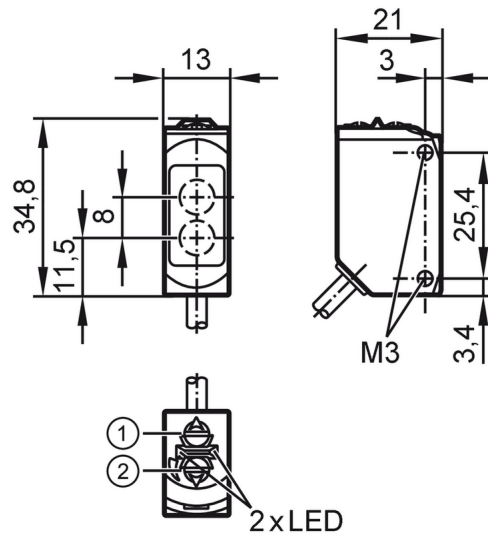


# O6H405



## Diffuse reflection sensor with background suppression

O6H-FNKG/0,30m/US



- 1: output function switch
- 2: potentiometer sensitivity



| Product characteristics                              |   |
|--|---|
| Type of light  | red light                                   |
| Housing  | rectangular                                 |
| Application  |   |
| Special feature                                      | Background suppression                      |
| Function principle                                   | Diffuse reflection sensor                   |
| Application  | suited for use in the machine tool industry |
| Electrical data                                      |   |
| Operating voltage [V]                                | 10...30 DC                                  |
| Current consumption [mA]                             | 22; ((24 V))                                |
| Protection class                                     | III   |
| Reverse polarity protection                          | yes   |
| Type of light  | red light                                   |
| Wave length [nm]                                     | 633   |
| Outputs  |   |
| Electrical design                                    | NPN   |
| Output function                                      | light-on/dark-on mode; (selectable)         |
| Max. voltage drop switching output DC [V]            | 2.5   |
| Permanent current rating of switching output DC [mA] | 100   |
| Switching frequency DC [Hz]                          | 1000  |
| Short-circuit protection                             | yes   |
| Type of short-circuit protection                     | pulsed                                      |
| Detection zone                                       |   |
| Range [mm]   | 2...200; (white paper 200 x 200 mm)         |

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|   |                  |
|---|------------------|
| Range on white object (90 % remission) [mm] | 2...200          |
| Range on grey object (18 % remission) [mm]  | 4...200          |
| Range on black object (6 % remission) [mm]  | 8...200          |
| Range adjustable                            | yes              |
| Max. light spot diameter [mm]               | 8                |
| Light spot dimensions refer to              | at maximum range |
| Background suppression available            | yes              |

### Operating conditions

|                          |                     |
|--------------------------|---------------------|
| Ambient temperature [°C] | -25...60            |
| Protection               | IP 65; IP 67; IP 68 |

### Tests / approvals

|              |                 |             |
|--------------|-----------------|-------------|
| EMC          | EN 60947-5-2    |             |
| MTTF [years] | 698             |             |
| UL approval  | Ta              | -25...50 °C |
|              | Enclosure type  | Type 1      |
|              | voltage supply  | Class 2     |
|              | UL approval no. | E023        |

### Mechanical data

|                        |  |
|------------------------|--|
| Weight [g]             | 51.3   |
| Housing                | rectangular  |
| Dimensions [mm]        | 34.8 x 13 x 21   |
| Materials              | housing: stainless steel (316L/1.4404); plastics: PPSU; Sealing: FKM |
| Lens material          | front pane:PMMA  |
| Lens alignment         | side lens  |
| Tightening torque [Nm] | 1; (screws)  |

### Displays / operating elements

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

### Remarks

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

### Electrical connection

Cable: 0.3 m, PUR; 3 x 0.25 mm<sup>2</sup>

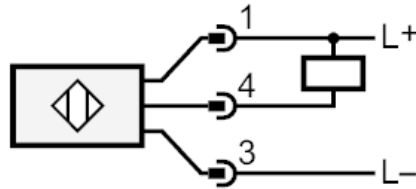
Connector: 1 x M12; coding: A; Contacts: 4



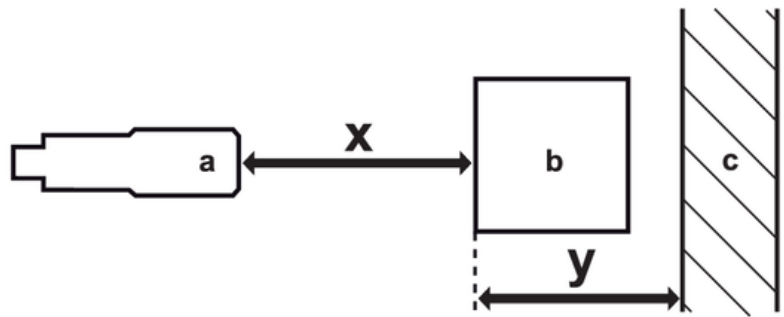
## Diffuse reflection sensor with background suppression

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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]

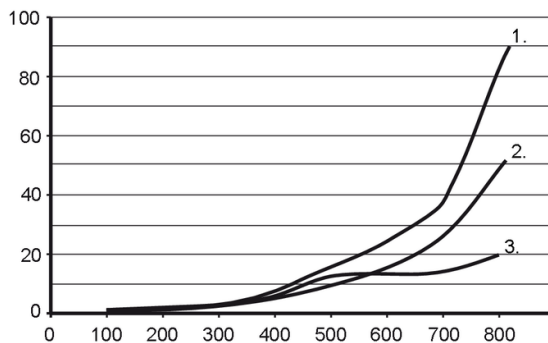
# O6H405



## Diffuse reflection sensor with background suppression

O6H-FNKG/0,30m/US

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)