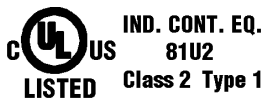


1) Sensing surface



### Basic features

<b>Additional features</b>	Factor 1 Weld immune
<b>Approval/Conformity</b>	cULus CE EAC WEEE
<b>Basic standard</b>	IEC 60947-5-2
<b>Trademark</b>	Factor 1

### Display/Operation

<b>Function indicator</b>	yes
<b>Power indicator</b>	yes

### Electrical connection

<b>Connection</b>	M12x1-Male, 4-pin, A-coded
<b>Polarity reversal protected</b>	yes
<b>Protection against device mix-ups</b>	yes
<b>Short-circuit protection</b>	yes

### Electrical data

<b>Load capacitance max. at Ue</b>	1 µF
<b>Magnetic field strength, interference field</b>	100 kA/m
<b>Min. operating current I<sub>m</sub></b>	0 mA
<b>No-load current I<sub>o</sub> max., damped</b>	20 mA
<b>No-load current I<sub>o</sub> max., undamped</b>	15 mA
<b>Operating voltage U<sub>b</sub></b>	10...30 VDC
<b>Output resistance R<sub>a</sub></b>	33.0 kOhm + D
<b>Protection class</b>	II
<b>Rated insulation voltage U<sub>i</sub></b>	250 V AC
<b>Rated operating current I<sub>e</sub></b>	200 mA
<b>Rated operating voltage U<sub>e</sub> DC</b>	24 V
<b>Rated short circuit current</b>	100 A
<b>Ready delay t<sub>v</sub> max.</b>	30 ms
<b>Residual current I<sub>r</sub> max.</b>	80 µA
<b>Ripple max. (% of U<sub>e</sub>)</b>	15 %
<b>Switching frequency</b>	250 Hz
<b>Utilization category</b>	DC -13
<b>Voltage drop static max.</b>	2.5 V

**Inductive Sensors**  
**BES Q40KFU-PSC35E-S04G-W01**  
**Order Code: BES0221**



**Environmental conditions**

Ambient temperature	-10...70 °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
Magnetic field immune	magnetic field immune (AC/DC)
Protection degree	IP67

**Functional safety**

MTTF (40 °C)	520 a
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**Material**

Housing material	PBT, partly coated
Material sensing surface	ceramic coated
Surface protection	partly coated

**Mechanical data**

Dimension	40 x 40 x 62 mm
Installation	non-flush
Size	40x40

**Output/Interface**

Switching output	PNP normally open (NO)
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**Range/Distance**

Assured operating distance Sa	28.1 mm
Hysteresis H max. (% of Sr)	15.0 %
Rated operating distance Sn	35 mm
Real switching distance sr	35 mm
Repeat accuracy max. (% of Sr)	5.0 %
Temperature drift max. (% of Sr)	10 %
Tolerance Sr	±10 %

**Remarks**

LED 1: Function  
 LED 2: Operating voltage  
 Switching distance and tolerance data apply to the sensing surface location shown.  
 The sensor is functional again after the overload has been eliminated.  
 Sn: reduced by the coating thickness of 0.3 mm.  
 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**

