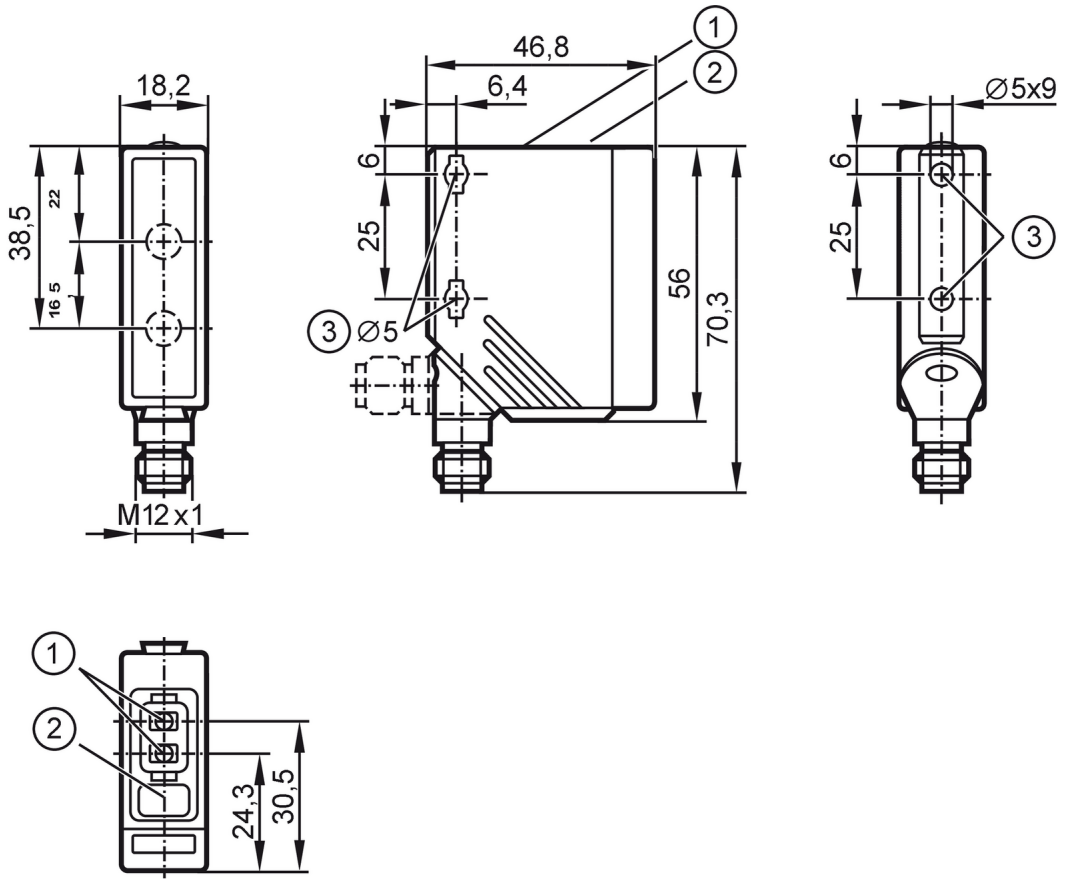
# O5D150

## Photoelectric distance sensor

O5DLCPKG/US




1: setting pushbuttons
2: alphanumeric display 3-digit
3: Tightening torque < 2 Nm when using a mounting screw M5
---
receiver in upper lens
transmitter in lower lens

| | | |
|---|---|---|
| **Product characteristics** | | |
| Type of light | | red light |
| Laser protection class | | 1 |
| Housing | | rectangular |
| **Application** | | |
| Special feature | | Background suppression |
| Application | | Industrial applications / factory automation |
| **Electrical data** | | |
| Operating voltage | [V] | 10...30 DC;  ("supply class 2" to cULus) |
| Current consumption | [mA] | 75;  (24 V) |
| Protection class | | III |
| Reverse polarity protection | | yes |
| Type of light | | red light |
| Wave length | [nm] | 650 |
| Typ. lifetime | [h] | 50000 |

