

1) Position sensor element, 2) see remarks, 3) see remarks, 4) see remarks



## Basic features

<b>Approval/Conformity</b>	cULus CE UKCA Ecolab WEEE
<b>Basic standard</b>	IEC 60947-5-2
<b>Principle of operation</b>	Magnetic field sensor

## Display/Operation

<b>Function indicator</b>	yes
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## Electrical connection

<b>Cable</b>	TPE-V, 0.3 m
<b>Cable diameter D</b>	2.9 mm
<b>Connection</b>	M12x1-Male, 3-pin, A-coded
<b>Polarity reversal protected</b>	yes
<b>Protection against device mix-ups</b>	no
<b>Short-circuit protection</b>	yes

## Electrical data

<b>Assured switching field strength Ha</b>	2 kA/m
<b>Load capacitance max. at Ue</b>	1 µF
<b>No-load current I<sub>o</sub> max., undamped</b>	3.5 mA
<b>Operating voltage U<sub>b</sub></b>	10...30 VDC
<b>Output resistance R<sub>a</sub></b>	Open drain
<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 V
<b>Rated short circuit current</b>	100 A
<b>Rated switch field strength H<sub>n</sub></b>	1.2 kA/m
<b>Residual current I<sub>r</sub> max.</b>	10 µA
<b>Ripple max. (% of U<sub>e</sub>)</b>	15 %
<b>Switching frequency</b>	10000 Hz
<b>Utilization category</b>	DC -13
<b>Voltage drop static max.</b>	1 V

## Environmental conditions

<b>Ambient temperature</b>	-40...100 °C
<b>EN 60068-2-27, Shock</b>	Half-sinus, 30 g <sub>n</sub> , 11 ms
<b>EN 60068-2-6, Vibration</b>	55 Hz, amplitude 1 mm, 3x30 min
<b>ESD</b>	2A (4 kV)
<b>Emission</b>	Group 1, Class B
<b>IP rating</b>	IP67, IP68, IP69K

## Functional safety

<b>MTTF (40 °C)</b>	725 a
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Magnetic Sensors  
**BMF 405KF-NS-C-2A-S4-00,3**  
Order Code: **BMF00M6**

**BALLUFF**

**Interface**

Switching output NPN normally open (NO)

**Mechanical data**

Dimension 5 x 5.4 x 27 mm

**Material**

Connector thread, material 1.4404 stainless steel  
Housing material PP  
Locking screw material 1.4404 stainless steel  
Material jacket TPE-V  
Material sensing surface PP

**Remarks**

2) Application area: pneumatic cylinder with t-slot. For dimensions, see sketch in product view.

Damping magnet axially magnetized

4) Set screw

Switching frequency f max.: Measured at 50 % duty cycle and 20 % Ie

Part label is not suited for cleaning processes.

100x temperature cycles per IEC 60068-2-14 passed for -40...120 °C.

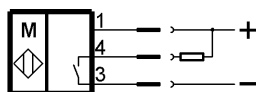
For more information about MTTF and B10d see MTTF / B10d Certificate

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**



## Help Views

