



**Thru-beam photoelectric sensor, receiver, Sn=6m, 4L, 10-30VDC, light/dark, NPN, PNP, M18, insulated material**

**Part no.** 12100R6517  
**Catalog No.** 135571  
**Alternate Catalog No.** 12100R6517

## Delivery program

|                           |       |    |  |
|---------------------------|-------|----|--|
| Basic function            |       |    | Optical sensors  |
| Product range             |       |    | Comet Series   |
| For connection of:        |       |    | 2 m connection cable   |
| Design (outer dimensions) |       | mm | M18 x 1  |
| Rated operational voltage | $U_e$ |    | 10 - 30 V DC   |
| Rated switching distance  | $S_n$ | mm | 6000   |
| Description               |       |    | Detector (for combination with source)<br>Beam: right-angled |
| Connection                |       |    | 4-wire   |
| Function                  |       |    | Thru-beam photoelectric sensor                               |
| Type of light             |       |    | Visible red  |
| Material                  |       |    | Insulated material   |
| Switching type            |       |    | NPN<br>PNP   |
| Switching principle       |       |    | Adjustable bright/dark switching                             |

### Information relevant for export to North America

Product Standards UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking

UL File No. E117028

UL Category Control No. NRKH, NRKH7

CSA File No. 50513

CSA Class No. 3211-07

North America Certification UL listed, CSA certified

Max. Voltage Rating 30 V DC

Degree of Protection IEC: IP68, IP69K; UL/CSA Type: 1, 4, 6

## Technical data

### General

|                             |  |   |                            |
|-----------------------------|--|---|----------------------------|
| Standards                   |  |   | IEC/EN 60947-5-2           |
| Ambient temperature         |  |   | -20 - +70                  |
| Mechanical shock resistance |  | g | 100<br>Shock duration 3 ms |
| Degree of Protection        |  |   | IP67                       |

### Characteristics

|  |       |     |   |
|--|-------|-----|---|
| Rated switching distance                           |       |     |   |
| Rated switching distance                           | $S_n$ | mm  | 6000  |
| Range  |       | mm  | 6   |
| Rated operational voltage                          | $U_e$ |     | 10 - 30 V DC  |
| Operating current in the switched state at 24 V DC | $I_b$ | mA  | 30  |
| Maximum load current                               | $I_e$ | mA  | < PNP: 100<br>NPN: 250 (120 > 55 °C)                                    |
| Response time                                      |       | ms  | 3.5   |
| Switching state display                            |       | LED | Red   |
| Protective functions                               |       |     | Short-circuit protective device<br>Protection against polarity reversal |
| Connection   |       |     | 4-wire  |
| Style  |       |     |   |
| Design (outer dimensions)                          |       | mm  | M18 x 1   |

|                    |  |                      |
|--------------------|--|----------------------|
| For connection of: |  | 2 m connection cable |
| Material           |  | Insulated material   |

## Design verification as per IEC/EN 61439

|  |  |    |     |
|--|--|----|-----|
| Technical data for design verification |  |    |     |
| Operating ambient temperature min.     |  | °C | -20 |
| Operating ambient temperature max.     |  | °C | 70  |

