50 Hz			
Extraneous light on the object	40...100 klx			

### Repeatability / Accuracy

distance	Repeatability of the measured values		Accuracy	
	white (90 % remission)	grey (18 % remission)	white (90 % remission)	grey (18 % remission)
200...1000 mm	± 4.0 mm	±4.5 mm	± 14.0 mm	± 15.0 mm
1000...2000 mm	± 4.5 mm	±6.0 mm	± 14.5 mm	± 16.0 mm
2000...4000 mm	± 13.5 mm	±14.5 mm	± 23.5 mm	± 24.0 mm
4000...6000 mm	± 19.0 mm	±21.0 mm	± 29.0 mm	± 31.0 mm
6000...10000 mm	± 37.0 mm	—	± 47.0mm	—
Sampling rate	1 Hz			
Extraneous light on the object	< 40 klx			

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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	± 10.0 mm	± 10.0 mm	± 20.0 mm	± 20.0 mm
1000...2000 mm	± 10.0 mm	± 10.0 mm	± 20.0 mm	± 20.0 mm
2000...4000 mm	± 17.0 mm	± 18.0 mm	± 27.0 mm	± 28.0 mm
4000...6000 mm	± 22.0 mm	± 25.0 mm	± 32.0 mm	± 35.0 mm
6000...10000 mm	± 37.0 mm	—	± 47.0mm	—

Sampling rate	1 Hz
Extraneous light on the object	< 40...100 klx
-	-
Range on black object (6 % remission)	<= 4000 mm
-	-
The values apply at	
constant ambient conditions	23 °C / 960 hPa
minimum power-on time in minutes	10