



**CUBIC**

# Residential TDLAS Methane Gas Detector

## JT-AM5301-JG



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Cubic residential methane gas detector JT-AM5301-JG is developed based on TDLAS technology. It can be applied in areas like kitchens where gas (CH<sub>4</sub>) leaks may occur. It will trigger an audible and visual alarm when the methane gas concentration in the air exceeds a set threshold. It also can be connected to an alarm control panel and a monitoring center, to send networked alerts and shut off the gas pipeline valve. Additionally, real-time monitoring is available via a mobile app, which will display pop-up alarm notifications if the methane gas concentration exceeds the alarm threshold, ensuring the safety of life and property.

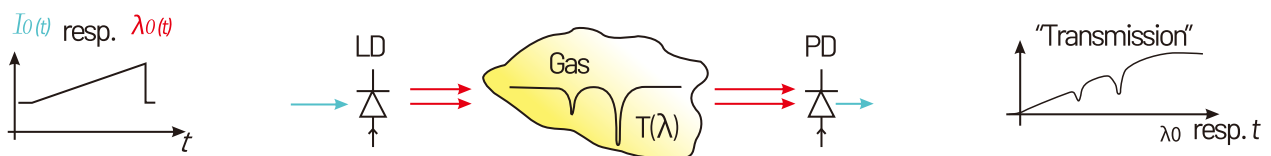


## ■ Features

- Patented TDLAS technology
- High selectivity for methane, unaffected by other gases, water vapor, or dust
- High accuracy across the full temperature and measurement range
- Fast response
- APP remote real-time monitoring
- Plug-and-play operation, easy to use
- Resistant to high concentrations of acetic acid and ethanol, preventing false alarms
- Self-diagnostic function
- High reliability and long lifespan (10 years)
- Maintenance-free
- Historical data recording and query, automatic recording of alarm events, automatic storage and update
- Data upload function
- Small size, compact structure, easy to install

## ■ Technology Principle

The TDLAS methane sensor mainly consists of a laser light source, a gas chamber, and a detector. The laser light source emits laser light of a specific wavelength, which undergoes periodic changes in wavelength due to the modulation of the periodic current. By scanning the wavelength, the laser outputs a central wavelength that corresponds to the absorption line of the gas to be measured. The concentration of the gas can be inverted based on the spectral intensity signals and other information obtained from the light absorbed by the gas.

