

PPMonitor Industrial

Temperature, Humidity, Carbon Monoxide and Nitrogen Dioxide



MULTIPLE APPLICATIONS: perfect for use at ice rinks, garages, indoor go-kart tracks, indoor car parks, bus depots.

Indoor Air Quality (IAQ) is an important part of building management. Unavoidably, indoor environments, in specific industries are exposed to elevated levels of poisonous engine exhaust fumes, this will affect drivers, passengers, pedestrians, employees, customers. IAQ has an impact on health. The solution to exhaust fumes is dilution with "fresh" air until reaching acceptable low pollution levels. Monitoring IAQ will identify the specific location of where these air quality problems exist so that they can be addressed accordingly.

The PPMonitor Industrial has been designed to give a detailed visual representation of indoor air quality in a building, as part of the buildings management standards. The system can show precise changes in concentration of the IAQ parameters over time.

The PPMonitor Industrial enables the user to control and run the IAQ sampling units via the sophisticated and reliable ZigBee wireless network.

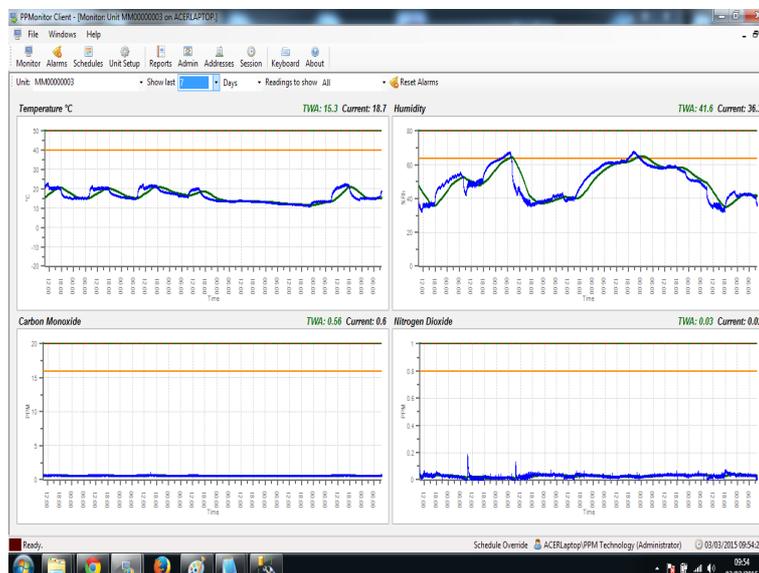
The Manager PC connects to the Zigbee network via a USB wireless dongle; which is capable of receiving and transmitting information to the PPMonitor Industrial monitoring units.

The Manager PC can view, run and control the real-time monitoring and data logging of air quality in a building at the click of a button by accessing and utilising PPMonitor Software.



The PPMonitor software enables the data to be viewed graphically, produce reports and statistical data, run schedules as well as alarm functions and notifications.

It is possible to set up an Ethernet Access Point (EAP) to the wireless network. This allows the wireless modules to be accessed from any location worldwide via the Internet; provided the necessary internet address, firewalls and gateways are enabled on the local network.



PLEASE NOTE

**Minimum Requirements: Windows 7 Pro
or Windows 8/ 8.1**

SICK BUILDING SYNDROME

Sick Building Syndrome is concerned with a range of symptoms that can effect a workers in various industrial environments.

Common symptoms include:

- Fatigue
- Headaches
- Shortness of breath
- Eye & throat irritation
- Itchy or dry skin
- Nausea

KEY DESIGN FEATURES

- Small and compact design
- Easy to install
- Supplied with PPMonitor software for graphical representation and reports.
- Connect wirelessly via ZigBee technology to produce complete graphical representation of IAQ on user's PC
- Other PPMonitor units can be added to the wireless mesh network to view other problem areas. This gives a more detailed representation of a buildings IAQ as a whole
- Capable of remote monitoring and triggering alarms
- Proven excellent long-term sensor stability
- Supplied with Calibration Certificate for sensors

UNIT SPECIFICATIONS

- Dimensions: 145mm x 145mm x 55 mm
- Operating Range: 0-40°C, 15-90%
- Data Logging Frequency: 1 minute
- Installation: Wall Mounted via VESA standard bracket
- Mains or Battery Powered: 12v DC via external DC adaptor with 2.5mm diameter jack plug

ZIGBEE WIRELESS SPECIFICATIONS

- Low Power 2.4GHz IAN Band
- Data Rate: 250kbit/s over the air data rate channels 16 channels
- Power: +3dBm output, +5dB boost mode
- Sensitivity: High sensitivity of -98dBm typical at 1% packet error rate
- Different antennae options for the different network coverage required

