



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 |
| CI Module                 | 7591-10 |
| HCHO Module               | 7591-07 |
| O <sub>3</sub> Module     | 7591-08 |
| NH <sub>3</sub> 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<br>Model 7591-05                 | Carbon Dioxide (CO <sub>2</sub> ) | 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<br>32 - 140 °F              | +/- 0.5°C<br>+/- 0.9°F               | 0.10°C<br>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<br>Model 7591-03        |                                   | 10.6 eV PID<br>PID (Photo Ionization Detector) | 0 - 20,000 ppb                        | —                                    | 1 ppb                | 15 seconds       |
| VOC-PID (ppm) Module<br>Model 7591-02        |                                   | 10.6 eV PID<br>PID (Photo Ionization Detector) | 0 - 2,000 ppm                         | —                                    | 0.1 ppm              | <10 seconds      |
| PM + VOC-PID (ppm) Module<br>Model 7591-04   | VOC-PID (ppm)                     | 10.6 eV PID<br>PID (Photo Ionization Detector) | 0 - 2,000 ppm                         | —                                    | 0.1 ppm              | <10 seconds      |
|  | PM Sensor                         |  | See separate PM Sensor Specifications |                                      |                      |                  |
| Ammonia (NH3) Module<br>Model 7591-11        |                                   | Electrochemical                                | 0 - 100 ppm                           | +/- 10 ppm                           | 0.1 ppm              | 15 seconds       |
| Carbon Monoxide (CO) Module<br>Model 7591-06 |                                   | Electrochemical                                | 0 - 400 ppm                           | 15% + 2 ppm                          | 0.1 ppm              | 45 seconds       |
| Chlorine (Cl2) Module<br>Model 7591-10       |                                   | Electrochemical                                | 0 - 20 ppm                            | 5% + 0.8 ppm                         | 0.01 ppm             | 90 seconds       |
| Formaldehyde (HCHO) Module<br>Model 7591-07  |                                   | Electrochemical                                | 0 - 10 ppm                            | 2% + 1 ppm                           | 0.01 ppm             | 300 seconds      |
| Ozone (O3) Module<br>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<br>(0 to 84,950,000)   | —                                  | #/cm <sup>3</sup> (#/ft <sup>3</sup> ) |
| Particle Bins and<br>Particle Size Range<br>(NC = Number<br>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<br>Precision <sup>1</sup> for<br>PM0.5, PM1, and<br>PM2.5 <sup>2</sup> | 0 to 1,000 #/cm <sup>3</sup><br>(0 to 28,320,000 #/ft <sup>3</sup> )            | ±100 (±2,832,000)                  | #/cm <sup>3</sup> (#/ft <sup>3</sup> ) |
|  | 1000 to 3000 #/cm <sup>3</sup><br>(28,320,000 to 84,950,000 #/ft <sup>3</sup> ) | ±10                                | % m.v.                                 |
| Concentration<br>Precision <sup>1</sup> for<br>PM4, PM10 <sup>3</sup>                | 0 to 1000 #/cm <sup>3</sup><br>(0 to 28,320,000 #/ft <sup>3</sup> )             | ±250 (±7,080,000)                  | #/cm <sup>3</sup> (#/ft <sup>3</sup> ) |
|  | 1000 to 3000 #/cm <sup>3</sup><br>(28,320,000 to 84,950,000 #/ft <sup>3</sup> ) | ±25                                | % m.v.                                 |
| Particulate Mass   |   |                                    |  |
| Concentration Range  | 0 to 1,000  | —                                  | µg/m <sup>3</sup>                      |
| Mass Concentration<br>Bins and Particle<br>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<br>Concentration<br>Precision <sup>1</sup><br>for PM1, and PM2.5 <sup>2</sup>   | 0 to 100 µg/m <sup>3</sup>  | ± [5 µg/m <sup>3</sup> + 5 % m.v.] |  |
|  | 100 to 1000 µg/m <sup>3</sup>   | ±10                                | % m.v.                                 |
| Mass Concentration<br>Precision <sup>1</sup><br>for PM4, PM10 <sup>3</sup>           | 0 to 100 µg/m <sup>3</sup>  | ±25                                | µg/m <sup>3</sup>                      |
|  | 100 to 1000 µg/m <sup>3</sup>   | ±25                                | % m.v.                                 |

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

<sup>1</sup> Also referred to as "between-parts variation" or "device-to-device variation".

<sup>2</sup> 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.

<sup>3</sup> 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 85 x 35 x 127 mm

Standard Modules 85 x 35 x 73 mm

Smart Station 85 x 35 x 175 mm

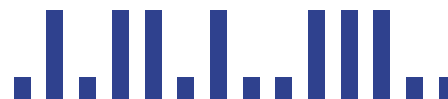
### Sample Interval

Standard and Core Modules Every 1 sec

Core Module CO<sub>2</sub> 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

7590-12

7590-22

7590-52

7590-84

### Description

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

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

OmniTrak Kick Stand, Hand &  
Wrist Strap

Core calibration shroud

Specifications are subject to change without notice.

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