



## Diffuse reflection sensor with background suppression

O6H-FPKG/5M



- 1 output function switch  
2 potentiometer sensitivity receiver in upper lens  
transmitter in lower lens



## 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                               |      | PNP                                 |
| 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                              |



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| Detection zone                         |                  |                                                                      |
|----------------------------------------|------------------|----------------------------------------------------------------------|
| Range                                  | [mm]             | 2...200; (white paper 200 x 200 mm)                                  |
| 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                            |                  | UL Approval no. E022                                                 |
| Mechanical data                        |                  |                                                                      |
| Weight                                 | [g]              | 133.5                                                                |
| Housing                                |                  | rectangular                                                          |
| Dimensions                             | [mm]             | 34.8 x 13 x 21                                                       |
| Materials                              |                  | housing: stainless steel (316L/1.4404); plastics: PPSU; Sealing: FKM |
| Lens material                          |                  | 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.                                                               |



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### Electrical connection

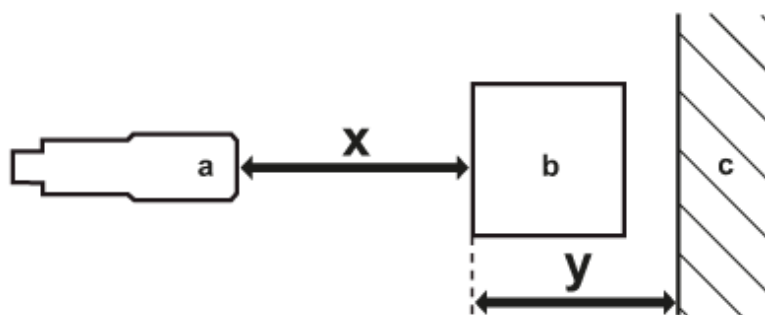
Cable: 5 m, PUR; 3 x 0.25 mm<sup>2</sup>

### Connection



Core colours :  
 BN = brown  
 BK = black  
 BU = blue

### 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)