

KasperAero Ferrous Proximity Sensors

Powered by Null Zone Magnetic Sensor (NZMS) Technology



Meeting Industry Needs for High-Precision Ferrous Proximity Sensing:

Detecting the presence and proximity of ferrous targets is essential in a wide range of industrial, automotive, and aerospace systems. Traditional proximity sensors can suffer from limited sensitivity, false positives, or poor durability in harsh environments. The need has grown for a compact, rugged, and highly reliable ferrous proximity sensor.

KasperAero has addressed this challenge by pioneering a new sensor category: the Null Zone Magnetic Sensor (NZMS). This sensor leverages a TMR magnetic sensor combined with a proprietary magnet configuration, enabling unmatched sensitivity and robustness in ferrous target detection.

Industries:

- Aerospace
- Automotive
- Rail & Trucking
- Robotics
- Heavy Equipment
- Industrial Automation
- Defense Systems

Product Features:

- Extremely Compact
- High-Speed
- Low Cost
- Low Power Operation
- Low Noise (EMI/EMR)
- Suited to Harsh Environments
- No Moving Parts
- No Microcontrollers
- No Temperature Compensation
- No Calibration

Adaptable By Design:

The sensor's magnetic field can be tuned by adjusting magnet strength without altering the sensing electronics. This means proximity detection distance and sensitivity can be optimized for specific application needs—whether that's high-resolution detection or long-range presence sensing.

- Modular housing options (threaded, quick-release, flange mount)
- Sensing performance unaffected by oil, grease, or fluid spray
- Ideal for embedded or flush-mount configurations



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Focused on the Fundamentals

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Applying Null Zone Magnetic Sensor (NZMS) Technology

Applications:

- Ferrous target detection in automated assembly
- Gear tooth sensing
- Position monitoring of moving metal parts
- Shaft or piston end-stop detection
- Rail brake or coupler proximity monitoring
- Ferrous object detection in harsh environments

Housing & Mounting Options:

- Threaded Insert
- Quick Release Adapter
- Single Bolt Flange
- Custom OEM Mounting Plates



Product Characteristics		
Electrical Interface		3 Wire
Output Type		PNP, Normally Open
Output Function		Normally Open
Ferrous Only		Immune to non-ferrous metals
Electrical Data		
Operating Voltage	[V]	5 - 30 VDC
Current Consumption (ON/OFF)	[mA]	< 3.0 mA / < 0.8 mA
Switching Frequency DC	[Hz]	100
Circuit Protection		
Reverse Polarity Protection		YES
Over Voltage Protection		YES
Short Circuit Protection		YES
Type of Short Circuit Protection		PULSED
Overload Protection		YES
Circuit Protection Designed to meet ISO 7637-2 and ISO 16750-2		