



1) Sensing surface



Basic features

Application	Optimized response path especially suited for short-stroke cylinders.
Approval/Conformity	CE UKCA cULus WEEE
Basic standard	IEC 60947-5-2
Not incl. in scope of delivery	Mounting bracket, e.g. BMF 103-HW-42
Principle of operation	Magnetic field sensor

Display/Operation

Function indicator	yes
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Electrical connection

Cable	PUR, 0.5 m
Cable diameter D	2.50 mm
Connection	M12x1-Male, 4-pin, A-coded
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

Electrical data

Assured switching field strength H_a	2 kA/m
Hysteresis H max. (% of H_n)	45 %
Load capacitance max. at U_e	1 μ F
No-load current I_o max., undamped	3.5 mA
Operating voltage U_b	10...30 VDC
Output resistance R_a	Open drain
Rated insulation voltage U_i	75 V DC
Rated operating current I_e	100 mA
Rated operating voltage U_e DC	24 V
Rated short circuit current	100 A
Rated switch field strength H_n	1.2 kA/m
Residual current I_r max.	10 μ A
Ripple max. (% of U_e)	15 %
Switching frequency	30000 Hz
Turn-off delay t_{off} max.	0.02 ms
Turn-on delay t_{on} max.	0.02 ms
Utilization category	DC -13
Voltage drop static max.	1 V

Environmental conditions

Ambient temperature	-25...85 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 g_n , 11 ms
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min
ESD	2A (4 kV)
Emission	Group 1, Class B
IP rating	IP67

Magnetic Sensors
BMF 103K-PS-C-2A-S4-00,5
Order Code: **BMF001K**

BALLUFF

Functional safety

MTTF (40 °C) 739 a

Interface

Switching output PNP normally open (NO)

Material

Housing material PBT
Material jacket PUR
Material sensing surface PBT

Mechanical data

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

Remarks

The sensor is functional again after the overload has been eliminated.
Switching frequency f_{max} : Measured at 50 % duty cycle and 20 % I_e
Max. pull force on cable 10 N.
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

