

# Thermo Scientific Model 42i-TL

## Trace Level Nitrogen Oxide Chemiluminescent Gas Analyzer

The Thermo Scientific™ Model 42i-TL Trace Level Nitrogen Oxide (NO<sub>x</sub>) Analyzer utilizes chemiluminescence technology to measure the amount of nitrogen oxides in the air from sub-ppb levels up to 1000 ppb.

### Features

- Ethernet connectivity for efficient remote access
- Enhanced user interface with one button programming and large display screen
- Flash memory for increased data storage and user downloadable software
- Enhanced electronics design optimizes product commonality
- Improved layout for easier accessibility to components

### Introduction

The Thermo Scientific Model 42i-TL Analyzer is a single chamber, single photomultiplier tube design that cycles between the NO, NO<sub>x</sub>, and Zero modes. The addition of the Zero mode provides for excellent long term stability and extremely low minimum detectable limits.



The 42i-TL Analyzer has independent outputs for NO, NO<sub>2</sub>, and NO<sub>x</sub> and each can be calibrated independently. Temperature and pressure correction are standard features. User settable alarm levels for concentration and for a wide variety of internal diagnostics are available from an easy to follow menu structure.

This state-of-the-art gas analyzer offers features such as an Ethernet port as well as flash memory for increased data storage and field upgradability.

Ethernet connectivity provides efficient remote access, allowing the user to download measurement information directly from the instrument without having to be onsite.

You can easily program short-cut keys to allow you to jump directly to frequently accessed functions, menus or screens. The larger interface screen can display measurement information and status, while viewing menu and operational screens.



Thermo Scientific™ Model 42i-TL  
Trace Level Nitrogen Oxide Analyzer

## Thermo Scientific Model 42i-TL Trace Level Nitrogen Oxide Analyzer

Specifications	
Preset ranges	0-5, 10, 20, 50, 100, 200, 500, 1000 ppb 0-5, 10, 20, 50, 100, 200, 500, 1000, 2000 µg/m <sup>3</sup>
Custom ranges	0-5 to 1000 ppb 0-5 to 2000 µg/m <sup>3</sup>
Zero noise	25 ppt RMS (120 second averaging time)
Lower detectable limit	< 50 ppt RMS (120 second averaging time)
Zero drift (24 hour)	Negligible
Span drift (24 hour)	+/-1% full scale
Response time	60 seconds (10 second averaging time) 90 seconds (60 second averaging time) 300 seconds (300 second averaging time)
Precision	+/-0.4 ppb (500 ppb range)
Linearity	+/-1% full scale
Sample flow rate	1 LPM
Operating temperature	59°F to 95°F (15° to 35°C) performance, or 41°F to 104°F (5° to 40°C) operating
Power requirements	100 VAC, 115 VAC, 220-240 VAC +/-10% @ 300W
Size and weight	16.75" (W) × 8.62" (H) × 23" (D), 55 lbs. 425 mm (W) × 219 mm (H) × 584 mm (D), 25 kg
Outputs	Selectable voltage, RS232/RS485, TCP/IP, 10 Status Relays, and Power Fail Indication (standard). 0-20 or 4-20 mA Isolated Current Output (optional)
Inputs	16 Digital inputs (standard), 8 0-10Vdc analog inputs (optional)

## Ordering information

### Model 42i-TL Trace Level Nitrogen Oxide Analyzer

Choose from the following configurations/options to customize your own Model 42i-TL Analyzer

#### 1. Voltage options

A = 115 VAC 60 Hz

B = 220 VAC 50 Hz

C = 220 VAC 60 Hz

D = 115 VAC 50 Hz

J = 100 VAC 50/60 Hz

#### 2. Internal zero/span

N = No zero/span assembly (standard)

Z = Internal zero span assembly

#### 3. Converter options

M = Molybdenum (standard)

#### 4. Sample handling

S = Standard plumbing (standard)

A = Ammonia scrubber

#### 5. Ozone handling

D = Drierite scrubber (standard)

P = Permeation dryer

#### 6. Optional I/O

A = None (standard)

C = I/O expansion board (4-20mA outputs—6 channels  
0-10v inputs-8 channels)

#### 7. Mounting Hardware

A = Bench mounting and ears/handles, EIA

#### Other options

Teflon particulate filter

Ozone particulate filter

Rack mounts

Rear extender

#### Your Order Code: 42i-TL

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#### 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/cleanair](http://thermofisher.com/cleanair)

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