

enLink OdourSense

LoRaWAN® Washroom odour monitor

Synetica's enLink OdourSense is a specialist washroom monitoring solution designed to accurately detect and quantify odour levels in real time. Built on Synetica's proven monitoring technology, this advanced unit incorporates a highly sensitive odour sensor capable of detecting the key gases responsible for unpleasant washroom environments.

Designed and manufactured in the UK, enLink OdourSense delivers actionable data on washroom conditions, enabling facilities teams to improve hygiene standards, optimise cleaning schedules and enhance user experience.

Traditional air quality monitoring in washrooms often relies on ammonia detection, which does not correlate well with perceived odour. The most noticeable and objectionable washroom odours are caused by compounds detectable at extremely low concentrations, including methyl mercaptan, dimethyl sulfide, hydrogen sulfide and trimethylamine. enLink OdourSense directly targets these compounds, providing a true representation of human-perceived odour, not just air composition.



Applications



Commercial



Healthcare



Infrastructure



Hospitality



Retail



Education

Key features



Advanced odour detection targeting key washroom gases.



Detects compounds at extremely low concentrations (ppb levels).



Battery or externally powered (12–24V DC).



LoRaWAN® wireless communication (up to 16km range).



Optional sensors for enhanced environmental monitoring.



Discreet, modern design suitable for any washroom environment.



Subscription-free data access and simple integration.

Target gas detection

The sensor detects a wide range of odour-causing gases:

| Gas | Formula | Odour Threshold (ppm, Lev1) | Odour Strength |
|--------------------|--|-----------------------------|------------------------|
| Methyl Mercaptan | CH ₄ S | 0.0001 | Extremely strong odour |
| Methyl Sulfide | C ₂ H ₆ S | 0.0001 | Extremely strong odour |
| Trimethylamine | C ₃ H ₉ N | 0.0001 | Extremely strong odour |
| Dimethyl Disulfide | C ₂ H ₆ S ₂ | 0.0003 | Very strong odour |
| Hydrogen Sulfide | H ₂ S | 0.0005 | Very strong odour |
| Carbon Disulfide | CS ₂ | 0.0274 | Moderate odour |
| Styrene | C ₈ H ₈ | 0.03 | Moderate odour |
| Ammonia | NH ₃ | 0.1 | Weak (relative) odour |

Real-World Performance

enLink OdourSense provides actionable data from washroom environments, enabling facilities managers to clearly understand usage patterns, air quality conditions and ventilation effectiveness throughout the day. By continuously monitoring odour levels in real time, the system highlights when and where intervention is required. This supports data-driven cleaning schedules, improves hygiene standards, ensures ventilation is working effectively, and helps minimise complaints while enhancing the overall user experience.

Designed for integration within modern smart buildings, enLink OdourSense connects seamlessly to existing infrastructure via LoRaWAN® for long-range, low-power operation. The system is fully compatible with BMS and IoT platforms, enabling predictive, demand-led cleaning and airflow strategies that optimise operational efficiency and resource allocation.

Flexible power and installation options support both rapid deployment and permanent installations, with battery operation using 4 × AA lithium cells or external power via 12–24V DC. The unit is housed within a discreet, robust enclosure, allowing for simple, wall-mounted installation across a wide range of environments.

Suitable for commercial buildings, retail environments, transport hubs, stadiums and venues, offices, and hospitality settings, enLink OdourSense provides a practical and scalable solution for managing washroom conditions. By moving beyond reactive cleaning and guesswork, facilities teams gain real-time visibility and control, helping to maintain consistently high standards of hygiene, air quality and comfort.

Specifications

| | |
|-----------------------------|--|
| Temperature | Accuracy: $\pm 0.2^{\circ}\text{C}$ (typical) Repeatability: $\pm 0.1^{\circ}\text{C}$ Conversion time $\tau_{63\%}$: 2s |
| Humidity | Accuracy: $\pm 1.8\%$ (typical) Repeatability: $\pm 0.1\%$ Response time $\tau_{63\%}$: 4s |
| Pressure | Accuracy: $\pm 0.12\text{hPa}$ (equivalent to $\pm 1\text{m}$ in altitude) Range (with full accuracy): 300 – 1100hPa Resolution: 0.18Pa |
| Light level * | Less than 4% error Precision optical filtering to match human eye: Rejects > 99% of IR (typical). Range: 0.01 lux to 83,000 lux Light source variation (incandescent, halogen, fluorescent): 4% |
| Presence (PIR) * | Detection distance: 5m. Detection area: 82° horizontal, 94° vertical |
| VOCs | IAQ Index 0 to 500 TVOC level (ppm) Variability $\pm 15\%$ (typical) Response time: ($\tau_{33-63\%}$) 1 s |
| Dimensions | 80 x 120 x 25mm |
| Weight | 110g (exc. batteries) |
| Wireless Protocol | LoRaWAN [®] |
| Frequency range | 868 / 915 MHz* |
| Power | Battery operation using 4 x AA 3.6 V lithium cells, or 12–24 V DC supply, selectable via internal switch |
| Operating conditions | -10 – 60°C 0-95%RH, Non Condensing |
| Case material | Self-extinguishing ABS UL 94 V0, white |

* Model dependent

Product Selection Matrix

| Feature / Measurement | OdourSense Core | OdourSense Light | OdourSense Occupancy |
|-----------------------|-----------------|------------------|----------------------|
| Temperature | ✓ | ✓ | ✓ |
| Relative Humidity | ✓ | ✓ | ✓ |
| VOCs | ✓ | ✓ | ✓ |
| Odour Sensor | ✓ | ✓ | ✓ |
| Light Level (Lux) | | ✓ | ✓ |
| Occupancy (PIR) | | | ✓ |

About Synetica

Since 2008, Synetica has specialised in precision environmental monitoring for facilities management, industrial, commercial and public-sector applications. Our technologies support healthy-building performance, regulatory compliance and data-driven decision-making, integrating seamlessly with wider smart-building and sustainability strategies.

From major infrastructure schemes to retail, commercial property and large-scale development projects, Synetica's solutions deliver reliable, actionable insight. The enLink IAQ Radon extends this capability, offering a combined radon and IAQ platform built on trusted engineering expertise and UK manufacturing quality.

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