

Enabling Accurate VOC Detection in Hospital Laboratories with 10.0 eV PID Sensor Technology

Customer Overview

PPM Technology is a leading provider of environmental monitoring solutions, specialising in Formaldehyde and focused on indoor air quality and safety in healthcare and laboratory environments. With over 25 years' experience in the industry, their systems are widely deployed across hospitals and laboratories worldwide, particularly in histology and pathology applications where hazardous chemicals are routinely used.

With a strong reputation for quality and reliability, PPM Technology continues to enhance its offering by integrating advanced sensor technologies to meet evolving safety and compliance demands.

For more information, visit
www.ppm-technology.com



The Challenge

In hospital laboratories—particularly histology and pathology settings—toxic VOCs are widely used as part of routine processes. Due to the hazardous environments within laboratories and changes to accepted best practices, driven by regulatory updates, accurate monitoring is essential to protect staff and ensure compliance with strict health and safety regulations.

Hospitals face several key challenges:

- Meeting occupational exposure limits, including TWA (Time-Weighted Average) and STEL (Short-Term Exposure Limit).
- Protecting laboratory personnel from both short-term and prolonged exposure.
- Maintaining continuous, reliable monitoring in fast-paced clinical environments.
- Generating accurate, real-time data for reporting, audits, and compliance.

Historically, effectively monitoring VOCs in laboratories has been difficult. Many conventional detection technologies—particularly standard PID sensors—struggle to reliably detect and differentiate specific target gases within harsh laboratory environments, limiting confidence in exposure monitoring and risk management.

This created a clear need for a solution capable of delivering accurate, stable, and application-specific VOC detection in healthcare environments.





The Solution

Following extensive evaluation of available technologies to address this challenge, PPM Technology selected the MiniPID 2 10.0 eV sensor from ION SENSE, an ION Science brand, for their application in combination with their own formaldehyde sensor to improve differentiation within VOCs.

During testing, several alternative sensors were unable to reliably detect target gases under real-world conditions. In contrast, the MiniPID 2 10.0 eV sensor demonstrated clear, consistent detection, validating both its specification and real-world performance.

Key advantages of the solution include:

- Proven VOC detection, where some competing technologies failed to respond.
- Optimised 0–100 ppm detection range, aligned with hospital exposure requirements.
- High specificity, minimising cross-interference from other VOCs.
- Stable, long-life performance, supporting annual maintenance cycles.

In addition to performance, the support provided by ION SENSE played an important role. Responsive communication and clear, high-quality datasheets and integration guidance enabled PPM Technology to confidently evaluate and adopt the sensor.

Integrated into the PPMonitor systems, the solution provides continuous real-time monitoring, along with data logging, graphical reporting, and automated alerts—supporting effective indoor air quality management and regulatory compliance.

Implementation

The integration of the MiniPID 2 10.0 eV sensor into PPM Technology's systems was efficient and straightforward.

Building on their experience with PID-based technology, the team was able to:

- Seamlessly integrate the sensor into existing monitoring platforms.
- Transition easily from previous configurations with minimal calibration changes.
- Deploy using clear and comprehensive technical documentation.

The combination of robust datasheets and responsive technical support from ION SENSE meant that integration could be completed without the need for additional engineering support.

As a result, installation within hospital environments was smooth and disruption-free, enabling rapid rollout across multiple sites.

Results & Impact

The deployment of the MiniPID 2 10.0 eV sensor has delivered significant technical and operational benefits:

- Reliable detection, addressing a critical monitoring gap.
- Confidence in sensor performance, consistently matching stated specifications.
- Improved compliance with occupational exposure limits, including TWA and STEL.
- Enhanced safety for laboratory personnel.
- Streamlined integration, reducing development time and complexity.

The solution has been successfully implemented across multiple hospital sites in the UK and Ireland, with some facilities deploying double-digit numbers of monitors within a single hospital to achieve comprehensive monitoring coverage.



"We compared the many PID sensors available on the market and found that the MiniPID 2 10.0 eV sensor was most suited to our applications. It compliments the sensors we already integrate into our system—the sensor is reliable, repeatable and highly accurate to our target VOCs where other competitors fell short. In fact, we have upgraded all our VOC sensors to ION SENSE PIDs. Combined with the support from ION SENSE, integration into our systems was straightforward and efficient."

Laura Roberts,
Director of Chemistry, PPM Technology Ltd



Differentiation & Value

PPM Technology's solution delivers clear differentiation in the healthcare monitoring space:

- **Application-specific accuracy**, tailored to specifically target individual VOCs under harsh laboratory environments where interferences are widespread.
- **Proven sensor performance**, where alternatives failed to detect reliably.
- **Reliable, stable operation** in regulated environments.
- **Scalable deployment**, from single units to full facility coverage.
- **Strong partnership approach**, built on responsiveness and technical support.

Sensor performance is central to the success of the system, with **accuracy and reliability** underpinning both regulatory compliance and user confidence.

Looking Ahead

With established success PPM Technology is well positioned to expand the use of MiniPID 2 10.0 eV globally within their monitoring solutions to a wider healthcare market.

This collaboration highlights how combining high-performance sensor technology with strong technical partnership can enable new applications, improve safety standards, and deliver meaningful value in critical environments.



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