



1) Sensing surface



### Basic features

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

### Display/Operation

Function indicator	yes
Power indicator	yes

### 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	0.5 $\mu$ F
Min. operating current I <sub>m</sub>	0 mA
No-load current I <sub>o</sub> max., damped	15 mA
No-load current I <sub>o</sub> max., undamped	12 mA
Operating voltage U <sub>b</sub>	10...55 VDC
Output resistance R <sub>a</sub>	33.0 kOhm + D/33.0 kOhm + D
Protection class	II
Rated insulation voltage U <sub>i</sub>	250 V AC
Rated operating current I <sub>e</sub>	200 mA
Rated operating voltage U <sub>e</sub> DC	24 V
Rated short circuit current	100 A
Ready delay t <sub>v</sub> max.	150 ms
Residual current I <sub>r</sub> max.	20 $\mu$ A
Ripple max. (% of U <sub>e</sub> )	10 %
Switching frequency	50 Hz
Utilization category	DC -13
Voltage drop static max.	2.5 V

Inductive Sensors  
**BES Q80KA-PAH50F-S04Q**  
 Order Code: BES0226



Environmental conditions

Ambient temperature	-25...70 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 g <sub>n</sub> , 11 ms
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min
IP rating	IP67

Functional safety

MTTF (40 °C)	785 a
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Interface

Switching output	PNP normally open/normally closed (NO/NC)
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Material

Housing material	PBT, GF30
Material sensing surface	PBT, GF30

Remarks

LED 1: Function  
 LED 2: Operating voltage  
 The sensor is functional again after the overload has been eliminated.  
 Not for flush mounting: See installation instructions for inductive sensors with extended range 939228.  
 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.

Mechanical data

Dimension	106 x 80 x 40 mm
Installation	non-flush
Size	80x80
Tightening torque	3 Nm

Range/Distance

Assured operating distance Sa	40 mm
Hysteresis H max. (% of Sr)	15.0 %
Rated operating distance Sn	50 mm
Real switching distance sr	50 mm
Repeat accuracy max. (% of Sr)	5.0 %
Temperature drift max. (% of Sr)	10 %
Tolerance Sr	±10 %

Connector Drawings



Wiring Diagrams (Schematic)

