

1) Mode settings, 2) Optical axis receiver, 3) Optical axis emitter, 4) Power indicator, 5) stability, 6) Sensitivity



Basic features

| | |
|------------------------|-----------------------------|
| Approval/Conformity | cULus CE UKCA WEEE |
| Principle of operation | Photoelectric sensor |
| Series | R090K |
| Style | Square Connection 45° |

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 |

Display/Operation

| | |
|----------|--|
| Adjuster | Potentiometer 270° Rotary switch 2 positions |
| Display | Output function- LED yellow Stability - LED green |
| Setting | Sensitivity (Sn) Light-on/dark-on |

Electrical data

| | |
|-------------------------------------|-------------|
| No-load current I_0 max. at U_e | 20 mA |
| Operating voltage U_b | 10...30 VDC |
| Rated operating current I_e | 100 mA |
| Rated operating voltage U_e DC | 24 V |
| Ready delay $t_{v, max.}$ | 300 ms |
| Ripple max. (% of U_e) | 10 % |
| Switching frequency | 1000 Hz |
| Turn-off delay $t_{off, max.}$ | 0.5 ms |
| Turn-on delay $t_{on, max.}$ | 0.5 ms |
| Voltage drop U_d max. at I_e | 2 V |

Environmental conditions

| | |
|---------------------|-------------|
| Ambient temperature | -30...55 °C |
| IP rating | IP67 |

Functional safety

| | |
|--------------|------|
| MTTF (40 °C) | 81 a |
|--------------|------|

Interface

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

Material

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

Mechanical data

| | |
|------------------------|-----------------------|
| Dimension | 10.7 x 32.7 x 19.5 mm |
| Mounting part | Screw M3 |
| Tightening torque max. | 0.5 Nm |

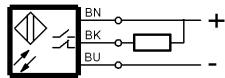
Optical features

| | |
|--------------------------------|---------------------------|
| Ambient light max. | 10000 Lux |
| Beam characteristic | Divergent |
| Light spot size | Ø 70 mm at 500 mm |
| Light type | LED infrared |
| Principle of optical operation | Diffuse sensor, energetic |
| Switching function, optical | dark-on/light-on |
| Wave length | 880 nm |

Range/Distance

| | |
|-----------------------------|-------------|
| Range | 0...1000 mm |
| Rated operating distance Sn | 1000 mm |

Wiring Diagrams



Opto Symbols

