

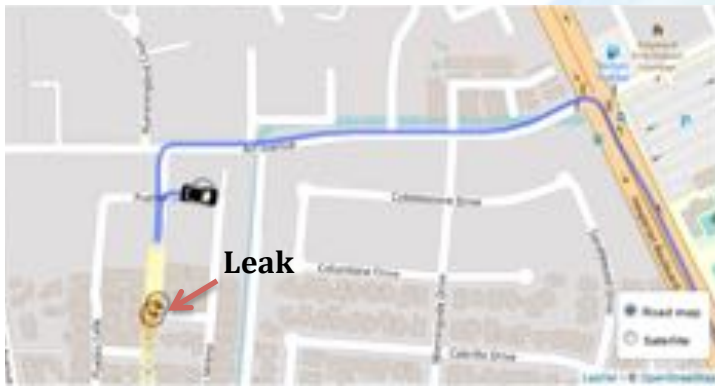


# Responder™ Advanced Mobile LDS

Portable, Advanced Natural Gas Leak Detection System

## Responder™ Transforms any Vehicle into an Advanced Mobile Leak Detection System in Minutes

Introducing the new Responder™ Advanced Mobile LDS, the new advanced leak detection solution from Aeris Technologies, Inc. Responder™ combines breakthrough Aeris MIRA sensor technology, wind and GPS data with advanced analytics to produce the World's first portable, real-time mobile leak-mapping tool. Responder™ systems leverage the highest ethane sensitivity in the industry, enabling the highest discrimination of leaks from confounding bio- or thermogenic interferences, eliminating false alarms.



Real-time Responder™ user interface, which can be either displayed in a real-time mode or post-process mode, wherein the leak data are hidden from the driver but the route is still shown. When leaks are encountered, a marker is dropped and location logged into a list, which prioritizes leaks based on various metrics.

## A Paradigm Shift in Mobile LDS Solutions

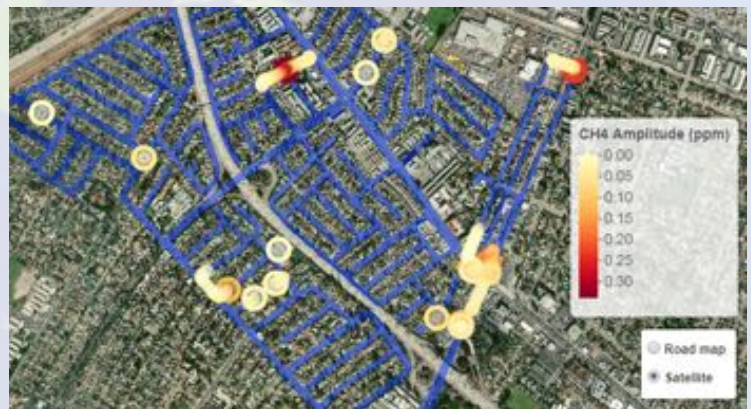
The New Responder™ Advanced Mobile LDS represents a true paradigm shift in advanced mobile leak detection systems, providing a versatile, truly portable real-time mobile leak mapping solution.

Responder™ systems require essentially no vehicle modifications, are 1/10<sup>th</sup> the size, weight, and power consumption of competing systems, and only require minutes to install. The systems provide seamless updating of maps in real-time, and can be moved from one vehicle to another with no tools or special skills required. In Responder™ systems, the miniature Aeris sensor can be uniquely undocked from the vehicle and used as a handheld leak search tool for ground surveys, which is not possible with competing systems.

### Key Features include:

- Unmatched <1ppb/s sensitivity for CH<sub>4</sub> and C<sub>2</sub>H<sub>6</sub>
- Reduced false alarms via superior ethane sensitivity
- Real-time analysis, updating of maps to identify leaks
- 1 or 2Hz operation, 1m GPS accuracy
- Installs in minutes, no vehicle mods required
- Miniature, magnetically mounted sonic
- Logs and prioritizes leaks for ground surveys
- Smallest size, lowest weight, power and cost
- Advanced analytics to locate leaks, cloud capability
- Overlay GIS files for pipeline inspection
- Data storage and analytics services available

### Map Natural Gas Leaks with Unmatched Sensitivity



Responder™ leak survey performed in a residential neighborhood, displaying leak locations, relative sizes, and user-defined ethane:methane filters. All leaks are automatically logged and prioritized by adjustable Aeris or user-defined metrics.

