



CONSPEC®



Improving Productivity with Gas Leak Detection

Overview

Gas production units (GPUs) and compressor stations are hazardous locations that should be monitored for leaks to ensure personal safety and asset risk mitigation. A function of many safety systems on a natural gas well pad is to “shut-in” the site when an alarm condition exists and cease production. False shut-ins are major concern that account for a significant loss of man hours and production revenue. Conspec has developed a combustible gas detector that provides safety for personnel and process equipment while increasing productivity by decreasing unwanted false shut-ins.

How?

Temperature & Moisture Compensation

NDIR (Non-Dispersive Infra-red) sensing technology, while extremely stable in optimal conditions, is susceptible to sensor drift due to changes in temperature and humidity. When sensors drift outside of the calibrated range, most detectors will report an alarm status thus causing the site to be shut-in. Conspec Controls' **CX0503-MIR** uses a low power NDIR sensor and microprocessor firmware to overcome sensor drift. The detector recognizes changes to the sensor due to humidity or temperature and automatically returns the sensor to its original zero/null point while maintaining sensor accuracy. Thereby eliminating any false alarms and false shut-ins.



NDIR Sensor Benefits

Conspec NDIR sensors use a low power LED light which provides advantages over other IR sensor technologies.

- Longer Life (Lower Cost of Ownership)
- Lower Power (battery powered or backup systems)
- Greater IR Stability
- Auto-Zero Null Point Function





Prevention of Voltage Spikes & Power Brown-outs

In many cases, remote GPU's do not have access to clean power. Gas detection equipment within this environment is susceptible to voltage spikes, brown-outs, and electromagnetic interference (EMI). GPU burner igniter systems can create "induced electrical noise" which can cause the gas detector's alarm relay circuit to drop out, signal an alarm, and shut-in the site. Conspec has overcome these issues by integrating a Common Mode Choke circuit into the CX0503-MIR-F which suppresses electromagnetic interference and inductive noise coming from the system's supplied power. The CX0503-MIR-F circuitry has been site tested and is effective in protecting the gas monitor from momentary voltage spikes up to and exceeding 1000 volts. These high voltage variations and temporary brown-outs can also be caused by improper or insufficient electrical grounding.

CX0503-MIR-F Locations and Applications

- Gas Production Units (GPU)
- Compressor Stations
- Separator Units
- LACT Buildings
- Saltwater Disposal Houses
- Gas Production Facilities

For more information regarding Gas Leak Detection call [Conspec Controls](https://www.conspec-controls.com) at 1-(800)-487-8450 or visit www.conspec-controls.com

The Code of Federal Regulations Includes Requirements for Gas Leak Detection

49 CFR 192.736 Compressor stations: Gas detection

- (a) Not later than September 16, 1996, each compressor building in a compressor station must have a fixed gas detection and alarm system, unless the building is -
- (1) Constructed so that at least 50 percent of its upright side area is permanently open; or
 - (2) Located in an unattended field compressor station of 1,000 horsepower (746 kW) or less.
- (b) Except when shutdown of the system is necessary for maintenance under paragraph (c) of this section, each gas detection and alarm system required by this section must -
- (1) Continuously monitor the compressor building for a concentration of gas in air of not more than 25 percent of the lower explosive limit; and
 - (2) If that concentration of gas is detected, warn persons about to enter the building and persons inside the building of the danger.
- (c) Each gas detection and alarm system required by this section must be maintained to function properly. The maintenance must include performance tests.