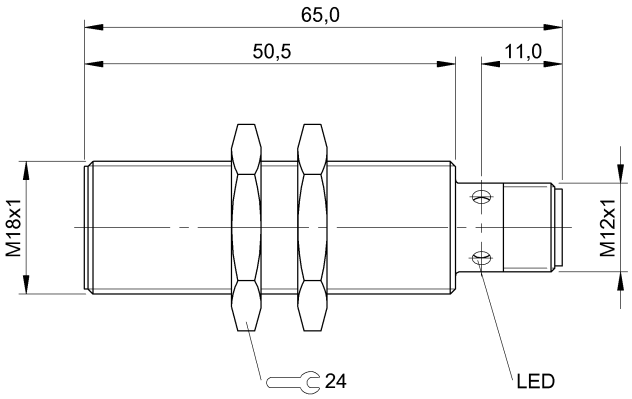
Inductive Sensors

# BES M18MI-PSC50A-S04G-WM01
# Order Code: BES0200




## Basic features

| | |
|---|---|
| Additional features | Load sensing/adjusting aid/ monitor output<br>Monitor output with internal function checking<br>Weld immune |
| Approval/Conformity | cULus<br>CE<br>WEEE |
| Basic standard | IEC 60947-5-2 |
| Principle of operation | Inductive sensor |

## 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 | 0.5 µF |
| Magnetic field strength, interference field | 100 kA/m |
| Min. operating current Im | 3 mA |
| No-load current Io max., damped | 25 mA |
| No-load current Io max., undamped | 23 mA |
| Operating voltage Ub | 10...30 VDC |
| Output resistance Ra | Open collector |
| Protection class | II |
| Rated insulation voltage Ui | 250 V AC |
| Rated operating current Ie | 200 mA |
| Rated operating voltage Ue DC | 24 V |
| Rated short circuit current | 100 A |
| Ready delay tv max. | 50 ms |
| Residual current Ir max. | 80 µA |
| Ripple max. (% of Ue) | 15 % |
| Switching frequency | 15 Hz |
| Utilization category | DC -13 |
| Voltage drop static max. | 3.5 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 | IP67 |
| Magnetic field immune | magnetic field immune (AC/DC) |

## Functional safety

| | |
|---|---|
| MTTF (40 °C) | 130 a |

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## Interface

| | |
|---|---|
| **Switching output** | PNP normally open (NO) |

## Material

| | |
|---|---|
| **Housing material** | Brass, PTFE coated |
| **Material sensing surface** | LCP/PTFE |

## Mechanical data

| | |
|---|---|
| **Dimension** | Ø 18 x 65 mm |
| **Installation** | for flush mounting |
| **Mounting length** | 50.50 mm |
| **Size** | M18x1 |
| **Tightening torque** | 12 Nm |

## Range/Distance

| | |
|---|---|
| **Assured operating distance Sa** | 4 mm |
| **Hysteresis H max. (% of Sr)** | 15.0 % |
| **Rated operating distance Sn** | 5 mm |
| **Real switching distance sr** | 5 mm |
| **Repeat accuracy max. (% of Sr)** | 5.0 % |
| **Temperature drift max. (% of Sr)** | 10 % |
| **Tolerance Sr** | ±10 % |

## Remarks

Monitor output: High level when the sensor is functional. The load capacity is 50 mA.
Adjusting aid for installation: LED flashes when in range between Sr and Sa.
The sensor is functional again after the overload has been eliminated.
Load detection: If the sensor is damped, at least 3 mA must flow through the output (pin 4). Otherwise a fault is detected.
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)

