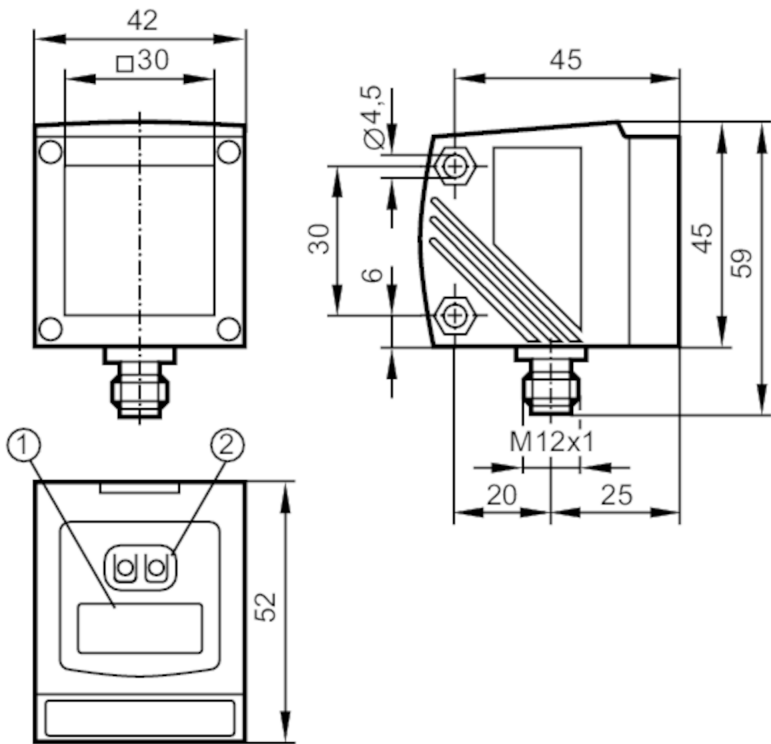


O1D155

Laser distance sensor

O1DLF3KG/IO-LINK



- 1 alphanumeric display 4-digit
- 2 Programming buttons



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
Outputs		
Total number of outputs		2
Electrical design		PNP
Number of digital outputs		2
Output function		normally open / closed; (programmable)

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Max. current load per output	[mA]	200
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]	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	Function class	Description
	0x1	Smart Sensor Profil
	0x8000	Device Identification
	0x8002	Process Data Variable
	0x8003	Device Diagnosis
	0x8004	Teach Channel
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	812

Operating conditions

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

Tests / approvals

EMC	EN 60947-5-2	
Laser protection class	1	

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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 described in Laser Notice No. 56, dated May 8, 2019.
MTTF	[years]	186

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

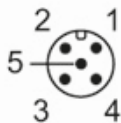
Accessories (optional)	Protective cover, E21133
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Remarks

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

Electrical connection

Connector: 1 x M12; coding: A



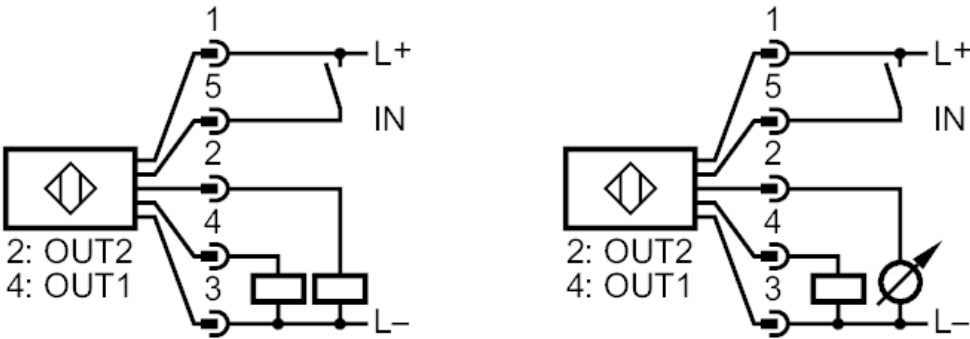
O1D155



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	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

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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)
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			

Repeatability / Accuracy

	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