

LAMINAR AQM21

Outdoor Air Quality Monitoring System



Smart air quality monitoring system, ideal for real time monitoring of air pollutants and gaseous contaminants along with environmental parameters.

DESCRIPTION

The rise in outdoor air pollution has become a significant global concern with far-reaching implications for public health, the environment, and overall well-being. Regular air quality monitoring is indispensable for significantly understanding the sources and impacts of pollution, implementing effective mitigation strategies, and ensuring the well-being of communities and ecosystems. The importance of monitoring air quality plays a pivotal role in understanding, addressing, and mitigating the adverse effects of escalating pollution levels.

LAMINAR AQM21 is a smart air quality monitoring system, ideal for real time monitoring of air pollutants

and gaseous contaminants. The device is capable to provide real-time Air Quality Index (AQI) data to users in both Indian and USEPA standards.

AQM21 is easy to install, calibrate and maintain and it consumes very less power. The device is built on scalable architecture to accommodate sensors suitable for various applications and communication requirements. LAMINAR AQM21 has various modules of communications like WiFi, 4G LTE and Ethernet to securely connect to Aeron cloud for easy data access and analysis.

PRODUCT FEATURES



Real Time AQI

The AQM21 calculates AQI in real-time as per the Indian and USEPA standards.



Multiple sensors

The AQM21 is equipped with multi gas pollutants sensors along with environmental sensors for precision measurement and analysis.



Communication

The system can communicate with web servers over WiFi, 4G (LTE), GPRS and Ethernet.



Multiple Interfaces

The system has multiple interfaces like SDI12, RS232 serial and Modbus, RS485 Modbus RTU master and slave, Modbus over TCP/IP.



Time Synchronization

With built in GPS, the time synchronization is periodic and accurate. The time synchronization is also done using NTP and RTC.



Memory

The device has an internal memory of 8G which stores the logged data in .csv format for more than 5 years. An external micro SD card up to 32GB can be interfaced for additional data storage.



Rugged

The system is housed in a tamper proof enclosure making it suitable to be used outdoors and tested to operate in harsh environmental conditions.



Compact Size

The AQM21 is light weight and compact in size making it easy to carry, install and use at any location.



Power consumption

The system is a low power consuming data logger operating from 9 to 28VDC.

TECHNICAL SPECIFICATIONS

LMR-AQM21

SENSOR SPECIFICATIONS

Target Gas PM1, PM2.5, PM10, CO₂, CO, SO₂, NO₂, O₃, NO, H₂S, TVOC, CH₄, NH₃

ENVIRONMENT PARAMETERS	RANGE	RESOLUTION	MINIMUM DETECTION	EXTENDED	UNIT
PM1	0~2000	1	-	-	µg/m ³
PM2.5	0~2000	1	-	-	µg/m ³
PM10	0~2000	1	-	-	µg/m ³
CO ₂	0~5000	1	1	-	ppm
CO	0~1000	0.1	0.02	0~5000	ppm
SO ₂	0~100	0.025	0.01	0~20,000	ppm
NO ₂	0~20	0.004	0.01	-	ppm
O ₃	0~20	0.004	0.01	-	ppm
NO	0~20	0.004	0.01	0~250	ppm
H ₂ S	0~100	0.0025	0.02	0~2,000	ppm
TVOC	0~100	0.01	0.01-0.05	-	ppm
CH ₄	0~100	-	-	-	%vol
NH ₃	0~100	0.02	0.1	-	ppm
Light Intensity	10~20,000	1	1	-	Lux
UV index	0~16	0.1	0.1	-	Index
Ambient Noise	45~134	1	1	-	dB
Ambient Temperature	-20 ~+80	0.01	0.01	-40~+80	°C
Relative Humidity	0~100	0.1	0.1	-	%RH
Barometric Pressure	300~1000	0.2	-	-	mBar
Rainfall	0~999.8	0.2	0.2	-	mm
Wind Speed	0~76	0.5	0.5	-	m/s
Wind Direction	0~360	1	1	-	Deg

STORAGE

Data Memory 8 GB

CONNECTIONS

Wireless Wi-Fi, LTE (4G) / UMTS / GPRS, LORA*, NB-IOT*

Wired Ethernet, RS485 MODBUS, RS232

Protocols HTTPS, APIs, MQTT*

Data Transmission Frequency 1 minute (min) to 24 Hours

ELECTRICAL

Voltage Input 9-28 VDC from solar power pack or AC power source using AC-DC converter

