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For all enquiries, please contact: Gordon Thow (Test Equipment Rental Manager)

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UNDERSTANDING, ACCELERATED

TEST EQUIPMENT RENTAL SERVICES

Q-Trak Indoor Air Quality Monitor 7575

Operation and Service Manual/Datasheet

Q-TRAK™
INDOOR AIR QUALITY MONITOR
MODEL 7575

OPERATION AND SERVICE MANUAL

P/N 6004850, REVISION F
FEBRUARY 2016

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Limitation Of Warranty And Liability (effective February 2016)
(For country-specific terms and conditions outside of the USA, please visit www.tsi.com.)

Seller warrants the goods, excluding software, sold hereunder, under normal use and service as described in the operator's manual, to be free from defects in workmanship and material for **24 months**, or if less, 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 and exceptions:

a. Hot-wire or hot-film sensors used with research anemometers, and certain other components when indicated in specifications, are warranted for 90 days from the date Parts repaired or replaced as a result of repair services are warranted to be free from defects in workmanship and material, under normal use, for 90 days from the date of shipment;

b. Carbon monoxide (CO) Electro-chemical sensors are warranted for 12 months from the date of shipment;

c. Parts repaired or replaced as a result of repair services are warranted to be free from defects in workmanship and material, under normal use, for 90 days from the date of shipment;

d. Seller does not provide any warranty on finished goods manufactured by others or on any fuses, batteries or other consumable materials. Only the original manufacturer's warranty applies;

e. This warranty does not cover calibration requirements, and seller warrants only that the instrument or product is properly calibrated at the time of its manufacture. Instruments returned for calibration are not covered by this warranty;

f. This warranty is **VOID** if the instrument is opened by anyone other than a factory authorized service center with the one exception where requirements set forth in the manual allow an operator to replace consumables or perform recommended cleaning;

g. This warranty is **VOID** if the product has been misused, neglected, subjected to accidental or intentional damage, or is not properly installed, maintained, or cleaned according to the requirements of the manual. Unless specifically authorized in a separate writing by Seller, Seller makes no warranty with respect to, and shall have no liability in connection with, goods which are incorporated into other products or equipment, or which are modified by any person other than Seller.

The foregoing is **IN LIEU OF** all other warranties and is subject to the **LIMITATIONS** stated herein. **NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. WITH RESPECT TO SELLER'S BREACH OF THE IMPLIED WARRANTY AGAINST INFRINGEMENT, SAID WARRANTY IS LIMITED TO CLAIMS OF DIRECT INFRINGEMENT AND EXCLUDES CLAIMS OF CONTRIBUTORY OR INDUCED INFRINGEMENTS. BUYER'S EXCLUSIVE REMEDY SHALL BE THE RETURN OF THE PURCHASE PRICE DISCOUNTED FOR REASONABLE WEAR AND TEAR OR AT SELLER'S OPTION REPLACEMENT OF THE GOODS WITH NON-INFRINGING GOODS.**

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Buyer and all users are deemed to have accepted this LIMITATION OF WARRANTY AND LIABILITY, which contains the complete and exclusive limited warranty of Seller. This LIMITATION OF WARRANTY AND LIABILITY may not be amended, modified or its terms waived, except by writing signed by an Officer of Seller.

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

These Application Notes can be found under TSI's web site:
http://www.tsi.com

TSI-109	Converting Standard Velocity to Actual Velocity
TSI-124	Heat Flow Calculations
TSI-138	Percent Outdoor Air Calculation and Its Use
TSI-141	Turbulence Intensity Measurements
TSI-142	Draft Rate: A Determining Factor in the Quantification of Human Comfort
TSI-147	Photo-Ionization Detection (PID) Technology
TSI-150	Using Bluetooth® Communications

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 (7575-X)
3. USB cable
4. TrakPro™ CD-ROM with data analysis software
5. AC adapter

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Chapter 2

Setting-up

Supplying Power to the Model 7575 Q-Trak™ IAQ Monitor

The Model 7575 Q-Trak Indoor Air Quality (IAQ) Monitor can be powered in one of two ways: four size AA batteries or the AC adapter.

Installing the Batteries

Insert four AA batteries as indicated by the diagram located on the inside of the battery compartment. The Model 7575 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 the next section, DIP Switch Settings. Carbon-zinc batteries are not recommended because of the danger of battery acid leakage.

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 below). 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

Q-TRAK is a trademark of TSI Incorporated.

Do **not** attempt to charge alkaline batteries.

Using the AC Adapter

The AC adapter can be used to power the instrument or to charge the NiMH batteries when the DIP switch in the battery compartment is set to NiMH. If the DIP switch is set to Alkaline, and the AC power adapter is connected, then the batteries will be bypassed and the monitor will be powered by the AC adapter. Be sure to provide the correct voltage and frequency, which is marked on the back of the AC adapter.

AC Adapter input

Connecting IAQ or Ventilation Probes

The ventilation and IAQ probes have a “D” shape overmolding on the mini-DIN connector which must align with the connector at the base of the 7575 monitor. This will ensure the probe is properly connected and remains so during use. Once connected and turned on, refer to the DISPLAY SETUP for displaying the desired measurements.

“D” Shaped
mini-DIN connector

Using Optional Telescoping Thermoanemometer Probes

The telescoping probe contains the velocity, temperature, and humidity sensors. When using the probe, make sure the sensor window is fully exposed and the orientation dimple is facing upstream.

N O T E

For temperature and humidity measurements, make sure that at least 3 inches (7.5 cm) of the probe is in the flow to allow the temperature and humidity sensors to be in the air stream.

Extending the Probe

To extend the probe, hold the handle in one hand while pulling on the probe tip with the other hand. Do ***not*** hold the cable while extending the probe as this prevents the robe from extending.

Retracting the Probe

To retract the probe, hold the handle in one hand while gently pulling the probe cable until the smallest antenna section is retracted.

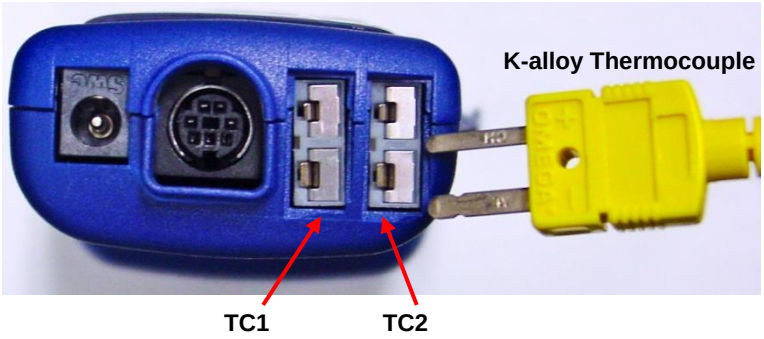
Do **not** use the instrument or probes near hazardous voltage sources since serious injury could result.

Thermocouple Ports

The 7575 series includes two thermocouple ports at the base of the monitor. Any K-Alloy thermocouple with mini-connector can be attached. See Display Setup for setting the thermocouple temperature readings to be displayed as TC1, TC2, or TC1-TC2.

Connecting the Thermocouples

The K-Alloy thermocouple with mini-connector has one terminal wider than the other. The wider terminal will be inserted into the bottom of the TC1 or TC2 connector port.



Thermocouples from an alternate TSI supplier must have the metal sheath electrically isolated from the wires inside. Failure to meet this requirement may result in false readings, electrical shock, or fire hazard.

Do **not** use the instrument or probes near hazardous voltage sources since serious injury could result.

Connecting the Optional Bluetooth® Portable Printer Device

To connect the Bluetooth printer to the Model 7575, power on the unit and the printer. Then press the **MENU** soft key. From the Menu use the ▲ and ▼ keys to highlight **Bluetooth Functions** and press the ↵ key. Highlight **Discover Devices** and press the ↵ key. If other TSI Bluetooth-printers are in the area, turn them off before searching. The Model 7575 will then search for and list all available Bluetooth devices.

For more information on establishing Bluetooth connections, refer to TSI Applications Note TSI-150.

