ENERGY AND COMFORT

Indoor Air Quality

Q-TRAK™
Indoor Air Quality Meter
Model 7565

Operation and Service Manual

TRUST. SCIENCE. INNOVATION.

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Seller warrants the goods sold hereunder, under normal use and service as described in the operator's manual, shall be free from defects in workmanship and material for twenty-four (24) months, or the length of time specified in the operator's manual, from the date of shipment to the customer. This warranty period is inclusive of any statutory warranty. This limited warranty is subject to the following exclusions:

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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. IAQ Probe
4. Calibration collar
5. AC Adapter
6. USB cable
7. CD-ROM with downloading software

Chapter 2

Setting-up

Supplying Power to the Model 7565

The Model 7565 Q-TRAK Indoor Air Quality Meter can be powered in one of two ways: four size AA batteries or the optional AC adapter.

Installing the Batteries

Insert four AA batteries as indicated by the diagram located on the inside of the battery compartment. The Model 7565 is designed to operate with either alkaline or NiMH rechargeable batteries. Battery life will be shorter if NiMH batteries are used. If NiMH batteries are used the DIP switch will need to be changed. Refer to Appendix B, DIP Switch Settings. Carbon-zinc batteries are not recommended because of the danger of battery acid leakage.

Using the AC Adapter

When using the AC adapter, the batteries (if installed) will be bypassed. Be sure to provide the correct voltage and frequency, which is marked on the back of the AC adapter.

Using The 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. Use the probe holder to support the probe when in continuous data logging mode.

Connecting the Optional Bluetooth Portable Printer

To connect the Bluetooth printer to the Model 7565, power on the unit and the printer. Then select the MENU soft key. From the Menu use the ▲ and ▼ keys to highlight Discover Printer and press the ↵ key. If other TSI Bluetooth-printers are in the area, turn them off before searching. The Model 7565 will then search for and list all available Bluetooth devices. Select the device ”Handy700”.

If the Model 7565 has previously been connected to a TSI printer, then it should automatically reconnect to that printer.

If the printer prints question marks (??????), asterisks (******), or random characters, reset it by turning it off and then on again. If necessary, refer to the *Portable Printer Manual.*

Connecting to a Computer

Use the Computer Interface USB Cable provided with the Model 7565 to connect the instrument to a computer for downloading stored data or for remote polling. Connect the end labeled “COMPUTER” to the computer USB port and the other end to the data port of the Model 7565.

For more information on how to download stored data see Chapter 3 section titled **TRAKPRO™ Data Analysis Software**.

Caution: This symbol is used to indicate that the data port of the Model 7565 is **not** intended for connection to a public telecommunications network. Connect the USB data port only to another USB port.

Chapter 3

Operation

Keypad Functions

ON/OFF Key	Press to turn the Model 7565 on and off. During the power up sequence the display will show the following: Model Number, Serial Number, Software Revision and Last Date Calibrated.
Arrow (▲▼) Keys	Press to scroll through choices while setting a parameter. Pressing the ▲▼ keys simultaneously will lock the keypad to prevent unauthorized adjustments to the instruments. To unlock the keypad, press the ▲▼ keys simultaneously.
↵ (Enter) Key	Press to accept a value or condition.
Arrow (◄or ►) and Menu Soft Keys	Press arrow keys to change choices while setting a parameter. Press the Menu soft key to select the Menu selections, which are Display Setup, Pressure Zero, Settings, Flow Setup, Actual/Std Set up, Data Logging, Applications, Calibration and Printer.

Common Terms

In this manual there are several terms that are used in different places. The following is a brief explanation of the meanings of those terms.

Sample	Consists of all of the measurement parameters stored at the same time.
Test ID	A group of samples. The statistics (average, minimum, maximum, and count) are calculated for each test ID. The maximum number of test IDs is 100.

Time Constant	The time constant is an averaging period. It is used to dampen the display. If you are experiencing fluctuating flows, a longer time constant will slow down those fluctuations. The display will update every second, but the displayed reading will be the average over the last time constant period. For example, if the time constant is 10 seconds, the display will update every second, but the displayed reading will be the average from the last 10 seconds. This is also referred to as a "moving average".
Logging Interval	The logging interval is a frequency period that the instrument will log readings. For example, if the logging interval is set to 30 minutes, each sample will be the average of the last 30 minutes.

Menus

DISPLAY SETUP

Display setup menu is where you will setup the desired parameters to be displayed on the running screen. With a parameter highlighted you can then use the ON soft key to have it show up on the running screen or select the OFF soft key to turn off the parameter. Use PRIMARY soft key to have a parameter show up on the running screen in a larger display. Only one parameter can be selected as a primary, and up to 4 secondary parameters can be selected at one time.

SETTINGS

Settings menu is where you can set the general settings. These include Language, Beeper, Select Units, Time Constant, Contrast, Set Time, Set Date, Time Format, Date Format, Number Format, Backlight and Auto Off. Use the ◄ or ➤ soft keys to adjust the settings for each option and use the ↵ key to accept settings.

DATA LOGGING

Measurements

Measurements to be logged are independent of measurements on the display, and must therefore be selected under DATA LOGGING → Measurements.

Log Mode/Log Settings

You can set Log Mode to Manual, Auto-save, Cont-key, Cont-time, Program 1 or Program 2.