### About Aeris Technologies, Inc.

Aeris Technologies provides high accuracy, ultrasensitive gas analyzers for trace gas monitoring applications. Aeris is redefining the state-of-the-art in laser-based gas analysis solutions, reaching unparalleled performance, size, weight, power, and cost milestones.

# Responder™ Advanced Mobile LDS

## System Specifications

Metric	Specification*
Measurement method	Mid-Infrared Laser Spectroscopy, Sonic Anemometry
Species, Sensitivity	CH <sub>4</sub> : <1ppb/s, C <sub>2</sub> H <sub>6</sub> : <500ppt/s
Data Update Rate	2 Hz
Temp/Humidity	10-40°C, 10 to 95% RH (non-condensing)
GPS Accuracy	1m
Kit Travel Case Size	19"x15"x7"
Sensor Size	11.5"Wx8"Dx3.75"H
Sensor/Kit Weight **	2.75 kg (6lbs)/ 9.5kg (21lbs)
Power Consumption	20-40W (w/Laptop)
Voltage: current	12-15V DC: 2-4A, 110-220VAC: 0.5A,
Interface/Outputs	wifi, cellular (cloud), stream to laptop
Data Storage	500GB -2TB Local, Cloud Unlimited

\*Subject to change without notice

\*\* Complete Responder kit includes sensor, sonic w/car mount, cabling, laptop/tablet, gas sampling and case

### Core Technology

Responder systems leverage Patented MIRA sensor technology, which achieves a 10x reduction in sensor size, weight, and power consumption while providing superior, 500ppt/s ethane sensitivity.



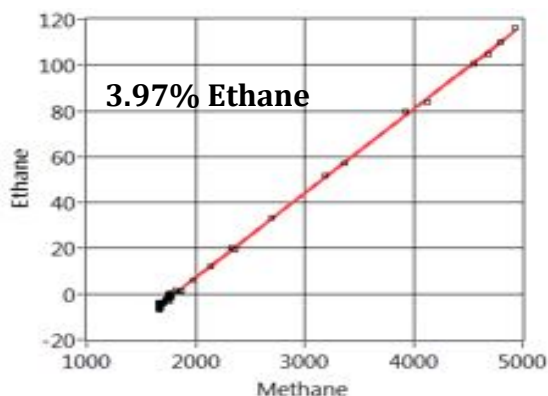
The Patented sensor engine used in the Responder™ uniquely achieves a long absorption path length in an extremely small volume, providing ultra-high sensitivity and rapid response time with reduced pumping and power requirements. Additionally, the system is not cavity-based, eliminating the need for the associated periodic servicing/replacement of the high reflectivity cavity used in competing approaches.



MIRA laser-based sensor engine, comprising a fixed, hermetic optical bench, integrated laser and detector subassemblies, and ultra-compact, 60cc, 13m path length Patented multipass cell.

### Unparalleled Leak/False Alarm Discrimination via Superior Ethane:Methane Quantification

The Responder™ Advanced Mobile LDS operates in the mid-IR, where ethane absorption is 6000 times stronger than the near-IR where cavity-based approaches operate. Natural gas is unambiguously discriminated from other, biogenic sources such as landfill gas and livestock operations which have essentially no ethane, while common thermogenic sources such as vehicle exhaust or nearby production facilities will usually have different ethane:methane than local utility gas. Responder systems are net 30x more sensitive to ethane, providing unambiguous identification of natural gas compared to competing approaches.



### Advanced Analytics, Hosted Data

Responder systems include optional advanced analysis suites and cloud-based data hosting services, providing a complete solution for upstream, midstream and downstream leak detection applications. Additionally, web-based tools are available for users to analyze leak surveys of facilities and operations from anywhere with an internet connection.