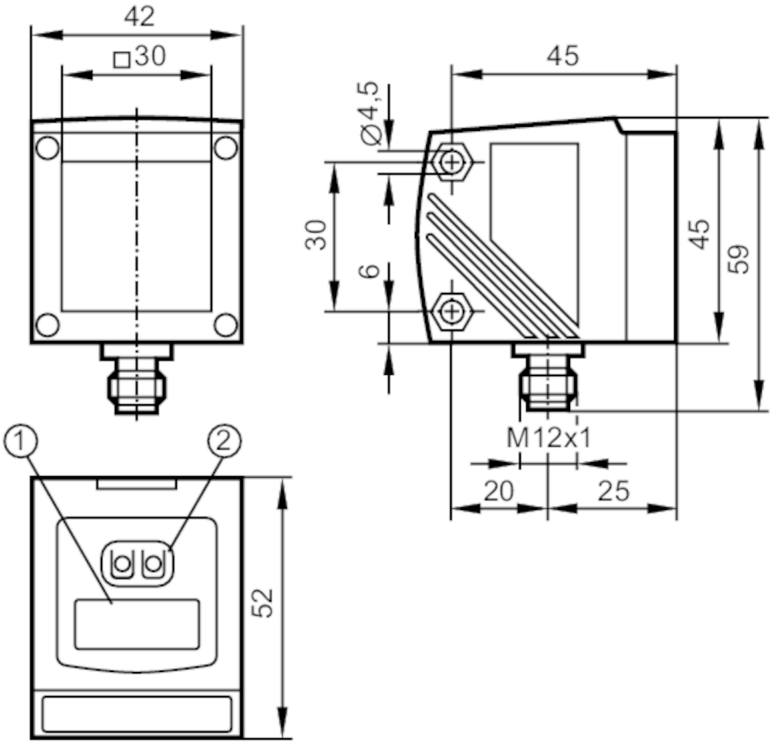
O1D102

Photoelectric 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
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 analogue outputs: 1
Outputs		
Total number of outputs		2
Electrical design		PNP
Number of digital outputs		2
Output function		normally open / normally closed; (programmable)
Max. current load per output	[mA]	200
Number of analogue outputs		1
Analogue current output	[mA]	4...20; (IEC 61131-2)

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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]	6
Max. light spot height	[mm]	6
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: Sensor Identification; Binary Data Channel; Process Value; Sensor Diagnosis
SIO mode		yes
Required master port type		A
Process data analogue		2
Process data binary		3
Min. process cycle time	[ms]	6
Supported DeviceIDs		**Type of operation** / **DeviceID**
		default / 808
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:	<= 4,0 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 except for deviations pursuant to Laser Notice No. 50, dated June 2007.
MTTF	[years]	173	

Mechanical data		
Weight	[g]	241.7
Housing		rectangular
Dimensions	[mm]	59 x 42 x 52
Materials		housing: diecast zinc; front pane: glass; LED window: PC
Lens alignment		side lens

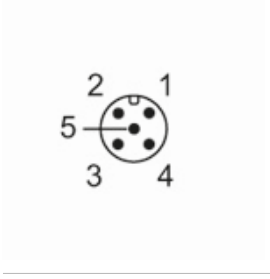
Displays / operating elements		
Display	switching status	2 x LED, yellow
	operation	LED, green
	distance value, programming	alphanumeric display, 4-digit

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



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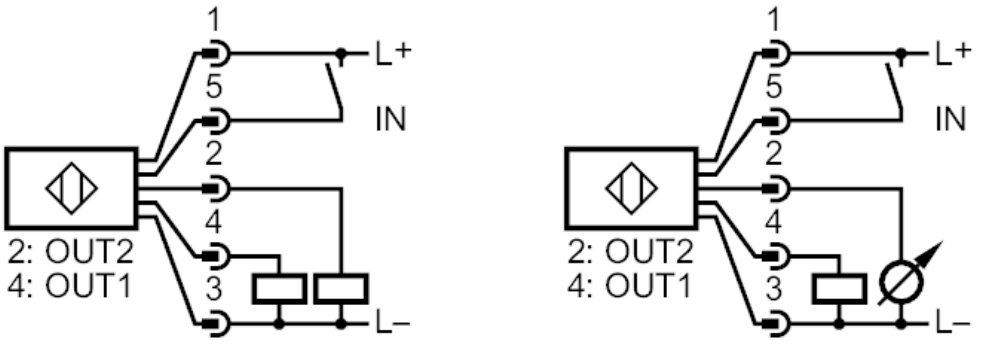
Connection



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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

	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