



PRODUCT SPECIFICATIONS

Thermo Scientific 450iQ

Hydrogen Sulfide and Sulfur Dioxide Analyzer



The Thermo Scientific™ 450iQ Hydrogen Sulfide and Sulfur Dioxide Analyzer utilizes pulsed fluorescence technology.

The 450iQ analyzer operates on the principle that H₂S can be converted to SO₂. As the SO₂ molecules absorb ultraviolet (UV) light and become excited at one wavelength, the molecules then decay to a lower energy state emitting UV light at a different wavelength.

Specifically:



The pulsing of the UV source lamp serves to increase the optical intensity whereby a greater UV energy throughput and lower detectable SO₂ concentration are realized. Reflective bandpass filters, as compared to commonly used transmission filters, are less subject to photochemical degradation and are more selective in wavelength isolation. This results in both increased detection specificity and long term stability.



Non-Stop Intelligence

- Predictive Diagnostics
- Proactive Communication
- Personal Device Connectivity

The Thermo Scientific iQ Series Gas Analyzer provides a smart environmental monitoring solution designed for reliability, easy operation and proactive maintenance. Get more control over your instrument's performance, costs, workflow and data availability.



The iQ companion app for the iQ Series Gas Analyzer delivers the ultimate in ease of use and smart engineering. The iQ app allows for remote monitoring of iQ gas analyzers, simplified ways of contacting us and instant access to product resources.

Download the iQ app at thermofisher.com/iQapp

Thermo Scientific 450iQ Hydrogen Sulfide and Sulfur Dioxide

Specifications	
Preset ranges	0-10 ppm, 0-25 mg/m ³
Extended ranges	0-100 ppm, 0-250 mg/m ³
Zero noise	1.0 ppb (Manual SO ₂ or Combine Sulfur) 3.0 ppb (Automatic mode SO ₂ or H ₂ S) (10 second averaging time) 0.5 ppb 1.5 ppb (60 second averaging time) 0.25 ppb 0.75 ppb (300 second averaging time)
Lower detectable limit	2.0 ppb (Manual SO ₂ or Combine Sulfur) 6.0 ppb (Automatic mode SO ₂ or H ₂ S) (10 second averaging time) 1.0 ppb 2.0 ppb (60 second averaging time) 0.5 ppb 1.5 ppb (300 second averaging time)
Zero drift (24 hour)	Less than 1 ppb
Span drift (24 hour)	+/-1% Full Scale
Response time	80 seconds (10 second average time) (manual mode) 150 seconds (60 second average time) 320 seconds (300 second average time)
Precision	1% of reading or 1 ppb (whichever is greater)
Linearity	+/-1% full scale < 100 ppm
Sample flow rate	1.0 liter/min.
Converter efficiency	> 80% H ₂ S to SO ₂ . (Note: Various other sulfur compounds can be converted at varying %)
Operating temperature	20°C to 30°C
Power requirements	100 VAC, 115 VAC, 220-240 VAC +/-10% @ 300W
Size and weight	16.75" (W) x 8.62" (H) x 23" (D), 48 lbs 425 mm (W) x 219 mm (H) x 584 mm (D), 21.8 kg
Analog I/O	4 Isolated voltage inputs 0-10 V 6 Isolated analog voltages outputs, with 4 selectable ranges 6 Isolated analog current outputs, with 2 selectable ranges
Digital I/O	16 digital inputs (TTL) 8 solenoid driver outputs 10 digital reed relay contact outputs
Serial ports	1 RS-232/485 port 1 RS-485 external accessory port
Other ports	3 Full speed USB ports (one in front, two in rear) 1 Gigabit ethernet port
Communication protocols	MODBUS, streaming
Approvals and certifications	CE, TUV-SUD Safety, UKCA

To maintain optimal product performance, you need immediate access to experts worldwide, as well as priority status when your air quality equipment needs repair or replacement. We offer comprehensive, flexible support solutions for all phases of the product life cycle. Through predictable, fixed-cost pricing, our services help protect the return on investment and total cost of ownership of your Thermo Scientific products. For more information on our comprehensive service solutions visit thermofisher.com/EPMSservice

USA

27 Forge Parkway
Franklin, MA 02038
Ph: (866) 282-0430
Fax: (508) 520-2800
orders.aqj@thermofisher.com

India

Industrial Unit No.101+130,
Plot No.C-56/1, TTC Industrial
area, MIDC-Turbhe,
New Mumbai 400 703, India
Ph: +91 82 9199 0337
INinfo@thermofisher.com

China

8/F Bldg C of Global Trade Ctr,
No.36, North 3rd Ring Road,
Dong Cheng District
Beijing, China 100013
Ph: +86 10 84193588
info.eid.china@thermofisher.com

Europe

Ion Path, Road Three,
Winsford, Cheshire CW73GA UK
Ph: +44 1606 548700
Fax: +44 1606 548711
sales.epm.uk@thermofisher.com

Ordering information

450iQ H₂S/SO₂ Analyzer

Choose from the following configurations/options to customize your own 450iQ analyzer

1. Power Cord

A = 100-120 VAC 50/60 Hz (NA)

B = 220 VAC 50/60 Hz (EU)

C = 220 VAC 50/60 Hz (CHN)

2. Communications

N = No I/O

A = Serial RS232/RS485

B = Analog and Digital

C = Serial, Analog and Digital

3. Case Configuration

N = No zero/span valves

A = Internal zero/span valves

B = Internal zero/span valves, Internal permeation oven

4. Sample Handling

N = None

A = Selective SO₂ scrubber (Continuous H₂S analysis only)

Your Order Code: 450iQ -

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Find out more at thermofisher.com/450iQ
thermofisher.com/iQSeries

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