# O5D150

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| | | | |
|---|---|---|---|
| **Inputs / outputs** | | | |
| Number of inputs and outputs | | Number of digital outputs: 2 | |
| **Outputs** | | | |
| Total number of outputs | | 2 | |
| Electrical design | | PNP | |
| Number of digital outputs | | 2 | |
| Output function | | normally open / normally closed; (complementary) | |
| Max. current load per output | [mA] | 100 | |
| Switching frequency DC | [Hz] | 11 | |
| Short-circuit protection | | yes | |
| Type of short-circuit protection | | pulsed | |
| Overload protection | | yes | |
| **Detection zone** | | | |
| Max. light spot diameter | [mm] | 5 | |
| Light spot dimensions refer to | | 2 m | |
| Detection range hysteresis | [%] | < 4 | |
| Note on monitoring range hysteresis | | black 6% remission | |
| Background suppression available | | yes | |
| Background suppression | [m] | < 20 | |
| **Measuring/setting range** | | | |
| Measuring range | [m] | 0.03...2 | |
| Sampling rate | [Hz] | 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 - SSP 0 | Generic Profiled Sensor |
| | | Function | Multiple switching signal |
| | | Function | Process data variable |
| SIO mode | | yes | |
| Process data analogue | | 1 | |
| Process data binary | | 1 | |
| Min. process cycle time | [ms] | 6.4 | |
| Supported DeviceIDs | | **Type of operation** | **DeviceID** |
| | | default | 372 |
| **Operating conditions** | | | |
| Ambient temperature | [°C] | -25...60 | |
| Note on ambient temperature | | at ta < -10 °C warm-up is necessary, laser is off | |
| Protection | | IP 65; IP 67 | |
| Max. immunity to extraneous light | [klx] | 10; (on the object) | |

# O5D150

## Photoelectric distance sensor

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| Tests / approvals | | | |
|---|---|---|---|
| EMC | | EN 60947-5-2 | |
| Vibration resistance | | DIN EN 60068-2-6 | 10 g (10...55 Hz) / 120 min. per axis (x, y, z) |
| Shock resistance | | DIN EN 60068-2-27 | 50 g 6 shocks / 11 ms half-sine (x, y, z) |
| Laser protection class | | 1 | |
| Notes on laser protection | | Caution: | laser light |
| | | laser class: | 1 |
| | | | EN / IEC60825-1:2007 |
| | | | EN / IEC60825-1:2014 |
| | | | Complies with 21 CFR 1040.10 except for conformance with IEC 60825-1 Ed. 3, as described in Laser Notice No. 56, dated May 8, 2019. |
| MTTF | [years] | 151 | |

| Mechanical data | | |
|---|---|---|
| Weight | [g] | 61 |
| Housing | | rectangular |
| Dimensions | [mm] | 56 x 18.2 x 46.8 |
| Materials | | housing: PA; bezel: stainless steel; operator interface: TPU; lens: PMMA |
| Lens alignment | | side lens |

| Displays / operating elements | | |
|---|---|---|
| Display | switching status | LED, yellow switching output PIN 4 |
| | operation | LED, green |
| | display | alphanumeric display, 3-digit |
| Display unit | | cm |

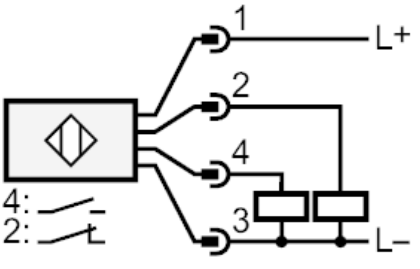
| Remarks | |
|---|---|
| Pack quantity | 1 pcs. |

## Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4




### Connection




4: OUT / IO-Link

# O5D150

## Photoelectric distance sensor

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## Other data

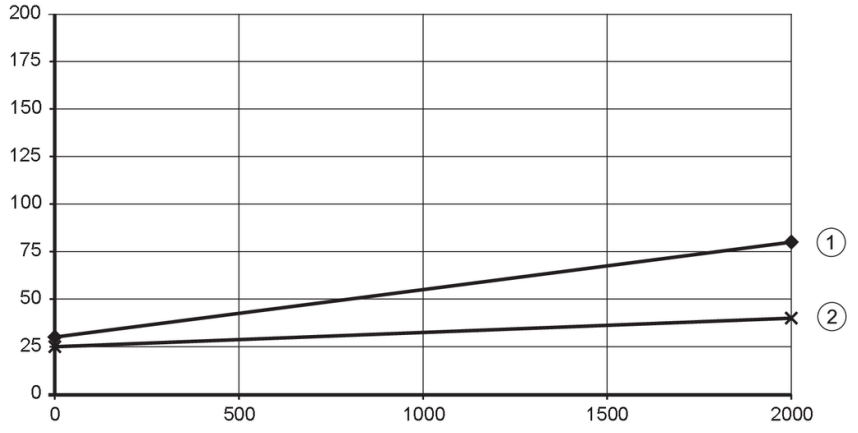
**accuracy**

| | accuracy | | | |
|---|---|---|---|---|
| distance | black (6 % remission) | white (90 % remission) | | |
| 0 mm | ± 25 mm | ± 25 mm | | |
| 500 mm | ± 25 mm | ± 25 mm | | |
| 1000 mm | ± 25 mm | ± 25 mm | | |
| 1500 mm | ± 40 mm | ± 30 mm | | |
| 2000 mm | ± 50 mm | ± 30 mm | | |

| | |
|---|---|
| Extraneous light on the object | < 10 klx |

## Diagrams and graphs

hysteresis graph




x: distance [mm]

y: Hysteresis [mm]

1 = background black 6% remission

2 = background white 90% remission