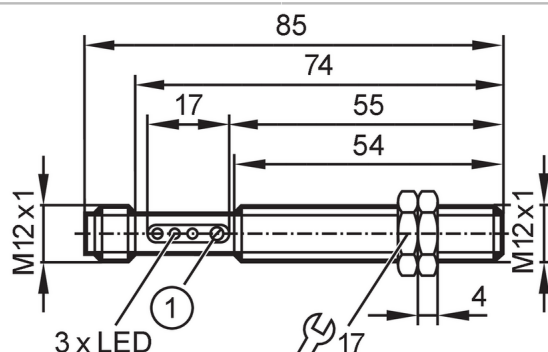


# OF5051



## Retro-reflective sensor

OFR-FNKG/US-100



1 potentiometer



### Product characteristics

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

### Application

|                    |                         |
|--------------------|-------------------------|
| Special feature    | Function check output   |
| Function principle | Retro-reflective sensor |
| Application        | Industrial applications |

### Electrical data

|                             |      |                |
|-----------------------------|------|----------------|
| Operating voltage           | [V]  | 10...36 DC     |
| Current consumption         | [mA] | < 35           |
| Protection class            |      | II             |
| Reverse polarity protection |      | yes            |
| Type of light               |      | Infrared light |
| Wave length                 | [nm] | 880            |

### Outputs

|                                                 |      |                                       |
|-------------------------------------------------|------|---------------------------------------|
| Electrical design                               |      | NPN                                   |
| Output function                                 |      | light-on/dark-on mode; (programmable) |
| Max. voltage drop switching output DC           | [V]  | 2.5                                   |
| Function check output                           |      | yes                                   |
| Max. voltage drop of function check output      | [V]  | 3.5                                   |
| Max. current load for function check output     | [mA] | 10                                    |
| Permanent current rating of switching output DC | [mA] | 200                                   |
| Switching frequency DC                          | [Hz] | 320                                   |
| Short-circuit protection                        |      | yes                                   |
| Type of short-circuit protection                |      | yes (non-latching)                    |
| Overload protection                             |      | yes                                   |



## Retro-reflective sensor

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| Monitoring range                           |                    |                                             |
|--------------------------------------------|--------------------|---------------------------------------------|
| Range referred to prismatic reflector      | [m]                | 0.05...2; (Prismatic reflector Ø 80 E20005) |
| Range adjustable                           |                    | yes                                         |
| Max. light spot diameter                   | [mm]               | 140                                         |
| Light spot dimensions refer to             |                    | at maximum range                            |
| Operating conditions                       |                    |                                             |
| Ambient temperature                        | [°C]               | -25...60                                    |
| Protection                                 |                    | IP 65                                       |
| Tests / approvals                          |                    |                                             |
| EMC                                        | EN 60947-5-2       |                                             |
|                                            | EN 55011           | class B                                     |
| MTTF                                       | [years]            | 601                                         |
| UL approval                                | Ta                 | < 40 °C                                     |
|                                            | Enclosure type     | Type 1                                      |
|                                            | voltage supply     | Limited Voltage/Current                     |
|                                            | UL approval number | E030                                        |
|                                            | File number UL     | E174191                                     |
| Mechanical data                            |                    |                                             |
| Weight                                     | [g]                | 40.6                                        |
| Housing                                    |                    | Threaded type                               |
| Dimensions                                 | [mm]               | M12 x 1 / L = 74                            |
| Thread designation                         |                    | M12 x 1                                     |
| Material                                   |                    | housing: brass nickel-plated                |
| Lens material                              |                    | front lens:PMMA                             |
| Displays / operating elements              |                    |                                             |
| Display                                    | Switching status   | 1 x LED, yellow                             |
|                                            | Power              | 1 x LED, green                              |
|                                            | Function           | 1 x LED, red                                |
| Accessories                                |                    |                                             |
| Items supplied                             |                    | lock nuts: 2                                |
|                                            |                    | screwdrivers                                |
| Remarks                                    |                    |                                             |
| Pack quantity                              |                    | 1 pcs.                                      |
| Electrical connection                      |                    |                                             |
| Connector: 1 x M12; coding: A; Contacts: 4 |                    |                                             |
|                                            |                    |                                             |



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Connection



2 Function check output

Diagrams and graphs

excess gain graph

