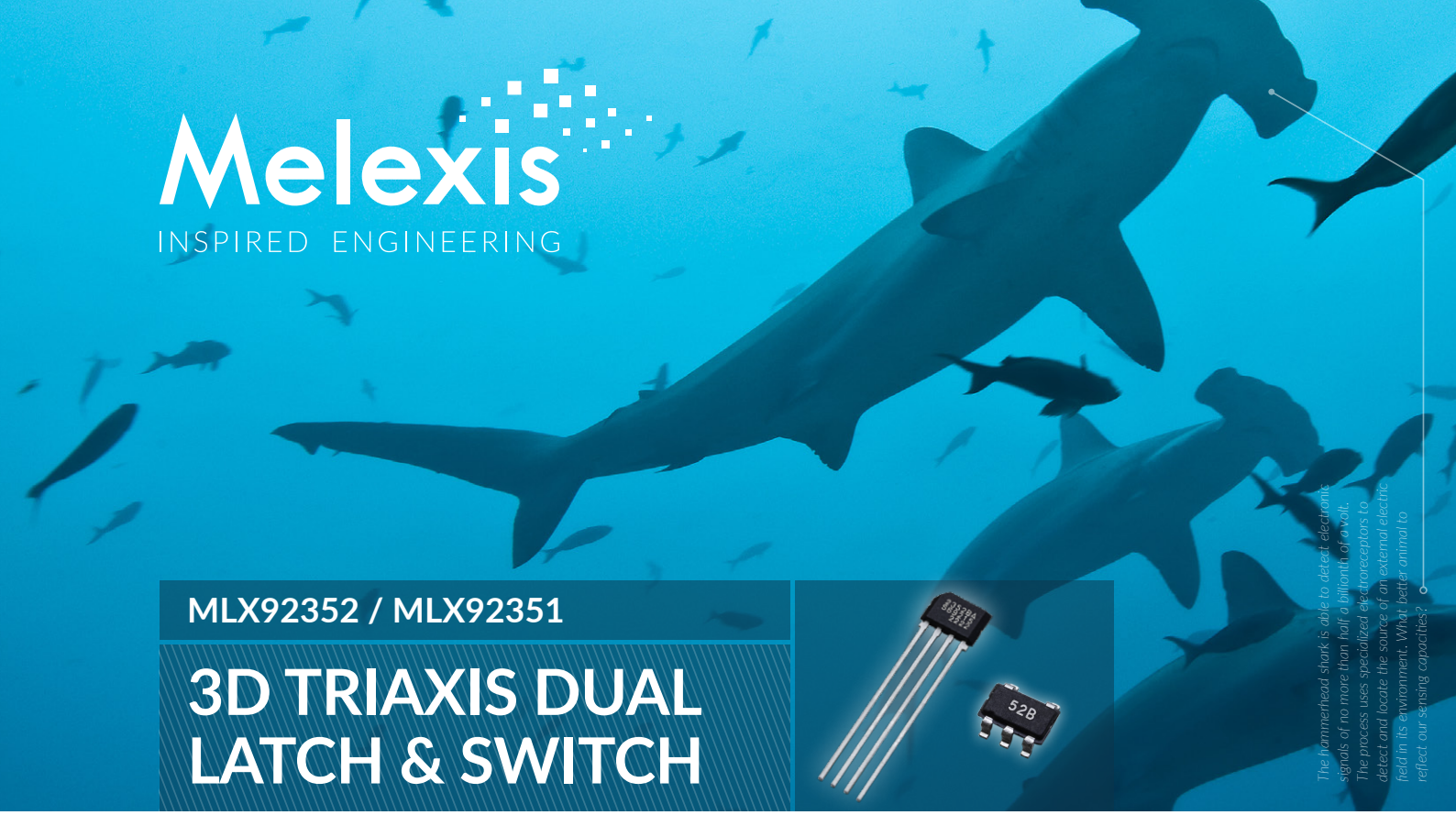
Melexis
INSPIRED ENGINEERING



MLX92352 / MLX92351

3D TRIAXIS DUAL LATCH & SWITCH

The hammerhead shark is able to detect electronic signals of no more than half a billionth of a volt. The process uses specialized electroreceptors to detect and locate the source of an external electric field in its environment. What better animal to reflect our sensing capacities?

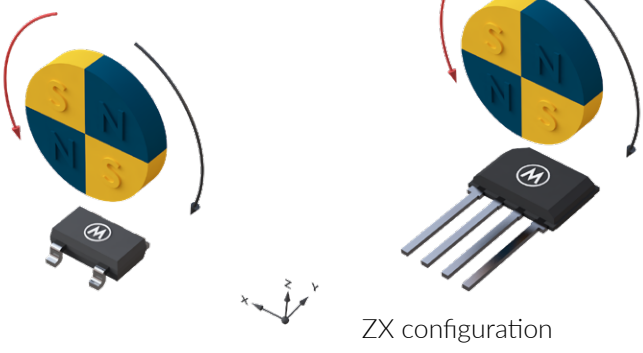
VERSTATILE PCB-LESS SOLUTION WITH DUAL QUADRATURE OUTPUTS

MLX92352 / MLX92351

The MLX92352 (programmable) and MLX92351 (pre-programmed) are universal 3-axis latch & switch targeting relative position and speed sensing. They provide magnetic flexibility and pitch independent dual outputs that can be set as speed, pulse or direction. With their unmatched EMC and ESD performance, these stand-alone PCB-less device saves space and total module cost for automotive and industrial applications.

