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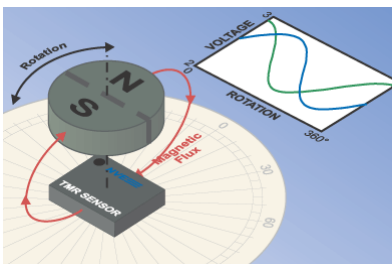
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New Documents

[Application Bulletin 24:](#)
IsoLoop Isolators have excellent thermal characteristics

TMR Angle Sensor

The new [AAT003-10E](#) angle sensor is a high-output magnetic sensor element for position measurements when a rotating magnetic field is applied.



The new part has the same best-in-class accuracy as the groundbreaking [AAT001-10E](#), but with lower bridge resistance for a relatively low-noise interface to signal-processing circuitry while still maintaining low power operation.

Key features include:

- Tunneling Magnetoresistance (TMR) technology
- 0.5 degrees maximum angular measurement error
- Large output signal without amplification
- 40 kilohms nominal bridge resistance
- Wide airgap tolerance
- Sine and cosine outputs for direction detection
- Ultraminiature 2.5 mm x 2.5 mm x 0.8 mm TDFN6
- Not damaged by large magnetic fields

AAT-Series Sensor outputs are proportional to the supply voltage and peak-to-peak output voltages are much larger than other sensor technologies. Typical applications include rotary encoders and motor shaft position sensors.

The other member of the AAT family, the [AAT001 Angle Sensor](#), has 1.25 megohm nominal bridge resistance for microwatt power consumption and is ideal for battery applications.

Product specifications are summarized as follows:

Parameter		Min.	Typ.	Max.	Units
Bridge Resistance (each resistor; 25°C)	AAT001	600	1250	2500	kΩ
	AAT003	20	40	60	
Peak-to-Peak Output (25°C)		130	160		mV/V
Angular Measurement Error (fixed bias)				0.5	Deg.
Required Applied Magnetic Field Strength			30	200	Oe

[Download AAT-Series Datasheets >](#)

Buy Online
\$9.95 shipping

Upcoming Exhibitions



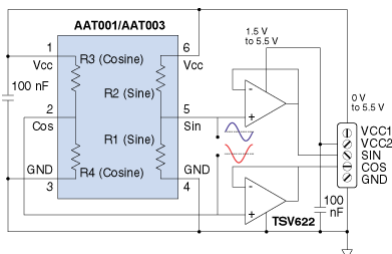
Isolator distributor HY LINE Power Components is exhibiting at the **Embedded**

World exhibition, February 25 to 27 in Nuremberg, Germany. [IsoLoop Isolated Bus Transceivers](#) are popular for embedded applications.

Reference Design

Buffering Angle Sensors

AAT-Series Angle Sensors can be directly connected to high-impedance analog front ends or other circuitry, or a buffer can be used if necessary for lower impedance circuitry:



AAT001/AAT003 Buffer Reference Circuit

The op amp minimum supply voltage is 1.5 volts, while the AAT-Series sensors have no minimum. Sensitivity increases proportionately to the sensor supply voltage, as does current consumption.