Datasheet

Infrared Gas Analyzer | GF330

Features

- Continuous measurement of SO_2, NO, CO, CO_2, CH_4, N2O, O_2, SF_6 and other gas concentrations
- Support 4-20mA analog output, RS232, RS485, network port and other data output methods
- The instrument is easy to operate, quick to set up and easy to operate, and the warm-up time depends on the sensor
- Color large-screen LCD operation interface, supports switching between Chinese and English, and can directly complete parameter setting, measurement and calibration through the menu
- The measuring range can be customized, and the gas concentration unit can be switched between ppm and mg/m^3

Application

- Scientific research fields
- Agricultural field
- Industrial field
- Environmental protection field
- Security field

Description

The infrared gas analyzer adopts non-dispersive infrared technology (NDIR, Non-Dispersive InfraRed). NDIR is a method based on the Lambert-Beer law gas absorption theory. After the infrared radiation emitted by the infrared light source is absorbed by a certain concentration of gas, the spectral intensity proportional to the gas concentration will change, so the concentration of the gas to be measured can be reversed by calculating the change in spectral light intensity.

Another core technology of infrared gas analyzer is based on infrared correlation filtering technology and self-designed long optical path gas absorption cell to realize quantitative analysis of gas in infrared band, which has the characteristics of high precision, good stability and fast response time.

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1. Performance

Measuring principle		Infrared absorption (NDIR)
Measuring gas		CO,CO2,o_2, etc. (expandableSO2,NO,N_2o,CH_4,SF_6, replace the corresponding sensor module according to customer needs)
Measuring range	SO2	0-100ppmto0-2000ppm
	NO	0-1000ppmto0-30000ppm
	CO	0-100ppmto0-100% Vol
	CO2	0-100ppmto0-100% Vol
	CH_4	0-50ppmto0-5%Vol
	SF_6	0-50ppmto0-1000ppm
	N2o	0-50ppmto0-500ppm
	o2	0-5%Volto0-25%Vol
Preheat time		5 minutes (depending on the sensor))
Response time		≤5s
Stability	Zero drift	≤1% FS/week
	Range drift	≤1% FS/week
Output Interface	Numerical output	RS323/RS485
	Switch output	IN/OUT(support8road)
	Analog output	4-20mA(support4road)
Gas inlet flow		0.5L-1L/min
Linearity error		≤1% FS
Repeatability		≤1%
Ambient temperature effect		Ambient temperature does not change10℃, zero point and span change ≤2%
Atmospheric pressure effect		Per change ≤1%, (allowable atmospheric pressure range) ≤2%

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Use environment	Temperature:0-45 ℃Chumidity: 0-90%RHAtmospheric pressure:700-1200Mpa
Power supply	AC220V
Dimensions	19inch4USheet Metal Chassis
Weight	12KG

2. Purchase Guide

GF330 infrared gas analyzer adopts two different working principles

(1) Measuring principle of infrared gas analyzer

Infrared gas analyzer technology is non-dispersive infrared technology (NDIR, Non-Dispersive InfraRed). NDIR is a method based on the Lambert-Beer law gas absorption theory. After the infrared radiation emitted by the infrared light source is absorbed by a certain concentration of gas, the spectral intensity proportional to the gas concentration will change, so the concentration of the gas to be measured can be deduced by calculating the change in spectral light intensity. Another core technology of infrared gas analyzer is based on infrared correlation filtering technology and self-designed long optical path gas absorption cell to realize quantitative analysis of gas in infrared band, which has the characteristics of high precision, good stability and fast response time.

Lambert-Beer law

Infrared gas analyzers are made according to the Lambert-Beer law. Assume that the measured gas is an infinitely thin plane. Infrared rays with an intensity of k penetrate it vertically, and the amount of energy attenuation is:

$$I = I_0 \times e^{-kCL}$$ (Lambert-Beer law)

In the formula: I--radiation intensity absorbed by the medium;

Io - the radiation intensity of infrared rays before passing through the medium;

k - the absorption coefficient of the component to be analyzed to the radiation band;

C - the gas concentration of the component to be analyzed;

L--the length of the gas chamber (the thickness of the measured gas layer)

For the infrared gas analyzer, the measurement components are fixed, that is, the absorption coefficient k of the components to be analyzed for the radiation band is fixed; the infrared light source is fixed, that is, the radiation intensity Io before the infrared rays pass through the medium is fixed; the length L of the gas chamber is fixed. It can be seen from Beer's law that the concentration C of the component to be analyzed can be determined by measuring the attenuation I of the radiation energy.

