



thermoscientific

PRODUCT SPECIFICATIONS

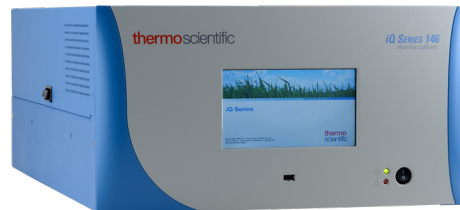
Thermo Scientific 146iQ Multi-Gas Calibrator



The Thermo Scientific™ 146iQ Multi-Gas Calibrator supplies precise levels of ozone, carbon monoxide, non-methane hydrocarbons, sulfur dioxide, nitric oxide and nitrogen dioxide or other gases that a user may require.

The gas levels are used to calibrate instruments that perform zero, precision and level 1 span checks, audits and multipoint measurements.

The design of the Thermo Scientific 146iQ Multi-Gas Calibrator meets or exceeds all published U.S. EPA requirements for multipoint calibration, audit, Level 1 and 2 span and precision checks. Options include Gas Phase Titration, UV Photometer and a third Mass Flow Controller.



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

ThermoFisher
SCIENTIFIC

Thermo Scientific 146iQ Multi-Gas Calibrator

Specifications	
Flow Measurement Accuracy	±(0.8% of reading + 0.2% of full-scale)
Linearity of Flow Measurement	0.25% of full-scale
Repeatability of Flow Control	±0.2% of full Scale
Available Zero Air MFC Ranges	0-5, 0-10, 0-20 SLPM
Available Span Gas MFC Ranges	0-50,0-100, 0-200 sccm
Available 2nd Span Gas MFC Ranges (Optional)	0-1, 0-2, 0-5 SLPM
Available Span Gas Ports	6
Operating Temperature	0°- 45° C
Ozonator Output	Max: 6 ppm-LPM; Min: 10 ppb-LPM; Min O ₃ concentration: 3 ppb
Ozonator Response Time	<180 seconds
Photometer	Ranges: 0–5.0 ppm (selectable) Zero Noise: 0.75 ppb RMS (60 sec. averaging) Detection Limit: 1.5 ppb (60 sec. averaging) Precision: 1 ppb Zero Drift <1.0 ppb (24 hours) Span Drift <1% of full scale (1 month) Response Time Photometer: 20 seconds (10 sec. averaging) System: <180 seconds Linearity: ±1% full-scale Flow Rate: 0.8 LPM nominal
Analog I/O	4 Isolated voltage inputs 0–10 V, 6 Isolated voltages outputs, 6 Isolated analog current outputs
Digital I/O	16 inputs (TTL), 8 Solenoid driver outputs 10 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	MODBUS, Streaming, Gesytec (Bayern-Hessen)
Power Requirements	100-240 VAC 50/60 Hz, 275 watts
Physical Dimensions and Weight	24 in (D) x 16.75 in (W) x 8.72 in (H), 43 lbs 609 mm (D) 425.45 mm (W) x 221.48 mm (H), 19.5 Kg
Approvals and Certifications	CE, TUV-SUD Safety, UKCA

Ordering information

146iQ Multi-Gas Calibrator

Choose from the following configurations/options to customize your own 146iQ Multi-Gas Calibrator

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. Calibration Sources

N = No optional calibration sources (standard)

A = Gas phase titration

B = Gas phase titration and photometer

C = Internal permeation oven with gas phase titration and photometer

D = Internal permeation oven

4. Internal Zero Mass Flow Controller

A = 5 SLPM

B = 10 SLPM (standard)

C = 20 SLPM

5. Span Gas Mass Flow Controller #1 (must order at least one from #5 or #6)

N = None

A = 50 SCCM

B = 100 SCCM (standard)

C = 200 SCCM

6. Span Gas Mass Flow Controller #2 (must order at least one from #5 or #6)

N = None G = 0.5 SCCM

A = 1 SLPM H = 1 SCCM

B = 2 SLPM J = 2 SCCM

C = 5 SLPM K = 5 SCCM

D = 50 SCCM L = 10 SCCM

E = 100 SCCM M = 20 SCCM

F = 200 SCCM P = 500 SCCM

Your Order Code: 146iQ -

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

USA

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

Find out more at thermofisher.com/146iQ
thermofisher.com/iQSeries

ThermoFisher
SCIENTIFIC