BEI SENSORS

LP series Absolute Encoder

- Low profile package saves space
- Excellent resistance to shock and vibration
- 30mm standard through shaft, PEEK reduction hub available
- High protection level of IP66
- High performance in temperatures from −40°C to +100°C
- Reinforced SSI output
- Wiring fault tolerant
- Resolution up to 16 bits

Certifications:
The LP35 Absolute Encoder is available with the following certifications:

![CE Mark]

2004/108/CE

![UL Mark]

Listed

PC and CE

Material

<table>
<thead>
<tr>
<th>Material</th>
<th>Cover: anodised aluminum</th>
<th>Body: anodised aluminum</th>
<th>Shaft: AISI 303 stainless steel</th>
</tr>
</thead>
</table>

Vibrations (EN60068-2-6) ≤ 200m.s⁻² (55 … 2 000 Hz)

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Shaft inertia < 84000 g.mm²

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Static/Dynamic torque 30 / 300 mN.m

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Ball bearings 6807 - Sealed

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Permissible max. speed 6000 min⁻¹

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Maximum loads

Axial: 40 N

Axial: 40 N

Continuous max. speed 4000 min⁻¹

Continuous max. speed 4000 min⁻¹

Radial: 80 N

Radial: 80 N

Theoretical mechanical lifetime L₁₀hₘ > 18.10⁹ turns / 100000 hours

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Shocks (EN60068-2-27) ≤ 3000m.s⁻² (during 5 ms)

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Encoder weight (approx.) 790g

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Available mechanics – shaft options:

AHUB: Through Hollow Shaft

AHKB: Blind Hollow Shaft

AHAB: Shaft with Integrated coupling

AHMB: Solid Shaft

Changes possible without further notice - Version 15/10/13
**Dimensions**

AHUB – Through hollow shaft – with terminal box

Note:
- CHc: Hexagonal Socket head cap screws
- HC: Hexagonal socket set screws

**Dimensions**

AHKB – Blind hollow shaft – with terminal box

Changes possible without further notice - Version 151013
Dimensions
AHAB – Shaft with integrated coupling – with terminal box

Dimensions
AHMB – Solid shaft – with terminal box
**Electrical Characteristics:**

<table>
<thead>
<tr>
<th>Version</th>
<th>Output signals</th>
<th>Resolution</th>
<th>Operating Voltage Vcl</th>
<th>Supply current (no loads)</th>
<th>Current per channel pair</th>
<th>Max frequency capability</th>
<th>Encoder accuracy</th>
<th>Short circuits proof</th>
<th>Reverse polarity tolerant</th>
<th>Wiring fault tolerant</th>
<th>Temperature range</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSR</td>
<td>up to 16 bits</td>
<td>5-30V, 200mA</td>
<td>75mA</td>
<td>40mA</td>
<td>1MHz</td>
<td>+/-0.1°</td>
<td>Yes (except to Vcl)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>-40°C +100°C</td>
</tr>
<tr>
<td>PSS</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Terminal Box Connection:**

<table>
<thead>
<tr>
<th>SX</th>
<th>Terminal box - 9 pins</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>+</td>
</tr>
<tr>
<td>3</td>
<td>Ck+</td>
</tr>
<tr>
<td>4</td>
<td>Clk-</td>
</tr>
<tr>
<td>5</td>
<td>Data+</td>
</tr>
<tr>
<td>6</td>
<td>Data-</td>
</tr>
<tr>
<td>7</td>
<td>RAZ</td>
</tr>
<tr>
<td>8</td>
<td>NC</td>
</tr>
<tr>
<td>9</td>
<td>Ground</td>
</tr>
</tbody>
</table>

**Available resolution:**

Standard: 12 and 13 bits

For non-standard resolutions up to 16 bits, please contact factory

**LP35 Absolute Ordering Options**

Use this diagram, working from left to right to construct your model number (Example: AHAX_E6//PSRG//13//SXR//U6****)

<table>
<thead>
<tr>
<th>AH</th>
<th>_</th>
<th>B</th>
<th>...</th>
<th>...</th>
<th>...</th>
<th>...</th>
<th>...</th>
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<th>...</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHUB = hollow shaft</td>
<td>E5 = 5/8''</td>
<td>PSR = 5-30V voltage and reinforced SSI output (without parity)</td>
<td>B = Binary (CCW increasing code)</td>
<td>SXR = M16 cable-gland</td>
<td>U3 = With insulated sleeve</td>
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</tr>
<tr>
<td>AHKB = blind shaft</td>
<td>E6 = 3/4''</td>
<td>PSS = 5-30V voltage and SSI output (without parity)</td>
<td>G = Gray (CCW increasing code)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>AHAH = hollow shaft with integrated coupling</td>
<td>E6 = 3/4''</td>
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</tr>
<tr>
<td>AHAH = solid shaft</td>
<td>E3 = 3/8''</td>
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</table>

Stainless steel option available.

Anti-rotation accessory: M9230-04/xxx Ball end tether arm (xxx = length in cm) to be ordered separately

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