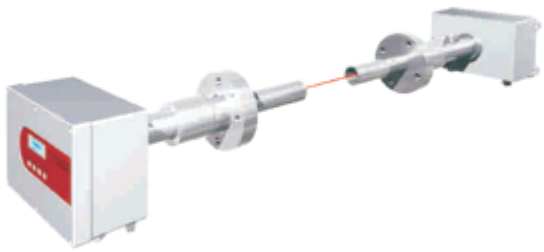
ISATEC LGA Series
Process Laser Gas Analysis System

Utilizing cutting edge technology of ***Tunable Diode Laser Absorption Spectroscopy (TDLAS)***, ISATEC delivers the LGA system to satisfy in-situ measurements with high accuracy, fast response, strong reliability and virtually maintenance free.
The LGA system is applicable to almost all industrial process, especially well proven in harsh conditions in combination of high temperature, pressure, dust, corrosives and contaminants. It can be employed in metallurgy, refinery, petrochemical, natural gas, power plant, waste incineration, cement and other situations where gas measurement is needed.

The transmitter portion of the LGA system consists mainly of diode laser, laser driver and HMI modules, realizing diode laser driving, spectrum data processing and human-machine interface. The receiver unit of the analyser is composed by a photoelectric sensor, signal processing and purge control modules.

TDLAS Technology guarantees no cross interference, no effects from dust, moisture or window contamination and an automatic and constant temperature and pressure compensation.

LGA 4100 In-situ



FEATURES and BENEFITS:

- In-situ, no gas sampling
- No cross interference
- Fast response less than 1 second
- Different optical lengths
- Online calibration, no zero drift
- International ATEX Certified

Specifications
Repeatability: ⩽ ± 1%F.S.
Linearity: ⩽ ± 1%F.S.
Span drift: ⩽ ± 1%F.S./6 months
Response time: ⩽ 1s(T90)
Warm-up time: ⩽ 15min
Optical path length: 0.5-20m
Process gas temperature: max. 1500°C
Process gas pressure: 0.8 to 4 bar abs.

Input & Outputs
Analog outputs: 2 outputs 4-20mA, max. load 750Ω, electrically isolated
Relay outputs: 3 outputs 24V DC/1A
Analog inputs: 2 inputs 4-20mA, for gas temperature & pressure compensation
Communications: RS485(or Bluetooth, RS232 or GPRS)

Operating conditions
Power supply: 24V DC(21-36V DC), or 90-240V AC
Power consumption: max. 20W
Operating temperature: -30°C to +60°C
Storage temperature: -40°C to +80°C
Purge gas: 0.3 to 0.8MPa nitrogen gas or instrument air
Protection class: IP65

LGA 4500 Bypass

FEATURES and BENEFITS:

- Fast response
- High accuracy, ppm level resolution
- No cross interference
- Online calibration, no zero drift
- International ATEX Certified

Specifications
Repeatability: ⩽ ± 1%F.S.
Linearity: ⩽ ± 1%F.S.
Span drift: ⩽ ± 1%F.S./6 months
Instrument response time: ⩽1s*
Warm-up time: ⩽15min
Gas cell temperature: -30°C to +250°C
Gas cell pressure: 0.5 to 3 bar abs.
*Gas flow>1L/min, system response time: T90⩽20s.

Input & Outputs
Analog outputs: 2 outputs 4-20mA, max. load 750Ω, electrically isolated
Relay outputs: 3 outputs 24V DC/1A
Communications: RS485(or Bluetooth, RS232 or GPRS)

Operating Conditions
Power supply: 200-240V AC/48-63Hz
Power consumption: ⩽30W (no heat tracing)
Operating temperature: -30°C to +60°C
Storage temperature: -40°C to +80°C
Purge gas: 0.3MPa nitrogen gas or instrument air
Protection class: IP65

LGA 4500IC Trace Level

FEATURES and BENEFITS:

- Drift free, maintenance free
- Accurate, real-time measurement
- No tape, no carrier gas, no light source or probe replacement
- No interference from glycol, methanol or amine
- International ATEX Certified
- Application Areas:
  - H_2O and H_2S in natural gas
  - Trace level H_2O, H_2S in chemical

Gas	Detection Limit	Measurement Range
H_2O in natural gas	2ppm	0-100ppm
H_2S in natural gas	2ppm	0-50ppm,0-200ppm

Specifications (H_2O)
Repeatability: ⩽ ±1%F.S.
Linearity: ⩽ ±1%F.S.
Span drift: ⩽ ±1%F.S./6 months
Instrument response time: ⩽1s*
Warm-up time: ⩽15min
Suggested gas flow: 1-5L/min
*Gas flow > 1L/min, system response time (short OPL 46cm): T90⩽11s, system response time (long OPL 112cm): T90⩽21s.

Specifications (H2S)
Repeatability: ⩽ ±1%F.S.
Linearity: ⩽ ±1%F.S.
Span drift: ⩽ ±2%F.S./6 months
Instrument response time: ⩽3s*
Warm-up time: ⩽60min
Sample gas: dust/moisture/oil free (filtration ⩽0.5um)
Suggested gas flow: 1-5L/min
* Gas flow > 1L/min, system response time: T90⩽30s.

Input & Outputs
Analog outputs: 2 outputs 4-20mA, max. load 500Ω, electrically isolated
Relay outputs: 3 outputs 24V DC/1A
Communications: RS485(or RS232/Modbus)

Operating Conditions
Power supply:100-240V AC(H_2O), 200-240V AC(H_2S)/48-63Hz
Power consumption: ⩽12W(H_2O); ⩽450W(H_2S)
Operating temperature: -20°C to +50°C
Protection class: Ip65

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