

## 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

# Non-Contacting Chassis Level Sensor

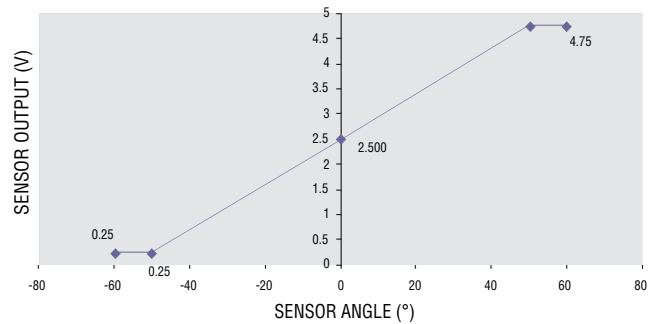
## Introduction

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.

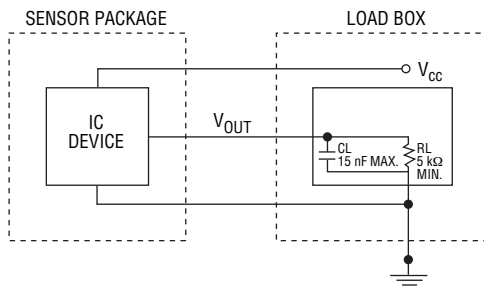
## Electrical Interface Specifications

Operating Temperature.....	-40 °C to +105 °C (up to +150 °C upon request)
Supply Voltage (V <sub>CC</sub> ) .....	5 V ±10 %
Angular Sensing Range.....	+100 ° (typical)
Accuracy/Resolution.....	12 bit / 0.05 °
Electrical Range .....	-50 ° to +50 °
Mechanical Range.....	-60 ° to +60 °
Temperature Range.....	-40 to +105 °C
Update Rate .....	< 1 ms
Maximum Current Draw.....	12 mA
Maximum Output Current .....	2 mA
Operating Output Voltage Range .....	0.05 V <sub>CC</sub> to 0.95 V <sub>CC</sub> (0.25 to 4.75 V @ V <sub>CC</sub> = 5 V)
Sensitivity .....	0.45 mv / degree (programmable to customer requirements)
Total Error Band.....	< ±2.5 % (static pulse noise)
Variation from Zero Point.....	±2 °
Signal Output.....	Analog, PWM, SENT

## Typical Analog Output Characteristic (V<sub>CC</sub> = 5 V)



## Three-Pin Interface



# BOURNS®

## Automotive Division

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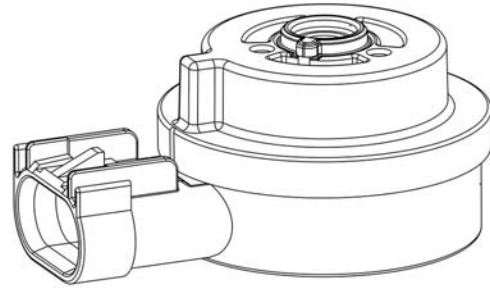
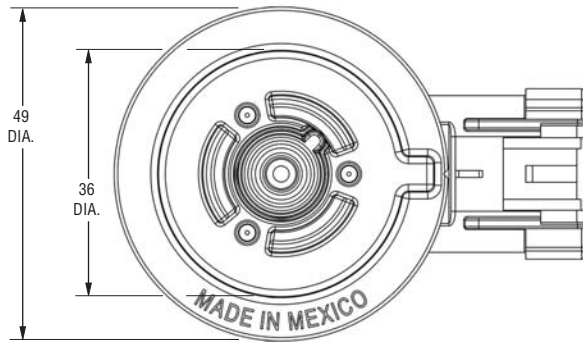
[automotive@bourns.com](mailto:automotive@bourns.com)

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.

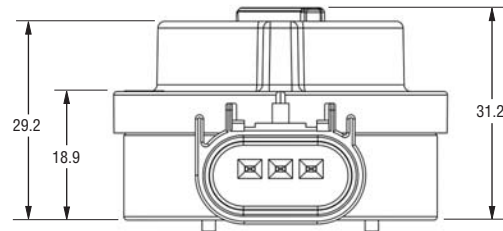
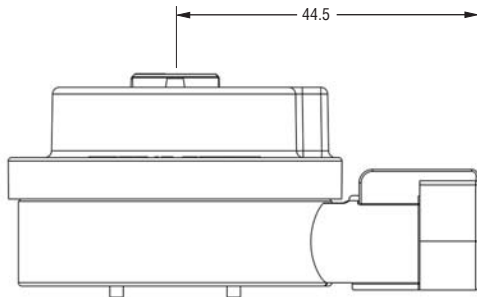
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**BOURNS®**

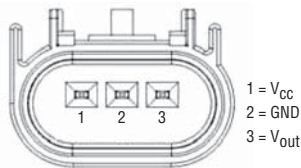
## Design and Mechanical Interface



DIMENSIONS: MM



## Connector Interface USCAR 150-S-003-1-B01



REV. 08/13

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