ENVIRONMENT

Dimensions 54 x 38 x 22 cm

Weight 9.6 kg including internal sensors

Mounting Pole Mount

LIVE3 CLOUD DASHBOARD

Live3 is the AI based cloud software for the real-time monitoring and analysis of the data measured by the LAMINAR AQM21 devices. Aeron Live3 displays the real-time data in widgets, tabular format and calculates Air Quality Index. The graphs of various pollutants are plotted over

All Devices List
Quick list of all the devices you have access to

Device Status
A quick view of the status of all your devices

Widgets
The Live view of recent data from your device including the health

Geo-Location
Map view showing geo-location of all the systems

Graph View
Quick view of the parameters' trend over time for anomaly detection

Multi Parameter
Generate graphs of single parameter or multiple parameters (upto 3) at the same time.

Analyze the trend over time, identify threshold breaches. The data analysis available for raw data, 15min, 30 min, 1 hr, 12 hrs, and 24 hrs.

Multi Station
Compare parameters from multiple systems, analyze the trend of a particular parameter from different locations.

User can select different data interval and chart type

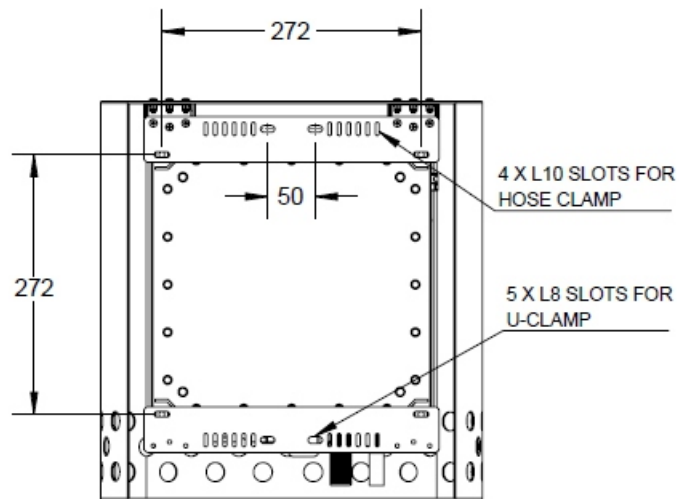
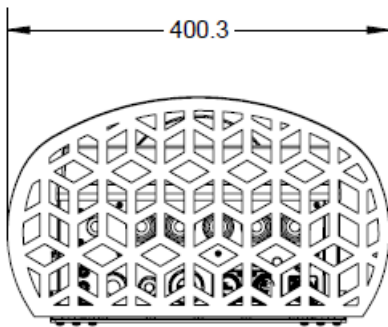
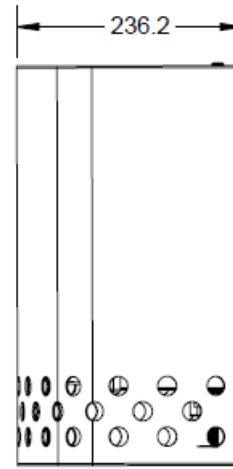
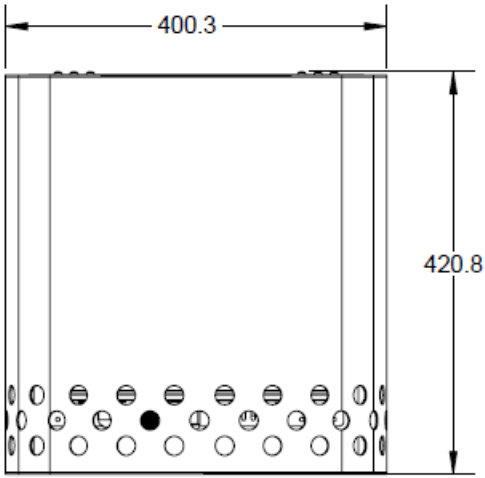
Overlay threshold limits on the graph

Identify maximum, minimum and average values from graphs

User can select different data interval and chart type

Profile of the selected devices

MECHANICAL DIMENSIONS All dimensions in mm.



ORDERING INFORMATION

LMR - AQM21 (Product Code: 90002)