(2) Oxygen concentration measurement principle

The oxygen sensor works according to the working principle of a fuel cell. Oxygen is converted into an electric current at the interface between the cathode and the electrolyte, and the generated electric current is proportional to the oxygen concentration.

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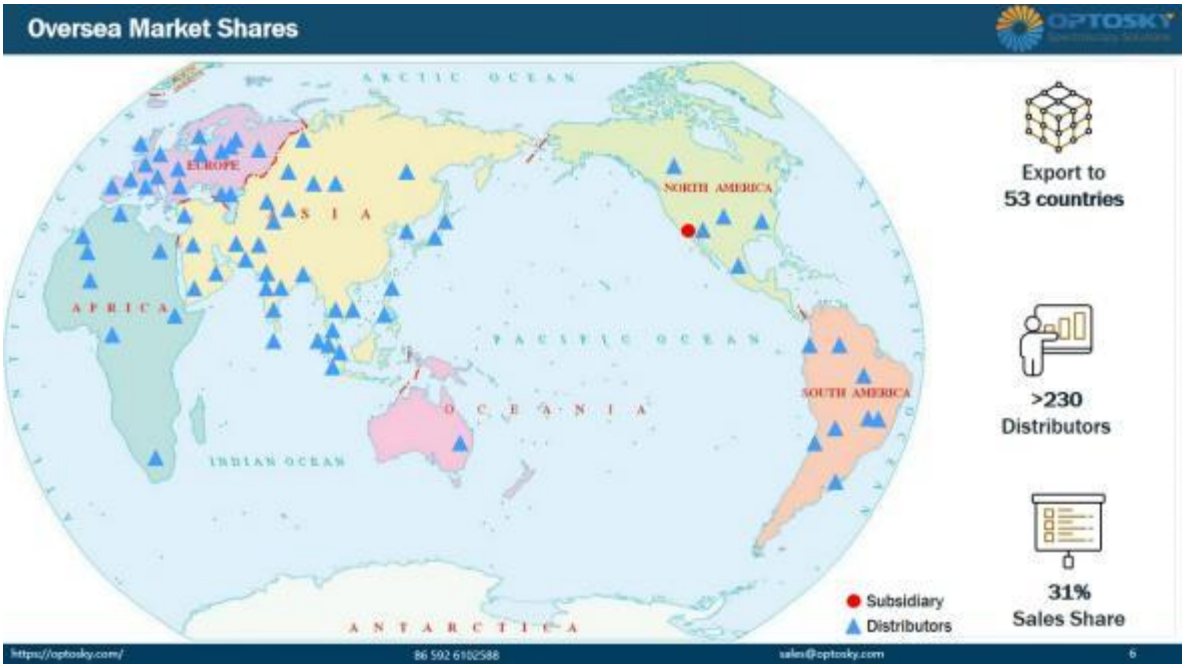
3. Company Profile



