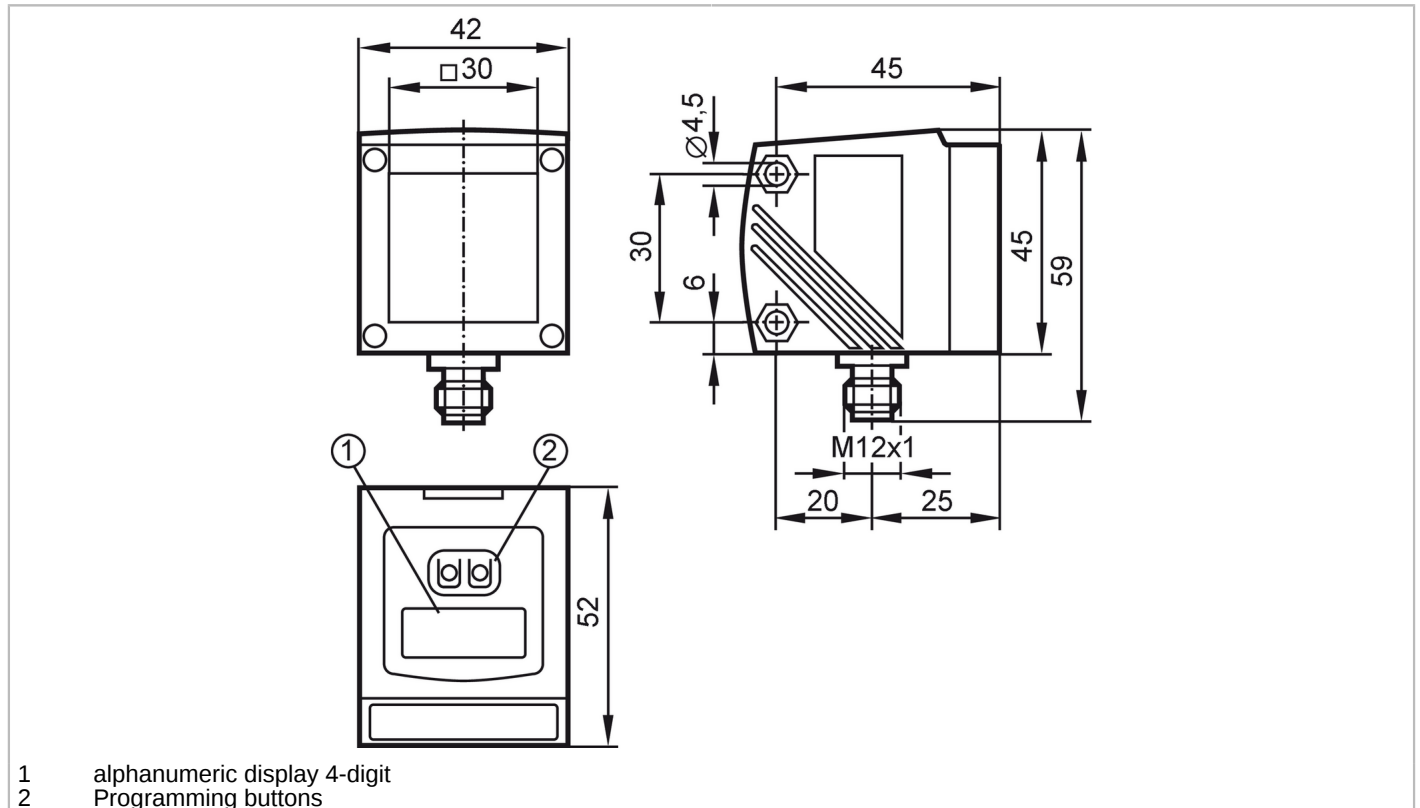


# O1D155



## Laser distance sensor

O1DLF3KG/IO-LINK



### Product characteristics

Type of light	red light
Laser protection class	1
Housing	rectangular

### Electrical data

Operating voltage	[V]	18...30 DC
Current consumption	[mA]	< 150
Protection class		III
Reverse polarity protection		yes
Type of light		red light
Wave length	[nm]	650
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; (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]	8
Max. light spot height	[mm]	8
Light spot dimensions refer to		6 m
Background suppression	[m]	6...100

### Measuring/setting range

Measuring range	[m]	0.3...6; (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	<b>Type of operation</b>	<b>DeviceID</b>
	default	812

### Operating conditions

Ambient temperature	[°C]	-10...60
Protection		IP 67

### Tests / approvals

EMC	EN 60947-5-2	
Laser protection class	1	
Notes on laser protection	Caution:	Laser light
	laser class:	1
		EN / IEC60825-1:2007
		EN / IEC60825-1:2014
	Complies with 21 CFR 1040.10 except for conformance with IEC 60825-1 Ed. 3, as	

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described in Laser Notice No. 56, dated May 8, 2019.

