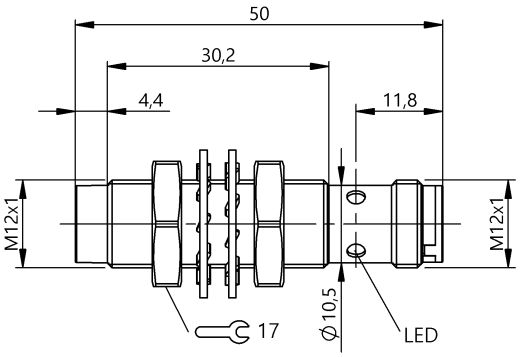
Inductive Sensors

# BES M12MC1-YIC10F-S04G
# Order Code: BES05T9




## Basic features

| | |
|---|---|
| Application | Object detection |
| Approval/Conformity | CE<br>UKCA<br>cULus<br>WEEE |
| Basic standard | IEC 60947-5-2 |
| Operating mode | SIO Mode<br>IO-Link Mode |

## Display/Operation

| | |
|---|---|
| Function indicator | yes |
| Power indicator | no |

## Electrical connection

| | |
|---|---|
| Connection | M12x1-Male, 4-pin, A-coded |
| Polarity reversal protected | yes |
| Protection against device mix-ups | yes |
| Short-circuit protection | yes |

## Electrical data

| | |
|---|---|
| Load capacitance max. at Ue | 1 µF |
| Min. operating current Im | 0 mA |
| No-load current Io max., damped | 20 mA |
| No-load current Io max., undamped | 16 mA |
| Operating voltage Ub | 18...30 VDC |
| Protection class | II |
| Rated insulation voltage Ui | 250 V AC |
| Rated operating current Ie | 100 mA |
| Rated operating voltage Ue DC | 24 V |
| Ready delay tv max. | 80 ms |
| Residual current Ir max. | 10 µA |
| Ripple max. (% of Ue) | 15 % |
| Switching frequency | 500 Hz |
| Utilization category | DC -13 |
| Voltage drop static max. | 1.2 V |

## Environmental conditions

| | |
|---|---|
| Ambient temperature | -25...70 °C |
| Contamination scale | 3 |
| EN 60068-2-27, Shock | Half-sinus, 30 $g_n$, 11 ms |
| EN 60068-2-6, Vibration | 55 Hz, amplitude 1 mm, 3x30 min |
| IP rating | IP68, according to BWN Pr 20 |

## Functional safety

| | |
|---|---|
| MTTF (40 °C) | 304 a |

## IO-Link

| | |
|---|---|
| IO-Link Profil IDs | 0x0001 SSP0 |

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## Interface

| | |
|---|---|
| **Interface** | IO-Link 1.1 |
| **Interface setting option** | Factory setting (Reset)<br>SIO mode/IO-Link mode<br>Teach-In of switchpoints |
| **Process data IN** | Teaching successfully reply<br>1 byte<br>Switching state<br>Target too close/far |
| **Switching output** | 2x PNP/NPN/push-pull NO/NC |

## Material

| | |
|---|---|
| **Housing material** | Brass, Nickel-free coated |
| **Material sensing surface** | PBT |

## Mechanical data

| | |
|---|---|
| **Dimension** | Ø 12 x 50 mm |
| **Installation** | non-flush |
| **Mounting length** | 30.0 mm |
| **Size** | M12x1 |
| **Tightening torque** | 10 Nm |

## Range/Distance

| | |
|---|---|
| **Hysteresis H max. (% of Sr)** | 15 % |
| **Measuring range** | 7...11 mm |
| **Rated operating distance Sn** | 10 mm |
| **Repeat accuracy max. (% of Sr)** | 5.0 % |
| **Switching distance marking** | ■■■ |

## Remarks

The sensor is functional again after the overload has been eliminated.
Sensors with IO-Link function are not suitable for series or parallel wiring.
Quasi-flushed: See installation instructions for inductive sensors with extended range 825356.
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.

## Connector Drawings


## Wiring Diagrams (Schematic)