



OpreX™ Analyzers

TDLS8200

Probe type Tunable Diode Laser Spectrometer

Easy install, the best just got better

Yokogawa's new probe type TDLS greatly reduces installation costs.

- Easy installing probe type
- Long-term stable measurement realized by excellent probe design
- Intuitive touchscreen HMI
- Fully field repairable with 50 days of data and spectra storage
- Hazardous area classification Zone1 / Division 1



Fired Heater Combustion, Safety, and Lifecycle Management

Yokogawa TDLS8200 simultaneously measures multi-gas like O₂, CO, and CH₄, providing, FAST, quick and reliable information to achieve;

- Combustion Efficiency Improvement
- Safety Improvement
- Longer Life time of the coils and coil hangers
- Higher throughput thru optimizing heating



Limiting O₂ Concentration for safety and process monitoring & control

Yokogawa TDLS8200 O₂ analyzer achieves;

- No Sampling system required so less maintenance
- Fast Response Analysis
- No Interference Analysis (TruePeak measurement technology)
- Internal reference cell for peak locking during trace measurement

System Configuration

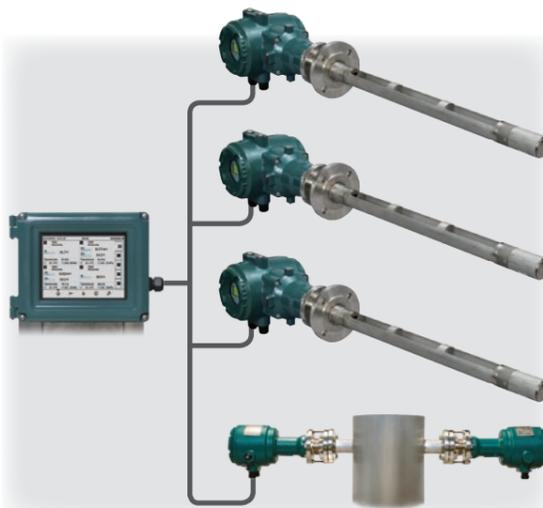
■ Standard System configuration

- LCD display for process parameters and system status
- HART communication available



■ System configuration with HMI

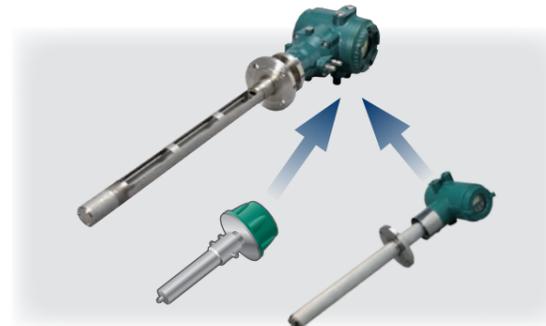
- Up to 4 units connection available
- TDLS8000 mixed system available