Connecting to a Computer

Use the Computer Interface USB Cable provided with the Model 7575 to connect the instrument to a computer for downloading stored data.

USB Communications Port

	Caution
	This symbol is used to indicate that the data port of the Model 9565 is **not** intended for connection to a public telecommunications network. Connect the USB data port only to another USB port on a safety certified computing device.

	Protection provided by the instrument could be impaired if used in a manner other than specified in this user manual.

Bluetooth is a registered trademark of Bluetooth SIG.

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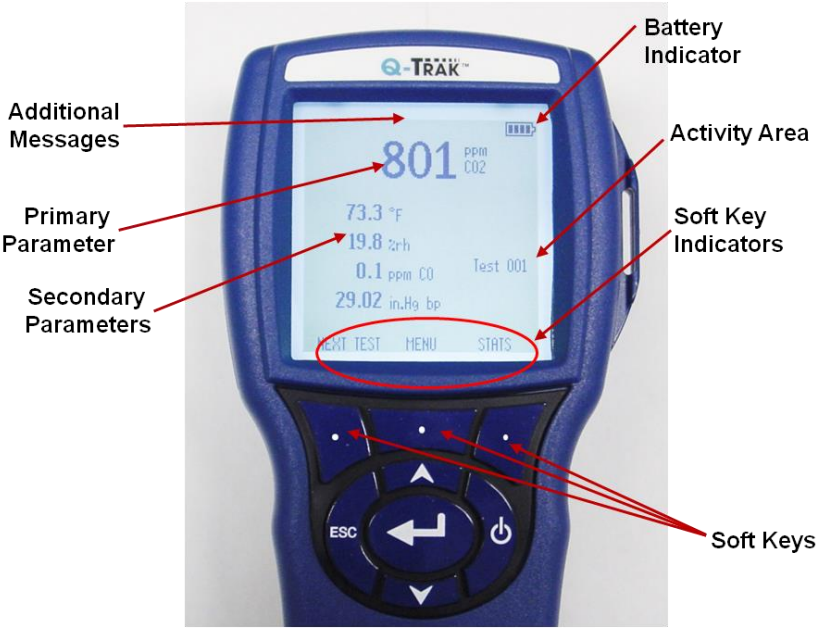
Chapter 3

Operation



Keypad Functions

ON/OFF ( ) Key	Press the **ON/OFF** key to turn the Model 7575 on and off. During the power up sequence the display will show the following: Model Number, Serial Number, and Software Revision. To turn the instrument off, press and ***hold*** the **ON/OFF** Key for 3 seconds. The instrument will count down (OFF2, OFF1, OFF). If AC Adapter is attached, the Battery and **ON/OFF** Key is bypassed. If the **ON/OFF** Key is pressed while the AC adapter is attached, the instrument instructs you to "Unplug the instrument to turn off unit". To turn the instrument on again, attach the AC adapter or press the **ON/OFF** Key.
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 menu selection, value or condition. Press to Start or Stop datalogging when in Continuous Key mode.

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, Settings, Flow Setup, VOC Setup, Actual/Std Setup, Data Logging, Zero CO, Applications, Calibration, and Bluetooth Functions.

Common Terms

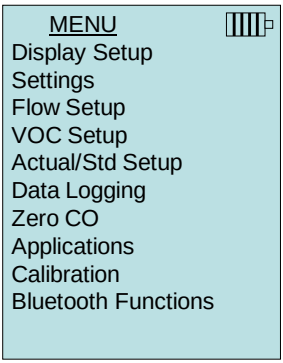
In this manual there are several terms that are used in different places. The following is a brief explanation of the meanings of those terms.

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”.
Log Interval	The logging interval is the period over which the instrument will average the logged sample. For example, if the logging interval is set to 30 minutes, each sample will be the average over the previous 30 minutes.
Test Length	This is the time over which the data will be logged in the “Continuous-Time” mode of data logging.

Menus

The menu structure is organized to allow easy navigation and instrument setup utilizing the arrow keys and ↵ button. To exit a menu or menu item, press the **ESC** key.

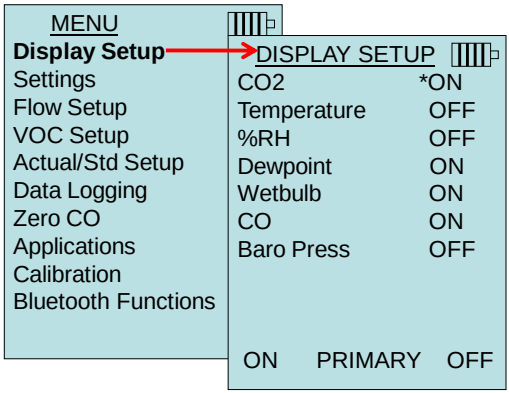
- To access the Menu items, press the **Menu** soft key.
- To select a parameter, use the Arrow keys to highlight the selection and press the ↵ button.



DISPLAY SETUP

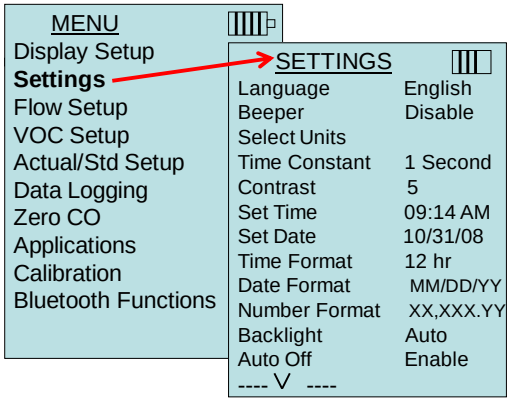
Display Setup menu is where you will setup the desired parameters to be displayed on the instrument screen. With a parameter highlighted you can then use the **ON** soft key to have it show up on the instrument screen or select the **OFF** soft key to turn off the parameter. Use **PRIMARY** soft key to have a parameter show up on the instrument screen in a larger display. A total of five parameters can be shown on the display, 1 primary (large font) and 4 secondary. Parameters shown in the Display Setup screen are dependent on the type of probe currently connected.

- When set to **PRIMARY**, measurement will be the large font on the display.
- When set to **ON**, measurement will be displayed as a secondary parameter (up to 4 can be displayed).
- When set to **OFF**, measurement will not be displayed.



SETTINGS

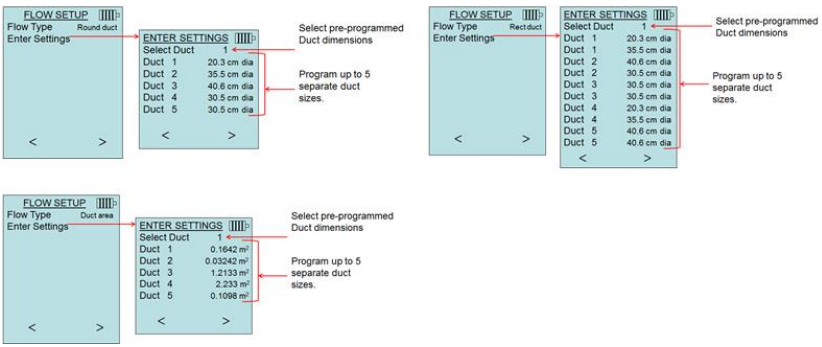
Settings menu is where you can set the general settings. These include Language, Beeper, Select Units, Time Constant, Contrast, Set Time, Set Date, Time Format, Date Format, Number Format, Backlight, and Auto Off. Use the ▲or ▼ keys to select an option, and the ➤ or ➤ soft keys to change the settings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



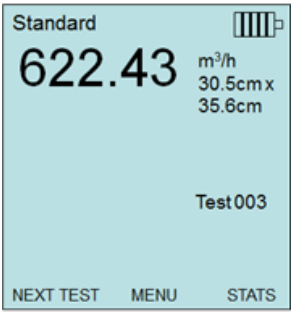
FLOW SET UP

In **Flow Setup** mode, there are five types: Round Duct, Rectangle Duct, Duct Area, Horn, and Air Cone. Use the ➤ or ➤ soft keys to scroll through the types and then press the ↵ key to accept the desired type. To change the value, highlight the **Enter Settings** option and press the ↵ key.

