

# **TDLAS CH4 Sensor**





## **Cubic TDLAS Technology**

Tunable diode laser absorption spectroscopy (TDLAS) is one of the most sensitive and selective technologies used for measuring concentration of gases (methane, O2, CO, NH3.etc) in a gases mixture by the characteristic of tunable laser source with narrow linewidth and tenability. It is based on Lambert-Beer law which state absorption spectroscopy principles.

- > It consists of tunable laser transmitter, optical measurement path, detector and pressure sensor.
- Laser source emit laser beam into the gas mixture through optical measurement path, by precisely modulating the current of tunable laser, it can scan a certain absorption peak of detected gas.
- At the opposite end the detector converts received laser power, attenuated by target gas absorption, into an electrical signal.
- > The detected attenuated electrical signal reflects the changes in target gas concentration .



#### **Features**

- Narrow absorbing spectrum determine unique selectivity for methane
- · Laser technology to ensure superior accuracy with supper low drift
- Laser principle to ensure anti-humidity
- Extended cable with connector for better integration
- Full temperature calibration and auto temperature compensation
- 100% humidity interference free, up to IP66 protection level
- Very fast response
- Low power consumption

### **Applications**



- Natural gas transmission and distribution pipeline networks
- Underground pipe network
- Underground well (electric manhole covers, gas well)
- Voltage regulator cabinet
- Mining gas leakage alarm

### **Specifications**

Specification	TDLAS CH4 Sensor Gasboard-2500
Target gas	Methane (CH4)
Working principle	Tunable Diode Laser Absorption Spectroscopy (TDLAS)
Measurement range	0~100% LEL
Accuracy	0~20%LEL ±1%LEL 20~60%LEL ±3%LEL 60~100%LEL ±5%LEL
Resolution	1% LEL
Response time (T90)	T90 < 20s (Diffusion mode)
Working temperature	-25~55°C
Working humidity	0~98%RH
Working voltage	3.2V~5.5V
IPgrade	IP66
Dimension	35mm*60mm (diameter*length)

\* For details of technical parameters, please refer to the specification sheet.

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