



Air STANDARD

FOR
ACCREDITED MONITORS v2.1

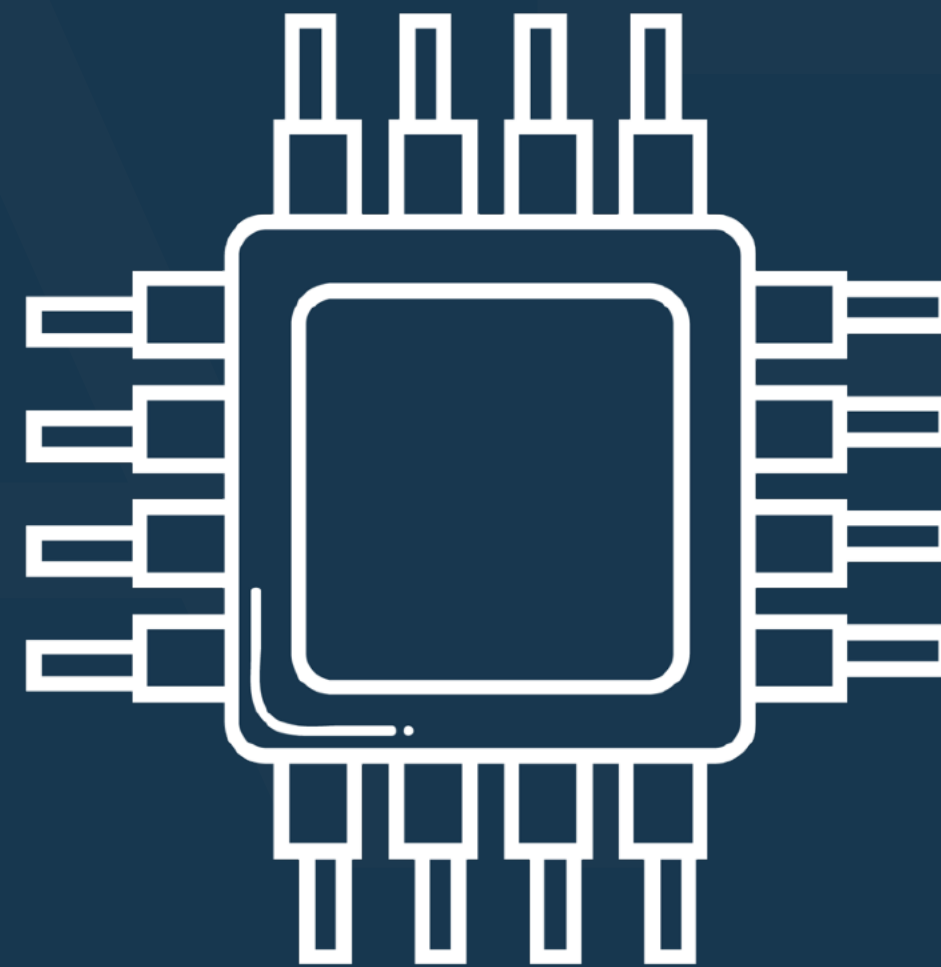


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2.6.0 Preface

The **RESET Air Standard** is a continuous monitoring and reporting standard for indoor air quality, requiring monitoring hardware installed in project spaces. Projects pursuing the **RESET Air Standard**, or **RESET Air Projects**, require the collection of large amounts of data, therefore, data quality and reliability are of critical importance. To maintain data quality, it is imperative that the monitors collecting the data fulfill a minimum standard in performance.

The monitoring hardware is required to be accredited to be used in **RESET Air Projects**.

The intent of the **RESET Air Standard for Accredited Monitors** is to:

- Standardize requirements for indoor air quality monitoring hardware
- Specify monitoring requirements outlining the quality and reliability of the data to be used for **RESET Air Projects**
- Establish sensor performance testing requirements around the following air quality parameters: particulate matter (PM_{2.5}), TVOC, CO₂, Temperature, and Relative Humidity
- Incentivize transparency to further develop monitoring and sensor technology for indoor air quality

2.6.1 Introduction

The RESET Air Standards, including both the RESET Air Standard for Interiors and RESET Air Standard for Core & Shell, require monitoring hardware that collects and reports air quality data to the RESET Cloud for RESET Air Projects.

