Online H$_2$S and Total Sulfur Measurement

Instrument

Tracker XP

Description

The Tracker XP™ measures H$_2$S or total sulfur in gas or liquid hydrocarbon process streams. This analyzer addresses the need for a low maintenance analyzer that can reliably measure low ppm sulfur levels in hydrocarbon streams.

The Tracker XP uses a lead acetate tape detector for measuring H$_2$S. The proven Pyrolysis system is added for measuring total sulfur. The Pyrolyzer™ reduces sulfur molecules in a stream to hydrogen sulfide (H$_2$S). The H$_2$S is then detected using lead acetate tape. Since there are no known interferences to the lead acetate tape method, the measurement reflects the actual concentration of only the H$_2$S or total sulfur in the stream.

The Tracker XP can automatically switch between two independently calibrated ranges based on the measured concentration in the stream. Automatic stream switching is also available for dual-stream applications.

Analyzer setup and operation are controlled by easy-to-use Windows®-based software installed on a remote laptop computer. A local display with Magnatouch™ control permits local viewing of operational status and control of analyzer parameters without a computer.

Features

- Worldwide Certifications
- Explosion Proof Rating
- H$_2$S Specific Analyzer (no known interferences)
- Two Independent Calibration Ranges
- Dual Measurement Range with Automatic Range Change
- Dual Streams with Automatic Stream Switching (option)
- Autocalibration (option)
- Data Logging
- Easy Operation

Applications

Trace H$_2$S Measurements in...

- Reformer Cycle Gas
- Sweetening Plants
- Amine and Caustic Treaters
- Catalyst Protection

Stack Monitoring

Environmental Monitoring

Personnel Protection

Total Sulfur in...

- Natural Gas
- Carbon Dioxide
- Carbon Monoxide
- Hydrogen

- Olefins
- Naphthas
- Diesel

- Kerosene
- Gasoline
- Jet Fuel
Represented by:

Thermo designs, develops, markets, and services sophisticated laboratory and process analyzers to improve production efficiency and quality assurance, meet regulatory requirements, and enhance safety in the process industries. Company products incorporate advanced technologies to provide real-time analysis, data collection, and control functions.

Thermo products are used in a number of bulk processing industries, including oil and gas, chemical, petrochemical, refining, industrial and specialty gases, iron and steel, pharmaceutical, electric utilities, food and beverage, and semiconductors.

Our worldwide presence and experienced staff enable Thermo to provide rapid, expert preventive maintenance and after-sales support services to our customers.

Specifications

Applications
H₂S or total sulfur in gas or liquid hydrocarbon streams

Detector
Interference-free lead acetate tape with Pyrolyzer™ for total sulfur measurement

Measurement Ranges (LDL = 10% of full scale)

<table>
<thead>
<tr>
<th>Model</th>
<th>Min Range</th>
<th>Max Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracker XP</td>
<td>0-1 ppm</td>
<td>0-32 ppm</td>
</tr>
<tr>
<td>Tracker XP-RX</td>
<td>0-32 ppm</td>
<td>0-10 ppm</td>
</tr>
<tr>
<td>Tracker XP-RXM</td>
<td>0-32 ppm</td>
<td>0-5 ppm</td>
</tr>
<tr>
<td>Tracker XP-TS</td>
<td>0-1 ppm</td>
<td>0-32 ppm</td>
</tr>
<tr>
<td>Tracker XP-TSO</td>
<td>0-1 ppm</td>
<td>0-75 ppm</td>
</tr>
<tr>
<td>Tracker XP-TSL</td>
<td>0-1 ppm (wt)</td>
<td>0-1000 ppm (wt)</td>
</tr>
<tr>
<td>Tracker XP-TS/RX</td>
<td>0-100 ppm (v)</td>
<td>0-1500 ppm (v)</td>
</tr>
<tr>
<td>Tracker XP-TSO/RX</td>
<td>0-100 ppm (v)</td>
<td>0-1500 ppm (v)</td>
</tr>
</tbody>
</table>

(Ranges are application dependent, other ranges available, consult factory)

Repeatability
2% RSD of full scale for all gases and liquids to 300°C end boiling point
3% RSD of full scale for all liquids with 300°C to 450°C end boiling point

Linearity
± 2% of full scale

Response
20 seconds (typical) for alarm response with high level breakthrough

Alarms
4 total (high, low, malfunction, and low tape)
High and low alarms can be configured for latching or non-latching and for normally open or normally closed. Malfunction alarm triggered by broken tape, lamp out, calibration failure, or injection suspend.

Outputs
Isolated 4-20 mADC for stream output(s).

I/O Ports
RS-232 for Modbus RTU, laptop, or dialup modem

Calibration
Automatic (optional)

MMI (Man Machine Interface)
A front panel display with MagnaTouch™ keypad and external computer (i.e., laptop) via serial link

Ambient Temperature
-10 to 40°C (14 to 104°F), 5 to 95% rel. humidity with Thermo ONIX supplied analyzer cabinet

Area Classification
NEC Class I, Div. 1, Groups B, C, & D
CENELEC Zone 1, EEEx de IIC T6 (optional)

Other Certifications
CE Mark

Power
110 VAC at 50 or 60 Hz
220 VAC at 50 or 60 Hz (optional)

Utilities
Instrument Air – 6 SCFM @ 60 psig minimum
Hydrogen – 300 ml/min (TS, TSO, TSL, TSD only)
Carrier Air – 300 ml/min (TSO, TSL, TSD only)

Options
Valve Dilution Range Extension System (RX)
Membrane Dilution Range Extension System (RXM)
Total sulfur in gas (TS)
Total sulfur in olefins (TSO)
Total sulfur in liquids (TSL)
Total sulfur in diesel or gasoil (TSD)
Dual streams
Autocalibration