IAQ Profile Monitor

INDOOR AIR QUALITY

Indoor Air Quality (IAQ) has recently become an important part of building management as it has a impact on health, safety and productivity of the people who use the buildings in question. An IAQ Profile is a visual presentation of indoor air quality. A good IAQ Profile describes precisely changes in the concentration levels of selected air quality parameters in an indoor environment over a period of time.

Common factors that can lead to an unhealthy Indoor Air Environment include:

- Poor Ventilation
- Airborne Pollutants (Dust, Carpet Fibers, Fungal Spores)
- Chemical Pollutants (Light industrial chemical substances, cleaning substances)
- Ozone.
- High concentrations of Total Volatile Organic Compounds (TVOC's), Carbon Monoxide and Formaldehyde
- Pollution from external sources (e.g. fumes)

SICK BUILDING SYNDROME

Sick Building Syndrome is concerned with a range of symptoms that can effect a worker in particular building.

Common symptoms include:

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

- A compact Indoor Air Quality (IAQ) monitor for use as part of a buildings management standards

- Zigbee Wireless Technology

- Supplied with the PPMonitor software for a complete graphical representation of IAQ parameters

- Small compact design, easy to install

- Wall mountable using standard VESA wall bracket

The IAQ Profile system has been designed to give a visual representation of indoor air quality in a building, as part of the buildings management standards in relation to conditions such as Sick Building Syndrome. Since a great number of units can be networked, the system can show precise changes in concentration of selected IAQ parameters in various locations over time.

The IAQ Profile Monitor system enables the user to control and run several different wireless IAQ sampling units — all communicating together via the sophisticated and reliable ZigBee wireless mesh system. The mesh network system is cost effective, easy to install and simple to use: the nodes which make up the mesh automatically configure the optimal signal route. Other advantages of a wireless mesh system are that it is self healing meaning that the network can still operate even when a node breaks down or a connection goes bad. As a result, a very reliable network is formed.

The size of the wireless mesh can be easily extended by simply adding new IAQ Monitor units or even the mini IAQ monitor units, as each one is also a router for it's neighbors. In areas where no IAQ monitoring is required then dedicated "Repeater" nodes can be used for the same purpose. Power Amplified Wireless Modules are also available, these have more powerful antennae to considerably increase the transmission distance and consequently reducing the need for repeaters and simplifying the network.

The IAQ Unit is able to monitor temperature and humidity as well as up to 5 different IAQ parameters. The Manager PC connects to the mesh network via a special node which is capable of receiving and transmitting information to each IAQ Profile Monitor. 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.

PPM technology
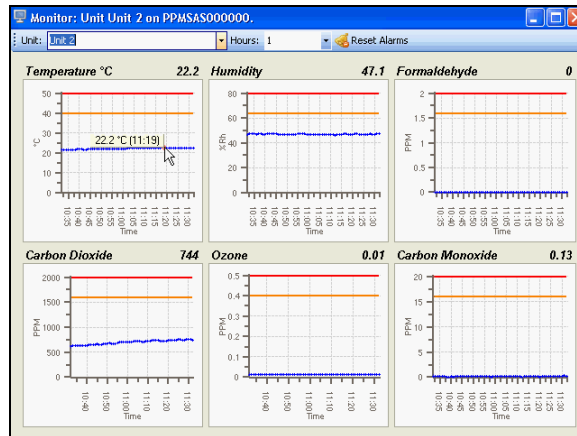
Software

The PPMonitor software enables the data to be viewed graphically, produce reports and statistical data, run schedules as well as alarm functions and notifications for more effective and economical building management. It is possible to set up an Ethernet Access Point (EAP) to the wireless network which allows the wireless modules to be accessed from any location world-wide via the Internet provided the necessary internet address, firewalls and gateways are enabled on the local network.

Please note: Requires Windows XP Professional Edition.

The IAQ Profile Monitor incorporates a variety of advanced gas sensor technologies to monitor the target gases including NDIR, PID and Electrochemical and is available in four main configurations, all of which can be networked together.

SPECIFICATION

Mains Powered: 12v DC via external DC adaptor with 2.5mm diameter jack plug

Operating Range: 0-45oC, 15-90%RH

Dimensions:
240mm x 240mm x 55mm (Houses 5 IAQ parameter sensors as well as temperature and humidity)

Easy to Install:
Master Node connects easily to the Manager PC via the USB port. PPMonitor Wireless Unit easily wall mounted via VESA standard bracket.

Software: Built in PPMonitor Wireless exclusive management software for Management PC

Sampling Rate: Up to 8 parameter data values every minute.

ZIGBEE SYSTEM

Low Power: 2.4GHz ISM Band

Receiver: Different Antennae Options For the different network coverage required

Data Rate: 250kbit/s over the air data rate Channels 16 channels (802.15.4 Channel 11 to 26)

Power: +3dBm Output power (+5dB Boost mode)

Sensitivity: High sensitivity of -98dBm typical at 1% packet error rate

Memory: 128k flash, 5kbytes of SRAM

Sensor Options

- Nitrogen Dioxide (NO2)

- Carbon Monoxide (CO)

- Carbon Dioxide (CO2)

- Sulphur Dioxide (SO2)

- Total Volatile Organic Compounds (TVOC's)

- Ozone (O3)

- Ammonia (NH3)

SERVICES AVAILABLE

Technical Support

Hardware Support

Factory Calibration & Service

Upgrades

Bespoke System Development

ISO 9001
REGISTERED FIRM