



1) Sensing surface



Basic features

Additional features	Factor 1
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

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 U_e	1 μ F
Magnetic field strength, interference field	100 kA/m
Min. operating current I_m	0 mA
No-load current I_0 max., damped	20 mA
No-load current I_0 max., undamped	15 mA
Operating voltage U_b	10...30 VDC
Output resistance R_o	33.0 kOhm + D
Protection class	II
Rated insulation voltage U_i	250 V AC
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.	80 μ A
Ripple max. (% of U_e)	15 %
Switching frequency	100 Hz
Utilization category	DC-13
Voltage drop static max.	2.5 V

Inductive Sensors
BES Q40KFU-PAC40E-S04G
Order Code: BES021M

BALLUFF

Environmental conditions

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

Functional safety

MTTF (40 °C)	520 a
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Interface

Switching output	PNP normally open/normally closed (NO/NC)
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Material

Housing material	PBT
Material sensing surface	PBT

Mechanical data

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

Range/Distance

Assured operating distance Sa	32.4 mm
Hysteresis H max. (% of Sr)	15.0 %
Rated operating distance Sn	40 mm
Real switching distance sr	40 mm
Repeat accuracy max. (% of Sr)	5.0 %
Switching distance marking	■■
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.

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

