Nanjing

**PRODUCT SELECTION**

INDUSTRIAL GAS DETECTION

OFFICIAL WEBSITE

V21.01.02

Nanjing AIYI Technologies Co., Ltd.

Nanjing AIYI Technologies Co., Ltd.

01 AE

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
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INNOVATIVE AND DEDICATED  02

# HONOR & QUALIFICATION

As an ISO certified manufacturer, AIYI Technology is a strict follower of all relevant international standards for the high quality and reliable products. It has successively obtained the ISO:9001-2015 certificate, ATEX & SIL2 Certificate which issued in Italy, the certificate of China Compulsion Certification (CCC Certification), and the national permit for producing measurement instruments(CMC, CPA), conformity certificate of explosion-proof by supervision & test center of Ex-products of China petroleum & chemical industry.

# INTRODUCTION

Nanjing AIYI Technologies Co., Ltd. is a Natural high-tech company that combines the R&D, production and sales of optic-mechanical-electric products. We are dedicated to providing complete gas & dust safety solutions to qclients.

AIYI Technologies is located in Nanjing, a technologically advanced city. And we have been adhering to the motto of "Innovative and Dedicated" with our special focus in safety solutions. AIYI Technologies insists independent R&D and production, Our featured products are portable and fixed gas detector, online gas analyzer, dust monitor.

With advanced production equipment and strong technical force, AIYI Technologies has accumulated more than 40 intellectual property rights. The product quality and professional service of AIYI Technologies have been highly regarded among worldwide clients, and we have already been the leading in China safety industry.

Our Vison:  Focusing on serving customers and achieving strivers.

Our Mission：Make the environment more eco-friendly and safer.

# RESEARCH & DEVELOPMENT



AIYI Technologies insists independent R&D and production, keeps introducing advanced domestic and foreign technologies and improving the core competitiveness of the company. AIYI Technology is in possession of more than 40 patents of various kinds.

At present, the R&D center has more than 40% of the master's degree. And the company has many laboratories such as chemistry, electronics, and the environment. We will continue to Explore and make the greatest contribution to the development of the automation field.



# PRODUCTION EQUIPMENT

As a modern manufacturer of safety instruments, AIYI Technologies is equipped with various production and processing devices for assembly, testing, aging, inspection, and packaging.
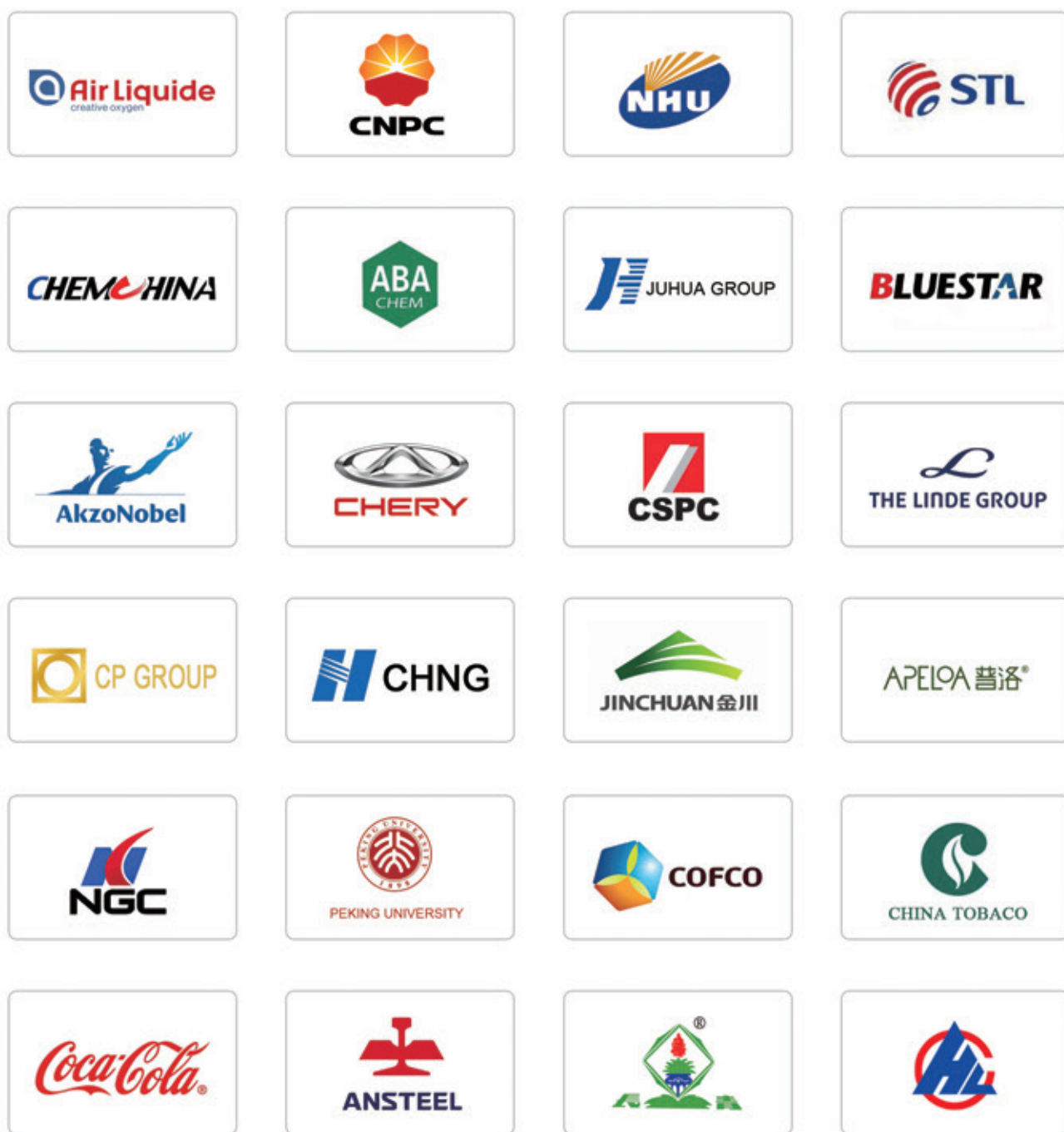
AIYI Technologies has built up a complete quality control system and it strictly follows the requirements of ISO:9001-2015. The company is equipped with temperature & humidity chamber, gas compounding & concentration chamber, electronic thermometer, grounding resistor sensor, sound meter etc., making sure that every single product meets the demand of customers.

# OUR CLIENTS

With our expertise in safety and excellent public praise, standardized quality management system and professional service system throughout the years, AIYI Technologies has already become a leading brand in the gas & dust safety industry in China. AIYI Technologies has been providing products and services for worldwide well-known enterprises and has extended its businesses in pharmaceuticals, agrochemicals, environmental protection, automobile, fodder, and food. The product quality and professional service of AIYI Technologies have been highly regarded and widely acclaimed among worldwide clients.

Air Liquide · CNPC · NHU · STL

CHEMCHINA · ABA CHEM · JUHUA GROUP · BLUESTAR

AkzoNobel · CHERY · CSPC · THE LINDE GROUP

CP GROUP · CHNG · JINCHUAN 金川 · APELOA 普洛

NGC · PEKING UNIVERSITY · COFCO · CHINA TOBACO

Coca-Cola · ANSTEEL

# CATALOG

■ FUNCTION



SCADA

signal output                         relay output

CONTROLLER

4-20mA                         RS485

GAS DETECTOR

DIAGRAM of GAS DETECTION SYSTEM

# GAS DETECTION SYSTEM

Gas detection system can be widely applied in places such as petrochemical engineering, chemical engineering, steel, metallurgy, pharmaceuticals, electricity, food, and logistics where the monitoring of flammable and toxic gas is needed.

The system is made of gas detector, controller and sound-light alarm, and the gas concentration data will be uploaded to the control panel. The controller collectively displays the gas concentration data of different monitoring points, and the sound-light alarm will be set off in case that any concentration exceeds over the default value. Linkage feature can be realized and the data can be also uploaded to host systems such as DCS/IPC.

## 1. gas detector

The gas detector is fixed in areas such as the workshop, warehouse, and storage tank for real-time monitoring of the concentration of flammable and toxic gases.

## 2. zone control

The controller collectively displays the gas concentration, and the sound-light alarm will be set off in case that any concentration exceeds over the default value.

## 3. The interlock control

It comes with relay output and fault output for the performing of automatic fan, spray, valve, and alarm.

## 4. The host computer

Standard 4-20mA and RS485 signal output, compatible with host computers such as DCS/PLC/IPC.

## ■ SELECTION GUIDE

### QUICK SELECTION TABLE 1 -- FIXED GAS DETECTOR

| Description | AG310 series | | | | | AG210 series | | | | AG200 series | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GTQ-AF110 | GTQ-AF111 | AF110-R | AG310 | AG311 | AG210 | AG211 | GTQ-Anr-A | GTQ-Anr-D | AG200 | Anr-N | Anr-S |
| **Gas detected** | | | | | | | | | | | | |
| combustible gas-catalytic | ● | ● | - | - | - | - | - | ● | ● | - | ● | ● |
| combustible gas-infrared | - | - | ● | - | - | - | - | - | - | - | - | - |
| toxic gas-electrochemical | - | - | - | ● | ● | ● | ● | - | - | ● | - | - |
| toxic gas-PID | - | - | - | - | - | - | - | - | - | - | - | - |
| toxic gas-infrared | - | - | - | - | - | - | - | - | - | - | - | - |
| toxic gas-semiconductor | - | - | - | ● | - | - | - | - | - | - | - | - |
| **Display** | | | | | | | | | | | | |
| OLED | ● | ● | ● | ● | ● | - | - | - | - | - | - | - |
| LCD | - | - | - | - | - | ● | ● | ● | ● | - | - | - |
| **Signal output** | | | | | | | | | | | | |
| 4-20mA | ● | - | ● | ● | - | ● | - | ● | - | ● | ● | - |
| RS485 | - | ● | - | - | ● | - | ● | - | ● | ● | - | ● |
| **Wiring** | | | | | | | | | | | | |
| three-wire | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| four-wire | - | - | - | ● | - | ● | ● | ● | ● | ● | - | - |

Note:

1. ● means available，- means unavailable;

2. both oxygen and toxic gas are detected in electrochemical principle, so the toxic gas includes oxygen in the above table.

### QUICK SELECTION TABLE 2 -- CONTROL PANEL

| Description | AGS1600F | AGS1000 | AGS1000B | AGS1000D | JUDD | JUDD-S |
|---|---|---|---|---|---|---|
| **Gas detected** | | | | | | |
| combustible gas | ● | ● | ● | ● | ● | ● |
| toxic gas | - | ● | ● | ● | ● | ● |
| **Display** | | | | | | |
| LCD | ● | ● | ● | ● | - | - |
| OLED | - | - | - | - | ● | ● |
| **Signal input** | | | | | | |
| 4-20mA | ● | ● | ● | ● | ● | ● |
| RS485 | - | ● | ● | ● | - | - |
| **Wiring** | | | | | | |
| three-wire | ● | ● | ● | ● | ● | ● |
| four-wire | - | ● | ● | ● | - | - |
| **Channels** | 4 | 1-64 | 1-64 | 1-64 | 1-8 | 32-128 |
| **Installation** | | | | | | |
| wall-mounted type | ● | ● | ● | ● | ● | - |
| cabinet type | - | - | - | - | - | ● |
| **UPS** | - | - | ● | - | - | - |
| **Explosion-proof** | - | - | - | ● | - | - |

Note: The channels of AGS1000, AGS1000B, AGS1000D, JUDD,JUDD-S can be customized.

