

Q-TRAK™ XP INDOOR AIR QUALITY MONITOR MODEL 7585



APPLICATION NOTE TSI-165 (US)

Frequently Asked Questions

Question	Answer
What gases can I measure with the Q-Trak™ XP Indoor Air Quality (IAQ) Monitor?	The instrument can support a total of (6) six gases simultaneously from a list of gas sensors including carbon dioxide (CO ₂), carbon monoxide (CO), total volatile organic compounds (TVOC), formaldehyde (H ₂ CO), ozone (O ₃), chlorine (CL ₂), ammonia (NH ₃), nitrogen dioxide (NO ₂), nitric oxide (NO), and hydrogen sulfide (H ₂ S).
Does the Q-Trak™ XP IAQ Monitor measure particles?	Yes. The removable module features a built-in optical particle counter (OPC) to measure PM1.0, PM2.5, and PM10.0 plus particle counts in PC0.3, PC0.5, PC1.0, PC2.5, PC5.0 and PC10.0.
What other parameters is the Q-Trak XP monitor capable of measuring?	It can also measure temperature, relative humidity, barometric pressure and conversions for wet bulb and dew point temperatures. It also features a percent of outside air calculation using either temperature or carbon dioxide (CO ₂).
What is the total number of IAQ parameters it can measure?	The Q-Trak XP monitor can display and data log up to 20 measurements simultaneously: six user installed gas sensors, nine particle measurements, air temperature, relative humidity, barometric pressure, wet bulb and dew point temperature.
How many measurements can be displayed at one time?	The touchscreen scroll function allows for 20 simultaneous measurements to be displayed at one time. The percent of outside air calculation is performed as a separate workflow.
Can I configure which parameters I want to <i>display</i> for a particular IAQ investigation?	Yes. Through easy instrument configuration and set up, you can not only choose what parameters are displayed but you can also choose in what order.
Can I set alarms?	Yes. High and low alarms can be programmed for any parameter being measured, and multiple alarms can be active simultaneously.
Can I rearrange the order of the measurements I see on the display?	Yes. Parameters to be viewed can be moved higher or lower on the display based on priority.

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Question	Answer
Can I change gas sensors in the field?	Yes. Gas sensors can be added, removed, or replaced in the field at any time.
If I purchase a Q-Trak™ XP monitor now, can I add gas sensors in the future?	Yes. Gas sensors are available for purchase individually and are user installed. Each sensor includes a factory calibration certificate.
Can I calibrate the sensors in the field?	Yes. All gas sensors and temperature, relative humidity and barometric pressure sensors can be field calibrated by the user. The PM sensor cannot be field calibrated and would need to be returned to the factory for service.
Where can I purchase calibration gases for my Q-Trak™ XP Indoor Air Quality Monitor?	There may be several local suppliers in your area to purchase gases for zero and span calibration. Search for “calibration gas suppliers” in your area, make sure the calibration gases include a certificate of concentration. The gas regulator flow rate should be 0.3 L/min.
How much data can be stored to memory?	On-board memory allows for a total of 73 million data points or well over 30 days of data taken at 1-second intervals.
Can I pre-program locations and room names?	Yes. This can be done on the instrument at any time for multiple entries (facilities, buildings and rooms).
Does desktop software come with the Q-Trak™ XP monitor?	The latest version of TrakPro™ Ultra software is available as a download from www.tsi.com .
Can the instrument software be updated in the field?	Yes. The latest software can be downloaded from the TSI® website onto a thumb drive which is then inserted in the instrument. The Help screen on the Q-Trak XP IAQ Monitor will display the software level to tap on to install. Reference the instrument operations manual for more detailed information.
What accessories are available for the Q-Trak XP monitor?	Wi-Fi® dongle, tripod mount battery door with tabletop tripod, and additional sensor module (with PM sensor, T, RH, BP and six (6) open gas sensor slots).
Why is the module removable?	The module can be removed and sent back to the factory for service and replaced with a backup module to eliminate any downtime. Users may also want another module with a different set of sensors for alternate studies or investigations.
Is annual service and calibration required for the Q-Trak XP Indoor Air Quality Monitor?	TSI® recommends the PM sensor be factory calibrated annually. All other sensors can be user calibrated in the field.
Do I need to send the entire instrument into TSI® for Service?	No. It is not necessary since all the sensors are contained in the removable sensor module. The module and sensors can be returned for calibration and repair. The base handle does not contain any sensors and would only need to be returned for repair if damaged.
For particle concentrations, what does the “#” indicate in the #/cm³?	# refers to the “Number” of particles or how many are in a cm ³ or any other selectable unit of measurement such as #/m ³ , #/ft ³ , #/liter.

