



BLUE DRAGON
TECHNOLOGY

MODEL 810H2S-P

PORTABLE HYDROGEN SULFIDE TAPE ANALYZER

Portable continuous H₂S monitoring for industrial gas streams and field deployment.

The Blue Dragon 810H2S-P uses a lead-acetate sensing tape method with optical measurement in a portable enclosure designed for dependable hydrogen sulfide monitoring.



Proven lead-acetate sensing tape

Proven lead-acetate sensing tape for accurate H₂S detection.



Selective optical measurement

Selective optical measurement delivers stable response readings.



Compact portable enclosure

Compact portable enclosure for field and laboratory use.



Continuous
H₂S Monitoring



Portable
Enclosure



Simple
Service Access



Industrial
Process Ready

WHY CHOOSE THE MODEL 810H2S-P?

Portable process-ready hydrogen sulfide monitoring.



Proven Tape Method

Lead-acetate sensing tape provides dependable H₂S detection.



Optical Measurement

Stable optical reading of tape response for continuous indication.



Portable Enclosure

Compact analyzer package for field and process-side use.



Integrated Flow Indication

Built-in flow indication supports proper sample setup.



Serviceable Tape Deck

Easy access for tape replacement and routine maintenance.



Clear Local Interface

Display and keypad simplify operation and status review.



Reliable
Monitoring



Process
Ready



1 ppb
Resolution



Portable
& Rugged



Easy
Service

H₂S MONITORING ACROSS MULTIPLE INDUSTRIES

Portable. Accurate. Built for the Field.

The Model 810H2S-P delivers reliable, portable hydrogen sulfide analysis for a wide range of industrial applications.



REFINERIES & PETROCHEMICALS

Monitor hydrogen sulfide in refining operations and gas-handling applications.



NATURAL GAS PROCESSING

Portable support for sour-gas and gas-treatment monitoring tasks.



SULFUR RECOVERY UNITS

Accurate, portable H₂S measurement for sulfur-handling processes.



CHEMICAL PLANTS

Continuous indication of hydrogen sulfide in industrial gas streams.



TERMINALS & STORAGE

Supports portable measurement at gas handling, loading, and storage points.



FIELD & PROCESS-SIDE CHECKS

Portable deployment for routine checks and continuous local H₂S monitoring.



DESIGNED FOR
INDUSTRIAL GAS-MONITORING
APPLICATIONS



PORTABLE
DEPLOYMENT



PROCESS-SIDE
USE

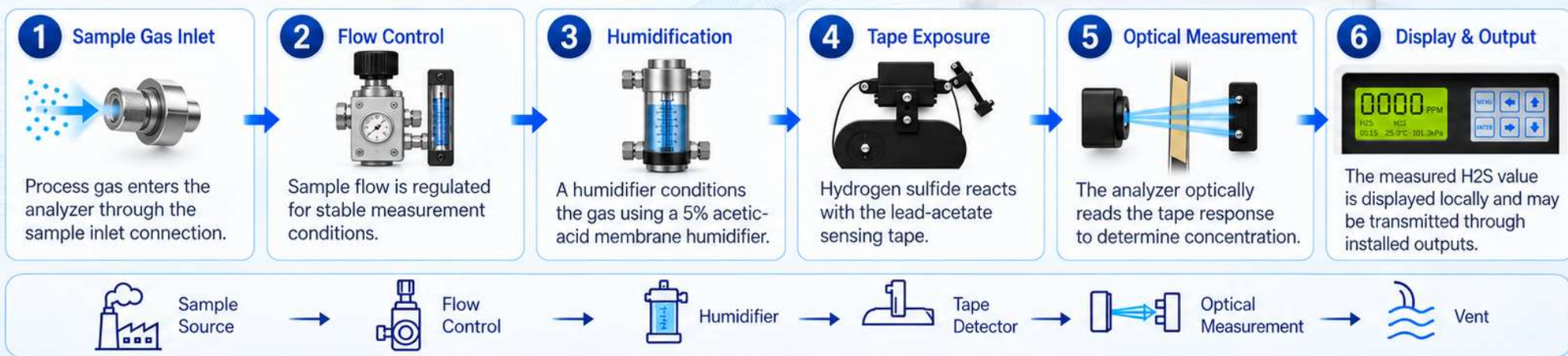


BROAD
APPLICATION FIT

HOW IT WORKS

Lead-acetate tape detection with optical measurement.

The Model 810H2S-P measures hydrogen sulfide by passing a conditioned sample stream across a lead-acetate sensing tape and optically measuring the tape response.



