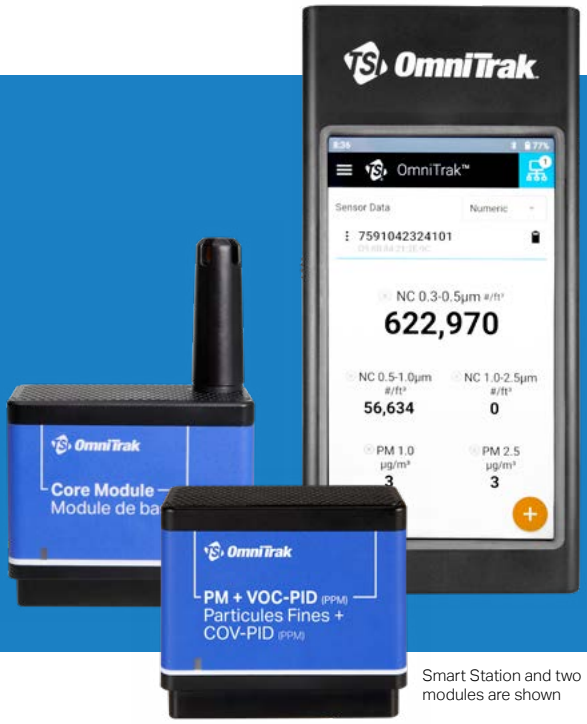
Knowledge Beyond Measure.

TSI OmniTrak™ Solution

IAQ Modules



Smart Station and two modules are shown

Efficiency Meets Intelligence.
Customizable, Scalable, and Affordable Monitoring.

The TSI OmniTrak™ Solution is a modular monitoring ecosystem designed to simplify time-synced measurement studies across multiple locations and parameters, from spot checks and troubleshooting to multi-day studies. OmniTrak™ modules pair seamlessly with the Smart Station to collect, visualize, and report time-stamped measurement data for on-site or unattended studies. Automated Microsoft Excel reports and data visualizations help make analysis quick and easy. The OmniTrak™ ecosystem also includes ultrafine particle counting with TSI OmniCount™ Portable Water-based Condensation Particle Counter (PWCPC) models 3001 and 3002 and a Sound Level Meter (SLM) Class 2 module, providing a more complete view of air quality, particle, and noise data within a single system.

IAQ Modules

- VOC-PID (ppb)
- VOC-PID (ppm)
- CO
- Cl_2
- HCHO
- O_3
- NH_3
- PM
- PM + VOC-PID (ppm)
- Core Module (PM, VOC-EC (ppb), CO_2, RH, BP, Temp)

Features and Benefits

- Modular, Scalable Platform
  Connect up to 10 sensor modules with wireless setup and firmware upgrades. Start small and expand as your needs grow, for a future-proof solution
- Multi-Parameter Sensing
  Measure multiple environmental parameters simultaneously with synchronized, time-stamped data. Maintain confidence in gas measurements with in-field calibration
- Multi-Location, Time-Synced Monitoring
  Distribute wireless sensors across various locations with synchronized data. Track spatial and temporal trends to identify sources and changes efficiently
- Ease of Deployment with Intuitive Interface
  Portable, plug-and-play modules require no complex setup. Deploy quickly and move easily between locations or projects with minimal effort
- In-Field Calibration
  Helps maintain confidence in gase measurement results
- Smart Data Management and Reporting
  Real-time visualization and automated reporting save time. Share clear, actionable data to help demonstrate compliance and improvements

