

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

Made in Germany



Product characteristics

Optical level 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...100 m

Electrical data

Electrical design	DC PNP
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...100 m
Light spot diameter [mm]	6 (Range 10 m)

Measuring / setting range

O1D300

O1DLF3KG

Photoelectric sensors

Sampling rate	[Hz]	1...33
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Environment		
Ambient temperature	[°C]	-10...60
Storage temperature	[°C]	-30...80
Protection		IP 67

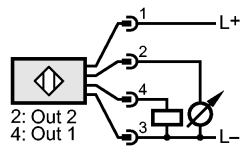
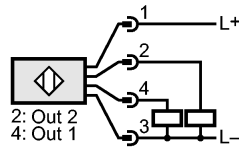
Tests / approvals		
EMC		EN 60947-5-2
MTTF	[Years]	186

Mechanical data		
Housing materials		housing: diecast zinc; window: glass; LED window: polycarbonate
Weight	[kg]	0.307

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

Electrical connection		
Connection		M12 connector

Wiring



Accessories		
Accessories (optional)		Protective cover E21133

Remarks		
Remarks	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	

Pack quantity	[piece]	1
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Other data

Parameter	Setting range	Factory setting
Uni	cm, m, inch	cm
OU1	Hno, Hnc, Fno, Fnc	Hno
SP1	20.0...999.5	100.0
rP1	20.0...999.5	80.0
OU2	Hno, Hnc, Fno, Fnc, I, U	I
SP2	20.0...999.5	200.0
rP2	20.0...999.5	180.0
ASP	0...999.5	0


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AEP	0...999.5	999.5
dr1	0...0.1...5	0
dr2	0...0.1...5	0
FOU1	ON ; OFF	OFF
FOU2	ON ; OFF	OFF
dFO	0...0.1...5	0
EMP	20.0...999.5	20.0
cMEd	20.0...999.5	--
dIS	ON ; OFF	ON
mEAn	OFF ; 1...60	OFF
rATE [Hz]	1...33	15

Repeatability / Accuracy
Sampling rate 15 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)
20.0...100.0 cm	± 0.45 cm	± 0.6 cm	± 1.5 cm	± 1.6 cm
100.0...200.0 cm	± 0.5 cm	± 0.8 cm	± 1.5 cm	± 1.8 cm
200.0...400.0 cm	± 1.6 cm	± 1.9 cm	± 2.5 cm	± 3.0 cm
400.0...600.0 cm	± 2.4 cm	± 3.3 cm	± 3.5 cm	± 4.5 cm
600.0...1000.0 cm	± 5.0 cm	--	± 6.5 cm	--

Repeatability / Accuracy
Sampling rate 15 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)
20.0...200.0 cm	± 1.4 cm	± 1.4 cm	± 2.4 cm	± 2.4 cm
200.0...400.0 cm	± 2.5 cm	± 3.0 cm	± 3.5 cm	± 4.0 cm
400.0...600.0 cm	± 3.1 cm	± 4.5 cm	± 4.1 cm	± 5.5 cm
600.0...1000.0 cm	± 6.0 cm	--	± 7.0 cm	--

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)
20.0...100.0 cm	± 0.4 cm	± 0.45 cm	± 1.4 cm	± 1.5 cm
100.0...200.0 cm	± 0.45 cm	± 0.6 cm	± 1.5 cm	± 1.6 cm
200.0...400.0 cm	± 1.35 cm	± 1.4 cm	± 2.3 cm	± 2.4 cm
400.0...600.0 cm	± 1.9 cm	± 2.1 cm	± 2.9 cm	± 3.1 cm
600.0...1000.0 cm	± 3.7 cm	--	± 4.7cm	--

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)
20.0...200.0 cm	± 1.0 cm	± 1.0 cm	± 2.0 cm	± 2.0 cm
200.0...400.0 cm	± 1.8 cm	± 1.9 cm	± 2.8 cm	± 2.9 cm
400.0...600.0 cm	± 2.3 cm	± 2.7 cm	± 3.3 cm	± 3.7 cm

**O1D300**

O1DLF3KG

Photoelectric sensors

600.0...1000.0 cm	± 3.8 cm	--	± 4.8 cm	--
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Range on black (6 % remission) <= 400.0 cm

The values apply at

- constant ambient conditions: 23 °C / 960 hPa

- minimum power-on time in minutes: 10