Continuous
H₂S Monitoring



Lead-Acetate
Tape Method



Optical
Detection



Portable
Deployment

TECHNICAL SPECIFICATIONS

Blue Dragon 810H2S-P Portable Hydrogen Sulfide Tape Analyzer

Core performance and utility information.

Measurement Principle	Lead-acetate sensing tape with LED / photodetector optical measurement
Display	128 × 64 pixels alphanumeric LCD
Resolution	1 ppb
Accuracy	±2% of full scale (FS)
Repeatability	±1% of full scale (FS)
Linearity	±1% of full scale (FS)
Drift	Nil stated, field verification required
Temperature Coefficient	0.01% FS per °C
Analysis Time	1 second
Operating Temperature	0 to 50 °C
Storage Temperature	0 to 70 °C
Area Classification	General purpose, non-hazardous locations only
Approx. Dimensions	267 × 318 × 165 mm (10.5 in W × 12.5 in H × 6.5 in D)
Approx. Weight	4.5 kg (10 lb)
Sample Inlet	1/8 in
Vent Connection	1/4 in, atmospheric, no backpressure
Typical Sample Inlet Pressure	10–15 psig typical (approximately 9 psig on analyzer gauge when supplied regulator arrangement is used)
Maximum Inlet Pressure	100 psig (unless a separate upstream regulator is used)
Typical Sample Flow	0.3 SCFH typical
Speed Loop / Sweep	10–20 psig differential with excess sample directed to approved flare or low-pressure point through a check valve
Power Options	110 V AC, 220 V AC, 12 V DC, or 24 V DC (one configuration only, as installed)
Digital I/O	Up to 14 digital outputs and 6 digital inputs (depending on configuration)
Communications	RS232 or RS485 / Modbus
Analog Output	Isolated 4–20 mA (if installed)



Measuring range is order-specific.
Optional I/O and accessories depend
on configuration.



