# Retroflective sensing sensor, Sn=3000mm, 4L, 10-30VDC, NPN, PNP, M18, insulated material, line 2m

**Part no.** 14101R6517
**Article no.** 135651
**Catalog No.** 14101R6517

## 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 | 3000 |
| Description | | | polarized light<br>for combination with reflector<br>Beam: right-angled |
| Connection | | | 4-wire |
| Function | | | Reflex 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 | | | -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 | 3000 |
| Range | | mm | 3 |
| 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 6.0

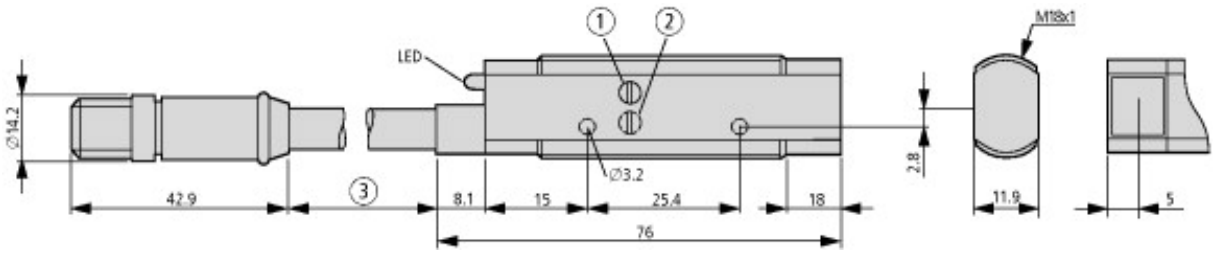
| | | |
|---|---|---|
| Sensors (EG000026) / Reflection light barrier (EC002717) | | |
| Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Optoelectronic sensor / Reflection light barrier (ecl@ss8.1-27-27-09-02 [AKP251010]) | | |
| Pre failure notice | | No |
| With time function | | No |
| Rated switching distance | mm | 3000 |
| Max. switching distance | mm | 0 |
| 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 analog output | | No |
| Setting procedure | | Manual adjustment |
| With communication interface analog | | 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 | | - |
| Type of electric connection | | Cable |
| Type of switching output | | PNP/NPN |
| Type of switch function | | Programmable/configurable |
| Operation agent-safety class | | - |
| 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 | 76 |
| Switch function | | 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 | 0 |

| | | | |
|---|---|---|---|
| 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 |
| 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 | | $mm^2$ | 0 |
| With restart blockage | | | No |
| Suitable for safety functions | | | No |
| Degree of protection (IP) | | | IP67 |

## 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




Sensor with installed adapter

① Light/dark

② Gain

## Additional product information (links)

| **IL05305002Z Comet Series Optical Sensors** | |
|---|---|
| IL05305002Z Comet Series Optical Sensors | ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05305002Z2016_07.pdf |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