A RESET Air Accredited Monitor is an air quality monitor that has passed performance testing according to the RESET Air Standard and is used in RESET Air Projects to collect and report data to recognized and accredited Data Providers for RESET Air Project Certification. RESET Air Accredited Monitors are required in RESET Air Projects.

The RESET Air Standard for Accredited Monitors defines the following:

- **Basic Requirements**

Basic requirements establish the product capabilities that all monitors need to be able to support, including continuous monitoring, system connectivity, and calibration.

- **Sensor Requirements**

Sensor requirements establish the performance requirements for each sensor parameter. Sensor parameters need to perform with strong relative accuracy and consistency.

2.6.1.1 Purpose and Approach

The purpose of the **RESET Air Standard for Accredited Monitors** is to establish the connectivity and performance requirements expected from an indoor air quality monitor being used in **RESET Air Projects**:

- For connectivity, a **RESET Air Accredited Monitor** is required to demonstrate the ability to transfer data to recognized and accredited Data Providers for the purposes of **RESET Air Project Certification**.
- For performance, a **RESET Air Accredited Monitor** must pass a performance test. Details outlining the monitor testing methodologies and protocols can be found in the **RESET Air Test Procedure for Accredited Monitors** (Section 2.7).

The approach of the **RESET Air Standard for Accredited Monitors** targets:

- **Long-Term Continuous Reporting**
Monitors require features that support long-term continuous reporting instead of spot testing, which requires all monitors to support continuous monitoring and system connectivity. Long-term continuous reporting is required to understand how indoor air quality performs during different situations and seasons.
- **Relative Accuracy vs. Absolute Accuracy**
PM2.5 and TVOC consist of a mix of pollutants, so it is impossible to establish absolute accuracy for them. Instead, RESET focuses on targeting relative accuracy, making sure that monitors of the same brand and make are consistently relatively accurate against each other for long periods of time.
- **Calibration and Re-calibration Capabilities**
Due to long-term monitoring, the standard focuses on relative accuracy instead of absolute accuracy because sensors will drift, which needs to be resolved with calibration, making calibration an absolute requirement.

2.6.1.2 Typologies and Usage

The RESET Air Standard consists of standards for two typologies:

- RESET Air Standard for Interiors

Interiors targets and measures the air quality performance of air breathed by the occupants in an interior space. Requires monitors to be installed in the breathing zone.

- RESET Air Standard for Core & Shell

Core & Shell targets and measures the quality performance of the air being delivered to tenants and public spaces by the building's central mechanical air and HVAC systems. Requires monitors to be installed in the air ducts.

The built environment requires constant maintenance and upkeep. This requires collaboration between what are often disparate parties: the tenant and the landlord. The RESET Air Standard helps facilitate communication between the tenant and landlord by identifying their respective areas of responsibility.

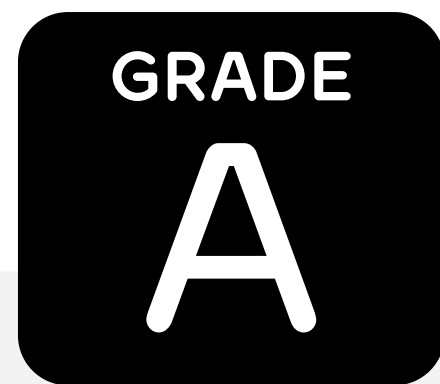
Both typologies leverage indoor air quality monitors to:

- Monitor the actual performance of the building
- Automate HVAC systems to optimize occupant health and energy efficiency
- Perform gap analysis for troubleshooting and remediation

2.6.1.3 Monitor Grades and Types (1/3)

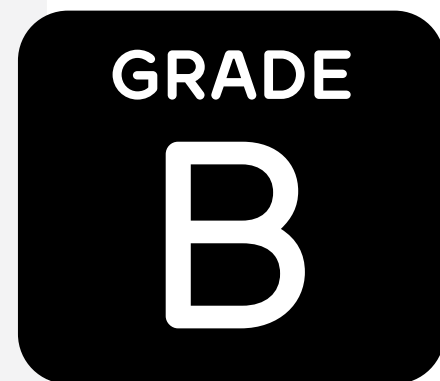
RESET **Air Accredited Monitors** are defined and categorized by both Grade and Type. Monitor Grade defines a monitoring device's performance, accuracy, and data reporting proficiency.

