Magnet for end-of-shaft angle sensing

FEATURES

- Magnet for precise angle sensing
- Suitable for MagAlpha sensor family
- Optimized for end-of-shaft configurations

ORDERING INFORMATION

Part number: MAG10-X M-DD.DD.DD

- Dimensions in 0.1 mm: outer diameter, inner diameter (if any), height
- Shape code: M = C,R,B
- Material code: X = 1,2,3

<table>
<thead>
<tr>
<th>Material code</th>
<th>Material</th>
<th>Br (T)</th>
<th>Hcj (kA/m)</th>
<th>Br Temperature coefficient (%/°C)</th>
<th>Max temperature (°C)</th>
<th>Coating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NdFeB grade N35</td>
<td>1.22</td>
<td>960</td>
<td>-0.12</td>
<td>80</td>
<td>NiCuNi</td>
</tr>
<tr>
<td>2</td>
<td>NdFeB grade N35SH</td>
<td>1.22</td>
<td>1595</td>
<td>-0.12</td>
<td>150</td>
<td>NiCuNi</td>
</tr>
<tr>
<td>3</td>
<td>Hard Ferrite</td>
<td>0.4</td>
<td>318</td>
<td>-0.2</td>
<td>200</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Shape code</th>
<th>Geometry</th>
<th>Magnetization direction</th>
<th>Dimension in 0.1 mm</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Cylinder</td>
<td>Diametrical</td>
<td>OD.H</td>
<td>Large air gap range</td>
</tr>
<tr>
<td>R</td>
<td>Ring</td>
<td>Diametrical</td>
<td>OD.ID.H</td>
<td>Large tolerance to radial displacement</td>
</tr>
<tr>
<td>B</td>
<td>Half cylinder</td>
<td>Axial</td>
<td>OD.H</td>
<td>To be assembled by pairs (with opposite polarity). Low field emission</td>
</tr>
</tbody>
</table>

C

R

B
### AVAILABLE DIMENSIONS

**Part number** | **Magnet characteristics[1]** | **Recommended sensor position**
--- | --- | ---
 | material | shape | OD (mm) | ID (mm) | H (mm) | Air gap[2] (mm) | Radial tolerance[3] (mm) | ideal for
--- | --- | --- | --- | --- | --- | --- | --- | ---
MAG10-2C-30.25 | N35SH | C | 3 | - | 2.5 | 0 - 2.0 | 0.1 | Standard size, cost effective
MAG10-2C-40.25 | N35SH | C | 4 | - | 2.5 | 0 - 2.6 | 0.2 | Accurate application
MAG10-2C-50.25 | N35SH | C | 5 | - | 2.5 | 0 - 3.1 | 0.2 | For low field emission
MAG10-2C-60.25 | N35SH | C | 6 | - | 2.5 | 0 - 3.6 | 0.3 | 60.15.25
MAG10-2C-80.25 | N35SH | C | 8 | - | 2.5 | 0 - 4.5 | 0.4 | 60.20.25
MAG10-2R-50.12.5 | N35SH | R | 5 | 1.25 | 2.5 | 1.0 - 1.4 | 0.4 | For low field emission
MAG10-2R-60.15.25 | N35SH | R | 6 | 1.5 | 2.5 | 1.3 - 1.6 | 0.6 | 80.20.25
MAG10-2B-40.25 | N35SH | B | 4 | - | 2.5 | 0 - 2.1 | <0.1 | 80.25
MAG10-2B-50.25 | N35SH | B | 5 | - | 2.5 | 0 - 2.7 | <0.1 | For low field emission
MAG10-2B-60.25 | N35SH | B | 6 | - | 2.5 | 0 - 3.2 | <0.1 | 60.25
MAG10-2B-80.25 | N35SH | B | 8 | - | 2.5 | 0 - 4.2 | 0.1 | 80.25

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(1) Dimensional tolerances: ±0.05 mm for all NdFeB magnets
(2) To achieve a field above 30 mT
(3) To limit the excess error at 0.5 deg. Assuming 5 deg tilt between sensor and magnet/magnetization.