Industrial Laser Dust Sensor with Laser Backscattering and Single-End Installation for Real-Time 4-20mA Output Monitoring

Our Product Introduction

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Basic Information

- Place of Origin: Jiangsu, China
- Brand Name: KLSK
- Certification: CE
- Model Number: WT-602
- Minimum Order Quantity: 1PC
- Price: $1,200.00/pieces
- Packaging Details: Standard exporting package-Carton box
- Stock: 1PC

Product Specification

- Warranty: 1 Years
- Type: Dust Analyzer
- Customized Support: OEM
- Working Wavelength: 650nm
- Product Name: Dust Monitoring Equipment
- Gas Analyzer Principle: Scattered Light Backward
- Application: Online Stack Dust Monitor
- Power: 24VDC+/-10%
- Work Temperature: -40 -+50
- Measure Range: 0~200mg/m3, 0~10g/m3
- Signal Output: (4-20) MA
- Response Time: ≤ 10s
- Highlight: **Laser Backscattering Technology Dust Monitor**,
                            Single-End Installation Laser Dust Sensor,
                            4-20mA Analog Output Dust Meter

More Images

WT602 Online Laser Dust Monitor

Industrial Particulate Matter Emission Monitoring System

WT602 is an **online laser dust monitor** developed for continuous measurement of particulate matter (PM) concentration in industrial stacks, flues, and exhaust ducts. Based on the **laser backscattering principle**, WT602 provides stable, real-time dust concentration data for environmental monitoring, emission control, and process optimization.

The instrument adopts **single-end installation**, does not require optical alignment, and can be directly mounted on chimneys or pipelines. It is widely used in **power plants, cement plants, steel works, chemical and petrochemical industries**, and can be easily integrated into **CEMS, PLC, DCS, or SCADA systems**.

Measurement Principle

WT602 uses a **650nm semiconductor laser (7mW)** to emit a modulated beam into the flue gas. When dust particles pass through the laser beam, scattered light is generated. The backscattered light is collected by a photoelectric sensor and converted into electrical signals.

Through **DSP digital signal processing, phase-locked amplification, modulation and demodulation**, the system accurately calculates the dust concentration and outputs stable real-time values. This optical structure effectively avoids errors caused by gas temperature fluctuation, mechanical vibration, and refractive index changes in flue gas.

Key Features

- **Laser Backscattering Technology** - stable and accurate in harsh industrial environments
- **Single-End Installation** - no optical alignment required
- **On-Site Display** - real-time dust concentration shown directly
- **Strong Anti-Interference** - laser modulation & DSP processing
- **4-20mA Analog Output** - compatible with PLC / DCS systems
- **RS485 Modbus RTU Communication** (optional)
- **Low Power Consumption** - only about 3W
- **No-Tool Installation Concept** - easy maintenance
- **Purge Air Protection** - prevents lens contamination
- **Offline Zero & Span Calibration** with calibration block

Typical Applications

- Power plants
- Cement plants
- Steel works
- Chemical & petrochemical plants
- Industrial boilers
- Flue gas emission monitoring
- Dust removal system process control

Installation & Maintenance

- **Flange mounting** on stack or duct
- **Purge air connection** (oil-free, water-free compressed air)
- **Zero & span calibration** recommended every 3-6 months
- Optical window cleaning cycle: **3-6 months**
- Designed for **24/7 continuous operation**

Technical Specifications

Parameters	WT602
Principle	Laser backscatter
Working wavelength	650nm
Zero drift	±2%F.S./24h
Range drift	±2%F.S./24h
Indication error	±15%
Response time	≤ 10s
Diameter of flue	(1-15)m
Operating temperature	(-40~+65) ºC
Flue temperature	<200ºC
Flue pressure	<1Kpa
Signal output	(4-20) mA
Power supply	DC 24V ± 10%

Product Catalogue

K60

K60-V

K500

K800

K1000

KF200

KL99

KF300

Company Information

COMPANY
APPEARANCE

THE OFFICE
MEETING

WORKSHOP
INSTRUMENT

- Nanjing Kelisaike Safety Equipment Co., Ltd. founded in 2004, Nanjing Kelisaike has three subsidiaries in Beijing, Xi'an and Xinjiang province, and over 30 domestic sales service centers.
- Standard products include the K60 series portable single gas detectors, K60-IV series multi gas detectors, K800 series fixed gas transmitters, K500 series wall-mounted gas detectors, K1000 series gas detector control panel units, KL99 series air breathing apparatuses, etc.
- Nanjing Kelisaike is also a factory with rich experience in OEM service, providing professional design and manufacturing of customized products.

We have obtained CE, ISO and other international certificates
for different market requirements.

Frequently Asked Questions

Are you a trading company or manufacturer?

We are manufacturer.

What about the payment method?

T/T, Paypal, Western Union, L/C is available

Does your company accept customization?

We do customizing service for customers.

What about the Shipment?

We'll choose proper transportation mode based on the weight of goods, usually arrange shipment by air express such as DHL, FEDEX, TNT or UPS.

What about after-sale service?

12 months warranty for all kinds of products.

Contact Us

Hailie

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