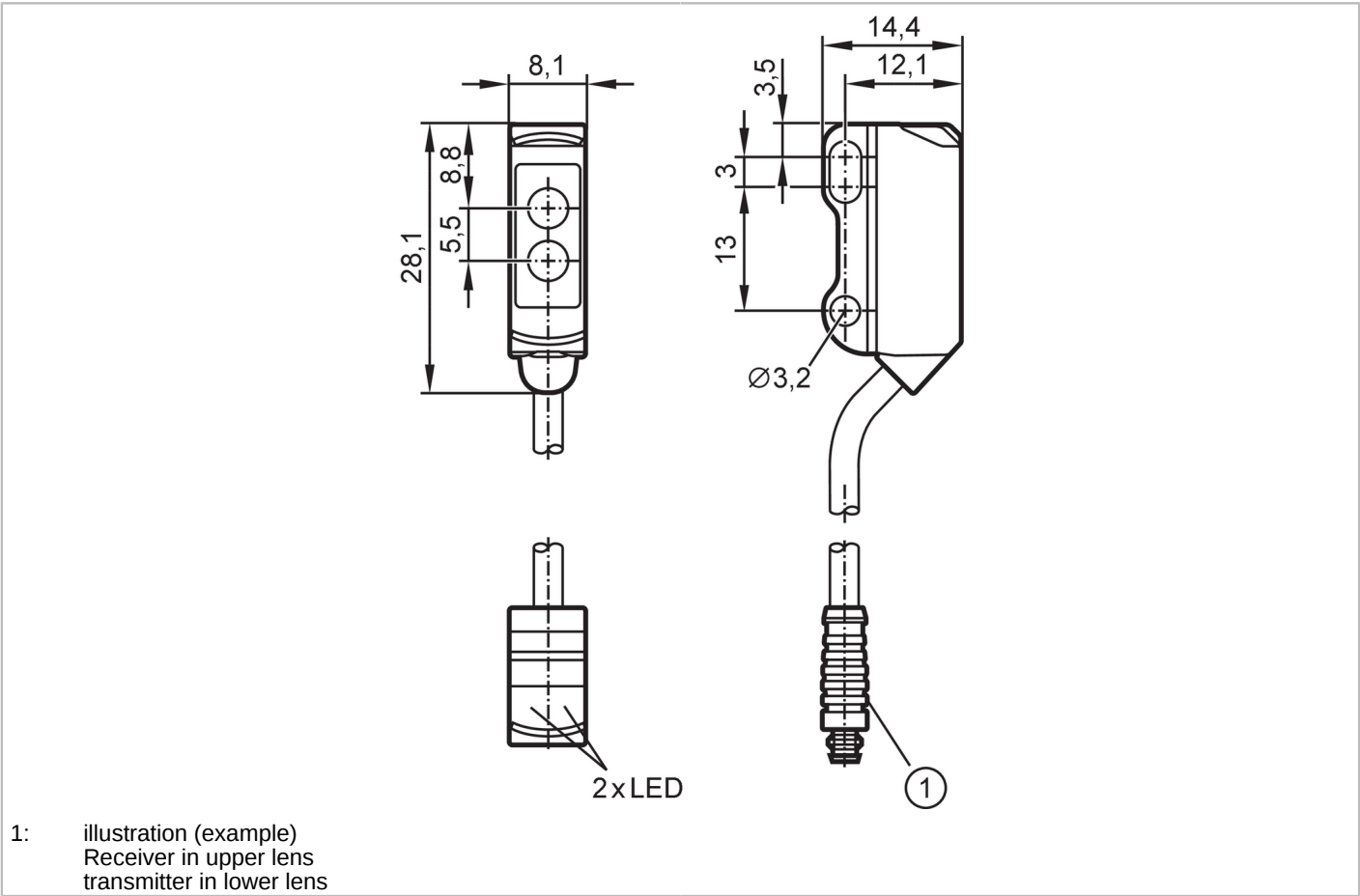




Diffuse reflection sensors with background suppression

O8H-FPKG/IO-Link/0,30M/AS/4P



| Product characteristics               |      |                                       |
|---------------------------------------|------|---------------------------------------|
| Type of light                         |      | red light                             |
| Housing                               |      | rectangular                           |
| Application                           |      |                                       |
| Special feature                       |      | Background suppression                |
| Function principle                    |      | Diffuse reflection sensor             |
| Application                           |      | Industrial applications               |
| Electrical data                       |      |                                       |
| Operating voltage                     | [V]  | 10...30 DC                            |
| Current consumption                   | [mA] | 20; ((24 V))                          |
| Protection class                      |      | III                                   |
| Reverse polarity protection           |      | yes                                   |
| Type of light                         |      | red light                             |
| Wave length                           | [nm] | 633                                   |
| Outputs                               |      |                                       |
| Electrical design                     |      | PNP                                   |
| Output function                       |      | light-on/dark-on mode; (programmable) |
| Max. voltage drop switching output DC | [V]  | 2.5                                   |



