



1) Sensing surface, 2) LED yellow, 3) LED green



Basic features

Additional features	Factor 1 Housing resistant to weld spatter Weld immune
Approval/Conformity	CE cULus EAC WEEE
Basic standard	IEC 60947-5-2
Trademark	Factor 1

Display/Operation

Function indicator	yes
Power indicator	yes

Electrical connection

Cable diameter D	4.20 mm
Cable length L	0.3 m
Conductor cross-section	0.14 mm ²
Connection	M12x1-Male, 4-pin, A-coded
Connection type	Cable with connector, 0.30 m, Silicone
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

Electrical data

Load capacitance max. at Ue	1 µF
Magnetic field strength, interference field	100 kA/m
Min. operating current I_m	0 mA
No-load current I_o max., damped	30 mA
No-load current I_o max., undamped	25 mA
Operating voltage U_b	10...30 VDC
Output resistance R_a	33.0 kOhm + D
Rated insulation voltage U_i	75 V DC
Rated operating current I_e	200 mA
Rated operating voltage U_e DC	24 V
Rated short circuit current	100 A
Ready delay t_v max.	30 ms
Residual current I_r max.	10 µA
Ripple max. (% of U_e)	15 %
Switching frequency	20 Hz
Utilization category	DC -13
Voltage drop static max.	2 V

Environmental conditions

Ambient temperature	-25...70 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 g _n , 11 ms Half-sinus, 100 g _n , 2 ms, 3x8000
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min 30 g, 10...2000 Hz
IP rating	IP67
Magnetic field immune	magnetic field immune (AC/DC)

Inductive Sensors

BES R01EC-PSC50A-BS00,3-GS04-W51

Order Code: BES04RE

BALLUFF

Functional safety

MTTF (40 °C) 335 a

Interface

Switching output PNP normally open (NO)

Material

Housing material Stainless steel, PTFE coated
Material jacket Silicone
Material sensing surface Stainless steel, W51 ceramic coating

Mechanical data

Dimension 32 x 20 x 8 mm
Installation for flush mounting
Size 32x20x8

Range/Distance

Assured operating distance Sa 4 mm
Hysteresis H max. (% of Sr) 15.0 %
Rated operating distance Sn 5 mm
Real switching distance sr 5 mm
Repeat accuracy max. (% of Sr) 5.0 %
Temperature drift max. (% of Sr) 10 %
Tolerance Sr ±10 %

Remarks

The sensor is functional again after the overload has been eliminated.
LED yellow: Function
LED green: Power
Optical irregularities on the coating have no effect on function.

Connector Drawings



Wiring Diagrams

