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
- SSI output
- Resolution up to 16 bits

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

2004/108/CE

UL listed

Mechanical Characteristics:

<table>
<thead>
<tr>
<th>Material</th>
<th>Cover: anodised aluminum</th>
<th>Vibrations (EN60068-2-6)</th>
<th>≤ 200m.s⁻² (55 ... 2 000 Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Body: anodised aluminum</td>
<td>Shaft inertia</td>
<td>&lt; 84000 g.mm²</td>
</tr>
<tr>
<td></td>
<td>Shaft: AISI 303 stainless steel</td>
<td>Static/Dynamic torque</td>
<td>30 / 300 mN.m</td>
</tr>
<tr>
<td>Ball bearings</td>
<td>6807 - Sealed</td>
<td>Permissible max. speed</td>
<td>6000 min⁻¹</td>
</tr>
<tr>
<td>Maximum loads</td>
<td>Axial: 40 N</td>
<td>Continuous max. speed</td>
<td>4000 min⁻¹</td>
</tr>
<tr>
<td></td>
<td>Radial: 80 N</td>
<td>Theoretical mechanical lifetime L₁₀⁻¹</td>
<td>&gt; 18.10⁶ turns / 100 000 hours</td>
</tr>
<tr>
<td>Shocks (EN60068-2-27)</td>
<td>≤ 3000m.s⁻² (during 5 ms)</td>
<td>Encoder weight (approx.)</td>
<td>450g</td>
</tr>
</tbody>
</table>

* continuous max. speed – ½ max. load – ISO 281, L₁₀

Available mechanics – shaft options:

- AHU9: Through Hollow Shaft
- AHK9: Blind Hollow Shaft
- AHA9: Shaft with Integrated coupling
- AHM9: Solid Shaft
Absolute Encoder

Cable or M12 connection

**LP series**

Floating Mountings

**Dimensions**

AHU9 – Through hollow shaft – with cable output

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

**Dimensions**

AHU9 – Through hollow shaft – with M12 output and anti-rotation 9445/053

**Dimensions**

AHK9 – Blind hollow shaft – with cable output

Changes possible without further notice - Version 151013
**Dimensions**  
AHA9 – Shaft with integrated coupling – with M12 connection

**Dimensions**  
AHM9 – Solid shaft – with cable output
**Absolute Encoder**

### 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>Temperature range</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSS</td>
<td>RS422</td>
<td>up to 16 bits</td>
<td>5-30V 250mA</td>
<td>75mA</td>
<td>40mA</td>
<td>1MHz</td>
<td>+/-0.1°</td>
<td>Yes (except to Vcl)</td>
<td>Yes</td>
<td>-40°C +100°C</td>
</tr>
</tbody>
</table>

### Connection:

<table>
<thead>
<tr>
<th>SL</th>
<th>M12 [!] - 8 pins</th>
<th>-</th>
<th>+</th>
<th>Ckt+</th>
<th>Ckt-</th>
<th>Data+</th>
<th>Data-</th>
<th>RAZ</th>
<th>Ground</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Connector Body</td>
</tr>
<tr>
<td>SM</td>
<td>PUR cable [!] 8 wires</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>General shielding</td>
</tr>
</tbody>
</table>

[!] UL listed : -20°C +80°C

### 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 : AHU9_E6//PSSG//13//SLR//U6]

- **AH_9**
- **TYPE:** SHAFT BORE:
  - AHU9 = hollow shaft
  - E5 = 5/8”
  - E6 = 3/4”
  - E8 = 1”
  - 30 = 30mm
  - AHA9 = blind shaft
  - AHA9 = hollow shaft with integrated coupling
  - E6 = 3/4”
  - 14 = 14mm
  - 20 = 20mm
  - AHA9 = solid shaft
  - E3 = 3/8”
  - 12 = 12mm

- **VOLTAGE/OUTPUT:**
  - PSS = 5-30V voltage and SSI output (without parity)

- **CODE:**
  - B = Binary (CCW increasing code)
  - G = Gray (CCW increasing code)

- **CYCLES PER TURN:**
  - (Enter bits)
  - See available resolutions above

- **OUTPUT TERMINATION:**
  - SMR = PUR cable
  - xxx = cable length ex. C20 = 2meters

- **CABLE LENGTH:**
  - SLR = M12
  - Blank = No cable

- **HUB:**
  - U3 = With insulated sleeve
  - U5 = Blind sleeve
  - U6 = Through sleeve
  - ** = no sleeve

Stainless steel option available.

Anti-rotation accessory: M9445/053 to be ordered separately