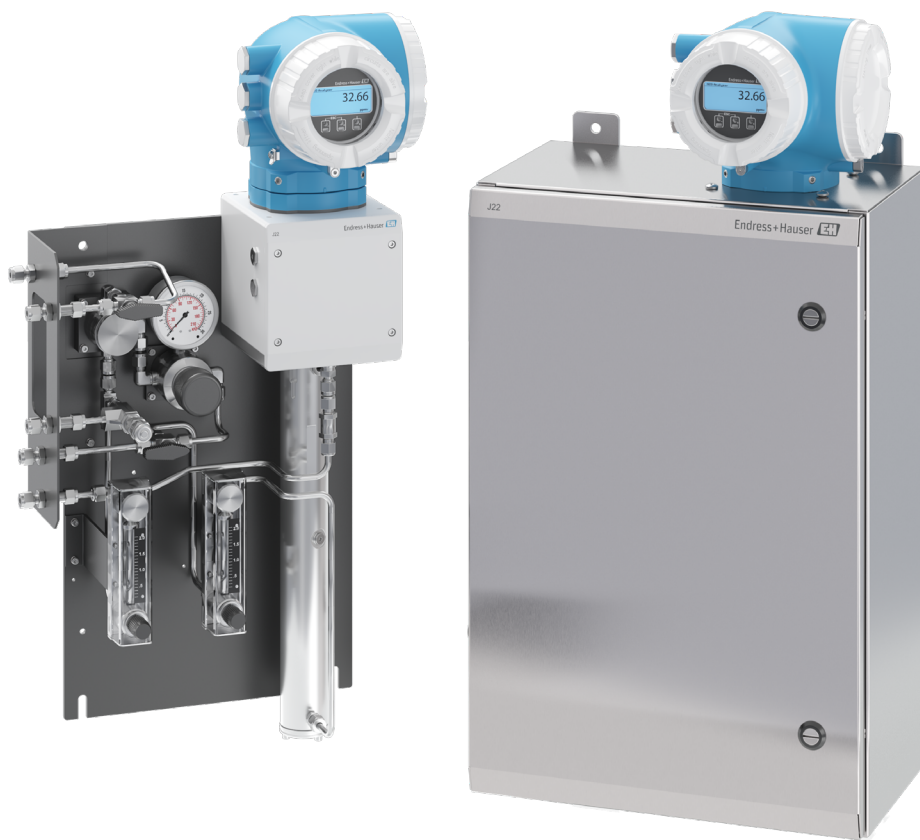


J22 TDLAS Gas Analyzer

Reliable H₂O measurements

- For safety, quality and productivity in natural gas applications
- Laser-based H₂O measurement ensures natural gas quality specifications
- The most accurate and reliable analysis to ensure safety and asset integrity
- NIST traceable calibration with superior accuracy and repeatability
- Robust design for easy installation, commissioning and repair
- Field serviceable components and modules for minimal downtime
- Friendly user interface with intuitive menu and web server software
- Heartbeat Technology™ for diagnostics and verification reporting
- Historical data and spectrum logging automatically stored
- Unsurpassed performance to safeguard downstream gas transmission from delivery interruptions





The J22 offers configuration flexibility with a variety of features to suit any application

Our expertise, your reliable measurement

Expectations for natural gas production measuring instruments are constantly increasing to meet the highest levels of process and product quality coupled with low maintenance and low total cost of ownership. From this requirement, the J22 TDLAS analyzer was created. The highly developed algorithms of the tunable diode absorption spectroscopy (TDLAS) measurement plus the sophisticated diagnostics, monitoring, and verification concept of Endress+Hauser Heartbeat Technology offers a comprehensive process monitoring that cannot be found anywhere else. Fewer failures, lower operating costs and improved reliability provide the user with a sustainable competitive advantage, ensuring continuous and reliable measurements.

For over 20 years, SpectraSensors, has been providing customers with world-class TDLAS gas measurements for the natural gas industry. The extractive TDLAS H₂O analyzer systems provide continuous measurements, ensuring operational safety and high plant availability. These high-quality analyzers are best-in-class for meeting gas quality specifications, preventing pipeline corrosion, hydrate formation, and risk of explosion ensuring human safety and asset integrity.

SpectraSensors' experts are strategically located worldwide, ensuring an active local presence anywhere. Our dedicated team is always on hand to provide additional support.

