



1) Sensing surface



Basic features

Application	Optimized response path especially suited for short-stroke cylinders.
Approval/Conformity	CE 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, 1 m
Cable diameter D	2.50 mm
Connection	M8x1-Male, 3-pin
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

Electrical data

Assured switching field strength Ha	2 kA/m
Hysteresis H max. (% of Hn)	45 %
Load capacitance max. at Ue	1 µF
No-load current Io max., undamped	3.5 mA
Operating voltage Ub	10...30 VDC
Output resistance Ra	Open drain
Rated insulation voltage Ui	75 V DC
Rated operating current Ie	100 mA
Rated operating voltage Ue DC	24 V
Rated short circuit current	100 A
Rated switch field strength Hn	1.2 kA/m
Residual current Ir max.	10 µA
Ripple max. (% of Ue)	15 %
Switching frequency	7000 Hz
Turn-off delay toff max.	0.02 ms
Turn-on delay ton 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 gn, 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-SA2-S49-01
Order Code: **BMF00HE**

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

Remarks

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

Mechanical data

Dimension 5 x 3 x 16 mm

Range/Distance

Temp. drift max. (% of H_n) 0.3 %

Connector Drawings



Wiring Diagrams

