

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



### Basic features

<b>Application</b>	Pneumatic cylinder with T-slot. For dimensions, see sketch in product view. Welding area
<b>Approval/Conformity</b>	CE UKCA cULus WEEE
<b>Basic standard</b>	IEC 60947-5-2
<b>Principle of operation</b>	Magnetic field sensor
<b>Scope of delivery</b>	Position sensor Protective cover Cable clip for T-slot Short guide

### Electrical data

<b>Assured switching field strength <math>H_a</math></b>	5.2 kA/m
<b>Interference suppression time</b>	600 ms
<b>Load capacitance max. at <math>U_e</math></b>	1.5 $\mu$ F
<b>No-load current <math>I_o</math> max., undamped</b>	18 mA
<b>Operating voltage <math>U_b</math></b>	18...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>	50 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>	4.8 kA/m
<b>Residual current <math>I_r</math> max.</b>	10 $\mu$ A
<b>Utilization category</b>	DC -13

### Display/Operation

<b>Function indicator</b>	Active, LED yellow Error, LED red
<b>Power indicator</b>	External Power - LED green

### Electrical connection

<b>Cable</b>	TPU welding spark resistant Orange, 2 m
<b>Cable diameter <math>D</math></b>	2.4 mm
<b>Conductor cross-section</b>	0.10 mm <sup>2</sup>
<b>Number of conductors</b>	3
<b>Polarity reversal protected</b>	yes
<b>Protection against device mix-ups</b>	yes
<b>Short-circuit protection</b>	yes

### Environmental conditions

<b>Ambient temperature</b>	0...80 °C
<b>Contamination scale</b>	3
<b>EN 60068-2-27, Shock</b>	Half-sinus, 30 $g_n$ , 11 ms, 3x6 Half-sinus, 100 $g_n$ , 2 ms, 3x8000
<b>EN 60068-2-6, Vibration</b>	55 Hz, amplitude 2 mm, 3x30 min 10...2000 Hz, amplitude 2 mm pp, 30 $g_n$ , 120 sweeps
<b>ESD</b>	2A (4 kV)
<b>Emission</b>	Group 1, Class A
<b>IP rating</b>	IP67

### Functional safety

<b>MTTF (40 °C)</b>	420 a
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Magnetic Sensors  
**BMF 415KW-HAKKI-W-5-P3-02**  
Order Code: **BMF00MP**

**BALLUFF**

**IO-Link**

<b>IO-Link Profil IDs</b>	0x0002 SSP1.1 0x4000 Identification and Diagnosis
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**Material**

<b>Housing material</b>	PA 12
<b>Material jacket</b>	TPU, welding spark resistant
<b>Material sensing surface</b>	PA 12

**Interface**

<b>Baud rate</b>	38.4 kBaud
<b>Interface</b>	IO-Link 1.1
<b>Switching output</b>	IO configurable NO/NC

**Mechanical data**

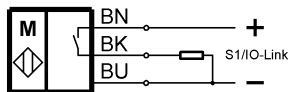
<b>Dimension</b>	5 x 6.4 x 34 mm
<b>Mounting part</b>	can be installed in T-slot from above
<b>Size</b>	T-slot

