

### Basic features

Approval/Conformity	CE UKCA cULus WEEE
Basic standard	IEC 60947-5-2 IEC 60947-5-7

### Display/Operation

Function indicator	Adjustment indicator
Power indicator	no

### Electrical connection

Connection	M12x1-Male, 3-pin, A-coded
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

### Electrical data

Limit frequency –3 dB	500 Hz
Load resistance RL min.	2000 Ohm
No-load current I <sub>o</sub> max. at U <sub>e</sub>	10 mA
Operating voltage U <sub>b</sub>	15...30 VDC
Rated insulation voltage U <sub>i</sub>	75 V DC
Rated operating voltage U <sub>e</sub> DC	24 V
Ripple max. (% of U <sub>e</sub> )	15 %
Slope U	2.50 V/mm

### Environmental conditions

Ambient temperature	-10...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

### Functional safety

MTTF (40 °C)	640 a
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### Interface

Analog output	Analog, voltage 0...10 V
Output characteristic	falling on approach
Output voltage at SI max.	10 V
Output voltage at SI min.	0 V
Output voltage at Se	5 V

### Material

Housing material	Brass, nickel-plated
Material sensing surface	PBT

### Mechanical data

Dimension	Ø 18 x 44.5 mm
Installation	for flush mounting
Mounting length	30.0 mm
Size	M18x1
Tightening torque	25 Nm

Range/Distance

Linearity range SI	1...5 mm
Measuring range	1...5 mm

Non-linearity max.	±120 µm
Repeat accuracy per BWN	±8 µm
Temperature drift max. from end value	±5.0 %

Remarks

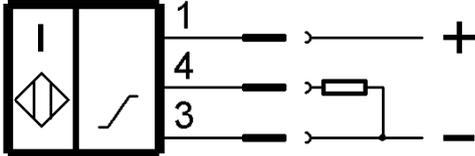
With connector, e.g. BKS-S 20-... total length = switch length +18 mm.  
 Values referenced to axial approach of St 37 target. For other materials correction factors are applied.  
 When used in Balluff clamping holders, Ua may be reduced by max. 10%  
 Scattering (e.g. due to manufacturing tolerances) is described by the tolerance T at Se. This can be approximated using the formula:  $T = (sl_{max} + sl_{min}) / 20 = \pm xx \text{ mm}$ .  
 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 (Schematic)



Technical Drawings

