



1) Sensing surface



Basic features

| | |
|---------------------|---------------|
| Approval/Conformity | CE |
| | UKCA |
| | cULus |
| | WEEE |
| Basic standard | IEC 60947-5-2 |

Display/Operation

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

Electrical connection

| | |
|-----------------------------------|----------------------|
| Cable diameter D | 3.00 mm |
| Cable length L | 5 m |
| Conductor cross-section | 0.14 mm ² |
| Connection type | Cable, 5.00 m, PUR |
| Number of conductors | 3 |
| Polarity reversal protected | yes |
| Protection against device mix-ups | yes |
| Short-circuit protection | yes |

Electrical data

| | |
|---|----------------|
| Load capacitance max. at U _e | 0.5 µF |
| Min. operating current I _m | 0 mA |
| No-load current I _o max., damped | 10 mA |
| No-load current I _o max., undamped | 8 mA |
| Operating voltage U _b | 10...30 VDC |
| Output resistance R _a | Open collector |
| Rated insulation voltage U _i | 75 V DC |
| Rated operating current I _e | 100 mA |
| Rated operating voltage U _e DC | 24 V |
| Rated short circuit current | 100 A |
| Ready delay t _v max. | 20 ms |
| Residual current I _r max. | 10 µA |
| Ripple max. (% of U _e) | 10 % |
| Switching frequency | 3000 Hz |
| Utilization category | DC -13 |
| Voltage drop static max. | 2.5 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 |

Functional safety

| | |
|--------------|-------|
| MTTF (40 °C) | 735 a |
|--------------|-------|

Inductive Sensors
BES M05ED-PSC50F-EP05
Order Code: BES013F



Interface

Switching output PNP normally open (NO)

Material

Housing material Stainless steel
 Material jacket PUR
 Material sensing surface PET-C

Mechanical data

Dimension Ø 5 x 35 mm
 Installation non-flush
 Size M5x0.5
 Tightening torque 1 Nm

Range/Distance

Assured operating distance Sa 4.05 mm
 Hysteresis H max. (% of Sr) 20.0 %
 Rated operating distance Sn 5 mm
 Real switching distance sr 5 mm
 Repeat accuracy max. (% of Sr) 10.0 %
 Switching distance marking ■■■
 Temperature drift max. (% of Sr) 10 %
 Tolerance Sr ±10 %

Remarks

Cannot be flush mounted: see installation instructions for inductive sensors with extended switching distance 939224. Avoid pressure and contact in the area of the clear zone cap.

The sensor is functional again after the overload has been eliminated.

EMC: For operating conditions with noise sources

External protection circuit is required. Document 825345.

When using an AC bridge, an electrolytic capacitor $\geq 10\mu\text{F}/40\text{V}$ parallel to Vs is recommended.

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.

Wiring Diagrams

