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Sensor Government Grant

"High throughput *Salmonella* detector," awarded by the U.S. Department of Agriculture National Institute of Food and Agriculture.

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New YouTube Videos

- [New ADT-Series TMR Rotation Sensors](#)
- [Nanopower magnetic sensors run \(almost\) forever on a watch battery](#)
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New Demo Kits



[AG932-07E: ADT002 Rotation Sensor Evaluation Kit](#)

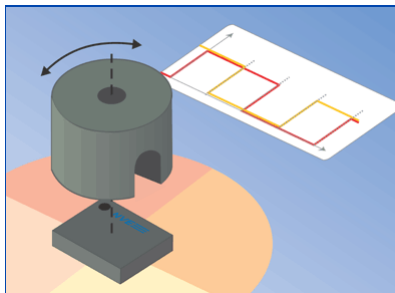


[AG940-07E: Digital/Analog/Omnipolar/Bipolar Sensor Demo Board](#)

NEW Ultralow Power Rotation Quadrant Sensor

The new ADT002-10E rotation sensor is an ultralow power, digital-output sensor providing accurate, absolute rotational quadrant information based on a rotating magnet.

TMR technology enables low power and miniaturization, making the sensors ideal for battery operation.

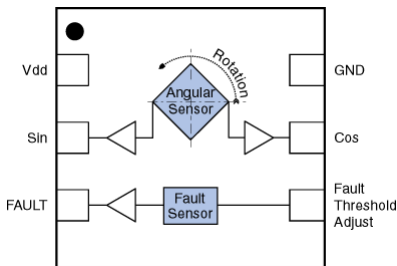


The New ADT002-10E Ultralow Power Rotation Quadrant Sensor

Key features include:

- Precision digital quadrant outputs
- Extremely low power (2 μ A typ. at 2.4 V)
- Wide airgap tolerance
- Integrated fault detection
- 2.4 V to 5.5 V supply range
- -40°C to +125°C operating range
- Ultraminiature TDFN6 package

The heart of the unique sensor is an array of four Tunneling Magnetoresistance (TMR) elements, one for each quadrant:



ADT002-10E Functional Block Diagram

The binary outputs correspond to the sign of the sine and cosine of the rotation, as shown in the truth table:

Angle of Rotation	Output	
	Sin	Cos
0° – 90°	H	H
90° – 180°	H	L
180° – 270°	L	L
270° – 360°	L	H

An additional output indicates a fault if the magnetic field is too high for accurate measurements.

The new parts are [in stock](#) and available for same-day shipment, with no minimum order.

Demo Board

The [AG932-07E Evaluation Kit](#) includes a circuit board with an ADT002 rotation sensor, a rotating split-pole magnet, and simple circuitry to drive LEDs from the sensor outputs.

Two LEDs follow the sensor outputs; four others indicate the rotational quadrant. A 3-volt coin cell (included) powers the board.

This video demonstrates the evaluation board and typical external circuitry:

