

1) Optical axis receiver, 2) Optical axis emitter, 3) Operating voltage, 4) Light reception/limit area, 5) Sn



**Basic features**

<b>Approval/Conformity</b>	CE UKCA cULus WEEE
<b>Basic standard</b>	IEC 60947-5-2
<b>Principle of operation</b>	Photoelectric sensor
<b>Series</b>	18M
<b>Style</b>	Cylinder, straight optics

**Display/Operation**

<b>Adjuster</b>	Potentiometer 270°
<b>Display</b>	LED green: Power LED yellow: Light received Error - LED green, flashing Limit range - LED yellow, flashing
<b>Setting</b>	Sensitivity (Sn)

**Electrical connection**

<b>Connection</b>	Connector-Male, 4-pin
<b>Contact, surface protection</b>	Gold plated
<b>Polarity reversal protected</b>	yes
<b>Short-circuit protection</b>	yes

**Electrical data**

<b>Load capacitance max. at Ue</b>	0.2 µF
<b>No-load current I<sub>o</sub> max. at Ue</b>	30 mA
<b>Operating voltage U<sub>b</sub></b>	10...30 VDC
<b>Rated insulation voltage U<sub>i</sub></b>	75 V DC
<b>Rated operating current I<sub>e</sub></b>	100 mA
<b>Rated operating voltage U<sub>e</sub> DC</b>	24.0 V
<b>Ready delay t<sub>v</sub> max.</b>	19 ms
<b>Ripple max. (% of U<sub>e</sub>)</b>	15 %
<b>Switching frequency</b>	1000 Hz
<b>Turn-off delay t<sub>off</sub> max.</b>	0.5 ms
<b>Turn-on delay t<sub>on</sub> max.</b>	0.5 ms
<b>Utilization category</b>	DC -13
<b>Voltage drop U<sub>d</sub> max. at I<sub>e</sub></b>	1.5 V

**Environmental conditions**

<b>Ambient temperature</b>	-5...55 °C
<b>Ambient temperature max.</b>	55 °C 65 °C for operating by small U <sub>b</sub>
<b>EN 60068-2-27, Shock</b>	Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6 Half-sinus, 100 g <sub>n</sub> , 2 ms, 3x8000
<b>EN 60068-2-6, Vibration</b>	55 Hz, amplitude 1 mm, 3x30 min 10...2000 Hz, amplitude 1 mm, 30 g <sub>n</sub> , 3x5 h
<b>IP rating</b>	IP67

**Functional safety**

<b>MTTF (40 °C)</b>	82 a
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Photoelectric Sensors  
**BFB M18M-001-P-S4**  
Order Code: BFB0009

**BALLUFF**

**Interface**

<b>Switching output</b>	2x PNP normally open/normally closed (NO/NC)
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**Material**

<b>Housing material</b>	Brass, nickel-plated
<b>Material sensing surface</b>	PMMA
<b>Surface protection</b>	nickel-plated

**Mechanical data**

<b>Dimension</b>	Ø 18 x 75 mm
<b>Mounting part</b>	Nut M18x1
<b>Tightening torque max.</b>	15 Nm 30 Nm

**Optical features**

<b>Ambient light max.</b>	10000 Lux
<b>LED group per IEC 62471</b>	Exempt Group
<b>Light type</b>	LED, red light
<b>Principle of optical operation</b>	depends on fiber optics
<b>Switching function, optical</b>	Light/dark switching
<b>Wave length</b>	626 nm

**Range/Distance**

<b>Hysteresis H max. (% of Sr)</b>	10 %
<b>Range</b>	depends on fiber optics
<b>Temperature drift max. (% of Sr)</b>	5 %

**Remarks**

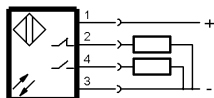
The sensor is functional again after the overload has been eliminated.  
For additional information, refer to user's guide.  
Order accessories separately.  
For more information about MTTF and B10d see MTTF / B10d Certificate

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.

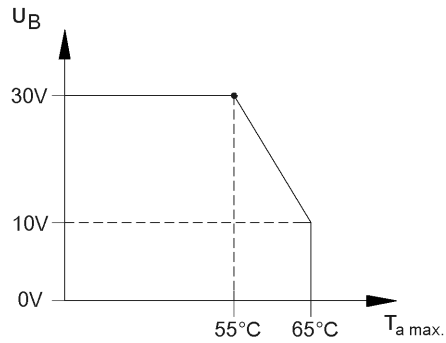
**Connector Drawings**



**Wiring Diagrams**



## Technical Drawings



## Opto Symbols