Continuous
H₂S Monitoring



Portable
Enclosure



Simple
Service Access

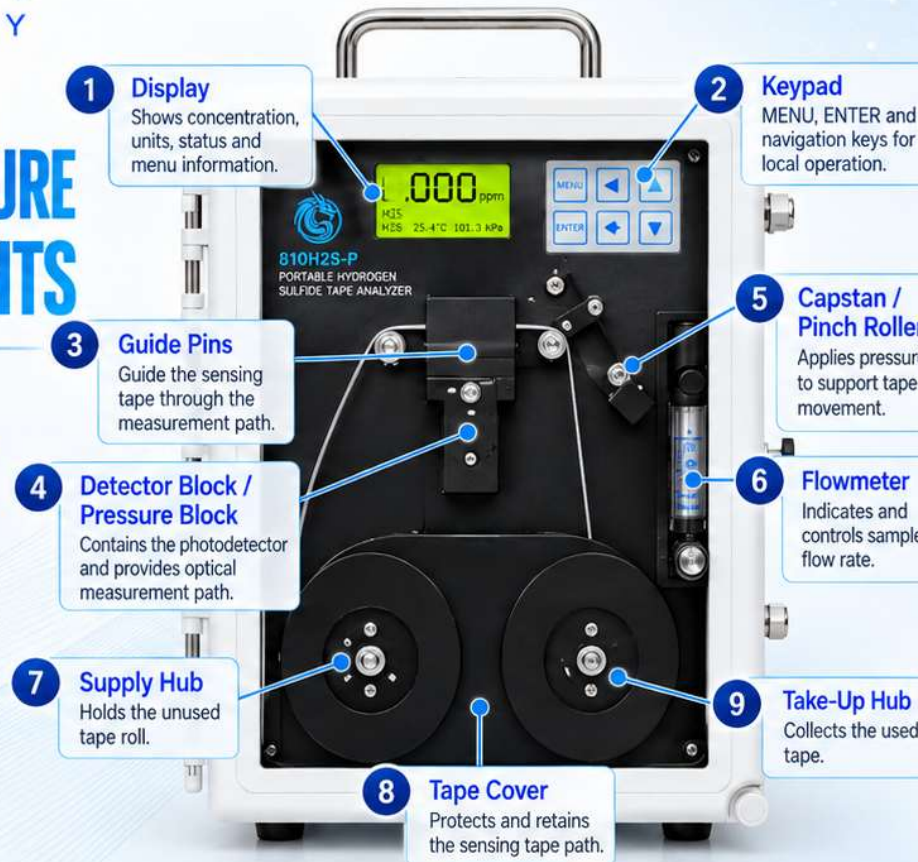


Industrial
Process Ready

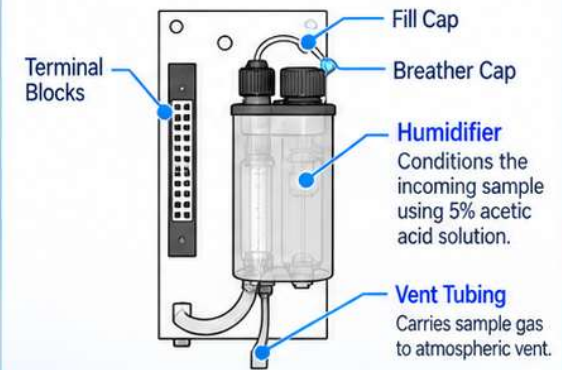


ANALYZER ARCHITECTURE & CORE COMPONENTS

Portable design with accessible
measurement and service elements.



Rear of Tape-Deck Panel (Humidifier and Related Components)



External Connections (Locations may vary by configuration)



Sample In
Connection for the regulated sample-gas line.



Vent
Atmospheric-pressure outlet after the detector.



Power
AC or DC input as identified on the nameplate.



Signal / Output Housing
Order-specific alarm, loop and communications.



Optional Battery / Power Housing
Installed only when included in configuration.



Compact
Package



Integrated
Flow Indication



Optical Tape
Measurement



Simple
Service Access

INSTALLATION & SAMPLE CONNECTIONS

Practical setup guidance for stable analyzer performance.



Installation Essentials

- ✓ Install in a general-purpose, non-hazardous location.
- ✓ Keep the analyzer upright.
- ✓ Sample inlet: 1/8 in tube fitting; 316 stainless-steel sample line recommended.
- ✓ Vent: 1/4 in connection; vent to atmospheric pressure with no backpressure.
- ✓ Sample inlet pressure: 10–15 psig typical.
- ✓ With the supplied regulator arrangement, set the analyzer gauge to approximately 9 psig.
- ✓ Maximum inlet pressure: 100 psig unless a separate upstream pressure regulator is used.
- ✓ Sample flow: 0.3 SCFH typical on the manual flowmeter scale.
- ✓ Speed loop / sweep: a 10–20 psig differential can support rapid sweep flow; excess sample should go to an approved flare or low-pressure point through a check valve.
- ✓ Power is order-specific: 110 V AC, 220 V AC, 12 V DC, or 24 V DC; verify the nameplate before energizing.



Basic Connection Concept



Final installation details depend on the sample system and project-specific requirements.



Continuous
H₂S Monitoring



Portable
Enclosure



Simple
Service Access



Industrial
Process Ready

POWER, SIGNALS & CONFIGURATION OPTIONS

Flexible electrical and communication configurations for industrial use.



Power Configurations

- 110 VAC
- 220 VAC
- 12 VDC
- 24 VDC
- One power configuration is installed per analyzer.



Outputs & Communications

- RS232 communication
- RS485 / Modbus communication
- Isolated 4–20 mA analog output (when installed)
- Digital I/O availability depends on the selected configuration



Available Options

- Battery option
- Alarms
- Range change
- Auto calibration
- Electronic flowmeter
- Bottle regulator
- Liquid-removal filter
- Heater
- Sample-conditioning hardware



Options are configuration-dependent.

Confirm the required I/O and accessories during project definition.



Continuous
H₂S Monitoring



Portable
Enclosure



Simple
Service Access



Industrial
Process Ready

ROUTINE MAINTENANCE & CONSUMABLES

Keep your 810H2S-P operating reliably with simple, practical maintenance.



Sensing Tape

- Replace sensing tape as consumed or when indicated by the analyzer.
- Use approved tape type.



Humidifier Solution

- Use approved 5% acetic-acid solution.
- Check and refill as required to maintain stable operation.



Sample Filter / Sample Path Checks

- Inspect and service sample filter and sample path as required by application cleanliness.
- Replace components as needed to maintain reliable performance.



Flow & Pressure Verification

- Confirm proper sample flow and inlet pressure setup.
- Verify stable operation within recommended ranges.



External Inspection

- Check enclosure, fittings, tubing, display area, and general condition.
- Ensure clean, secure, and leak-free connections.



Performance Verification

- Zero/span verification or field verification in line with site quality practice.
- Perform periodic performance verification as required by site procedure.



Reliable
Gas Monitoring



Low Maintenance
Design



Simple
Service Access



Industrial
Process Ready

ROUTINE MAINTENANCE & CONSUMABLES

Simple upkeep for dependable analyzer performance.



Sensing Tape

Replace the lead-acetate tape as required and store new rolls sealed and clean.



Humidifier Solution

Use only the approved 5% acetic-acid solution and keep the humidifier properly filled.



