



Photoelectric distance sensor

O1DLF3KG/IO-LINK



- 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                                               |
| Analogue current output [mA]      | 4...20; (IEC 61131-2)                           |



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|                                  |                          |                                                                                           |
|----------------------------------|--------------------------|-------------------------------------------------------------------------------------------|
| Max. load                        | [Ω]                      | 250                                                                                       |
| Analogue voltage output          | [V]                      | 0...10; (IEC 61131-2)                                                                     |
| Min. load resistance             | [Ω]                      | 5000                                                                                      |
| Short-circuit protection         |                          | yes                                                                                       |
| Type of short-circuit protection |                          | pulsed                                                                                    |
| Overload protection              |                          | yes                                                                                       |
| <b>Detection zone</b>            |                          |                                                                                           |
| Max. light spot width            | [mm]                     | 6                                                                                         |
| Max. light spot height           | [mm]                     | 6                                                                                         |
| Light spot dimensions refer to   |                          | 3,5 m                                                                                     |
| Background suppression           | [m]                      | 0...4                                                                                     |
| <b>Measuring/setting range</b>   |                          |                                                                                           |
| Measuring range                  | [m]                      | 0.2...3.5; (black glossy surfaces)                                                        |
| Sampling rate                    | [Hz]                     | 1...50; (preset: 5)                                                                       |
| <b>Interfaces</b>                |                          |                                                                                           |
| Communication interface          |                          | IO-Link                                                                                   |
| Transmission type                |                          | COM2 (38,4 kBaud)                                                                         |
| IO-Link revision                 |                          | 1.1                                                                                       |
| SDCI standard                    |                          | IEC 61131-9                                                                               |
| Profiles                         |                          | Smart Sensor: Sensor Identification; Binary Data Channel; Process Value; Sensor Diagnosis |
| SIO mode                         |                          | yes                                                                                       |
| Required master port type        |                          | A                                                                                         |
| Process data analogue            |                          | 2                                                                                         |
| Process data binary              |                          | 3                                                                                         |
| Min. process cycle time          | [ms]                     | 6                                                                                         |
| Supported DeviceIDs              | <b>Type of operation</b> | <b>DeviceID</b>                                                                           |
|                                  | default                  | 808                                                                                       |
| <b>Operating conditions</b>      |                          |                                                                                           |
| Ambient temperature              | [°C]                     | -10...60                                                                                  |
| Protection                       |                          | IP 67                                                                                     |
| <b>Tests / approvals</b>         |                          |                                                                                           |
| EMC                              | EN 60947-5-2             |                                                                                           |
| Laser protection class           |                          | 2                                                                                         |



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|                           |                                    |                                                                                                   |
|---------------------------|------------------------------------|---------------------------------------------------------------------------------------------------|
| Notes on laser protection | Caution:                           | laser light                                                                                       |
|                           | Power:                             | $\leq 4,0$ 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                      | [ANN]                              | 173                                                                                               |

| Mechanical data |      |                                                          |
|-----------------|------|----------------------------------------------------------|
| Weight          | [g]  | 241.7                                                    |
| Housing         |      | rectangular                                              |
| Dimensions      | [mm] | 59 x 42 x 52                                             |
| Materials       |      | housing: diecast zinc; front pane: glass; LED window: PC |
| Lens alignment  |      | side lens                                                |

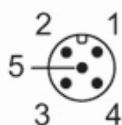
| Displays / operating elements |                             |                               |
|-------------------------------|-----------------------------|-------------------------------|
| Display                       | switching status            | 2 x LED, yellow               |
|                               | operation                   | LED, green                    |
|                               | distance value, programming | alphanumeric display, 4-digit |

| Аксессуары             |                          |
|------------------------|--------------------------|
| 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



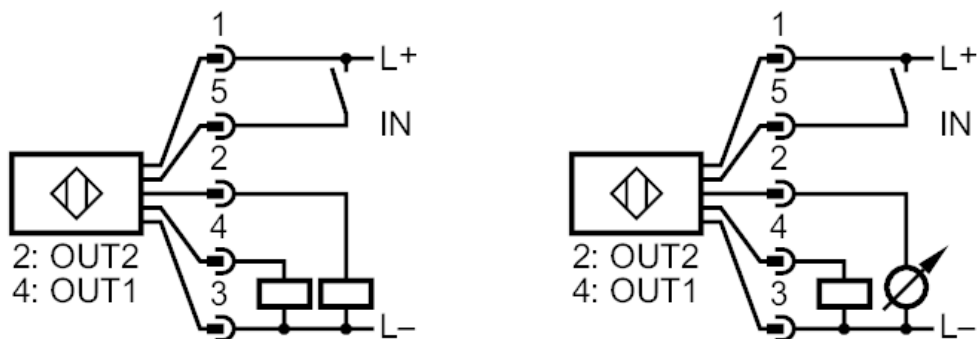
# O1D102



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### Connection



# O1D102



## Photoelectric distance sensor

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| Other data |                          |                 |
|------------|--------------------------|-----------------|
| Parameter  | Setting range            | Factory setting |
| Uni        | mm, m, inch              | mm              |
| OU1        | Hno, Hnc, Fno, Fnc       | Hno             |
| SP1 [mm]   | 200...3500               | 1000            |
| nSP1 [mm]  | 200...3500               | 800             |
| FSP1 [mm]  | 200...3500               | 1200            |
| OU2        | Hno, Hnc, Fno, Fnc, I, U | I               |
| SP2 [mm]   | 200...3500               | 2000            |
| nSP2 [mm]  | 200...3500               | 1800            |
| FSP2 [mm]  | 200...3500               | 2200            |
| ASP [mm]   | 0...3500                 | 0               |
| AEP [mm]   | 0...3500                 | 3500            |
| rATE [Hz]  | 1...50                   | 5               |
| dS1 [s]    | 0...0.1...5              | 0               |
| dr1 [s]    | 0...0.1...5              | 0               |
| dS2 [s]    | 0...0.1...5              | 0               |
| dr2 [s]    | 0...0.1...5              | 0               |
| dFo [s]    | 0...0.1...5              | 0               |
| dIS        | d1...3 ; rd1...3; OFF    | d3              |

|                | repeatability of the measured values |                       | accuracy               |                       |
|----------------|--------------------------------------|-----------------------|------------------------|-----------------------|
|                | white (90 % remission)               | grey (18 % remission) | white (90 % remission) | grey (18 % remission) |
| 200...1000 mm  | ± 6.5 mm                             | ±7.5 mm               | ± 32 mm                | ± 40 mm               |
| 1000...2000 mm | ± 8 mm                               | ±9.5 mm               | ± 33 mm                | ± 40 mm               |
| 2000...3000 mm | ± 17 mm                              | ±19 mm                | ± 42 mm                | ± 50 mm               |
| 3000...3500 mm | ± 23 mm                              | ±25 mm                | ± 50 mm                | ± 55 mm               |

|                                  |                 |
|----------------------------------|-----------------|
| The values apply at              |                 |
| constant ambient conditions      | 23 °C / 960 hPa |
| minimum power-on time in minutes | 10              |