



Remote Methane Leak Detector

Revolutionary Technology

The new, portable, reliable Remote Methane Leak Detector (RMLD.) is changing the way methane surveys are conducted. Instead of having to walk the entire length of the service line to check for methane leaks, the RMLD can quickly and efficiently detect leaks up to one hundred feet away allowing remote detection of hard-to-reach areas and difficult terrains. Remote detection allows the user to safely survey areas that may be difficult to reach, such as busy roadways, yards with large dogs, locked gates, pipes suspended under a bridge, indoor commercial piping and other hard to access places. For utilities and their employees, this new timesaving method represents the potential for significant productivity gains, reduced operations and maintenance costs, and a safer survey.

This quantum leap in technology makes it possible to detect methane leaks along the sight line without always having to walk the full length of the service line.

Components

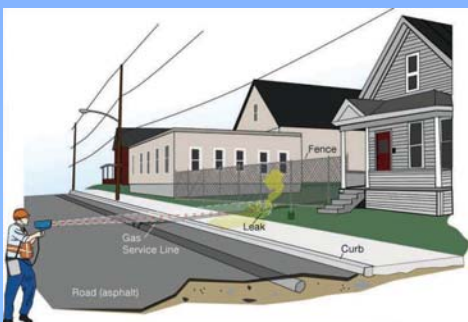
The Remote Methane Leak Detector consists of two interactive components; a transceiver subsystem and a signal processing/user interface controller. The transceiver has two lasers; an infrared laser beam that is non-visible and is continuously on while the unit is turned on. The green spotter laser is similar to those used for presentation pointers and is turned on by the operator by depressing the trigger button.

How Does It Work?

When the infrared laser beam is transmitted from the launch port some of the laser light is reflected by a normal background such as brick, concrete, grass, etc., to the detector. This reflected light is collected and converted to an electrical signal that carries the information needed to deduce the relative methane concentration. This signal is processed so that methane concentrations can be reported in parts per million meter or ppm-m. The laser has a maximum distance of up to 100 feet and is selective to methane only. It will not false alarm on other hydrocarbons.

Tunable Diode Laser Absorption Spectroscopy

Available gas detectors that deploy technologies such as flame ionization must be positioned within the leak plume to detect the presence of methane. The RMLD does not have to be within the gas plume because it uses laser technology known as Tunable Diode Laser Absorption Spectroscopy. When the laser passes through a gas plume, the methane absorbs a portion of the light, which the RMLD then detects.



TECHNICAL SPECIFICATIONS

Detection Method:	Tunable Diode Laser Absorption Spectroscopy (TDLAS)
Measurement Range:	0 to 99,999 ppm-m
Sensitivity:	5 ppm-m at distance from 0 to 50 ft (15 m) 10 ppm-m or better at distance from 50 to 100 ft (15 to 30 m)
Detection Distance:	100 ft (30 m) nominal. Actual distance may vary due to background type and conditions.
Beam Size:	Conical in shape with a 22° width at 100 ft (56 cm at 30 m)
Detection Alarms Modes:	Digital Methane Detection (DMD): Audible tone relative to concentration when detection threshold exceeded. Adjustable Alarm Level from 0 to 255 ppm-m Pure Tone: Continuous audio tone relative to concentration
System Fault Warning:	Unique audible tone and indication on the display
Self Test & Calibration:	Built-in Self Test and Calibration function verifies operation and adjusts laser wavelength for maximum sensitivity. Test gas cell integrated within carrying case.
Compliance:	EMC (EN61000-6-2, EN6100-6-4) Pending
Laser Eye Safety: (CDRH, ANSI and IEC)	IR Detector Laser: Class I Green Spotter Laser: Class IIIa; Do not stare into beam or view directly with optical instruments.
Display:	Large easy to read backlit LCD (.75" Numeric)
Operating Temperature:	0° to + 122° F (-17° to 50° C)
Humidity:	5 to 95% RH, non-condensing
Weight:	9 lbs (Transceiver 3 lbs, Controller 6 lbs) (4 kg; 1.3 kg , 2.7 kg)
Carry Case:	14 lbs; 34" x 9" x 14" (6.4 kg; 86 cm x 24 cm x 36 cm)
Power Supply:	Internal rechargeable Li-ion battery External Backup Battery pack with 5 C cells (Optional)
Battery Operating Life:	8 hours at 32° F without back-light on (Internal battery)
Battery Charger:	External, in-line, 110 - 240 VAC, 50 / 60 hertz universal type with charger indicator (8 hours maximum to full charge)
Shoulder Strap:	Single over the shoulder padded strap Ergonomic dual strap and belt system (Optional)



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