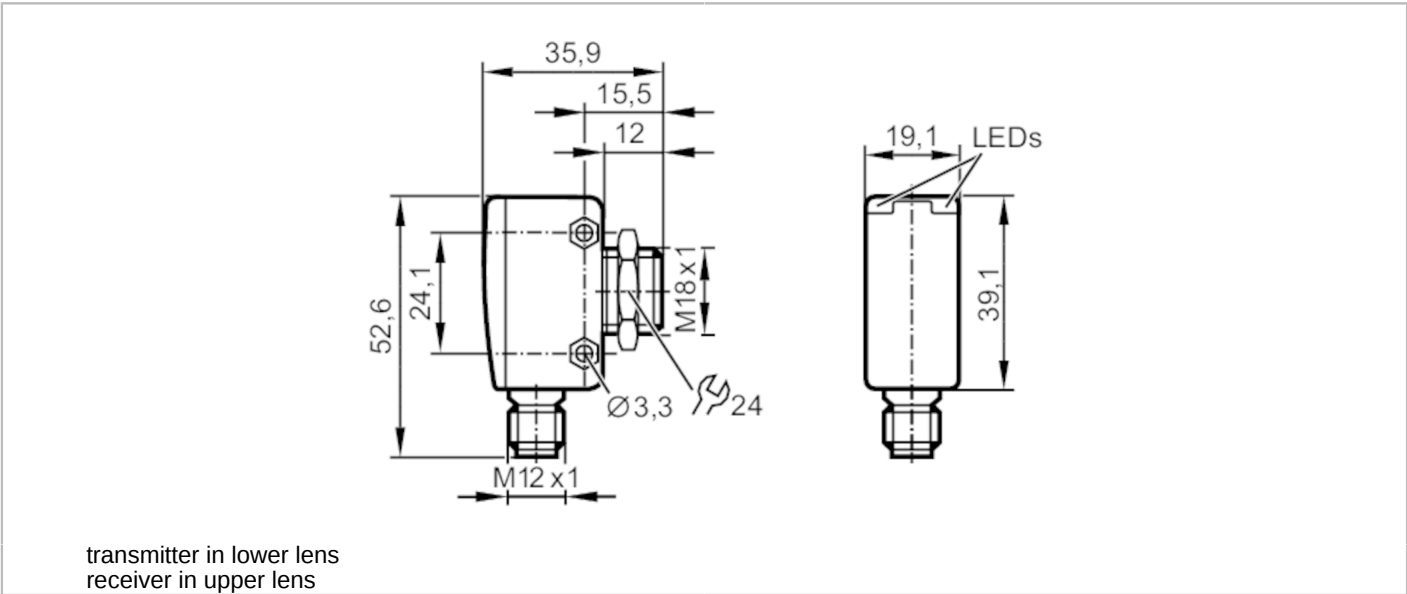




Diffuse reflection sensor with background suppression

OGH-HPKG/US/CUBE/100MM



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] | < 100; (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] | < 100            |
| Range on grey object (18 % remission) [mm]  | < 100            |
| Range on black object (6 % remission) [mm]  | < 100            |
| Range adjustable                            | no               |
| Max. light spot diameter [mm]               | 7                |
| 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 3.1                                                      | Measuring Sensor             |
|                                 | Common - I&D                                                                | Identification and Diagnosis |
|                                 | Function                                                                    | Multiple switching signal    |
|                                 | Function                                                                    | 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                                                                     | 1131                         |
| 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]         | 59.5                        |
| Housing            | rectangular with M18 thread |
| Dimensions [mm]    | 52.6 x 19.1 x 35.9          |
| Thread designation | M18 x 1                     |

# OGH280



## Diffuse reflection sensor with background suppression

OGH-HPKG/US/CUBE/100MM

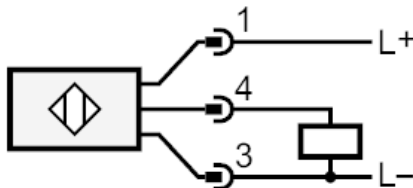
|                               |                   |                 |
|-------------------------------|-------------------|-----------------|
| Materials                     | diecast zinc; PEI |                 |
| Lens material                 | PEI               |                 |
| Lens alignment                | 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

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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                       |
|         | accuracy                             |                              |
| Abstand | white (90 % remission)               | black (6 %...90 % remission) |
| 20 mm   | $\pm 1.5$ mm                         | $\pm 1.8$ mm                 |
| 50 mm   | $\pm 3.0$ mm                         | $\pm 3.5$ mm                 |
| 100 mm  | $\pm 5.0$ mm                         | $\pm 6.5$ 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              |  |