

BASIOX H2S SENSOR

Hydrogen Sulphide Sensor

Model Series: BC-H2S-ExXXX



INTRODUCTION

Hydrogen Sulphide (H2S)

Hydrogen sulfide (H2S) sensors are vital safety devices designed to detect the presence of this highly toxic gas.

H2S is a colorless gas with a characteristic rotten egg smell, often found in industrial settings, wastewater treatment plants, and oil and gas operations. Exposure to H2S can cause severe health problems, including respiratory failure and even death.

H2S sensors are used in a variety of applications, including:

- Industrial Safety: Monitoring H2S levels in industrial settings to protect workers from exposure.
- Wastewater Treatment: Detecting H2S in wastewater treatment plants to prevent corrosion and odor problems.
- Oil and Gas: Monitoring H2S levels in oil and gas production and processing facilities to prevent accidents and environmental damage.
- Mining: Detecting H2S in mines to protect workers from exposure.

ENVIRONMENTAL SUSTAINABILITY

The Basiox H2S sensor, which monitors hydrogen sulphide (H2S), plays a significant role in environmental sustainability by enabling better monitoring and management of hydrogen sulphide emissions and indoor air quality. H2S sensors contribute 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-H2S-Ex-XXX

WORKING PRINCIPLE	Electrochemical
MEASUREMENT RANGE	0 - 50 ppm
MINIMUM DETECTION RANGE	0.1 ppm
RESOLUTION	0.05ppm

CONNECTIVITY

DATA INTERVAL	5 to 60 minutes- configurable
DATA-PUSH PROTOCOL	HTTPS post request to host-server
DATA-PULL	HTTPS request on device IP

DATA SECURITY

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

DEVICE FEATURES

CALIBRATION & VALIDATION	Span calibration and mid-point validation
DISPLAY TYPE	WebApp/Mobile App
DEVICE INTERFACE	On-device Software/API
SOFTWARE CAPABILITY	SarthHM Cloud Platform (in-house on AWS server) and on premise
DIMENSIONS	110mm x 110mm x 70mm
DEVICE SUPPLY VOLTAGE	110 V to 240 V AC / DC -1Amp. Preferably 12 V DC 1 Amp, AC / DC -1Amp.
POWER CONSUMPTION	5 Watt/hour- 3.6 KW/month
OPERATING AMBIENT TEMPERATURE	-20 °C to 60 °C
OPERATING HUMIDITY	-0-95% RH
BODY MATERIAL	Flameproof / Atex Enclosure
MOUNTING METHOD	Wall
COMMUNICATION	4-20 mA/ LoRaWAN / ModBus RTU/ WiFi
DATA STORAGE	Inbuilt memory backup, up to 24h
DEVICE/APP	HTTPS Protocol
DATA OVER THE NETWORK	TLS Secured- AWS Certificate

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

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