Up to 5 rectangular ducts, 5 round ducts, and 5 duct areas can be pre-programed for quick use on a jobsite:



When **Flow** is set as the **Primary** measurement in the **Display Setup** menu, the duct dimensions will also be displayed:



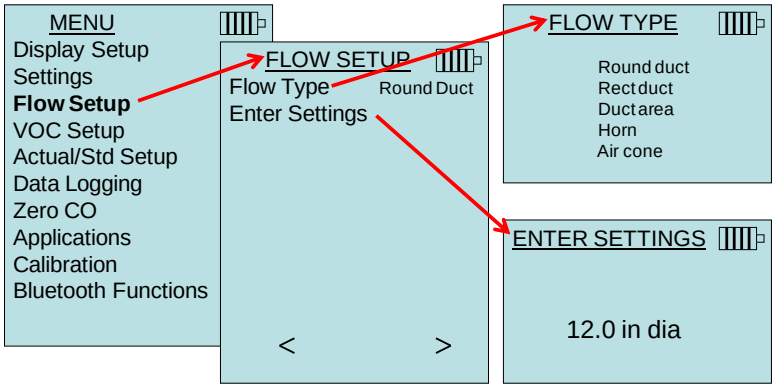
When measuring **Flow** as the **Primary** measurement, the parameters can be quickly changed by pressing the ▲ or ▼ key while on the main measurement screen:

Make adjustments with the ▲ or ▼ arrow keys and press ↵ to accept, or enter the **Select Duct** menu to choose a different pre-programmed dimension.

NOTES

The horn numbers are the models of the horns. For example, 100 refers to a horn model number AM 100. Only horns with Model numbers as follows can be used with this function: AM 100, AM 300, AM 600 and AM 1200. If a horn model number is chosen, the instrument will return to measuring mode and use a preprogrammed curve to calculate flow rate from velocity when using a thermoanemometer probe.

The air cone selection applies to the Model 995 Rotating Vane Anemometer and the Air Cone kit p/n 801749.



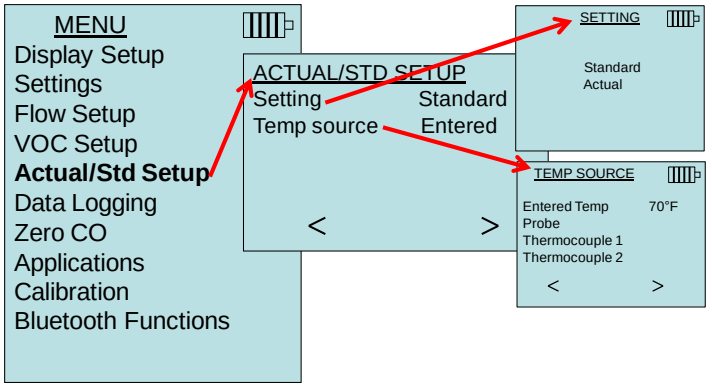
VOC SETUP

This menu item applies to TSI probes that measure Volatile Organic Compounds (VOC). Refer to the manual included with VOC probe Models 984, 985, 986 and 987 for information on usage and setup.

ACTUAL/STANDARD SETUP

Choose **Actual/Standard** measurements and parameters in the Act/Std Setup menu. The Model 7575 measures the actual barometric pressure using an internal sensor. The temperature source can be entered manually or taken from a probe that measures temperature (plug in probe or thermocouple).

For more information on Actual and Standard conditions, refer to Application Note TSI-109.

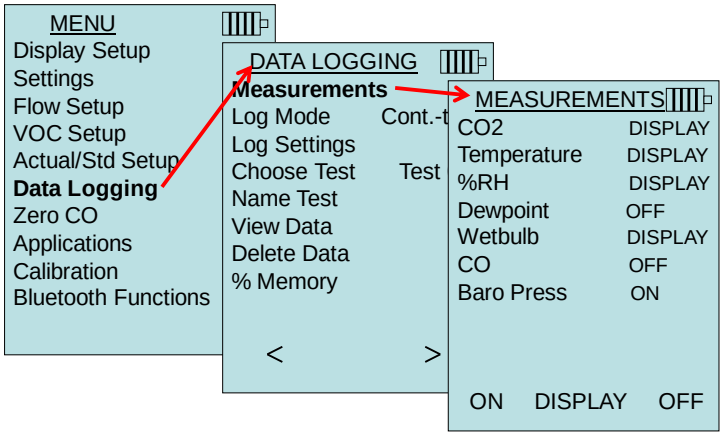


DATA LOGGING

Measurements

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

- When set to **ON**, measurement will be logged to memory.
- When set to **DISPLAY**, measurement will be logged to memory if it is visible on the main running screen.
- When set to **OFF**, measurement will not be logged to memory.



Log Mode/Log Settings

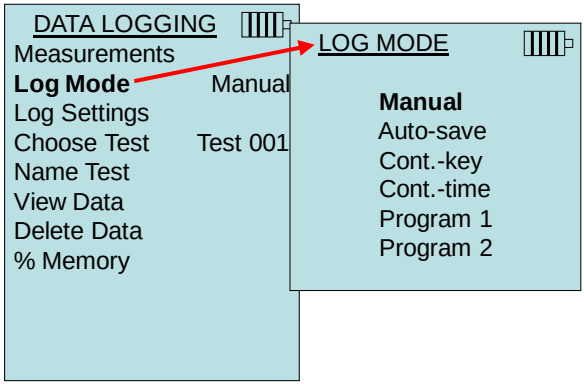
The 7575 can be programmed to store measurements to memory in several different logging formats:

- Manual
- Auto-save
- Cont-key
- Cont-time
- Program 1
- Program 2

Manual Logging

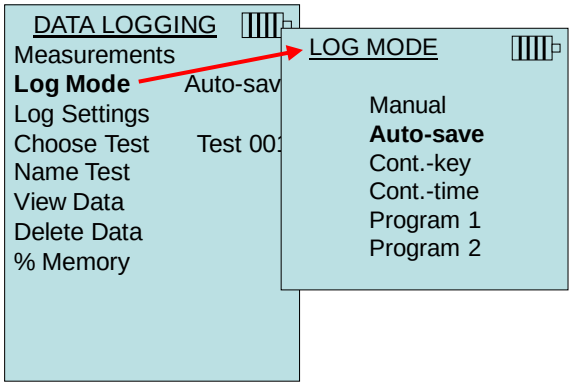
Manual mode does not automatically save data, but instead prompts the user to **SAVE** a sample or **ESC** to not save. To start logging, press the ↵ key.

N o t e
To adjust the averaging period for a sample, change the Time Constant (increase or decrease in seconds) which is located in the Settings Menu.

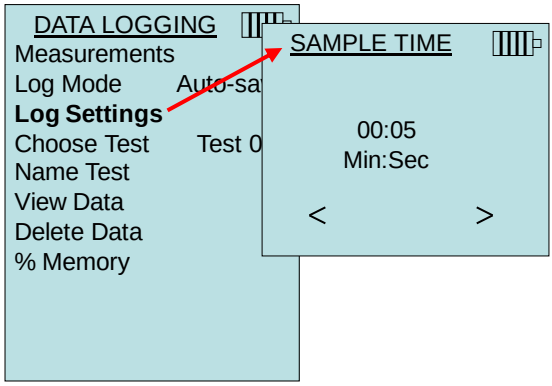


Auto Save Logging

In **Auto-save** mode, the user samples are automatically logged to memory at the end of the sampling period. To start logging, press the ↵ key.

