

1) Optical axis, 2) Output function, 3) stability/error, 4) Sn



### Basic features

Approval/Conformity	CE UKCA cULus WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Contrast sensor
Series	18KF
Style	Flat cylinder Straight optics

### Display/Operation

Adjuster	button
Display	Output function- LED yellow Error - LED red+green, alt. Stability - LED green
Setting	Teach-in mode normal/fine Light-on/dark-on Contrast (switching point)

### Electrical connection

Connection	Connector, M12x1-Male, 4-pin
Polarity reversal protected	yes
Short-circuit protection	yes

### Electrical data

No-load current $I_0$ max. at $U_e$	25 mA
Operating voltage $U_b$	10...30 VDC
Rated operating current $I_e$	100 mA
Rated operating voltage $U_e$ DC	24 V
Ripple max. (% of $U_e$ )	8 %
Switching frequency	5000 Hz
Turn-off delay $t_{off}$ max.	0.1 ms
Turn-on delay $t_{on}$ max.	0.1 ms
Voltage drop $U_d$ max. at $I_e$	2 V

## Environmental conditions

<b>Ambient temperature</b>	-25...70 °C
<b>EN 60068-2-27, Shock</b>	Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6
<b>EN 60068-2-6, Vibration</b>	10...55 Hz, amplitude 1 mm, 3x30 min
<b>IP rating</b>	IP67

## Functional safety

<b>MTTF (40 °C)</b>	1025 a
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## Interface

<b>Switching output</b>	PNP normally closed (NC) PNP normally open (NO) Pins 4-2
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## Material

<b>Housing material</b>	PBT
<b>Material sensing surface</b>	PMMA

## Mechanical data

<b>Dimension</b>	Ø 18 x 81.5 mm
<b>Mounting part</b>	Nut M18x1 Screw M3
<b>Tightening torque max.</b>	1.5 Nm

## Optical features

<b>Beam characteristic</b>	Focused
<b>Light spot size</b>	Ø 4.5 mm at 10 mm
<b>Light type</b>	LED white light
<b>Principle of optical operation</b>	Diffuse sensor, focused
<b>Switching function, optical</b>	Light/dark switching dark-on
<b>Wave length</b>	400...700 nm

## Range/Distance

<b>Range</b>	8...12 mm
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## Remarks

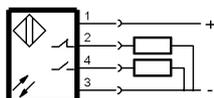
The sensor is functional again after the overload has been eliminated.  
 Reference object (target): Color bar card, 100 x 100, contrast yellow/white and blue/black, lateral approach of color bars.  
 For additional information, refer to user's guide.  
 Order accessories separately.  
 Do not press key using a pointed tool.  
 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)



## Opto Symbols