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|                                                 |      |                    |
|-------------------------------------------------|------|--------------------|
| Permanent current rating of switching output DC | [mA] | 100                |
| Switching frequency DC                          | [Hz] | 1000               |
| Short-circuit protection                        |      | yes                |
| Type of short-circuit protection                |      | yes (non-latching) |

| Monitoring range                       |      |                                    |
|----------------------------------------|------|------------------------------------|
| Range                                  | [mm] | 3...15; (white paper 200 x 200 mm) |
| Range on white object (90 % remission) | [mm] | 3...15                             |
| Range on grey object (18 % remission)  | [mm] | 5...15                             |
| Range on black object (6 % remission)  | [mm] | 5...15                             |
| Setting range                          | [mm] | 10...80                            |
| Range adjustable                       |      | yes                                |
| Max. light spot diameter               | [mm] | 4                                  |
| Light spot dimensions refer to         |      | at maximum range                   |
| 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 - SSP 0                                                        | Generic Profiled Sensor   |
|                                 | Function                                                                    | Device identification     |
|                                 | Function                                                                    | Multiple switching signal |
|                                 | Function                                                                    | Device diagnosis          |
|                                 | Function                                                                    | Teach channel             |
| SIO mode                        | yes                                                                         |                           |
| Required master port class      | A                                                                           |                           |
| Min. process cycle time         | [ms]                                                                        | 3                         |
| IO-Link process data (cyclical) | <b>Function</b>                                                             | <b>bit length</b>         |
|                                 | process value                                                               | 8                         |
|                                 | device status                                                               | 4                         |
|                                 | binary switching information                                                | 1                         |
| IO-Link functions (acyclical)   | application specific tag; operating hours counter; switching cycles counter |                           |
| Supported DeviceIDs             | <b>Type of operation</b>                                                    | <b>DeviceID</b>           |
|                                 | default                                                                     | 535                       |

| Operating conditions |      |              |
|----------------------|------|--------------|
| Ambient temperature  | [°C] | -25...60     |
| Protection           |      | IP 65; IP 67 |

| Tests / approvals |              |     |
|-------------------|--------------|-----|
| EMC               | EN 60947-5-2 |     |
| MTTF              | [years]      | 757 |



Diffuse reflection sensors with background suppression

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|             |                    |                         |
|-------------|--------------------|-------------------------|
| UL approval | Ta                 | -25...60 °C             |
|             | Enclosure type     | Type 1                  |
|             | voltage supply     | Limited Voltage/Current |
|             | UL approval number | E017                    |
|             | File number UL     | E174191                 |

| Mechanical data |      |                                                                    |
|-----------------|------|--------------------------------------------------------------------|
| Weight          | [g]  | 21.2                                                               |
| Housing         |      | rectangular                                                        |
| Dimensions      | [mm] | 28.1 x 8.1 x 14.4                                                  |
| Material        |      | housing: ABS; rear of the housing: stainless steel (1.4404 / 316L) |
| Lens material   |      | front lens:PMMA                                                    |
| Lens alignment  |      | Side sensing                                                       |

| Displays / operating elements |                  |                 |
|-------------------------------|------------------|-----------------|
| Display                       | Switching status | 1 x LED, yellow |
|                               | Power            | 1 x LED, green  |

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

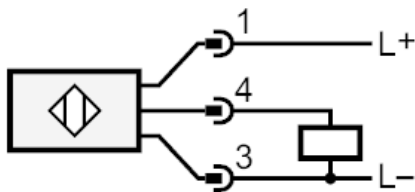
Electrical connection

Cable: 0.3 m, PVC; 3 x 0.08 mm²

Connector: 1 x M8; coding: A; Contacts: 4



Connection

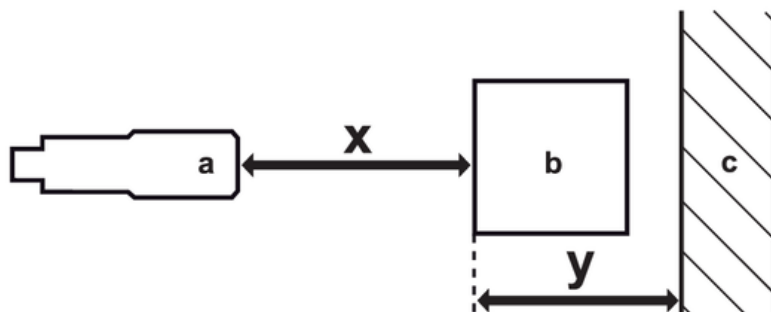




## Diffuse reflection sensors with background suppression

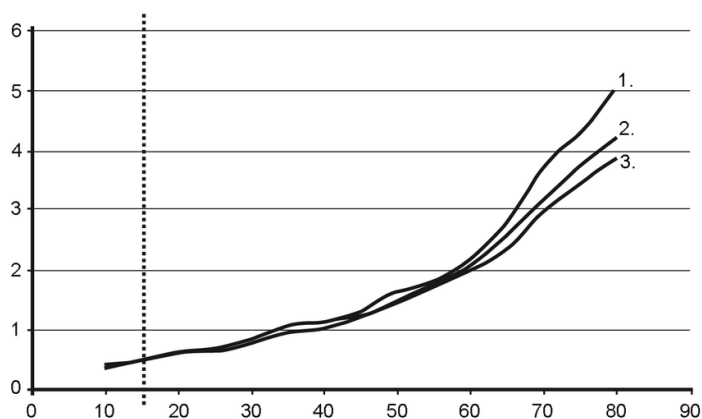
O8H-FPKG/IO-Link/0,30M/AS/4P

## Diagrams and graphs



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

## Background suppression chart



- 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)