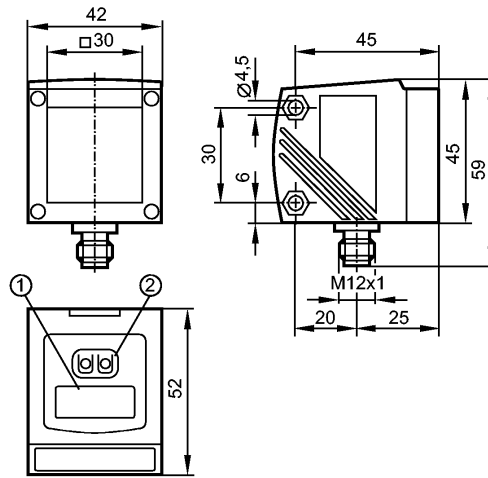


**O1D300**

O1DLF3KG/IO-LINK

Photoelectric sensors



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



**Product characteristics**

Optical level sensor

Connector

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; "supply class2" gemäß cULus
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 analogue (4...20 mA / 0...10 V, scalable)
Current rating [mA]	2 x 200
Short-circuit protection	pulsed
Overload protection	yes
Analogue 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

**Range**

Background suppression	> 10...100 m
Light spot diameter [mm]	< 15 x 15 ( Range 10 m )

**Measuring / setting range**

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**Photoelectric sensors**

Measuring range	[m]	0.2...10 (Range referred to white paper 200 x 200 mm, 90 % remission)
Sampling rate	[Hz]	1...33

**Interfaces**

IO-Link master		
Transfer type		COM2 (38.4 kBaud)
IO-Link revision		1.1
SDCI standard		IEC 61131-9
IO-Link device		
IO-Link device ID		813d / 00 03 2Dh
Profiles		Smart Sensor: Sensor Identification; Binary Data Channel; Process Value; Sensor Diagnosis
SIO mode		yes
Required master port class		A
Process data analogue		2
Process data binary		2
Min. process cycle time	[ms]	6.0

**Environment**

Ambient temperature	[°C]	-10...60
Protection		IP 67

**Tests / approvals**

EMC		EN 60947-5-2
MTTF	[Years]	107

**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
	Operation	LED green
	Distance, programming	4-digit alphanumeric display

**Electrical connection**

Connection		M12 connector
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**Wiring**

2: OUT2: switching output or 4...20 mA / 0...10 V  
 4: OUT1: switching output / IO-Link

**Accessories**

Accessories (optional)		Protective cover E21133
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**Remarks**

Remarks		Caution: Laser Light Power <= 4.0 mW wavelength = 650 nm pulse 1.3 ns Do not stare into beam
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**O1D300**

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Photoelectric sensors

Avoid exposure  
Class 2 laser product  
EN 60825-1:2014-05

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 [cm]	20.0...999.5	100.0
rP1 [cm]	20.0...999.5	80.0
OU2	Hno, Hnc, Fno, Fnc, I, U	I
SP2 [cm]	20.0...999.5	200.0
rP2 [cm]	20.0...999.5	180.0
ASP [cm]	20.0...999.5	0
AEP [cm]	20.0...999.5	979.5
dr1 [s]	0...0.1...5	0
dr2 [s]	0...0.1...5	0
FOU1	ON ; OFF	OFF
FOU2	ON ; OFF	OFF
dFO [s]	0...0.1...5	0
EMP [cm]	20.0...999.5	20.0
cMEd [cm]	20.0...999.5	--
dIS	ON ; OFF	ON
mEAn [s]	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



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**Photoelectric sensors**

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
600.0...1000.0 cm	± 3.8 cm	--	± 4.8 cm	--

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