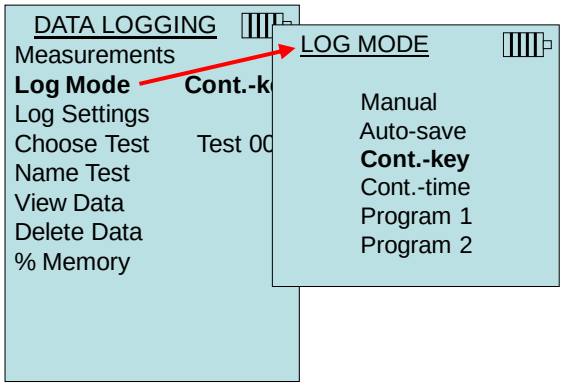


When set to **Auto-save**, the Sample Time can be adjusted. Sample Time is the time period over which the Sample will be averaged.

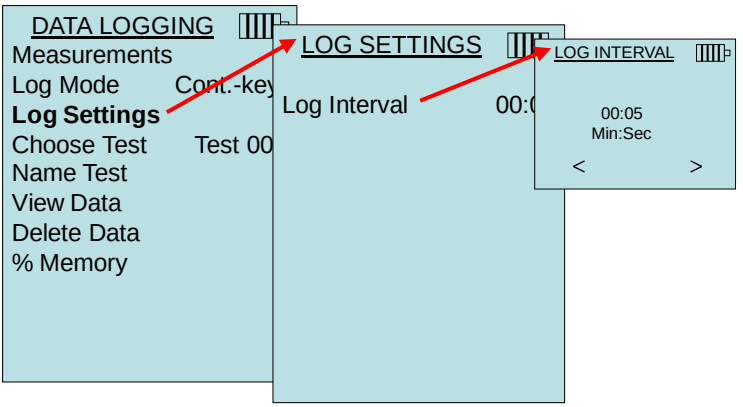


Cont-key Logging

In **Cont-key** mode, the user starts logging by pressing the ↵ key. The instrument will continue logging until the ↵ key is pressed again.



When set to **Cont. key**, the log interval can be adjusted.

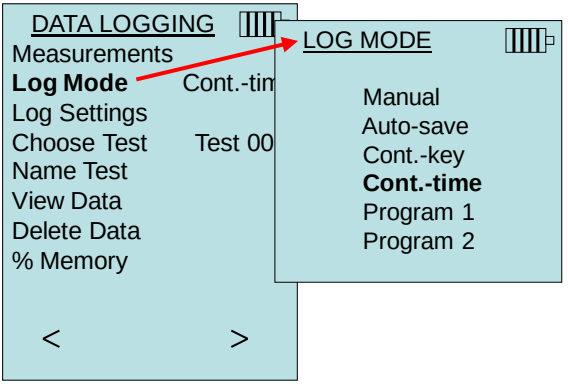


Note

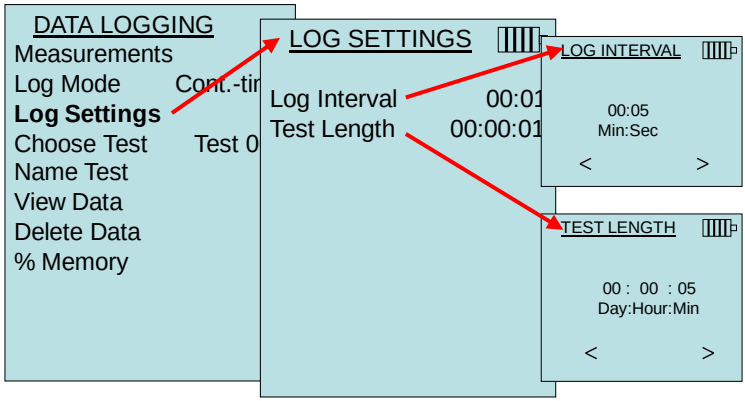
Pressing the ▲▼ keys simultaneously will lock the keypad to prevent unauthorized adjustments to the instruments during unattended logging. A “Lock” symbol will appear on the display. To unlock the keypad, press the ▲▼ keys simultaneously. The “Lock” symbol will disappear.

Cont-time Logging

In **Cont-time** mode, the user starts taking readings by pressing the ↵ key. The instrument will continue taking samples until the time as set in “Test Length” has elapsed.



When set to **Cont.-time**, the log interval and test length can be adjusted.

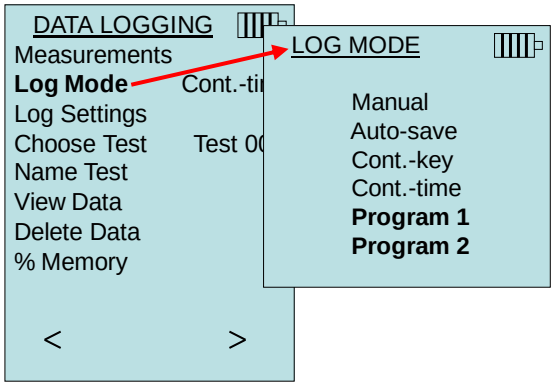


Note

Pressing the ▲▼ keys simultaneously will lock the keypad to prevent unauthorized adjustments to the instruments during unattended logging. A “Lock” symbol will appear on the display. To unlock the keypad, press the ▲▼ keys simultaneously. The “Lock” symbol will disappear.

Program 1 and Program 2

Program 1 and **Program 2** are customized data logging setup programs. Setting them up is performed using TSI’s TrakPro™ Data Analysis software.



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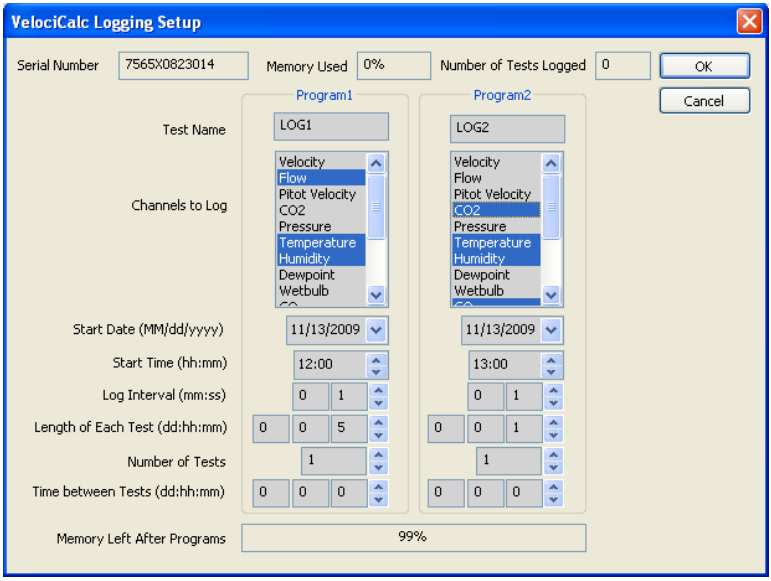
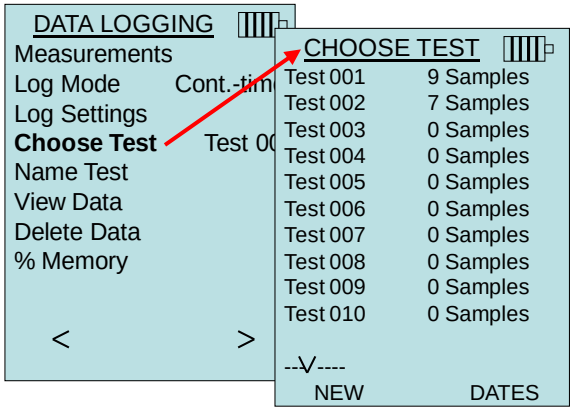


For more information, refer to the TrakPro Data Analysis Software User's Guide which can be found on the TrakPro software CD which is included with the 7575.

Choose Test

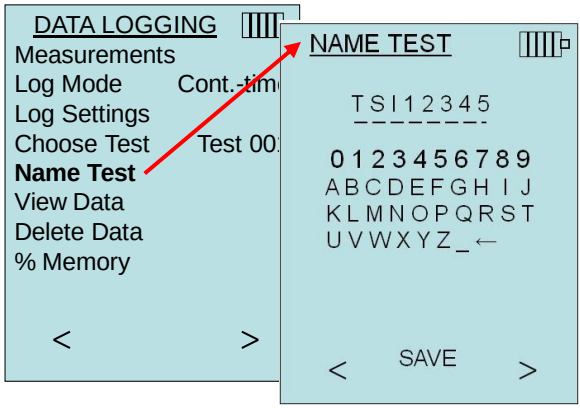
Test IDs consist of a group of Samples that are used to determine statistics (average, minimum, and maximum) of a measurement application**.** The 7575 can store 26,500+ samples and 100 test IDs (one sample can contain fourteen measurement types)**.** Example: Each duct traverse will have its own Test ID consisting of several Samples**.**

Pressing **NEW** will advance to the next available Test ID. Pressing **DATES** will list the date the Test was taken.