### QUICK SELECTION TABLE 3 -- GAS DETECTED

| Gas | | Measure Range | Principle | Resolution | GTQ-AF110 | GTQ-AF111 | AF110-R | GTQ-Anr-A | GTQ-Anr-D | Anr-N | Anr-S | AG310 | AG311 | AG210 | AG211 | AG200 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Combustible gas | EX | 0-100%LEL | Catalytic | 1%LEL | ● | ● | | ● | ● | ● | ● | | | | | |
| Combustible gas | EX | 0-100%LEL | Infrared | 1%LEL | | | ● | | | | | | | | | |
| Oxygen | O₂ | 0-30%VOL | Electrochemical | 0.1%VOL | | | | | | | | ● | ● | ● | ● | ● |
| Carbon monoxide | CO | 0-1000μmol/mol | Electrochemical | 1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Hydrogen sulphide | H₂S | 0-100μmol/mol | Electrochemical | 1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Chlorine | Cl₂ | 0-10μmol/mol | Electrochemical | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Sulphur dioxide | SO₂ | 0-20μmol/mol | Electrochemical | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Ammonia | NH₃ | 0-100μmol/mol | Electrochemical | 1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Nitric oxide | NO | 0-250μmol/mol | Electrochemical | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Nitrogen dioxide | NO₂ | 0-20μmol/mol | Electrochemical | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Hydrogen chloride | HCL | 0-30μmol/mol | Electrochemical | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Ozone | O₃ | 0-1μmol/mol | Electrochemical | 0.01μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Ethylene oxide | C₂H₄O | 0-20μmol/mol | Electrochemical | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Formaldehyde | CH₂O | 0-20μmol/mol | Electrochemical | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Methanol | CH₃OH | 0-20μmol/mol | Electrochemical | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Phosphine | PH₃ | 0-5μmol/mol | Electrochemical | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Hydrogen | H₂ | 0-1000μmol/mol | Electrochemical | 1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Fluorine | F₂ | 0-1μmol/mol | Electrochemical | 0.01μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Hydrogen fluoride | HF | 0-10μmol/mol | Electrochemical | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Hydrogen cyanide | HCN | 0-50μmol/mol | Electrochemical | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Phosgene | COCL₂ | 0-1μmol/mol | Electrochemical | 0.01μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Arsenic hydride | AsH₃ | 0-1/20μmol/mol | Electrochemical | 0.01μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Silane | SiH₄ | 0-50μmol/mol | Electrochemical | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Acrylonitrile | C₃H₃N | 0-20μmol/mol | Electrochemical | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Carbon disulfide | CS₂ | 0-20μmol/mol | Electrochemical | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Ethanol | C₂H₅OH | 0-20μmol/mol | Electrochemical | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Sulfur hexafluoride | SF₆ | 0-1000μmol/mol | Infrared | 1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Methane | CH₄ | 0-5%/100%VOL | Infrared | 0.1%VOL | | | | | | | | ● | ● | ● | ● | ● |
| Carbon dioxide | CO₂ | 0-5%/100%VOL | Infrared | 0.1%VOL | | | | | | | | ● | ● | ● | ● | ● |
| Toluene | C₇H₈ | 0-20μmol/mol | PID | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Xylene | C₈H₁₀ | 0-20μmol/mol | PID | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Benzene | C₂H₆ | 0-20μmol/mol | PID | 0.1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Acetic acid | C₂H₄O₂ | 0-1000μmol/mol | PID | 1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |
| Volatile organic compounds | VOC | 0-20μmol/mol / 0-1000μmol/mol | PID | 0.1μmol/mol / 1μmol/mol | | | | | | | | ● | ● | ● | ● | ● |

Note: 1. Any gas that not mentioned above, just contact AIYI Technologies for further information; 2、1μmol/mol=1ppm

# AG310 SERIES GAS DETECTOR

AG310 series including model GTQ-AF110, GTQ-AF111, AF110-R, AG310, AG311. These gas detectors are suitable for detecting the combustible and toxic gases in hazardous areas. The product adopts the integrated design of sound and light alarm, which can effectively warn all kinds of gas leakage hazards; the smart sensor modular design supports hot plugging and easy maintenance; the product is equipped with an infrared remote control, which can realize completely no cover operation. IP66 protection can be applied to all kinds of bad occasions.

## Features

- integrated design with sound and light alarm.
- The patented sensor module integrates the sensor and calibration information into a replaceable module. Suitable to replace the sensor module without calibration and ready-to-use when connect new sensor module even it's a different gas sensor, much convenient.
- IP66 design with body material in stainless steel and aluminum alloy, suitable for harsh environments.
- High-brightness OLED display, capicable to see readings in any angle.
- Built-in three relays(alarm-1, alarm-2, fault), multi-funtional control is possible.
- Full English menu, remote control operation.
- Complete product certification (ATEX, SIL, CNEX, CCCF, etc.)

## Specification

| Description | Specifications | GTQ-AF110 | GTQ-AF111 | AF110-R | AG310 | AG311 |
|---|---|:---:|:---:|:---:|:---:|:---:|
| **Gas Detected** | | | | | | |
| Ex | catalytic combustion | ● | ● | - | - | - |
| | infrared | - | - | ● | - | - |
| toxic | ECD,IR,PID,semiconductor | - | - | - | ● | ● |
| **Function** | | | | | | |
| measure range | see QUICK-SELECTION-TABLE | ● | ● | ● | ● | ● |
| response time* | T90≤30S | ● | ● | ● | ● | ● |
| | T90≤60/180S | | | | | |
| accuracy* | ≤±5%F.S | ● | ● | ● | ● | ● |
| repeatability* | ≤2%F.S | ● | ● | ● | ● | ● |
| **Electric** | | | | | | |
| power supply | 18-28VDC(standard 24VDC) | ● | ● | ● | ● | ● |
| power consumption | ≤3.5W | ● | ● | ● | - | - |
| | ≤2W | - | - | - | ● | ● |
| signal output | 4-20mA | ● | - | ● | ● | - |
| | RS485 | - | ● | - | - | ● |
| wiring | three-wire | ● | - | ● | ● | - |
| | four-wire | - | ● | - | - | ● |
| suitable cable | RVVP3*1.5mm$^2$ | ● | - | ● | ● | - |
| | RVVP4*1.0mm$^2$ | - | ● | - | - | ● |
| relay output | 3 passive relays (250VAC/5A 30VDC/5A) | ● | ● | ● | ● | ● |
| **Display & Operation** | | | | | | |
| display | OLED display | ● | ● | ● | ● | ● |
| indicator light | power,fault,alarm-1,alarm-2 | ● | ● | ● | ● | ● |
| operation method | remote control | ● | ● | ● | ● | ● |
| **Environment** | | | | | | |
| ingress protection | IP66 | ● | ● | ● | ● | ● |
| operating temp. | -40℃～70℃ | ● | ● | ● | - | - |
| | -20℃～60℃ | - | - | - | ● | ● |
| operating humidity | 10～95%RH non-condensing | ● | ● | ● | ● | ● |
| operating pressure | 80-120kPa | ● | ● | ● | ● | ● |
| **Structure** | | | | | | |
| body material | ADC12 aluminum +316L S/S | ● | ● | ● | ● | ● |
| close nipple | NPT1/2 | ● | ● | ● | ● | ● |
| weight | about 2kg | ● | ● | ● | ● | ● |
| dimensions | 145*202*100mm(H*W*D) | ● | ● | ● | ● | ● |
| **Certificates** | | | | | | |
| CPA | 2015C563-32 | ● | ● | ● | ● | ● |
| EX | Exdib II CT6 Gb | ● | ● | ● | ● | ● |
| CCCF | 073184850122ROM | ● | - | - | - | - |
| | 073184850123ROM | - | ● | ● | - | - |
| SIL | SIL2 | ● | ● | ● | ● | ● |
| ATEX | Ex dbib II CT6 Gb | - | - | - | ● | ● |

Note:* refers to there's some difference vary from different gas, please contact the manufacturer for details.

## Dimensions
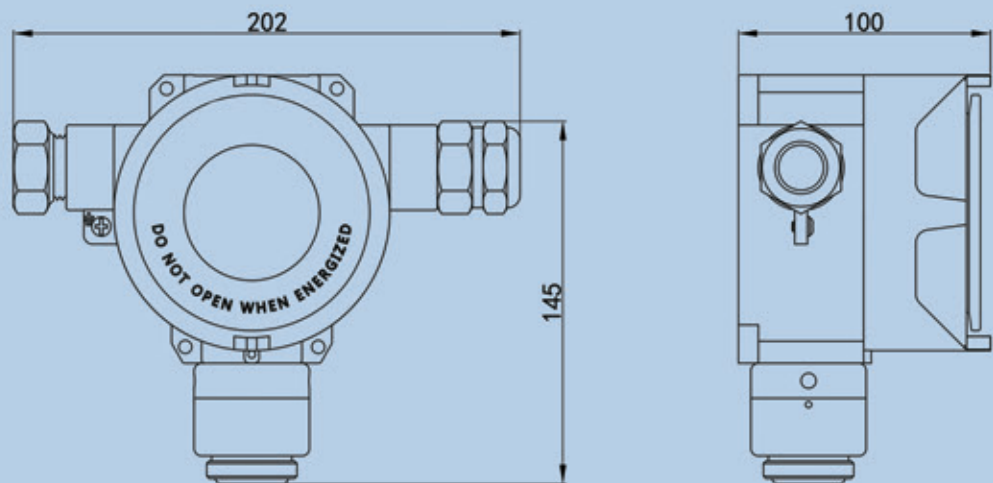


## Wiring
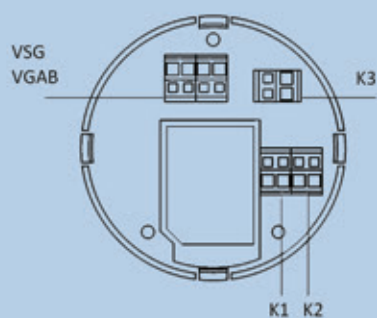


| Terminals | Description |
|-----------|-------------|
| V | 24V + |
| S | 4-20mA signal output |
| G | 24V - |
| A B | RS485 signal output |
| K1 | relay output for alarm-1 |
| K2 | relay output for alarm-2 |
| K3 | relay output for fault |



## AG210 SERIES GAS DETECTOR

AG210 series including model AG210, AG211, GTQ-Anr-A, GTQ-Anr-D. These gas detectors are a classic product of AIYI Technologies, which is suitable for most areas where it is necessary to detect flammable gas, oxygen, and toxic gas. The product responds quickly with an advanced gas sensor; ingress protection to IP66.

## Features

● Advanced gas sensors, fast response with a long lifespan, safer and more reliable.

● IP66 design with body material in stainless steel and aluminum alloy, suitable for harsh environments.

● LCD display, with LED indicators.

● Built-in 3 relay output and compatible with optional sound-light alarm

● Full English menu, remote control operation.

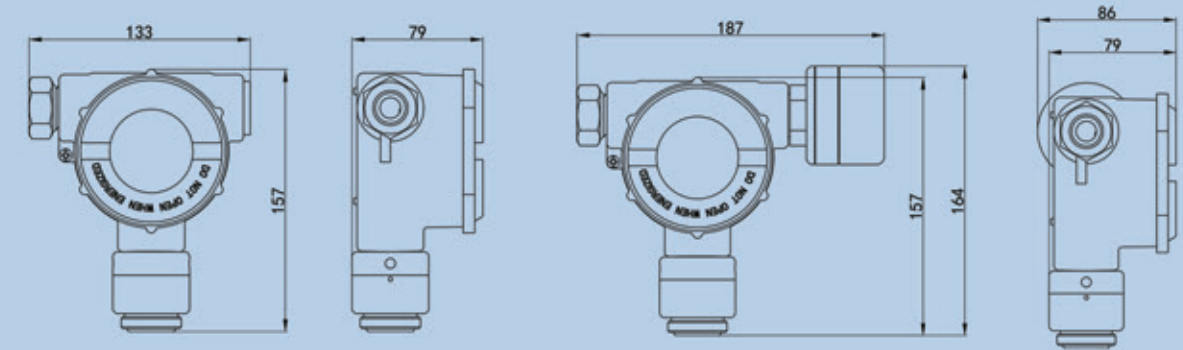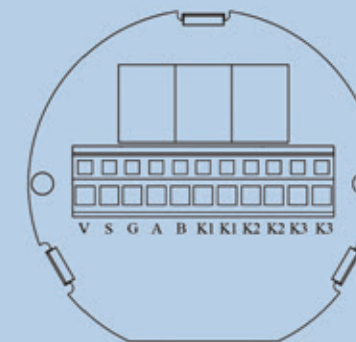● Complete product certification (ATEX, SIL2, CNEX, CCCF, etc.)