Applications

- Complaint Investigation & Source Identification: Rapidly deploy OmniTrak Solution when occupants report odors, headaches, or air quality concerns. Collect objective, time-stamped data across locations to pinpoint sources, rule out causes, and support remediation
- Indoor Air Quality and Ventilation: Evaluate air quality in schools, offices, healthcare, and residences. Assess ventilation, identify pollutant sources, and verify improvements after remediation or filtration upgrades
- Occupational and Environmental Health: Monitor exposure to gases, particles, and sound in manufacturing, labs, and construction. Pair with the OmniTrak SLM module for integrated health and safety assessments
- Industrial Process and Quality Control: Track temperature, humidity, VOCs, CO2, and particles affecting production consistency and quality. Pair with TSI OmniCount PWCPC for ultrafine particle monitoring
- Field and Multi-Zone Studies: Deploy modules to map conditions across rooms or facilities. Use TSI Link™ Report Creator for time-synced spatial comparisons and trends

IAQ Module Sensor Specifications

Sensor Model		Sensor Type	Range	Accuracy	Resolution	*Response Time
Core Module **Model 7591-05**	Carbon Dioxide (CO_2)	NDIR (non-dispersive infrared)	400 - 10,000 ppm	+/- 3% of reading + 30 ppm (typical)	1 ppm	45 seconds
	Barometric Pressure (BP)	Piezoresistive	7.7 - 37.2 in Hg (260 - 1260 hPa)	± 0.12 in Hg (+/- 4.1 hPa)	0.01 in Hg (0.1 hPa)	—
	Relative Humidity (RH)	—	5 - 95% RH	+/- 5% RH	0.1% RH	—
	Temperature (T)	—	0 - 60 °C 32 - 140 °F	+/- 0.5°C +/- 0.9°F	0.10°C 0.18°F	—
	PM Sensor	See separate PM Sensor Specifications				
	VOC-EC (ppb) Sensor	Electrochemical	0-10,000 ppb	—	1 ppb	315 seconds
VOC-PID (ppb) Module **Model 7591-03**		10.6 eV PID PID (Photo Ionization Detector)	0 - 20,000 ppb	—	1 ppb	15 seconds
VOC-PID (ppm) Module **Model 7591-02**		10.6 eV PID PID (Photo Ionization Detector)	0 - 2,000 ppm	—	0.1 ppm	10 seconds
PM + VOC-PID (ppm) Module **Model 7591-04**	VOC-PID (ppm)	10.6 eV PID PID (Photo Ionization Detector)	0 - 2,000 ppm	—	0.1 ppm	10 seconds
	PM Sensor	See separate PM Sensor Specifications				
Ammonia (NH3) Module **Model 7591-11**		Electrochemical	0 - 100 ppm	+/- 10 ppm	0.1 ppm	300 seconds
Carbon Monoxide (CO) Module **Model 7591-06**		Electrochemical	0 - 400 ppm	15% + 2 ppm	0.1 ppm	30 seconds
Chlorine (Cl_2) Module **Model 7591-10**		Electrochemical	0 - 20 ppm	5% + 0.8 ppm	0.01 ppm	50 seconds
Formaldehyde (HCHO) Module **Model 7591-07**		Electrochemical	0 - 10 ppm	2% + 1 ppm	0.01 ppm	300 seconds
Ozone (O_3) Module **Model 7591-08**		Electrochemical	0 - 20 ppm	15% + 1.5 ppm	0.01 ppm	50 seconds

Measurement specifications apply at ambient conditions of 21 +/- 5 °C temperature, 98.6 +/- 5 kPa pressure, and 50 +/- 10% relative humidity.
*typical time to 90% of final value unless otherwise stated

All IAQ modules above ship with a factory calibration certificate

PM Module Sensor Specifications

PM Modules

Models: 7591-01 PM Module, 7591-04 PM + VOC-PID (ppm) Module, 7591-05 Core Module