SERVICES AVAILABLE

- Technical Support
- Hardware Support
- Skype & Team Viewer Support
- Factory Calibration & Service
- Upgrades
- Bespoke System Development

Temperature °C /°F and Relative Humidity%

Industrial indoor environments can become excessively hot which is not surprising when you consider engines produce a lot of waste heat in a closed space. Temperature and Relative Humidity are typical parameters measured in IAQ

- Interchangeable digital CMOSens®
- Accurate to $\pm 0.4^{\circ}\text{C}$, $\pm 3\%$ RH . Optional upgrade to $\pm 0.3^{\circ}\text{C}$, $\pm 1.8\%$ RH
- Calibrated to ISO/IEC17025. Traceable to NIST and the 'National Physical Laboratory'.

Nitrogen Dioxide NO₂

Substantially high concentrations of NO₂ can be measured indoors, produced by gas stoves, moveable engines and industrial boilers resulting in detrimental effects to the lungs.

- Electrochemical sensor
- Measures 0-5 ppm NO₂
- 0-20ppm available on request
- Resolution <0.02 ppm filtered signal for improved performance.
- Zero drift <0.03 ppm/year
- Sensitivity drift <6%/year

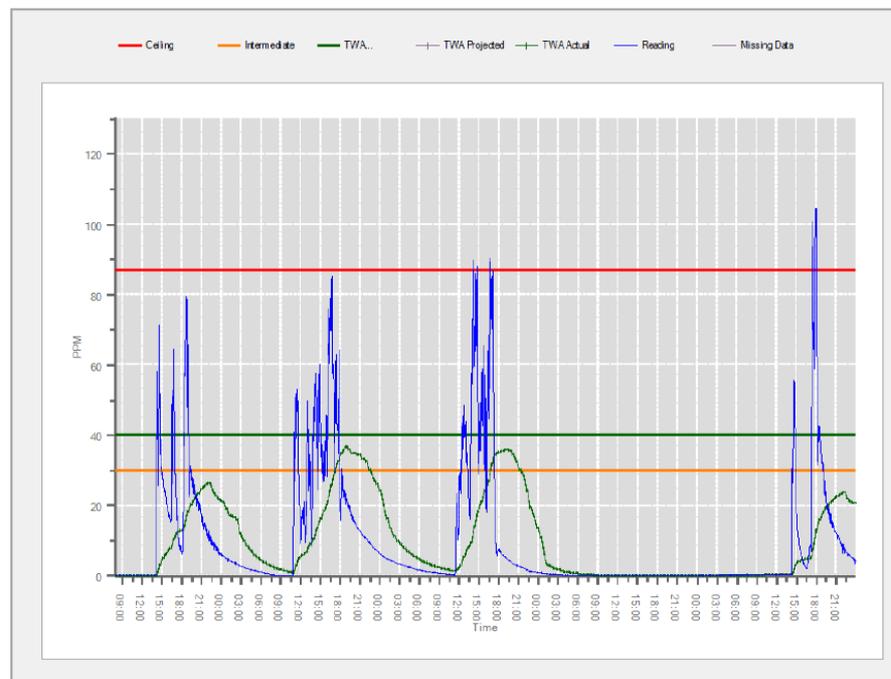
Carbon Monoxide CO

CO often goes undetected prior to detrimental levels of exposure leading to short-term productivity issues and long-term health implications. It is poisonous and can be produced by faulty heating systems. Conventional CO sensors cannot detect low-levels. Long-term low-level exposure to CO will also cause health issues.

- Electrochemical Sensor
- Measures 0-100 ppm CO
- Resolution <0.5 ppm filtered signal for improved performance
- Zero drift 0.1 ppm /year

All sensor graphs can be viewed in detail generated by the PPMonitor Software (see Carbon Monoxide example below). This is a profile over a 6-day period at an indoor go-kart track. The actual concentration of carbon monoxide (blue line) is displayed against 8-hour TWA reading (green line). For two days the track was closed.

Carbon monoxide will build up during the course of go-kart races. Problem areas where carbon monoxide builds up to dangerous levels can be easily identified allowing management to act by increasing ventilation.



EXTENDED TECHNICAL SPECIFICATIONS AVAILABLE ON REQUEST



PPM Technology Ltd
Unit 34-37 * Cibyn Industrial Estate
Caernarfon * LL55 2BD * Wales / UK
Tel: +44 (0)1286 676 999
Fax: +44 (0)1286 671 811
sales@ppm-technology.com