ООО «ТИ-СИСТЕМС»  ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
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INNOVATIVE AND DEDICATED

## Specifications

| Description | Specifications | GTQ-Anr-A | GTQ-Anr-D | AG210 | AG211 |
|---|---|---|---|---|---|
| **Gas Detected** | | | | | |
| Ex | catalytic combustion | ● | ● | - | - |
| toxic gas | electrochemical | - | - | ● | ● |
| | infrared | - | - | ● | ● |
| | PID | - | - | ● | ● |
| **Function** | | | | | |
| measure range | see QUICK-SELECTION-TABLE | ● | ● | ● | ● |
| response time* | T90≤30S | ● | ● | - | - |
| | T90≤60/180S | - | - | ● | ● |
| accuracy* | ≤±5%F.S | ● | ● | ● | ● |
| repeatability* | ≤2%F.S | ● | ● | ● | ● |
| **Electric** | | | | | |
| power supply | 18-28VDC (standard 24VDC) | ● | ● | ● | ● |
| power consumption | ≤3.5W | ● | ● | - | - |
| | ≤2W | - | - | ● | ● |
| signal output | 4-20mA | ● | - | ● | - |
| | RS485 | - | ● | - | ● |
| wiring | three-wire | ● | - | ● | - |
| | four-wire | - | ● | - | ● |
| suitable cable | RVVP3*1.5mm$^2$ | ● | - | ● | - |
| | RVVP4*1.0mm$^2$ | - | ● | - | ● |
| relay output | 3 passive relays | ● | ● | ● | ● |
| **Display&operation** | | | | | |
| display | LCD display | ● | ● | ● | ● |
| indicator light | power,fault,alarm-1,alarm-2 | ● | ● | ● | ● |
| operation method | remote control | ● | ● | ● | ● |
| **Environment** | | | | | |
| ingress protection | IP66 | ● | ● | ● | ● |
| operating temperature | -40℃～70℃ | ● | ● | - | - |
| | -20℃～60℃ | - | - | ● | ● |
| operating humidity | 10～95%RH non-condensing | ● | ● | ● | ● |
| operating pressure | 80-120kPa | ● | ● | ● | ● |
| **Structure** | | | | | |
| body material | ADC12 aluminum +316L S/S | ● | ● | ● | ● |
| close nipple | NPT1/2 | ● | ● | ● | ● |
| weight | about 1.45kg | ● | ● | ● | ● |
| dimensions | 157*133*79mm(H*W*D) | ● | ● | ● | ● |
| **Certificates** | | | | | |
| CPA | 2013C293-32 | ● | ● | - | - |
| EX | Exd II CT6 Gb / Ex tD A21 IP66 T80℃ | ● | ● | ● | ● |
| CCCF | 073184850124ROM | ● | ● | - | - |
| SIL | SIL2 | ● | ● | ● | ● |
| ATEX | Ex db II CT6 Gb | - | - | ● | - |

Note: * refers to there's some difference vary from different gas, please contact the manufacturer for details.

## Dimensions



## Wiring



| Terminals | Description |
|---|---|
| V | 24V + |
| S | 4-20mA signal output |
| G | 24V - |
| A  B | RS485 signal output |
| K1 | relay output for alarm-1 |
| K2 | relay output for alarm-2 |
| K3 | relay output for fault |

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# AG200 SERIES GAS DETECTOR

Anr-N, Anr-S, AG200 gas detector is a classic product of AIYI Technologies, which is suitable for most areas where it is necessary to detect flammable gas, oxygen, and toxic gas. The product responds quickly with an advanced gas sensor; ingress protection to IP65.
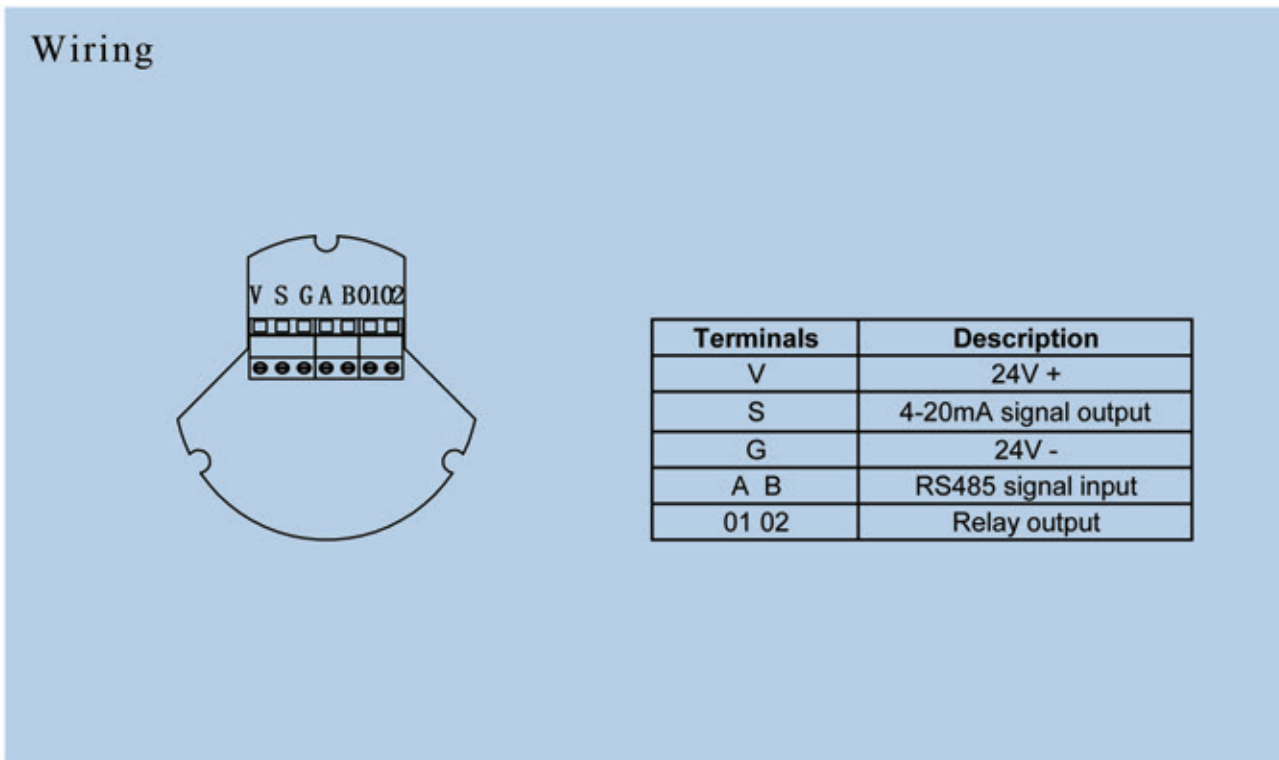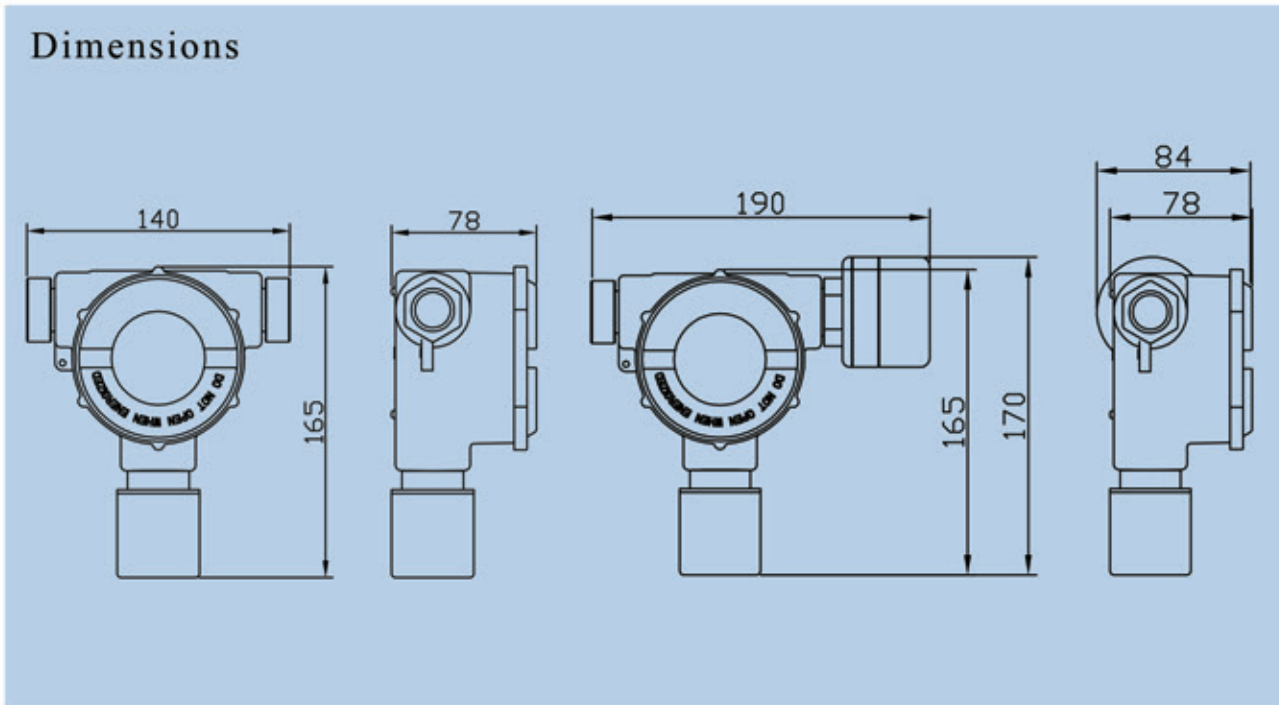
## Features

- Advanced gas sensors, fast response with a long lifespan, safer and more reliable.
- IP65 design with body material in stainless steel and aluminum alloy, suitable for harsh environments.
- 4-20mA/Rs485 signal output that can upload the signal to the control panel.
- Built-in relay and compatible with sound light alarm
- Complete product certification (ATEX, SIL, CCCF, etc.)

