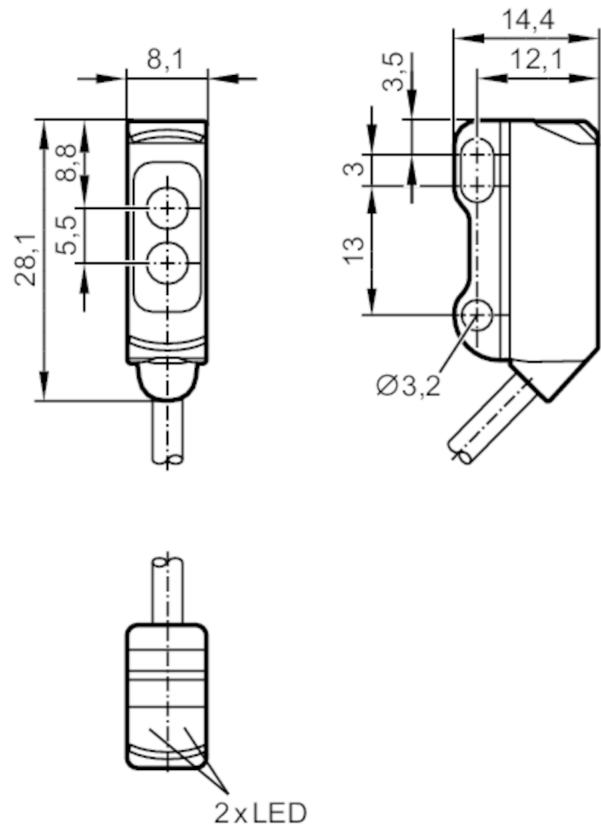




Diffuse reflection sensors with background suppression

O8H-HNKG/2,0M



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] | 20; ((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 mode             |
| Max. voltage drop switching output DC | [V]  | 2.5                       |



## Diffuse reflection sensors with background suppression

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|                                                 |      |                    |
|-------------------------------------------------|------|--------------------|
| 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) |

## Monitoring range

|                                        |      |                                    |
|----------------------------------------|------|------------------------------------|
| Range                                  | [mm] | 1...80; (white paper 200 x 200 mm) |
| Range on white object (90 % remission) | [mm] | 1...80                             |
| Range on grey object (18 % remission)  | [mm] | 3...76                             |
| Range on black object (6 % remission)  | [mm] | 5...74                             |
| Range adjustable                       |      | no                                 |
| Max. light spot diameter               | [mm] | 4                                  |
| 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]            | 757                     |
| UL approval | Ta                 | -25...60 °C             |
|             | Enclosure type     | Type 1                  |
|             | voltage supply     | Limited Voltage/Current |
|             | UL approval number | E014                    |
|             | File number UL     | E174191                 |

## Mechanical data

|                |      |                                                                    |
|----------------|------|--------------------------------------------------------------------|
| Weight         | [g]  | 38                                                                 |
| Housing        |      | rectangular                                                        |
| Dimensions     | [mm] | 28.1 x 8.1 x 14.4                                                  |
| Material       |      | housing: ABS; rear of the housing: stainless steel (1.4404 / 316L) |
| Lens material  |      | PMMA                                                               |
| Lens alignment |      | Side sensing                                                       |

## Displays / operating elements

|         |                  |                 |
|---------|------------------|-----------------|
| Display | Switching status | 1 x LED, yellow |
|         | Power            | 1 x LED, green  |

## Remarks

|               |  |        |
|---------------|--|--------|
| Pack quantity |  | 1 pcs. |
|---------------|--|--------|



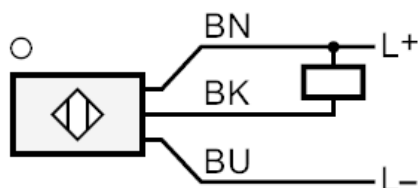
## Diffuse reflection sensors with background suppression

O8H-HNKG/2,0M

## Electrical connection

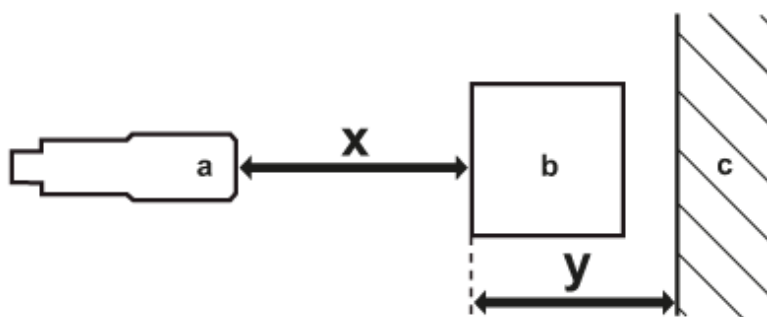
Cable: 2 m, PVC; 3 x 0.08 mm<sup>2</sup>

## Connection



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

## Diagrams and graphs



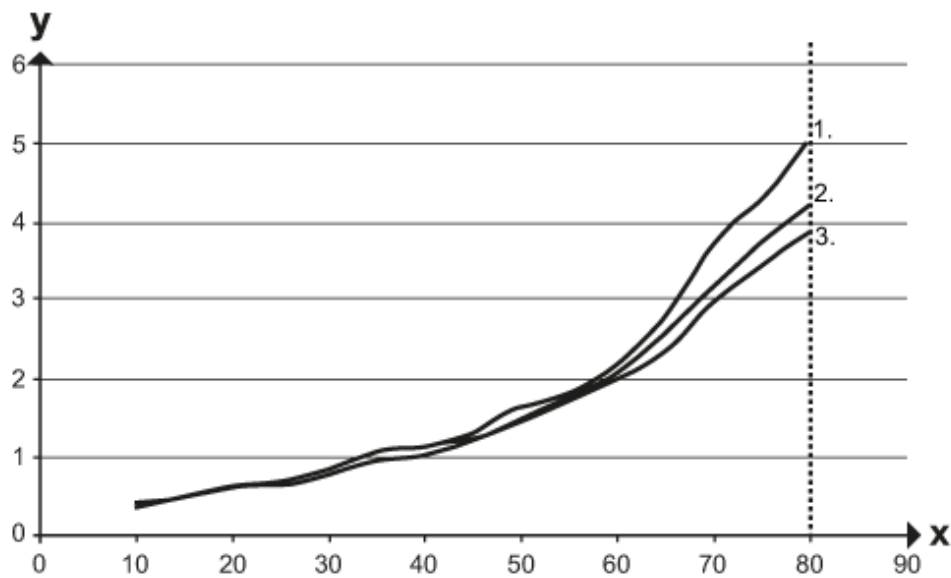
a: sensor  
 b: object  
 c: background  
 x: distance sensor/object [mm]  
 y: min. distance object/background [mm]



## Diffuse reflection sensors with background suppression

O8H-HNKG/2,0M

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)