



Diffuse reflective sensor, $S_n=225\text{mm}$, 4L, 10-30VDC, NPN, PNP, M18, insulated material, line 2m

Part no. 13103R6517
Catalog No. 135599
Alternate Catalog No. 13103R6517

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 | 225 |
| Description | | | Beam: right-angled with background suppression (Perfect Prox) |
| Connection | | | 4-wire |
| Function | | | Reflected-light beam |
| Type of light | | | Infra-red |
| Material | | | Insulated material |
| Switching type | | | NPN 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 Shock duration 3 ms |
| Degree of Protection | | | IP67 |

Characteristics

| | | | |
|--|-------|-----|---|
| Rated switching distance | | | |
| Rated switching distance | S_n | mm | 225 |
| Range | | mm | 0.23 |
| 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 NPN: 250 (120 > 55 °C) |
| Response time | | ms | 1 |
| Switching state display | | LED | Red |
| Protective functions | | | Short-circuit protective device 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 with background masking (EC002719) | | |
| Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Optoelectronic sensor / Light scanner w. background masking (ec1@ss10.0.1-27-27-09-04 [AKP253013]) | | |
| Adjustment range | mm | 0 - 0 |
| Operating distance | mm | 0 - 0 |
| Triangulation | | Background fade-out |
| Pre failure notice | | No |
| With time function | | No |
| Rated switching distance | mm | 225 |
| Max. switching distance | mm | 225 |
| 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 | | Other |
| 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 | 66 |
| 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 | 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 | 30 |
| 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 | | Infrared light |
| Light dot | mm ² | 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 |

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 |

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 |