



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

**Part no.** 13100A6517  
**Article no.** 135579  
**Catalog No.** 13100A6517

## 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: straight<br>Can be expanded with fiber optic cable→Accessories |
| 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                                     |
| <b>Information relevant for export to North America</b>              |       |    |  |
| 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 6.0

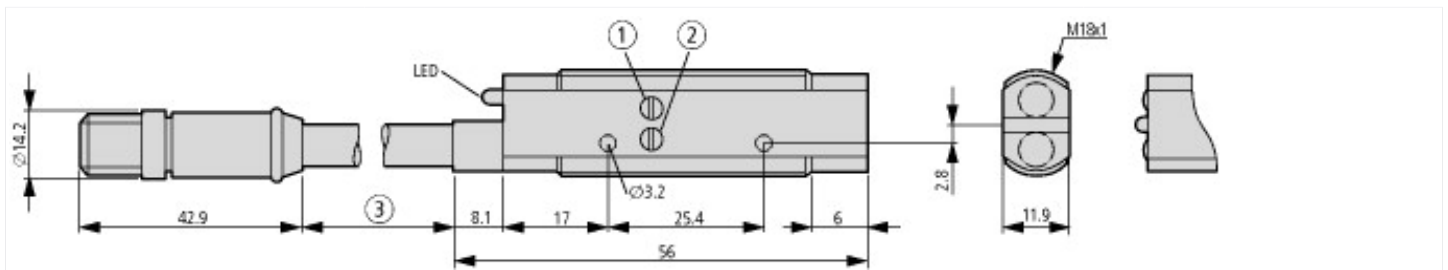
|   |  |    |                           |
|---|--|----|---------------------------|
| Sensors (EG000026) / Light scanner, energetic (EC001821)  |  |    |                           |
| Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Optoelectronic sensor / Light scanner, energetic (ecl@ss8.1-27-27-09-03 [AKP252010]) |  |    |                           |
| 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 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  |  |    | 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 | 56                        |
| 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                         |
| 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                              |                 | PVC            |
| With restart blockage                                 |                 | No             |
| Suitable for safety functions                         |                 | No             |
| Degree of protection (IP)                             |                 | IP67           |
| 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



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](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05305002Z2016_07.pdf)