



# AGA1000/AGA1000d NDIR GAS ANALYZER

NDIR CO CO<sub>2</sub> CH<sub>4</sub> SO<sub>2</sub>



AGA1000



AGA1000d

AGA1000 series infrared gas analyzers realize the gas process monitoring according to the principle of gas absorption in infrared light. The analyzer adopts advanced NDIR principle, high accuracy and sensitive response. It has two options of explosion-proof and non-explosion-proof. It can be used to detect CO, CO<sub>2</sub>, CH<sub>4</sub>, SO<sub>2</sub> in the fields of iron and steel, petrochemical, natural gas, laboratory, etc.

## APPLICATIONS

- ✓ Natural gas analysis
- ✓ Bolier gas analysis
- ✓ Industrial process analysis
- ✓ Laboratory use
- ✓ Environment use
- ✓ Emission gases

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ  
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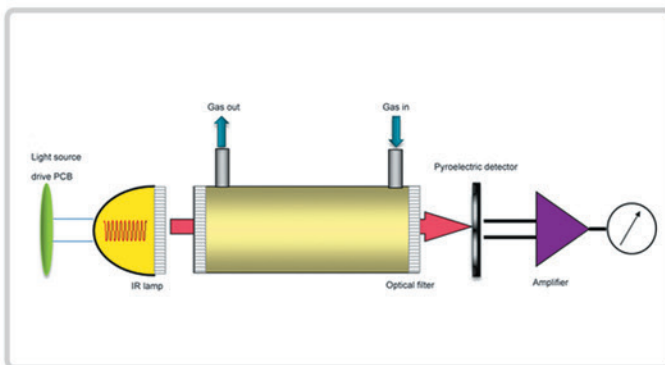
## SPECIFICATIONS

<b>Model</b>	AGA1000: Non explosion-proof AGA1000d: Explosion-proof
<b>Function</b>	
Measure Range	CO: 0-2000ppm/1%/15%/30%/100%VOL CH <sub>4</sub> : 0-5%/15%/100%VOL O <sub>2</sub> : 0-5%/15%/30%(Optional) CO <sub>2</sub> : 0-5000ppm/1%/10%/30%/100%VOL SO <sub>2</sub> : 0-1000/2000/5000/6000ppm If any gas or measure range is not in above list, please contact the manufacturer for more details.
Principle	NDIR
Accuracy	±2%F.S
Resolution	1ppm/0.1%/1%VOL based on range
Repeatability	±2%
Zero drift	±2%F.S/7d
Span drift	±2%F.S/7d
Response time	≤10s/T90
Operating temperature	0°C-40°C
Warm-up	≤30min
<b>Electric</b>	
Screen	monochromatic LCD 320*240
Power supply	220VAC/50Hz
Power consumption	≤100W
Signal output	4-20mA, RS485, 2 relays
<b>Sampling requirements</b>	
Flow rate	0.5L/min
Humidity	0-95%RH
Oil mist / solution mist	<2.0mg/ft <sup>3</sup> (filtering equipment is necessary if it exceeds the range)
Solid particles	<2.0mg/ft <sup>3</sup> (filtering equipment is necessary if it exceeds the range)
<b>Structure</b>	
Interface	AGA1000: 1pc CEE plug, 1pc DB25 Signal output plug, 1pc 485 Standard DB9 plug, φ6 inlet, φ6 outlet AGA1000d: 3 cables(power, signal output, relay), φ6 inlet, φ6 outlet
Body material	Carbon steel
Dimension	AGA1000: 484mm*130mm*415mm (H*W*D) AGA1000d: 560mm*330mm*330mm (H*W*D)
Weight	AGA1000: about 9.3kg AGA1000d: about 69kg
<b>Certificate</b>	
EX	Exd II CT6 Gb
SIL	SIL2

## PRINCIPLE

AGA1000 series gas analyzer is equipped with a high-precision infrared analysis module, which is mainly composed of infrared light, optical path gas chamber, and an infrared detector.

The non-dispersive infrared (NDIR) technology is based on the asymmetric polyatomic molecular gas (such as CO<sub>2</sub>, NO, etc.) that has selective absorption of infrared light of a specific wavelength to achieve the detection of gas concentration. When infrared light passes through the measured gas, these gas molecules absorb infrared light of a specific wavelength. The decrease in light intensity is proportional to the number of molecules. The relationship between the change in light intensity and the number of molecules is subject to Lambert-Beer (Lambert-Beer) absorption law, the gas concentration can be determined.



