



Knowledge Beyond Measure.

OmniTrak™ Solution Modules



Smart Station and two modules are shown

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

The OmniTrak™ Solution Smart Station pairs seamlessly with any OmniTrak™ module to provide immediate, on-site visibility into indoor environmental conditions. View live measurements, generate reports, and analyze data in real time to identify issues and drive informed improvements to air quality.

Smart Station	7590-00
VOC-PID (ppb) Module	7591-03
CO Module	7591-06
Cl Module	7591-10
HCHO Module	7591-07
O ₃ Module	7591-08
NH ₃ Module	7591-11
VOC-PID (ppm) Module	7591-02
PM Module	7591-01
PM + VOC-PID (ppm) Module	7591-04
Core Module	7591-05

Features and Benefits

- Wireless connection for up to 10 modules simultaneously
- Large touch-screen with intuitive navigation used for recording studies, managing data, viewing historical data, real-time measurements, etc.
- Download data directly from the device onto your PC or upload data to our TSI Link™ cloud platform for easy accessibility
- Unique laser-based light scattering particle sensors – outputs mass concentration data (PM1, PM2.5, PM4, PM10) and particle number concentration data separated into 5 distinct bins
- Precise 10.6 eV PID (photo ionization detector) for monitoring various VOCs (volatile organic compounds) in the PPM and PPB ranges
- Accurate, high sensitivity VOC detection at low concentrations with the Core Module's electrochemical VOC Sensor
- Modular design allows the flexibility and connection to future next generation modules

Applications

- Ventilation effectiveness testing
- IAQ studies in commercial/residential buildings, schools, hospitals, industrial manufacturing, etc.
- Industrial/occupational hygiene surveys and indoor air quality investigations
- Identify air quality hot-spots. Pinpoint problem areas and investigate sources of poor indoor air quality
- Pre and post-remediation air testing. Validate the impact of air purifiers, ventilation upgrades, or renovation projects on indoor air quality
- Compare air quality by zone. Monitor and compare IAQ data across different rooms, floors, or building zones over time
- Support Manufacturing Quality Control. Track environmental conditions that could affect product quality in production areas
- Engineering control evaluations

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	t90 < 60 seconds
	Barometric Pressure (BP)	Piezoresistive	7.7 - 37.2 inHg (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	t50 < 50 seconds
VOC-PID (PPB) Module Model 7591-03		10.6 eV PID PID (Photo Ionization Detector)		—	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	15 seconds
Carbon Monoxide (CO) Module Model 7591-06		Electrochemical	0 - 400 ppm	15% + 2 ppm	0.1 ppm	45 seconds
Chlorine (Cl2) Module Model 7591-10		Electrochemical	0 - 20 ppm	5% + 0.8 ppm	0.01 ppm	90 seconds
Formaldehyde (HCHO) Module Model 7591-07		Electrochemical	0 - 10 ppm	2% + 1 ppm	0.01 ppm	300 seconds
Ozone (O3) Module Model 7591-08		Electrochemical	0 - 20 ppm	15% + 1.5 ppm	0.01 ppm	60 seconds

Measurement specifications apply at ambient conditions of 21 +/- 5 °C temperature, 98.6 +/- 5 kPa pressure, and 50 +/- 10% relative humidity.

PM 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)	—	#/cm ³ (#/ft ³)
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 #/cm ³ (0 to 28,320,000 #/ft ³)	±100 (±2,832,000)	#/cm ³ (#/ft ³)
	1000 to 3000 #/cm ³ (28,320,000 to 84,950,000 #/ft ³)	±10	% m.v.
Concentration Precision ¹ for PM4, PM10 ³	0 to 1000 #/cm ³ (0 to 28,320,000 #/ft ³)	±250 (±7,080,000)	#/cm ³ (#/ft ³)
	1000 to 3000 #/cm ³ (28,320,000 to 84,950,000 #/ft ³)	±25	% m.v.
Particulate Mass			
Concentration Range	0 to 1,000	—	µg/m ³
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/m ³	± [5 µg/m ³ + 5 % m.v.]	
	100 to 1000 µg/m ³	±10	% m.v.
Mass Concentration Precision ¹ for PM4, PM10 ³	0 to 100 µg/m ³	±25	µg/m ³
	100 to 1000 µg/m ³	±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

OmniTrak™ Solution 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 83.6 x 35.3 x 122 mm

Standard Modules 85 x 35 x 73 mm

Smart Station 85 x 35 x 175 mm

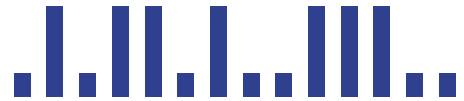
Sample Interval

Standard and Core Modules Every 1 sec

Core Module CO₂ Every 5 sec

* Applies to both Smart Station and Modules

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



To Order Specify

7590-21

Description

Small Case for Smart Station
+ 2 Modules (Core or Standard)

7590-22

Large Case for Smart Station
+ 5 Modules (Core or Standard)

7590-52

OmniTrak Kick Stand, Hand &
Wrist Strap

7590-84

Core calibration shroud

Specifications are subject to change without notice.

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