



Diffuse reflection sensors with background suppression

O6H-FNKG/AS/3P



- 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                                     |      |                                     |
| System                                          |      | Background suppression              |
| Function principle                              |      | Diffuse reflection sensor           |
| 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                |      | yes (non-latching)                  |



## Diffuse reflection sensors with background suppression

O6H-FNKG/AS/3P

| Monitoring range                       |                    |                                     |
|----------------------------------------|--------------------|-------------------------------------|
| 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                        |
| Tests / approvals                      |                    |                                     |
| EMC                                    |                    | EN 60947-5-2                        |
| MTTF                                   | [years]            | 683                                 |
| UL approval                            | Ta                 | -25...40 °C                         |
|                                        | Enclosure type     | Type 1                              |
|                                        | voltage supply     | Class 2                             |
|                                        | UL approval number | E001                                |
| Mechanical data                        |                    |                                     |
| Weight                                 | [g]                | 18.2                                |
| Housing                                |                    | rectangular                         |
| Dimensions                             | [mm]               | 46 x 13 x 21                        |
| Material                               |                    | housing: ABS; PPSU                  |
| Lens material                          |                    | PMMA                                |
| Lens alignment                         |                    | Side sensing                        |
| Sealing material                       |                    | EPDM                                |
| Tightening torque                      | [Nm]               | 0.5                                 |
| Displays / operating elements          |                    |                                     |
| Display                                | Switching status   | 1 x LED, yellow                     |
|                                        | Power              | 1 x LED, green                      |
| Remarks                                |                    |                                     |
| Remarks                                |                    | cULus - Class 2 source required     |
| Pack quantity                          |                    | 1 pcs.                              |

## Diffuse reflection sensors with background suppression

O6H-FNKG/AS/3P

## Electrical connection

Connector: 1 x M8; coding: A; Locking: brass, coated; sealing: EPDM



## Connection



## Diagrams and graphs



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



## Diffuse reflection sensors with background suppression

O6H-FNKG/AS/3P

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)