Infrared absorption bands of common gases

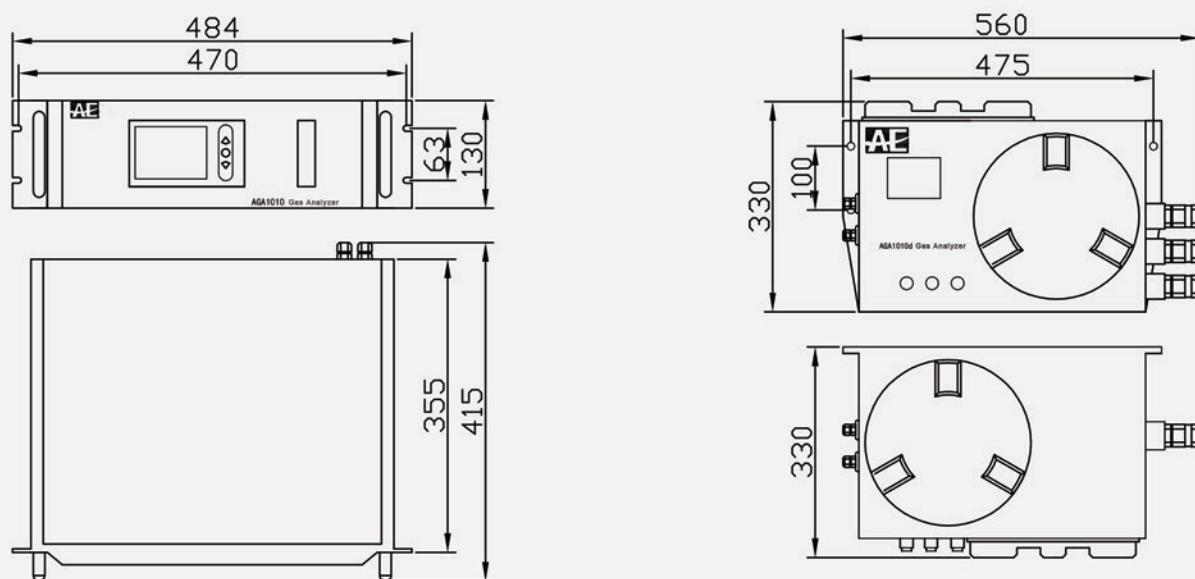
Gas	Molecular formula	Range of infrared absorption band/ $\mu\text{m}$			Absorption rate/%		
carbon monoxide	CO	4.5-4.7			88		
carbon dioxide	CO <sub>2</sub>	2.75-2.8	4.26-4.3	14.25-14.5	90	97	88
methane	CH <sub>4</sub>	3.25-3.4	7.4-7.9		75	80	
sulfur dioxide	SO <sub>2</sub>	4.0-4.17	7.25-7.5		92	98	

Note: The table only lists the commonly used bands with strong absorption, and does not represent the actual band of the infrared analyzer.

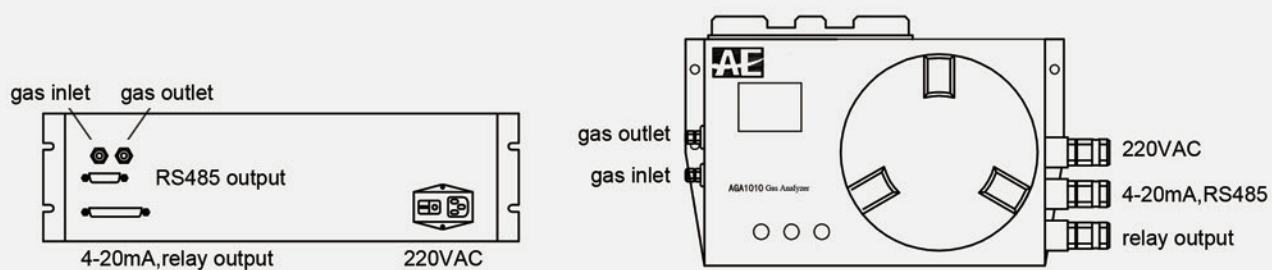
## FEATURES

- Support multi-component analysis, three gases in one analyzer at most (customized measure range).
- oxygen analysis is optional.
- The imported infrared light with a long lifespan, not less than 100,000 hours and high stability.
- The optical device electrical modulation with high stability, which will not be affected by vibration.
- The chamber adopts extrusion thermoforming technology, with high concentricity and accuracy.
- Low influence by temperature, high resolution.
- LCD screen, concentration curve, historical data and other information display.
- RS485 signal output, multi-level relay output, compatible with various control systems.
- The standard 19-inch case (AGA1000) design can be used with sampling systems for various working conditions.
- Exd II CT6 explosion-proof design can be used in explosive hazardous areas.
- Soft start and watchdog function, the program is stable.

## DIMENSIONS



## CONNECTION



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