The RESET **Air Accredited Monitor Grades** include:



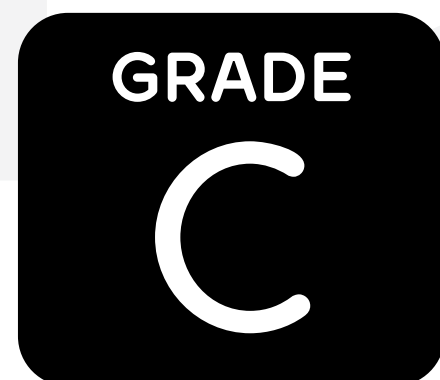
Grade A

Calibration Grade monitors. Monitors that are used for the calibration of Grade B and C monitors. Grade A monitors are typically (but not exclusively) handheld and are primarily utilized for project commissioning, site audits, and pollutant source detection.



Grade B

Commercial Grade monitors. Grade B monitors provide actionable, indoor air quality data at scale within buildings, balancing performance and cost while reliably enabling building automation and providing occupants with high-quality data. Connected and can be calibrated.



Grade C

Consumer Grade monitors. Grade C monitors are affordable to the average user and primarily utilized for personal data gathering. Lacks connectivity and/or lacks a re-calibration capability.

2.6.1.4 Monitor Grades and Types (2/3)

Monitor Type defines the “fit for purpose” scenarios and serves to define the appropriate deployment of monitoring devices. For **RESET Air Projects**, there are three notable monitor types to take into consideration:

- **RESET Air Standard for Interiors** projects uses interior monitors and
- **RESET Air Standard for Core & Shell** projects uses in-duct and outdoor monitors.

The **RESET Air Accredited Monitor Types** include:

Interior Monitors

Monitors and reports the air quality within interior spaces that occupants breathe.

In-duct Monitors

Monitors and reports air quality delivered by the mechanical system (i.e. ductwork/air ducts). In-duct monitors must have mechanisms integrated into the design of the device to account for the variable air velocity inherent to mechanical systems.

Outdoor Monitors

Monitors and reports outdoor air quality. Outdoor monitors are designed to withstand outdoor weather conditions, including, but not limited to, extreme temperatures and humidity, while maintaining data quality.

Note that the use scenario of monitor types has flexibility (i.e. in-duct can be used for outdoor monitoring).

2.6.1.4 Monitor Grades and Types (3/3)

All three monitor types can be tested and accredited, with the in-duct and outdoor monitor performance tests including additional environmental simulation exercises in order to evaluate performance capabilities.

Interior monitors and in-duct monitors must comply with the **RESET Air Standard for Accredited Monitors** requirements for use in **RESET Air Projects**.

Only Grade B monitors are permitted for use in **RESET Air Projects**.

A special note in regard to Grade A Monitors

Grade A monitors are permitted on a case-by-case basis, but a test methodology for Grade A has not gone live yet.

2.6.2 Monitor Requirements

RESET **Air** Accredited Monitors play a fundamental role and are required in all RESET **Air** Projects as the physical monitors on-site for data collection. RESET **Air** Accredited Monitors are designed as IoT devices permanently installed in a project space for continuous monitoring of indoor air quality. Data collected is then aggregated by the data provider, a software platform.

For certification of RESET **Air** Projects, summary data must be automatically compiled and sent daily to the RESET **Cloud** for auditing and verification by a RESET Accredited Data Provider.

The following pages describe the basic continuous monitoring and connectivity requirements for RESET **Air** Accredited Monitors.

For data quality purposes, relative accuracy requirements for each of the sensor parameters are established.

