

Global Electrochemical Co2 Sensor Market Research Report 2025(Status and Outlook)

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Abstracts

Electrochemical CO₂ sensors are devices that measure carbon dioxide concentrations in the air by detecting changes in electrical current generated through chemical reactions between CO₂ and an electrolyte, typically housed within a compact, low-power unit designed for continuous monitoring in various environmental and industrial applications. These sensors operate on the principle of amperometry or potentiometry, where CO₂ diffuses through a membrane and reacts at an electrode surface, producing a measurable signal proportional to gas concentration, making them suitable for indoor air quality assessment, HVAC systems, automotive cabin air management, agricultural monitoring, and emerging applications in smart buildings and portable safety equipment.