## Specification

| Description | Specifications | Anr-N | Anr-S | AG200 |
|---|---|:---:|:---:|:---:|
| **Gas Detected** | | | | |
| Ex | catalytic combustion | ● | ● | - |
| toxic | electrochemical | - | - | ● |
| **Function** | | | | |
| measure range | see QUICK-SELECTION-TABLE | ● | ● | ● |
| response time[*] | T90≤30S | ● | ● | - |
| | T90≤60/180S | - | - | ● |
| accuracy[*] | ≤±5%F.S | ● | ● | ● |
| repeatability[*] | ≤2%F.S | ● | ● | ● |
| **Electric** | | | | |
| power supply | 18-28VDC(standard 24VDC) | ● | ● | ● |
| power consumption | ≤2.5W | ● | ● | ● |
| | ≤1.5W | - | - | ● |
| signal output | 4-20mA | ● | - | ● |
| | RS485 | - | ● | ● |
| wiring | three-wire | ● | - | ● |
| | four-wire | - | ● | ● |
| suitable cable | RVVP3*1.5mm$^2$ | ● | - | ● |
| | RVVP4*1.0mm$^2$ | - | ● | ● |
| relay output | 1 passive relay (250VAC/5A 30VDC/5A) | ● | ● | ● |
| **Display** | | | | |
| OLED screen | N/A | ● | ● | ● |
| **Environment** | | | | |
| ingress protection | IP65 | ● | ● | ● |
| operating temperature | -40℃～70℃ | ● | ● | - |
| | -20℃～60℃ | - | - | ● |
| operating humidity | 10～95%RH non-condensing | ● | ● | ● |
| operating pressure | 80-120kPa | ● | ● | ● |
| **Structure** | | | | |
| body material | ADC12 aluminum alloy +316L stainless steel | ● | ● | ● |
| close nipple | NPT1/2 | ● | ● | ● |
| weight | about 1.3kg | ● | ● | ● |
| dimensions | 165*140*78mm(H*W*D) | ● | ● | ● |
| **Certificates** | | | | |
| CPA | 2009C170-32 | ● | ● | ● |
| EX | Exd II CT6 Gb | ● | ● | ● |
| CCCF | 073184850117ROM | ● | - | ● |
| | 073184850119ROM | - | ● | - |
| SIL | SIL2 | ● | ● | ● |
| ATEX | Exdb II CT6 Gb | ● | ● | ● |

Note:[*] refers to there's some difference vary from different gas, please contact the manufacturer for details.

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## Dimensions



## Wiring



| Terminals | Description |
|-----------|-------------|
| V | 24V + |
| S | 4-20mA signal output |
| G | 24V - |
| A  B | RS485 signal input |
| 01 02 | Relay output |



## EX-PROOF SOUND LIGHT ALARM

The Gary sound-light alarms is optional device for the gas detector. It'll automatically alert with sound and light when the detected gas exceeds the standard. The product is a durable design with stainless steel, and standard threaded interface makes it compatible with other electrical equipment also.

## Features

● Compact size, standard threaded interface for easy installation.

● IP66 design with all 316L stainless steel body, suitable for harsh environments.

● 360° light alarm, high loudness buzzer, effective reminder.

● Compatible with gas detectors of AIYI Technologies or separately.

● 12-28VDC wide range of power supply with anti-reverse wiring function.

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## Specifications

| Function | |
|---|---|
| alarm method | sound and light |
| light color | red |
| light intensity | >900mcd |
| sound intensity | >100dB |
| **Environment** | |
| ingress protection | IP66 |
| operating temperature | -40℃～70℃ |
| operating humidity | 10～95%RH non-condensing |
| operating pressure | 80-120kPa |
| **Electric** | |
| power supply | 12-28VDC(standard 24VDC) |
| power consumption | ≤3W |
| **Structure** | |
| body material | 304 stainless steel+nylon |
| close nipple | M26*2 |
| weight | about 0.6kg |
| dimensions | φ60*70mm |
| **Certificate** | |
| EX | Exd II CT6 Gb |

### Dimensions



Ø60
70



# AGS1600F CONTROL PANEL

### Wiring
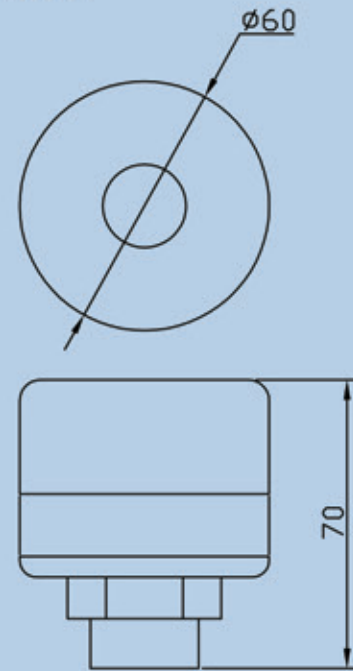


The AGS1600F control panel is designed with 1 to 4 channels, which can monitor the alarm in real time, and built-in relay output to realize the function of controlling the interlocking equipment. According to different needs, the product can be widely used in petroleum, chemical, energy, steel, metallurgy, gas, and other industries.

### Features

- Products passed the national CCCF certification.
- Large-screen LCD graphics display with rich content.
- Built-in 3 relays for multi-functional control.
- Built-in UPS power supply to prevent potential hazards caused by accidental power failure.
- Wall-mounted carbon steel casing, more durable.
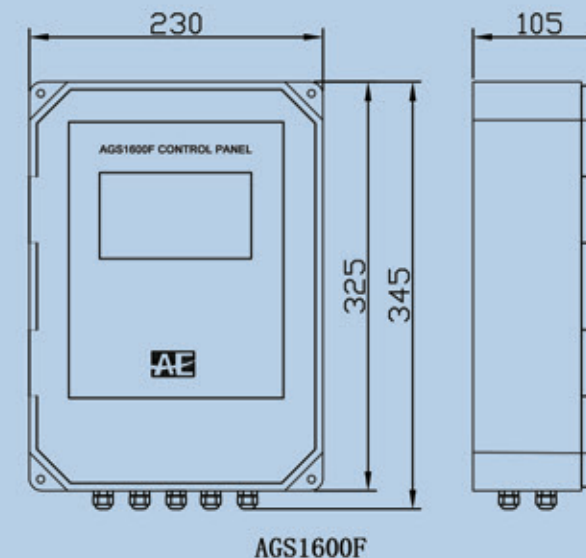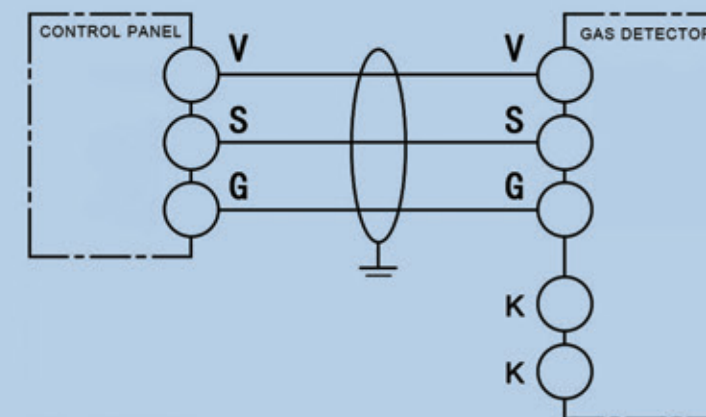- compatible with fixed gas detectors.
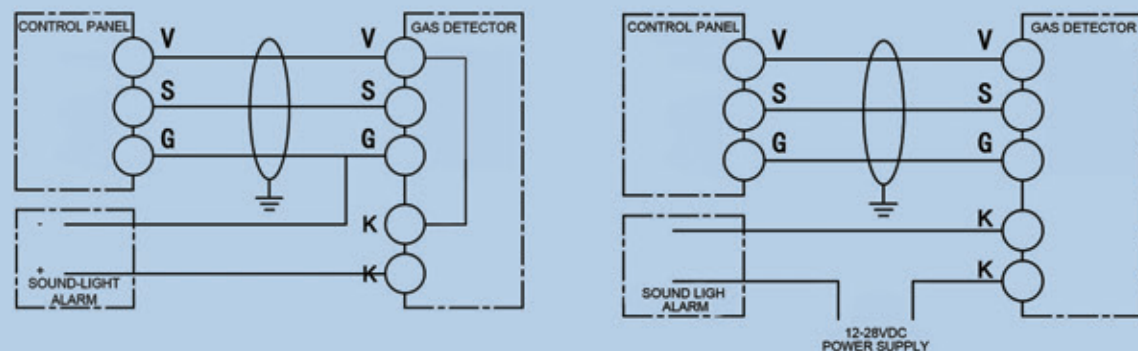
## Specifications

| Description | Specifications | AGS1600F |
|---|---|---|
| **Function** | | |
| channels | 4 | ● |
| suitable detector | combustible gas detector in 4-20mA only | ● |
| **Electric** | | |
| power supply | 220VAC | ● |
| power consumption | ≤6W | ● |
| signal input | 4-20mA | ● |
| signal output | RS485 | ● |
| wiring | three-wire | ● |
| suitable cable | RVVP3*1.5mm$^2$ | ● |
| relay output | 3 passive relay (250VAC/5A;30VDC/5A) | ● |
| **Display & Operation** | | |
| display | color LCD screen, resolution 480*272 | ● |
| indicator light | alarm,fault,power,power fault,backup power fault | ● |
| operation method | button | ● |
| **Environment** | | |
| operating temp. | 0℃～40℃ | ● |
| operating humidity | 10～95%RH non-condensing | ● |
| operating pressure | 80-120kPa | ● |
| **Structure** | | |
| body material | carbon steel with electrostatic spraying | ● |
| weight | about 6kg | ● |
| dimensions | 345*230*105mm(H*W*D) | ● |
| **Certificates** | | |
| CCCF | 073194850084R0M | ● |
| SIL | SIL2 | ● |

## Dimensions



AGS1600F

## Wiring

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AGS1000          AGS1000B          AGS1000D

# AGS1000 SERIES CONTROL PANEL

The AGS1000 series control panel is used to connect gas detectors of AIYI Technologies. Each channel configuration is customizable with reliable performance. Among them, AGS1000B is equipped with UPS uninterruptible power supply, and AGS1000D is an explosion-proof type, which can meet the different needs of different places. They are widely used in petroleum, chemical, energy, steel, metallurgy, gas, and other industries.

## Features

- 4-20mA, RS485 signal input is optional.
- Up to 64 channels (RS485), up to 32 channels (4-20mA),
- Large color LCD display with rich information and sound alarm.
- Real-time status indication with light for power, alarm, fault and self-test.
- Multi functions with channel block, alarm set, and fault alarm. Support to check alarm records and fault records.
- AGS1000B has a built-in UPS, which can still work normally after the main power is cut off.
- Built-in 3 relays (alarm-1, alarm-2 and fault)
- Wall-mounted carbon steel housing, much durable.