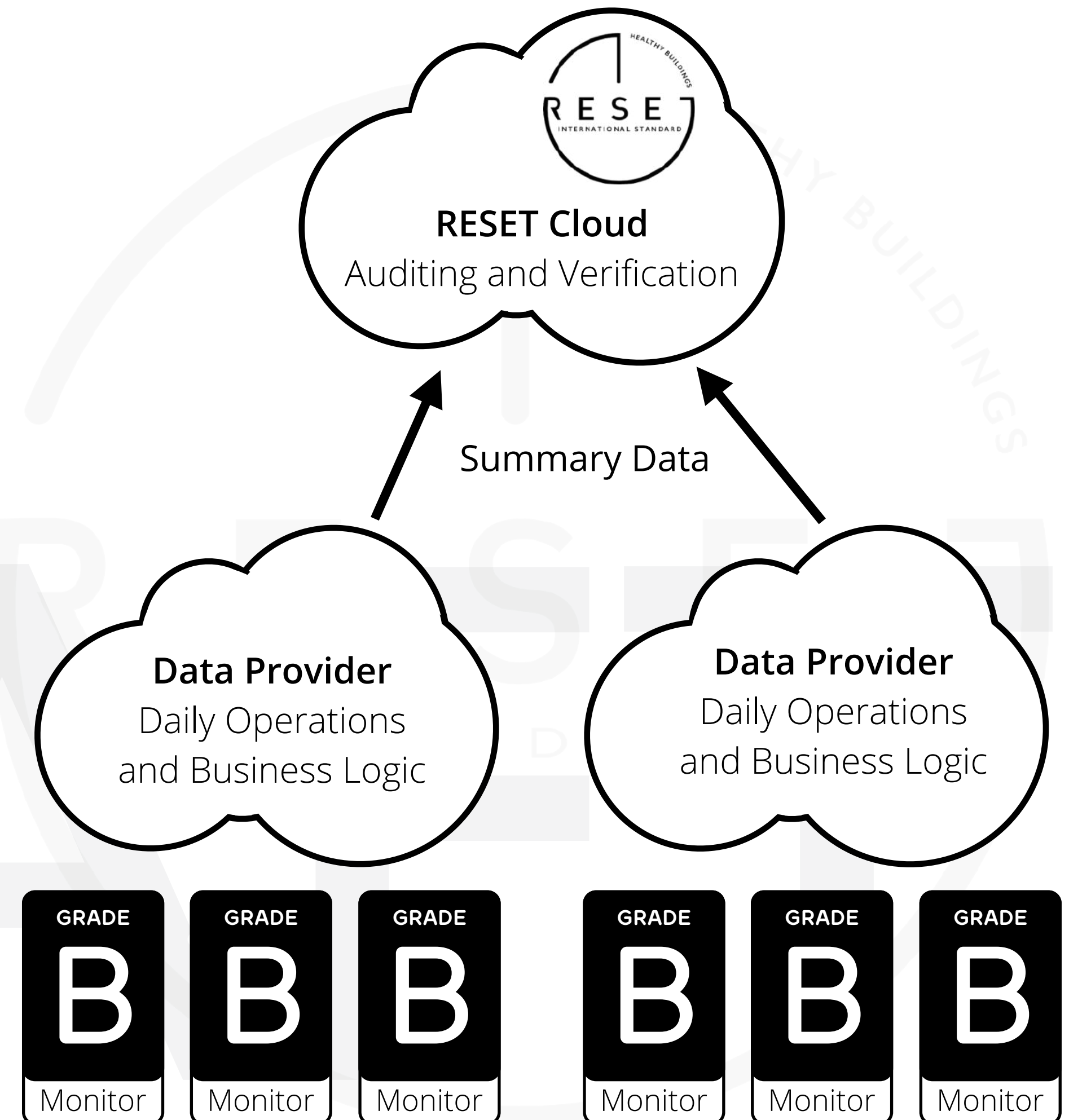


Diagram showing how data is organized for RESET Air Projects.

2.6.2.1 Basic Requirements (1/4)

All RESET **Air** Accredited Monitors must fulfill the following Basic Requirements as outlined below:

				Specifications
a	Interfaces with RESET Cloud			Required
b	Data Output Interval	min		5
c	Data Loss	%		10
d	Minimum Operating Range for Temperature	°C		0 - 40
e	Minimum Operating Range for Relative Humidity	%RH		10 - 85 non-condensing
f	Installation Options			Must have a Permanent Installation Option
g	Manual Calibration Capability			Required
h	Factory Calibration			Optional

2.6.2.1 Basic Requirements (2/4)

Terms & Descriptions

a. Interfaces with RESET Cloud

Monitors must have the capability to interface with the **RESET Cloud** by interfacing with a software platform or a BAS/BMS with cloud capability that is a **RESET Air Accredited Data Provider**.

This is demonstrated by providing documentation stating that the monitor is already connected to a **RESET Air Accredited Data Provider** (Section 2.8) and can display and visualize data on such a platform. There are no restrictions around the connectivity interface. Ethernet, WiFi, LoraWAN, Modbus, BACnet, etc. are all acceptable.

b. Data Output Interval

The resolution at which readings are recorded and sent from the monitor to the data provider. Both single-point (reading at a single point in time) or average values (an average reading compiled from multiple readings) are acceptable.

