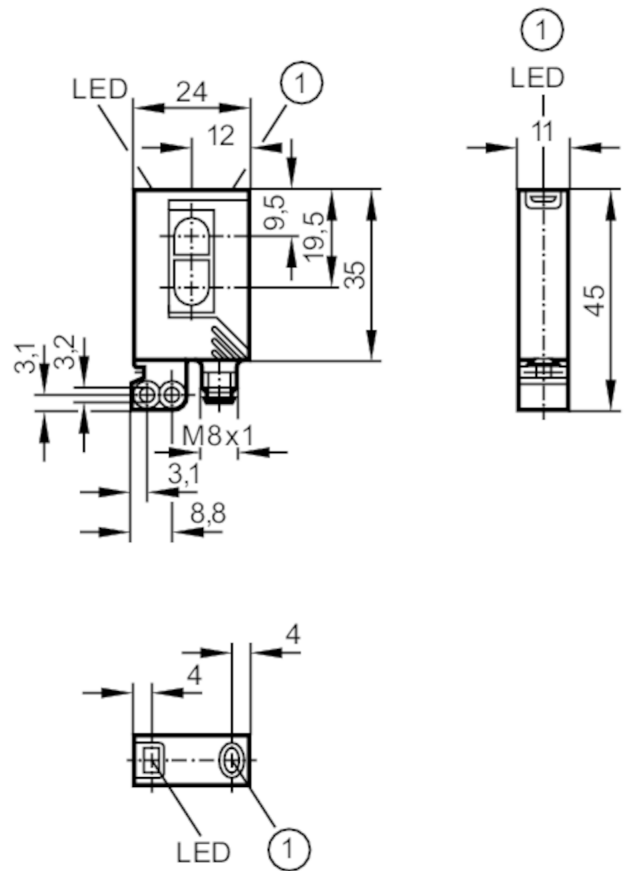




LASER diffuse reflection sensor

OJHLFNKG/FO/AS



- 1    pushbutton  
Receiver in upper lens  
transmitter in lower lens



| Product characteristics     |      |                           |
|-----------------------------|------|---------------------------|
| Type of light               |      | red light                 |
| Laser protection class      |      | 1                         |
| Housing                     |      | rectangular               |
| Application                 |      |                           |
| System                      |      | Background suppression    |
| Function principle          |      | Diffuse reflection sensor |
| Electrical data             |      |                           |
| Operating voltage           | [V]  | 10...30 DC                |
| Current consumption         | [mA] | 13                        |
| Protection class            |      | III                       |
| Reverse polarity protection |      | yes                       |
| Type of light               |      | red light                 |
| Wave length                 | [nm] | 650                       |
| Typ. lifetime               | [h]  | 50000                     |



## LASER diffuse reflection sensor

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| 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                     | yes (non-latching)                                                      |                                                                                                                                     |
| Overload protection                                  | yes                                                                     |                                                                                                                                     |
| Monitoring range                                     |                                                                         |                                                                                                                                     |
| Range [mm]                                           | 15...200; (white paper 200 x 200 mm 90 % remission)                     |                                                                                                                                     |
| Range adjustable                                     | yes                                                                     |                                                                                                                                     |
| Diameter of the smallest detectable object [mm]      | 2                                                                       |                                                                                                                                     |
| Max. light spot width [mm]                           | 2                                                                       |                                                                                                                                     |
| Max. light spot height [mm]                          | 1                                                                       |                                                                                                                                     |
| Background suppression available                     | yes                                                                     |                                                                                                                                     |
| Operating conditions                                 |                                                                         |                                                                                                                                     |
| Ambient temperature [°C]                             | -10...60                                                                |                                                                                                                                     |
| Protection                                           | 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 1040.10 except for conformance with IEC 60825-1 Ed. 3, as described in Laser Notice No. 56, dated May 8, 2019. |
| MTTF [years]                                         | 516                                                                     |                                                                                                                                     |
| Mechanical data                                      |                                                                         |                                                                                                                                     |
| Weight [g]                                           | 27.85                                                                   |                                                                                                                                     |
| Housing                                              | rectangular                                                             |                                                                                                                                     |
| Dimensions [mm]                                      | 35 x 24 x 11                                                            |                                                                                                                                     |
| Material                                             | housing: ABS; fixture: diecast zinc; LED window: SEPS; pushbutton: SEPS |                                                                                                                                     |
| Lens material                                        | PMMA                                                                    |                                                                                                                                     |
| Lens alignment                                       | Front sensing                                                           |                                                                                                                                     |
| Displays / operating elements                        |                                                                         |                                                                                                                                     |
| Display                                              | Switching status                                                        | 1 x LED, yellow                                                                                                                     |
|                                                      | Power                                                                   | 1 x LED, green                                                                                                                      |
| Electronic lock                                      | yes                                                                     |                                                                                                                                     |