## Specifications

| Description | Specifications | AGS1000 | AGS1000B | AGS1000D |
|---|---|:---:|:---:|:---:|
| **Function** | | | | |
| channels | 4-20mA: 8/16/24/32 is optional | ● | ● | ● |
| | RS485: up to 64 channels | ● | ● | ● |
| suitable detector | detectors with 4-20mA or AE-RS485 | ● | ● | ● |
| **Electric** | | | | |
| power supply | 220VAC | ● | ● | ● |
| power consumption | ≤8W | ● | ● | ● |
| signal input | RS485/4-20mA | ● | ● | ● |
| signal output | RS485 | ● | ● | ● |
| wiring | 4-20mA: three-wire | ● | ● | ● |
| | RS485: four-wire | ● | ● | ● |
| suitable cable | RVVP3*1.5/4*1.0mm2 | ● | ● | ● |
| relay output | 3 passive relay (250VAC/5A 30VDC/5A) | ● | ● | ● |
| **Display & Operation** | | | | |
| display | LCD | ● | ● | ● |
| indicator light | alarm, fault, power, self-test | ● | - | ● |
| | power,backup power,alarm,fault,block | - | ● | - |
| operation method | button | ● | ● | ● |
| **Environment** | | | | |
| operating temp. | 0℃～40℃ | ● | ● | ● |
| operating humidity | 10～95%RH non-condensing | ● | ● | ● |
| operating pressure | 80-120kPa | ● | ● | ● |
| **Structure** | | | | |
| body material | carbon steel withelectrostatic spraying | ● | ● | ● |
| weight | about 7.5kg | ● | - | - |
| | about 16.5kg | - | ● | - |
| | about 50kg | - | - | ● |
| Dimensions | 500*360*100mm(H*W*D) | ● | - | - |
| | 590*400*155mm(H*W*D) | - | ● | - |
| | 700*620*244mm（H*W*D） | - | - | ● |
| **Certificate** | | | | |
| SIL | SIL2 | ● | - | - |
| EX | Exd II BT6 | - | - | ● |

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JUDD            JUDD            JUDD-S

# JUDD CONTROL PANEL

The JUDD and JUDD-S control panel is a standard modular design. Each module has an independent display function. It can be divided into wall-mounted or cabinet-type according to the channels. The control panel has built-in relay output, which is compatible with 4-20mA signal gas detectors, suitable for petroleum, chemical, energy, steel, metallurgy, gas, and other industries.
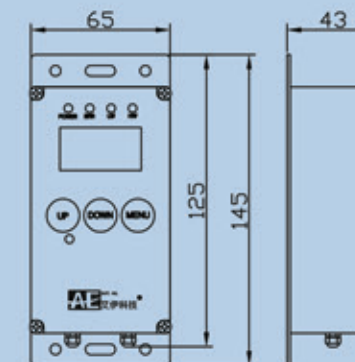
## Features

- Modular design, more flexible solution.
- The OLED graphic display is clearly visible under strong light.
- Built-in relays are capable of interlock control.
- Aluminum alloy/carbon steel, much durable.
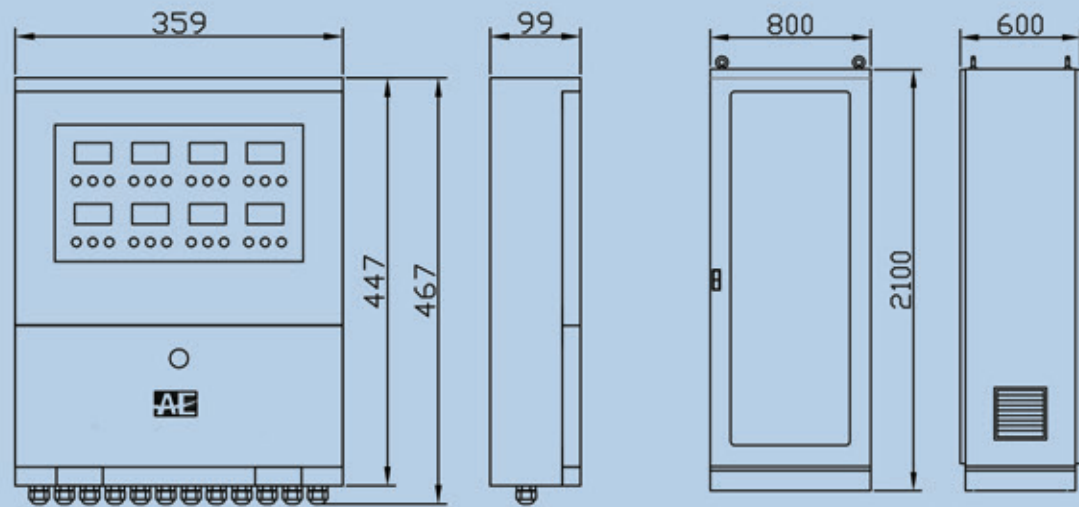- Supports connect with 4-20mA gas detectors.

## Specifications

| Description | | Specifications | JUDD | JUDD-S |
|---|---|---|:---:|:---:|
| **Function** | | | | |
| channels | | 1~8 | ● | - |
| | | >16 | - | ● |
| suitable detector | | detector with 4-20mA only | ● | ● |
| **Electric** | | | | |
| power supply | | 220VAC | ● | ● |
| power consumption | | each channel ≤1W | ● | ● |
| signal input | | 4-20mA | ● | ● |
| signal output | | 4-20mA | ● | ● |
| wiring | | three-wire | ● | ● |
| suitable cable | | RVVP3*1.5mm$^2$ | ● | ● |
| relay output | | 2 passive relay (250VAC/5A 30VDC/5A) | ● | ● |
| **Display & Operation** | | | | |
| display | | OLED screen, resolution in 128*64 | ● | ● |
| indicator light | | power, fault, alarm-1, alarm-2 | ● | ● |
| operation method | | button | ● | ● |
| **Environment** | | | | |
| operating temperature | | 0℃～40℃ | ● | ● |
| operating humidity | | 10～95%RH non-condensing | ● | ● |
| operating pressure | | 80-120kPa | ● | ● |
| **Structure** | | | | |
| body material | | aluminum alloy(for single channel) | ● | - |
| | | carbon steel with electrostatic spraying (for multi channels) | ● | ● |
| weight | | about 0.24kg for single channel | ● | ● |
| dimensions | | 145*65*43mm(H*W*D)  single channel | ● | - |
| | | 467*359*99mm(H*W*D)  multi channels | ● | - |
| | | 2100*800*600mm(H*W*D)  JUDD-S | - | ● |
| **Certificate** | | | | |
| SIL | | SIL2 | ● | - |

## Dimensions



65   43   125   145

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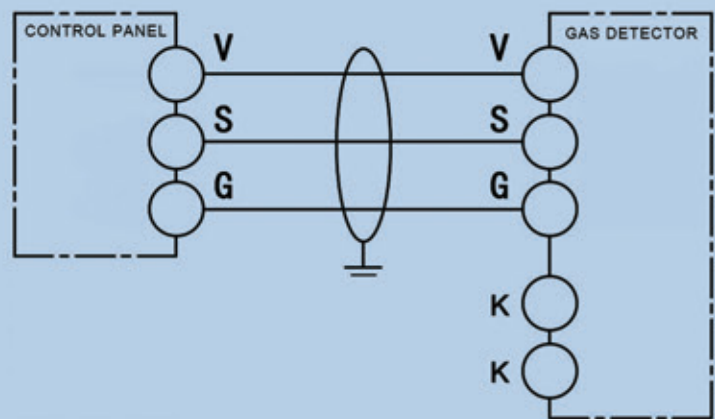Эл. почта:  info@tisys.ru  info@tisys.kz   info@tisys.by

## Dimensions



## Wiring



## IPC CONTROL SYSTEM

Industrial personal computer (IPC) control system can realize the function of real-time readings display, history record, concentration curve, remote control (via PLC) and other functions.

The IPC system is a customized solution, which can support up to 500 detection data, and customized functions according to different requirement. The system is mainly composed of industrial computer and monitoring software.
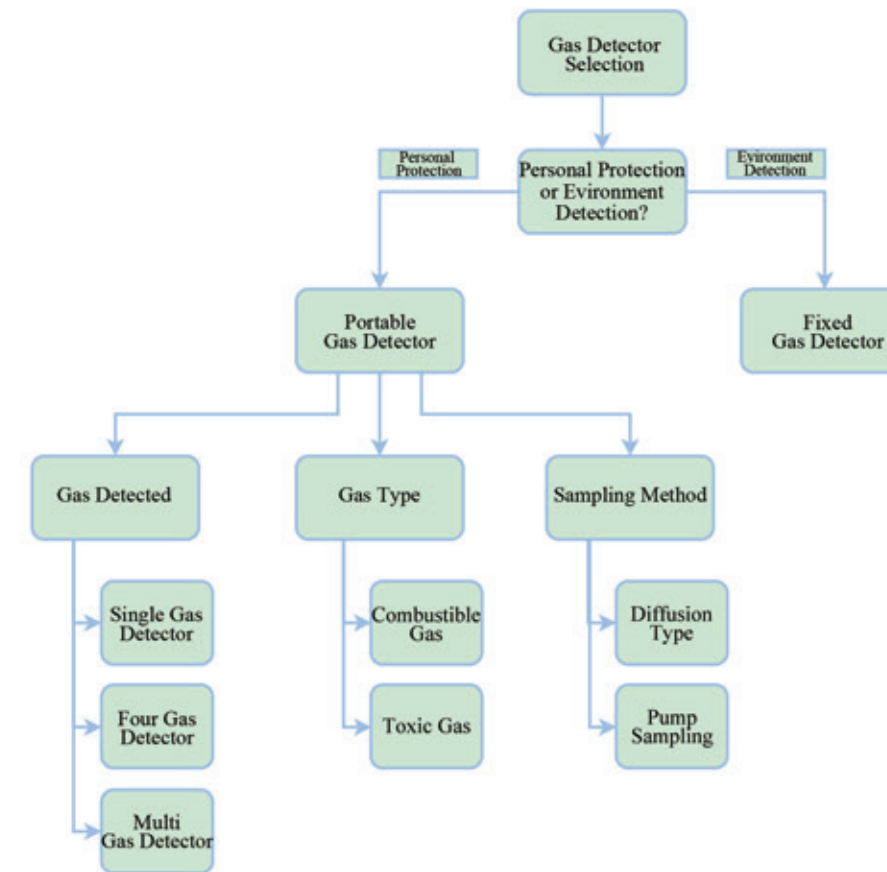
## Functions

- Historical and real-time concentration curve query.
- Displays the concentration information in map, much visual.
- Red, yellow, green three-color light alarm for each detection point.
- Alarm record query, including historical alarm record, alarm time, recovery time.
- Various information such as date, time, bit number, description, unit, alarm value, alarm type etc.
- Customized user interfaces and functions based on different requirement.

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■ SELECTION GUIDE



# PORTABLE GAS DETECTOR

In the daily production of petrochemical engineering, steel, and chemical engineering industries, workers often encounter with flammable and toxic gases of various sorts, and accidents are easy to take place without proper safety protection. As a kind of personal safety protection instrument, portable gas detector plays an important role in industrial production safety.

The portable gas detector is small in size and easy to carry. It can be used for workshop routing inspection for side leakage, as well as in confined spaces such as flame operation inspection.



difussion type gas detector



build-in pump gas detector



external pump gas detector

## QUICK SELECTION TABLE 4 -- PORTABLE GAS DETECTOR

| Description | AGH5100 | AGH5100M | AGH6100 | AGH6100F | AGH6200 | AGH6200F | AGH8100 | AGH8200 |
|---|---|---|---|---|---|---|---|---|
| **The number of sensors** | | | | | | | | |
| 1 | ● | ● | - | ● | - | ● | ● | ● |
| 4 in 1 | - | - | - | - | ● | - | - | - |
| 1~4, optional | - | - | ● | - | - | - | - | - |
| **Gas detected** | | | | | | | | |
| combustible gas-catalytic | - | - | ● | ● | ● | ● | - | - |
| combustible gas-semiconductor | - | - | - | - | - | - | ● | ● |
| toxic gas-electrochemical | ● | ● | ● | - | - | - | - | - |
| toxic gas-PID | - | - | ● | - | - | - | - | - |
| toxic gas-infrared | - | - | ● | - | - | - | - | - |
| **Sampling method** | | | | | | | | |
| diffusion | ● | ● | ● | ● | ● | ● | - | ● |
| built-in pump | - | - | - | - | - | - | ● | - |
| **Certificates** | | | | | | | | |
| CPA | ● | ● | ● | ● | ● | ● | ● | ● |
| EX | - | - | ● | ● | ● | ● | ● | ● |
| ATEX | - | - | - | - | - | ● | - | - |
| CCCF | - | - | - | - | - | ● | - | - |

