



OpreX™ Analyzers

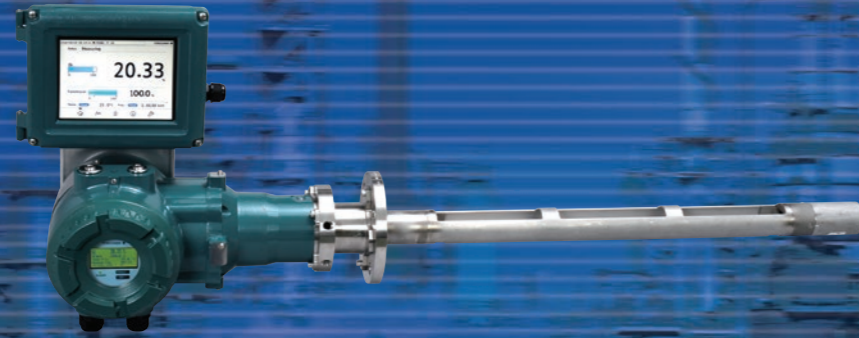
TDLS8100/TDLS8200

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

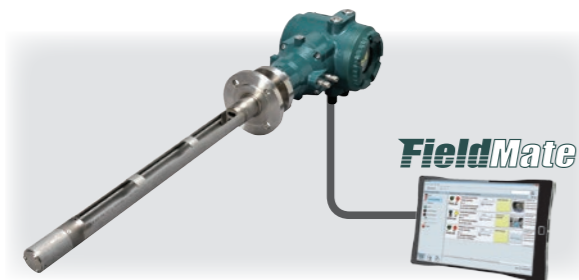
Yokogawa TDLS8100 O₂ analyzer achieves;

- 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

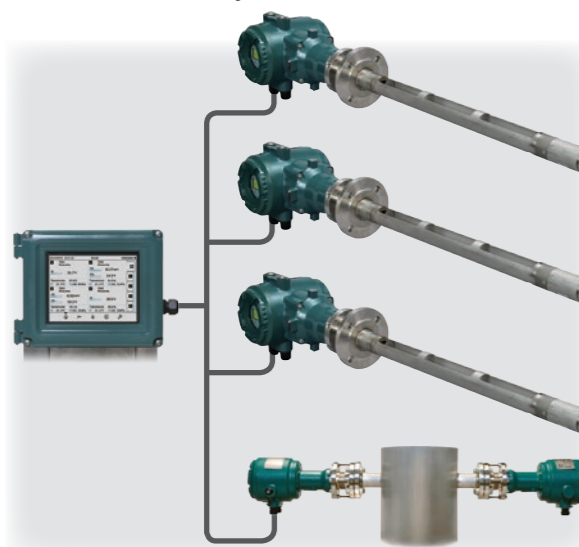
■ Standard System configuration

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



■ System configuration with HMI

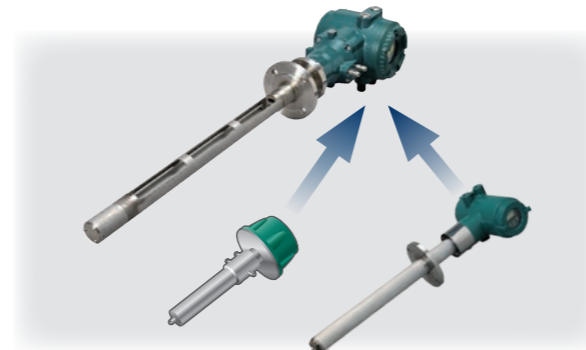
- Up to 4 units connection available
- TDLS8000 mixed system available



