

BASIOX SUPREME SENSOR AIR QUALITY MONITOR

Model Series: BC-AQM5-XXX



INTRODUCTION

Air Quality Monitor (T / RH / CO₂ / NH₃ / H₂S / PM_{2.5})

The Basiox Controls Air Quality Monitor, a comprehensive solution designed to provide real-time, accurate insights into your environment. Equipped with a suite of advanced sensors, this device meticulously measures crucial air quality parameters, including Temperature (T), Humidity (H), Carbon dioxide (CO₂), Ammonia (NH₃), Methane (CH₄), Hydrogen Sulfide (H₂S), Particulate Matter (PM_{2.5}). Empowering you the actionable data, the AQM device enables you to create a healthier, more comfortable and productive indoor space.

ENVIRONMENTAL SUSTAINABILITY

The Basiox combined sensor, which monitors carbon dioxide multiple gases, plays a significant role in environmental sustainability by enabling better monitoring and management of carbon dioxide emissions and indoor air quality. The device contributes significantly to environmental sustainability by facilitating emissions monitoring, enhancing energy efficiency, improving indoor air quality, and supporting data-driven strategies aimed at reducing greenhouse gas emissions. Their implementation is a proactive step toward a more sustainable future, helping communities and industries align with global carbon reduction goals.

TECHNICAL FEATURES

- ▶ **Comprehensive Monitoring via Mobile and Web Applications:** Provides detailed, real- time information on gas concentrations and environmental conditions through both mobile and web interfaces.
- ▶ **Automated Alerts and Safety Notifications:** Delivers immediate alerts and safety recommendations to users when gas levels exceed predefined thresholds, enhancing safety and response times.
- ▶ **Historical Data Visualization:** Allows users to access historical sensor data with customizable graphical displays in hourly, daily, weekly, and monthly formats, facilitating trend analysis and environmental assessment.
- ▶ **Cloud-Based Data Storage and Integration:** Sensor data is securely stored in the cloud, ensuring easy access and seamless integration with other applications through Modbus RS485 or API-based protocols.
 - Inbuilt Memory Backup: Equipped with onboard memory to prevent data loss during network outages, ensuring uninterrupted data logging and integrity.
 - Precision Calibration: Each device undergoes span calibration to maintain accurate measurements and reliable performance over time.
- ▶ **Seamless Integration with Air Quality Control Systems:** Compatible with a wide range of air control systems, allowing for automated adjustments and improved air management based on real-time sensor data.

APPLICATIONS

Environmental Monitoring for Individuals, Government Agencies, Facility Managers, and Healthcare Providers.

TECHNICAL SPECIFICATIONS OF MODEL NO: BC-AQM5-XXX

POWER SUPPLY	110VAC to 230VAC
POWER CONSUMPTION	5 Watt
OPERATING AMBIENT TEMP	-10 °C to +50 °C
BODY MATERIAL	ABS Plastic
MOUNTING METHOD	Wall / Ceiling / Table
DIMENSION	L150 x W150 / H30
COMMUNICATION	WiFi / GSM 2G/3G/4G/5G/LTE / LoRa

DATA SECURITY

DEVICE/APP	HTTPS Protocol
DATA OVER THE NETWORK	TLS Secured- AWS Certificate
SENSITIVE DATA: PHONE, EMAIL	AES Encryption

DEVICE FEATURES

TEMPERATURE	-10 °C to +50 °C / Accuracy +/- 2 deg
HUMIDITY	0-100% / Accuracy +/- 3%
CO2 - CARBON DIOXIDE	4000-2000 ppm / Sensor Type: NDIR
NH3 -AMMONIA	0 -100 PPM / ±2 ppm / 0.1 ppm resolution / ±2 ppm / 0.1 ppm
H2S – HYDROGEN SULPHIDE	0 -10 PPM / 0.01 PPM / -20°C TO +40°C
CH4 – METHANE	0 – 100 % LEL /±3 % FS / 1 ppm /-20 °C to +50 °C
PM2.5 - PARTICULATE MATTER 2.5	0-1000 ug/m3 / Sensor Type: Laser

LoRaWAN CHIPSET SPECIFICATION

FREQUENCY	860-930 MHz
CHIPSET	Semtech (SX1262) + STM (STM32L)
MODULATION	FSK and LoRa Modulation
ANTENNA	External Antenna
OPERATING TEMP. RANGE	-40°C to +85°C
DIMENSION	10.0mm X 8.0mm X1.6mm
INTERFACE VOLTAGE (VDC for VIO)	3.3 VDC
SUPPLY VOLTAGE	2.2V - 3.6V for VDD_MCU, VDD_RF, VDD_TCXO
TRANSMIT MODE CURRENT	118mA @22dBm setting
TRANSMIT POWER	Up to +21.5dBm
RECEIVE MODE CURRENT	15.5mA @125kHz BW
RECEIVER SENSITIVITY	-135.5dBm @1% per 125kHz BW, SF=12
HOST INTERFACE	I2C / UART / USB / SPI
COMPLIANCE	RoHS
TECHNOLOGY	LPWA
CERTIFICATIONS	FCC / IC / CE / MIC / KC / NCC / ANATEL

REGULATORY COMPLIANCE

DISPOSABILITY	Dispose of the sensor in accordance with local electronic waste disposal regulations to minimize environmental impact.
CERTIFICATIONS	CE, RoHS