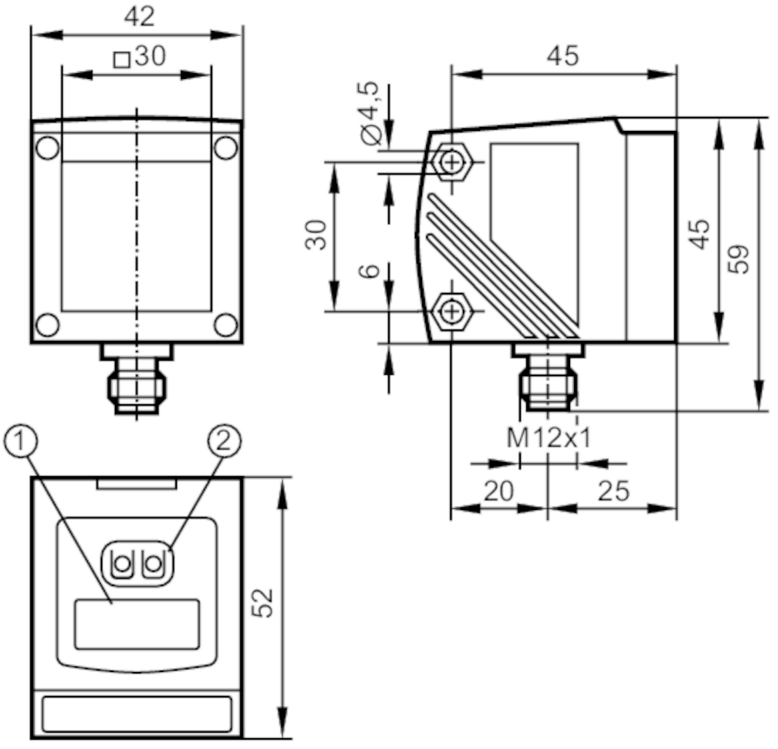
O1D106

Photoelectric distance sensor

O1DLF3KG



1 alphanumeric display 4-digit
2 Programming buttons

Product characteristics		
Measuring range	[m]	1...75; (Reflector E21159)
Communication interface		IO-Link
Laser protection class		2
Housing		rectangular
Dimensions	[mm]	59 x 42 x 52
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 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
Analog current output	[mA]	4...20; (scalable IEC 61131-2)
Max. load	[Ω]	250
Analog voltage output	[V]	0...10; (scalable 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]	150
Max. light spot height	[mm]	150
Light spot dimensions refer to		75 m
Background suppression	[m]	75...150
Measuring/setting range		
Measuring range	[m]	1...75; (Reflector E21159)
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 class		A
Process data analog		1
Process data binary		2
Min. process cycle time	[ms]	6
Supported DeviceIDs		Type of operation: default; DeviceID: 810
Operating conditions		
Ambient temperature	[°C]	-10...60
Protection		IP 67

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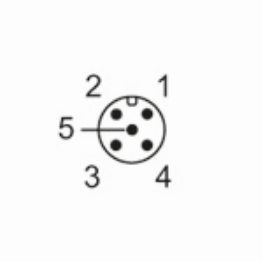
Tests / approvals			
EMC		EN 60947-5-2	
Laser protection class		2	
Notes on laser protection		Caution:	Laser light
		Power:	<= 4,0 mW
		Wave length:	650 nm
		pulse:	1,3 ns
		Do not stare into beam.	
		Avoid exposure to the laser light.	
		laser class:	2
			EN / IEC60825-1:2007
			EN / IEC60825-1:2014
			Complies with 21 CFR 1040 except for deviations pursuant to Laser Notice No. 50, dated June 2007.
MTTF	[years]	106	
Mechanical data			
Weight	[g]	312	
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
Remarks			
Remarks		cULus - Class 2 source required	
Pack quantity		1 pcs.	

Electrical connection

Connector: 1 x M12



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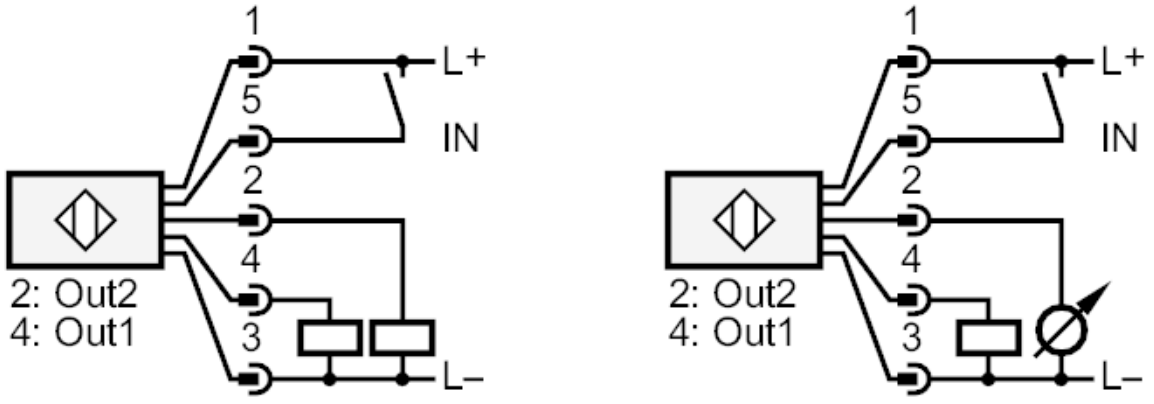
Connection



2:	switching output or analog output 4...20 mA / 0...10 V
4:	switching output or IO-Link
5:	IN1 Laser On/ Off

Other data

Parameter	Setting range	Factory setting
Uni	m, feet	m
OU1	Hno, Hnc, Fno, Fnc	Hno
SP1	1.00...75.00	10.00
nSP1	1.00...75.00	8.00
FSP1	1.00...75.00	12.00
OU2	Hno, Hnc, Fno, Fnc, I, U	I
SP2	1.00...75.00	20.00
nSP2	1.00...75.00	18.00
FSP2	1.00...75.00	22.00
ASP	0...75.00	0
AEP	0...75.00	75.00
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	0.2
dIS	d1...3; rd1...3; OFF	d3

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Repeatability / Accuracy

	Repeatability of the measured values	Accuracy
1...25 m	± 15 mm	± 35 mm
30 m	± 15 mm	± 35 mm
40 m	± 15 mm	± 35 mm
50 m	± 19 mm	± 39 mm
60 m	± 27 mm	± 47 mm
70 m	± 43 mm	± 63 mm
Sampling rate		
Reflector	33 Hz	

Repeatability / Accuracy

	Repeatability of the measured values	Accuracy
1...75 m	± 15 mm	± 35 mm
Sampling rate		
Reflector	1 Hz	
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	