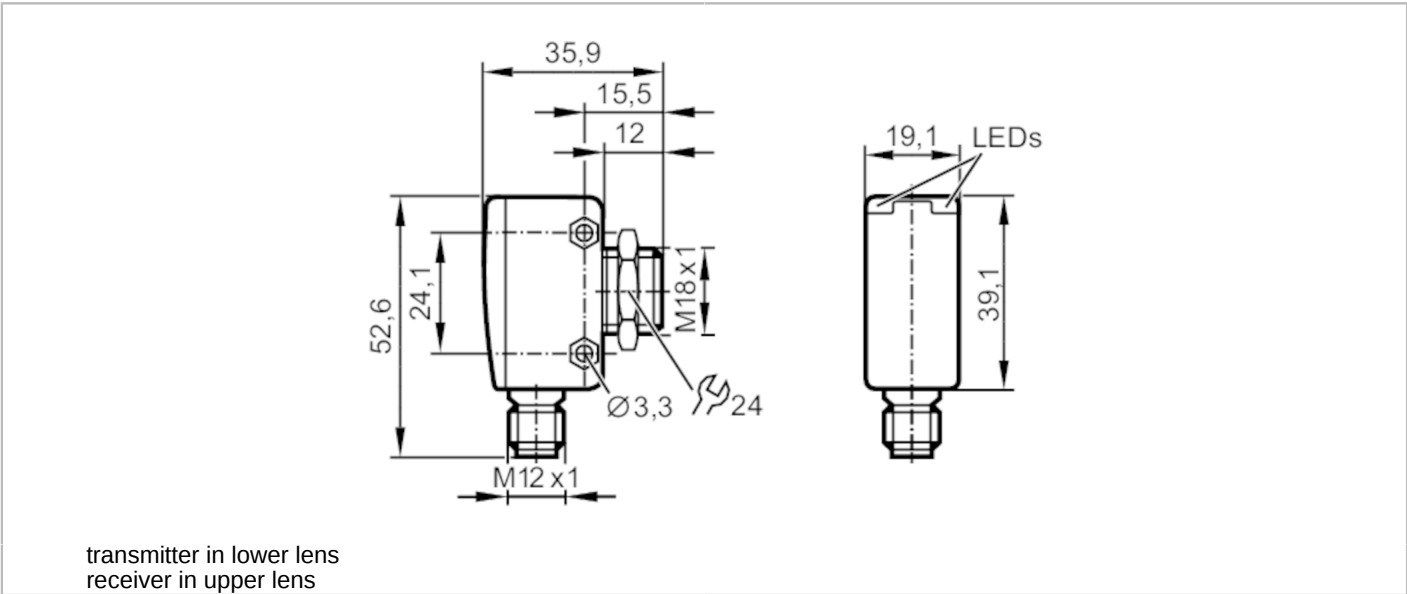




Diffuse reflection sensor with background suppression

OGH-HPKG/US/CUBE/200MM



| Product characteristics                         |      |                                                 |
|-------------------------------------------------|------|-------------------------------------------------|
| Type of light                                   |      | red light                                       |
| Housing                                         |      | rectangular with M18 thread                     |
| Application                                     |      |                                                 |
| Special feature                                 |      | Background suppression                          |
| Function principle                              |      | Diffuse reflection sensor                       |
| Electrical data                                 |      |                                                 |
| Operating voltage                               | [V]  | 10...30 DC; ("supply class 2" to cULus)         |
| Rated insulation voltage                        | [V]  | 32                                              |
| Current consumption                             | [mA] | 25                                              |
| Protection class                                |      | III                                             |
| Reverse polarity protection                     |      | yes                                             |
| Max. power-on delay time                        | [ms] | 300                                             |
| Type of light                                   |      | red light                                       |
| Wave length                                     | [nm] | 645                                             |
| Outputs                                         |      |                                                 |
| Electrical design                               |      | PNP                                             |
| Output function                                 |      | light-on mode                                   |
| Max. voltage drop switching output DC           | [V]  | 2.5                                             |
| Permanent current rating of switching output DC | [mA] | 200                                             |
| Switching frequency DC                          | [Hz] | 1000                                            |
| Short-circuit protection                        |      | yes                                             |
| Type of short-circuit protection                |      | pulsed                                          |
| Detection zone                                  |      |                                                 |
| Range                                           | [mm] | < 200; (white paper 200 x 200 mm 90% remission) |



