



1) Sensing surface



Basic features

Approval/Conformity	CE ATEX IECEX FM cCSAus WEEE CCC Ex
Basic standard	EN IEC 60079-0 EN 60079-11 EN 60079-26 IEC 60079-0 IEC 60079-11 IEC 60079-26 IEC 60529 IEC 60947-5-6 CSA Class 258 04 CSA Class 258 84 FM Class 3600 FM Class 3610 FM Class 3810 Including Supplement 1 ANSI/NEMA 250

Ex marking

ATEX: Ex II 2G Ex ia IIB T6 Gb
 Ta: -20 ... 70 °C
 Ex II 1D Ex ia IIIC T90°C Da Ta: -20 ... 70 °C
 IECEX: Ex ia IIB T6 Gb Ta: -20... 70 °C
 Ex ia IIIC T90°C Da Ta: -20...70 °C
 NEC: CSA/FM Class I, Division 1, Groups ABCD
 Class II, Division 1, Groups EFG
 Class III

Display/Operation

Function indicator	yes
Power indicator	no

Electrical connection

Connection	M12x1-Male, 5-pin
Polarity reversal protected	no

Inductive Sensors
BES Q40KFU-GNX20B-S92G-EEX
Order Code: BES02ZZ

BALLUFF

Electrical data

Current consumption max., damped	1 mA
Current consumption min., undamped	2.1 mA
Internal capacitance Ci max.	250 nF
Internal inductance Li max.	0.45 nH
Operating voltage Ub	7.7...9 VDC
Rated insulation voltage Ui	75 V DC
Rated operating voltage Ue DC	8.2 V
Rated series resistance Rv	1000 Ohm
Ready delay tv max.	30 ms
Switching frequency	200 Hz

Environmental conditions

Ambient temperature	-20...70 °C
EN 60068-2-27, Shock	Half-sinus, 30 gn, 11 ms
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min
IP rating	IP67

Functional safety

MTTF (40 °C)	2825 a
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Interface

Interface	NAMUR
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Material

Housing material	PPE
	PPS
Material sensing surface	PPE

Mechanical data

Dimension	40 x 40 x 66 mm
Installation	for flush mounting
Size	40x40

Range/Distance

Assured operating distance Sa	16 mm
Rated operating distance Sn	20 mm
Real switching distance sr	20 mm
Repeat accuracy max. (% of Sr)	5.0 %
Temperature drift max. (% of Sr)	10 %
Tolerance Sr	±10 %

Remarks

Operating manual must be followed.
 Operate only with suitable approved switching amplifier.
 Use only in approved intrinsically safe circuits with max. values Ui = 15 V, li = 50 mA, Pi = 120 mW.
 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

