INDUCTIVE ELECTRIC MOTOR ROTOR POSITION SENSOR

ALLOWS FOR ENHANCED DYNAMIC ACCURACY, FUNCTIONAL SAFETY, NOISE IMMUNITY, AND TOTAL SYSTEM COST REDUCTION

Introduction

The control systems of synchronous electric motors used in electric and hybrid-electric vehicles require a device to detect the angular position of the rotor for proper control. Sensata's inductive rotor position sensor not only enables this control, but also improves motor efficiency and reduces torque ripple.

Features and Benefits

- Cost effective design compared to resolvers
- Functional Safety: Sensor is ASIL-C and ASIL-D capable
- Immune to stray magnetic fields without shielding
- Flexible to work with various pole pair e-motors
- Light-weight flexible packaging is customizable for the application
- Contactless and magnet-free solution
- Suitable for harsh environments and extreme temperatures
- True power on sensor with accurate e-motor position
- Target material is electronically conductive for eddycurrent generation

Sensata's Value

- World-class automotive component supplier
- Application expertise, significant automotive knowledge base including quality and supply chain
- Global/Local approach, engineering and commercial support
- Surety of supply, global manufacturing capability

SPECIFICATIONS

Mounting and Dimensions	Adaptable and customizable to customer architecture
Measurement Range	0 to 360 degrees
Speed	< 250,000 eRPM
Measurement Accuracy	< 1°el
Supply Voltage Range	4.5 V to 5.5 V
Current Consumption	< 20mA
Output Signal	Analog Differential Sine and Cosine
Operating Temperature Range	-40°C to 160°C

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