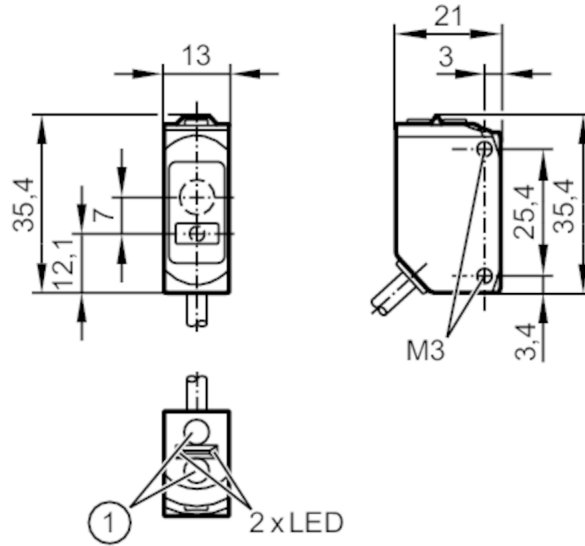


O6H700



Diffuse reflection sensor with background suppression

O6HLFPKG



- 1 Programmieraste
receiver in upper lens
transmitter in lower lens



Product characteristics

| | |
|-------------------------|----------------|
| Type of light | red light |
| Communication interface | IO-Link |
| Laser protection class | 1 |
| Housing | rectangular |
| Dimensions [mm] | 35.4 x 13 x 21 |

Application

| | |
|--------------------|---------------------------|
| Special feature | Background suppression |
| Function principle | Diffuse reflection sensor |

Electrical data

| | |
|-----------------------------|------------|
| Operating voltage [V] | 10...30 DC |
| Current consumption [mA] | 16; (24 V) |
| Protection class | III |
| Reverse polarity protection | yes |
| Type of light | red light |
| Wave length [nm] | 650 |

O6H700



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| Outputs | | |
|--|--|------------|
| Electrical design | PNP | |
| Output function | light-on/dark-on mode; (selectable) | |
| Max. voltage drop switching output DC [V] | 2.5 | |
| Permanent current rating of switching output DC [mA] | 100 | |
| Switching frequency DC [Hz] | 1000 | |
| Short-circuit protection | yes | |
| Type of short-circuit protection | pulsed | |
| Detection zone | | |
| Range [mm] | 1...100; (white paper 200 x 200 mm) | |
| Range on white object (90 % remission) [mm] | 1...100 | |
| Range on grey object (18 % remission) [mm] | 8...100 | |
| Range on black object (6 % remission) [mm] | 12...100 | |
| Range adjustable | yes | |
| Max. light spot diameter [mm] | 2 | |
| Background suppression available | yes | |
| 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; Teach Channel; Switching Channel; Process Data Variable | |
| SIO mode | yes | |
| Required master port type | A | |
| Min. process cycle time [ms] | 10 | |
| IO-Link process data (cyclical) | function | bit length |
| | process value | 32 |
| | device status | 4 |
| | binary switching information | 1 |
| IO-Link functions (acyclical) | application specific tag; operating hours counter; switch-on cycle counter | |
| Supported DeviceIDs | Type of operation | DeviceID |
| | Default | 526 |
| Operating conditions | | |
| Ambient temperature [°C] | -10...60 | |
| Protection | IP 65; IP 67 | |

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| Tests / approvals | | |
|-------------------------------|---|---|
| EMC | EN 60947-5-2 | |
| 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 except for deviations pursuant to Laser Notice No. 50, dated June 2007. |
| MTTF [years] | 594 | |
| Mechanical data | | |
| Weight [g] | 60.7 | |
| Housing | rectangular | |
| Dimensions [mm] | 35.4 x 13 x 21 | |
| Materials | housing: ABS; PPSU; Sealing: EPDM | |
| Lens material | PMMA | |
| Lens alignment | side lens | |
| Displays / operating elements | | |
| Display | switching status | 1 x LED, yellow |
| | operation | 1 x LED, green |
| Remarks | | |
| Remarks | operating voltage "supply class 2" according to cULus | |
| Pack quantity | 1 pcs. | |