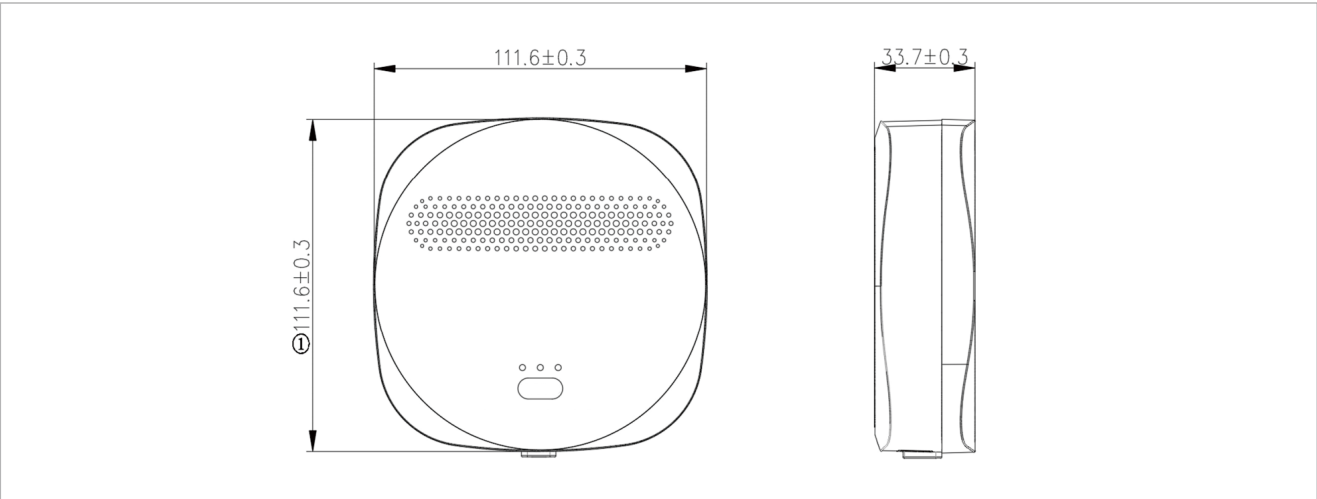


## ■ Specifications

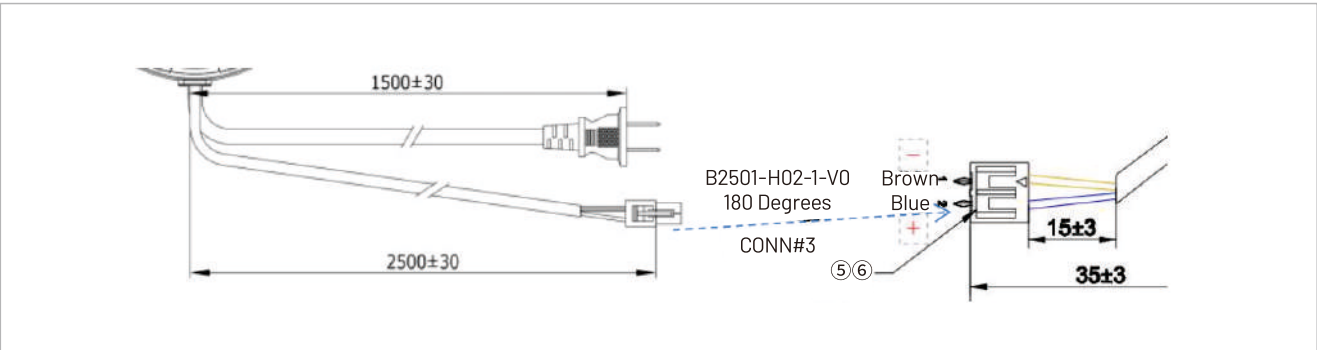
Performance	
Principle	Tunable Diode Laser Absorption Spectroscopy (TDLAS)
Target Gas	Methane (CH <sub>4</sub> )
Measurement Range	0~100%LEL
Measurement Accuracy	±3%LEL
Alarm Concentration	10%LEL (5~25%LEL adjustable)
Response Time	<10s (Diffusion type)
Alarm Method	Audio and light alarm/mobile phone APP notification
Alarm Reset	①Automatically clear when the ambient concentration is lower than the alarm threshold ②Manually clear
Electromagnetic Valve Linkage	Yes
Indicator Light Status	Green light always on: Normal operation Red light always on: Gas alarm Yellow light always on: Fault information Yellow light flashing: Sensor expired Network distribution: Green light flashing
Product Dimensions	112*112*34(mm)
Product Weight	<300g
Communication	NB-IoT
Lifespan	10 years
Compliance	GB 15322.2-2019
Certification	Fire protection (voluntary) certification, RoHS2.0
Working Conditions	-10°C~+55°C; 0~93%RH (Non-condensing)
Storage Conditions	-30°C~+70°C; 0~93%RH (Non-condensing)
Working Pressure	80kPa~120kPa
Applicable Locations	Indoor
Input Voltage	AC100~240V (50/60Hz)
Rated Power	3W
Electromagnetic Valve Drive Method	12.5VDC 1s±0.1s instantaneous DC pulse

■ **Product Appearance** (Unit: mm, Tolerance: See annotation for details)

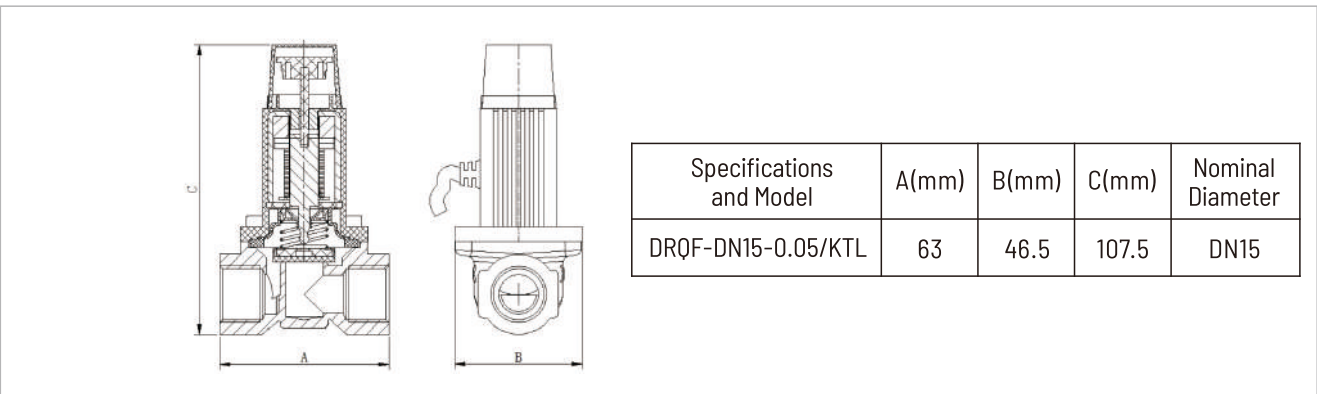
1.Product Dimensions



2.Wire Dimensions



3.Electromagnetic Valve Dimensions



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