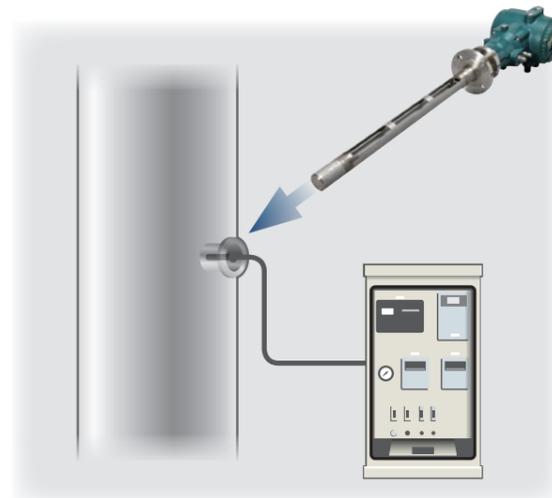
Easy installation

■ Access on one side only

- One flange only: no alignment required



Easy replacement of existing analyzer

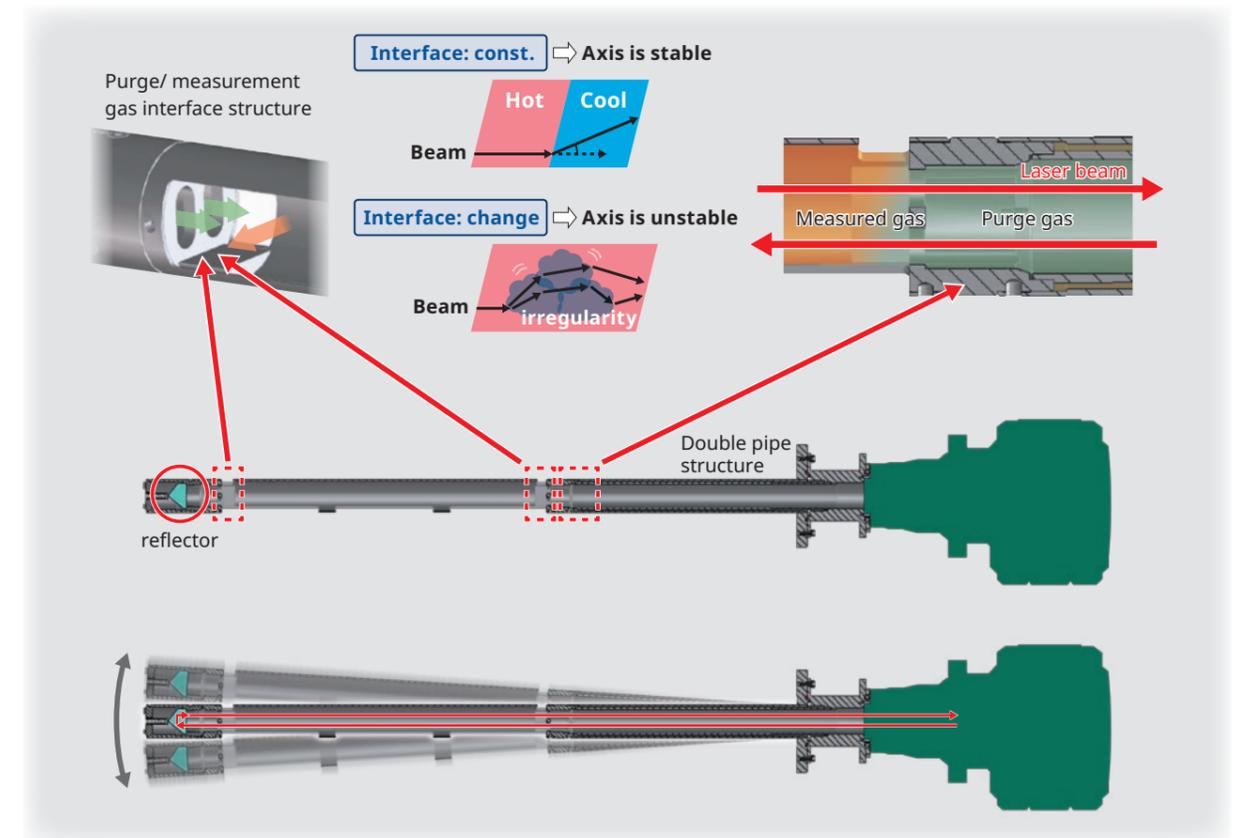


Easy replacement from gas sampling system

High Reliability

■ Long-term stable measurement

- Optical, hydrodynamics, thermal and vibration designed Probe to stabilize laser optical axis and optical path length for a long time



■ Reference cell

- Internal reference cell in the laser module ensures peak locking during trace measurement (for O₂ and CO only)

