

## **Carbon Dioxide Analyzer, Model 410i**

Utilizing advanced non-dispersive infrared technology



### **Key Features**

- Advanced NDIR technology
- User-selectable reporting capabilities
- Expanded ambient temperature operating range
- High performance over a wider range of concentrations
- Linearity through all ranges

The Thermo Scientific Carbon Dioxide Analyzer, Model 410i utilizes advanced NDIR optical filter technology to measure the concentration of Carbon Dioxide in stack gas levels. Reporting capabilities are user-selectable for either of the accepted industry standards, straight extractive or dilution sampling methods.

This analyzer utilizes advanced Non-Dispersive Infrared technology (NDIR) with optically fixed bandpass interference filters and quantum detection to analyze the concentration of CO<sub>2</sub> in the gas stream.

In addition, the expanded ambient temperature operating range provides excellent performance over a wider range of concentrations.

The Model 410i is available in Standard, 410i-D, or High Level, 410i-E ranges and uses an internally stored calibration curve to accurately linearize the instrument output over any range up to a concentration of either 10,000 ppm (Standard) or 25% (High level).

The Model 410i in Standard or High Level combines proven detection, easy to use menu-driven software, and advanced diagnostics to offer unsurpassed flexibility and reliability.

iSeries features also include:

- Rack mountability
- Ethernet port & connectivity options
- Flash memory for increased data storage
- Easily programmable short-cut keys
- Large interface screen

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 air quality products.

## Product Specifications

<b>Preset Ranges</b>	Standard:	0-200, 500, 1000, 2000, 5000, and 10000 ppm
	High Level:	0-0.5, 1, 2, 5, 10, 20, 25%
<b>Custom Ranges</b>	Standard:	0-200 to 10000 ppm
	High Level:	0-0.5 to 25%
<b>Zero Noise</b>	Standard:	0.1 ppm RMS (300 second averaging time)
	High Level:	10 ppm RMS (60 second averaging time)
<b>Minimum Detectable Limit</b>	Standard:	0.2 ppm (300 second averaging time)
	High Level:	20 ppm (300 second averaging time)
<b>Zero Drift (24 hour)</b>	Standard:	+/- 1.0 ppm
	High Level:	+/- 40 ppm
<b>Span Drift (24 hour)</b>	Standard:	< 0.5% Reading - 24 Hours - <1% Reading - 7 Days
	High Level:	< 2.0% Reading - 7 Days
<b>Response Time (90% full scale)</b>		90 seconds (30 second averaging time)
<b>Precision</b>		+/- 1.0% of reading
<b>Linearity</b>		+/- 1.5% of span (at concentrations of 10% - 100% of span)
<b>Sample Flow Rate</b>		1.0 liter per minute
<b>Operational Temperature</b>		41°F to 113°F (+5°C to +45°C)
<b>Power Requirements</b>		110 VAC, 115 VAC, 220-240 VAC +/- 10% @ 275W
<b>Size and Weight</b>		16.75" (W) x 8.62" (H) x 23"(D), 39 lbs. (17.7 kg)
<b>Outputs</b>		Selectable voltage, RS232/RS485, TCP/IP, 10 status relays, and power fail indication (standard)
		0-20 or 4-20 mA isolated current output (optional)
<b>Inputs</b>		16 digital inputs (standard), 8 0-10 Vdc analog inputs (optional)

## Ordering Information

### Carbon Dioxide Analyzer, Model 410i

Choose from the following configurations/options to customize your own Model 410i

#### 1. Voltage options:

A = 120 Vac 50/60 Hz  
 B = 220 Vac 50/60 Hz  
 J = 100 Vac 50/60 Hz

#### 2. Internal zero / span:

N = No zero / span valve  
 Z = Internal zero / span valves

#### 3. Filter Wheel Purge:

P = Filter wheel purge setup (Standard)

#### 4. Sample Gas Concentration Range:

D = 0 -10,000 ppm Concentration Range (Standard)  
 E = 0 - 25% Concentration Range (High Level)

#### 5. Optional I/O:

A = No optional I/O (standard)  
 C = 0 - 20, 4-20mA Current output, 6 Channels  
 0 - 10v Analog Input, 8 Channel

#### 6. Mounting Hardware:

A = Bench mounting (standard)  
 B = Ears & handles, EIA  
 C = Ears & handles, Retrofit

Your Order Code: Model 410i - \_\_\_\_\_



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