Name Test

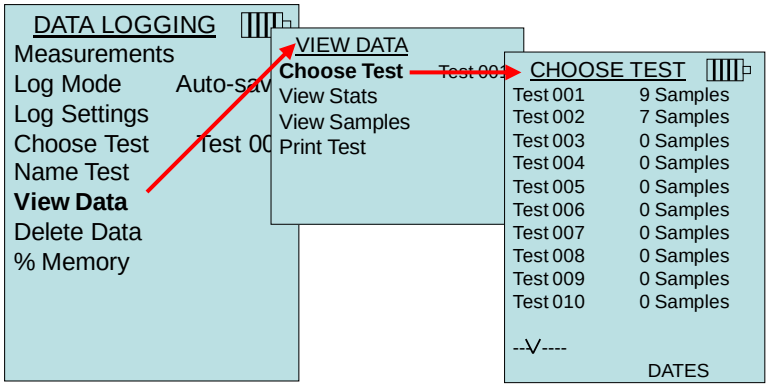
This option allows for customizing the Test ID name using 8 characters maximum. Use the arrow keys to move the cursor to a desired location, press ↵ to accept. Repeat until the desired name appears. Press **SAVE** to store custom ID name.



View Data

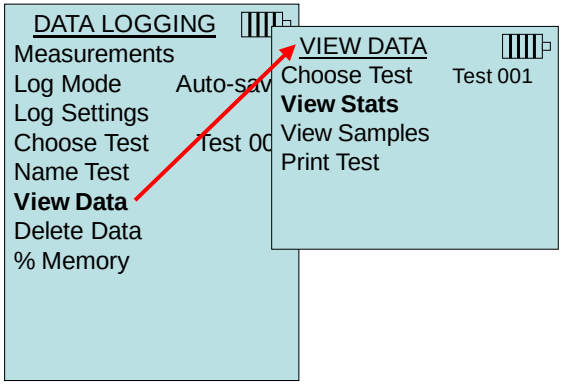
Choose Test

To view stored data, first select the Test ID that contains the data to be recalled. This is accomplished in the "**Choose Test**" menu.

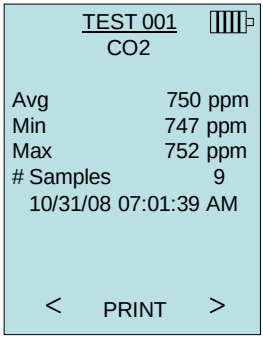


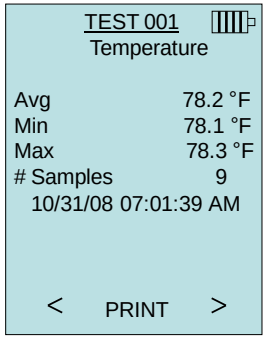
View Stats

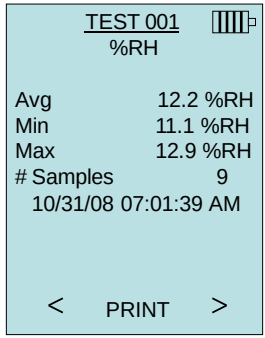
Displays statistics (average, minimum, and maximum) of a selected Test ID and the number of samples, date and time the samples were taken.



Use the ◄ and ► arrow keys to view statistics of all the measurement parameters stored in a Test ID.



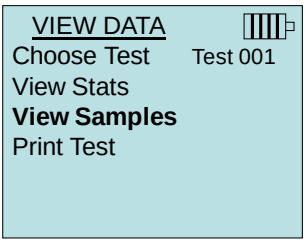




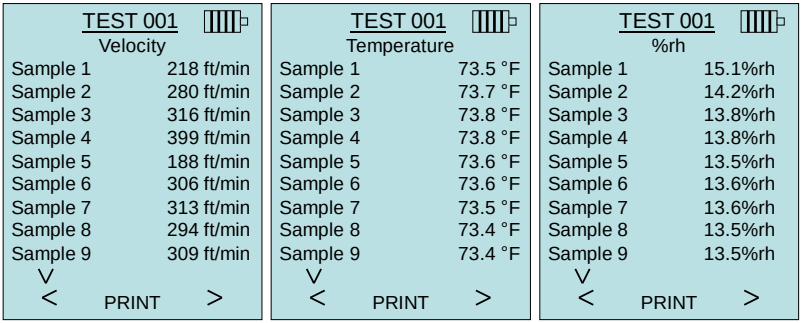
Example: TEST 001 has 9 samples, each sample consists of a pressure, temperature, and relative humidity reading. Use the **<** or **>** keys to view statistics of each measurement parameter.

The 7575 can send this data to the optional Model 8934 wireless printer or PC capable of Bluetooth communications. To use the **PRINT** command, Bluetooth communications must be established between the 7575 and the Model 8934 wireless printer or PC set up with Bluetooth communications.

View Samples



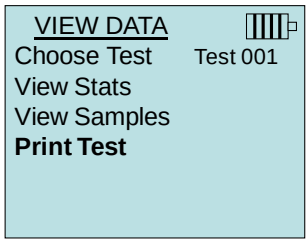
Use the ➤ and ➤ arrow keys to view samples of all the measurement parameters stored in a Test ID.



The 7575 can send this data to the optional Model 8934 wireless printer or PC capable of Bluetooth communications. To use the **PRINT** command, Bluetooth communications must be established between the 7575 and the Model 8934 wireless printer or PC set up with Bluetooth communications.

Print Test

Press ↵ to print all statistics and samples for the selected Test ID.

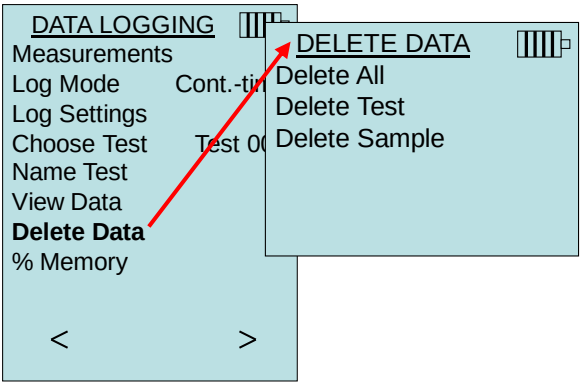


The 7575 can send this data to the optional Model 8934 wireless printer or PC capable of Bluetooth communications. To use the **PRINT** command, Bluetooth communications must be established between the 7575 and the Model 8934 wireless printer or PC set up with Bluetooth communications.

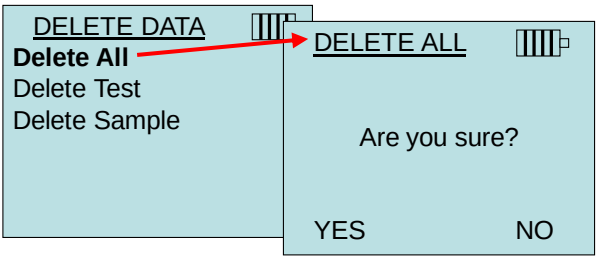
For more information on establishing Bluetooth connections, refer to TSI Applications Note TSI-150.

