

# MICROPOWER LINEAR HALL SENSOR

## MLX90296

The MLX90296 is a family of micropower linear Hall-effect sensors (bidirectional or unidirectional) featuring a ratiometric analog output. Engineered specifically for battery-powered applications and mobile devices, this device combines fast contactless linear motion measurement with low power consumption.



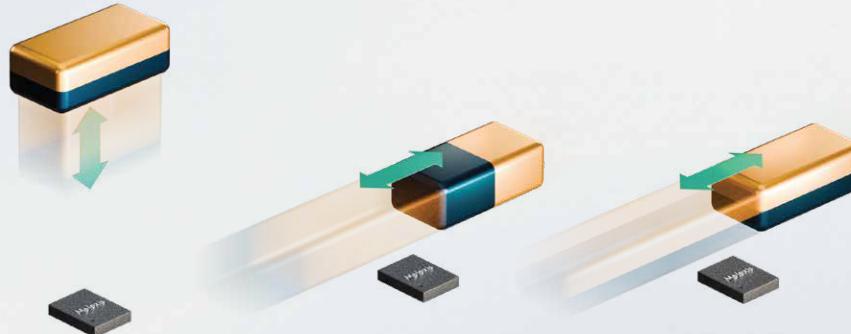
## Key features

- ✓ Ratiometric analog output
- ✓ Bidirectional or unidirectional output
- ✓ Fast µPower enable functionality (typ. 25 µs)
- ✓ Ultra-low power consumption
  - 7 nA when powered down
  - 55 µA with 1 kHz external enable rate
  - 5.5 µA with 100 Hz external enable rate
  - 2 mA when continuously enabled
- ✓ Moving average filter product option
- ✓ Tri-state output (High Z in power down)
- ✓ Low input-referred noise of 0.35 mTpp
- ✓ Wide operating voltage range 1.65 V to 3.6 V

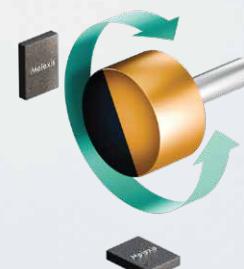
- ✓ Wide temperature range -40 °C to 105 °C
- ✓ Stable quiescent point and sensitivity over temperature and voltage
- ✓ Optional 1200 ppm/°C sensitivity TC for Neodymium magnet compensation
- ✓ Pre-defined sensitivity options at 1.8 V (see datasheet)
  - 3.5 m ~ 120V/mT
  - Bidirectional or unidirectional output
- ✓ Sensitivity at 3.3V operation scales linearly
- ✓ Tiny package RoHS compliant DFN-4L (1.2 mm x 1.6 mm x 0.4 mm)



## Linear

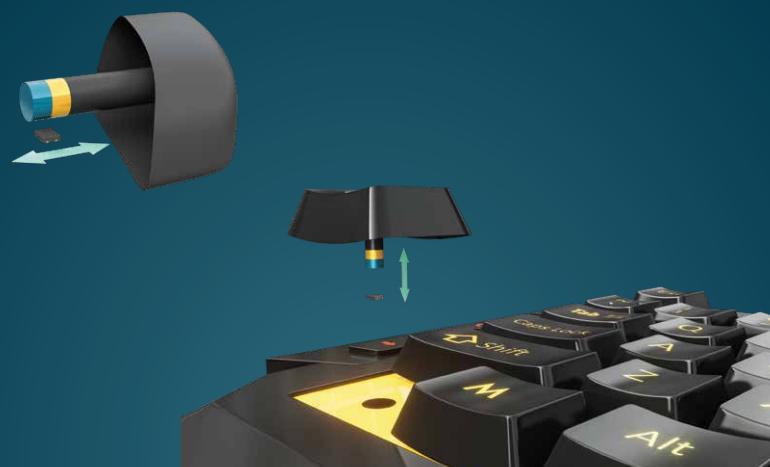


## Rotary & Joystick



## Applications

- Linear Position
  - Trigger buttons
  - Push buttons
  - Liquid levels
  - Weight & Tilt
- Mobile/Battery-Powered IoT
- Joystick & Rotary Position
- Flow Metering



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