## Diffuse reflection sensor with background suppression

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|                                             |                  |
|---------------------------------------------|------------------|
| Range on white object (90 % remission) [mm] | < 200            |
| Range on grey object (18 % remission) [mm]  | < 200            |
| Range on black object (6 % remission) [mm]  | < 190            |
| Range adjustable                            | no               |
| Max. light spot diameter [mm]               | 13               |
| 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                        | Measuring Sensor, Identification and Diagnosis, Switching Signal Channel, Teach Channel |                   |
| SIO mode                        | yes                                                                                     |                   |
| Required master port type       | A                                                                                       |                   |
| Min. process cycle time [ms]    | 10                                                                                      |                   |
| IO-Link process data (cyclical) | <b>function</b>                                                                         | <b>bit length</b> |
|                                 | process value                                                                           | 16                |
|                                 | 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                                                                                 | 1132              |
| Note                            | For further information please see the IODD PDF file under "Downloads"                  |                   |

### Operating conditions

|                          |              |
|--------------------------|--------------|
| Ambient temperature [°C] | -25...60     |
| Storage temperature [°C] | -40...60     |
| Protection               | IP 65; IP 67 |

### Tests / approvals

|              |                |             |
|--------------|----------------|-------------|
| EMC          | EN 60947-5-2   |             |
| MTTF [years] | 782            |             |
| UL approval  | Ta             | -25...60 °C |
|              | Enclosure type | Type 1      |
|              | power supply   | Class 2     |
|              | File number UL | E174191     |

### Mechanical data

|                    |                             |
|--------------------|-----------------------------|
| Weight [g]         | 58.5                        |
| Housing            | rectangular with M18 thread |
| Dimensions [mm]    | 52.6 x 19.1 x 35.9          |
| Thread designation | M18 x 1                     |
| Materials          | diecast zinc; PEI           |
| Lens material      | PEI                         |



Diffuse reflection sensor with background suppression

OGH-HPKG/US/CUBE/200MM

|                |           |
|----------------|-----------|
| Lens alignment | side lens |
|----------------|-----------|

Displays / operating elements

|         |                  |                 |
|---------|------------------|-----------------|
| Display | switching status | 1 x LED, yellow |
|         | operation        | 1 x LED, green  |

Accessories

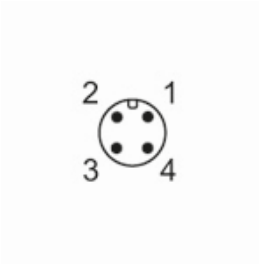
|                |             |
|----------------|-------------|
| Items supplied | lock nut: 1 |
|----------------|-------------|

Remarks

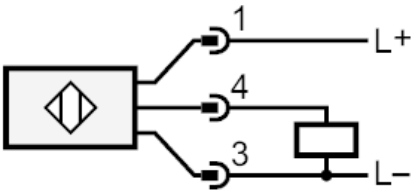
|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

Electrical connection

Connector: 1 x M12; coding: A



Connection





## Diffuse reflection sensor with background suppression

OGH-HPKG/US/CUBE/200MM

### Other data

#### Repeatability / precision: 6 $\sigma$

|         | repeatability of the measured values |                              |
|---------|--------------------------------------|------------------------------|
| Abstand | white (90 % remission)               | black (6 %...90 % remission) |
| 20 mm   | 0.5 mm                               | 1.0 mm                       |
| 50 mm   | 0.8 mm                               | 2.0 mm                       |
| 100 mm  | 1.5 mm                               | 4.5 mm                       |
| 150 mm  | 3.0 mm                               | 9.0 mm                       |
| 200 mm  | 6.0 mm                               | 20.0 mm                      |
|         | accuracy                             |                              |
| Abstand | white (90 % remission)               | black (6 %...90 % remission) |
| 20 mm   | ± 2.0 mm                             | ± 2.5 mm                     |
| 50 mm   | ± 3.5 mm                             | ± 4.5 mm                     |
| 100 mm  | ± 6.0 mm                             | ± 7.5 mm                     |
| 150 mm  | ± 7.5 mm                             | ± 11.0 mm                    |
| 200 mm  | ± 10.0 mm                            | ± 17.0 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