

LASER FALCON

+ PERGAM DATA LOGGER



Laser Falcon is a very lightweight laser-type methane gas detector which uses the same measurement principle as the popular Laser-Methane-mini. The dramatically reduced weight of the product allows a variety of new applications of the device including airborne methane monitoring and robotic instrumentation. Measurement data is sent through a communication port and is backed up in a USB stick. Power supply through the external power connector enables continuous operation of the device.

Features and Benefits

- **Track the inspected route** with coordinates and gas concentration
- **On-line (in-flight) data transmission—**
 - through the standard DJI communication line
- **Easy data export** for reporting
- **Eye-safe Class 2 laser**
 - **Automatic** time synchronization by GPS/ GLONASS. Report created with **all necessary information** (time, leak concentration, GPS coordinates, maps)
- **Maximum flexibility to install on any type of UAV**



We Invent to Prevent

Laser Falcon Technical Specifications



Standard package

| | |
|------------------------------------|--|
| Target Gas | Methane (CH ₄) and methane-containing gases (natural gas and similar) |
| Detection Limits | 1—50,000 ppm×m |
| Distance | up to 50 m, best results 30 m |
| Detection Speed | 0.1seconds |
| Sampling Rate | 2 per second, 5 measurements per data point |
| Power Supply | 5V, 7.5W Sensor Only (UAV or Power Bank) |
| Laser Safety Class | Guide light (Red laser light) : Class 2 Measurement light (infrared laser light) : Class 1 |
| Calibration | Self-calibrating with integrated reference cell |
| Operating Temperature Range | −17°C... +50°C |
| Dimensions | 100 × 82.5 × 80 mm Sensor Only |
| Weight | 0.250 kg Sensor Only, 0.450kg With Kit |
| Data | - Real-Time Reading via HDMI - Measurement data with GPS position - Sensor Only: RS-232C over USB |
| Kit | - Sensor - GPS receiver and mini PC (Data storages and HDMI) - Process software to make reports with Google Maps |



PERGAMdata logger (mini PC)



Laser Falcon optical unit

Principle of Remote Gas Detection

Laser Falcon 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 at a particular wavelength and analyzing the light reflection 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 the **Laser Falcon** detector could be installed on a gyro stabilized platform so that the laser beam is continuously directed towards pipelines and other natural gas facilities.