Telemetry API
Getting Started Guide

The API is available at the following URL: https://api.tellusensors.com

Note: This document only describes Version 2 endpoints. To view documentation for Version 1 endpoints, please see the Telemetry API V1 Getting Started Guide

Accessing the API

Docs for the API are available at: https://api.tellusensors.com

An API key is required in order to access most endpoints in this API.

To obtain an API key, **create an account at https://airview.tellusensors.com** and then **contact us at contact@tellusensors.com.** Please include the email address you used to sign up.

Our team will generate a new API key attached to your account that you may use to access this API. You can only access telemetry data for AirUs that you have direct "viewership" over.

If you have enabled the Research & Analytics package then you may also query public TELLUS AirUs and third-party devices, such as Purple Air or EPA-sponsored sites.

API Versioning

Users may request a specific version of the API by supplying the header x-api-version with a value of V1, V2, etc.

If a version header is not supplied then the API will default to version 1, but this is subject to change in the future.

Example:

```
Headers: {
        x-api-version: V2
}
```

Endpoint Descriptions

/data

This endpoint is the most direct access into device telemetry data. It returns data entry-for-entry as it was published by the pollution monitor to the TELLUS Telemetry Database. There are several filtering options such as returning data in a time range or filtering data by GPS location or Device ID.

/aggregatedData

This endpoint returns time-aggregated device telemetry data. By specifying a time interval for aggregation (such as 5 minutes: `5min`, 1 hour: `1hr`, etc.) and a dimension (such as by Device ID: `deviceId`) the data within the given time period and other filtering parameters will then be grouped by the time interval and the dimension and an aggregation function (such as average: `avg`, minimum: `min`, maximum: `max`, etc.) will be applied to each group.

/schema

This endpoint returns queryable metrics from the AirU devices. The convention is `<the sensor name>.<the metric name>`. For example, we use the Plantower PMS3003 as the primary particle counter and from it we retrieve several metrics, such as `pm1_cf` (particulate matter concentrations below 1 micron in diameter without internal correction with units in “micrograms-per-cubic-meter”). The appropriate parameter name to input a query for this metric is: `pms3003.pm1_cf`.

/publicData

This endpoint is the most direct access into public telemetry data. It returns data entry-for-entry as it was published by the pollution monitor to the TELLUS Telemetry Database. This endpoint includes TELLUS Air Quality Monitors listed as public as well as third-party affiliates, such as the EPA and subsidiaries, AQ&U, and PurpleAir. There are several filtering options such as returning data in a time range or filtering data by GPS location or Device ID.

NOTE: You must have the Research & Analytics package enabled on your account to access this route. Please contact us at info@tellusensors.com for more information.

/publicAggregatedData

This endpoint returns time-aggregated device telemetry data for the public sources described in the route above. By specifying a time interval for aggregation (such as 5 minutes: `5min`, 1 hour: `1hr`, etc.) and a dimension (such as by Device ID: `deviceId`) the data within the given time period and other filtering parameters will then be grouped by the time interval and the dimension and an aggregation function (such as average: `avg`, minimum: `min`, maximum: `max`, etc.) will be applied to each group.

NOTE: You must have the Research & Analytics package enabled on your account to access this route. Please contact us at info@tellusensors.com for more information.

/calibratedData

This endpoint returns data similar to /data, but the data is calibrated. Currently it is only used to access electrochemical sensor data which requires a calibration to be usable, which includes: no2, o3, co, so2, h2s.

/calibratedAggregatedData

This endpoint is the aggregated version of the /calibratedData route.

Examples

```
https://api.tellusensors.com/data?key=MY_API_KEY&start=2023-06-01T00:00:00Z&end=2023-06-01T12:00:00Z&deviceId=1097BD3AD7D0,1097BD3AD8D0,1097BD3ADAF4&metric=pms3003.pm2_5_cf,hdc1080.temperature,hdc1080.humidity
```

This endpoint returns data for the AirUs with Device IDs: 1097BD3AD7D0, 1097BD3AD8D0, and 1097BD3ADAF4, in the time period between June 01, 2023 12:00 AM UTC time, to June 01, 2023 12:00 PM UTC time. UTC is denoted with the “Z”. You can also specify time zones by using the +/- convention. For example, `2023-06-01T12:00:00-06` denotes 12:00 PM in the Mountain time zone. The notation to represent metrics is `<the sensor name>.<the metric name>`. You can see a list of queryable metrics and their descriptions by calling the /schema endpoint.

```
https://api.tellusensors.com/data?key=MY_API_KEY&start=now-6hr&end=now&deviceId=1097BD3AD7D0&metric=pms3003.pm2_5_cf
```

This endpoint shows an alternate form to the start / end query parameters by using offsets instead of absolute date-times. We use the Pandas Offset Alias convention and all these aliases may be used to specify an offset.

```
https://api.tellusensors.com/aggregatedData?key=MY_API_KEY&start=2023-06-01T00:00:00Z&end=2023-06-01T12:00:00Z&interval=15min&dim=deviceId&agg=mean&deviceId=1097BD3AD7D0,1097BD3AD8D0,1097BD3ADAF4&metric=pms3003.pm2_5_cf,hdc1080.temperature,hdc1080.humidity
```

This endpoint is an example of a common use case for the /aggregatedData endpoint. First data is collected in the given time period and for the given devices, then it is grouped according to the interval (15 minutes), the dim (device ID), and for each of the supplied metrics. Valid interval values should follow the Pandas Offset Alias convention.

```
https://api.tellusensors.com/publicAggregatedData?key=MY_API_KEY&start=2023-06-01T00:00:00Z&end=2023-06-01T12:00:00Z&interval=15min&dim=deviceId&agg=mean&radius=15000&lat=41.234&lon=-111.98
```

This endpoint is an example of retrieving all public data within the given radius and aggregated to 15 minute intervals.

If you run into any issues or need assistance, reach out to us at
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