

MAGNETIC SENSOR FAQ: UNLOCKING EFFICIENCY & SAFETY CONCERNS

FREQUENTLY ASKED QUESTIONS: ADDRESSING YOUR CONCERNS



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FAQ



Introduction

This FAQ aims to address **common customer concerns** regarding the suitability, quality, customization, and design support of magnetic sensors. It covers several key aspects:

Understanding Magnetic Sensors: Explains what they are and their applications.

Advantages of Standex Sensors: Highlights benefits like energy efficiency, durability, and safety.

Custom Sensor Design Process: Details our collaborative approach to developing custom solutions.

Leadership and Expertise: Underscores Standex Electronics’ expertise, innovative approach, and global reach, positioning them as a leader in magnetic sensors.

Customer Satisfaction: Emphasizes the company’s commitment to exceptional customer service and long-term relationships, addressing concerns about support and ongoing collaboration.

What are Magnetic Sensors?

Magnetic sensors are electronic devices that detect and measure magnetic fields. They convert magnetic field information into electrical signals that can be used for various applications (Figure 1), such as:

Position Sensing: Determining the location or movement of an object

Speed Sensing: Measuring the rotational speed of a shaft or gear

Level Sensing: Detecting the presence or absence of a fluid or material

Proximity Sensing: Sensing the presence or absence of a nearby object

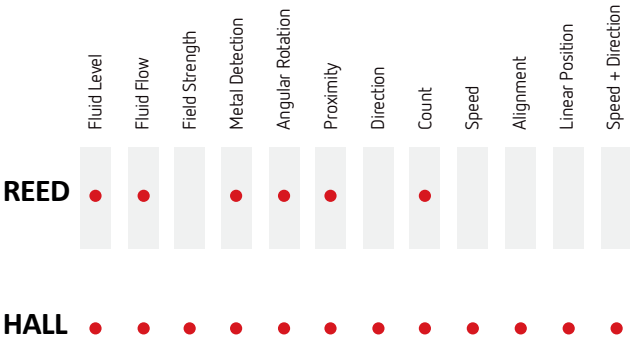


Figure 1 Applications by magnetic sensing technology
Source: Standex Electronics

What Types of Magnetic Sensors Does Standex Electronics Manufacture?

Standex Electronics specializes in a variety of magnetic sensor technologies, including:

Reed Switches/Sensors: Reed switches consist of a pair of ferromagnetic contacts enclosed in a hermetically sealed glass tube. When a magnetic field is applied, the contacts close, completing a circuit. Reed sensors are known for their simplicity, energy efficiency, and long lifespan.

Hall Effect Sensors: Hall effect sensors utilize the Hall effect, which occurs when a magnetic field is applied perpendicular to a current-carrying conductor. This effect creates a voltage difference across the conductor, proportional to the magnetic field strength. Hall effect sensors can measure both the presence and strength of a magnetic field, making them suitable for precision sensing applications.

Standex Electronics also manufactures a variety of other magnetic sensors, including gear tooth sensors, proximity sensors, float sensors, angle position sensors, and SMD reed sensors.

What Are the Key Advantages of Standex Electronics' Magnetic Sensors?

Standex Electronics' magnetic sensors offer several advantages that make them a preferred choice for a wide range of applications:

Power Consumption: Energy efficiency is a significant concern for many customers, especially in battery-powered applications. Standex Electronics addresses this concern by offering sensors, particularly reed switches, that consume zero power in their passive state. This feature helps to extend battery life and reduce energy costs.

Standex Electronics' sensors are designed to improve the efficiency of various systems. For example, in

agricultural applications, their sensors can monitor the flow rate of fertilizer spreaders, ensuring uniform application and preventing waste. They can also monitor shaft and gear speed conditions, enabling timely maintenance and preventing costly breakdowns. In electric vehicles, their sensors play a crucial role in maximizing battery life by minimizing parasitic drain.

Longevity and Durability: The hermetically sealed design of reed switches and sensors protects internal components from harsh environments, contributing to their exceptional lifespan. Hall sensors are solid-state devices, meaning they don't have any moving parts that could wear out over time.

Non-contact magnetic sensors function without making physical contact with the target they are sensing. This design enhances their longevity, as they do not suffer from wear and tear due to physical degradation. Many Standex sensors can withstand millions or even billions of cycles, making them suitable for demanding applications.

Compact Size: Standex Electronics manufactures some of the smallest reed switches in the world, enabling their use in space-constrained applications. This is particularly beneficial in the automotive industry, where the number of sensors in vehicles is increasing rapidly, requiring smaller and more efficient sensing solutions.





