



Basic features

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

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 I _m | 5 mA |
| Operating voltage U _b | 10...36 VDC |
| 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. | 50 ms |
| Residual current I _r max. | 600 µA |
| Ripple max. (% of U _e) | 15 % |
| Switching frequency | 1300 Hz |
| Utilization category | DC -13 |
| Voltage drop static max. | 5.3 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) | 315 a |
|--------------|-------|

Interface

| | |
|------------------|----------------------------------|
| Switching output | Non-polarized normally open (NO) |
|------------------|----------------------------------|

Inductive Sensors
BES M12MF-USC30B-S04G
Order Code: **BES0041**



Material

| | |
|--------------------------|---------------------------|
| Housing material | Brass, Nickel-free coated |
| Material sensing surface | PA 12 |

Mechanical data

| | |
|-------------------|--------------------|
| Dimension | Ø 12 x 50 mm |
| Installation | for flush mounting |
| Size | M12x1 |
| Tightening torque | 15 Nm |

Range/Distance

| | |
|----------------------------------|--------|
| Assured operating distance Sa | 2.4 mm |
| Hysteresis H max. (% of Sr) | 20.0 % |
| Rated operating distance Sn | 3 mm |
| Real switching distance sr | 3 mm |
| Repeat accuracy max. (% of Sr) | 5.0 % |
| Switching distance marking | ■ ■ |
| Temperature drift max. (% of Sr) | 10 % |
| Tolerance Sr | ±10 % |

Remarks

Specify maximum attainable switching frequency (not per IEC 60947-5-2)
The sensor is functional again after the overload has been eliminated.
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

