



## Laser diffuse reflection sensor

OGHLFNKG/US100



1 programming buttons



### Product characteristics

|                        |               |
|------------------------|---------------|
| Type of light          | red light     |
| Laser protection class | 1             |
| Housing                | threaded type |

### Application

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

### Electrical data

|                             |      |            |
|-----------------------------|------|------------|
| Operating voltage           | [V]  | 10...36 DC |
| Current consumption         | [mA] | 15         |
| Protection class            |      | II         |
| Reverse polarity protection |      | yes        |
| Type of light               |      | red light  |
| Typ. lifetime               | [h]  | 50000      |

### Outputs

|                                                 |      |                                       |
|-------------------------------------------------|------|---------------------------------------|
| Electrical design                               |      | NPN                                   |
| Output function                                 |      | light-on/dark-on mode; (programmable) |
| 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                                |
| Overload protection                             |      | yes                                   |

### Detection zone

|                                        |      |                                                    |
|----------------------------------------|------|----------------------------------------------------|
| Range                                  | [mm] | 20...200; (white paper 200 x 200 mm 90% remission) |
| Range on white object (90 % remission) | [mm] | 20...200                                           |



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|                                            |      |          |
|--------------------------------------------|------|----------|
| Range on grey object (18 % remission)      | [mm] | 20...100 |
| Range on black object (6 % remission)      | [mm] | 20...70  |
| Range adjustable                           |      | yes      |
| Diameter of the smallest detectable object | [mm] | 1.5      |
| Max. light spot diameter                   | [mm] | 1.2      |
| Background suppression available           |      | yes      |

### Operating conditions

|                     |      |              |
|---------------------|------|--------------|
| Ambient temperature | [°C] | -10...60     |
| Protection          |      | IP 65; IP 67 |

### 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]      | 497                                                                                               |

### Mechanical data

|                    |      |                                                   |
|--------------------|------|---------------------------------------------------|
| Weight             | [g]  | 62.3                                              |
| Housing            |      | threaded type                                     |
| Dimensions         | [mm] | M18 x 1 / L = 72                                  |
| Thread designation |      | M18 x 1                                           |
| Materials          |      | stainless steel (316L/1.4404); PA; LCP; EPDM; TPU |
| Lens material      |      | PMMA                                              |

### Displays / operating elements

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

### Accessories

|                |  |              |
|----------------|--|--------------|
| Items supplied |  | lock nuts: 2 |
|----------------|--|--------------|

### Remarks

|               |  |                                                       |
|---------------|--|-------------------------------------------------------|
| Remarks       |  | operating voltage "supply class 2" according to cULus |
| Pack quantity |  | 1 pcs.                                                |

## Laser diffuse reflection sensor

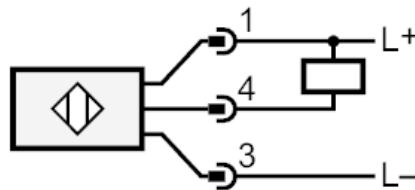
OGHLFNKG/US100

### Electrical connection

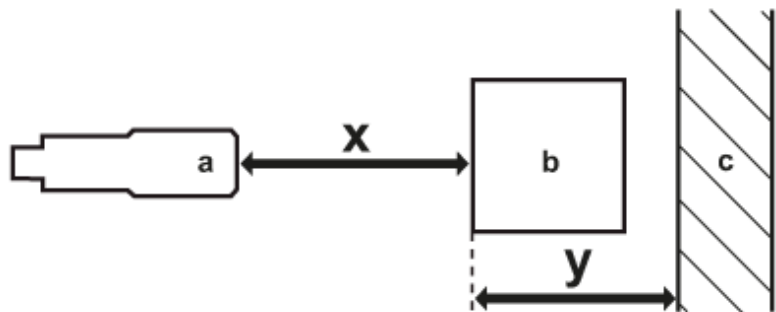
Connector: 1 x M12; coding: A



### Connection



### Diagrams and graphs



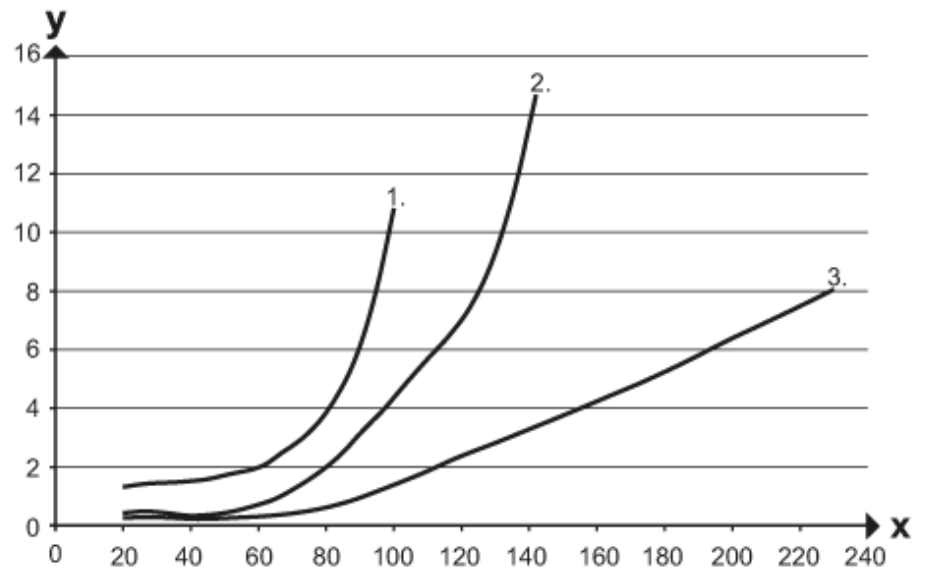
- a: sensor
- b: object
- c: background
- x: distance sensor/object [mm]
- y: min. distance object/background [mm]



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accuracy graph



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)