GENIEPLEX
TECHNOLOGY AT IT'S BEST

## About us

Genieplex Technologies Pvt. Ltd. is a forward-looking technology company specializing in healthcare and sanitation solutions. Our mission is to innovate and deliver eco-friendly, sustainable products that enhance hygiene standards in hospitals, public spaces, and corporate environments.

## EXECUTIVE SUMMARY

Vehicle emissions in enclosed parking facilities pose a significant health and safety risk. Carbon Monoxide (CO) and Nitrogen Dioxide (NO2) are the most critical pollutants, both of which can cause serious health effects at elevated concentrations. Our Parking Pollution Control Sensor provides real-time monitoring and automatic control of ventilation systems to maintain air quality within safe limits, while also reducing energy consumption.

## WHY POLLUTION CONTROL IN PARKING AREAS?

Every vehicle emits CO, NO2, and hydrocarbons. In enclosed parking structures, these gases accumulate, posing health hazards such as headaches, dizziness, and long-term respiratory issues. Proper monitoring and ventilation control is therefore essential to ensure compliance and occupant safety.

## TECHNICAL SPECIFICATIONS

| Gases Monitored | Carbon Monoxide (CO), Nitrogen Dioxide (NO2), Hydro |
|---|---|
| Measuring Range | CO: 0–300 ppm, NO2: 0–10 ppm |
| Accuracy | ±3% of full scale |
| Sensor Type | Electrochemical / Semiconductor |
| Response Time (T90) | < 30 seconds |
| Output | Analog (0–10V / 4–20mA), Digital (RS485/MODBUS/BACnet) |
| Alarm Levels | Adjustable thresholds (e.g., CO > 50 ppm, NO2> 3 ppm) |
| Operating Voltage | 24V DC / 230V AC |
| Operating Temp. | -10°C to +50°C |
| Mounting | Wall mount / Ceiling mount |
| Enclosure | IP54, ABS/Aluminum housing |
| Display | Optional LED / LCD with real-time ppm reading |
| Lifespan | 3–5 years (sensor replaceable) |

## SYSTEM ARCHITECTURE

The Parking Pollution Control Sensor integrates seamlessly with ventilation systems and Building Management Systems (BMS). It continuously senses air quality and triggers fans or alarms when required. Typical architecture includes:

- Gas Sensor Units (CO, NO2, VOCs)
- Central Controller
- Ventilation Fans & Ducting
- Integration with Fire Safety Systems

## MAINTENANCE & SUPPORT

Our system is designed for minimal maintenance. Sensor calibration is recommended every 12–18 months. The sensors have a replaceable life of 3–5 years. Remote monitoring and cloud-based dashboards are available for real-time performance tracking.

## ORDERING INFORMATION

Available models include:

- Single Gas (CO only)
- Dual Gas (CO + NO2)
- Multi-Gas (CO, NO2, VOCs, PM2.5) Accessories:
- Mounting Kits
- Calibration Kits
- Alarm Panels. Server with Data logging.

## ADVANTAGES

- Protects occupants from toxic gas exposure.
- Reduces electricity bills by optimizing fan usage.
- Low maintenance, reliable operation.
- Scalable solution for small to large parking facilities.

## CASE STUDY

A 3-level parking garage with a capacity of 200 vehicles implemented the Parking Pollution Control System. The results showed a 60% reduction in fan runtime and an overall energy savings of 40% per year, while maintaining CO levels below 25 ppm and NO2 levels below 2 ppm.

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**Genieplex Technologies Pvt. Ltd.**

Innovating Hygiene Solutions for Safer Environments

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Hygiene That Heals

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# Parking Pollution Control Sensor

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