



1) Sensing surface



Basic features

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

Display/Operation

Function indicator	yes
Power indicator	yes

Electrical connection

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	15 mA
No-load current Io max., undamped	15 mA
Operating voltage Ub	10...55 VDC
Output resistance Ra	33.0 kOhm + D
Protection class	II
Rated insulation voltage Ui	250 V AC
Rated operating current Ie	200 mA
Rated operating voltage Ue DC	24 V
Rated short circuit current	100 A
Ready delay tv max.	50 ms
Residual current Ir max.	80 µA
Ripple max. (% of Ue)	15 %
Switching frequency	100 Hz
Utilization category	DC -13
Voltage drop static max.	2.5 V

Inductive Sensors
BES 517-140-M5-H
Order Code: BES020U

BALLUFF

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)	230 a
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Interface

Cable fitting, thread size	M20x1.5
Switching output	NPN normally open/normally closed (NO/NC)

Material

Housing material	PBT
Material sensing surface	PBT

Mechanical data

Connection cross-section	2.5 mm ²
Dimension	80 x 80 x 40 mm
Installation	non-flush
Size	80x80
Tightening torque	4...5 Nm (M20x1.5)
Tightening torque clamping screw	0.8 Nm

Range/Distance

Assured operating distance S _a	40 mm
Hysteresis H max. (% of S _r)	20.0 %
Rated operating distance S _n	50 mm
Real switching distance s _r	50 mm
Repeat accuracy max. (% of S _r)	5.0 %
Temperature drift max. (% of S _r)	10 %
Tolerance S _r	±10 %

Remarks

LED 1: Function
LED 2: Operating voltage
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.

Wiring Diagrams (Schematic)