- Manual mode does not automatically save data, but instead prompts the user to save a sample.
- In Auto-save mode, the user manually takes samples that are automatically logged.
- In Cont-key mode, the user starts taking readings and logging by pressing the ↵ key. The instrument will continue taking measurements until the ↵ key is pressed again.
- In Cont-time mode, the user starts taking readings by pressing the ↵ key. The instrument will continue taking samples until a set period of time has passed.
- Auto-save, Cont-Key and Cont-time modes have the following additional Log Settings:

Mode	Log Settings
Auto-save	Log Interval
Cont-key	Log Interval
Cont-time	Log Interval
	Test Length

- Pressing the ▲▼ keys simultaneously will lock the keypad to prevent unauthorized adjustments to the instruments. To unlock the keypad, press the ▲▼ keys simultaneously.

Delete Data

Use this to delete all data, delete test or delete sample.

% Memory

This option displays the memory available. Delete All, under Delete Data, will clear memory and reset the memory available.

APPLICATIONS

You can choose Draft Rate, Heat flow, Turbulence and % Outside Air in the Applications menu. After choosing one of these applications, take measurements or enter data for each line.

Printing Data Using the Portable Printer

To print logged data, first enter the DATALOGGING menu. Then, use the CHOOSE TEST item to select the data to be printed. After the test is selected, use the VIEW STATS and VIEW SAMPLES items to select statistics or individual data points to view and print. After selecting VIEW STATS or VIEW SAMPLES, press the PRINT key to print the data.

TRAKPRO™ Data Analysis Software

The Q-TRAK Model 7565 comes with special software called TRAKPRO™ Data Analysis Software, which is designed to provide you with maximum flexibility and power. To install this software on your computer, follow the instructions on the label of the TRAKPRO software.

Follow the instructions on the label of the TRAKPRO software to install the software on your computer. TRAKPRO software contains a very comprehensive Help Function. This utility provides all the necessary information to guide you in all aspects of software operation. The software is shipped on a CD-ROM.

To download data from the Model 7565, connect the supplied computer interface USB cable to the Model 7565 and to a computer USB port. Any USB port from can be used.

Chapter 4

Maintenance

The Model 7565 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 7565 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.

The Model 7565 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 7565. If the enclosure of the Model 7565 or the AC adapter becomes broken, 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 7565. If your symptom is not listed, or if none of the solutions solves your problem, please contact TSI.

Table 5-1: Troubleshooting the Model 7565

Symptom	Possible Causes	Corrective Action
No Display	Unit not turned on Low or dead batteries Dirty battery contacts	Switch unit on. Replace batteries or plug in AC adapter. Clean the battery contacts.
Humidity reading near zero or not believable	Probe exposed to intense light	Shade the probe while taking samples.
No response to keypad	Keypad locked out	Unlock keypad by pressing ▲▼ keys similtaneously.
Instrument Error message appears	Memory is full	Download data if desired, then DELETE ALL memory.
	Fault in instrument	Factory service required on instrument.
Probe Error message appears	Fault in probe	Factory service required on probe.

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)

Temperature:

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

Relative Humidity:

Range:	5 to 95% RH
Accuracy[2]:	±3% RH (includes ±1% hysteresis.)
Resolution:	0.1% RH
Response time:	20 seconds (for 63% of final value)
Sensor type:	Thin-film capacitive

CO Sensor:

Range:	0 to 500 ppm
Accuracy:	±3% of reading or 3 ppm whichever is greater [add ±0.5%/°C (0.28%/°F) away from calibration temperature]
Resolution:	1 ppm
Response time:	<60 seconds to 90% of final value.
Sensor type:	Electro-chemical

Instrument Temperature Range:

Operating (Electronics):	40 to 113°F (5 to 45°C)
Storage:	-4 to 146°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

Data Storage Capabilities:

Range: Logs up to 56,035 data points with key (4) measured parameters enabled, 38.9 days at 1-minute log intervals

Logging Interval:

Intervals: 1 second to 1 hour (user selectable)

Time Constant:

Intervals: 1 sec, 5 sec, 10 sec, 20 sec, 30 sec, (user selectable)

External Meter Dimensions:

3.8 in. × 8.3 in. × 2.1 in. (9.7 cm × 21.1 cm × 5.3 cm)

Meter Probe Dimensions:

Probe length: 7.0 in. (17.8 cm)
Probe diameter of tip: 0.75 in. (1.9 cm)

Meter Weight:

Weight with batteries: 0.8 lbs (0.36 kg)

Power Requirements:

Batteries: Four AA-size alkaline or rechargeable
or
AC adapter: 6 VDC nominal, 300 mA [Q-TRAK monitor mates with 5.5 mm OD × 2.1 mm ID plug, center pin positive(+)]

[1] At 77°F (25°C). Add uncertainty of ±0.2%/°F (±0.36%/°C) away from calibrated temperature.
[2] At 77°F (25°C). Add uncertainty of ±0.03% RH/°F (±0.05% RH/°C) away from calibrated temperature.

Appendix B

DIP Switch Settings

To access the DIP switch, remove the batteries from the battery compartment. On the inside of the battery compartment, there is a window with a single DIP switch (see Figure B-1). The table below shows the functions for the switch.

Caution: Make certain that power is turned off before changing the DIP switch settings.

Switch	Function	Settings
1	NiMH	OFF: Alkaline Batteries ON: NiMH Rechargeable Batteries

Figure B-1: DIP Switch Location

Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.

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