

Melexis

INNOVATION WITH HEART

MLX90513

INDUCTIVE POSITION
POSITION INTERFACE IC
ANALOG/PWM/SENT/SPC



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.

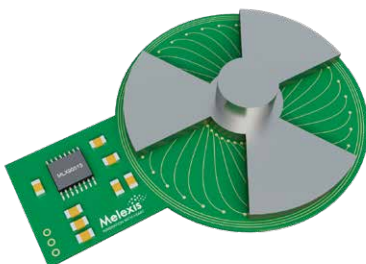
AUTOMOTIVE INDUCTIVE POSITION SENSOR

MLX90513

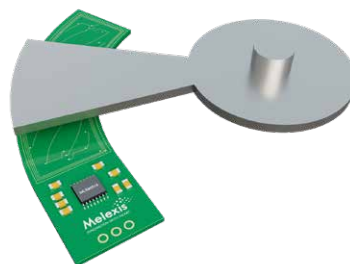
The MLX90513 is an inductive position sensor interface used for absolute rotary and linear motion/position sensing in automotive and industrial applications. It is designed to control an inductive sensor (coils) and to process the captured analog signals with on-chip calculation. It supports 4 output modes: SENT/SPC (Short PWM Code), PWM and analog. The MLX90513 is well suited for demanding applications such as pedal or steering wheel position.

KEY FEATURES

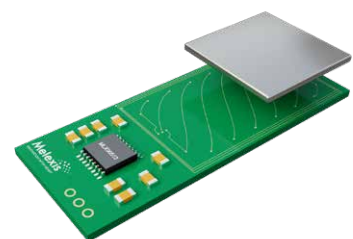
- ✓ High accuracy: maximum $\pm 0.1\%$ FS
- ✓ Supports rotary (360°) and linear (up to 30 cm)
- ✓ Immune to magnetic stray fields (ISO 11452-8)
- ✓ On-chip signal processing
- ✓ Single pin output configurable for SENT/SPC, PWM or Analog Ratiometric
- ✓ (fast) SENT according to SAE J2716 APR2016 featuring:
 - Enhanced serial data communication
 - Min. 0.5 μ s tick time
- ✓ Flexible signal conditioning with 32-point programmable linear transfer characteristic
- ✓ ASIL C compliant for all output modes (including analog), Safety Element out of Context (ISO 26262)
- ✓ Overvoltage and reverse-polarity protection ± 24 V maximum
- ✓ Ambient operating temperature from -40°C to 160°C
- ✓ TSSOP-16 Package RoHS Compliant



Rotary (360°)

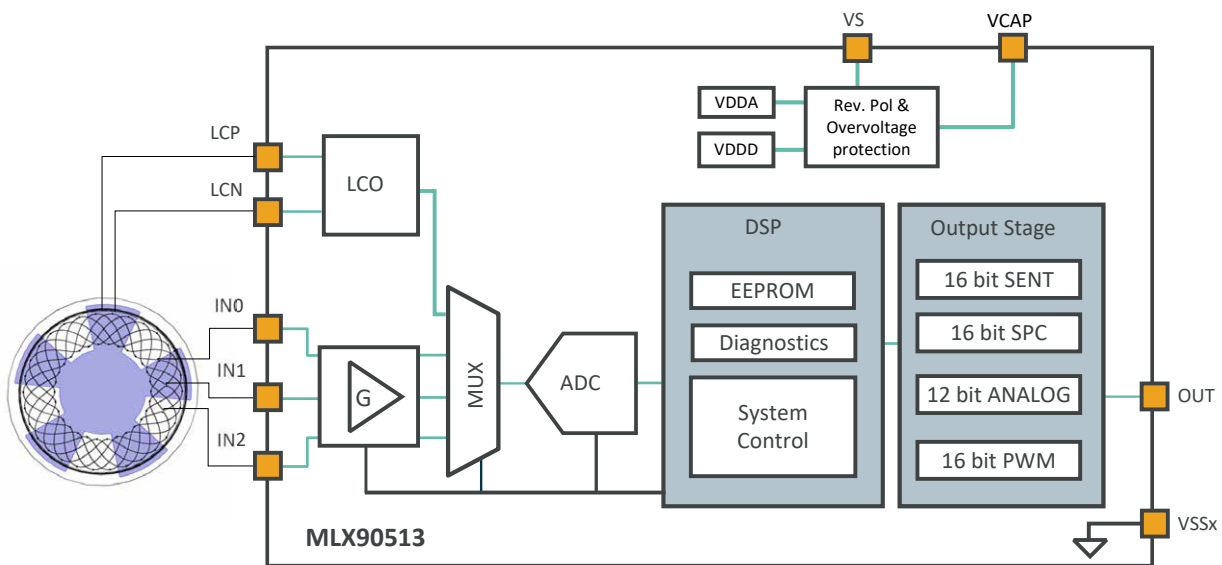


Arc



Linear (<30cm)

BLOCK DIAGRAM



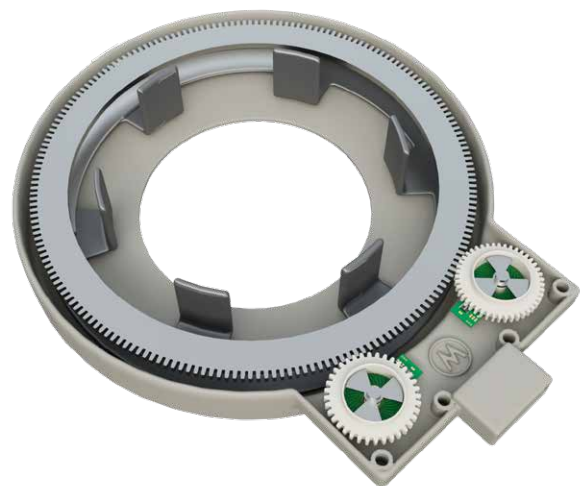
SIL READY
BY MELEXIS

SFI
by Melexis

APPLICATION VISUAL



Pedal position



Steering wheel position