## Features
- Based on AMR sensor technology
- Programmable to customer specifications
- Symmetric output option

## Applications
- AFLS (Advanced Front Lighting System)
- Dynamic headlamp leveling
- ECAS (Electronically Controlled Air Suspension)
- Active suspension

## Introduction
Bourns® Chassis Level Sensor is based on Anisotropic Magneto-resistance (AMR) sensor technology. The sensor arm or lever is attached to a magnet that is suspended above the MR sensor chip. The angular position of the sensor arm is measured and an output signal that is proportional to the angular orientation is generated. The output characteristic can be programmed to the customer specification. The output of the sensor can be programmed to be symmetric to allow the sensor to be mounted in all four suspension locations when used as a chassis level sensor or other applications.

### Electrical Interface Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>-40 °C to +105 °C (up to +150 °C upon request)</td>
</tr>
<tr>
<td>Supply Voltage (V_{cc})</td>
<td>5 V ±10 %</td>
</tr>
<tr>
<td>Angular Sensing Range</td>
<td>+100 ° (typical)</td>
</tr>
<tr>
<td>Accuracy/Resolution</td>
<td>12 bit / 0.05 °</td>
</tr>
<tr>
<td>Electrical Range</td>
<td>-50 ° to +50 °</td>
</tr>
<tr>
<td>Mechanical Range</td>
<td>-60 ° to +60 °</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40 to +105 °</td>
</tr>
<tr>
<td>Update Rate</td>
<td>&lt; 1 ms</td>
</tr>
<tr>
<td>Maximum Current Draw</td>
<td>12 mA</td>
</tr>
<tr>
<td>Maximum Output Current</td>
<td>2 mA</td>
</tr>
<tr>
<td>Operating Output Voltage Range</td>
<td>0.05 V_{cc} to 0.95 V_{cc}</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>0.45 mV / degree</td>
</tr>
<tr>
<td>(programmable to customer requirements)</td>
<td></td>
</tr>
<tr>
<td>Total Error Band</td>
<td>&lt; ±2.5 % (static pulse noise)</td>
</tr>
<tr>
<td>Variation from Zero Point</td>
<td>±2 °</td>
</tr>
<tr>
<td>Signal Output</td>
<td>Analog, PWM, SENT</td>
</tr>
</tbody>
</table>

### Typical Analog Output Characteristic (V_{cc} = 5 V)

![Typical Analog Output Characteristic Graph](chart.png)

## Three-Pin Interface

![Three-Pin Interface Diagram](diagram.png)

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Specifications are subject to change without notice.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.
Non-Contacting Chassis Level Sensor

Design and Mechanical Interface

CONNECTOR INTERFACE USCAR 150-S-003-1-B01

DIMENSIONS: MM

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