

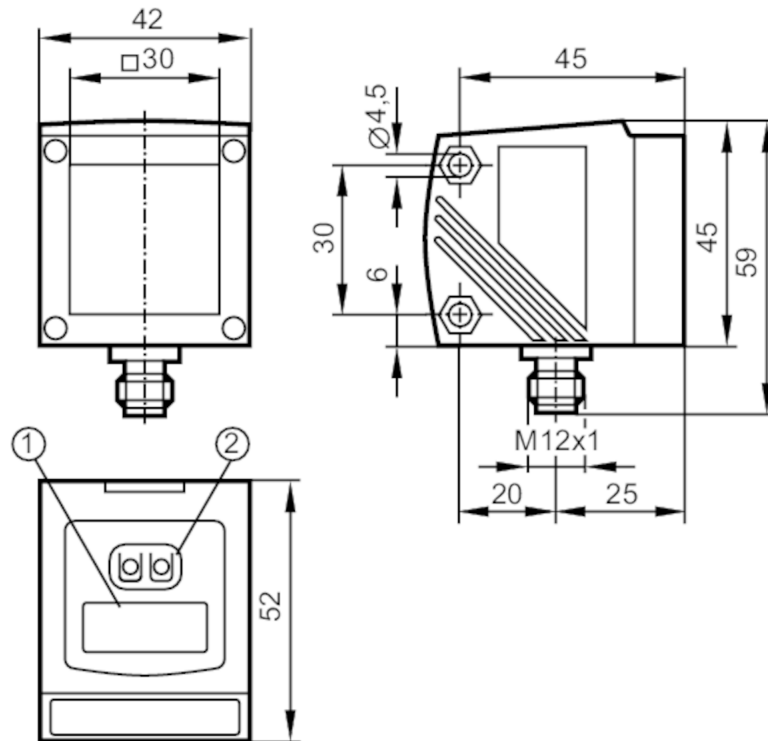
O1D105



Photoelectric distance sensor

O1DLF3KG/IO-LINK

When selecting an alternative article and accessories please note that technical data may differ!



- 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 |
|------------------------------|---|

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 |

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| | | |
|----------------------------------|------|--------------------------------|
| Analogue current output | [mA] | 4...20; (scalable IEC 61131-2) |
| 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: | <= 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] | 107 |

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

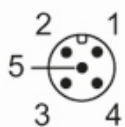
| | |
|------------------------|--------------------------|
| Accessories (optional) | Protective cover, E21133 |
|------------------------|--------------------------|

Remarks

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

Electrical connection

Connector: 1 x M12; coding: A



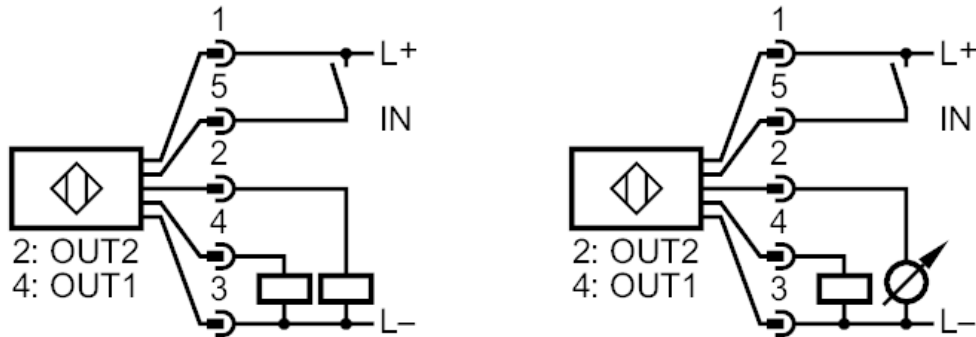
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Connection



- 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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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 | | | |