Specifications

TDLS8200

STANDARD SPECIFICATIONS

| | | |
|---------------------------------------|--|-------------------|
| Measurement object | O ₂ +CO, O ₂ +CO or CH ₄ , O ₂ , CO, CO or CH ₄ , NH ₃ , HCl | |
| Measurement system | Tunable diode laser spectroscopy | |
| Measured component | Min. range | Max. range |
| O ₂ | 0-1% | 0-25% |
| CO (ppm) | 0-200 ppm | 0-10,000 ppm |
| CO or CH ₄ | CO | 0-200 ppm |
| | CH ₄ | 0-5% |
| NH ₃ | 0-30 ppm | 0-5,000 ppm |
| HCl | 0-50 ppm | 0-5,000 ppm |
| Probe length | 0.7 m, 1.0 m, 1.5 m, 2.0 m | |
| Optical path length | 1 m | |
| Analog output | 5 points, 4 to 20 mA DC Output types: Gas concentration, Transmission, Process gas temperature, Process gas pressure | |
| Digital communication | HART, Ethernet | |
| Digital output | 2 points, contact rating 24 V DC, 1 A DO: Function: Activate during Warning / Calibration / Validation / Warm up / Maintenance conditions Fault: Function: Activate during Fault condition or when the system power is off | |
| Power supply | 24 V DC ±10% | |
| Protection degree | IP66/NEMA 4X | |
| Process gas condition | Process gas temperature: Max 850°C Process gas pressure: 90 to 500 kPa abs. Process gas flow velocity: 1 to 30 m/sec | |
| Installation condition | Ambient operating temperature: -20 to +55°C Storage temperature: -30 to +70°C Humidity: 0 to 95%RH at 40°C (non-condensing) | |
| Functional safety | IEC61508 SIL2 (SC3) | |
| Hazardous area classifications | Division1, Zone1: Explosionproof FM (US, Canada), ATEX, IECEx, NEPSI, Korea, Japan | |

PERFORMANCE

| Measured component | Repeatability | Linearity |
|-----------------------|--|--|
| O ₂ | ±1% reading or ±0.01% O ₂ , whichever is greater | ±1% F.S. |
| CO (ppm) | ±2% reading or ±1 ppm CO, whichever is greater | ±1% F.S. |
| CO or CH ₄ | CO | ±2% reading or ±1 ppm CO, whichever is greater |
| | CH ₄ | ±4% reading or ±0.02% CH ₄ , whichever is greater |
| NH ₃ | ±2% reading or ±1 ppm NH ₃ , whichever is greater | ±2% F.S. |
| HCl | ±1% reading or ±2.5 ppm HCl, whichever is greater | ±2% F.S. |

Measurement conditions: 25°C, 0.1 MPa abs., optical path length 1 m

YH8000

| | |
|---------------------------------------|--|
| Display | Touchscreen 7.5 inch TFT color LCD panel, 640 x 480 (VGA) |
| Communication | Ethernet: RJ-45 connector, Communication speed: 100 Mbps |
| Protection degree of enclosure | IP65, NEMA Type 4X |
| Weight | Approx. 4 kg |
| Mounting | Analyzer mount (Front, left-side, right-side) with tilt function, Pipe mount or Panel mount |
| Cable Entries | 1/2NPT or M20 x 1.5 mm, two holes |
| Installation conditions | Ambient operating temperature: -20 to +55°C Storage temperature: -30 to +70°C Humidity: 10 to 90%RH at 40°C (Non-condensing) |
| Power Supply | 24 V DC ±10% |
| Hazardous area classifications | Division 2, Zone2: Non-Incendive/Type n; FM (US, Canada), ATEX, IECEx, Korea, NEPSI, EAC |

OpreX™

Through the comprehensive OpreX portfolio of products, services, and solutions, Yokogawa enables operational excellence across the enterprise.

Trademarks

Co-innovating tomorrow, OpreX and all product names of Yokogawa Electric Corporation in this bulletin are either trademarks or registered trademarks of Yokogawa Electric Corporation. All other company brand or product names in this bulletin are trademarks or registered trademarks of their respective holders.

YOKOGAWA ELECTRIC CORPORATION

World Headquarters

9-32, Nakacho 2-chome, Musashino-shi, Tokyo 180-8750, JAPAN

YOKOGAWA CORPORATION OF AMERICA

YOKOGAWA EUROPE B.V.

YOKOGAWA ENGINEERING ASIA PTE. LTD.

YOKOGAWA CHINA CO., LTD.

YOKOGAWA MIDDLE EAST & AFRICA B.S.C.(c)

<https://www.yokogawa.com/an/>

<https://www.yokogawa.com/us/>

<https://www.yokogawa.com/eu/>

<https://www.yokogawa.com/sg/>

<https://www.yokogawa.com/cn/>

<https://www.yokogawa.com/bh/>



Represented by:

ANA-02E

Subject to change without notice.

[Ed:05/b]

Printed in Japan, 404(KP)

All Rights Reserved, Copyright © 2019, Yokogawa Electric Corporation.

YOKOGAWA



Co-innovating tomorrow™