



1) Sensing surface



### Basic features

<b>Application</b>	radially magnetized magnets (Schunk)
<b>Approval/Conformity</b>	cULus CE WEEE
<b>Basic standard</b>	IEC 60947-5-2
<b>Not incl. in scope of delivery</b>	Mounting bracket, e.g. BMF 103-HW-42
<b>Principle of operation</b>	Magnetic field sensor

### Display/Operation

<b>Function indicator</b>	yes
---------------------------	-----

### Electrical connection

<b>Cable</b>	PUR, 0.3 m
<b>Cable diameter D</b>	2.50 mm
<b>Connection</b>	M8x1-Male, 3-pin
<b>Polarity reversal protected</b>	yes
<b>Protection against device mix-ups</b>	yes
<b>Short-circuit protection</b>	yes

### Electrical data

<b>Assured switching field strength <math>H_a</math></b>	2 kA/m
<b>Hysteresis <math>H</math> max. (% of <math>H_n</math>)</b>	45 %
<b>Load capacitance max. at <math>U_e</math></b>	1 $\mu$ F
<b>No-load current <math>I_o</math> max., undamped</b>	3.5 mA
<b>Operating voltage <math>U_b</math></b>	10...30 VDC
<b>Output resistance <math>R_a</math></b>	Open drain
<b>Rated insulation voltage <math>U_i</math></b>	75 V DC
<b>Rated operating current <math>I_e</math></b>	100 mA
<b>Rated operating voltage <math>U_e</math> DC</b>	24 V
<b>Rated short circuit current</b>	100 A
<b>Rated switch field strength <math>H_n</math></b>	1.2 kA/m
<b>Residual current <math>I_r</math> max.</b>	10 $\mu$ A
<b>Ripple max. (% of <math>U_e</math>)</b>	15 %
<b>Switching frequency</b>	7000 Hz
<b>Turn-off delay <math>t_{off}</math> max.</b>	0.02 ms
<b>Turn-on delay <math>t_{on}</math> max.</b>	0.02 ms
<b>Utilization category</b>	DC -13
<b>Voltage drop static max.</b>	1 V

### Environmental conditions

<b>Ambient temperature</b>	-25...85 °C
<b>Contamination scale</b>	3
<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

Magnetic Sensors  
**BMF 103K-PS-C-2A-SA7-S49-00,3**  
Order Code: **BMF001P**



**Functional safety**

MTTF (40 °C) 739 a

**Interface**

Switching output PNP normally open (NO)

**Material**

Housing material LCP  
Material jacket PUR  
Material sensing surface LCP

**Mechanical data**

Dimension 9 x 4.8 x 16 mm  
Mounting part Mounting bracket BMF 103-HW\*

**Remarks**

Max. pull force on cable 10 N.  
For radially magnetized magnets therefore especially suited for Schunk grippers.  
The sensor is functional again after the overload has been eliminated.  
Switching frequency f max.: Measured at 50 % duty cycle and 20 % Ie  
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**