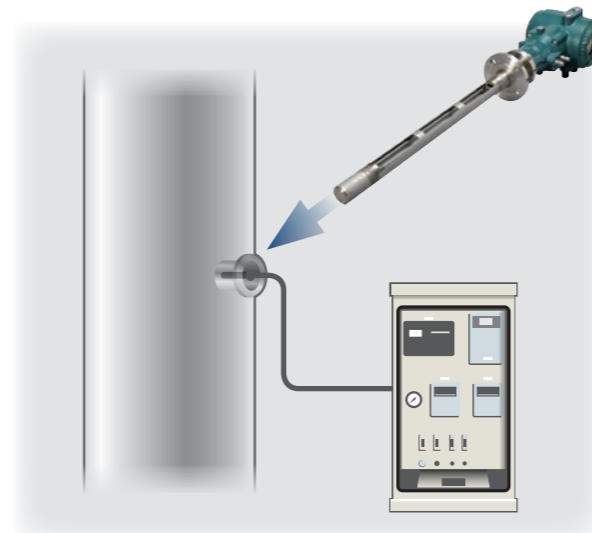
Easy installation

■ Access on one side only

- One flange only: no alignment required



Easy replacement of existing analyzer

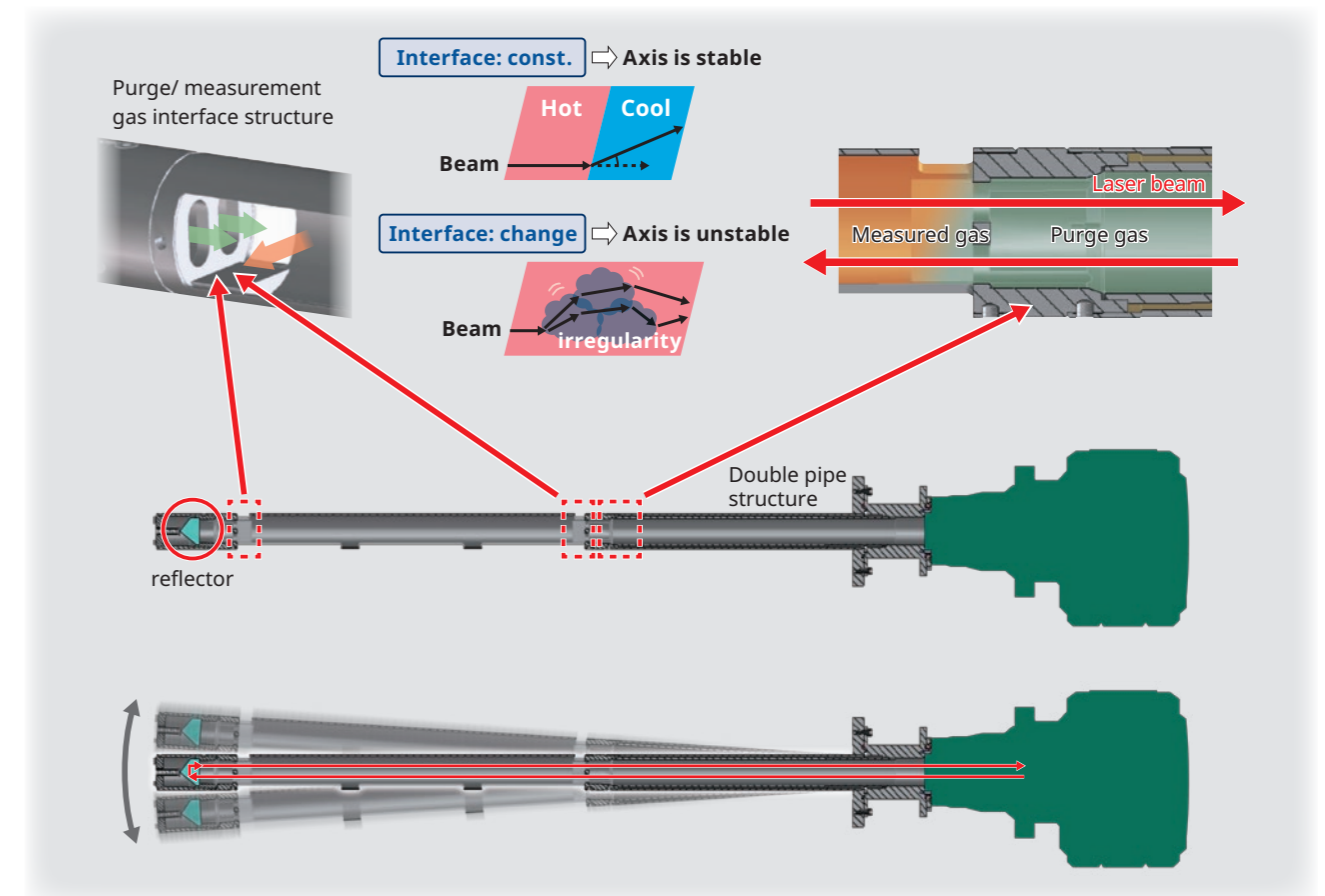


Easy replacement from gas sampling system

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

TDLS8100/TDLS8200

STANDARD SPECIFICATIONS

Measurement object	TDLS8100	O ₂ , CO, CO or CH ₄ , NH ₃ , HCl	
	TDLS8200	O ₂ +CO, O ₂ +CO or CH ₄	
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	2 points (TDLS8100), 5 points (TDLS8200), 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 *For TDLS8200, Consult with Yokogawa Electric Corporation when TDLS8100 is also required this temp spec. 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* *preparation for TDLS8200		

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

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