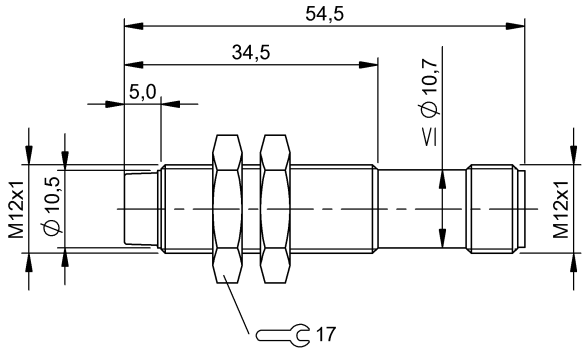
Inductive Sensors

BES 515-356-E5-T-S4
Order Code: BES02FA



Basic features

Approval/Conformity	cULus CE UKCA WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Inductive sensor

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.	10 ms
Residual current Ir max.	80 µA
Ripple max. (% of Ue)	15 %
Switching frequency	400 Hz
Utilization category	DC -13
Voltage drop static max.	3.5 V

Environmental conditions

Ambient temperature	-40...105 °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	IP68, according to BWN Pr. 27
IP rating per DIN 40050	IP69K

Functional safety

MTTF (40 °C)	1620 a

Interface

Switching output	PNP normally open (NO)

Inductive Sensors
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Material

Housing material	1.4571 stainless steel
Material sensing surface	PEEK

Mechanical data

Dimension	Ø 12 x 54.5 mm
Installation	non-flush
Mounting length	29.50 mm
Size	M12x1
Tightening torque	12 Nm

Range/Distance

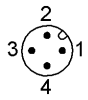
Assured operating distance Sa	3.2 mm
Hysteresis H max. (% of Sr)	15.0 %
Rated operating distance Sn	4 mm
Real switching distance sr	4 mm
Repeat accuracy max. (% of Sr)	5.0 %
Temperature drift max. (% of Sr)	50 %
Tolerance Sr	±10 %

Remarks

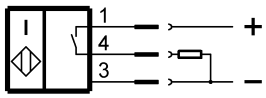
*Current reduction max. 30 min at: Ta ≥ 70 °C... ≤ 105 °C: Ie= 130 - 2.86x(Ta-70).
The sensor is functional again after the overload has been eliminated.
For more information about MTTF and B10d see MTTF / B10d Certificate

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 (Schematic)



Technical Drawings

