

Melexis

INSPIRED ENGINEERING

MLX90510

**HIGH-SPEED
INDUCTIVE INTERFACE IC
ANALOG OUTPUTS**



Oilbirds navigate by echolocation. They produce a high-pitched clicking sound of around 2 kHz which is audible to humans. With the ability to transmit and receive information to sense their position, the oilbirds represent our inductive position sensors.

AUTOMOTIVE RESOLVER FOR E-MOTORS

MLX90510

The MLX90510 is an accurate inductive high-speed resolver interface for e-machine (BLDC, PMSM, PMSR...) used as traction motors or auxiliary motors (steering, braking). With its innovative architecture, it is minimizing the ECU effort required to get best-in-class accuracy under extreme mechanical and electrical conditions. The MLX90510 is designed to interface an inductive transducer, process the captured signals and provide differential sine & cosine outputs.

KEY FEATURES

- ✓ High accuracy: Maximum $\pm 0.36^\circ$ up to 240000 e-rpm (electrical rpm)
- ✓ Immune to magnetic stray fields (ISO 11452-8)
- ✓ ISO26262 ASIL C SEooC (Safety Element out of Context)
- ✓ High-speed operational up to 660000 e-rpm
- ✓ Differential sine and cosine analog outputs
- ✓ System propagation delay $< \pm 120$ ns
- ✓ Programmable linear transfer characteristic (16 points)
- ✓ 5V operating supply voltage
- ✓ Overvoltage and reverse-polarity protection: -24V to +24V maximum
- ✓ Ambient operating temperature Range from -40°C to 160°C
- ✓ Through-Shaft, End-of-Shaft and Side-of-Shaft operation
- ✓ TSSOP-16 Package RoHS Compliant



