



Focused on safety -
Protecting what matters most.

Monitoring for Oxygen Depletion in MRI Applications

» Featuring a 5-year Warranty
Lead-Free O₂ Sensor

D-ReX[®] eXtraction Mode Gas Detection at the Point of Sampling

Gas Detection Solutions for MRI Environments

Magnetic Resonance Imaging (MRI) is a widely used medical imaging technique that relies on powerful magnetic fields and radio-frequency pulses. The safety of MRI environments is of utmost importance, and the presence of certain gases poses potential risks. This industry brochure addresses the need for a reliable gas detection system to ensure a safe and secure MRI environment.

MRI rooms often contain cryogenic liquids, such as liquid helium and liquid nitrogen, to maintain superconducting magnets at extremely low temperatures. In the event of a quench or a helium boil-off, potentially hazardous gases can be released. Rapid detection and response are essential to mitigate the associated risks.

Common gases of concern in MRI environments include helium, nitrogen, and other cryogenic gases. The release of these gases can displace oxygen, leading to asphyxiation, and pose a fire hazard. Therefore, a gas detection system is crucial to monitor the levels of these gases and provide timely alarms.

5+ Year Lead-Free Oxygen Sensor

Lead-free oxygen sensors offer several benefits, particularly in terms of environmental impact, performance, and regulatory compliance.

» Reduced Toxicity:

Traditional oxygen sensors often contain lead, which is toxic to the environment and human health. Lead-free oxygen sensors eliminate the environmental and disposal hazards associated with lead.

» Longer Lifespan:

Lead-free sensors tend to have a longer operational life compared to their lead-containing counterparts. This can reduce the need for frequent replacements.

» Enhanced Accuracy:

Lead-free sensors can provide better accuracy in oxygen level detection due to advancements in sensor design and materials.

» Reduced Maintenance Cost:

With longer lifespans and fewer replacements, lead-free sensors can help lower maintenance costs in the long run.



User interface with display, control keys and status LEDs

Easy to Use and Maintain: The D-ReX is a very user-friendly, easy-to-maintain gas detector

» High-resolution, Full-color Display:

The 2.4", 320 x 240 pixel full-color TFT display sets new standards for gas detectors. It provides clear and precise information about the current measured values, the short-term and long-term exposure, as well as any malfunctions that may have occurred. Information can be displayed in a variety of languages and scripts, including English, German and Simplified Chinese.

» Clear Information:

No longer will you have to decipher cryptic error codes – information on any issue is instead displayed in plain text. Status LEDs provide an additional instant overview of vital components of the system.

» Intuitive Device Management Using Bluetooth, and App:

Settings on the D-ReX can easily be managed using the configuration program or the GfG app (Android). They can be connected to the device either using RJ45 interface or Bluetooth®. This will give you access to all settings and configuration options. After entering the password, changes can also be made using the control keys in the D-ReX's service menu.

» Advanced Connectivity:

The D-ReX comes with a wide variety of communication interfaces: Choose between analog, industry standard 4-20 mA, digital RS-485 interface (Modbus/RTU), Ethernet (Modbus/TCP) and LonWorks (optional) for signal transmission. The Bluetooth® option enables wireless connectivity. In addition to the five internal, programmable changeover contact relays (optional), 16 additional relays can be addressed by connecting the D-ReX to a GMA200-RT/D relay module.

» Periodic Sensor Self-tests:

The plug-and-play smart sensor cartridges are pre-configured and pre-calibrated for easy installation or replacement. Automatic sensor self-tests increase safety while reducing maintenance costs even further.

Features:

- » Sensors for more than 30 gases
- » Hot-swappable smart sensor cartridge
- » High-resolution, full-color 2.4" TFT display
- » Plain text information
- » Tool-free maintenance
- » Power-over-Ethernet (PoE) communication
- » Can be addresses via web portal
- » Password-protected menu
- » Interface:
 - Analog: 4–20 mA output
 - Digital: RS-485 (Modbus/RTU)
 - 10/100 Mbit Ethernet (Modbus/TCP)
- » Bright status and alarm LEDs
- » Data logger to review sensor and alarms history
- » CE marked and UL certified
- » Tubing length up to 30 m / 100 ft.
- » Easy to replace mechanical component of internal pump
- » Bluetooth® Line Integrity



Technical Specifications: D-ReX

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|---|---|
| Gases: | O2 oxygen |
| Detection Principle: | Sensor dependent; available options for MRI application: EC = electrochemical |
| Sampling Method: | Extraction with pump |
| Display and Interface: | Display: 2.4" full color TFT (320 x 240 pixels) Interface: 5 push buttons |
| Selectable Languages: | German, English, simplified Chinese (more languages coming) |
| Communication: | Analog: 4-20 mA output Digital: RS-485 (Modbus/TRU) 10/100 Mbit Ethernet (Modbus/TCP) Bluetooth® Relays: 3x internal (programmable) form C relays Max. 2 A/30 V DC Min. 10 mA/5V can optionally be upgraded with an external relay module with up to 16 relays |
| Response Time: | Varies by sensor (see sensor data sheet) |
| Expected Average Life of the Sensor: | Varies by sensor (see sensor data sheet) |
| Operating Temperature: | -10 to +40° C +14 to +104° F |
| Operating Humidity: | 5 to 90% r.h. |
| Operating Pressure: | 70 to 130 kPa |
| Power Supply: | 110 VAC, 2 AMP |
| Housing: | Polycarbonate / UV Resistant |
| Protection Class: | NEMA 4X / IP 66 |
| Mounting: | Mounting feet |
| Weight: | 8.25 lbs |
| Dimensions: | 10" x 12" x 4" (W x H x D) |
| Labelling: | CE and UL certification |