



Diffuse reflective sensor,  $S_n=610\text{mm}$ , 4L, 10-30VDC, NPN, PNP, M18, insulated material, line 2m

**Part no.** 13100R6517  
**Catalog No.** 135583  
**Alternate Catalog No.** 13100R6517

## 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 | 610                              |
| Description               |       |    | Beam: right-angled               |
| Connection                |       |    | 4-wire                           |
| Function                  |       |    | Reflected-light beam             |
| Type of light             |       |    | Infra-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         |  |   | -40 - +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  | 610   |
| Range  |       | mm  | 0.6   |
| 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  | 1   |
| 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 | -40 |
| Operating ambient temperature max.     | °C | 70  |

## Technical data ETIM 7.0

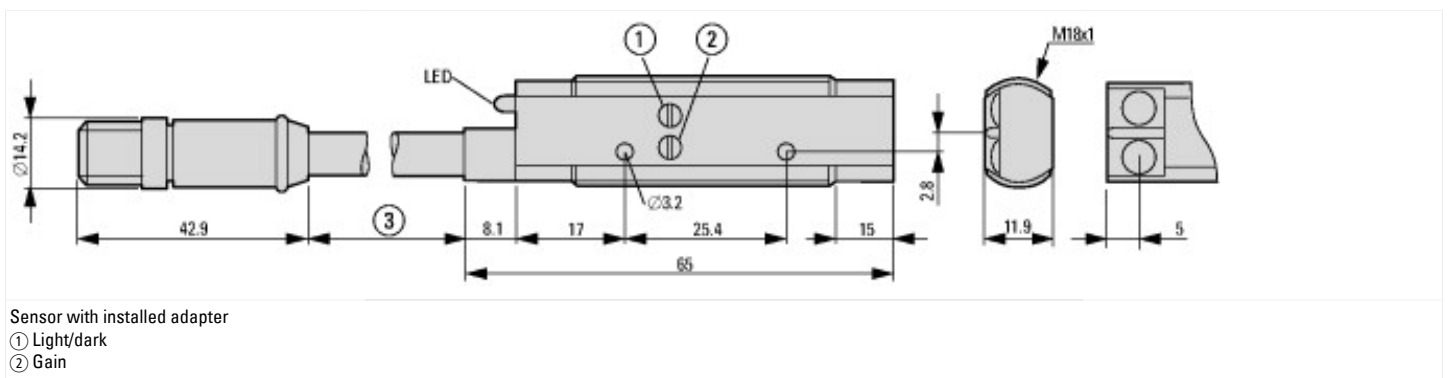
|  |    |                           |
|--|----|---------------------------|
| Sensors (EG000026) / Light scanner, energetic (EC001821)   |    |                           |
| Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Optoelectronic sensor / Light scanner, energetic (ec@ss10.0.1-27-09-03 [AKP252013]) |    |                           |
| Operating distance   | mm | 0 - 0                     |
| Pre failure notice   |    | No                        |
| With time function   |    | No                        |
| Max. switching distance  | mm | 610                       |
| Max. output current  | mA | 250                       |
| 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   |    | 2                         |
| 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  |    | Programmable/configurable |
| 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                        |
| Time of reaction                                      | ms              | 1                        |
| Transmission range of the safety field                | m               | 0                        |
| Switching frequency                                   | Hz              | 500                      |
| Type of safety acc. IEC 61496-1                       |                 |                          |
| "Switching voltage of OSSD at state ""high""          | V               | 0                        |
| Voltage type  |                 | DC                       |
| With monitoring function downstream switching devices |                 | No                       |
| Laser protection class                                |                 | None                     |
| Wavelength of the sensor                              | nm              | 0                        |
| Type of light   |                 | Infrared light           |
| Light dot   | mm <sup>2</sup> | 0                        |
| AWG-number  |                 | 22                       |
| Material of cable sheath                              |                 | Polyvinyl chloride (PVC) |
| With restart blockage                                 |                 | No                       |
| Suitable for safety functions                         |                 | No                       |
| Degree of protection (IP)                             |                 | IP67                     |
| Degree of protection (NEMA)                           |                 | 6                        |
| Ambient temperature                                   | °C              | 40 - 70                  |
| 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                  |

## 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



## 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](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05305002Z2018_05.pdf)