MAPIE Atmos

Indoor Thermal Comfort and Air Quality Measurement Kit

CARBSE CENTER FOR ADVANCED RESEARCH IN BUILDING SCIENCE AND ENERGY

CRDF CEPT RESEARCH AND DEVELOPMENT FOUNDATION

atmos real-time air quality

Respirer Living Sciences

Accuracy and Precision of Data

1. Devices are scientifically validated with leading global scientific agencies, to offer data precision suitable for small to large-scale industrial, scientific or academic use.
2. These affordable monitors feature high quality laser-scattering sensors, calibrated for Indian conditions against the most advanced systems for measuring ambient air quality.

Real-time Data & Dashboard

- The data from the devices is transmitted to a cloud server every minute , and is made available via a map-based dashboard.
- Real-time data is easily downloadable from the dashboard in a CSV/JSON/XML file, as well as available for integration in a mobile app or Website using APIs that we will provide.
- An individual dashboard can be provided to each customer with their personal credentials and other features, on request.
- Data is also stored internally on a MicroSD card. Users can download data locally from the SD card too.

Battery Backup & Offline Data Storage

- The device's battery lasts upto 8 hours the device an be plugged to electrical connection also.
- Devices can store data dating back to a year, without internet and with electric connectivity. This data is restorable, uploaded back to the server once internet connectivity resumes.

Easy to Install

- Team can assist with last mile installation /field deployments on request.
- Weather-proof solutions available on request.

Device Accessories

- 5V 2A Adapter with its charging cable X 1
- Mounting wall clamper X 2
- Cable Zip Tie X 2

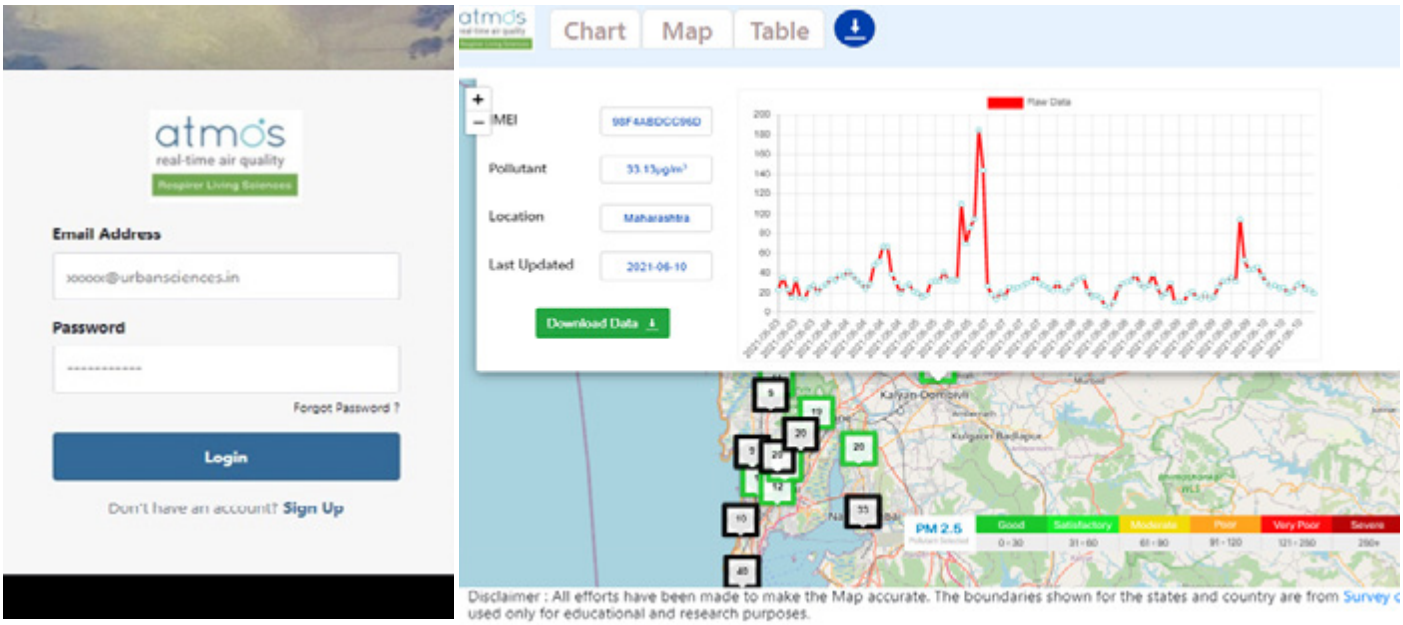
Dimensions

- 160x80x56 mm
- 400 gms.

