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Microx ProSafe SIL2 Dual-Channel Oxygen Transmitter for Safety-Critical Oxygen Monitoring

Sensore Electronic GmbH, a DwyerOmega brand, has introduced the Microx ProSafe SIL2 Dual-Channel Oxygen Transmitter, a high-reliability oxygen monitoring system designed for integration into safety-instrumented systems where accurate oxygen measurement is essential for protecting processes and personnel.



Engineered for safety-critical environments, the Microx ProSafe SIL2 provides two independent oxygen measurement channels with dual measurement ranges. This configuration enables simultaneous monitoring of both trace oxygen concentrations and higher percentage levels, supporting safe operation in inerted environments where oxygen levels must remain below defined safety thresholds.

Certified to Safety Integrity Level 2 (SIL2), the transmitter is designed to support functional safety requirements in industrial processes where oxygen concentration must be continuously monitored to prevent fire, explosion, or contamination risks.

Designed for Reliable Safety Monitoring

The Microx ProSafe SIL2 uses advanced zirconium dioxide (ZrO_2) oxygen sensing technology, delivering long-term stability and fast response times across a wide measurement range from ppm-level oxygen up to 23.5% O_2 . Two pre-calibrated SMART oxygen sensors provide independent measurement channels. Each sensor stores calibration data internally, enabling quick installation and simplified sensor replacement while minimizing downtime.

For integration into control systems, the transmitter provides 4–20 mA analog outputs and RS485 digital communication per channel, along with safety-related alarm relays to trigger automated protective actions when oxygen thresholds are exceeded.

Supporting Safety in Inerted Industrial Processes

Maintaining safe oxygen levels is critical in applications that use nitrogen or argon inerting to reduce combustion risk. The Microx ProSafe SIL2 is designed to support these environments by continuously verifying that oxygen levels remain below a defined safety limit as part of a larger safety instrumented system (SIS).

Typical applications include:

- Additive manufacturing and metal powder processing

- Glove boxes and containment systems
- Industrial filtration systems
- Inert gas blanketing and process safety monitoring

By delivering reliable dual-channel oxygen measurement and functional safety certification, the Microx ProSafe SIL2 helps manufacturers maintain safe atmospheres, protect equipment, and reduce operational risk.

Key Features

- SIL2-certified oxygen monitoring system
- Dual independent oxygen measurement channels
- Wide measurement range from ppm levels to 23.5% O₂
- Pre-calibrated SMART zirconia oxygen sensors
- 4–20 mA and RS485 outputs per channel
- Safety-related alarm relay outputs
- Designed for integration into safety instrumented systems (SIS)

Enabling Safe Operation in Controlled Atmospheres

As advanced manufacturing and high-purity processing industries continue to grow, the need for reliable oxygen monitoring in inert environments is increasing. The Microx ProSafe SIL2 transmitter provides a dependable safety monitoring solution that helps operators maintain controlled atmospheres while ensuring compliance with functional safety requirements.

For more information, visit www.sensore-electronic.com

About DwyerOmega

DwyerOmega is a leading global manufacturer of precision measurement and control solutions, trusted across industries to enhance operational efficiency, ensure safety, and support sustainability goals. With a legacy of innovation and quality, our products empower customers to monitor, manage, and optimize critical processes with confidence.

About Sensore Electronic

Sensore Electronic GmbH, part of DwyerOmega, specializes in high-performance zirconia oxygen sensing technologies for industrial, medical, and laboratory applications. The company develops sensors and transmitters that deliver precise oxygen measurement in demanding environments, enabling OEMs and system integrators to achieve reliable process control.

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