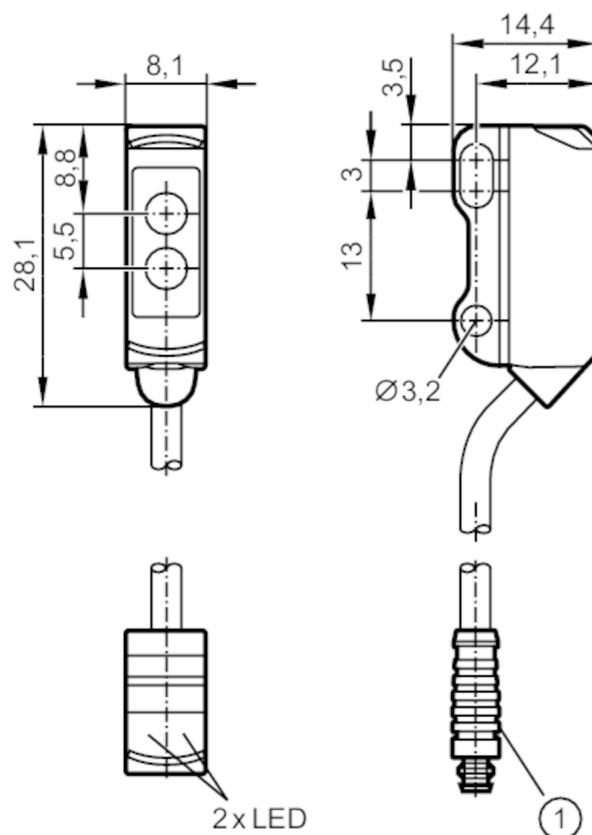




## Diffuse reflection sensors with background suppression

O8H-FPKG/IO-Link/0,30M/AS/3P



1: illustration (example)  
Receiver in upper lens  
transmitter in lower lens



### Product characteristics

|               |             |
|---------------|-------------|
| Type of light | red light   |
| Housing       | rectangular |

### Application

|                    |                           |
|--------------------|---------------------------|
| System             | Background suppression    |
| Function principle | Diffuse reflection sensor |

### 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 mode |



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|                                                 |      |                    |
|-------------------------------------------------|------|--------------------|
| 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                |      | yes (non-latching) |

### Monitoring range

|                                        |      |                                    |
|----------------------------------------|------|------------------------------------|
| Range                                  | [mm] | 1...80; (white paper 200 x 200 mm) |
| Range on white object (90 % remission) | [mm] | 1...80                             |
| Range on grey object (18 % remission)  | [mm] | 3...76                             |
| Range on black object (6 % remission)  | [mm] | 5...74                             |
| 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: Device Identification; Device Diagnosis; Teach Channel; Switching 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 |

### Mechanical data

|         |     |             |
|---------|-----|-------------|
| Weight  | [g] | 21.1        |
| Housing |     | rectangular |

# O8H220



## Diffuse reflection sensors with background suppression

O8H-FPKG/IO-Link/0,30M/AS/3P

|                |                                               |                   |
|----------------|-----------------------------------------------|-------------------|
| Dimensions     | [mm]                                          | 28.1 x 8.1 x 14.4 |
| Material       | housing: ABS; stainless steel (1.4404 / 316L) |                   |
| Lens material  | PMMA                                          |                   |
| Lens alignment | Side sensing                                  |                   |

### Displays / operating elements

|         |                  |                 |
|---------|------------------|-----------------|
| Display | Switching status | 1 x LED, yellow |
|         | Power            | 1 x LED, green  |

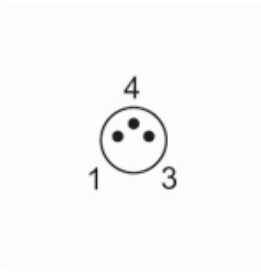
### Remarks

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

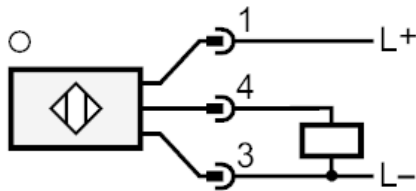
### Electrical connection

Cable: 0.3 m, PVC; 3 x 0.08 mm²

Connector: 1 x M8; coding: A



### Connection



## Diffuse reflection sensors with background suppression

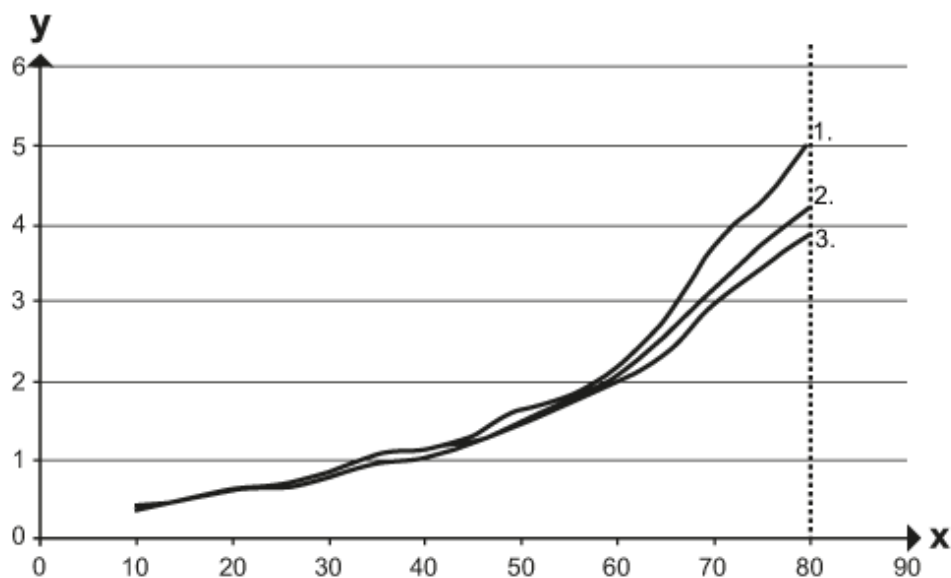
O8H-FPKG/IO-Link/0,30M/AS/3P

### 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)