Monitors must have a data output at least once every 5 minutes.

Monitors that output more often (i.e. output per 1 minute, or even per 15 seconds) are also acceptable.

Monitors that read every 5 minutes, but only push data from the monitor to its interfacing software platform once every 30 minutes, are also acceptable.

2.6.2.1 Basic Requirements (3/4)

Terms & Descriptions

c. Data Loss

Monitors are required to be able to interface with a software platform and send data. Data loss occurs when data sent from the monitor fails to reach its destination. It is a percentage measured by the number of lost readings vs. the number of total readings sent.

Monitors must have a data loss rate no higher than 10%. To prevent data loss in the event of internet connectivity loss or power issues, a built-in data buffer and battery are recommended, but not required.

d. Minimum Operating Range for Temperature

Monitors must be able to operate within the proposed range of temperatures.

Monitors are expected to have a minimum operating range of 0-40 °C.

e. Minimum Operating Range for Relative Humidity

Monitors must perform and successfully operate within the proposed range of relative humidity.

Grade B monitors must have a minimum operating range of 10-85% RH, non-condensing.

2.6.2.1 Basic Requirements (4/4)

Terms & Descriptions

f. Installation Options

Monitors must have an option for permanent installation (i.e. fitted into an enclosure) to prevent accidental or intentional disconnection or tampering. A permanent installation option must be demonstrated.

A permanent power source is recommended, but not mandatory.

g. Manual Calibration Capability

Monitors must have the ability to be manually calibrated. This can be via firmware calibration and/or software calibration.

An explanation of the methodology and instructions for calibration must be provided.

h. Factory Calibration

Factory calibration is optional. Details and procedures need to be reported if available. Otherwise, a statement needs to be provided that there is no factory calibration being performed.

Factory calibration does not include individual sensor calibration before it is put together as a monitoring product.

2.6.2.2 Sensor Requirements Introduction (1/6)

For **RESET Air Accredited Monitors**, there are sensor specification requirements to maintain data quality. For each of the required air parameters for **RESET Air Projects**, there will be a table like the one below.

Sensor requirements do not specify the exact brand and make of a sensor, but the sensor type/technology utilized. The brand and make of the sensor must be reported.

		Specification
a	Sensor Type/Technology and Brand/Make	Must be Reported
b	Sensor Output Resolution	Required Resolution
c	Measuring Range (min)	Required Minimum Range
d	Measuring Range (max)	Maximum Range Used for Reporting
e	Relative Accuracy	Used for Testing and Accreditation
f	Calibration Capability and Auto-calibration	Calibration capability details need to be described, auto-calibration rules must be reported

2.6.2.2 Sensor Requirements Introduction (2/6)

Terms & Descriptions

a. **Sensor Type/Technology and Brand/Make**

The sensor type/technology and the brand/make must be reported for documentation and transparency purposes. With the currently available technology, different sensor technologies and different sensor manufacturers can affect the final readings as there is no universally established standard for each individual sensor. Therefore, the sensor type/technology and sensor brand/make will be made publicly visible in the **RESET Directory** (<https://reset.build/directory/monitors/air>).

This information is also used to track whether or not a monitor switches a sensor.

b. **Sensor Output Resolution**

The smallest possible measurement at which the sensor can record and output data. The data output from the device must have a resolution of at least the listed value.

If the sensor specification states that the sensor output resolution is 1, then that air parameter must have a minimum sensor output resolution of at least 1. The specification will use the unit of the air parameter.

In the case that there is a range, then the sensor output resolution must be within that range. It is recommended to not use a smaller resolution.

2.6.2.2 Sensor Requirements Introduction (3/6)

Terms & Descriptions

c. Measuring Range (min)

The minimum range at which the sensor is capable of reporting for the given parameter. Measuring range affects the scope of what is being measured. A minimum range establishes a minimum scope.

Monitors must be able to operate within the proposed range for the specified air parameter.

If the sensor specification states that the Measuring Range (min) is 1-500, then that air parameter must be able to report data measurements between 1 and 500. The specification will use the unit of the air parameter.

d. Measuring Range (max)

The maximum range at which the sensor is capable of reporting for the given parameter. Measuring range affects how a sensor is calibrated. Limiting the measuring range to a certain extent, it can allow for more uniform calibration of sensors of an air parameter.