Through-shaft

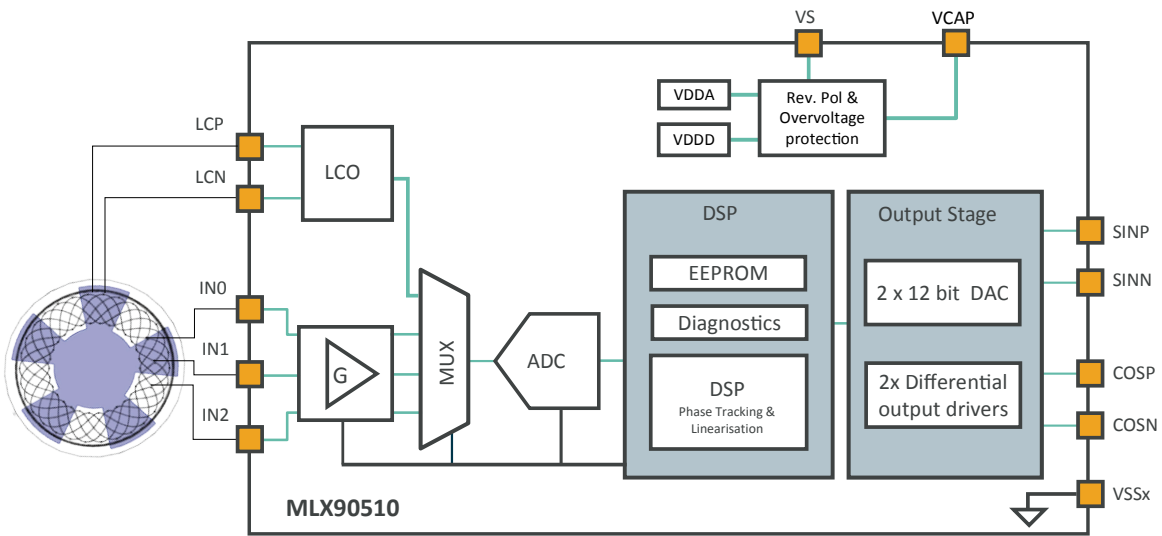


Side-of-shaft

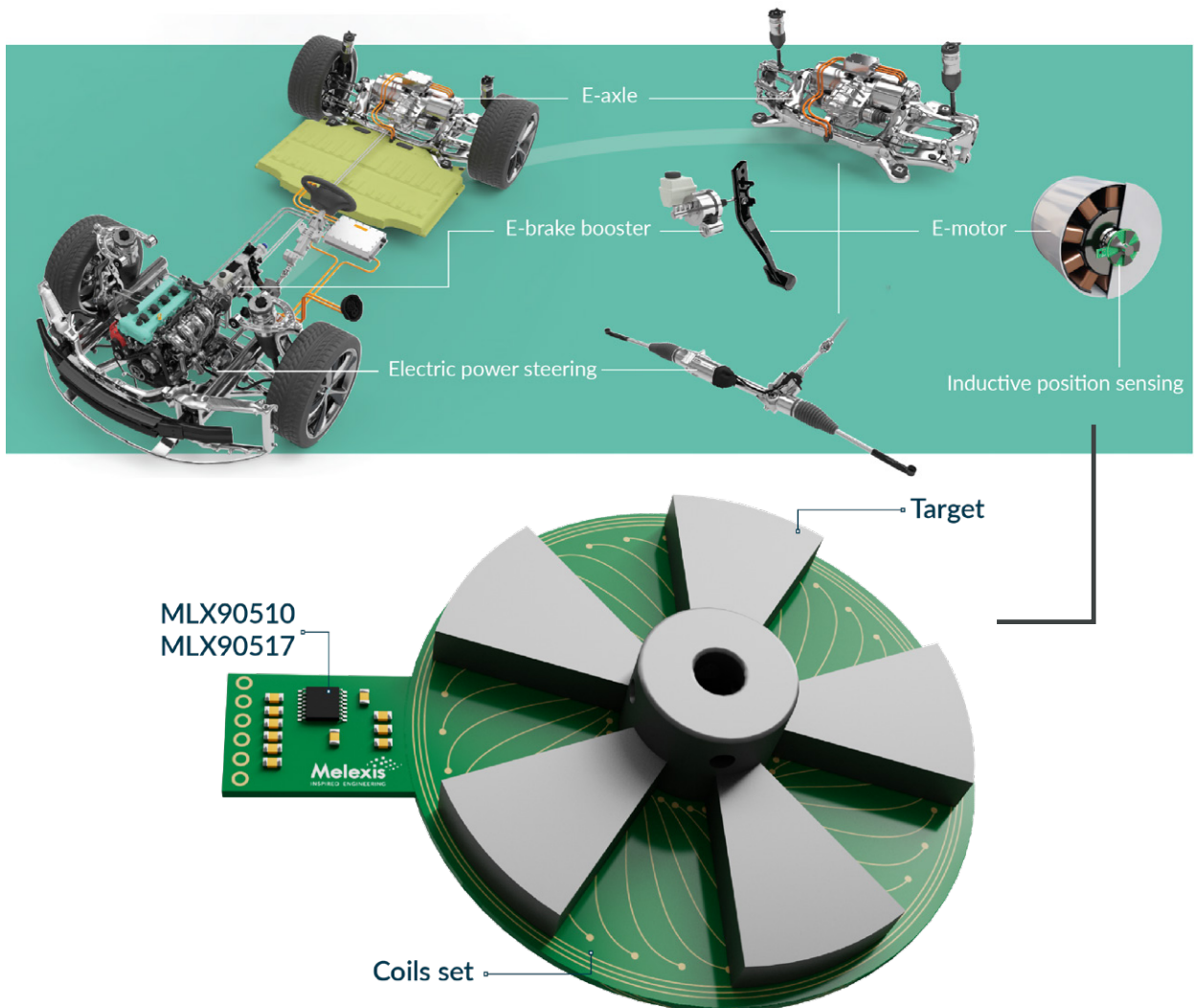


End-of-shaft

BLOCK DIAGRAM



APPLICATION VISUAL



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