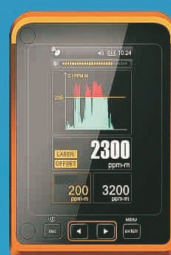




Focused Photonics Inc.



Remote Laser Gas Detector

—Pipeline/Industrial Safety Survey

RLGD

RLGD-100, the Tunable Diode Laser (TDL) based technology makes remote methane leak detection possible. Easy to operate, instant response and built-in calibration function, providing ultimate convenience and accuracy.

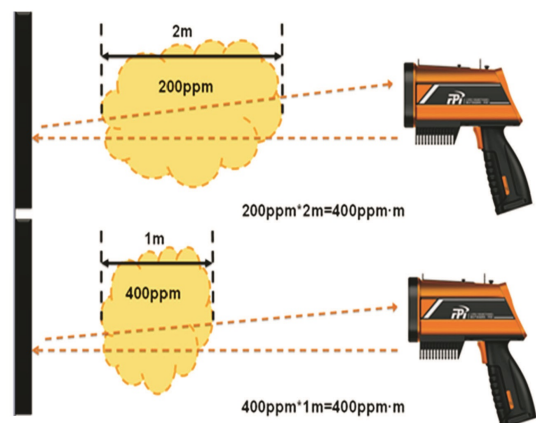


Key Features

- ☐ Locate Methane up to 30 meters
- ☐ Ultra-fast response down to 0.1s
- ☐ No cross interference from other gases
- ☐ Self-diagnose and automatic calibration
- ☐ Easy to operate and maintenance free
- ☐ Continuous operation up to 8 hours
- ☐ Visual and audible alarms
- ☐ User-friendly LCD display
- ☐ Wireless data logging

Principle of Detection

RLGD-100 employs Tunable Diode Laser (TDL) technology, where laser light beam is projected over a distance onto a reflective target, a fraction of backscatter is reflected and received by the transceiver. Methane in the laser path creates a distinct signal in the returned light, which will be collected and focused onto a detector and converted to an electronic signal. Average methane density between the detector and target are calculated and displayed in ppm·m.



TECHNICAL DATA

Detection Method	Tunable Diode Laser Absorption Spectroscopy (TDLAS)
Detection Gas	Methane (CH ₄) or Methane contained gases
Measurement Range	0~50,000 ppm·m
Detection Distance	0.5~30 m nominal, actual detection distance may vary from objectives and conditions
Sensitivity	5 ppm·m at distance from 0-10m
Accuracy	±10% (100~1,000) ppm·m
Response Time	0.1s
Alarm Range	1~9,999 ppm·m
Alarm Modes	Audible tone, visual flash and concentration reported on the display
Selftest & Calibration	Built-in self-test and automatic calibration before startup
Laser Safety Class	In conformity with IEC60825-1.2007, a class 1 laser is equipped on this instrument as the detector and a class 2 or 3R laser used as the spotter
Explosion Proof	Ex ib IIA T3 Gb
Enclosure Protection	IP54
Operating Conditions	(-20 ~ +50)°C, (30~95)%RH (non-condensing)
Storage Conditions	(-30 ~ +60) °C, ≤90%RH (non-condensing)
Power Supply	Rechargeable lithium-ion battery
Battery Duration	≥8h at 25 °C under screen brightness level 3 and sound volume level 2
Battery Charging Time	≤4h
Weight	<1.5kg



APPLICATION

Natural Gas Mining

The remote methane detector can be applied in all natural gas process from the very beginning to end users.

In mining, there will be a risk due to instant leakage of methane mix with ambient to cause explosion. Methane concentration can be easily detected by pointing the laser to possible leak areas.

Sub Station

In the downstream of natural gas supplement, which is the user end, there will be more safety risks due to lack of maintenance and regular inspection.

User friendly interface and operation makes remote detector even can be used by untrained user possible.



Distribution Pipe

The joint point of natural gas distribution pipe lines could be the most possible leak point in the distribution system.

Therefore, regular inspection in these areas are essential for safety, hence remote detection will be the most efficient and time effective way.

Gas Tank Truck

Remote laser detector has enabled leak detection from a distance, especially useful to transportation vehicles before departing and after arriving for a safe transition. Besides, the laser technology will not false alarm on other gases to ensure accurate detection.



Gas Holder

Installation of a fixed natural gas detector to detect possible leakage on the top joint point of gas holder is a regular method for safety inspection.

However, in some circumstance, there possibly be no such good position for fixed installation (such as round type tank), remote detection will be the best alternative.

Underground Gas Leakage

Forget about the suction pump and metal probe which have been used in the past by conventional instruments. Compensation function will remove background methane and count the leakage only, laser property provides extremely high sensitivity and accuracy for low concentration underground leak detection.



Focused Photonics (HangZhou) Inc.

760 Bin'an Road, Binjiang District
Hangzhou 310052

China

Tel: +86 571 8501 2188

Fax: +86 571 8679 1505

www.fpi-inc.com