Sample Flow Path

Inspect tubing, fittings, and the vent line to ensure stable sample flow and no blockage.



Measurement Path

Check the tape path, detector area, and moving components during service intervals.



General Upkeep

Keep the analyzer upright, clean, and protected from contamination and improper handling.



Service & Support

Routine maintenance is straightforward and field-friendly.

Spare consumables and accessories should be specified per project needs.

Blue Dragon Technology can support configuration and product selection.



Service-Friendly
Design



Portable
Analyzer



Routine
Consumables



Industrial
Reliability

11. START-UP & COMMISSIONING

Verified field start-up sequence for the 810H2S-P

1



Install

Install in a general-purpose, non-classified area; keep the analyzer upright, stable and accessible.

2



Verify Connections

Verify sample line, atmospheric vent, power connection, sensing tape and humidifier before energising.

3



Power Up & Check Display

Keep sample isolated, power up the analyzer, allow normal warm-up, and review display/configuration.

4



Configure & LED Cal

Confirm range, alarms and option settings, then perform LED calibration before admitting sample gas.

5



Admit Sample & Set Pressure / Flow

After start-up checks, admit sample gas, set regulated sample pressure to approximately 9 psig, and adjust flow to 0.3 SCFH.



Reliable
Start-Up



Optimized
Performance



Field-Ready
Operation



Supporting
Your Success

12. USER INTERFACE & MENU STRUCTURE

Operator controls and main navigation

KEYPAD FUNCTIONS

	MENU Open main menu / back
	ENTER Select item / save
	UP / DOWN Move cursor, change value
	LEFT / RIGHT Move between digits or fields

MAIN MENUS

	STATUS LED power, tape remaining, alarms, event log
	ALARMS / CLOCK
	SETUP Tape Change, LED Cal, optional Flow Adjust & Stream Settings
	MAN CAL / AUTO CAL / LOOP CAL
	UNIT INFO / GRAPHICS
	RESET Clear alarms, stop calibration, advance tape
	Some functions appear only when the corresponding option is installed.



Intuitive
Operation



Flexible
Configuration



Reliable
Performance



Field-Ready
Design

13. ROUTINE OPERATION

Normal measurement cycle and operator checks



1. SAMPLE INLET

Sample gas passes through the humidifier and across lead-acetate tape, where H_2S produces a stain that is measured optically.



2. REACTION & MEASUREMENT

H_2S reacts with lead-acetate tape, forming a stain that is measured by the optical system.



3. TAPE ADVANCE

Tape advances automatically at the configured advance interval; RESET can advance tape manually.



4. CONTINUOUS READING

In normal service, the analyzer continuously displays H_2S concentration.



OPERATOR CHECKS



Monitor Key Parameters

Operators should monitor reading stability, sample pressure/flow, humidifier condition, venting and alarm status.



Investigate Abnormal Trends

Any abnormal trend should be checked against flow, vent restriction, tape condition and recent maintenance.



