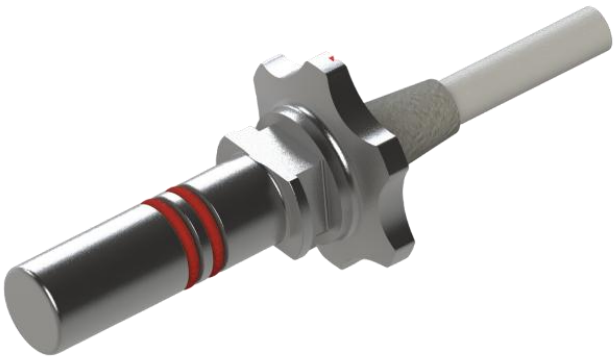
KasperAero Magnetic Debris Detectors (MDD)

Powered by Null Zone Magnetic Sensor (NZMS) Technology



Meeting Industry Needs for High-Precision Ferrous Proximity Sensing:

Ferrous debris plagues mechanical lubrication and fuel systems. Traditionally, ferrous debris has been difficult to detect and was only monitored in critical high reliability applications. There has long been a need for a cheap, rugged, ultra-reliable, and extremely sensitive ferrous debris sensor.

To meet this need, KasperAero has invented a new sensor category; the Null Zone Magnetic Sensor (NZMS). The NZMS combines a TMR magnetic sensor with a unique magnet arrangement. This patent-pending design has allowed the creation of an exceptionally elegant debris sensor. At the most sensitive, KasperAero Magnetic Debris Detectors are capable of sensing 0.015 grams of 10-micron ferrous debris. NZMS technology forces the reconsideration of debris sensors for a wide range of applications.

Industries:

- Aerospace
- Automotive
- Trucking
- Railways
- Wind Turbines
- Gear Motor OEMs
- Heavy Equipment
- High Uptime Industrial Machinery

Product Features:

- Senses Fine Ferrous Dust
- 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
- No Electrodes Exposed to Fluid Environment

Adaptable By Design:

For higher capture efficiencies, magnet strength can be increased to suit the application requirements with no effect on sensor operation.

Whether the collected debris is a single large chip or an accumulation of ferrous dust, operation is reliable and repeatable.

KasperAero

Focused on the Fundamentals

KasperAero.com
Info@KasperAero.com

KasperAero Magnetic Debris Detectors (MDD)

Applying Null Zone Magnetic Sensor (NZMS) Technology

Kasper Aero

Applications:

- Oil Reservoirs (Tank)
- Oil Return Lines
- Fuel Return Lines
- Hydraulic Reservoirs (Tanks)
- Gearboxes / Final Drives
- Transmissions
- Filter housings (Pre or Post)

Housing & Mounting Options:

- Threaded Insert
- Quick Release Adapter
- Single Bolt Flange
- Custom

Product Characteristics			
Electrical Interface		3 Wire	
Electrical Design		PNP	
Output Function		Normally Open	
Application			
Maximum Sensitivity		0.015 grams of 10-micron Ferrous Debris	
Media		Ferrous Only; Aluminum Chip Immune	
Pressure Rating		100 bar	10 MPa
Note on Pressure Rating		Sensing Face	
Electrical Data			
Operating Voltage	[V]	5 - 30 VDC	
Current Consumption ON	[mA]	< 3.00	
Current Consumption OFF	[mA]	< 0.80	
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			

Location	Sensitivity to Wear	Ease of Installation	Best For
Oil Reservoir	Moderate	Easy	Trending data
Oil Return Line	High	Medium	Early detection
Fuel Return Line	Moderate–High	Medium	Injector/pump wear
Gearbox/Drain Plug	Moderate	Variable	Localized wear
Filter Housing	High	Medium	Filtration Monitoring
Dedicated Loop	High	Harder	Precision Monitoring

KasperAero.com
Info@KasperAero.com