

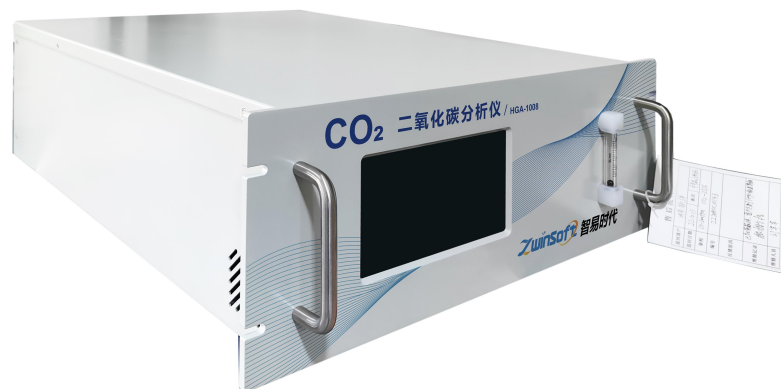
Carbon Dioxide (CO₂) Analyzer

HGA-1008 Model

1.Product Introduction

HGA-1008 Carbon Dioxide (CO₂) analyzer is an online gas analysis instrument suitable for domestic environmental protection, greenhouse gas monitoring, carbon emission control, etc. It is mainly composed of infrared sensors (light source, gas absorption pool, detector), data acquisition unit, signal Interface board, control circuit, power supply and other parts.

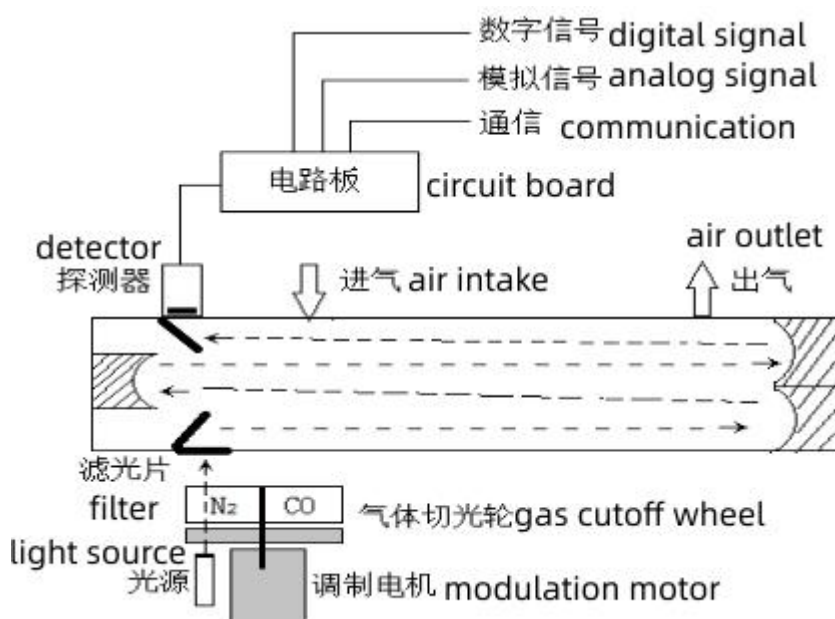
This product is mainly based on Gas Filter Correlation (GFC) and Non-dispersive infrared (NDIR) to realize the measurement of carbon dioxide (CO₂) concentration. It has the characteristics of high precision, good stability and fast response time. It can be widely used in electric power, chemical industry , cement, steel, smelting and other scenes.



2.Principle

① When the infrared light passes through the gas cell to be measured, these gas molecules absorb the infrared light of a specific wavelength, and the absorption relationship obeys the Lambert-Beer absorption law;

②The infrared light emitted by the light source passes through the GFC (Gas Filter Correlation, the GFC wheel is an equal-proportion light-transmitting wheel, one of which is blocked from light, and the infrared radiation cannot enter the measuring gas chamber, and the value is the background noise) modulation wheel alternately enters the gas. One path is absorbed by the gas filled with the gas to be measured, and the other path passes through the gas that does not contain CO₂ to be measured. The two paths of light are respectively converged by the lens and received by the infrared detector. After signal processing, the measurement signal and reference signal are obtained. By analyzing the two signals, the concentration of relevant components in the gas can be obtained.



3. Product Features

①Gas Filter Correlation(GFC) and long optical path gas cell (L-Cell), with the ability to detect ultra-low gas concentrations.

②Cryogenic refrigeration type infrared detector, low drift, high precision, low power consumption, fast response.

③High-performance infrared light source, long service life, special structure design to effectively avoid the impact of vibration.

④The self-tuning PID algorithm is used internally to control the temperature with high precision.

⑤The light source, detector, core circuit, etc. adopt modular design, with high reliability, strong expandability and convenient maintenance.

⑥Independent gas detection module, easy to integrate into any detection system or control system.

⑦Output signal: RS-232/4-20mA.

⑧the range can be customized as requested

⑨Long service life.

4.Parameters

- Measurement principle: (GFC) gas filter correlation and (NDIR) Non-dispersive infrared
- Range CO₂: (0~30) %; (can be customized)
- Sample gas flow rate (0.8~1.5)L/min±10%
- Response time ≤60 秒
- Measurement error ≤±2%F.S.
- Drift ≤±2%F.S.
- Stability ≤2%
- Repeatability ≤1.0%
- Preheating time ≤60min
- Analog signal output (4~20)mA, 5 路
- switching signal outputs 8, reserved for expansion interface
- Digital interface RS232
- Switch signal input 8 channels
- Weight: about 9kg
- Environment:occasions without significant vibration or shock;
non-explosion-proof occasions