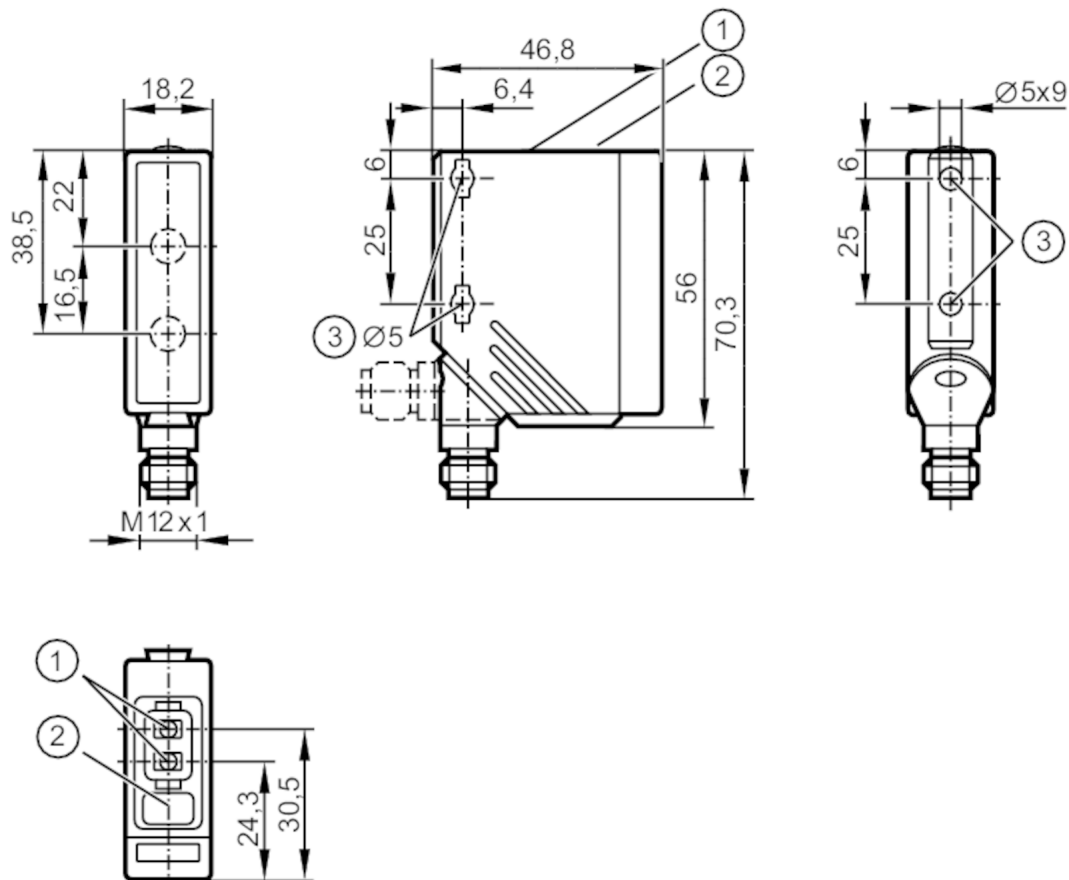


# O5D152



## Photoelectric distance sensor

O5DLCNKG/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 |
|-----------------|------------------------|

### Electrical data

|                             |      |            |
|-----------------------------|------|------------|
| Operating voltage           | [V]  | 10...30 DC |
| 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      |



## Photoelectric distance sensor

O5DLCNKG/US

| Inputs / outputs                    |       |                                                   |          |
|-------------------------------------|-------|---------------------------------------------------|----------|
| Number of inputs and outputs        |       | Number of digital outputs: 2                      |          |
| Outputs                             |       |                                                   |          |
| Total number of outputs             |       | 2                                                 |          |
| Electrical design                   |       | NPN                                               |          |
| 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                                       |          |
| SIO mode                            |       | yes                                               |          |
| Process data binary                 |       | 2                                                 |          |
| Min. process cycle time             | [ms]  | 6.6                                               |          |
| 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)                               |          |
| Tests / approvals                   |       |                                                   |          |
| EMC                                 |       | EN 60947-5-2                                      |          |
| Laser protection class              |       | 1                                                 |          |

O5D152



Photoelectric distance sensor

O5DLCNKG/US

|                           |              |                                                                                                   |
|---------------------------|--------------|---------------------------------------------------------------------------------------------------|
| Notes on laser protection | Caution:     | laser light                                                                                       |
|                           | laser class: | 1                                                                                                 |
|                           |              | 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]      | 151                                                                                               |

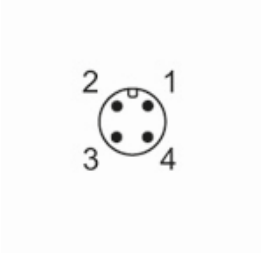
| Mechanical data |      |                                                                          |
|-----------------|------|--------------------------------------------------------------------------|
| Weight          | [g]  | 76.5                                                                     |
| 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                                 |

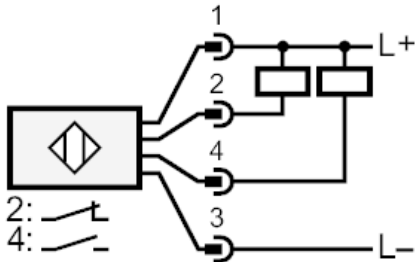
| Remarks       |        |
|---------------|--------|
| Pack quantity | 1 pcs. |

Electrical connection

Connector: 1 x M12; coding: A



Connection



4: OUT / IO-Link



Photoelectric distance sensor

O5DLCNKG/US

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

