IAQ-CALC™
INDOOR AIR QUALITY METER
MODEL 7515

OPERATION AND SERVICE MANUAL

P/N 1980571, REVISION D
FEBRUARY 2016

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Service Policy

Knowing that inoperative or defective instruments are as detrimental to TSI as they are to our customers, our service policy is designed to give prompt attention to any problems. If any malfunction is discovered, please contact your nearest sales office or representative, or call Customer Service department at (800) 874-2811 (USA) or (1) 651-490-2811 (International).

CONTENTS

Chapter 1

Unpacking and Parts Identification

Carefully unpack the instrument and accessories from the shipping container. Check the individual parts against the list of components below. If anything is missing or damaged, notify TSI immediately.

1. Carrying case
2. Instrument
3. Calibration collar

Chapter 2

Setting-up

Supplying Power to the Model 7515 IAQ-CALC Indoor Air Quality Meter

The Model 7515 is powered with four size AA batteries.

Installing the Batteries

Insert four AA batteries as indicated by the diagram located on the inside of the battery compartment. The Model 7515 is designed to operate with either alkaline or NiMH rechargeable batteries, although it will not recharge NiMH batteries. Battery life will be shorter if NiMH batteries are used. Carbon-zinc batteries are not recommended because of the danger of battery acid leakage.

Using the Integral Probe

The sensing probe relies on the diffusion of air. For best results, try to keep the sensing probe surrounded by moving air. Do ***not*** breathe on the probe. Humans exhale CO_2 levels exceeding 10,000 ppm and it may take time for the probe to re-stabilize.

Chapter 3

Operation

Keypad Functions

ON/OFF Key	Press to turn the Model 7515 on and off. During the power up sequence the display will show the following: Model Number, Serial Number, Software Revision, and Last Date Calibrated.
Sample Key	Press and release to start the sample, then press the **END** key to stop the sample.
Stats Key	Press to view the minimum, maximum and average of the last sample taken.
CAL Key	Press to begin the field-calibration process. To re-calibrate in the field, first connect zero gas to the instrument and open the regulator. The instrument will automatically make zero itself after one minute. After zeroing the sensor, connect span gas to the instrument and open the regulator. The instrument will take one minute to make a reading. Then use the ▲▼ and ENTER keys to adjust the concentration displayed on the instrument to match the concentration on the gas cylinder.

Chapter 4

Maintenance

The Model 7515 requires very little maintenance to keep it performing well.

Recalibration

To maintain a high degree of accuracy in your measurements, we recommend that you return your Model 7515 to TSI for annual recalibration. Please contact one of TSI's offices or your local distributor to make service arrangements and to receive a Return Material Authorization (RMA) number. To fill out an online RMA form, visit TS

U.S. & International

The Model 7515 can also be recalibrated in the field using the CALIBRATION menu. These field adjustments are intended to make minor changes in calibration to match a user's calibration standards. The field adjustment is NOT intended as a complete calibration capability. For complete, multiple-point calibration and certification, the instrument must be returned to the factory.

Cases

If the instrument case or storage case needs cleaning, wipe it off with a soft cloth and isopropyl alcohol or a mild detergent. Never immerse the Model 7515. If the enclosure of the Model 7515, it must be replaced immediately to prevent access to hazardous voltage.

Storage

Remove the batteries when storing the unit for more than one month to prevent damage due to battery leakage.

Chapter 5

Troubleshooting

Table 5-1 lists the symptoms, possible causes, and recommended solutions for common problems encountered with the Model 7515. If your symptom is not listed, or if none of the solutions solves your problem, please contact TSI.

Table 5-1: Troubleshooting the Model 7515

Symptom	Possible Causes	Corrective Action
No Display	Unit not turned on	Switch unit on.
	Low or dead batteries	Replace batteries.
	Dirty battery contacts	Clean the battery contacts.
High CO_2 levels	Breathing on probe	Shield probe from breath and allow instrument to re-stabilize.
Instrument Error message appears	Fault in instrument	Factory service required on instrument.

WARNING!
Remove the probe from excessive temperature immediately: excessive heat can damage the sensor. Operating temperature limits can be found in Appendix A, Specifications.

Appendix A

Specifications

Specifications are subject to change without notice.

CO_2:
Range: 0 to 5000 ppm
Accuracy[1]: ±3% of reading or ±50 ppm, whichever is greater
Resolution: 1 ppm
Sensor type: Non-Dispersive Infrared (NDIR)

Instrument Temperature Range:
Operating (Electronics): 40 to 113°F (5 to 45°C)
Storage: -4 to 140°F (-20 to 60°C)

Instrument Operating Conditions:
Altitude up to 4000 meters
Relative humidity up to 80% RH, non-condensing
Pollution degree 1 in accordance with IEC 664
Transient over voltage category II

External Meter Dimensions:
3.3 in. × 9.6 in. × 1.8 in. (8.4 cm × 24.4 cm × 4.4 cm)

Meter Weight:
Weight with batteries: 0.6 lbs (0.27 kg)

Meter Display Dimensions:
Primary display: 4-digit LCD, 0.6 in. (15 mm) digit height
Secondary display: 3.5-digit LCD, 0.3 in. (8 mm) digit height

Power Requirements:
Four AA-size batteries (included)

[1] At 77°F (25°C). Add uncertainty of ±0.2%/°F (±0.2%/°C) away from calibrated temperature