

- 1: 4-digit alphanumeric display
2: Programming buttons



Product characteristics

Photoelectric distance sensor

Quick disconnect

Visible laser light, protection class 2 laser

4-digit alphanumeric display

Measuring range 0.2...10 m (Range referred to white paper 200 x 200 mm, 90 % remission)

Background suppression > 10...19 m

Electrical data

Electrical design

DC NPN

Operating voltage [V]

18...30 DC

Current consumption [mA]

< 150

Life expectancy typ. [h]

50000

Protection class

III

Reverse polarity protection

yes

Outputs

Output function

OUT1: normally open / closed programmable
OUT2: normally open / closed programmable or analog (4...20 mA / 0...10 V, scalable)

Current rating [mA]

2 x 200

Short-circuit protection

yes (non-latching)

Overload protection

yes

Analog output

current output [mA]

4...20; according to IEC 61131-2

- Max. load [Ω]

250

voltage output [V]

0...10; according to IEC 61131-2

- Min. load [Ω]

5000

Monitoring range

Background suppression

> 10...19 m

Light spot diameter [mm]

< 15 x 15 (Range 10 m)

Measuring / setting range

Measuring range [m]

0.2...10 (Range referred to white paper 200 x 200 mm, 90 % remission)

Sampling rate [Hz]

1...50

Environment

Ambient temperature [°C]

-10...60

Protection

IP 67

O1D103 - Photoelectric distance sensor - eclass: 27270801 / 27-27-08-01

Tests / approvals

EMC		EN 60947-5-2
MTTF [Years]		183

Mechanical data

Housing materials	housing: diecast zinc; window: glass; LED window: polycarbonate	
Weight [kg]	0.296	

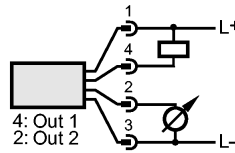
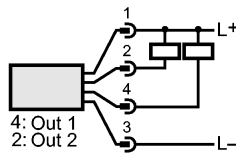
Displays / operating elements

Display	Switching status	2 x LED yellow
	Power	LED green
	Distance, programming	4-digit alphanumeric display

Electrical connection

Connection	M12 connector
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Wiring



Accessories

Accessories (optional)	Protective cover E21133
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Remarks

Remarks	<p>Caution: Laser Light Power <= 4.1 mW wavelength = 650 nm pulse 1.3 ns Do not stare into beam Avoid exposure Class 2 laser product EN 60825-1:2003-10 cULus - Class 2 source required</p>
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Pack quantity [piece]	1
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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...50	50
dS1	0...0.1...5	0
dr1	0...0.1...5	0
dS2	0...0.1...5	0
dr2	0...0.1...5	0
dAP	0...0.1...5	0
dIS	d1...3; rd1...3; OFF	d3

Repeatability / Accuracy

Sampling rate 50 Hz - extraneous light on the object max.: 40 klx

	Repeatability of the measured values		Accuracy	
	white (90 % remission)	grey (18 % remission)	white (90 % remission)	grey (18 % remission)
200...1000 mm	± 5.0 mm	± 7.5 mm	± 15.0 mm	± 18.0 mm

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1000...2000 mm	± 5.5 mm	± 10.0 mm	± 15.0 mm	± 20.0 mm
2000...4000 mm	± 17.5 mm	± 22.5 mm	± 25.0 mm	± 32.0 mm
4000...6000 mm	± 27.5 mm	± 40.0 mm	± 35.0 mm	± 50.0 mm
6000...10000 mm	± 60.0 mm	--	± 70.0 mm	--

Repeatability / Accuracy				
Sampling rate 50 Hz - extraneous light on the object max.: 40...100 klx				
	Repeatability of the measured values		Accuracy	
	white (90 % remission)	grey (18 % remission)	white (90 % remission)	grey (18 % remission)
200...1000 mm	± 16.5 mm	± 16.5 mm	± 26.5 mm	± 26.5 mm
1000...2000 mm	± 16.5 mm	± 16.5 mm	± 26.5 mm	± 26.5 mm
2000...4000 mm	± 30.0 mm	± 37.0 mm	± 40.0 mm	± 47.0 mm
4000...6000 mm	± 37.0 mm	± 57.0 mm	± 47.0 mm	± 67.0 mm
6000...10000 mm	± 75.0 mm	--	± 85.0 mm	--

Repeatability / Accuracy				
Sampling rate 1 Hz - extraneous light on the object max.: 40 klx				
	Repeatability of the measured values		Accuracy	
	white (90 % remission)	grey (18 % remission)	white (90 % remission)	grey (18 % remission)
200...1000 mm	± 4.0 mm	± 4.5 mm	± 14.0 mm	± 15.0 mm
1000...2000 mm	± 4.5 mm	± 6.0 mm	± 14.5 mm	± 16.0 mm
2000...4000 mm	± 13.5 mm	± 14.5 mm	± 23.5 mm	± 24.0 mm
4000...6000 mm	± 19.0 mm	± 21.0 mm	± 29.0 mm	± 31.0 mm
6000...10000 mm	± 37.0 mm	--	± 47.0 mm	--

Repeatability / Accuracy				
Sampling rate 1 Hz - extraneous light on the object max.: 40...100 klx				
	Repeatability of the measured values		Accuracy	
	white (90 % remission)	grey (18 % remission)	white (90 % remission)	grey (18 % remission)
200...1000 mm	± 10.0 mm	± 10.0 mm	± 20.0 mm	± 20.0 mm
1000...2000 mm	± 10.0 mm	± 10.0 mm	± 20.0 mm	± 20.0 mm
2000...4000 mm	± 17.0 mm	± 18.0 mm	± 27.0 mm	± 28.0 mm
4000...6000 mm	± 22.0 mm	± 25.0 mm	± 32.0 mm	± 35.0 mm
6000...10000 mm	± 37.0 mm	--	± 47.0 mm	--

Range on black (6 % remission) ≤ 4000 mm

The values apply at

- constant ambient conditions: 23 °C / 960 hPa

- minimum power-on time in minutes: 10