

**Basic features**

Approval/Conformity	CE UKCA cULus WEEE
Base type deviation	Lg, Therm. K-protection without LED
Basic standard	IEC 60947-5-2

**Display/Operation**

Function indicator	no
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	25 mA
No-load current Io max., undamped	12 mA
Operating voltage Ub	10...30 VDC
Output resistance Ra	2.2 kOhm + D
Rated insulation voltage Ui	75 V DC
Rated operating current Ie	130 mA
Rated operating voltage Ue DC	24 V
Rated short circuit current	100 A
Ready delay tv max.	100 ms
Residual current Ir max.	80 µA
Ripple max. (% of Ue)	15 %
Switching frequency	200 Hz
Utilization category	DC -13
Voltage drop static max.	3.5 V

**Environmental conditions**

Ambient temperature	-40...85 °C
Ambient temperature max.	85 °C 105 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 gn, 11 ms
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min
IP rating	IP68, according to BWN Pr. 27
IP rating per DIN 40050	IP69K

**Functional safety**

MTTF (40 °C)	775 a
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Inductive Sensors  
**BES 515-360-SA12-S4-T**  
**Order Code: BES02FM**



**Interface**

Switching output PNP normally open (NO)

**Material**

Housing material 1.4571 stainless steel  
 Material sensing surface PA 12

**Mechanical data**

Dimension Ø 18 x 65 mm  
 Installation non-flush  
 Size M18x1  
 Tightening torque 30 Nm

**Range/Distance**

Assured operating distance Sa 6.5 mm  
 Hysteresis H max. (% of Sr) 15.0 %  
 Rated operating distance Sn 8 mm  
 Real switching distance sr 8 mm  
 Repeat accuracy max. (% of Sr) 5.0 %  
 Temperature drift max. (% of Sr) 10 %  
 Tolerance Sr ±10 %

**Remarks**

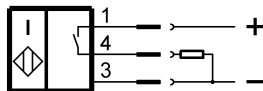
\*Current reduction max. 30 min at:  $T_a \geq 70 \text{ °C} \dots \leq 105 \text{ °C}$ :  $I_e = 130 - 2.86 \times (T_a - 70)$ .  
 The sensor is functional again after the overload has been eliminated.  
 For more information about MTTF and B10d see MTTF / B10d Certificate

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**



## Technical Drawings