Delete Data

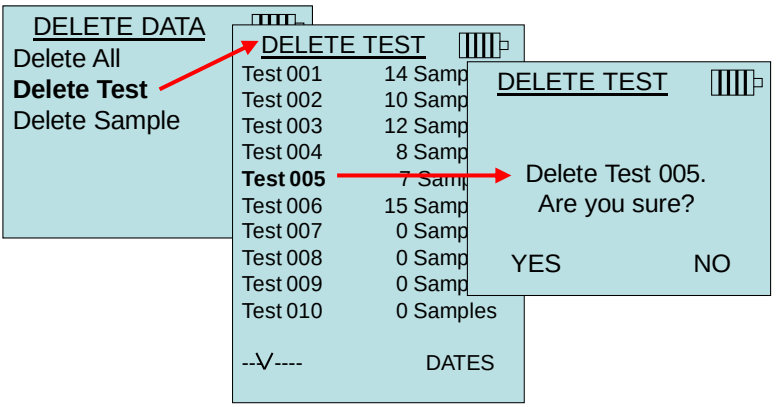
Use this to delete all data, delete test or delete sample.



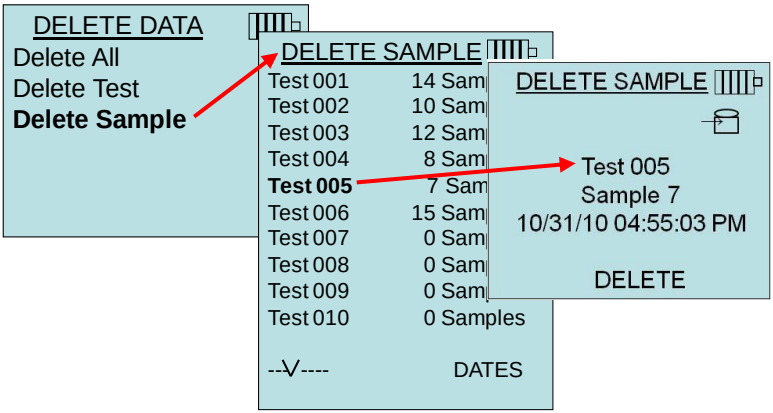
Delete All will clear stored data in all Test ID's.



Delete Test will clear stored data in an individual Test ID selected by the user.

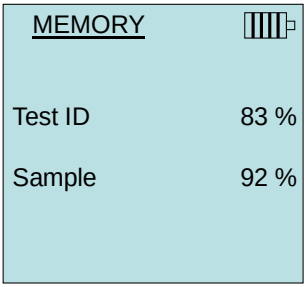


Delete Sample will clear the last sample in an individual Test ID selected by the user.



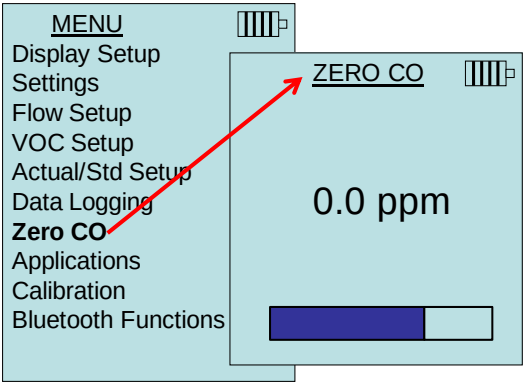
% Memory

This option displays the memory available. **Delete All**, under **Delete Data**, will clear memory and reset the memory available to 100%.



ZERO CO

This menu item applies to TSI probe Model 982 which can measure carbon monoxide (CO). Zero CO will zero the CO sensor readings that may have drifted. Initiating the Zero CO function will show the sensor CO reading and the time remaining.



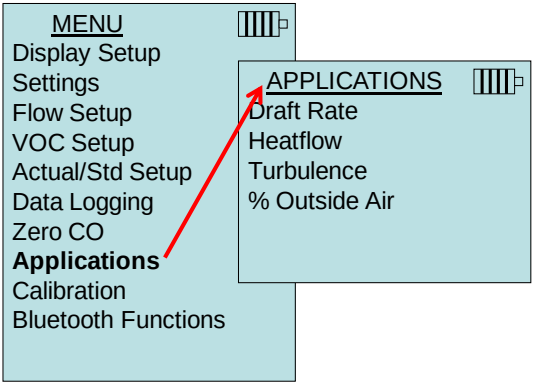
N o t e

The Zero CO function should be performed in an area where no combustion is taking place which may affect zeroing of the sensor.

APPLICATIONS

This menu option includes specialized measurement protocols used to perform various tests or investigations. You can choose Draft Rate, Heat flow, Turbulence, and % Outside Air in the Applications menu. For more information on these applications, refer to the following information:

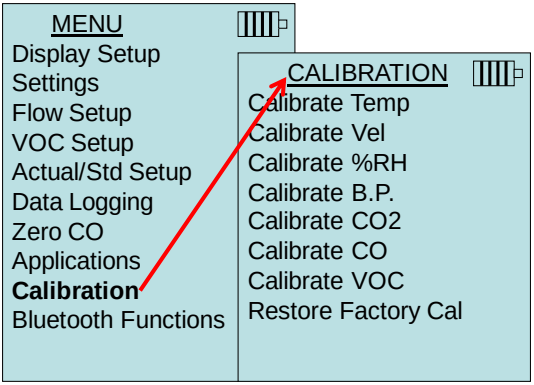
- Draft Rate: Application Note TSI-142
- Heat Flow: Application Note TSI-124
- Turbulence Intensity: Application Note TSI-141
- Percent Outside Air: Application Note TSI-138



CALIBRATION

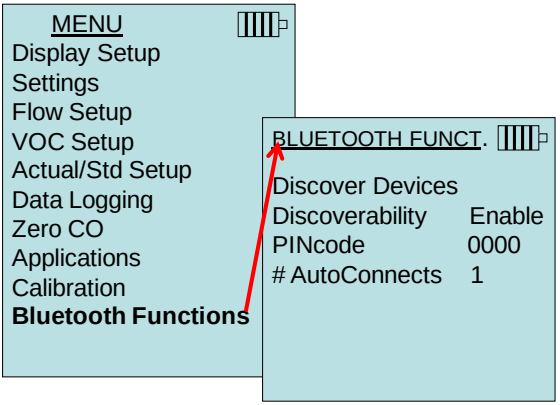
The Calibration Menu lists measurement parameters that can be adjusted in the field. The appropriate detachable probes must be attached to the 7575 before field calibration can be undertaken except for pressure and barometric pressure calibration.

For more information on performing field calibrations, refer to TSI Applications Note TSI-146.



BLUETOOTH FUNCTIONS

The Q-Trak Model 7575 contains a Bluetooth Functions menu which is used to adjust parameters to assist with wireless connections to other Bluetooth capable devices.



Discover Devices

Start the Bluetooth process of finding other devices from the Q-Trak Model 7575.

Discoverability

Describes whether another device can discover the Q-Trak Model 7575. Options include:

Disable	The instrument is not discoverable by other devices.
Temporary	Allows the instrument to be discoverable until another device pairs with it or until the instrument power is turned off and back on.
Enable	Makes the instrument discoverable indefinitely.

PINcode

The PINcode is a security key to be entered into the computer if prompted. The factory default PINcode is **0000**.

***NOTE**: PINcode must be set to **0000** in order to use 8934 printer.*

 # AutoConnects

Specifies how many times the instrument will attempt to reattach to a paired device after the power is turned on. For this option, the instrument Discoverability setting must be enabled. Settings are 0 to 5 times.

For more information on establishing Bluetooth connections, refer to TSI Applications Note TSI-150.

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 7575 comes with special software called TRAKPRO Data Analysis Software, which is designed to provide you with maximum flexibility and power.

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. Updates are available from the TSI website at http://www.tsi.com/SoftwareDownloads.

To download data from the Model 7575, connect the supplied computer interface USB cable to the Model 7575 and to a computer USB port. Any USB port can be used.

Chapter 4

Maintenance

The Model 7575 and probe accessories require 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 7575, 960 series thermoanemometer probes, IAQ and VOC probes 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 TSI's website at http://service.tsi.com.

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The Model 7575 and accessory probes 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 7575. If the enclosure of the Model 7575 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.

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Chapter 5

Troubleshooting

Table 5-1 lists the symptoms, possible causes, and recommended solutions for common problems encountered with the Model 7575. If your symptom is not listed, or if none of the solutions solves your problem, please contact TSI.