O6H700



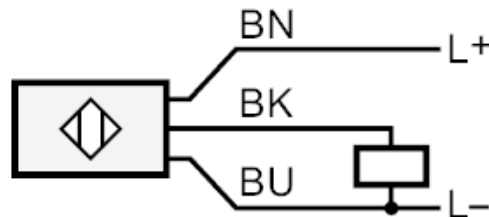
Diffuse reflection sensor with background suppression

O6HLFPKG

Electrical connection

Cable: 2 m, PUR, black, Ø 3.7 mm; 3 x 0.25 mm²

Connection



BK OUT / IO-Link

Core colours :

BN = brown

BK = black

BU = blue

Other data

Repeatability / precision: 6 σ

| | repeatability of the measured values | |
|---------|--------------------------------------|------------------------------|
| Abstand | white (90 % remission) | black (6 %...90 % remission) |
| 20 mm | 0.1 mm | 0.5 mm |
| 50 mm | 0.2 mm | 1.0 mm |
| 100 mm | 0.5 mm | 2.0 mm |
| | Accuracy | |
| Abstand | white (90 % remission) | black (6 %...90 % remission) |
| 20 mm | ± 0.6 mm | ± 0.9 mm |
| 50 mm | ± 1.5 mm | ± 2.0 mm |
| 100 mm | ± 3.0 mm | ± 4.0 mm |

The values apply at

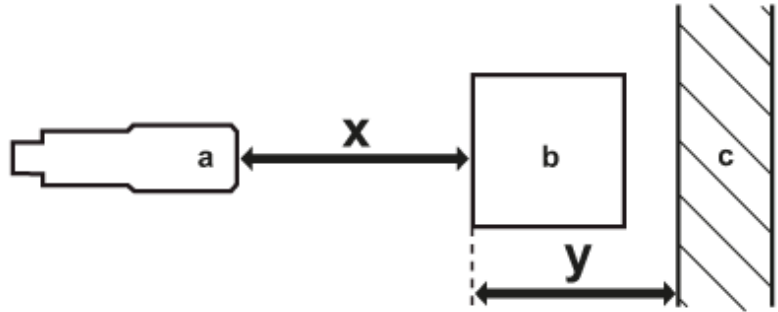
| | |
|----------------------------------|-----------------|
| Extraneous light on the object | < 10 klx |
| constant ambient conditions | 23 °C / 960 hPa |
| minimum power-on time in minutes | 10 |
| IO-Link - measuring mode | |



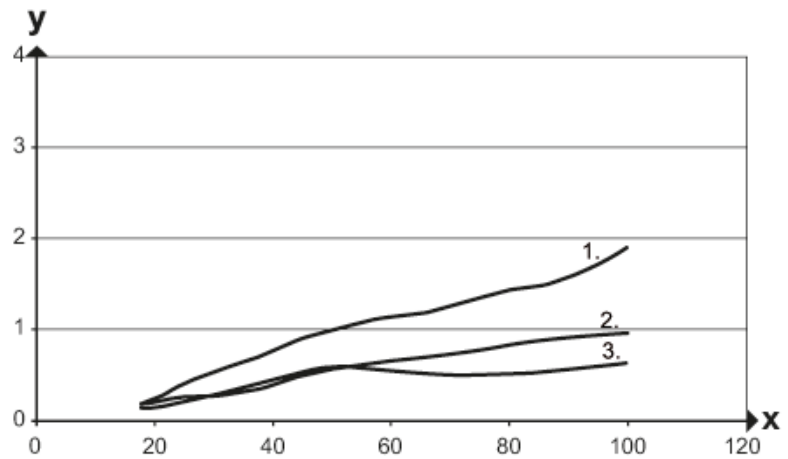
Diffuse reflection sensor with background suppression

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Diagrams and graphs



- a: sensor
- b: object
- c: background
- x: distance sensor/object [mm]
- y: min. distance object/background [mm]



- x: distance sensor/object [mm]
- y: min. distance object/background [mm]
- 1 = object black (6 % remission) , background (white 90 % remission)
- 2 = object grey (18 % remission) , background (white 90 % remission)
- 3 = object white (90 % remission) , background (white 90 % remission)