

1) See remarks

- Magnetic field sensor
- Normally open (NO)



**General attributes**

|                              |               |
|------------------------------|---------------|
| Basic standard               | IEC 60947-5-2 |
| Enclosure Type per IEC 60529 | IP67          |
| Function indicator           | yes           |
| Polarity reversal protected  | yes           |
| Short circuit protected      | yes           |

**Electrical attributes**

|  |                    |
|--|--------------------|
| Assured switching field strength             | 2.0 kA/m           |
| Connection type                              | Connector          |
| Eff. operating current I <sub>e</sub>        | 200 mA             |
| Eff. operating voltage U <sub>e</sub> DC     | 24.0 V             |
| Electrical version                           | DC, direct current |
| Hysteresis H max. (in % of H <sub>n</sub> )  | 45 %               |
| Load capacitance max. (at U <sub>e</sub> )   | 1.00 µF            |
| Max. no-load cur. I <sub>o</sub> undamped    | 10.0 mA            |
| No-load current I <sub>o</sub> damped max.   | 15.0 mA            |
| Operating voltage U <sub>B</sub> max. DC [V] | 30.0 V             |
| Operating voltage U <sub>B</sub> min. DC [V] | 10.0 V             |
| Rated insulation voltage U <sub>i</sub>      | 75 DC              |
| Rated short circuit current                  | 100 A              |
| Rated switching field strength               | 1.2 kA/m           |
| Ripple max. (% of U <sub>e</sub> )           | 15 %               |
| Switching freq. f max. (at U <sub>e</sub> )  | 10000 Hz           |

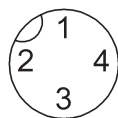
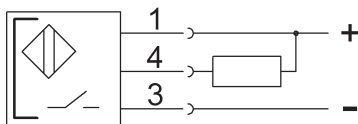
|                                   |                    |
|-----------------------------------|--------------------|
| Switching function                | Normally open (NO) |
| Switching output                  | NPN                |
| Turn on time t <sub>on</sub> max. | 0.05 ms            |
| Voltage drop static max.          | 2.0 V              |

**Mechanical attributes**

|  |           |
|--|-----------|
| Ambient temperature T <sub>a</sub> max.    | 70 °C     |
| Ambient temperature T <sub>a</sub> min.    | -25 °C    |
| Connector type                             | M12x1-S04 |
| Depth                                      | 50.00 mm  |
| Diameter d1                                | M12x1.0   |
| Housing material                           | CuZn      |
| Mounting length                            | 30.0 mm   |
| Sensing face material                      | PA 12     |
| Temperature drift max. % of H <sub>n</sub> | 0.3 %     |
| Tightening torque                          | 15.0 Nm   |

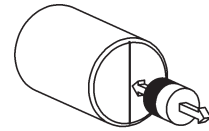
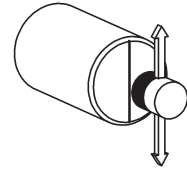
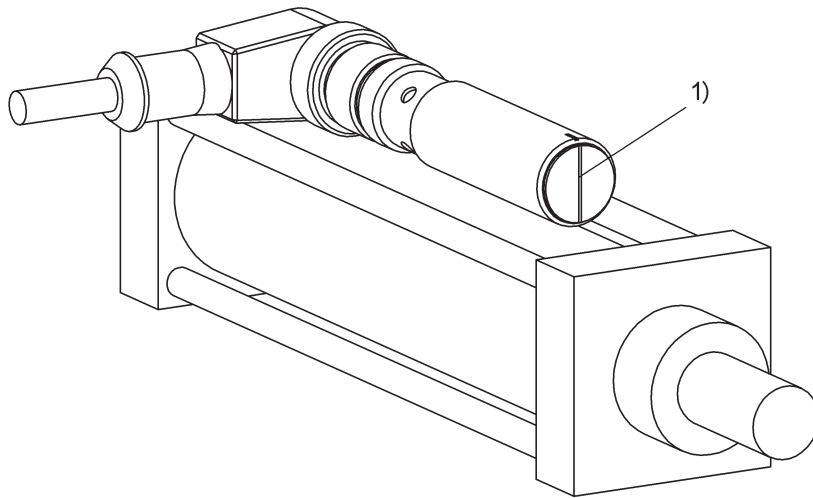
**Additional text**

1) With the help of the mark at the active surface the sensor in the magnetic field can be aligned.  
The switching distance depends on the magnet used. Switching distances of > 20 mm can be achieved.  
The sensor is functional again after the overload has been eliminated.



Magnetic field sensor  
**BMF 12M-NS-C-2-S4**  
**BMF00EA**

**BALLUFF**  
sensors worldwide



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