

1) Optical axis receiver, 2) Optical axis emitter, 3) Sn, 4) Output function, 5) Light-on/dark-on, 6) stability



Basic features

| | |
|------------------------|-----------------------------|
| Approval/Conformity | cULus CE WEEE UKCA |
| Basic standard | IEC 60947-5-2 |
| Principle of operation | Photoelectric sensor |
| Series | 5K |
| Style | Square Connection 45° |
| Trademark | Global |

Display/Operation

| | |
|----------|--|
| Adjuster | Potentiometer 270° 6-turn potentiometer |
| Display | Output function- LED yellow Stability - LED green |
| Setting | Rated switching distance (Sn) Light-on/dark-on |

Electrical connection

| | |
|-----------------------------|----------------------|
| Cable diameter D | 3.50 mm |
| Cable length L | 2 m |
| Conductor cross-section | 0.20 mm ² |
| Connection | Cable, 2.00 m, PVC |
| Number of conductors | 3 |
| Polarity reversal protected | yes |
| Short-circuit protection | yes |

Electrical data

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|---|-------------|
| No-load current I _o max. at U _e | 35 mA |
| Operating voltage U _b | 10...30 VDC |
| Rated operating current I _e | 100 mA |
| Rated operating voltage U _e DC | 24 V |
| Ripple max. (% of U _e) | 10 % |
| Switching frequency | 2000 Hz |
| Turn-off delay t _{off} max. | 0.25 ms |
| Turn-on delay t _{on} max. | 0.25 ms |
| Voltage drop U _d max. at I _e | 1.5 V |

Environmental conditions

| | |
|--------------------------------|---|
| Ambient temperature | -10...55 °C |
| EN 60068-2-27, Shock | Half-sinus, 50 g _n , 11 ms, 3x10 |
| EN 60068-2-6, Vibration | 10...55 Hz, amplitude 1.5 mm, 3x2 h |
| IP rating | IP67 |

Functional safety

| | |
|---------------------|-----|
| MTTF (40 °C) | 3 a |
|---------------------|-----|

Interface

| | |
|-------------------------|---|
| Switching output | NPN normally open/normally closed (NO/NC) |
|-------------------------|---|

Material

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|---------------------------------|-----------|
| Housing material | PC PBT |
| Material jacket | PVC |
| Material sensing surface | PMMA |

Mechanical data

| | |
|-------------------------------|-----------------------|
| Dimension | 10.8 x 32.7 x 19.5 mm |
| Mounting part | Screw M3 |
| Tightening torque max. | 0.5 Nm |

Remarks

Order accessories separately.
 For additional information, refer to user's guide.
 Reference object (target): gray card, 100 x 100, 90 % remission, axial approach.
 The sensor is functional again after the overload has been eliminated.
 When using as a UL product the ambient temperature Ta max. must not exceed 50°C.
 To meet the EMC requirements of EN 60947-5-2 the mounting bracket must not be grounded.
 For more information about MTTF and B10d see MTTF / B10d Certificate

Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

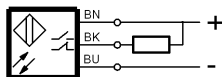
Optical features

| | |
|---------------------------------------|-------------------------------|
| Ambient light max. | 5000 Lux |
| Average power Po max. | 390 µW |
| Beam characteristic | Focus, typical at 260 mm |
| Laser class per IEC 60825-1 | 1 |
| Light spot size | 0.2 x 0.3 mm at focal point |
| Light type | Laser red light |
| Principle of optical operation | Diffuse sensor, triangulation |
| Pulse duration t max. | 1.4 µs |
| Pulse frequency | 20 kHz |
| Pulse power Pp max. | 4.5 mW |
| Smallest part typ. | 0.2 mm at 170 mm |
| Special optical feature | Background suppression |
| Switching function, optical | Light/dark switching |
| Wave length | 650 nm |

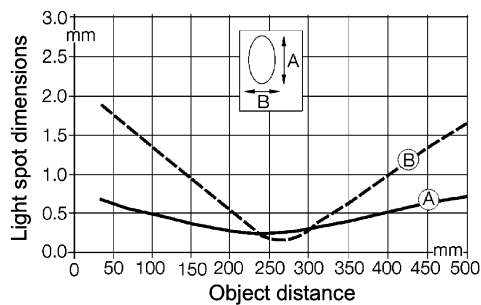
Range/Distance

| | |
|---|-------------------|
| Distance deviation 18 % max. (% of Sr) | 8 % |
| Hysteresis H max. (% of Sr) | 10.0 % |
| Range | 20...300 mm |
| Rated operating distance Sn | 300 mm Adjustable |

Wiring Diagrams



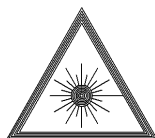
Technical Drawings



Opto Symbols



Warning Symbols



LASER CLASS 1 per IEC 60825-1