Falcon Plus

+ SkyHUB by SPH ENGINEERING
SMART PLANES & HELICOPTERS

Laser Type Remote Gas Leakage Detector

Laser Falcon Plus is a very lightweight laser-type methane gas detector which uses the same mea-surement principle as the popular Laser Falcon. The Falcon Plus TDLAS Methane Leak Detector for drone-based, stationary and car-based methane detection. The sensor has vertical stabilization. Revolutionizing aerial methane detection with precision and fexibility.

Integrated with DJI M300/350, Wispr system, Inspired Flight, and SkyFront drones via SkyHub onboard computer.

Feature and benefits

- Vertical stabilization mode (NADIR positioning)
- 12V power cable (XT60 connector)
- 4-channel Ethernet communication cable
- Ultra-fast sensor response time: 5ms or better
- **Precision optical sensing technology**
- Robust mounting solutions for various UAV configurations
- Mounting: fixed mount

Ground control software

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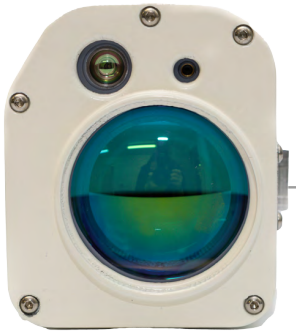
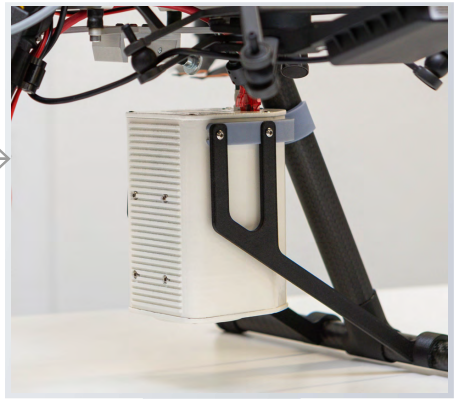
Laser Falcon Plus Technical Specifications

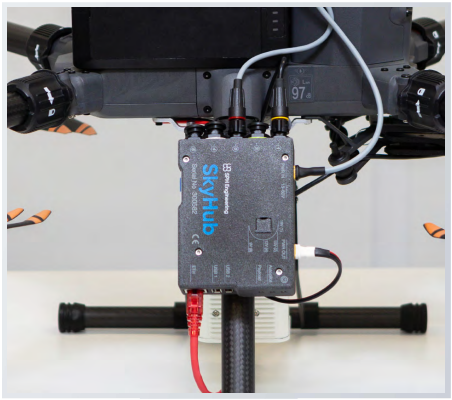
Target Gas	Methane (CH4) and methane-containing gases (natural gas and similar)
Detection Limits	1 — 99,999 ppm×m
Response time	0.04 s – fast mode; 0.1 s – normal mode
Distance	10-50 m
Power Supply	12VDC
Operating Temperature Range	–17 °C ... +50 °C
Laser Safety Class	Guide light (Green laser light) : Class 3a Measurement light (infrared laser light) : Class 1
Calibration	Self-calibrating with integrated reference cell
Dimensions	Unit – 130x98x98 mm
Weight	Unit – 360 gr
Pergam Software	Standard package includes SkyHUB by SPH Engineering to storage data and GPS-position of the leak + process software to make a report with Google Maps
Positioning	Fixed mount
Vehicle speed	Up to 100 km/h
MDL (minimum detection limit)	1 g/hr



Falcon Plus optical unit



Attaching a Falcon Plus unit to a drone



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Principle of Remote Gas Detection

Laser Falcon Plus is based on the utilization of laser absorption spectrophoto-meter of methane gas for gas mesurement.

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 lenght (m).

The Optical Unit of the Falcon Plus detector could be installed on fixed mount so that the laser beam is continuously directed towards pipelines and other natural gas facilities.

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