## Technical data ETIM 7.0

|   |  |    |                        |
|---|--|----|------------------------|
| Sensors (EG000026) / One-way light barrier (EC002716)   |  |    |                        |
| Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Optoelectronic sensor / One-way light barrier (ecI@ss10.0.1-27-27-09-01 [AKP250013]) |  |    |                        |
| Scope of delivery of the one-way system   |  |    | Receiver               |
| Opening angle   |  | °  | 0                      |
| Pre failure notice  |  |    | No                     |
| With time function  |  |    | No                     |
| Rated switching distance  |  | mm | 6000                   |
| Max. switching distance   |  | mm | 6000                   |
| Max. output current   |  | mA | 100                    |
| Reflector included  |  |    | No                     |
| Analogue output 0 V ... 10 V  |  |    | No                     |
| Analogue output 0 mA ... 20 mA  |  |    | No                     |
| Analogue output 4 mA ... 20 mA  |  |    | No                     |
| Analogue output -10 V ... +10 V   |  |    | No                     |
| With other analogue output  |  |    | No                     |
| Setting procedure   |  |    | Manual adjustment      |
| With communication interface analogue   |  |    | No                     |
| With communication interface AS-Interface   |  |    | No                     |
| With communication interface CANOpen  |  |    | No                     |
| With communication interface DeviceNet  |  |    | No                     |
| With communication interface Ethernet   |  |    | No                     |
| With communication interface INTERBUS   |  |    | No                     |
| With communication interface PROFIBUS   |  |    | No                     |
| With communication interface RS-232   |  |    | No                     |
| With communication interface RS-422   |  |    | No                     |
| With communication interface RS-485   |  |    | No                     |
| With communication interface SSD  |  |    | No                     |
| With communication interface SSI  |  |    | No                     |
| Number of semiconductor outputs with signalling function  |  |    | 0                      |
| Number of contact energized outputs with signalling function  |  |    | 0                      |
| Number of protected semiconductor outputs   |  |    | 0                      |
| Number of protected contact energized outputs   |  |    | 0                      |
| Type of interface for safety communication  |  |    | Other                  |
| Type of electric connection   |  |    | Cable                  |
| Type of switching output  |  |    | PNP/NPN                |
| Type of switch function   |  |    | Other                  |
| Operation agent-safety class  |  |    | Safety class 2         |
| Explosion safety category for gas   |  |    | None                   |
| Explosion safety category for dust  |  |    | None                   |
| Construction type housing   |  |    | Cylinder, screw-thread |
| Width sensor  |  | mm | 0                      |
| Diameter sensor   |  | mm | 18                     |
| Height of sensor  |  | mm | 0                      |
| Length of sensor  |  | mm | 65                     |
| Sensing mode  |  |    | Light-/dark switching  |
| Material of optical surface   |  |    | Plastic                |

|   |                 |                         |
|---|-----------------|-------------------------|
| Material housing                                      |                 | Plastic                 |
| Max. output current at protected output               | mA              | 0                       |
| Min. reflector distance                               | mm              | 0                       |
| Ambient temperature                                   | °C              | 40 - 70                 |
| Time of reaction                                      | ms              | 7                       |
| Transmission range of the safety field                | m               | 0                       |
| Switching frequency                                   | Hz              | 142                     |
| Type of safety acc. IEC 61496-1                       |                 |                         |
| *Switching voltage of OSSD at state ""high""          | V               | 0                       |
| Rated control supply voltage Us at AC 50HZ            | V               | 0 - 0                   |
| Rated control supply voltage Us at AC 60HZ            | V               | 0 - 0                   |
| Rated control supply voltage Us at DC                 | V               | 10 - 30                 |
| Voltage type  |                 | DC                      |
| With monitoring function downstream switching devices |                 | No                      |
| Laser protection class                                |                 | None                    |
| Wavelength of the sensor                              | nm              | 0                       |
| Type of light   |                 | Polarity free red light |
| Light dot   | mm <sup>2</sup> | 0                       |
| AWG-number  |                 | 0                       |
| Material of cable sheath                              |                 | Polyurethane (PUR)      |
| With restart blockage                                 |                 | No                      |
| Suitable for safety functions                         |                 | No                      |
| Degree of protection (IP)                             |                 | IP67                    |
| Degree of protection (NEMA)                           |                 | 4                       |

## Approvals

|                             |  |  |
|-----------------------------|--|--|
| Product Standards           |  | UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking |
| UL File No.                 |  | E117028  |
| UL Category Control No.     |  | NRKH, NRKH7  |
| CSA File No.                |  | 50513  |
| CSA Class No.               |  | 3211-07  |
| North America Certification |  | UL listed, CSA certified                           |
| Max. Voltage Rating         |  | 30 V DC  |
| Degree of Protection        |  | IEC: IP68, IP69K; UL/CSA Type: 1, 4, 6             |

## Dimensions

The drawing shows a side view of the sensor with an installed adapter. Key dimensions include a total length of 65 mm, a cable length of 42.9 mm, and a mounting hole diameter of Ø3.2. Callouts 1 and 2 indicate the light/dark and gain settings respectively. An LED indicator is also shown. A detail view of the mounting bracket shows an M18x1 screw hole and a 5 mm width.

Sensor with installed adapter

① Light/dark

② Gain

## Assets (links)

- [Declaration of CE Conformity](#)  
00002430
- [Instruction Leaflets](#)  
IL05305002Z2018\_05

## Additional product information (links)

|  |   |
|--|---|
| IL05305002Z Comet Series Optical Sensors |   |
| IL05305002Z Comet Series Optical Sensors | ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05305002Z2018_05.pdf |

