

Delphi Non-Contact Rotary Position Sensor

The Delphi Non-Contact Rotary Position Sensor converts rotary motion into an electrical signal to provide position information to a closed loop motion control system in automotive and non-automotive applications.

The Non-Contact Rotary Position Sensor's linear output voltage is directly proportional to the sensor's angle of rotation. Non-contact performance is made possible by a variety of technologies that include the latest linear programmable, fully-integrated Hall effect and Anisotropic magneto resistive (AMR) technologies.

The three-wire sensor is fully electro-magnetic capability (EMC) compliant and is fully isolated from external disturbances.

► Benefits

- High volume manufacturing processes help achieve competitive costs
- Flexible design is adaptable to a wide range of applications
- Non-contact technology eliminates signal loss on high dither applications
- Available mechanical links, arms, and brackets can be easily modified to meet customer requirements

► Typical Applications

The Delphi Non-Contact Rotary Position Sensor is ideally suited for the detection of road wheel position to enable closed-loop chassis control. Vehicle suspension travel is measured directly by mounting the sensor between the chassis and the sprung components.

Other automotive applications include the following:

- Pedal position
- Transmission gear selection
- Adaptive headlight aiming systems

Non-automotive applications include the following:

- Marine hand throttle position
- Inboard/outboard tilt and rotation
- Agricultural equipment motion
- General industrial equipment

► Performance Advantages

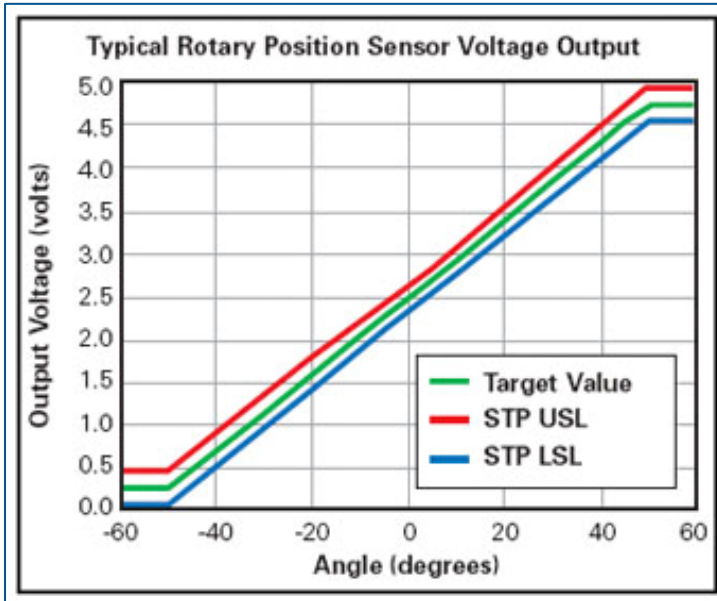
The Delphi Non-Contact Rotary Position Sensor was designed to perform in the most demanding automotive environments, including rocks, mud, salt, ice and snow. It is used in the underside of the world's hardest working trucks.



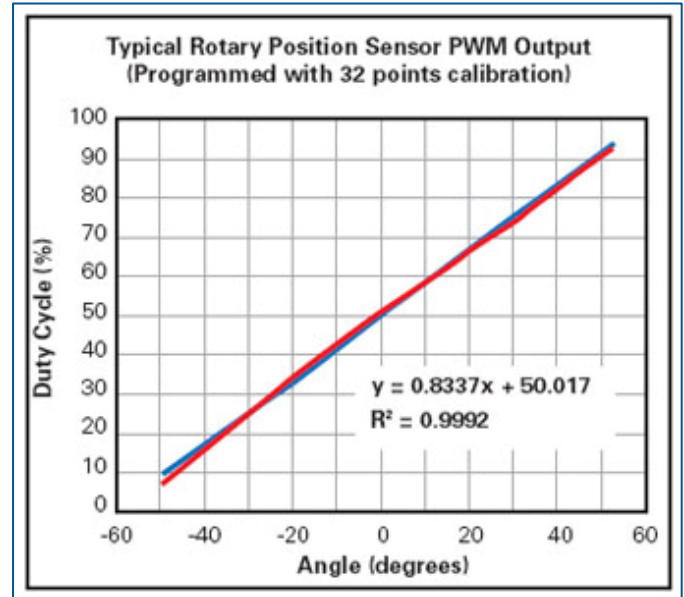
Delphi Non-Contact Rotary Position Sensor
(Also shown with optional bracket and arm link.)

Using sensor inputs like yaw, pitch, and roll, the Delphi Non-Contact Rotary Position Sensor is helping to advance the performance of vehicle dynamics systems such as anti-lock brake systems, drive-by-wire, and vehicle stability enhancement.

► **Performance Specifications**



This graph shows the typical electrical signal of the Delphi Non-Contact Rotary Position Sensor for a range of angles, or positions.



This graph shows the pulse-width modulated output for the Delphi Non-Contact Rotary Position Sensor for a range of angles.

► **Specifications**

Output voltage	0.25 V (5% Vcc) at -50 degrees position 2.50 V (50% Vcc) at 0 degrees position 4.75 V (95% Vcc) at 50 degrees position
Maximum current draw	10 mA with a 300 kΩ load resistor
Frequency response	0 to 10 Hz with a maximum attenuation of 1.0 dB 50 Hz with a maximum attenuation of -3.0 dB

► **The Delphi Advantage**

Delphi has one of the industry's most complete portfolios of sensors. Delphi has the experience and the expertise to provide extremely reliable, highly accurate and very cost competitive sensors for a wide range of applications. And, Delphi can provide a single component or a multifunctional "smart" module to meet specific customer needs.

As a global leader in engine and powertrain management systems technology, Delphi can help manufacturers around the world meet emissions requirements, improve fuel economy and enhance performance. Delphi is a source for high value solutions and our systems expertise is built into every product. Delphi's flexible engineering approach encourages collaboration. And, Delphi has a thorough understanding of automotive markets around the world and a global network of resources.