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## QUICK SELECTION TABLE 5 -- GAS DETECTED

| Gas | | Measure Range | Principle | Resolution | AGH5100 | AGH5100M | AGH6100 | AGH6100F | AGH6200 | AGH6200F | AGH8100 | AGH8200 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Combustible gas | EX | 0-100%LEL | catalytic | 1%LEL | | | | | | | | |
| Methane | $CH_4$ | 0-10000µmol/mol | Semiconductor | 1µmol/mol | | | | | | | • | • |
| Oxygen | $O_2$ | 0-30%VOL / 0-25%VOL | Electrochemical | 0.1%VOL | • | • | • | | • | | | |
| Carbon monoxide | CO | 0-1000µmol/mol | Electrochemical | 1µmol/mol | • | • | • | • | • | • | • | |
| Hydrogen sulphide | $H_2S$ | 0-100µmol/mol | Electrochemical | 1µmol/mol | • | • | • | | • | | | |
| Chlorine | $Cl_2$ | 0-10µmol/mol | Electrochemical | 0.1µmol/mol | • | • | • | | • | | | |
| Sulphur dioxide | $SO_2$ | 0-20µmol/mol | Electrochemical | 0.1µmol/mol | • | • | • | | | | | |
| Ammonia | $NH_3$ | 0-100µmol/mol | Electrochemical | 1µmol/mol | • | | • | | | | | |
| Nitric oxide | NO | 0-250µmol/mol | Electrochemical | 1µmol/mol | • | | • | | | | | |
| Nitrogen dioxide | $NO_2$ | 0-20µmol/mol | Electrochemical | 0.1µmol/mol | • | | • | | | | | |
| Hydrogen chloride | HCL | 0-30µmol/mol | Electrochemical | 0.1µmol/mol | • | | • | | | | | |
| Ozone | $O_3$ | 0-1µmol/mol | Electrochemical | 0.01µmol/mol | • | | • | | | | | |
| Ethylene oxide | $C_2H_4O$ | 0-20µmol/mol | Electrochemical | 0.1µmol/mol | • | | • | | | | | |
| Formaldehyde | $CH_2O$ | 0-20µmol/mol | Electrochemical | 0.1µmol/mol | • | | • | | | | | |
| Methanol | $CH_3OH$ | 0-20µmol/mol | Electrochemical | 0.1µmol/mol | • | | • | | | | | |
| Phosphine | $PH_3$ | 0-5µmol/mol | Electrochemical | 0.1µmol/mol | • | | • | | | | | |
| Hydrogen | $H_2$ | 0-1000µmol/mol | Electrochemical | 1µmol/mol | • | | • | | | | | |
| Fluorine | $F_2$ | 0-1µmol/mol | Electrochemical | 0.01µmol/mol | • | | • | | | | | |
| Hydrogen fluoride | HF | 0-10µmol/mol | Electrochemical | 0.1µmol/mol | • | | • | | | | | |
| Hydrogen cyanide | HCN | 0-50µmol/mol | Electrochemical | 0.1µmol/mol | • | | • | | | | | |
| Phosgene | $COCL_2$ | 0-1µmol/mol | Electrochemical | 0.01µmol/mol | • | | • | | | | | |
| Arsenic hydride | $AsH_3$ | 0-1/20µmol/mol | Electrochemical | 0.01µmol/mol | • | | • | | | | | |
| Silane | $SiH_4$ | 0-50µmol/mol | Electrochemical | 0.01µmol/mol | • | | • | | | | | |
| Acrylonitrile | $C_3H_3N$ | 0-20µmol/mol | Electrochemical | 0.1µmol/mol | • | | • | | | | | |
| Carbon disulfide | $CS_2$ | 0-20µmol/mol | Electrochemical | 0.1µmol/mol | • | | • | | | | | |
| Ethanol | $C_2H_5OH$ | 0-20µmol/mol | Electrochemical | 0.1µmol/mol | • | | • | | | | | |
| Methane | $CH_4$ | 0-5%/100%VOL | Infrared | 0.1%VOL | | | • | | | | | |
| Carbon dioxide | $CO_2$ | 0-5%/100%VOL | Infrared | 0.1%VOL | | | • | | | | | |
| Toluene | $C_7H_8$ | 0-20µmol/mol | PID | 0.1µmol/mol | | | • | | | | | |
| Xylene | $C_8H_{10}$ | 0-20µmol/mol | PID | 0.1µmol/mol | | | • | | | | | |
| Benzene | $C_6H_6$ | 0-20µmol/mol | PID | 0.1µmol/mol | | | • | | | | | |
| Acetic acid | $C_2H_4O_2$ | 0-1000µmol/mol | PID | 1µmol/mol | | | • | | | | | |
| Volatile organic compounds | VOC | 0-1000µmol/mol | PID | 1µmol/mol | | | • | | | | | |

Note: 1, Any gas that not mentioned above, just contact AIYI Technologies for further information; 2, 1µmol/mol=1ppm



# PORTABLE SINGLE GAS DETECTOR

The AGH5100 & AGH5100M portable gas detector can detect toxic gases in the ambient environment. The product is fully gripped, compact, and a built-in advanced electrochemical sensor for a fast response. The double-layered body design suitable for harsh environments and single-button operation greatly reduces the possibility of misoperation.

## Features

- Compact and light, it is easy to wear in a helmet, belt, etc.
- PC+TPU double-layer body, wear-resistant and drop-resistant, suitable for harsh conditions.
- Specially designed PCB board, effective against electromagnetic interference, stable work.
- High-brightness LCD display, sound, light, vibration alarm method.
- Built-in high-performance lithium-ion battery for over 20 days of operation.
- One-button design, easy to use, reducing the possibility of misoperation.
- Compatible with a external sampling pump for confined space usage.

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## Specifications

| Description | Specifications | AGH5100 | AGH5100M |
|---|---|---|---|
| **Function** | | | |
| gas detected | toxic gas, O2 | ● | - |
| | O2/CO/H2S/SO2 | - | ● |
| measure range | see QUICK-SELECTION-TABLE | ● | ● |
| response time* | T90≤30/60/180S | ● | ● |
| accuracy* | ≤±5%FS | ● | ● |
| repeatability* | ≤2%FS | ● | ● |
| sampling method | diffusion | ● | ● |
| **Electric** | | | |
| battery | rechargeable Li-battery 3.7V 1500mAh | ● | - |
| | CR2 Li-battery 3V 1400mAh | - | ● |
| continuous operation | over 20 days in room temp. | ● | - |
| | 2 year | - | ● |
| **Alarm** | | | |
| alarm method | Sound,LED light,vibration | ● | ● |
| sound intensity | >90dB | ● | ● |
| **Display and Operation** | | | |
| display | segment code LCD screen | ● | ● |
| **Environment** | | | |
| ingress protection | IP67 | ● | ● |
| operating temp. | -20℃～60℃ | ● | ● |
| operating humidity | 10～95%RH non-condensing | ● | ● |
| operating pressure | 80-120kPa | ● | ● |
| **Structure** | | | |
| body material | PC+TPU | ● | ● |
| weight | About 139g | ● | ● |
| dimensions | 98*67.5*50mm(H*W*D) | ● | ● |
| **Certificates** | | | |
| EX | Exib II CT4 Gb | ● | - |
| | Exia II CT4 Ga | - | ● |

Note:* refers to there's some difference vary from different gas, please contact the manufacturer for details.
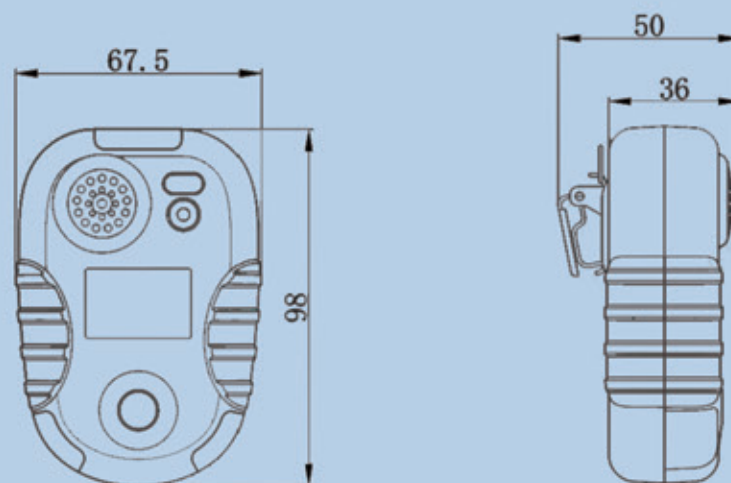
## Dimensions

67.5
98
50
36

## PORTABLE MULTI GAS DETECTOR

The AGH6100 gas detector can detect a variety of gases. The product supports up to 4 gases for simultaneous detection. The gas sensor can be flexibly selected according to the site requirements. The product has an intrinsically safe design with IP66 protection and suitable for harsh environments. The large LCD screen displays various information such as gas concentration and alarm history. The product supports USB data upload, which can easily export alarm record information.

## Features

● Many gases are detectable with flexible selection, up to 4 gases in one detector.

● Support alarm record USB upload, no need any software.

● Sound, light, vibration alarm method, effective warning.

● High-brightness display with gravity sensing for easy viewing at all angles.

● The TPU+PC housing, more wear-resistant.

● Specially designed PCB board, effective against electromagnetic interference, stable work.

● Ingressive protection in IP66 rating, dustproof and waterproof.

● Compatible with a sampling pump for confined space usage.

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## Specifications

| Description | Specifications | AGH6100 | AGH6100F |
|---|---|---|---|
| **Function** | | | |
| gas detected | combustible gas | ● | ● |
| | O2, toxic gas | ● | - |
| measure range | see QUICK-SELECTION-TABLE | ● | ● |
| response time* | T90≤30/60/180S | ● | ● |
| accuracy* | ≤±5%F.S | ● | ● |
| repeatability* | ≤2%F.S | ● | ● |
| sampling method | diffusion | ● | ● |
| **Electric** | | | |
| battery | rechargeable Li-battery 2200mAh | ● | ● |
| continuous operation | at least 18 hours after a typical 4 hours full charge | ● | ● |
| **Alarm** | | | |
| alarm method | sound,LED light,vibration | ● | ● |
| sound intensity | ＞90dB | ● | ● |
| **Display and Operation** | | | |
| display | LCD | ● | ● |
| button | 3 (UP, OK, DOWN) | ● | ● |
| **Environment** | | | |
| ingress protection | IP66 | ● | ● |
| operating temperature* | -20℃～60℃ | ● | ● |
| operating humidity | 10～95%RH non-condensing | ● | ● |
| operating pressure | 80-120kPa | ● | ● |
| **Structure** | | | |
| body material | antistatic PC+TPU | ● | ● |
| weight | about 0.35kg | ● | ● |
| dimensions | 156*74*54mm(H*W*D) | ● | ● |
| **Certificates** | | | |
| CPA | 2016C106-32 | ● | ● |
| EX | ExibⅡCT4 Gb | ● | - |
| | ExdibⅡCT4 Gb | ● | ● |

Note:* refers to there's some difference vary from different gas, please contact the manufacturer for details.

## Dimensions



```
    74
┌─────────┐
│  ┌───┐  │
│  │   │  │  156
│  └───┘  │
│ ▢ ▢ ▢  │
│  ● ● ●  │
└─────────┘
```

```
  54
┌────┐
│ 37 │
│    │
│ ▯  │
│    │
│ ▯  │
└────┘
```
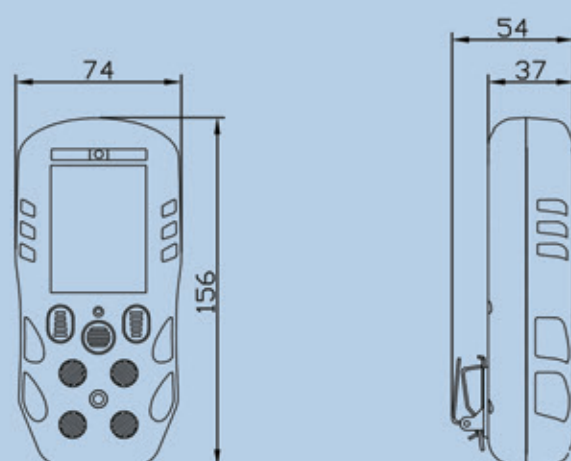
## PORTABLE 4 GAS DETECTOR

The AGH6200 detector is a standard four-in-one gas detection alarm. The product can simultaneously detect the concentration of Ex,O2,H2S,CO. Automatic sound, light and vibration alarms.

