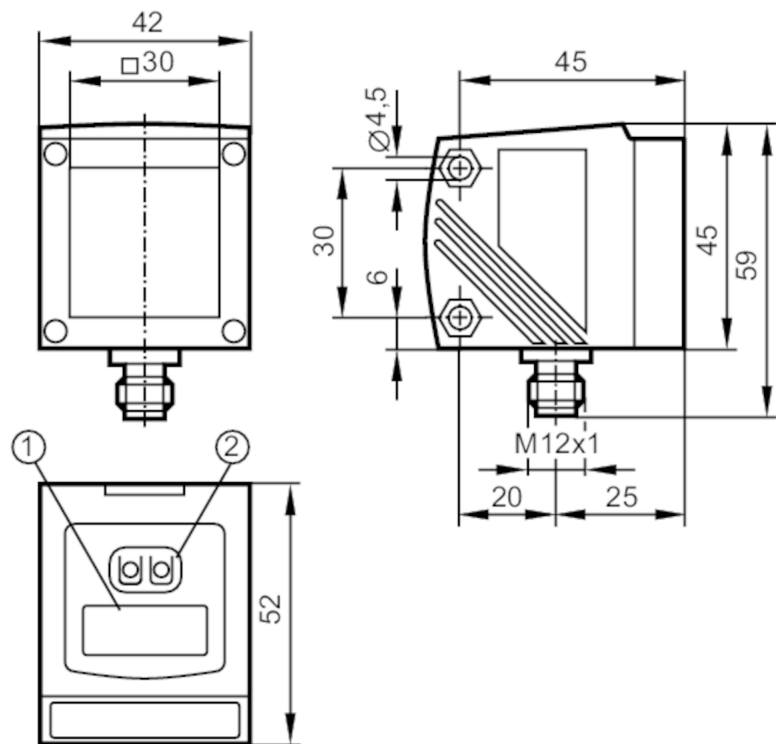


O1D105



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
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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; (scalable IEC 61131-2)



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Max. load	[Ω]	250
Analogue voltage output	[V]	0...10; (scalable 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]	15
Max. light spot height	[mm]	15
Light spot dimensions refer to		10 m
Background suppression	[m]	10...100
Measuring/setting range		
Measuring range	[m]	0.2...10; (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: Device Identification; Device Diagnosis; Device Teach Channel; Binary Data Channel; Process Data Variable
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	809
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:	$\leq 4,0 \text{ mW}$
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]	107
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Mechanical data

Weight	[g]	244.5
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

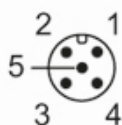
Accessories (optional)	Protective cover, E21133
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Remarks

Remarks	operating voltage "supply class 2" according to cULus
Pack quantity	1 pcs.

Electrical connection

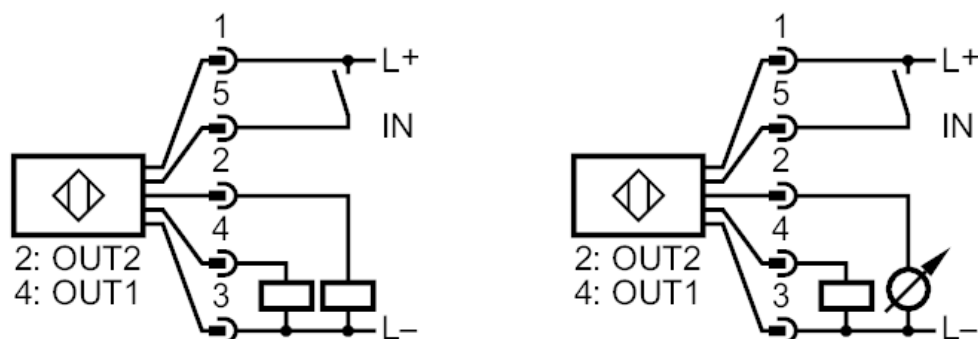
Connector: 1 x M12; coding: A



Photoelectric distance sensor

O1DLF3KG/IO-LINK

Connection



2: switching output or analogue 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	mm, m, inch	mm
OU1	Hno, Hnc, Fno, Fnc	Hno
SP1	200...9999	1000
nSP1	200...9999	800
FSP1	200...9999	1200
OU2	Hno, Hnc, Fno, Fnc, I, U	I
SP2	200...9999	2000
nSP2	200...9999	1800
FSP2	200...9999	2200
ASP	0...9999	0
AEP	0...9999	9999
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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Photoelectric 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)
200...1000 mm	± 4.5 mm	± 6.0 mm	± 15.0 mm	± 16.0 mm
1000...2000 mm	± 5.0 mm	± 8.0 mm	± 15.0 mm	± 18.0 mm
2000...4000 mm	± 16.0 mm	± 19.0 mm	± 25.0 mm	± 30.0 mm
4000...6000 mm	± 24.0 mm	± 33.0 mm	± 35.0 mm	± 45.0 mm
6000...10000 mm	± 50.0 mm	-	± 65.0 mm	-
Sampling rate	15 Hz			
Extraneous light on the object	< 40 klx			

repeatability/accuracy

	repeatability of the measured values		accuracy	
	white (90 % remission)	grey (18 % remission)	white (90 % remission)	grey (18 % remission)
200...2000 mm	± 14.0 mm	± 14.0 mm	± 24.0 mm	± 24.0 mm
2000...4000 mm	± 25.0 mm	± 30.0 mm	± 35.0 mm	± 40 mm
4000...6000 mm	± 31.0 mm	± 45.0 mm	± 41.0 mm	± 55.0 mm
6000...10000 mm	± 60.0 mm	-	± 70.0 mm	-
Sampling rate	15 Hz			
Extraneous light on the object	< 40...100 klx			
Range on black object (6 % remission)	<= 4000 klx			
The values apply at				
constant ambient conditions	23 °C / 960 hPa			
minimum power-on time in minutes	10			