Particle Counter			
Concentration Range	0 to 3,000 (0 to 84,950,000)	—	#/cm³ (#/ft³)
Particle Bins and Particle Size Range (NC = Number Concentration)	NC0.5	0.3 to 0.5	µm
	NC1.0	0.5 to 1.0	µm
	NC2.5	1.0 to 2.5	µm
	NC4	2.5 to 4.0	µm
	NC10	4.0 to 10.0	µm
Concentration Precision[1] for PM0.5, PM1, and PM2.5[2]	0 to 1,000 #/cm³ (0 to 28,320,000 #/ft³)	±100 (±2,832,000)	#/cm³ (#/ft³)
	1000 to 3000 #/cm³ (28,320,000 to 84,950,000 #/ft³)	±10	% m.v.
Concentration Precision[1] for PM4, PM10[3]	0 to 1000 #/cm³ (0 to 28,320,000 #/ft³)	±250 (±7,080,000)	#/cm³ (#/ft³)
	1000 to 3000 #/cm³ (28,320,000 to 84,950,000 #/ft³)	±25	% m.v.
Particulate Mass			
Concentration Range	0 to 1,000	—	µg/m³
Mass Concentration Bins and Particle Size Range	PM1.0	0.3 to 1.0	µm
	PM2.5	0.3 to 2.5	µm
	PM4.0	0.3 to 4.0	µm
	PM10.0	0.3 to 10.0	µm
Mass Concentration Precision[1] for PM1, and PM2.5[2]	0 to 100 µg/m³	± [5 µg/m³ + 5 % m.v.]	
	100 to 1000 µg/m³	±10	% m.v.
Mass Concentration Precision[1] for PM4, PM10[3]	0 to 100 µg/m³	±25	µg/m³
	100 to 1000 µg/m³	±25	% m.v.

Response time for both Particle Counter and Particle Mass: t90 < 13 seconds

[1] Also referred to as "between-parts variation" or "device-to-device variation".

[2] Verification Aerosol for PM2.5 is a 3% atomized KCl solution. Deviation to reference instrument is verified in end-tests for every sensor after calibration.

[3] PM4 and PM10 output values are calculated based on distribution profile of all measured particles.

Specifications

TSI OmniTrak™ Solution

IAQ Modules

Power Requirements*	
Input Power	10 W
Input Voltage	5 VDC
Charging Port	USB C
Environmental/Installation Requirements*	
Maximum Altitude	3,000 m (10,000 ft)
Pollution Degree	2
Installation Category	I
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 60°C
Humidity	0% to 95% (non-condensing)
BLE Range**	up to 100 m (328 ft)
Battery Life	
Core Module	15 hrs.
Standard Modules	18 hrs.
Smart Station	14 hrs.
Weight	
Core Module	0.18kg (0.38lbs)
Standard Modules	.17 kg (.37 lbs)
Smart Station	.36 kg (.79 lbs)
Dimensions	
Core Module	85 x 35 x 127 mm
Standard Modules	85 x 35 x 73 mm
Smart Station	85 x 35 x 175 mm
Logging Interval	
Standard and Core Modules	Selectable, min 1 second
Core Module CO_2	Selectable, min 5 seconds

* Applies to both Smart Station and Modules

** Range is dependent on many variables (i.e. wireless traffic, metal, etc.) and can not be guaranteed.

Data Logging & Storage	
Smart Station Storage	32 GB
IAQ Module Storage	64MB; up to 20 stored studies
Quick Start Studies	Logged on the Smart Station; modules must remain within Bluetooth range
Module Studies	Logged on the module. Bluetooth connection to the Smart Station is required to start and transfer study data
Preset Study Duration	Supported for module studies
Maximum Module Study Duration	Up to 72 hours

In-Field Calibration			
Sensor Type	Zero Calibration	Span Calibration	Notes
VOC-PID / VOC-EC / electrochemical gas modules	Yes	Yes	Calibration gas required
CO_2	N/A	Yes	Span calibration only
PM	N/A	N/A	no field calibration

Accessory Options

- Small Case for Smart Station, includes 2 Modules (Core or Standard)
- Large Case for Smart Station, includes 5 Modules (Core or Standard)
- OmniTrak Kick Stand, Hand & Wrist Strap
- Core calibration shroud

Specifications are subject to change without notice.

Knowledge Beyond Measure.

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