



Centralized Sensing for CO and NO₂ Monitoring



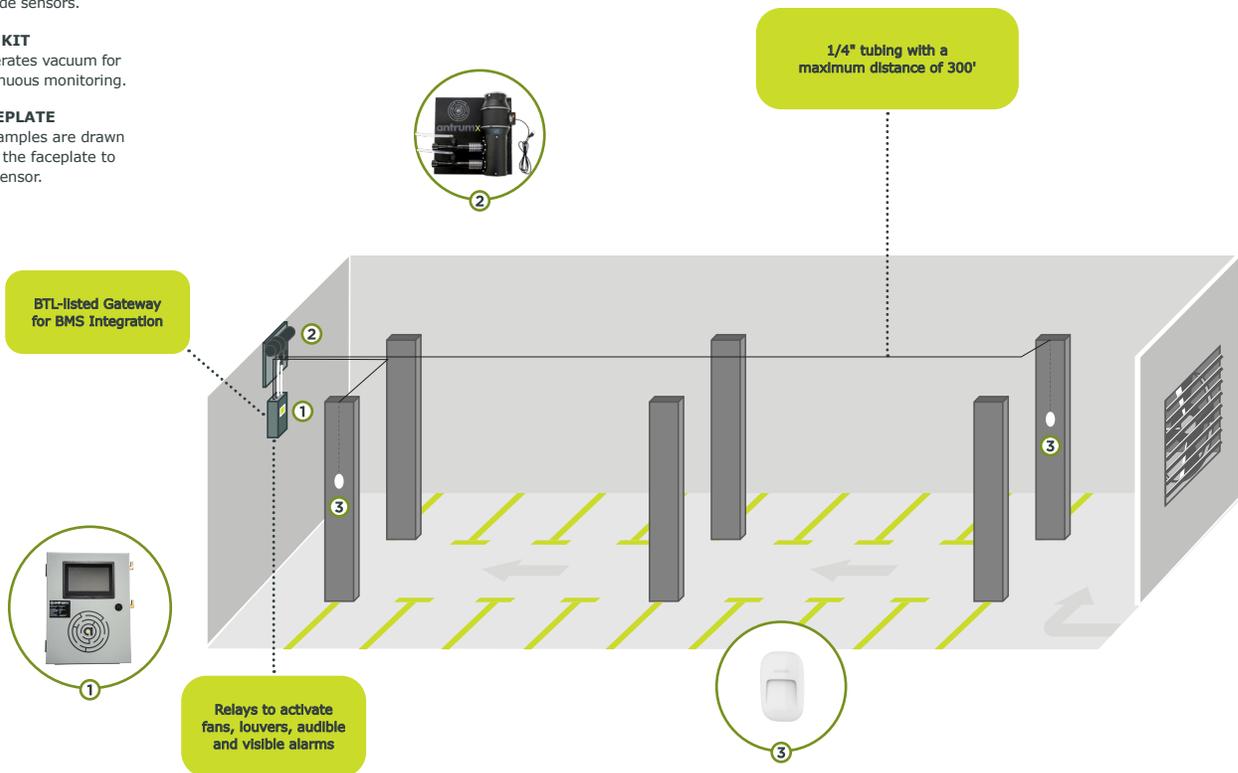
CO and NO₂ are two common airborne contaminants in parking garages. Their presence raises significant safety concerns and underscores the need for demand-based ventilation. Fresh air is critical, but costly when using a predetermined air-change rate.

Traditionally, sensors are scattered around the parking structure, which requires continuous maintenance and in practice results in uncalibrated sensors.

The AntrumX™ centralized sensing platform has revolutionized the way facilities are managed, providing **more sensing with fewer sensors**. AntrumX consolidates 32 individual sensors or transmitters into one device while providing the same overall sensing coverage as a traditional system.

SAMPLE INSTALLATION

- ① **MONITORING PANEL**
AntrumX monitoring panel with Carbon Monoxide and Nitrogen Dioxide sensors.
- ② **FAN KIT**
Generates vacuum for continuous monitoring.
- ③ **FACEPLATE**
Air samples are drawn from the faceplate to the sensor.





Benefits of Antrum's Centralized Sensing

Safety

Using one sensor for 16 independent locations provides more accurate data, leading to better control and a safer environment.

Energy

Predetermined air-change rates are costly. AntrumX demand-based ventilation is proven to generate an ROI in under two years.

Maintainability

AntrumX uses only 6% of the number of sensors compared to traditional solutions, allowing 16 locations to be calibrated simultaneously in under one minute without the need for calibration gas kits. See TCO analysis (below) which clearly demonstrates the value of the AntrumX centralized sensing solution.

Total Cost of Ownership (TCO)									
Parameters			Initial Cost	15th Mo. Calibration	30th Mo. Calibration	45th Mo. Calibration	60th Mo. Replacement	TCO for Five Years	Antrum Savings
8 Sensors	CO, NO ₂	Space-Mounted	\$11,500	\$1,700	\$1,700	\$1,700	\$5,200	\$21,800	33%
		AntrumX	\$10,000	\$1,200	\$1,200	\$1,200	\$1,200	\$14,800	
16 Sensors	CO, NO ₂	Space-Mounted	\$20,800	\$2,550	\$2,550	\$2,550	\$10,400	\$38,850	52%
		AntrumX	\$14,000	\$1,200	\$1,200	\$1,200	\$1,200	\$18,800	
32 Sensors	CO, NO ₂	Space-Mounted	\$38,000	\$5,000	\$5,000	\$5,000	\$20,800	\$73,800	52%
		AntrumX	\$26,000	\$2,400	\$2,400	\$2,400	\$2,400	\$35,600	

Notes:

- "Initial Cost" and "60th Mo. Replacement" excludes installation costs
- Space-Mounted "Initial Cost" excludes all wire, AntrumX includes tubing
- CO sensor life expectancy is ~five years, NO₂ sensor life expectancy is ~three years
- Electro-chemical sensors should be calibrated every 12-18 months
- Space-Mounted sensors require calibration gases in the field
- AntrumX is calibrated with a one minute sensor pack replacement