**Remarks**

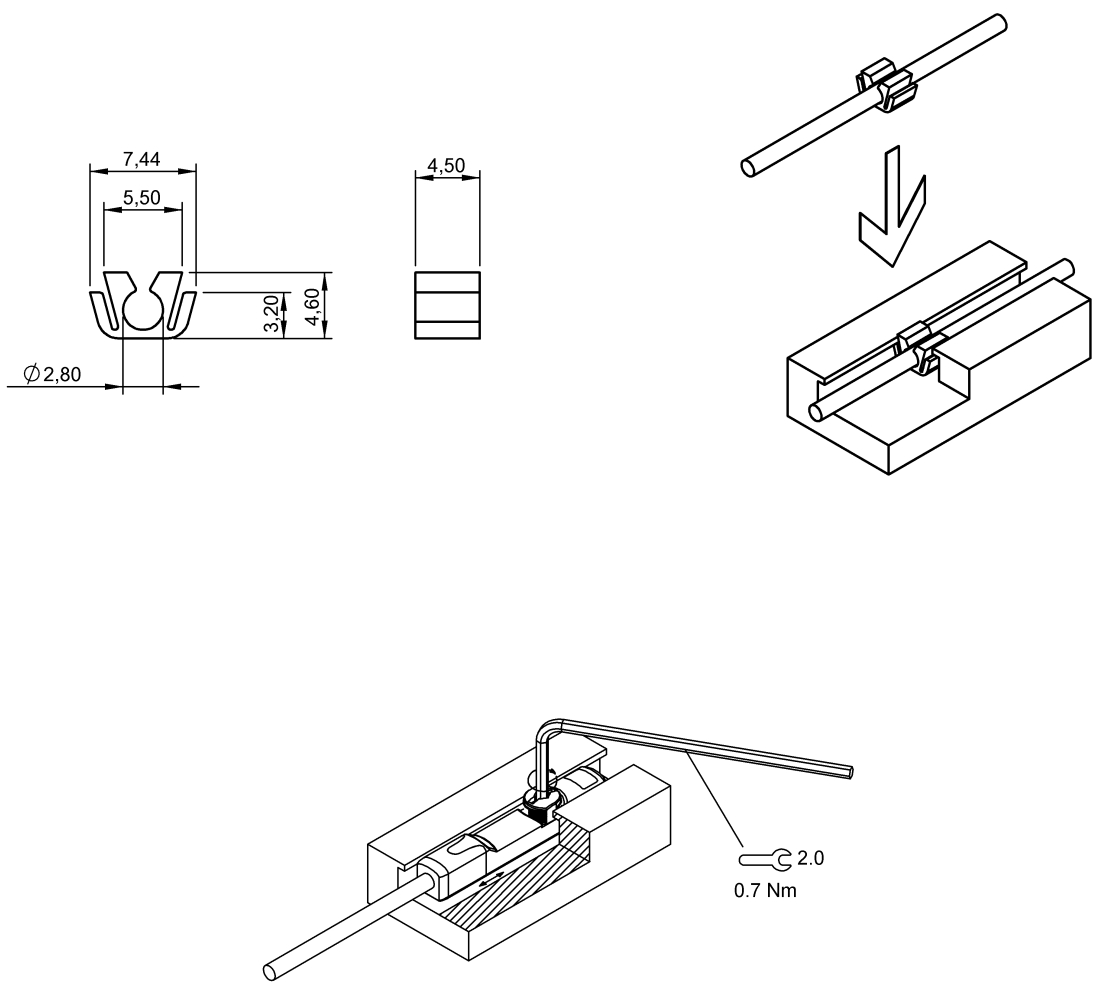
Damping magnet axially magnetized  
Effective operating current  $I_e$  with thermally coupled installation in metal.  
Suitable for use in AC interference magnetic fields up to 140 mT / 110 kA/m with frequencies between 45 - 65 Hz  
Suitable for use in MFDC interference magnetic fields up to 140 mT / 110 kA/m  
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.

**Wiring Diagrams**

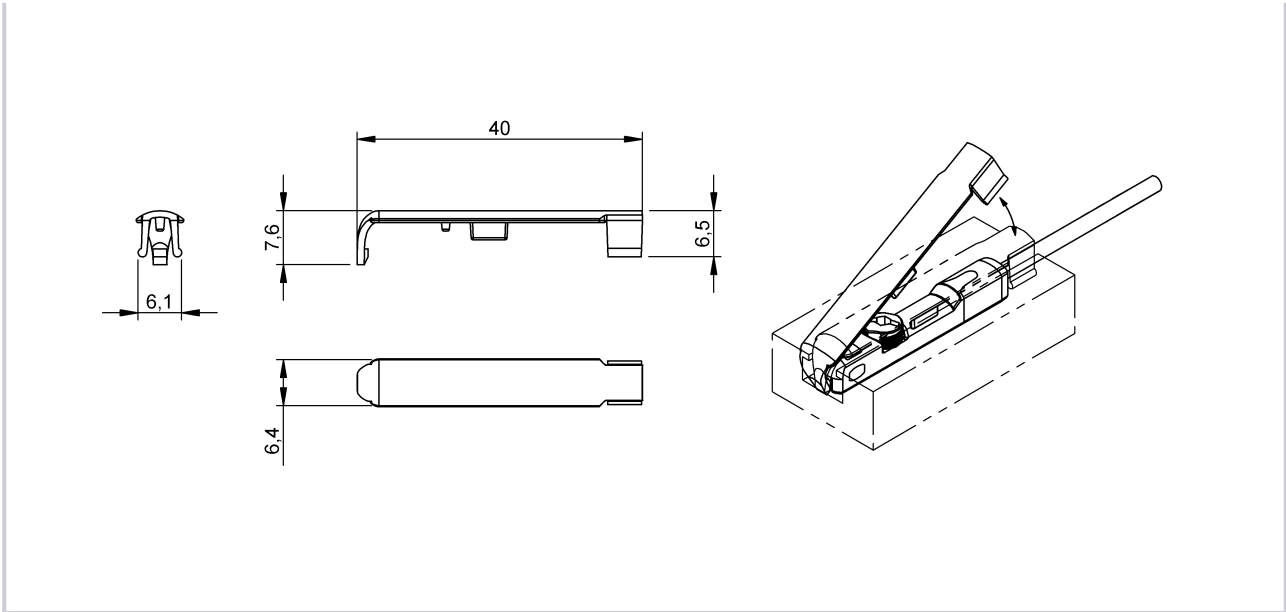


**Help Views**



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## Warning Symbols