MTTF	[years]	186
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### Mechanical data

Weight	[g]	243
Housing		rectangular
Dimensions	[mm]	59 x 42 x 52
Material		housing: diecast zinc; front lens: glass; LED window: PC

### Displays / operating elements

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

### Accessories

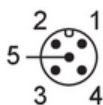
Accessories (optional)	Protective cover, E21133
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### Remarks

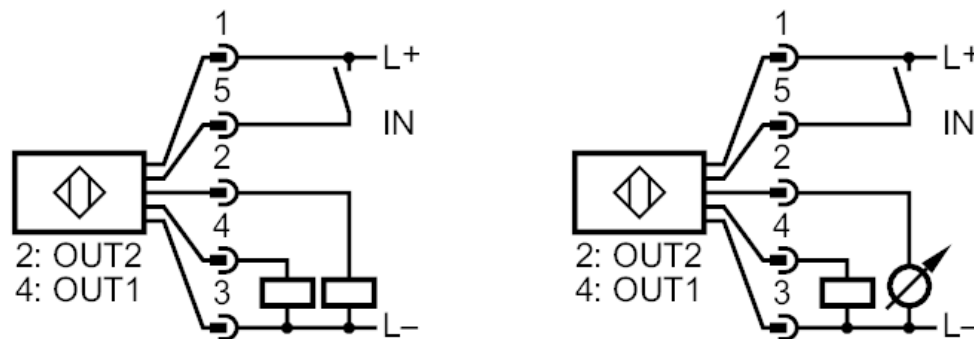
Remarks	cULus - Class 2 source required
Pack quantity	1 pcs.

### Electrical connection

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



### 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

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## Laser distance sensor

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Other data		
Parameter	Setting range	Factory setting
Uni	mm, m, inch	mm
OU1	Hno, Hnc, Fno, Fnc	Hno
SP1	300...5999	1000
nSP1	300...5999	800
FSP1	300...5999	1200
OU2	Hno, Hnc, Fno, Fnc, I, U	I
SP2	300...5999	2000
nSP2	300...5999	1800
FSP2	300...5999	2200
ASP	0...5999	0
AEP	0...5999	5999
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

### Repeatability / Accuracy

distance	Repeatability of the measured values		Accuracy	
	white (90 % remission)	grey (18 % remission)	white (90 % remission)	grey (18 % remission)
300...1000 mm	± 11 mm	± 13 mm	± 31mm	± 33 mm
1000...2000 mm	± 28 mm	± 30 mm	± 48 mm	± 50 mm
2000...3000 mm	± 50 mm	± 50 mm	± 70 mm	± 70 mm
3000...4000 mm	± 85 mm	± 85 mm	± 105 mm	± 105 mm
4000...5000 mm	± 105 mm		± 125 mm	
5000...6000 mm	± 145 mm		± 165 mm	
Sampling rate	15 Hz			

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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)
300...1000 mm	± 8 mm	± 10 mm	± 28 mm	± 30 mm
1000...2000 mm	± 25 mm	± 25 mm	± 45 mm	± 45 mm
2000...3000 mm	± 38 mm	± 38 mm	± 58 mm	± 58 mm
3000...4000 mm	± 70 mm	± 70 mm	± 90 mm	± 90 mm
4000...5000 mm	± 100 mm		± 120 mm	
5000...6000 mm	± 100 mm		± 120 mm	
Sampling rate	1 Hz			

Range on black object (6 % remission)	<= 2500 klx
The values apply at	
Extraneous light on the object	< 100 klx
constant ambient conditions	23 °C / 960 hPa
minimum power-on time in minutes	10