AQBot™ Cl$_2$

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 Chlorine?

Cl$_2$ is a highly reactive, greenish-yellow gas. It has a suffocating, irritating, pungent bleach-like odour and can accumulate in enclosed, poorly ventilated, and low-lying areas. Cl$_2$ is emitted in industrial applications such as food processing, pulp, and paper mill and water cooling systems, etc. where it is used as an disinfectant. Continuous monitoring of Chlorine in such confined spaces, leakage prone zones and industrial sheds provides adequate warning of hazardous exposure. Stakeholders like safety managers or workshop supervisors can further take necessary precautions with such actionable information.

Product Applications

Food and Beverages Industry
In various disinfecting activities

Leather Industry
Pickling process

Textile Industry
Bleaching Process

AQBot™ Cl₂

The best in class Chlorine 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
OZCl2_1	Chlorine (Cl₂)	0-20 ppm	0.05 ppm
OZCl2_2		0-50 ppm	0.1 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

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

COMMUNICATION

Wireless Communications	Global 2G/3G/4G, LoRa, LTE, NB-IoT, Sigfox, Wifi (Any one)
Wired Communications	Ethernet, MODBUS TCP, MODBUS RTU, RS-485, CAN bus (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

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