



### Basic features

Approval/Conformity	CE WEEE
Basic standard	IEC 60947-5-2

### 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 <sub>m</sub>	4 mA
Operating voltage U <sub>b</sub>	10...55 VDC
Protection class	II
Rated insulation voltage U <sub>i</sub>	250 V AC
Rated operating current I <sub>e</sub>	400 mA
Rated operating voltage U <sub>e</sub> DC	24 V
Rated short circuit current	100 A
Ready delay t <sub>v</sub> max.	30 ms
Residual current I <sub>r</sub> max.	600 µA
Switching frequency	90 Hz
Utilization category	DC -13
Voltage drop static max.	4.6 V

### 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)	1630 a
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### Interface

Switching output	polarized normally open (NO)
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### Material

Housing material	PPE
Material sensing surface	PPE

### Mechanical data

Dimension	112 x 80 x 40 mm
Installation	for flush mounting
Size	80x80

Inductive Sensors  
**BES Q80KA-GSH50B-S04Q**  
Order Code: BES030A

# BALLUFF

### Range/Distance

Assured operating distance Sa	40 mm
Hysteresis H max. (% of Sr)	20.0 %
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 %

### Remarks

When flush mounted in steel the switching distance is 50 mm.  
Non-flush mounting reduces the switching distance to 5 mm.  
Flush mounting in non-ferrous materials can further reduce the switching distance.  
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