Approvals and certificates



Principle technology of the analyzer

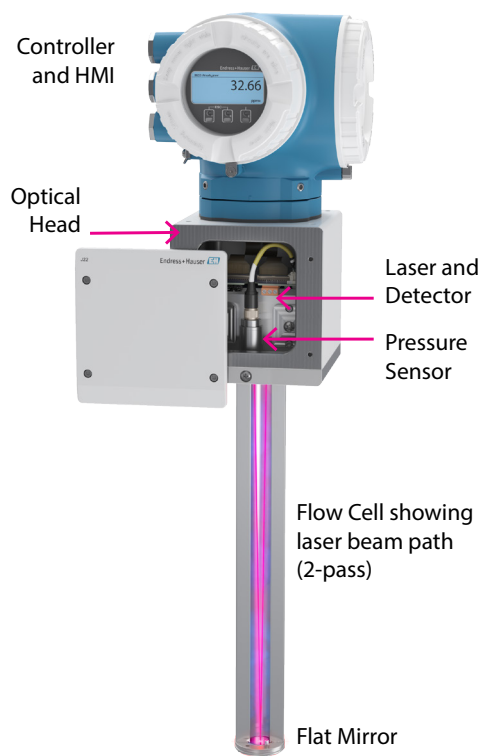
Recognized as the leader in TDLAS technology, SpectraSensors pioneered the use of tunable diode lasers for on-line, real-time measurements of H₂O in hydrocarbon gas streams. Advanced diagnostics and superior measurement algorithms differentiate the J22 analyzer providing the highest analyzer availability.

The heart of the TDLAS measurement lies in the gas sample cell where the laser and signal detector are isolated from process contaminants, eliminating contamination and measurement errors.

State-of-art gas mixing technology is used during factory calibration for measurement confirmation. This ensures leading-edge metrology for superior measurement performance, safeguarding downstream gas transmission for uninterrupted delivery.

Seamless integration

The J22 Analyzer can be integrated seamlessly into any plant asset management system, providing reliable information for optimizing gas production measurement processes. The analyzer platform offers versatile operating options using a standardized Endress+Hauser concept. The user-friendly J22 TDLAS Gas Analyzer ensures natural gas quality and pipeline processes can be securely controlled with confidence.



Heartbeat Technology

- Diagnostic capabilities for reduced maintenance and quick resolution
- Permanent self-monitoring
- On demand PDF verification reporting
- Alarm categories per NAMUR 107



Superior metrology

- Excellent linearity and accuracy traceable to NIST references
- Extremely good repeatability and reproducibility
- Very low sensitivity to changes in ambient and stream conditions



HistoROM

- Automatic data storage ensures maximum plant safety
- Simple data restoration enables quick exchange of components
- Event logbook and data logger for quick failure analysis



Simple operation (HMI)

- Optimal usability with user friendly interface
- User-specified menu structures and device access



Web server

- Timesaving local operation without additional software
- Comprehensive access to device, diagnostics and process information
- Fast data upload/download for maintenance and service



Your benefits close-up

Proven technology for accurate and reliable measurement of H₂O in natural gas

SpectraSensors J22 TDLAS Gas Analyzer provides an exceptionally reliable measurement. It is tailored for natural gas pipeline operators and natural gas suppliers who want to meet gas quality specifications, prevent pipeline corrosion, stop hydrate formation, and minimize the risk of explosion to ensure human safety and asset integrity. TDLAS was introduced to the natural gas industry by SpectraSensors establishing the rugged nature of the laser-based analyzers. TDLAS analyzer technology has been used for decades in natural gas pipelines with very little maintenance. There are no interferences or detrimental effects from compressor oil, glycol, methanol, amine, H₂S, or moisture slugs.

Maximize high quality throughput and availability, minimize operational costs

- Proven reliability and real-time moisture measurement guarantees continuous gas deliveries and eliminates disputes
- Highest analyzer availability and low maintenance significantly reduces operational costs
- Diagnostics supported by Heartbeat Technology enables reliable automation of natural gas quality control

J22 for the finest process monitoring and control



Safety in the pipeline

The J22 analyzer helps natural gas pipeline operators prevent pipeline corrosion and minimize the risk of explosion, ensuring human safety and asset integrity.



Optimized productivity

The J22 analyzer has a high availability factor supported by Heartbeat Technology with advanced diagnostics and measurement algorithms.



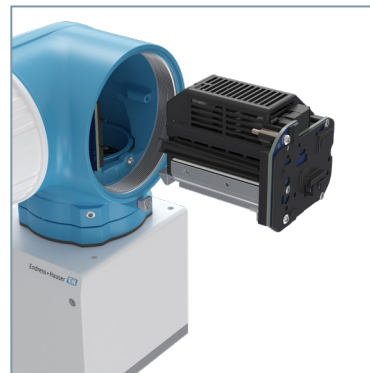
High plant availability

The J22 analyzer performs continuous, real-time measurements with proven metrology to avoid shut-in, flaring, and interrupted gas delivery incidents.

Convenient on-site analyzer upkeep

Ease of service, quick and simple, minimal downtime

The J22 TDLAS analyzer's easy-to-replace components minimize downtime for the most efficient continuous analysis. Components are easily accessible and field-serviceable, allowing for quick replacements or upgrades. The simple-to-remove gas sample cells are designed to allow convenient cleaning and servicing.

