

# REAL-TIME MULTI-POINT METHANE MONITORING SYSTEM

RSL Fiber Systems with partner OptoSci, Ltd introduces Remote Methane Detection System proven to safely monitor the presence of methane gas at multiple sensors in real time. The system consists of a low power laser, distributed to remote, passive gas sensing units connected by a fiber optic network. All optical sensing makes it inherently safe for use in coal mines, LNG facilities, petrochemical plants and other environments where explosive gases are present.

The sensor system and the remote gas sensing units are self referencing from the central control unit. The remote gas sensors require no periodic maintenance or "calibration" which enables their use in both active and abandoned or hard to reach areas. Results of a NIOSH funded, in-mine study (NIOSH 2012-N-14257) showed that the system accurately monitored methane under dusty and humid mine conditions - even when a 90% signal loss was introduced.



Example of Central Control Unit placed outside of explosive area.



Example of stainless steel, passive gas sensing unit

Pictures Courtesy of  
**OPTOSCI**

## Alerts Exact Location of Hazard



Example of data display on a MSHA approved Atmospheric Monitoring System.

Picture Courtesy of



The system can measure methane concentrations from 0.05% up to 100% at hundreds of points over long distances. All sensors are updated simultaneously at 2 second intervals. The methane data stream can be easily interfaced with new or existing atmospheric monitoring systems through an OPC protocol (an open standard for commercial and process control environments) to immediately alert an operator to the exact location of the gas hazard.

# Features

- Fully passive, intrinsically safe detection sensing units
- No cross sensitivity to other gases
- Sensors are self referencing from central control unit
- Operates with up to 90% signal loss over long distances (>10 miles)
- Fast sensor response (<1 sec) and rapid system update time (2 secs for all sensors)
- Measures methane concentrations from 500ppm up to 100% volume
- Operates in high humidity and wet conditions
- Output data stream can be easily interfaced with site wide monitoring systems.

## Rugged and Durable Lighting and Safety Products

RSL Fiber Systems is the leader in advanced fiber optic lighting, illumination and safety systems for military and commercial applications. In close collaboration with customers, RSL has earned the reputation for developing and effectively implementing new products that provide practical, cost saving, safety-enhancing solutions.

### Our Commercial Products Include:

- Inherently safe fiber optic methane detection and temperature monitoring systems
- Machinery and Personnel Active Visibility Systems
- Highly durable, non-electric vehicle headlights
- Lighting for explosive areas

**Innovative solutions for the most complex, demanding illumination and safety applications.....**

**... That's RSL Fiber Systems**

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2017.1.5