Safety: Standex Electronics' magnetic sensors can be used to enhance safety in various applications. For instance, in utility vehicles, their sensors help ensure the power take-off (PTO) mechanism engages correctly, preventing damage to equipment and potential injury to users. Sensors are used in charging lid detection to ensure that users are not exposed to high voltage when accessing their charging ports.

Harsh Environments: Standex Electronics recognizes that many applications require sensors that can operate reliably in harsh environments. Their sensors are designed to withstand extreme temperatures, moisture, dust, and vibration, making them suitable for use in off-road vehicles, agricultural machinery, and industrial settings.

High-Quality Standards: Standex Electronics maintains rigorous quality standards in its manufacturing processes. Their facilities are certified to various international standards, ensuring reliable and durable products.

Customization Capabilities: Standex Electronics

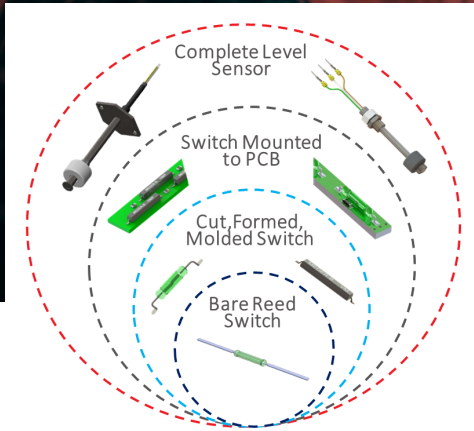
excels in designing and manufacturing custom magnetic sensor solutions. They offer extensive customization capabilities, working closely with customers to design and manufacture sensors that meet their unique needs. This collaborative approach ensures the final product seamlessly integrates into the customer's system and performs optimally.

In What Industries are Standex Electronics' Sensors Used?

Standex Electronics' magnetic sensors are used in a wide range of industries, including:

Agriculture: Standex sensors contribute to the efficiency and productivity of agricultural machinery, enabling precise control of equipment, monitoring of crop yields, and optimization of fertilizer and water usage.

Heavy Equipment: Standex sensors provide critical data for monitoring and controlling heavy machinery in demanding off-road environments, ensuring safe operation and maximizing equipment uptime.



Automotive: From basic functions like seat belt detection and door latch sensing to advanced systems such as battery management and collision avoidance, Standex sensors play a crucial role in enhancing safety, efficiency, and user experience in modern vehicles.

Appliances: Standex sensors are integrated into household appliances, providing features like automatic door sensing, temperature control, and water level monitoring.

Utilities: From metering gas, electricity, and water consumption to monitoring the condition of critical infrastructure, Standex sensors play a vital role in ensuring the reliable delivery of essential utilities.

Medical Devices: Standex sensors are used in a variety of medical devices, contributing to patient safety, accurate diagnostics, and reliable operation of medical equipment.

Renewable Energy: Standex's reed relays and sensors are used in applications such as wind

turbines, solar panels, e-bikes, and EV charging stations, contributing to the growth of renewable energy technologies.

How Does Standex Electronics Approach Custom Sensor Design and Development?

Standex Electronics emphasizes a collaborative partnership with its clients when developing custom sensor solutions. Their process typically involves the following steps:

Understanding the Application: Standex engineers work closely with the client to thoroughly understand the specific application requirements, including performance parameters, environmental conditions, and size constraints.

Proposing Solutions: Based on the application requirements, Standex engineers propose potential sensor solutions, considering various technologies, packaging options, and customization possibilities.

Prototyping and Testing: Standex develops prototypes of the proposed solutions and works with the client to conduct thorough testing and evaluation. This iterative process ensures the sensor meets the desired performance specifications.

Design Refinement and Optimization: Based on the testing results, Standex refines and optimizes the sensor design, ensuring it seamlessly integrates into the client's application and meets all requirements.

Manufacturing and Production: Once the design is finalized, Standex leverages its global manufacturing capabilities to produce the custom sensors, meeting the client's production volume and delivery timelines.

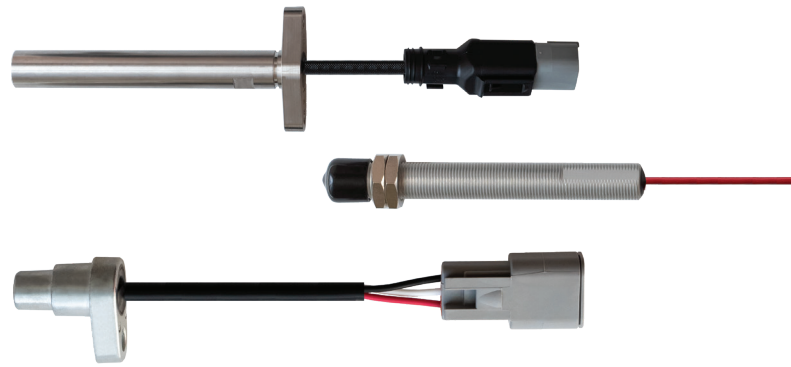
What Makes Standex Electronics a Leader in Magnetic Sensing Solutions?

