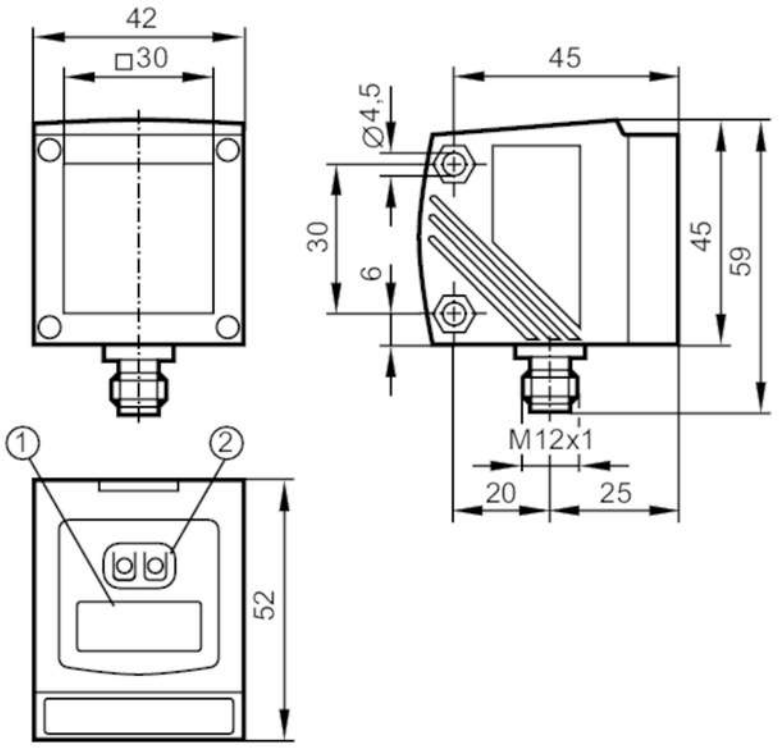
O1D155

Photoelectric 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 analogue outputs: 1
Outputs		
Total number of outputs		2
Electrical design		PNP
Number of digital outputs		2
Output function		normally open / normally closed; (programmable)

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Max. current load per output	[mA]	200	
Number of analogue outputs		1	
Analogue current output	[mA]	4...20; (IEC 61131-2)	
Max. load	[Ω]	250	
Analogue voltage output	[V]	0...10; (IEC 61131-2)	
Min. load resistance	[Ω]	5000	
Short-circuit protection		yes	
Type of short-circuit protection		pulsed	
Overload protection		yes	
Detection zone			
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: Sensor Identification; Binary Data Channel, Process Value; Sensor Diagnosis	
SIO mode		yes	
Required master port type		A	
Process data analogue		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	
Notes on laser protection		Caution:	laser light
		laser class:	1
			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.

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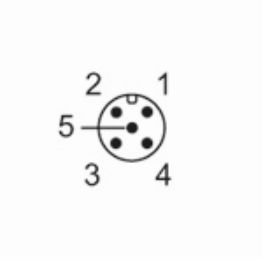
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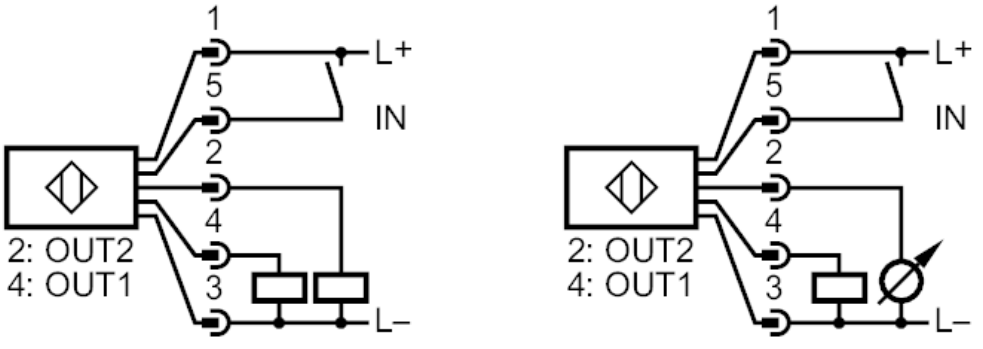
MTTF	[years]	186	
Mechanical data			
Weight	[g]	310.5	
Housing		rectangular	
Dimensions	[mm]	59 x 42 x 52	
Materials		housing: diecast zinc; front pane: glass; LED window: PC	
Displays / operating elements			
Display		switching status	2 x LED, yellow
		operation	LED, green
		distance value, programming	alphanumeric display, 4-digit
Accessories			
Accessories (optional)		Protective cover, E21133	
Remarks			
Remarks		operating voltage "supply class 2" according to cULus	
Pack quantity		1 pcs.	

Electrical connection

Connector: 1 x M12; coding: A



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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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

	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

	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