The AGH6200F is a special designed flammable gas detector with CCCF certification, and can cope with the harsh environment of -40 ° C to 70 ° C.

## Features

- Standard four gas with Ex,O2,H2S,CO is suitable for most gas detection applications.
- CCCF certification, suitable to -40℃ ~ 70℃ (AGH6200F only).
- Sound, light, vibration alarm method, effective warning.
- The TPU+PC housing, more wear-resistant.
- Ingressive protection in IP66 rating, dustproof and waterproof.
- Compatible with a sampling pump for confined space usage.

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## Specifications

| Description | Specifications | AGH6200 | AGH6200F |
|---|---|---|---|
| **Function** | | | |
| gas detected | Ex | ● | ● |
| | O2, CO, H2S | ● | - |
| measure range | see QUICK-SELECTION-TABLE | ● | ● |
| response time* | T90≤60S | ● | ● |
| accuracy* | ≤±5%F.S | ● | ● |
| repeatability* | ≤2%F.S | ● | ● |
| sampling method | diffusion | ● | ● |
| **Electric** | | | |
| battery | rechargeable Li-battery 2200mAh | ● | ● |
| continuous operation | at least 18 hours after a typical 4 hours full charge | ● | ● |
| **Alarm** | | | |
| alarm method | sound,LED light,vibration | ● | ● |
| sound intensity | >90dB | ● | ● |
| **Display and Operation** | | | |
| display | LCD | ● | ● |
| button | 2 (POWER, MENU) | ● | ● |
| **Environment** | | | |
| ingress protection | IP66 | ● | ● |
| operating temperature* | -20℃～60℃ | ● | - |
| | -40℃～70℃ | - | ● |
| operating humidity | 10～95%RH non-condensing | ● | ● |
| operating pressure | 80-120kPa | ● | ● |
| **Structure** | | | |
| body material | antistatic PC+TPU | ● | ● |
| weight | about 0.28kg | ● | ● |
| dimensions | 132*63*48mm(H*W*D) | ● | ● |
| **Certificates** | | | |
| CPA | 2018CA0047-32 | ● | - |
| | 2018CA0046-32 | - | ● |
| EX | Exdib II CT4 Gb | ● | ● |
| CCCF | 073194850102ROM | - | ● |

Note:* refers to there's some difference vary from different gas, please contact the manufacturer for details.

## Dimensions

63 | 48 | 34 | 132

# PORTABLE GAS LEAK DETECTOR

The AGH8100 & AGH8200 gas detector is designed to detect combustibe gas leakage. The product sensor is optimized for methane and LPG gas detection compared to conventional combustible gas detectors, It can display μmol/mol (ppm) and is sensitive to small leakage in the environment. The product is IP66 rated, sturdy and durable.

The AGH8100 has a built-in sampling pump and quick response. AGH8200 is diffusion type

## Features

- Special design for methane & LPG ppm level gas leak detection, and short warm-up time.
- The μmol/mol (ppm) level shows a sensitive reflection of traces of methane.
- Built-in pump makes the AGH8100 more sensitive and rapid, easy to use.
- Sound, light, vibration alarm method, effective warning.
- The TPU+PC housing, more wear-resistant.
- Ingressive protection in IP66 rating, dustproof and waterproof.
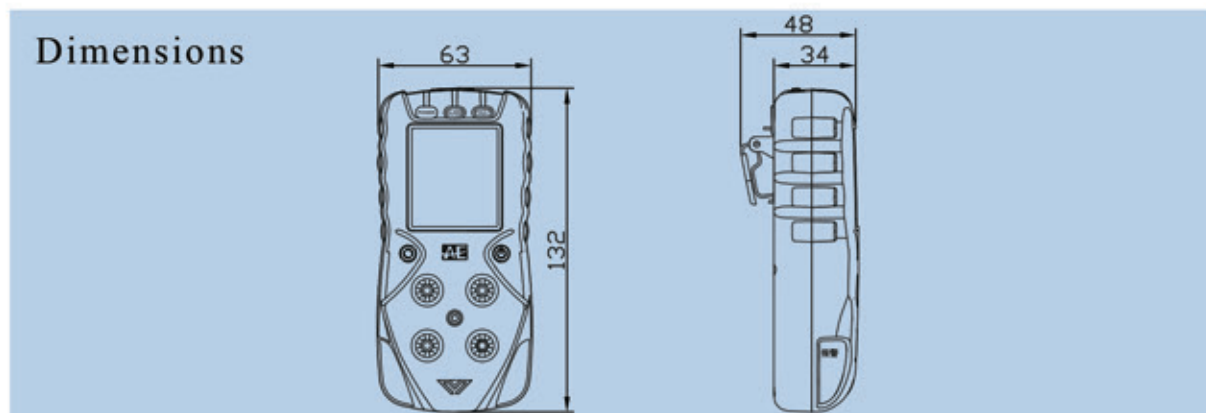
## Specifications

| Description | Specifications | AGH8100 | AGH8200 |
|---|---|:---:|:---:|
| **Function** | | | |
| gas detected | CH4, LPG or other combusitble gas | ● | ● |
| measure range | 0-10000μmol/mol | ● | ● |
| response time | <5s | ● | ● |
| accuracy | ≤±5%FS | ● | ● |
| detection principle | semiconductor | ● | ● |
| sampling method | built-in pump | ● | - |
| | diffusion | - | ● |
| **Electric** | | | |
| battery | rechargeable Li-battery 2200mAh | ● | ● |
| continuous operation | over 8 hours | ● | ● |
| **Alarm** | | | |
| alarm method | sound, LED light, vibration | ● | ● |
| sound intensity | ＞90dB | ● | ● |
| **Display and Operation** | | | |
| display | OLED | ● | ● |
| button | 3 (LEFT, OK, RIGHT) | ● | ● |
| **Environment** | | | |
| ingress protection | IP66 | ● | ● |
| operating temp.* | -10℃～55℃ | ● | - |
| | -40℃～60℃ | - | ● |
| operating humidity | ≤93%RH | ● | - |
| | 10%-95%RH non-condensing | - | ● |
| operating pressure | 80-120kPa | ● | ● |
| **Structure** | | | |
| body material | PC+TPU | ● | ● |
| weight | about 0.34kg | ● | - |
| | about 0.3kg | - | ● |
| dimensions | 500*67*42mm(H*W*D) include probe | ● | ● |
| **Certificates** | | | |
| EX | Exdib II CT4 Gb | ● | ● |

## Dimensions
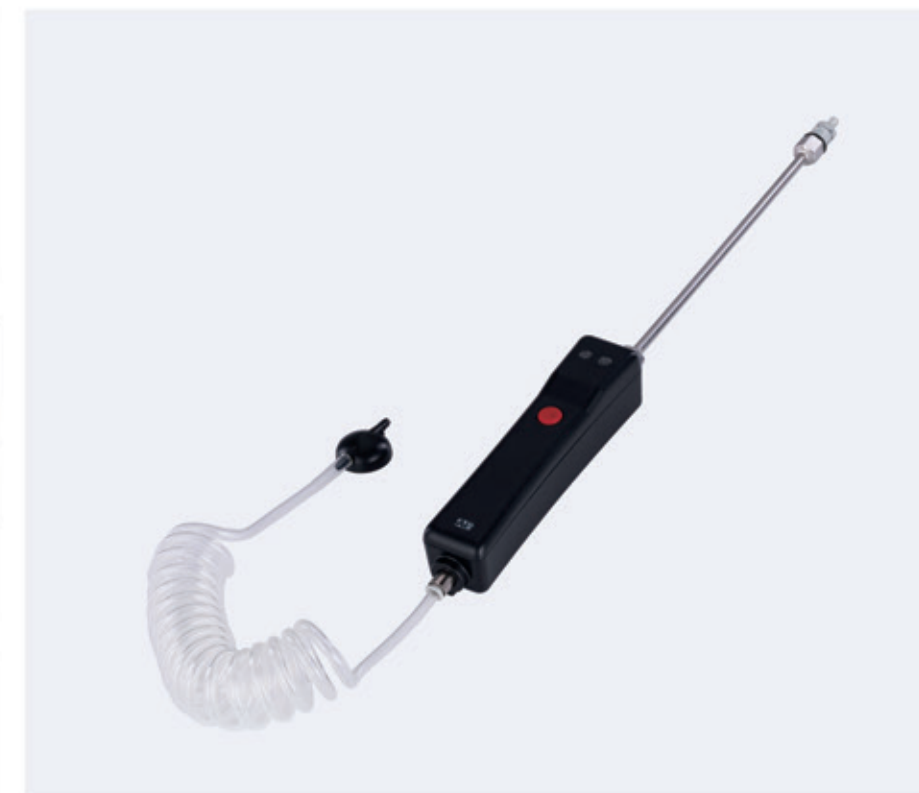


## PORTABLE SAMPLING PUMP

The AGH1000B sampling pump is a hand-held gas sampling pump that is mainly used to assist the gas collection of portable gas detectors. With the intrinsically safe design, it can be used in explosive hazardous areas; large-capacity battery makes it a long operation time.

## Features

● Compatible with the gas detector for confined space usage.

● A replaceable filter design that blocks dust, water to protects the gas detector.

● Blocking alarm function, effectively reminding the sampling blockage.

● Quick-plug connection design for a quick connection with the detector.

● Long stainless steel sampling probes are suitable for a variety of confined spaces.

● Intrinsically safe design for hazardous areas.

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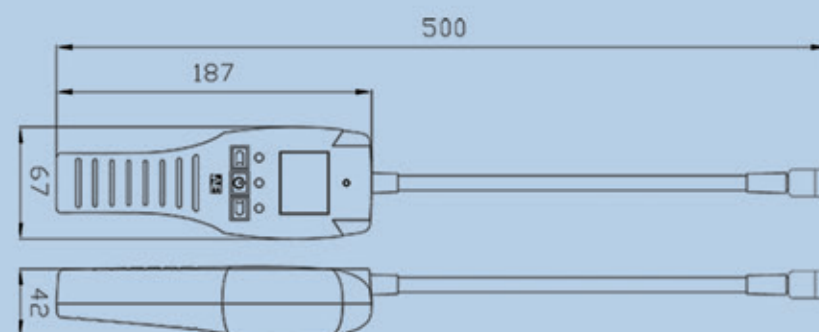
## Specifications

| Function | |
|---|---|
| sampling flow | 500ml/min |
| indicator light | status, charge |
| **Environment** | |
| ingress protection | IP55 |
| operating temperature | -10℃～55℃ |
| operating humidity | 10～95%RH non-condensing |
| operating pressure | 80-120kPa |
| **Electrical** | |
| battery | rechargeable lithium battery, 3.7V, 2200mAh |
| working time | ≥12h |
| **Structure** | |
| body material | ABS |
| sampling pipe | stainless steel |
| weight | about 0.24kg |
| dimensions | 410*35*38mm(H*W*D) |
| **Certificate** | |
| EX | Exib Ⅱ CT4 Gb |

## Dimensions



# DUST MONITORING SYSTEM
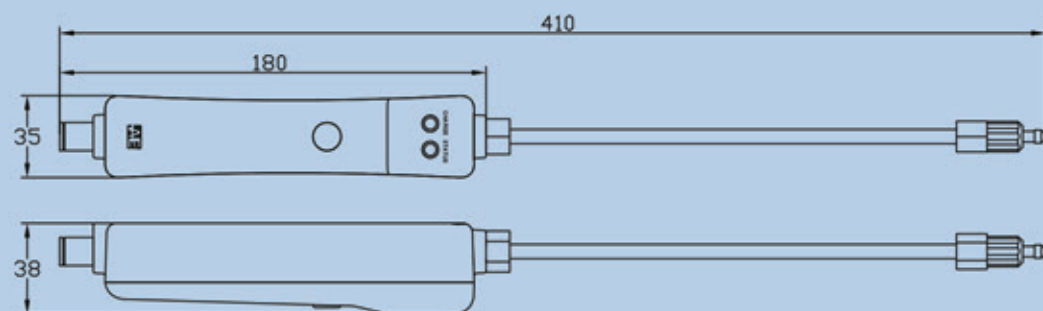
Explosive dust will explode with an extremely strong destructive power when it encounters fire. Besides, dust particles have attracted much attention as a major indicator of environmental pollution.