Several factors contribute to Standex Electronics' leadership in the magnetic sensing market:

Deep Expertise: Standex Electronics possesses extensive knowledge and experience in magnetic sensing technologies, particularly in reed switch technology. Their engineering team's expertise allows them to develop innovative solutions for even the most demanding applications.

Collaborative Approach: Standex Electronics prioritizes close collaboration with clients, working hand-in-hand to develop custom solutions that perfectly address their specific needs. This partnership approach fosters trust and ensures that the final product meets all expectations.

Global Reach and Resources: With manufacturing facilities, engineering teams, and sales support located in North America, Europe, and Asia, Standex Electronics has a global footprint that enables them to meet the needs of clients worldwide. Their vertical integration and strategic partnerships contribute to



their ability to deliver high-quality products efficiently.

Commitment to Innovation: Standex Electronics is dedicated to staying at the forefront of magnetic sensing technology. They invest in research and development, continuously seeking to improve their products and develop new solutions that meet emerging industry needs.

Focus on Customer Satisfaction: Standex Electronics is committed to providing exceptional customer service and support. They strive to build long-term relationships with their clients, ensuring their satisfaction throughout the design, development, and production process.

Why is Standex Electronics a Trusted Partner for Companies Seeking Magnetic Sensors?

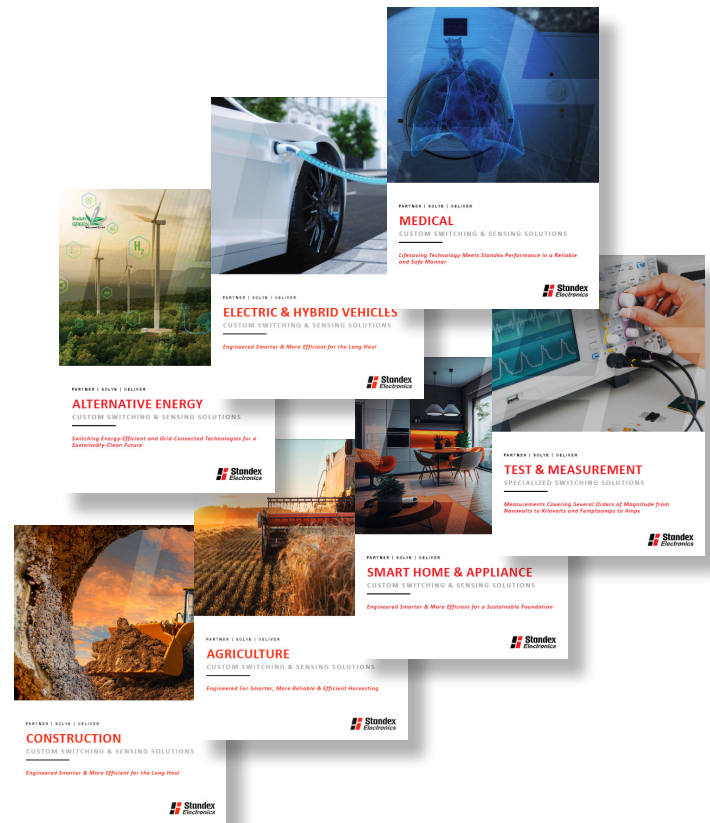
Standex Electronics has earned a reputation as a trusted partner by consistently delivering high-quality products, innovative solutions, and exceptional customer service. Their commitment to collaboration, technical expertise, and global reach makes them a reliable partner for businesses across a wide range of industries.

What Brings the Client Back to Standex Time and Time Again?

To your end customer, our sensors are invisible. But they can make all the difference. If our products draw attention, that means they're not working. So we strive to remain invisible and unnoticeable—by ensuring our magnetic sensor products work unfailingly.

Visit our application library to learn more about magnetic sensors in a variety of industries.

ALTERNATIVE ENERGY
ELECTRIC & HYBRID VEHICLES
CONSTRUCTION & OFF-HIGHWAY
SMART HOME & APPLIANCE
TEST & MEASUREMENT
AGRICULTURE
MEDICAL



Next Level Sensing!

Now, more than ever, you need sensors that:

- Consume minimal power
- Survive the most rugged conditions
- Last for millions, if not billions, of cycles

Please [contact us](#) to collaborate on the optimal solution for your specific needs.



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