Table 5-1: Troubleshooting the Model 7575

Symptom	Possible Causes	Corrective Action
No Display	Unit not turned on	Switch unit on.
	Low or dead batteries	Replace batteries or plug in AC adapter.
	Dirty battery contacts	Clean the battery contacts.
Velocity reading fluctuates unstable	Fluctuating flow	Reposition probe in less turbulent flow or use longer time constant.
No response to keypad	Keypad locked out	Unlock keypad by pressing ▲▼ keys simultaneously.
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.
Probe is plugged in, but the instrument does not recognize it	Probe was plugged in when the instrument was ON	Turn instrument OFF and then turn it back ON.

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

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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 (±0.5°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

% Outside Air

Range	0 to 100%
Resolution	0.1%

Barometric Pressure

Range	20.36 to 36.648 in. Hg (517.15 to 930.87 mm Hg)
Accuracy	±2% of reading

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:	0.1 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 (Model 982):

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 p/n 801761
Input: 90 to 240 VAC, 50 to 60 Hz
Output: 9 VDC, 2A

[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

Optional Plug-in Probes

Thermoanemometer Probes	
Model	**Description**
960	Air Velocity and Temperature, Straight Probe
962	Air Velocity and Temperature, Articulating Probe
964	Air Velocity, Temperature, and Humidity, Straight Probe
966	Air Velocity, Temperature, and Humidity, Articulating Probe

Rotating Vane Anemometer Probes	
Model	**Description**
995	4 in. (100 mm) Rotating Vane, Air Velocity, and Temperature

Indoor Air Quality (IAQ) Probes	
Model	**Description**
980	Indoor Air Quality Probe, Temperature, Humidity, CO_2
982	Indoor Air Quality Probe, Temperature, Humidity, CO_2 and CO

Volatile Organic Compounds (VOC) Probes	
Model	**Description**
984	Low Concentration (ppb) VOC and Temperature
985	High Concentration (ppm) VOC and Temperature
986	Low Concentration (ppb) VOC, Temperature, CO_2, and Humidity
987	High Concentration (ppm) VOC, Temperature, CO_2, and Humidity

K-alloy Thermocouple Probes	
Model	**Description**
792	Surface Temperature Probe
794	Air Temperature Probe

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TSI Incorporated – Visit our website **www.tsi.com** for more information.

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France	**Tel:** +33 1 41 19 21 99	**Singapore**	**Tel:** +65 6595 6388
Germany	**Tel:** +49 241 523030		

P/N 6004850 Rev F Printed in U.S.A.

Q-TRAK™ MULTI-FUNCTION INDOOR AIR QUALITY MONITOR MODEL 7575

Providing a comfortable, safe and healthy indoor environment is an increasingly important concern. Good indoor air quality increases concentration and productivity which can reduce lost days due to absence. TSI's Q-Trak™ IAQ Monitor is a handheld, multi-function test instrument which features a menu-driven user interface for easy operation and provides quick, accurate information to measure and assess key IAQ parameters.

On-screen prompts and step-by-step instructions guide the user through operation, instrument setup and field calibration. The Q-Trak IAQ Monitor 7575 also features an ergonomic, over molded case design with probe holder and a keypad lockout to prevent tampering during unattended use. The Q-Trak IAQ Monitor 7575 is designed to work with a wide range of plug-in probes which expands measurement capability.

Applications

+ IAQ investigations
+ Industrial hygiene surveys
+ Baseline trending and screening
+ Building commissioning
+ Tracking down emissions to their source (point source location)

Features and Benefits

+ Simultaneously measures CO_2, CO, temperature and humidity
+ Calculates dew point, wet bulb and percent outside air
+ Large graphic display
  – Displays up to 5 measurements
  – On-screen messages and instructions
  – Supports 12 different languages
+ One instrument with multiple plug-in probe options including VOCs and air velocity
+ Store up to 39 days of data collected at one-minute log intervals
+ TrakPro™ Data Analysis Software provided for data logging, analysis and documenting results
+ Bluetooth communications for transferring data or remote polling

UNDERSTANDING, ACCELERATED

Q-Trak IAQ Monitor Plug-In Probes

The plug-in probe accessories allow users to make various measurements by simply plugging in a different probe that has the features and functions best suited for a particular application. Plug-in probes for the Q-Trak IAQ Monitor can be ordered at any time and include a data sheet with certificate of traceability. When it's time for servicing, only the probe needs to be returned since all the calibration data is stored within the probe.

Indoor Air Quality (IAQ) Probes

A good indicator of proper ventilation is the level of CO_2 present in a space. Carbon dioxide is a normal by-product of occupant respiration. Elevated levels of CO_2 may indicate that additional dilution ventilation is required.

IAQ probes are available to measure temperature, humidity, CO and CO_2 of indoor environments. Calculations include percent outside air, wet bulb and dew point temperatures. The IAQ probes feature field calibration capability, and the CO sensor in the Model 982 is field replaceable.

Volatile Organic Compounds (VOC) Probes

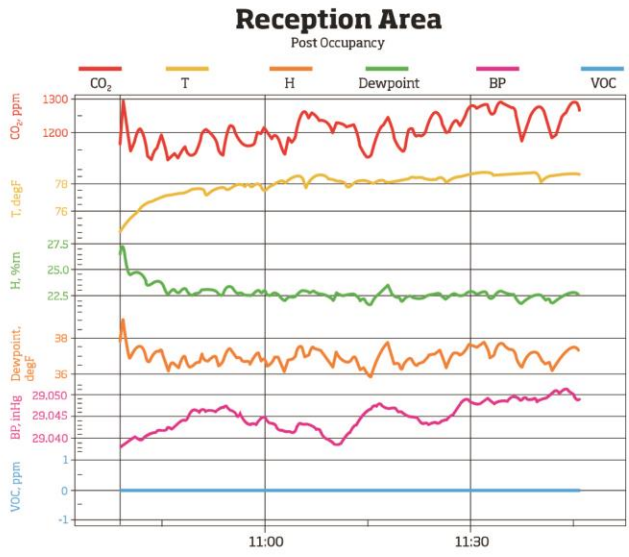
Volatile Organic Compounds (VOCs) are organic-based chemicals emitted as gases or vapors from solids or liquids that vaporize at room temperatures. Health effects from inhaling VOC's depend on the type of chemical, amount in the air (concentration in ppm or ppb), how long a person is exposed, and personal sensitivity to a given VOC.

VOC probes are available to measure temperature, humidity, VOC and CO_2 or just VOC and temperature. Calculations include percent outside air, wet bulb and dew point temperatures. VOC exposure in mass concentration can be calculated by inputting the molecular weight and response factor for a particular VOC. The VOC probes feature field calibration, maintenance and replacement sensors.

Data Collection and Reporting

Expanded data logging capacity and the inclusion of TrakPro Data Analysis Software provides the capabilities to work more effectively and efficiently. The Q-Trak can store up to 39 days of data collected at one-minute log intervals which is useful for investigating trends, performance or complaints. The stored data can be recalled, reviewed on screen, and downloaded for easy reporting. TrakPro software helps you to generate professional graphs for your reports.

