



## Diffuse reflection sensors with background suppression

OGH-FPKG/US100



1 Programming buttons



### Product characteristics

|               |               |
|---------------|---------------|
| Type of light | red light     |
| Housing       | Threaded type |

### Application

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

### Electrical data

|                             |            |
|-----------------------------|------------|
| Operating voltage [V]       | 10...36 DC |
| Current consumption [mA]    | 25         |
| Protection class            | II         |
| Reverse polarity protection | yes        |
| Type of light               | red light  |
| Wave length [nm]            | 624        |

### Outputs

|                                                      |                                       |
|------------------------------------------------------|---------------------------------------|
| Electrical design                                    | PNP                                   |
| 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] | 150; (200 (...60 °C))                 |
| Switching frequency DC [Hz]                          | 1000                                  |
| Factory setting                                      | light-on mode                         |
| Short-circuit protection                             | yes                                   |
| Type of short-circuit protection                     | yes (non-latching)                    |
| Overload protection                                  | yes                                   |

### Monitoring range

|                                             |                                                     |
|---------------------------------------------|-----------------------------------------------------|
| Range [mm]                                  | 15...300; (white paper 200 x 200 mm 90 % remission) |
| Range on white object (90 % remission) [mm] | 15...300                                            |



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|                                            |                  |
|--------------------------------------------|------------------|
| Range on grey object (18 % remission) [mm] | 15...290         |
| Range on black object (6 % remission) [mm] | 15...190         |
| Range adjustable                           | yes              |
| Max. light spot diameter [mm]              | 25               |
| Light spot dimensions refer to             | at maximum range |
| Background suppression available           | yes              |

| Operating conditions     |          |
|--------------------------|----------|
| Ambient temperature [°C] | -25...80 |
| Protection               | IP 67    |

| Tests / approvals |              |
|-------------------|--------------|
| EMC               | EN 60947-5-2 |
| MTTF [years]      | 362          |

| Mechanical data    |                                                                |
|--------------------|----------------------------------------------------------------|
| Weight [g]         | 61.1                                                           |
| Housing            | Threaded type                                                  |
| Dimensions [mm]    | M18 x 1 / L = 72                                               |
| Thread designation | M18 x 1                                                        |
| Material           | stainless steel (1.4404 / 316L); PA; LCP; EPDM; TPU (urethane) |
| Lens material      | PMMA                                                           |

| Displays / operating elements |                  |                 |
|-------------------------------|------------------|-----------------|
| Display                       | Switching status | 1 x LED, yellow |

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

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

### Electrical connection

Connector: 1 x M12; coding: A



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### Connection



### Diagrams and graphs



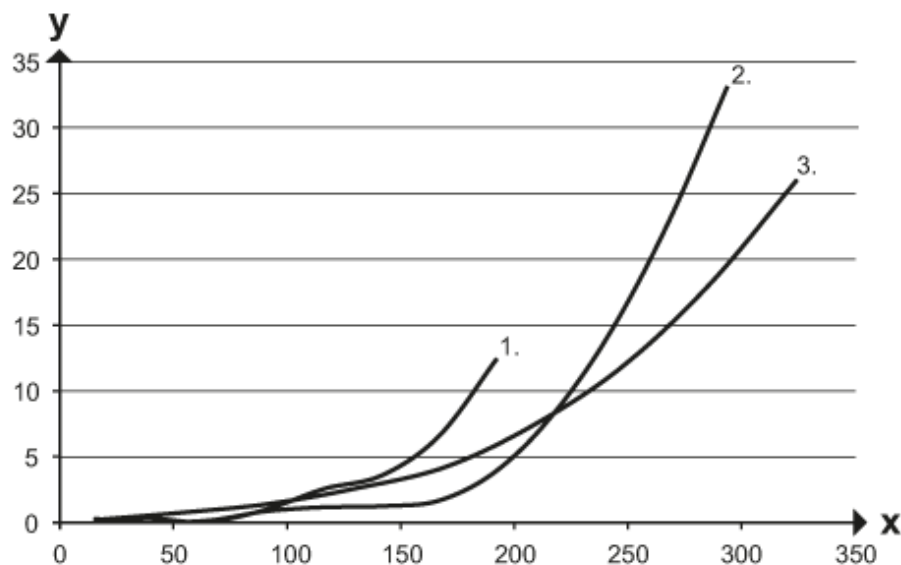
- a: sensor
- b: object
- c: background
- x: distance sensor/object [mm]
- y: min. distance object/background [mm]



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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)