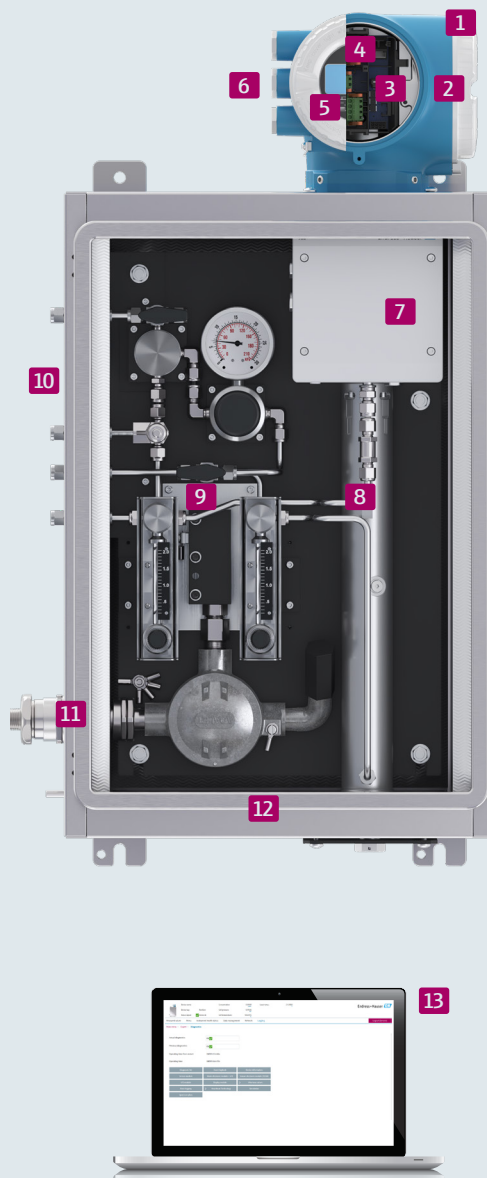


The J22 TDLAS analyzer system

The J22 TDLAS Gas Analyzer design exceeds industry expectations and provides optimum accessibility for all user interfaces via easy access to electronics, optics and sample conditioning components.

Features at a glance

1. **Electronics housing** – industry optimized using robust Endress+Hauser designed housing
2. **Two-chamber housing** – securely separated, modular electronics design for quick access for serviceability
3. **Web server connection** – easy to connect and configure in the field using a laptop computer
4. **HistoRom** – memory to keep all device information; data management concept for back-up, duplication, and electronic board exchange
5. **Display operation** – secure HMI with intuitive menu
6. **Outputs** – freely configurable for optimizing communications
7. **Optical enclosure** – the heart of the measurement using proven laser technology
8. **Sample cell** – continuous gas flow for real-time measurements
9. **Sample conditioning system** – enhances measurement integrity with selectable components for safely optimizing incoming gas stream
10. **Gas connections** – all gas connections located on one side with optional heat traced gas entry, safety purge and pressure relief
11. **Electrical** – connection for heater
12. **Enclosure** – with optional heater and insulation for cold weather
13. **Web server interface** – measured values, diagnostic information and historical records at your fingertips



Systems for diverse installation requirements

Configurations to suit varying environments and gas conditions

A variety of system options allow the J22 TDLAS Gas Analyzer to integrate perfectly into any number of natural gas application locations. Configuration flexibility makes it the most versatile H₂O analyzer on the market!




Analyzer systems designed for natural gas production installations

J22 TDLAS Gas Analyzer systems are available in multiple mounting configurations suitable for various locations:

- Panel mounted sample conditioning system for installation in shelters or in temperate locations
- Heated enclosure for use in outdoor settings or locations with harsh environmental conditions
- Filtration, with or without bypass to remove particulates or liquids in gas stream, assuring uninterrupted measurement
- Pressure regulation with or without pressure relief valve to ensure a steady gas flow into the analyzer for consistent and continuous measurement
- Rugged brackets for wall, rack, or pipe mount for effortless installation

Technical data

Measurement Data	
Target component	H ₂ O in Natural Gas
Principle of measurement	Tunable Diode Laser Absorption Spectroscopy (TDLAS)
Measurement ranges	0-500 to 0-6000 ppm _v (0-24 to 0-284 lb/mmscf)
Repeatability	±1 ppm _v or ±1% of reading (whichever is greater)
Reliability	
Accuracy	±2 ppm _v plus 2% of reading
Electrical & Communications	
Controller display	4-line backlit display with touch control
Controller operation	Configuration via display or web servers
Controller housing materials	Coated copper-free aluminum
Outputs & communication	I/O 1: Modbus RTU over RS485 I/O 2 & 3: (freely selectable): analog (4–20 mA) or digital outputs I/O 2 & 3: Choose from configurable analog/status outputs or relay outputs
Power supply	Controller: 24 VDC ±20% or 100-240 VAC ±10%, 50/60 Hz, 10W Optional Heater: 100-240 VAC ±10%, 50/60 Hz, 80W
Sample Conditioning System	
Panel and enclosure materials	Sample Panel: Anodized aluminum Sample Conditioning Enclosure: 304 Stainless Steel
Inlet pressure range	140-310 kPa (20-45 psi)
Sample cell operating pressure range	800-1200 mbara (atmosphere) or 800-1700 mbara (flare)
Flow rate	0.5-1.0 slpm (1-2 scfh)
Ingress protection	IP66, Type 4X
Wetted materials including sample measurement cell	316L Stainless Steel, FKM O-Rings
Sample conditioning components	Includes verification port and options for filtration, pressure regulation, flow meters, and safety purge
Certifications and Marks	
	

Contact

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