The online dust monitoring system produced by AIYI Technologies can provide solutions for the above. The dust monitoring in pipelines and dust removal equipment to meet emission requirements. Besides, the system can also be used for the monitoring of explosive dust in workshops and warehouses. When the dust concentration in the environment exceeds the standard, the system will automatically alarm and exhaust.

The dust monitor adopts the laser backscattering principle to measure the dust concentration with high accuracy. And it is not affected by factors such as temperature and humidity. It is suitable for the harsh environment of wind, rain, high and low temperature for a long time.

## ■ DUST MONITORING IN PIPE/FLUE

Two main solutions: dust monitoring in pipe/flue, dust removal efficiency monitoring of dust removal equipment. The system is installed in the pipe/flue by the laser dust monitor through the flange, and it comes with 4-20mA/RS485 standard signal output, which can upload the real-time data to the terminal like DCS, PLC), IPC, etc.
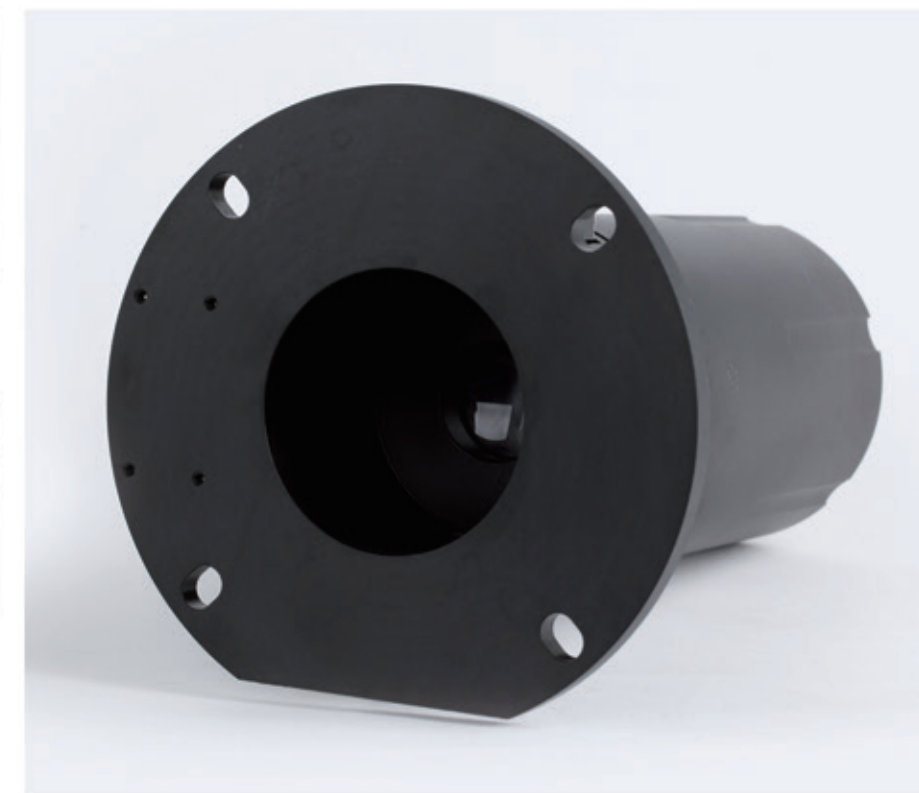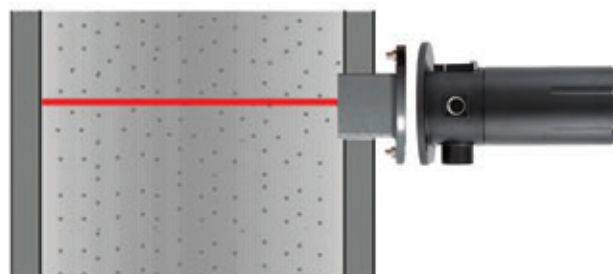


## ■ EXPLOSIVE DUST MONITORING

The explosive dust monitoring system can be used in the sites where there is an explosive hazard, to detect aluminum powder, zinc powder, various plastic powders, intermediates of organic synthetic drugs, wheat flour, sugar, wood chips, milk powder, tea powder, tobacco powder, plant fiber dust, etc.

According to the actual requirements, the dust monitor can be installed in the environment of the feeding process, conveyor belt, hoist, and other representative process points. When the dust exceeds the preset alarm value, the system will automatically perform various functions such as sound and light alarm, fan control etc.
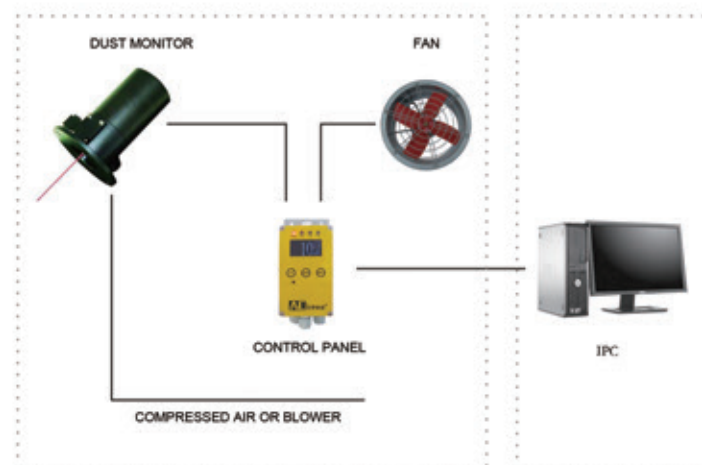




## DUST MONITOR

The AGA series of online laser dust monitor adopts the principle of laser backscattering. The dust monitor irradiates the dust particles through the high-stability laser, and the irradiated particles reflect the laser signal, Based on the reflected signal intensity changes in proportion to the dust concentration, the reflected signal will be sensed by the embedded high-sensitivity laser receiver. In final, the dust concentration can be obtained by our micro-computer technology.
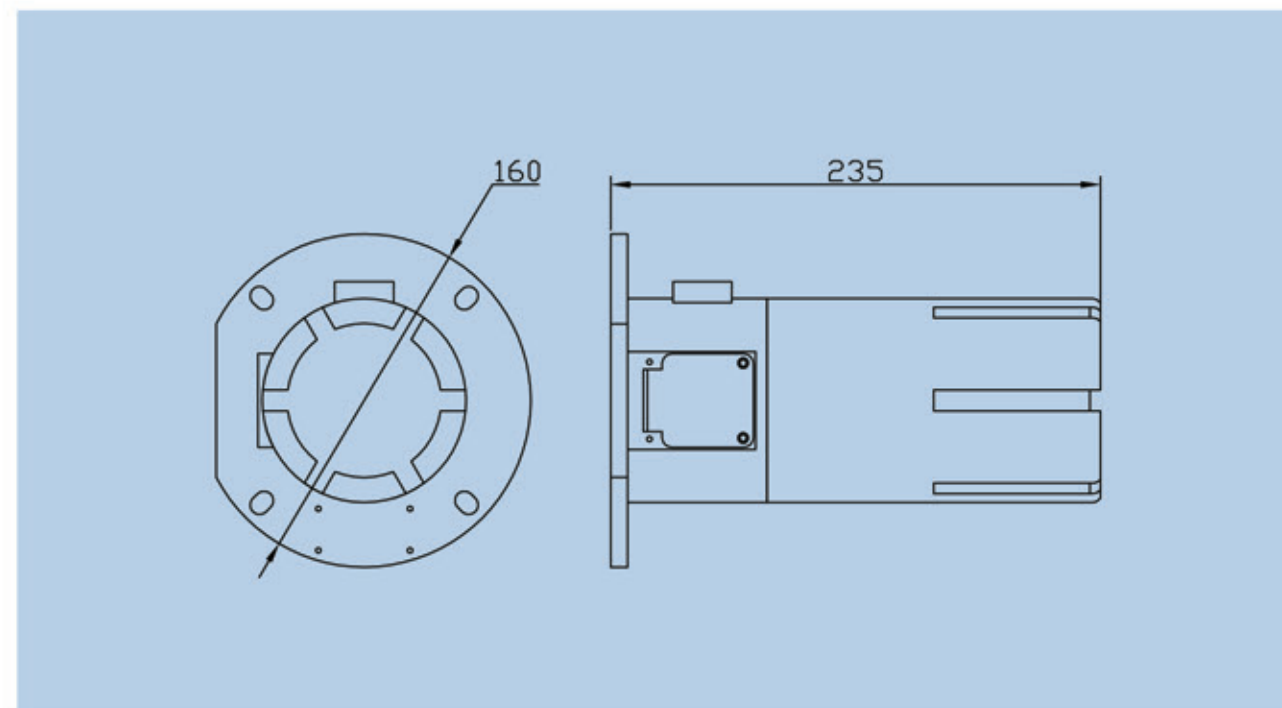
### Features

● Laser backscattering and large dynamic adaptive phase-locking amplification technology make a real-time monitoring and a large measurement range.

● With the double certification of gas explosion-proof and dust explosion-proof (AGA6050 only), suitable to hazardous areas.

● The standard output signal can upload the dust concentration to the PLC, DCS, IPC etc.

● Ingressive protection in IP66 rating, dustproof and waterproof.

● Online calibration, no need to disassemble, easy to maintain.

● Compatible with the control panel and IPC etc.

## Specifications

| Description | Specifications | AGA6050 | AGA6000 |
|---|---|---|---|
| **Dust detected** | | | |
| workshop dust | particle size≥5μm | ● | ● |
| pipeline dust | particle size≥5μm | ● | ● |
| **Function** | | | |
| detection principle | laser backscattering | ● | ● |
| wavelength | (650±20)nm successive wave power density＜5mW/m$^2$ | ● | ● |
| measure range | 0-100/500/1000/4000 mg/m$^3$ | ● | ● |
| response time | ≤10s | ● | ● |
| drift | ≤2%F.S | ● | ● |
| space range | 0.7-5m (in environment) | ● | ● |
| | 0.7-20m (in pipe) | ● | ● |
| **Electric** | | | |
| power supply | 24VDC | ● | ● |
| power consumption | ≤2.5W | ● | ● |
| signal output | 4-20mA | ● | ● |
| | RS485 | ● | ● |
| signal input | RPG-2200 safety barrier is required,12V, 50mA | ● | ● |
| **Environment** | | | |
| ingress protection | IP65 | ● | ● |
| operating temperature | -20℃～50℃ | ● | ● |
| operating humidity | 10～95%RH non-condensing | ● | ● |
| operating pressure | 80-120kPa | ● | ● |
| **Structure** | | | |
| body material | aluminum alloy | ● | ● |
| weight | about 2.8kg | ● | ● |
| dimensions | 235*160*160mm(H*W*D) | ● | ● |
| **Certificates** | | | |
| EX | Exib Ⅱ BT4 Gb | ● | - |
| | ExibD21T130℃ Gb | ● | - |
| SIL | SIL2 | ● | ● |

## Dimensions



## Wiring