



1) Sensing surface



### Basic features

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

### Display/Operation

Function indicator	yes
Power indicator	no

### Electrical connection

Cable diameter D	2.50 mm
Cable length L	2 m
Conductor cross-section	0.10 mm <sup>2</sup>
Connection type	Cable, 2.00 m, PUR
Number of conductors	3
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

### Electrical data

Load capacitance max. at Ue	1 µF
No-load current I <sub>o</sub> max., damped	6 mA
No-load current I <sub>o</sub> max., undamped	3 mA
Operating voltage U <sub>b</sub>	5...30 VDC
Output resistance R <sub>a</sub>	Open drain
Rated insulation voltage U <sub>i</sub>	75 V DC
Rated operating current I <sub>e</sub>	50 mA
Rated operating voltage U <sub>e</sub> DC	24 V
Rated short circuit current	100 A
Ready delay t <sub>v</sub> max.	21 ms
Residual current I <sub>r</sub> max.	50 µA
Ripple max. (% of U <sub>e</sub> )	15 %
Switching frequency	2500 Hz
Utilization category	DC -13
Voltage drop static max.	1.1 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

### Interface

Switching output	NPN normally open (NO)
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Inductive Sensors  
**BES R04KC-NSF15B-EP02**  
Order Code: **BES054E**

**BALLUFF**

**Material**

Housing material	PA 6, GF30
Material jacket	PUR
Material sensing surface	PA 6, GF30

**Mechanical data**

Dimension	16 x 8 x 4.7 mm
Installation	for flush mounting
Size	16x8x4.7

**Range/Distance**

Assured operating distance $S_a$	1.2 mm
Hysteresis H max. (% of $S_r$ )	15.0 %
Rated operating distance $S_n$	1.5 mm
Real switching distance $s_r$	1.5 mm
Repeat accuracy max. (% of $S_r$ )	5.0 %
Temperature drift max. (% of $S_r$ )	10 %
Tolerance $S_r$	±10 %

**Remarks**

The sensor is functional again after the overload has been eliminated.

**Wiring Diagrams**

