

TMR Angle Sensors

TMR Angle Sensors Overview

Tunneling Magnetoresistance (TMR) is revolutionizing magnetic sensing by delivering ultra-low power consumption, high accuracy and unmatched bandwidth for portable devices, e-motor vehicles as well as industrial and building applications. Littelfuse's latest TMR solutions offer precise 0–360° angular measurements in SMT packages, simplifying design and boosting reliability in harsh environments.

These innovations outperform traditional Hall-effect sensors and resolvers by offering non-contact measurement, superior thermal stability, and higher accuracy.

Features & Benefits of TMR Angle Sensors

- High accuracy and ultra-low power consumption.
- High bandwidth for high-speed applications
- Thermal Stability and enhanced reliability: Maintains performance across wide temperature ranges and in harsh environments
- Outperform legacy resolvers and Hall sensors

Applications

Transportation:

- Off-highway vehicles
- E-bikes, two-/three-wheelers

E-Drives:

- Rotary and linear position sensors
- Electronic commutation

Building Automation:

- HVAC System
- Elevators, Escalators
- Robotics and Industrial Motion Control

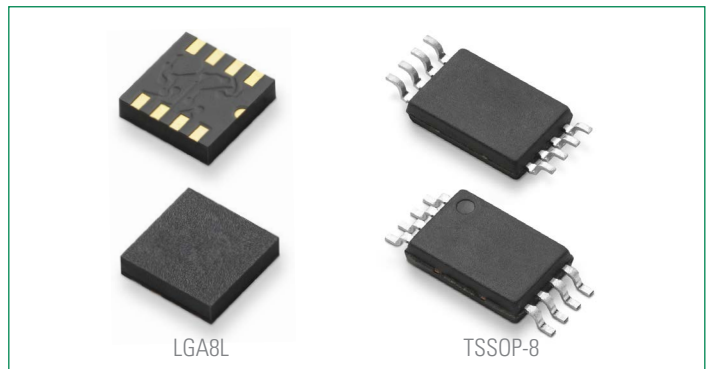
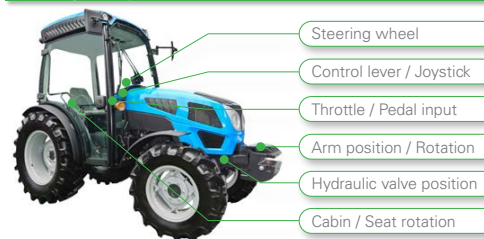
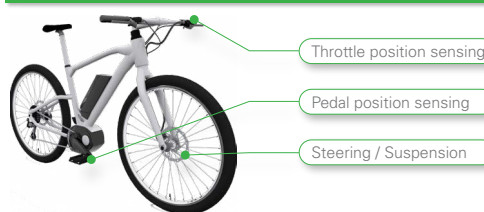


Figure 1. TMR Angle Sensors

Off-highway Electric Vehicle



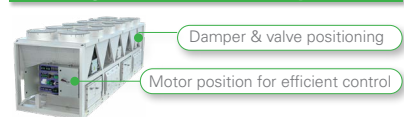
eBike



eDrive



Building Solutions (HVAC System)



Building Solutions (Elevators)

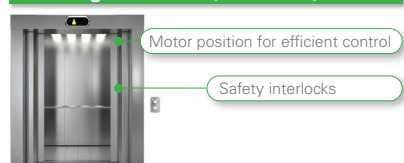


Table 1. Summary of Littelfuse TMR Angle Sensors Portfolio

Function	LF PN	Type	Supply Voltage (V)	Angle Measurement (°)	Resistance (kΩ)	PP (mV/V)	Field Operating Range (Gs)	Angular Error	Max. Supply Voltage (V)	Output	Sensing Axis	Operating Temperature	Package
Angle Sensor	LF53464-08TMR	Analog Series	0 to 7	360	6/140/1900	340	200 to 800	±0.6°	5.5	Diff.	XY	-40° to 85 °C	LGA8L
Angle Sensor	LF53466-08TMR	Analog Series	1.0 to 5.5	360	5	600	200 to 800	0.8°	5.5	SIN/COS Diff.	XY	-40° to 85 °C	TSSOP8

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