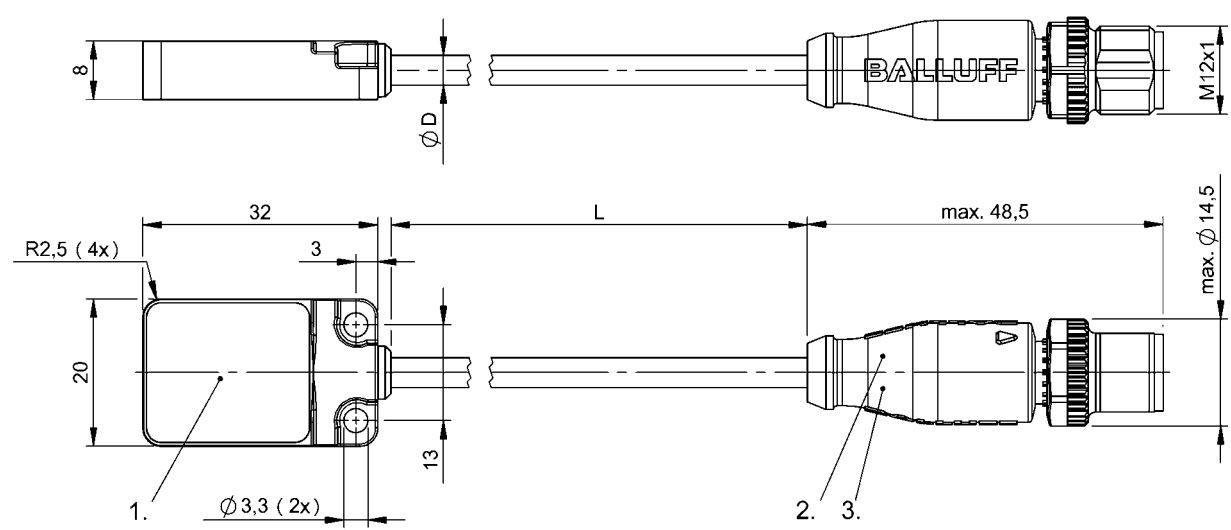


Inductive Sensors

BES R01EC-PSC50A-BZ00,3-GS04-W51

Order Code: BES04RF

BALLUFF



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
	UKCA
	cULus
	WEEE
Basic standard	IEC 60947-5-2
Trademark	Factor 1

Display/Operation

Function indicator	yes
Power indicator	yes

Electrical connection

Cable diameter D	3.80 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, ETFE
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

Electrical data

Load capacitance max. at U _e	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	IP60
Magnetic field immune	magnetic field immune (AC/DC)

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Functional safety

MTTF (40 °C)	335 a
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Interface

Switching output	PNP normally open (NO)
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Material

Housing material	Stainless steel, PTFE coated
Material jacket	ETFE
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

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

Connector Drawings



Wiring Diagrams

