



# SELMA ROOF G4

## VEHICLE-BASED GAS LEAK DETECTION

SELMA (Street Evaluating Laser Methane Assessment) is one of the most state-of-the-art gas leak detector devices available for inspections from a moving vehicle. SELMA pulses an infrared laser beam to identify sources of methane emissions.

The infrared laser beam can be aimed toward any object from 3 to 165 feet away. SELMA recognizes methane clouds that cross through the IR beam between the object and the sensor, measuring the discharge.

Pergam's GLD-Online-Software is standard with every SELMA unit. This software provides a real-time monitoring and data collection with analysis. GPS coordinates provide precise locations of leak detections.

### Features and Benefits

- Simple operation and data processing
- Detects leaks in front and to the side of the driving path
- Detection distance — up to 3280 ft
- Max speed — 31 miles/h
- Methane sensitivity — 5 ppm×m
- Video camera and GPS registration comes standard with the SELMA System
- Installation on any type of chassis

# SELMA Roof G4 Technical Specifications

Target Gas	Methane (CH <sub>4</sub> ) and methane-containing gases (natural gas and similar)
Sensitivity	98.4 ft — 5 ppm×m 164 ft — 10 ppm×m 328 ft — 40 ppm×m 492 ft — 80 ppm×m
Maximum Measurable Gas Concentration	20,000 ppm×m
Response Time	0.1 seconds
Detection Distance	3280 ft (with reflectivity factor 100%)
Operating Temperature Range	14 °F ... 122 °F
Target Position	GPS coordinates
Data Output	Online / Recording
Power Supply	12 V
Maximum Speed	31 miles/h
Measurement Time	0.04 sec
Laser Safety Class	Guide light (green laser light): Class 3R Measurement light (infrared laser light): Class 1
Dimensions	92.5 × 78.7 × 128 inches
Weight	22 lbs

## Principle of Remote Gas Detection

**SELMA** is based on the utilization of laser absorption spectrophotometer of methane gas for gas measurement.

The system detects natural gas leaks by emitting a laser beam at a particular wavelength and analyzing the light reflected from an object to determine how much was absorbed by the methane in the natural gas.

The measured gas volume is expressed by methane column density (ppm × m): methane density (ppm) multiplied by length (m).

The Optical Unit (OU) of **SELMA** can be installed on a gyro-stabilized platform so that the laser beam is continuously directed in the area of a pipeline or other natural gas facility.

