

ENERGY AND COMFORT

## Indoor Air Quality Instruments



Model 7545

### Features and Benefits

- Low-drift NDIR CO<sub>2</sub> sensor for stable, accurate readings
- Sampling function records multiple point measurements
- Ergonomic, overmolded case design

### Models 7525 and 7545

- Temperature and relative humidity measurements help determine thermal comfort
- Calculates % outside air from either CO<sub>2</sub> or temperature
- Directly calculates dew point and wet bulb temperatures
- Electrochemical sensor measures CO (Model 7545)
- Models 7525 and 7545 shows up to three parameters
- Models 7515 and 7535 shows only one parameter

### IAQ-CALC™ Indoor Air Quality Meters

#### Models 7515, 7525, 7535, and 7545

TSI's IAQ-CALC Meters are outstanding instruments for investigating and monitoring indoor air quality (IAQ). The Model 7515 is a cost-effective meter for carbon dioxide (CO<sub>2</sub>) measurements. The Model 7535 adds data logging of CO<sub>2</sub>. The Models 7525 and 7545 simultaneously measure and data log multiple parameters. The Model 7525 measures CO<sub>2</sub>, temperature, humidity, and calculates dew point, wet bulb temperature, and % outside air. The Model 7545 adds carbon monoxide (CO).

### Applications

- Verify building HVAC system performance
- Examine building IAQ conditions to optimize worker productivity
- Comply with regulations and guidelines



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## Specifications

### IAQ-CALC™

#### Models 7515, 7525, 7535, 7545

##### CO<sub>2</sub>

<b>Sensor Type</b>	Dual-wavelength NDIR (non-dispersive infrared)
<b>Range</b>	0 to 5000 ppm
<b>Accuracy<sup>1</sup></b>	±3.0% of reading or ±50 ppm, whichever is greater
<b>Resolution</b>	1 ppm
<b>Response Time</b>	20 seconds

##### Temperature (Models 7525 and 7545)

<b>Sensor Type</b>	Thermistor
<b>Range</b>	32 to 140°F (0 to 60°C)
<b>Accuracy</b>	±1.0°F (±0.6°C)
<b>Resolution</b>	0.1°F (0.1°C)
<b>Response Time</b>	30 seconds (90% of final value, air velocity at 400 ft/min [2 m/s])

##### Relative Humidity (Models 7525 and 7545)

<b>Sensor Type</b>	Thin-film capacitive
<b>Range</b>	5% to 95% RH
<b>Accuracy<sup>2</sup></b>	±3.0% RH
<b>Resolution</b>	0.1% RH
<b>Response Time</b>	20 seconds (for 63% of final value)

##### % Outside Air (Models 7525 and 7545)

<b>Range</b>	0 to 100%
<b>Resolution</b>	0.1%

##### CO (Model 7545 only)

<b>Sensor Type</b>	Electro-chemical
<b>Range</b>	0 to 500 ppm
<b>Accuracy</b>	±3.0% of reading or ±3 ppm, whichever is greater
<b>Resolution</b>	0.1 ppm
<b>Response Time</b>	<60 seconds to 90% step change

##### Operating Temperature

32 to 113°F (0 to 45°C)

##### Storage Temperature

-4 to 158°F (-20 to 70°C)

##### Logging Capability (Models 7525 and 7545)

<b>Ranges</b>	Model 7525 logs up to 24,200 data points with all measured parameters enabled Model 7535 logs up to 40,300 data points with all measured parameters enabled Model 7545 logs up to 22,000 data points with all measured parameters enabled
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<b>Time Constant</b>	1 sec, 5 sec, 10 sec, 20 sec, 30 sec (user selectable)
<b>Log Intervals</b>	1 second up to 1 hour (user selectable)

##### Meter Dimensions (all models)

4.2 in. x 7.2 in. x 1.5 in. (107 mm x 183 mm x 38 mm)

##### Probe Dimensions (Model 7515)

<b>Length</b>	2.7 in. (69 cm)
<b>Diameter</b>	0.76 in. (2.0 cm)

##### Probe Dimensions (Models 7525, 7535, and 7545)

<b>Length</b>	5.9 in. (15.1 cm)
<b>Diameter</b>	0.74 in. (1.9 cm)

##### Weight (with batteries)

<b>Models 7515 and 7535</b>	0.6 lbs (0.27 kg)
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<b>Models 7525 and 7545</b>	1.16 lbs (0.53 kg)
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##### Power Requirements

<b>Model 7515</b>	Four AA-size batteries
<b>Models 7525, 7535, and 7545</b>	Four AA-size batteries or AC adapter

<sup>1</sup> At 77°F (25°C). Add uncertainty of ±0.2%/°F (±0.36%/°C) away from calibrated temperature.

<sup>2</sup> At 77°F (25°C). Add uncertainty of ±0.03% RH/°F (±0.05% RH/°C) away from calibrated temperature.

Specifications subject to change without notice.

## Data Logging-Models 7525, 7535, and 7545

- Simultaneously records all parameters and logs samples with time and date stamp
  - Model 7525 logs up to 24,200 data points with all measured parameters enabled
  - Model 7535 logs up to 40,300 data points with all measured parameters enabled
  - Model 7545 logs up to 22,000 data points with all measured parameters enabled
- TSI LogDat2™ software permits easy transfer of data to a computer
- Data can be reviewed on-screen, or downloaded to a computer for easy report generation
- Statistics function displays average, maximum and minimum values, and the number of recorded samples

	7515	7525	7535	7545
CO <sub>2</sub>	•	•	•	•
CO				•
Temperature		•		•
Humidity		•		•
% outside air		•		•
Dew point		•		•
Wet bulb temperature		•		•
Data logging/downloading		•	•	•
Statistics	•	•	•	•
Review data		•	•	•
Printer output	•	•	•	•
Calibration certificate	•	•	•	•

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