Continuous
 H_2S Monitoring



Reliable
Operation



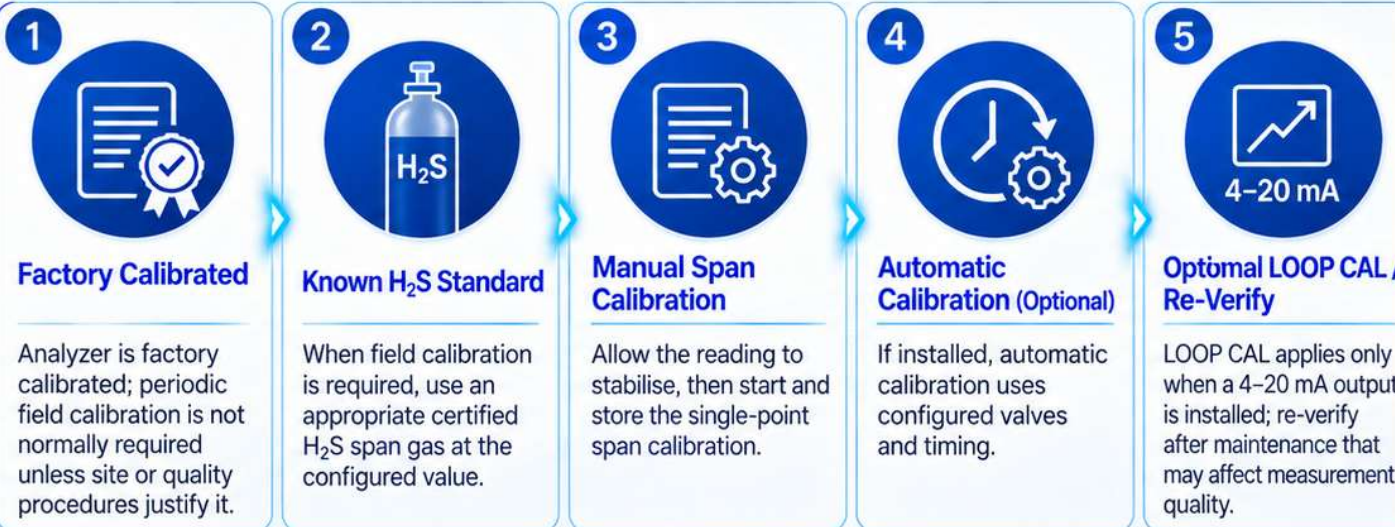
Operator
Confidence



Field
Proven Design

14. CALIBRATION & VERIFICATION

Maintaining dependable H₂S measurement performance



Accurate
H₂S Monitoring



Trusted
Field Performance



Simple
Service Access



Industrial
Process Ready

15. SENSING TAPE, HUMIDIFIER & OPTICAL MAINTENANCE

Core measurement consumables and care points



SENSING TAPE

Proper installation and handling



- ✓ Install lead-acetate tape correctly through the detector path; keep the tape clean, aligned and under proper tension.
- ✓ After replacing the tape, use **SETUP > TAPE CHANGE** to reset the tape counter and then run **LED CAL** on clean white tape.



HUMIDIFIER

Correct solution and level



- ✓ Maintain the humidifier with the correct 5% acetic-acid solution; keep the level correct and the solution clear.



OPTICAL & MECHANICAL

Inspect, clean and service properly



- ✓ Inspect the pressure block, pinch roller and optical path; clean only as authorised and recheck performance afterward.
- ✓ Replace or service components only with approved parts and procedures.



Reliable
H2S Monitoring



Field-Ready
Design



Simple
Maintenance



Trusted for
Industrial Applications

16. ROUTINE MAINTENANCE

Recommended inspection and service practices



Each operating round

Verify concentration display, sample pressure, flow, and unobstructed atmospheric vent.



Sample filter service

Inspect / service the sample filter monthly, or more often in dirty service.



Sensing tape

Replace sensing tape every 4 weeks to 3 months, or as indicated by operating conditions and tape usage.



Enclosure & fittings

Inspect enclosure, external fittings, and connections quarterly or at the site maintenance interval.



Important

Routine operator maintenance is limited to external inspection, consumables and sample-path items; internal electronics service is authorised-personnel only.

Keep the analyzer clean, protected and ready for reliable operation.



Reliable
Performance



Simple
Maintenance



Field
Ready



Maximum
Uptime

17. TROUBLESHOOTING GUIDE

Common indications and first-line checks

INDICATION / MESSAGE	LIKELY CAUSE	CORRECTIVE ACTION
 Blurred spots on tape	Vent backpressure	Remove restriction and vent to atmosphere.
 TAPE OUT / 9999	Tape absent or LED calibration issue	Install tape and recalibrate LED.
 TAPE DARK / 9999	Excessive darkening, low detector voltage or optical issue	Correct the tape/LED fault, clean the optical path, remove over-range sample.
 LED CAL FAIL	Tape absent, pressure block open or weak/dirty optical path	Install tape, close the block, clean and repeat calibration.
 OVER RANGE	H ₂ S above configured range or tape not advancing	Reduce concentration, restore tape movement or use an approved higher range.
 Unstable readings	Check pressure/flow, humidifier, vent, filter and leaks; compare with certified gas.	



Before requesting support, record the status message, error number, serial number, range and recent maintenance history.



Reliable
Performance



Minimize
Downtime



Simple
Troubleshooting



Expert
Support

18. WARRANTY & TECHNICAL SUPPORT

Support essentials for reliable product ownership



Standard Warranty

12 months unless the sales contract states otherwise.



Warranty Limitations

Warranty can be affected by unauthorised repair, incorrect power, blocked venting, incompatible chemicals, improper sample pressure, non-approved consumables, accidental damage or poor maintenance practice.



Before Requesting Support

Collect: model and serial number, configured range, power configuration, software revision, status/error message, application conditions and recent actions.



Useful Records

Include calibration and maintenance history plus photos of the tape pattern, front panel and connections.



Contact Us

Contact Blue Dragon Technology or the authorised regional representative.



bluedragontechnology.com



Reliable
Support



Product
Confidence



Global
Partnership



A Cleaner,
Safer Tomorrow

MEASURE TODAY
FOR A BRIGHTER
TOMORROW