KH SERIES
KH41 & 42
SHAFTLESS ROTARY POSITION SENSOR

The KH41/42 Series of Non Contact 2-channel rotary position sensors are designed to withstand the harsh environments of motorsport and on-vehicle automotive testing applications.

By using a proven ‘Hall Effect’ technology, the KH41/42 offers high performance and reliability at temperatures up to +300°F. Alternatively, it is capable of operational excellence in cold environments down to −40°F.

The sensor has no moving parts, a magnet is inserted into the moving component. The sensor detects movement and provides a linear output signal proportional to the rotational angle.

With a small and lightweight 0.91" diameter body and standard size flange mounting, the KH41/42 Sensor is designed for use on throttle bodies, other installations include: gearbox and pedal position.

The sensor is available in either Single (3 wire) or Dual (6 wire) outputs.

**TECHNICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Angles (Degrees)</td>
<td>60° to 360° in 1° Increments. Standard Angles: 60°, 100°, 240°, 360°</td>
</tr>
<tr>
<td>Power Supply</td>
<td>5Vdc or 6-30Vdc (Max 32mA) Reverse Polarity Protected</td>
</tr>
<tr>
<td>Output</td>
<td>Please See Part Number Configurator - page 2 For Options</td>
</tr>
<tr>
<td>Resolution</td>
<td>12 Bit</td>
</tr>
<tr>
<td>Accuracy, Linearity</td>
<td>±0.1%</td>
</tr>
<tr>
<td>Accuracy, Hysteresis</td>
<td>&lt;0.1°</td>
</tr>
<tr>
<td>Update Rate</td>
<td>5KHz</td>
</tr>
<tr>
<td>Mechanical Life</td>
<td>&gt; 25 Million Cycles at Max 150RPM</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40°F to +300°F (-40°C to +150°C)</td>
</tr>
<tr>
<td>Housing Material</td>
<td>Aluminum</td>
</tr>
<tr>
<td>Air Gap/Concentricity</td>
<td>0.04&quot; - 0.12&quot; Air Gap/0.04&quot; - 0.08&quot; Concentricity</td>
</tr>
<tr>
<td>Track Technology</td>
<td>Hall Effect, Non Contact</td>
</tr>
<tr>
<td>Electrical Connection</td>
<td>20&quot; 26AWG, 3/6 Wire, 55spec, FDR 25 Sleeve</td>
</tr>
<tr>
<td>Protection Class</td>
<td>IP67</td>
</tr>
<tr>
<td>Weight</td>
<td>0.7oz</td>
</tr>
<tr>
<td>Options</td>
<td>Cable Length, Magnet Type and Labelling</td>
</tr>
</tbody>
</table>

PMC/KA Sensors adopts a continuous development program which sometimes necessitates specification changes without notice.

**Features**
- Shaftless Design
- ±0.1% Linearity
- −40°F to 300°F
- Lightweight - 0.7oz
- IP67 Sealing

**Applications**
- Throttle Position
- Steering Angle
- Pedal Position
- Gear Position
- Aero Surfaces
- Actuators

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www.kasensors.com
Represented by:  

**PRESSURE | TEMPERATURE | FORCE | TORQUE | POSITION | SPEED | ACCELERATION | GYRO**
The KA configuration tool is used to specify a standard KA Sensor, other options are available.

**MECHANICAL DETAILS**

Dimensions in inches

**ELECTRICAL DETAILS**

<table>
<thead>
<tr>
<th></th>
<th>+Ve Supply</th>
<th>0V Supply</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>KH41 Single Output</td>
<td>Red</td>
<td>Black</td>
<td>Yellow</td>
</tr>
<tr>
<td>KH42 Dual Output</td>
<td>Brown</td>
<td>Blue</td>
<td>White</td>
</tr>
</tbody>
</table>

**Sensors For:**
- Temperature
- Acceleration
- Pressure
- Position
- Torque
- Speed
- Angle
- Force

**Services For:**
- Data Logging
- Telemetry
- Controls
- Wiring

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