Warranty & Support

- The device is covered up to one year for any manufacturing defects
- Free email support for the first year, with the option to subscribe to additional customer support options.
- Contact us for further details on T&Cs

MAPIE - Atmos Dashboard



Sensors

Parameter	Range	Resolution	Accuracy
PM1 / PM2.5 / PM10	0 - 1000 µg/m^3	1 µg/m^3	~ 0.8 R^2 ~ MAPE 15%
CO_2	0 - 10,000 ppm	1 ppm	±(30ppm + 3% of reading)
CO	0 - 1000 ppm	1 ppm	
Ozone	10 - 1000 ppb		
HCHO (Formaldehyde)	0 - 1 ppm	1 ppb	Greater of ± 30 ppb and ±10% of reading
TVOC	0 - 10 ppm	10 ppb	Greater of ± 30 ppb and ±10% of reading
Globe Temp	0 - 100 deg C	1 deg C	
Anemometer	0 - 10 m/s	0.1 m/s	± 0.5 m/s
Ambient Pressure	300 - 1100 hPa	1 hPa	
Ambient Temp	-10 to 45 deg C	1 deg C	± 1.0 deg C
Ambient RH	0 to 100% RH	1%	± 3% RH

The team will provide additional services to develop a customised dashboard that can help to infer the field data for meaningful interventions. The analytics services also will provide insights into the indoor air quality and indoor environmental quality (thermal comfort) by mapping them against the recommended conditions by international organizations such as CIBSE, REHVA and ASHRAE.

MAPIE-Atmos Realtime Data API access

The atmos air quality data is accessible via a cloud based realtime API which provides the data in json/xml/csv formats. The format of the atmos API is as follows:

http://api.urbansciences.in/atmos-scai/mobilepm/imei/000000003107245/start/201909290000/end/201909300000/type/json/ts/hh/avg/0/ApiKey/iiitdelqygNjN

The input parameters to the API are:
/atmos-scai/mobilepm/imei/<value>/start/<yyyymmddhhmm>/end/<yyyymmddhhmm>/type/<xml or json or csv>/ts/<mm or hh or dd>/avg/<0,1-24>

The start and end time formats are yyyymmddhhmm
ts (time-slice): mm=minutes; hh=hours; dd=days // time-slice to be used for avg
avg:
if value is 0 = then it is raw data
if value is 1,2,3,.. = avg period for time-unit given in above time-slice

The output data of the API are:
{"list":[{"pm1cnc":18.0,"pm1cnt":102.0,"pm25cnc":23.0,"pm25cnt":12.0,"pm10cnc":25.0,"pm10cnt":2.0,"pm03cnt":2487.0,"pm05cnt":805.0,"pm5cnt":3.0,"no2op1":0.0,"no2op2":0.0,"o3op1":0.0,"o3op2":0.0,"temp":27.0,"humd":35.0,"pres":980.0,"lat":28.4500686301341,"lon":77.2840768294724,"imei":"000000001698051","timeStamp":"2019-09-0T16:00:03.000+05:30","time":1569839403000},{"pm1cnc":19.0,"pm1cnt":90.0,"pm25cnc":23.0,"pm25cnt":10.0,"pm10cnc":24.0,"pm10cnt":0.0,"pm03cnt":2541.0,"pm05cnt":825.0,"pm5cnt":1.0,"no2op1":0.0,"no2op2":0.0,"o3op1":0.0,"o3op2":0.0,"temp":27.0,"humd":35.0,"pres":980.0,"lat":28.4500686301341,"lon":77.2840768294724,"imei":"000000001698051","timeStamp":"2019-09-30T16:00:08.000+05:30","time":1569839408000},

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