

MLX90421

TRIAxis® MAINSTREAM

MAGNETIC
POSITION SENSOR



Featured with magnetoreception, homing pigeons have the ability to sense Earth's magnetic field. This faculty explains their impressive navigation skills.

The MLX90421 is designed for use in cost-sensitive automotive applications including powertrain actuators, pedal positioning, fuel level gauges and transmission systems, though also suitable for industrial implementations. The MLX90421 offers an Analog or a PWM output.

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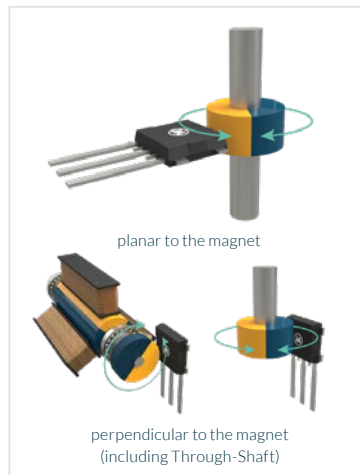
The MLX90421 is a monolithic magnetic position sensor IC sensitive to the three components of a magnetic flux density applied to the ICs (i.e. B_x , B_y and B_z). It consists of a Triaxis® Hall magnetic front end, an analog to digital signal conditioner, a DSP for advanced signal processing and a programmable output stage driver (analog or PWM).

The MLX90421 has superior capabilities in terms of functional safety, electromagnetic compliance (EMC) characteristics and supports operating temperature up to 160 °C.

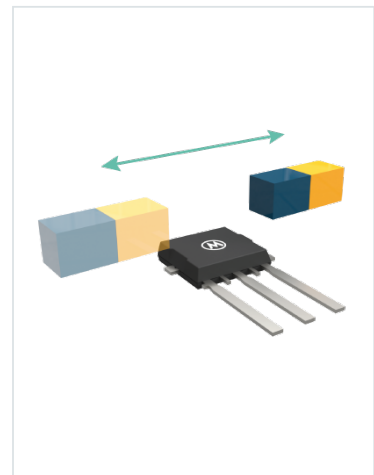
On-axis



Off-axis



Linear

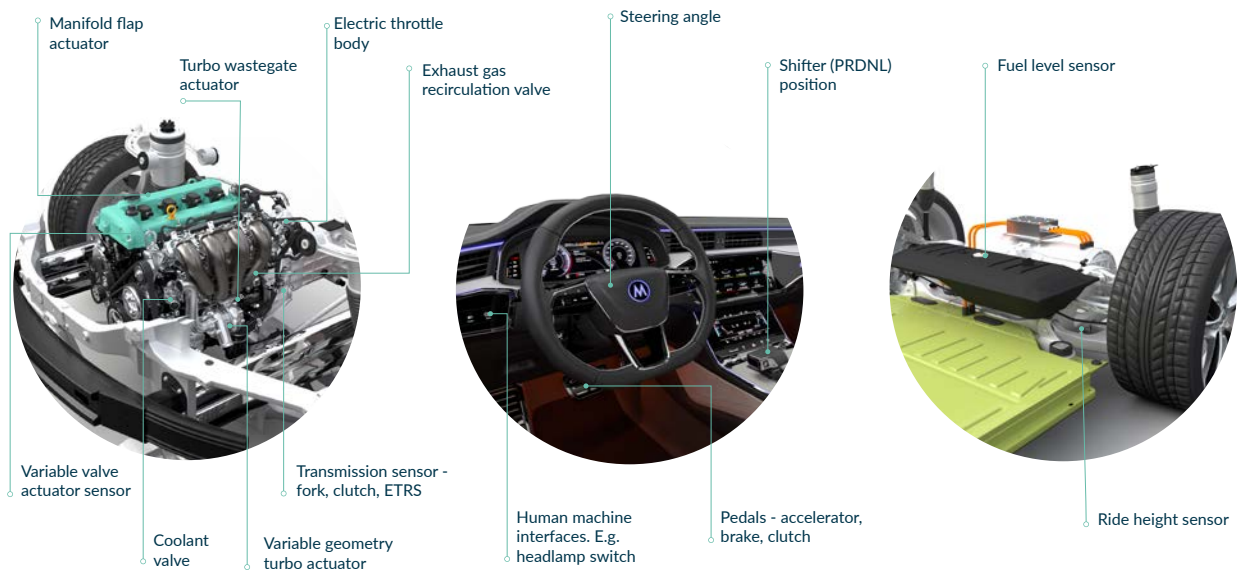


KEY FEATURES

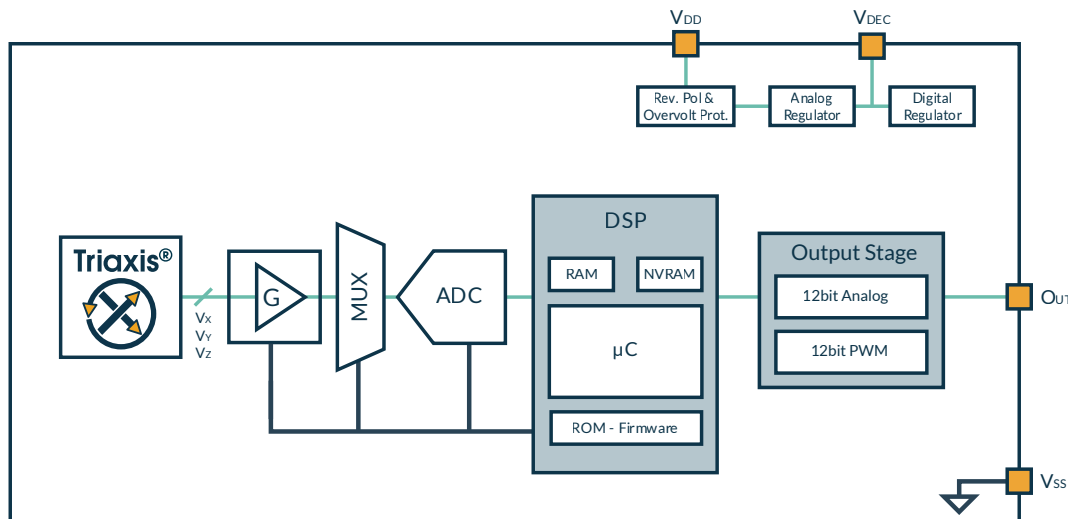
- ✓ Supported Output modes
 - Ratiometric analog
 - PWM Output
- ✓ Programmable Measurement Range
- ✓ Programmable Linear Transfer Characteristic with up to 17 points
- ✓ Operating temperature from -40°C to 160°C
- ✓ Triaxis® Hall Technology
- ✓ On Chip Signal Processing for Robust Absolute Position Sensing
- ✓ Packages, RoHS compliant
 - SOIC-8 (DC) Single Die
 - TSSOP-16 (GO) Dual Die (redundancy)
 - DMP-4 (VS), Single Die PCBless solution
 - SMP-3 (VE), Single Die PCBless solution
 - SMP-4 (VD), Dual Die PCBless solution
- ✓ Certification
 - AEC-Q100 Grade-0
 - ISO26262 ASIL-B Safety Element out of Context (SEooC)

APPLICATION EXAMPLES

- ✓ Absolute Rotary Position Sensor
- ✓ Absolute Linear Position Sensor
- ✓ Float-Level Sensor
- ✓ Non-Contacting Potentiometer



BLOCK DIAGRAM



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