AQBot™ SO$_2$

OIZOM
REDEFINING RESOURCES

Industrial Grade Single Parameter Air Quality Monitor

AQBot™ is an industrial air quality monitor with automation capabilities. AQBot™ Series offers a wide range of air quality parameters to choose from. The range of available parameters consists of all the important Gases, Particulates, and Noise related monitoring for Industrial scenarios. AQBot™ product range consists of critical ambient parameters and toxic gases like Total Volatile Organic Compounds (TVOC), Ammonia (NH$_3$), Hydrogen sulfide (H$_2$S), Methane (CH$_4$), Carbon Monoxide (CO), Formaldehyde (CH$_2$O), Particulate Matter (PM$_1$, PM$_{2.5}$, PM$_{10}$, PM$_{100}$), Ambient Noise, etc. The AQBot series is designed for easy and inexpensive maintenance.

Product Features

On Device Display	Ultimate Durability	Weatherproof Enclosure	Compact and Lightweight	Internal Data Storage	SMS and Email Alerts
Real-Time Data	Built-in Relay	Wired Communications	Wireless Communications	Over-The-Air Updates	Data Analytics Software

Why Monitor Sulfur Dioxide?

SO$_2$ is a dense, colorless, toxic, non-flammable, reactive gas composed of one sulfur atom bonded to two oxygen atoms. It has a suffocating unpleasant strong distinct odor. Exposure to high levels of SO$_2$ can lead to long-term effects on the respiratory system, especially in children, the elderly, and people already suffering from respiratory issues. The largest source of SO$_2$ in the air is the combustion of fuels in power plants and other smaller sources include industrial processes such as extraction of metal from ore, aluminum smelting, refining of oil, pulp mills, and emission from locomotives, ships, and heavy equipment that burn sulfur-containing fuels. Considering workplace safety, employers must ensure that the emissions are monitored and necessary mitigation measures are undertaken.

Product Applications

Mining Industry
From extraction, including blasting and crushing.

Thermal Power Plants
Boiler Emissions (Not for stack monitoring)

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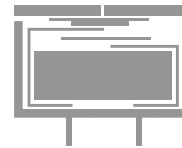
The best in class Sulfur Dioxide Monitor

AQBot™ consists of the NEMA 4X approved enclosure to last long in a harsh industrial environment. It offers all industry-standard output signals like MODBUS, CANbus, RS-485, RS-232, etc. In addition, the fixed air quality monitor can also offer other communication modes like GSM, GPRS, 3G, WiFi, LoRa, Ethernet, etc. The monitor can easily integrate with existing building monitoring or plant control systems infrastructure. Using such a wide range of communication capabilities, AQBot™ enables the Industrial Internet Of Things (IIoT) which is the backbone of Industrial Revolution 4.0. Using such a wide range of communication capabilities, AQBot™ enables the Industrial Internet Of Things (IIoT) which is the backbone of Industrial Revolution 4.0.

Key Benefits

- Quick sensing for threshold based alerts
- Highly accurate data to detect low ppb concentrations
- Robust built to sustain harsh industrial conditions
- Easy data integrations to match industry standards
- In built relay operation for automation

- Data transmissions through multiple channels
- Real time data display for keeping a check
- Siren and strobe for audio and visual alerts
- Effortless installations with versatile mounting arrangement

AQBot Specifications

ID	PARAMETER	RANGE	RESOLUTION
OZSO2_1	Sulfur Dioxide (SO$_2$)	0-10 ppm	0.001 ppm
OZSO2_2		0-100 ppm	0.2 ppm
OZSO2_3		0-2000 ppm	5 ppm

Electrochemical Sensing

TECHNICAL

Processor	Quad-Core ARM Cortex A-72
Memory	2GB RAM, 8GB eMMC ROM
Internal Data Storage	Up to 12 months
Device Interface	On-device software, API, Display
Display Specification	6 digit 7 Segment Display

COMMUNICATION

Wireless Communications	Global 2G/3G/4G, LoRa, LTE, NB-IoT, Sigfox, Wifi (Any one)
Wired Communications	Ethernet, MODBUS TCP, MODBUS RTU, RS-485, CANbus (Any one)
Analog Output	1 x 4~20mA Current Loop with 12-bit Resolution
Relay Outputs	2 programmable relays, volt free relay contacts (1NO, 1 NC)
Beacon/sounder	Built-in, RED flashing light with alarm sounder 95db @ 1m

ELECTRICAL

Power Supply	AC: 90VAC- 265VAC 50/60Hz
Power consumption	3.5 W
Wiring connections	Pre-wired supplied with 2m cable

GENERAL PERFORMANCE

Operation temperature	-20 to +60°C
Operation humidity	0 - 90%RH, non-condensing
Storage conditions	10 - 40°C
Net Weight	2.8 kg
Dimensions	210mm (W) × 258mm (H) × 105mm (D)
Installation method	Wall mount / Pole mount
Housing	NEMA-4X Fire-retardant FRP enclosure
Weather Protection	Weather Resistant IP66 Enclosure

SENSING

Gas sample mode	Natural diffusion
Warm up time	1 hour (cold start) for gas monitoring
Response Time (T90)	< 60 Seconds
Signal refresh rate	5 Seconds
Accuracy	<±5%FS (at 20±5°C/ 50±20%RH)
Sensor life	2 years

Accurate Air Quality Monitoring And Advanced Data Analytics