LASER diffuse reflection sensor

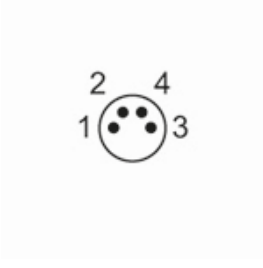
OJHLFNKG/FO/AS

| Accessories    |                          |
|----------------|--------------------------|
| Items supplied | Basic clip: 1, E20964    |
|                | screws: 2 x (M3 x 16 mm) |
|                | spring washers: 2        |
|                | Nuts: 2                  |

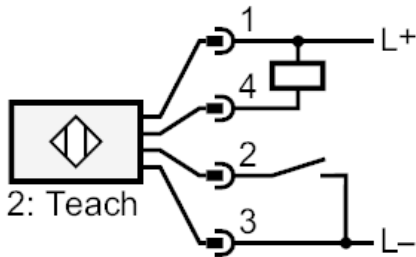
| Remarks       |                                 |
|---------------|---------------------------------|
| Remarks       | cULus - Class 2 source required |
| Pack quantity | 1 pcs.                          |

Electrical connection

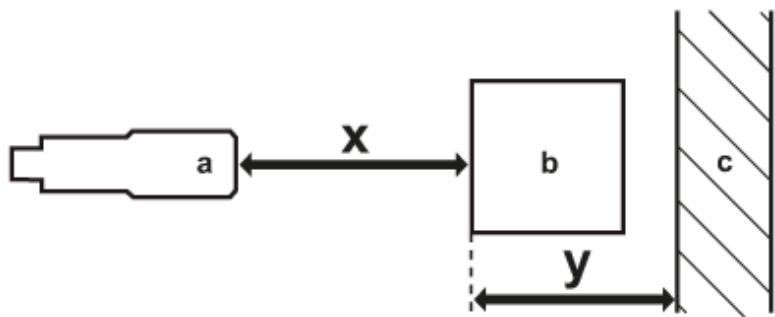
Connector: 1 x M8; coding: A



Connection



Diagrams and graphs



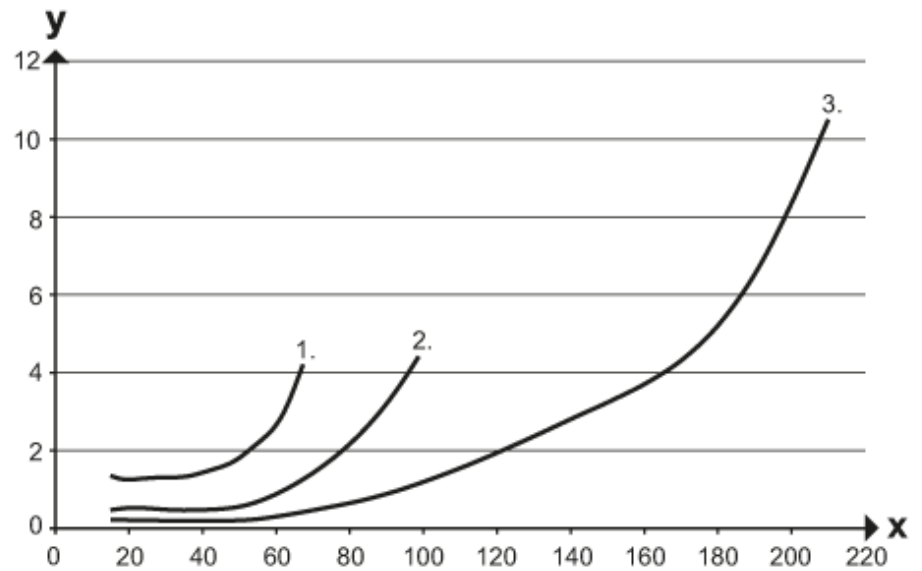
- a: sensor
- b: object
- c: background
- x: distance sensor/object [mm]
- y: min. distance object/background [mm]



## LASER diffuse reflection sensor

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## 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)