Oversea Market Shares

Optosky Chair and Draft National Standards Lists

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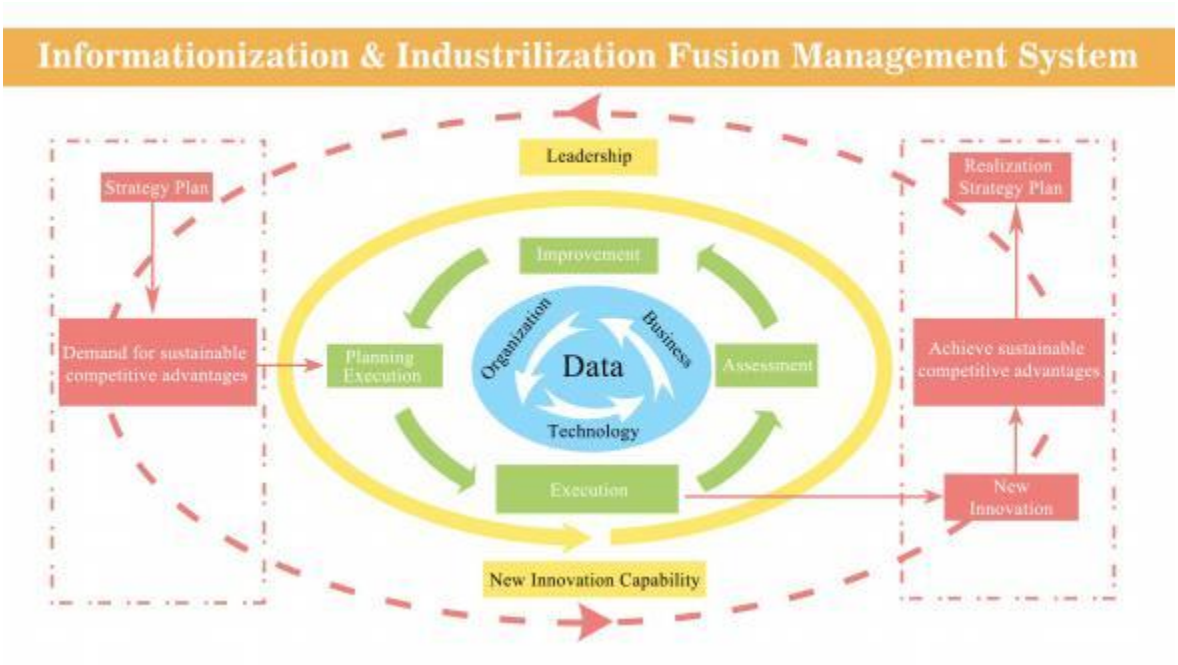
Qualification



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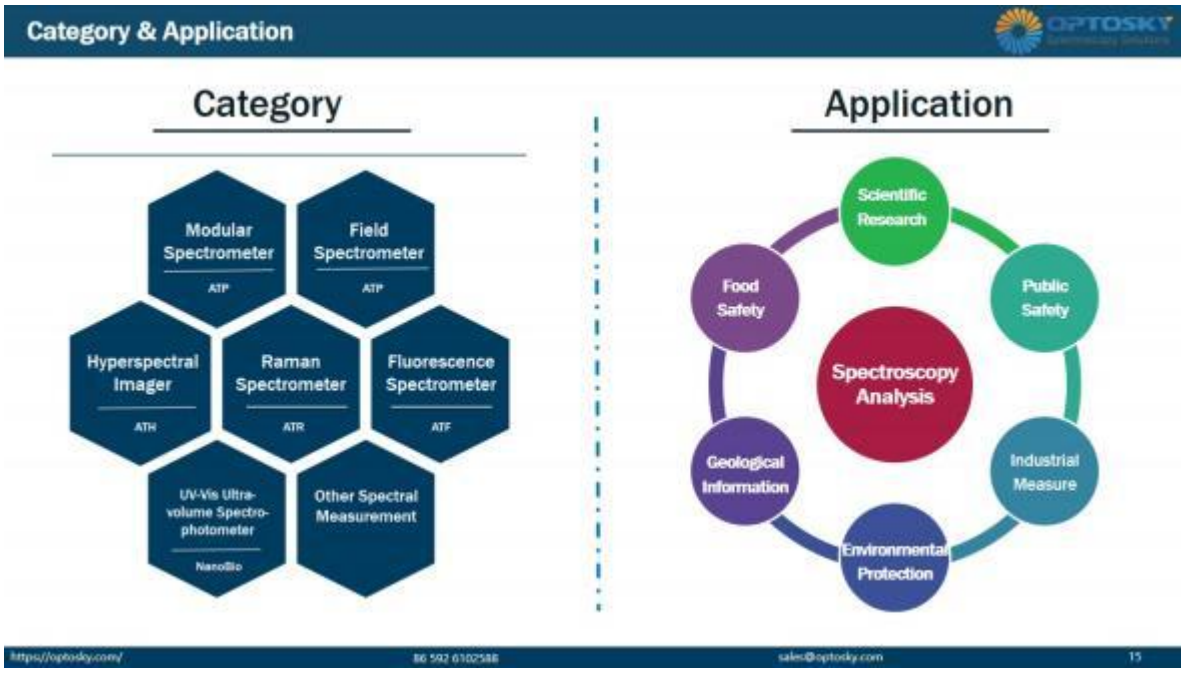
Optosky's Co-founder_Dr. Hongfei Liu



Category & Application

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