+ Log multiple parameters to investigate trends
+ User selectable logging intervals and start/stop times
+ Download data to data analysis software
  - Report generation
  - Graph creation
  - Instrument programming



PROBE SPECIFICATIONS

980 IAQ Probes CO_2, Temperature and Humidity

Range	0 to 5,000 ppm CO_2, 5 to 95% RH, -10 to 60°C (14 to 140°F)
Accuracy	±3% of reading or ±50 ppm CO_2, whichever is greater[6] ±3% RH[4], ±0.5°C (±1.0°F)[3]
Resolution	1 ppm CO_2, 0.1% RH, 0.1°C (0.1°F)

982 IAQ Probes Model CO, CO_2, Temperature and Humidity

Range	0 to 500 ppm CO, 0 to 5,000 ppm CO_2, 5 to 95% RH, -10 to 60°C (14 to 140°F)
Accuracy	±3% of reading or ±3 ppm CO, whichever is greater[5] ±3% of reading or ±50 ppm CO_2, whichever is greater[6] ±3% RH[4], ±0.5°C (±1.0°F)[3]
Resolution	0.1 ppm CO, 1 ppm CO_2, 0.1% RH, 0.1°C (0.1°F)

792 and 794 Thermocouple Probes Temperature

Range	-40 to 650°C (-40 to 1,200°F)
Accuracy	±0.1% of reading +1.1°C (±0.1% of reading +2°F)
Resolution	0.1°C (0.1°F)

984 Low Concentration (ppb) VOC and Temperature

Range	10 to 20,000 ppb, -10 to 60°C (14 to 140°F)
Accuracy	±0.5°C (±1.0°F)[3]
Resolution	10 ppb[7], 0.1°C (0.1°F)

985 High Concentration (ppm) VOC and Temperature

Range	1 to 2,000 ppm, -10 to 60°C (14 to 140°F)
Accuracy	±0.5°C (±1.0°F)[3]
Resolution	1 ppm[7], 0.1°C (0.1°F)

986 Low Concentration (ppb) VOC, Temperature, CO_2, and Humidity

Range	10 to 20,000 ppb VOC, 0 to 5,000 ppm CO_2, -10 to 60°C (14 to 140°F), 5 to 95% RH
Accuracy	±3% of reading or 50 ppm CO_2, whichever is greater ±0.5°C (±1.0°F)[3], ±3% RH[4]
Resolution	10 ppb[7] VOC, 0.1 ppm CO_2, 0.1°C (0.1°F), 0.1% RH

987 High Concentration (ppm) VOC, Temperature, CO_2, and Humidity

Range	1 to 2,000 ppm VOC, 0 to 5,000 ppm CO_2, -10 to 60°C (14 to 140°F), 5 to 95% RH
Accuracy	±3% of reading or 50 ppm CO_2, whichever is greater ±0.5°C (±1.0°F)[3], ±3% RH[4]
Resolution	1 ppm[7] VOC, 0.1 ppm CO_2, 0.1°C (0.1°F), 0.1% RH

960 Thermoanemometer Straight Probe Velocity and Temperature

Range	0 to 50 m/s (0 to 9,999 ft/min), -18 to 93°C (0 to 200°F)
Accuracy	±3% of reading or ±0.015 m/s (±3 ft/min), whichever is greater[1&2] ±0.3°C (±0.5°F)[3]
Resolution	0.01 m/s (1 ft/min), 0.1°C (0.1°F)

962 Thermoanemometer Articulating Probe Velocity and Temperature

Range	0 to 50 m/s (0 to 9,999 ft/min), -18 to 93°C (0 to 200°F)
Accuracy	±3% of reading or ±0.015 m/s (±3 ft/min), whichever is greater[1&2] ±0.3°C (±0.5°F)[3]
Resolution	0.01 m/s (1 ft/min), 0.1°C (0.1°F)

964 Thermoanemometer Straight Probe Velocity, Temperature and Humidity

Range	0 to 50 m/s (0 to 9,999 ft/min), -10 to 60°C (14 to 140°F), 5 to 95% RH
Accuracy	±3% of reading or ±0.015 m/s (±3 ft/min), whichever is greater[1&2] ±0.3°C (±0.5°F)[3], ±3% RH[4]
Resolution	0.01 m/s (1 ft/min), 0.1°C (0.1°F), 0.1% RH

966 Thermoanemometer Articulating Probe Velocity, Temperature and Humidity

Range	0 to 50 m/s (0 to 9,999 ft/min), -10 to 60°C (14 to 140°F), 5 to 95% RH
Accuracy	±3% of reading or ±0.015 m/s (±3 ft/min), whichever is greater[1&2] ±0.3°C (±0.5°F)[3], ±3% RH[4]
Resolution	0.01 m/s (1 ft/min), 0.1°C (0.1°F), 0.1% RH

995 Rotating Vane 4 in. (100 mm) Probe Velocity, and Temperature

Range	0.25 to 30 m/s (50 to 6,000 ft/min), 0 to 60°C (32 to 140°F)
Accuracy	±1% of reading ±0.02 m/s (±4 ft/min), ±1.0°C (±2.0°F)
Resolution	0.01 m/s (1 ft/min), 0.1°C (0.1°F)

SPECIFICATIONS

Q-TRAK™ MULTI-FUNCTION INDOOR AIR QUALITY MONITOR
MODEL 7575

Carbon Monoxide (IAQ Probe Model 982)

Sensor Type	Electro-chemical
Range	0 to 500 ppm
Accuracy[5]	±3% of reading or 3 ppm, whichever is greater
Resolution	0.1 ppm
Response Time	<60 seconds to 90% step change

Carbon Dioxide (IAQ Probe Models 980 and 982)

Sensor Type	Dual-wavelength NDIR (non-dispersive infrared)
Range	0 to 5,000 ppm
Accuracy[6]	±3.0% of reading or ±50 ppm, whichever is greater
Resolution	1 ppm
Response Time	20 seconds

Temperature (IAQ Probe Models 980 and 982)

Sensor Type	Thermistor
Range	0 to 60°C (32 to 140°F)
Accuracy[3]	±0.5°C (1.0°F)
Resolution	0.1°C (0.1°F)
Response Time	30 seconds (90% of final value, air velocity at 2 m/s [400 ft/min])

Relative Humidity (IAQ Probe Models 980 and 982)

Sensor Type	Thin-film capacitive
Range	5 to 95% RH
Accuracy[4]	±3% RH
Resolution	0.1% RH
Response Time	20 seconds (for 63% of final value)

% Outside Air

Range	0 to 100%
Resolution	0.1%

Barometric Pressure

Range	517.15 to 930.87 mm Hg (20.36 to 36.648 in. Hg)
Accuracy	±2% of reading

Operating Temperature

5 to 45°C (40 to 113°F)

Storage Temperature

-20 to 60°C (-4 to 146°F)

Logging Capability

Range	Logs up to 56,035 data points with key (4) measured parameters enabled, 39 days at 1-minute log intervals

Time Constants

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

Log Intervals

1 second up to 1 hour (user selectable)

Meter Dimensions

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

Probe Dimensions

Length	17.8 cm (7.0 in.)
Diameter	1.9 cm (0.75 in.)

Weight (with batteries)

0.36 kg (0.8 lbs)

Power Requirements

Four AA-size alkaline batteries or AC adapter, both included

TO ORDER

Multi-function IAQ Monitor and Probe

Specify	Description
7575	Multi-function IAQ meter 7575-X with IAQ probe Model 982

Multi-function IAQ Monitor Only. Choose a probe most appropriate for your measurement needs.

Specify	Description
7575-X	Multi-function IAQ meter, no plug-in probes

NOTE: All models include: Instrument, hard carrying case, four alkaline batteries, USB cable, universal power supply, instruction manual, calibration certificate, and TrakPro downloading software.

Specifications are subject to change without notice.

[1] Temperature compensated over an air temperature range of 5 to 65°C (40 to 150°F).
[2] The accuracy statement begins at 0.15 m/s through 50 m/s (30 ft/min through 9,999 ft/min).
[3] Accuracy with instrument case at 25°C (77°F), add uncertainty of 0.03°C/°C (0.05°F/°F) for change in instrument temperature.
[4] Accuracy with probe at 25°C (77°F). Add uncertainty of 0.2% RH/°C (0.1% RH/°F) for change in probe temperature. Includes 1% hysteresis.
[5] At 25°C (77°F). Add uncertainty of 0.36%/°C (±0.2%/°F) for change in temperature.
[6] At calibration temperature. Add uncertainty of 0.5%/°C (±0.28%/°F) for change in temperature.
[7] When response factor is set to 1.00.

UNDERSTANDING, ACCELERATED

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To differentiate our organisation in order to achieve continuous, sustainable growth, TDC endeavours to fully understand and exceed the expectations of our customers, and to work proactively to deliver Engineering Excellence.

TDC ENGINEERING EXCELLENCE

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