KEY FEATURES

- Triaxis® Hall technology
- Dual Hall outputs
  - Two X, Y or Z magnetically sensitive open drain outputs
  - Quadrature outputs (90° phase shift) for pitch-independent design
  - Programmable independent magnetic thresholds and temperature coefficient
- High ESD capability and EMC robustness
- Programmable magnetic latch, unipolar or omni-polar switch functions
- Speed, direction or pulse output functions
- Selectable power-on state using start-up feedback to avoid miscounting
- Wide magnetic range from 0.5mT to 40mT
- Wide operating voltage range 2.7V to 60V
- 48V board net compatibility
- Low current consumption of 1.9mA
- Packages, RoHS compliant
  - VA-4L (PCB-less)
  - TSOT23-5L (SMD)
- AEC-Q100 and ASIL A capable device
- Junction temperature up to 175°C
- Integrated protections
  - Reverse supply voltage protection
  - Output short circuit protection by thermal protection
  - Under-voltage reset



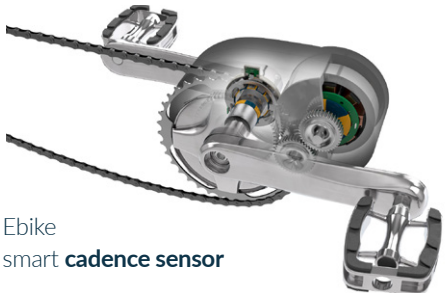
ZX configuration

FOR MORE INFORMATION: WWW.MELEXIS.COM/MLX92352
WWW.MELEXIS.COM/MLX92351

Melexis

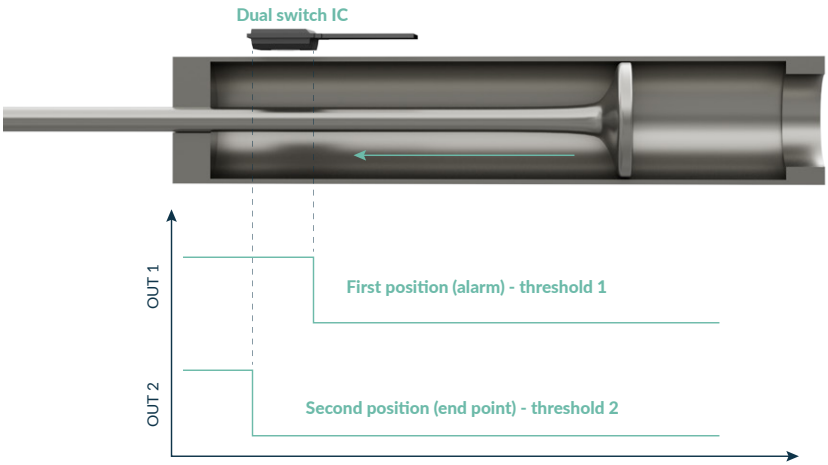
APPLICATIONS

- **Linear speed & direction control**: power liftgate, closures with anti-pinch
- **Incremental rotary encoding**: cadence sensor for e-bikes, DC motor indexing, fan & pump motors
- **Dual linear position detection**: piston, lever, stalks, valves
- **Angular position detection**: knobs, jog wheels



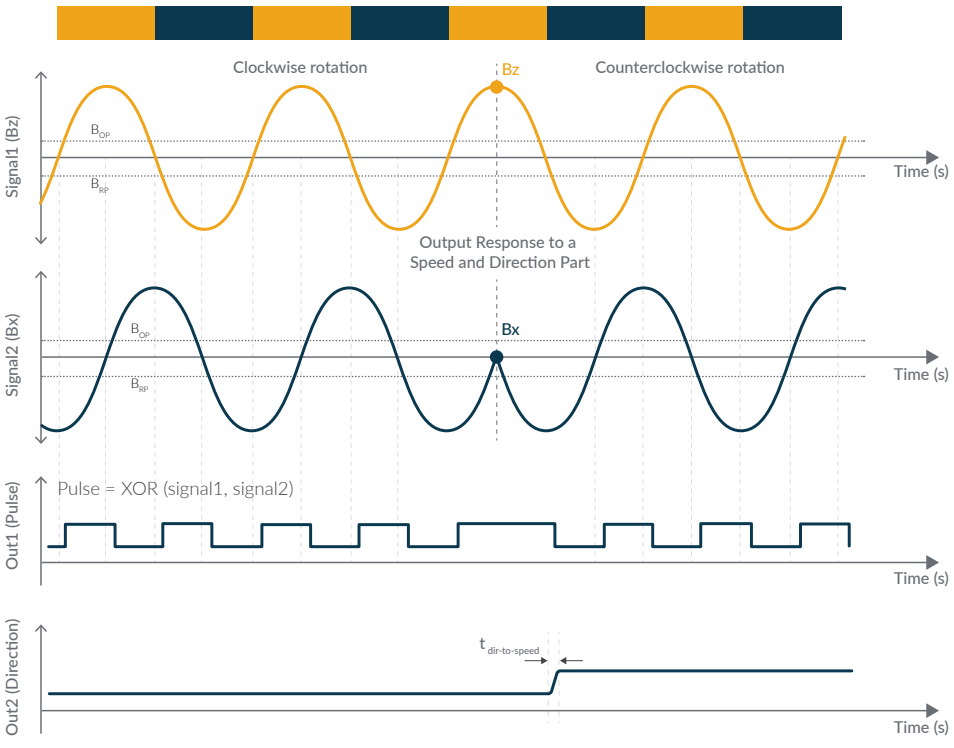
Ebike
smart **cadence sensor**

Automotive **power liftgate** with
linear speed & direction control

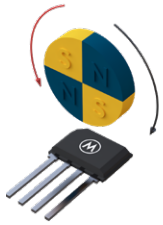


Valve dual switch

Eknob relative position

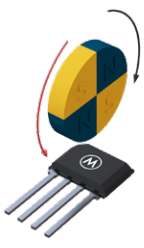


ZX configuration



XY configuration

ZY configuration



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