



CUBIC



Small Size TDLAS Methane Sensor



Cubic Sensor and Instrument Co., Ltd.

≡ Introduction

Cubic Small Size TDLAS CH₄ Sensor is developed based on Tunable Laser Absorption Spectroscopy (TDLAS) technology, which is a high-precision optical measurement technology that achieves ultra-low detection limit and high resolution through multiple reflections in a long optical path. Aiming at low-concentration methane leakage in the atmospheric background, Cubic Small Size TDLAS CH₄ Sensor can achieve highly selective and accurate methane leakage detection, with a high resolution of 0.1ppm. Furthermore, it boasts fast response times with a warm-up time of less than 10 seconds. Based on the temperature compensation algorithm and self-diagnosis function, it ensures stable performance even in harsh working conditions and complex environments. In addition to its core performance features, Cubic Small Size TDLAS CH₄ Sensor also has an intelligent power consumption design and a long lifespan of more than 10 years. Due to its small size of Φ 50*162mm, it is easy to integrate into drones that can be applied in oil and gas industry for methane emission monitoring.

📦 Features

- Narrowband laser absorption spectroscopy technology
- Measurement range from 0 to 1000 ppm
- Fast response speed, high measurement accuracy, and long lifespan
- High selectivity for methane, unaffected by other gases, water vapor, or dust
- Low power consumption, modular design, easy to integration

🔧 Specifications

Test Gas	Methane (CH ₄)
Principle	Tunable Diode Laser Absorption Spectroscopy (TDLAS)
Measurement Range	0 ~ 1000 ppm
Measurement Accuracy	± (5 ppm + 2% reading) @ 10°C ~ 40°C; ± (10 ppm + 2% reading) @ -10°C ~ 10°C & 40°C ~ 50°C
Resolution	0.1ppm
Warm-up	<10S
Response Time	T ₉₀ <5s@1L/min
Operating Temperature	-10°C ~ 50°C
Operating Humidity	0 ~ 98% RH (non-condensing)
Operating Voltage	5V±5%
Operating Current	<200 mA (@ 25°C, 5 V)
Output	TTL (3.3 V)
Dimensions	Φ 50 × 162 mm
Weight	480 g

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