



Basic features

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

Display/Operation

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

Electrical connection

| | |
|-----------------------------------|----------------------|
| Cable diameter D | 4.60 mm |
| Cable length L | 5 m |
| Conductor cross-section | 0.34 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 Ue | 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 | 3 mA |
| Operating voltage U _b | 10...30 VDC |
| Output resistance R _a | 33.0 kOhm + D |
| Rated insulation voltage U _i | 250 V AC |
| Rated operating current I _e | 200 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) | 15 % |
| Switching frequency | 300 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) | 830 a |
|--------------|-------|

Interface

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

Inductive Sensors
BES M12MD-PSC40B-BP05-003
Order Code: **BES04ZF**

BALLUFF

Material

| | |
|--------------------------|---------------------------|
| Housing material | Brass, Nickel-free coated |
| Material jacket | PUR |
| Material sensing surface | LCP |

Mechanical data

| | |
|-------------------|--------------------|
| Dimension | Ø 12 x 33 mm |
| Installation | for flush mounting |
| Size | M12x1 |
| Tightening torque | 10 Nm |

Range/Distance

| | |
|----------------------------------|--------|
| Assured operating distance Sa | 3.2 mm |
| Hysteresis H max. (% of Sr) | 15.0 % |
| Rated operating distance Sn | 4 mm |
| Real switching distance sr | 4 mm |
| Repeat accuracy max. (% of Sr) | 5.0 % |
| Switching distance marking | ■ ■ |
| Temperature drift max. (% of Sr) | 10 % |
| Tolerance Sr | ±10 % |

Remarks

The sensor is functional again after the overload has been eliminated.
Flush: See installation instructions for inductive sensors with extended range 825357.
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