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<p>It appears that measurements are actually taken for particle concentrations and then converted into the PM1.0, PM2.5, and PM10. Is that correct?</p>	<p>Yes. This conversion is performed within the PM sensor.</p>
<p>For PM10, does it include data from particle concentrations for 10 and 5 microns PLUS the $\mu\text{g}/\text{m}^3$ for PM2.5 and PM1.0?</p>	<p>Yes. Each PM10 measurement is the mass concentration of particles with a diameter less than or equal to 10 μm. This is also true for other size fractions. For example, PM2.5 includes mass concentrations less than or equal to 2.5 μm.</p>
<p>What is the meaning of “High” for VOC High? This is shown in the description of the exported data files.</p>	<p>The "H" in TVOC-H is short for "High". TSI has two TVOC sensor a TVOC-H (H is short for high) and TVOC-L (is short for low). High and low refer to the gas concentration ranges. Exported data descriptions will appear as “VOC Low” and “VOC High”.</p>
<p>We ordered the ppm TVOC high sensor, yet in the data export, it shows ppb—is that a problem?</p>	<p>No. It means that the units of measure for the TVOC-H sensor is set to ppb. This can be changed to ppm by going to the Units of Measure page and setting the units of measure associated with the TVOC-H sensor to ppm.</p>
<p>Why is there no accuracy statement associated with the TVOC sensors?</p>	<p>The PID sensor is calibrated using isobutylene and detects a broad spectrum of gases. However, it is unable to discern one gas from another or if multiple gases are present. Due to so many unknowns, it is impossible to state a fixed accuracy for general field usage.</p>
<p>For CO₂, VOC, and CO, they can be reported or displayed in multiple units (ppm, ppb, mg/m^3, $\mu\text{g}/\text{m}^3$) can they all be set to the same?</p>	<p>Yes. The Q-Trak™ monitor is highly configurable and you can change the units of measure of all gas sensor to the same units of measure if desired.</p>
<p>What is the conversion from mg/m^3 to ppm?</p>	<p>Equation: $\text{gas concentration} = 24.45 * \text{mass concentration} / \text{Molecular weight}$</p> <p>Where:</p> <ul style="list-style-type: none"> - Gas concentration is in ppm - Mass concentration is in mg/m^3 - Molecular weight is in g/mol
<p>Thresholds—It appears that there’s an inherent ability to determine thresholds within the meter, but can they be configured to show up on the graph, as well?</p>	<p>The thresholds show up in the graphs on the instrument when the alarm setpoints are turned on. This is accomplished by enabling upper and lower alarm setpoints for any measurement parameter.</p>
<p>Does TSI® have recommended thresholds or alarm setpoints for each parameter?</p>	<p>No. These are user definable and may be based on local standards or regulations or specific customer needs.</p>
<p>How are reports generated? How is the data exported?</p>	<p>Data can be exported in two ways for use in any of your pre-existing report formats: via a flash drive as a csv file that can be viewed and graphed in a spreadsheet or downloaded to TrakPro™ Ultra software for graphing and viewing of data which then can be placed into a final report.</p>

Question	Answer
Are there any additional export functions other than CSV in the TrakPro™ Ultra software?	No. CSV format only.
For particulate, is there a way to only show PM2.5?	Yes. This can be done on the Sensors page by switching the visibility toggle switch to the off position. The logged file will still include all measurements.
Can I configure the parameters I want to data log for a particular IAQ investigation?	No. The instrument measures and data logs all parameters based on the installed sensor configuration.



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