Monitors must not exceed the proposed range for the specified air parameter.

If the sensor specification states that the Measuring Range (min) is 1-500, then that air parameter must be able to report data measurements between 1 and 500. The specification will use the unit of the air parameter.

2.6.2.2 Sensor Requirements Introduction (4/6)

Terms & Descriptions

e. Relative Accuracy

Relative accuracy compares the inter-variability between monitors of the same brand and make. It is mainly used for testing purposes, with the **RESET Air Accredited Monitor** testing procedures being based on relative accuracy.

Relative accuracy is used over absolute accuracy due to the discrepancies in sensor technology and calibration, particularly for PM_{2.5} and TVOC. For PM_{2.5}, calibration factors differ in different locations due to the composition of the particulate matter. For TVOC, different sensors have different sensitivity to different VOCs. Accuracy issues for other air parameters can be easily resolved with manual calibration capability.

During testing, relative accuracy is calculated by averaging all 5 monitors used for testing and then comparing the relative accuracy of all 5 monitors to the average. The reference monitor is only used for comparing trends in the graph.

Relative accuracy is sometimes written with a range and a number of multiple numbers:

1 - 150: $\pm 5 \pm 15\%$ means for readings between 1 and 150, the relative accuracy needs to be plus and minus 5 and an additional 15%. i.e. If the average of the 5 monitors is $35 \mu\text{g}/\text{m}^3$, the monitor reading must read within $5 + (35 \times 0.15) = \pm 10.25 \mu\text{g}/\text{m}^3$. Therefore, monitors must have a reading between 24.75 and $45.25 \mu\text{g}/\text{m}^3$ to pass.

2.6.2.2 Sensor Requirements Introduction (5/6)

Terms & Descriptions

e. Relative Accuracy (continued)

Important Note for Accuracy Requirements when in Use on Projects

In practice, only PM2.5 and TVOC are limited to relative accuracy performance due to these two parameters consisting of a mix of pollutants, so it is impossible to establish absolute accuracy for them.

For CO2, Temperature, and Relative Humidity, it is possible to achieve Absolute Accuracy when in use. When calibrating monitors in projects, monitors should be expected to perform using absolute accuracy for these 3 parameters.

- **PM2.5**: tested using relative accuracy, expected to perform according to **relative** accuracy (can perform at absolute accuracy, but requires using the same reference)
- **CO2**: tested using relative accuracy, expected to perform according to **absolute** accuracy.
- **TVOC**: tested using relative accuracy, expected to perform according to **relative** accuracy.
- **Temperature**: tested using relative accuracy, expected to perform according to **absolute** accuracy.
- **Relative Humidity**: tested using relative accuracy, expected to perform according to **absolute** accuracy.

2.6.2.2 Sensor Requirements Introduction (6/6)

Terms & Descriptions

f. Calibration Capability and Auto-calibration

Each air parameter sensor must demonstrate the ability to be re-calibrated or removed and exchanged for a newly calibrated sensor. Instructions for how to calibrate must be provided. This may overlap with **2.6.2.1 Basic Requirements: g. Manual Calibration Capability and Factory Calibration.**

Re-calibration is imperative for maintaining data quality and it also can extend the life of the monitors as a whole. Sensor readings can drift over time, requiring adjustments to maintain better accuracy and data quality.

Note that calibration is not a panacea for all scenarios and at some point, the sensors will have deteriorated to the point where they must be replaced.

Sensors or certain air parameters may have an auto-calibration feature. Any auto-calibration rules must be reported for documentation and transparency purposes. The specific algorithm does not need to be made public, but the logic and the time scope need to be documented. This information will provide more transparency into understanding scenarios where sensor readings drift in unexpected ways.

2.6.2.3 Sensor Requirements (1/2)

Particulate Matter 2.5 (PM_{2.5})

Particulate Matter 2.5 (PM_{2.5}) is an atmospheric pollutant of fine particles with an aerodynamic diameter of 2.5 μm or less. Fine particulates are dangerous due to their ability to penetrate deep into the lungs and bloodstream.

PM_{2.5} is one of the required air parameters for **RESET Air Projects**.

The default unit for PM_{2.5} is μg/m³.

2.6.2.3 Sensor Requirements (2/2)

Particulate Matter 2.5 (PM_{2.5})

RESET [Air](#) Accredited Monitor - PM_{2.5} sensor specification requirements are outlined below:

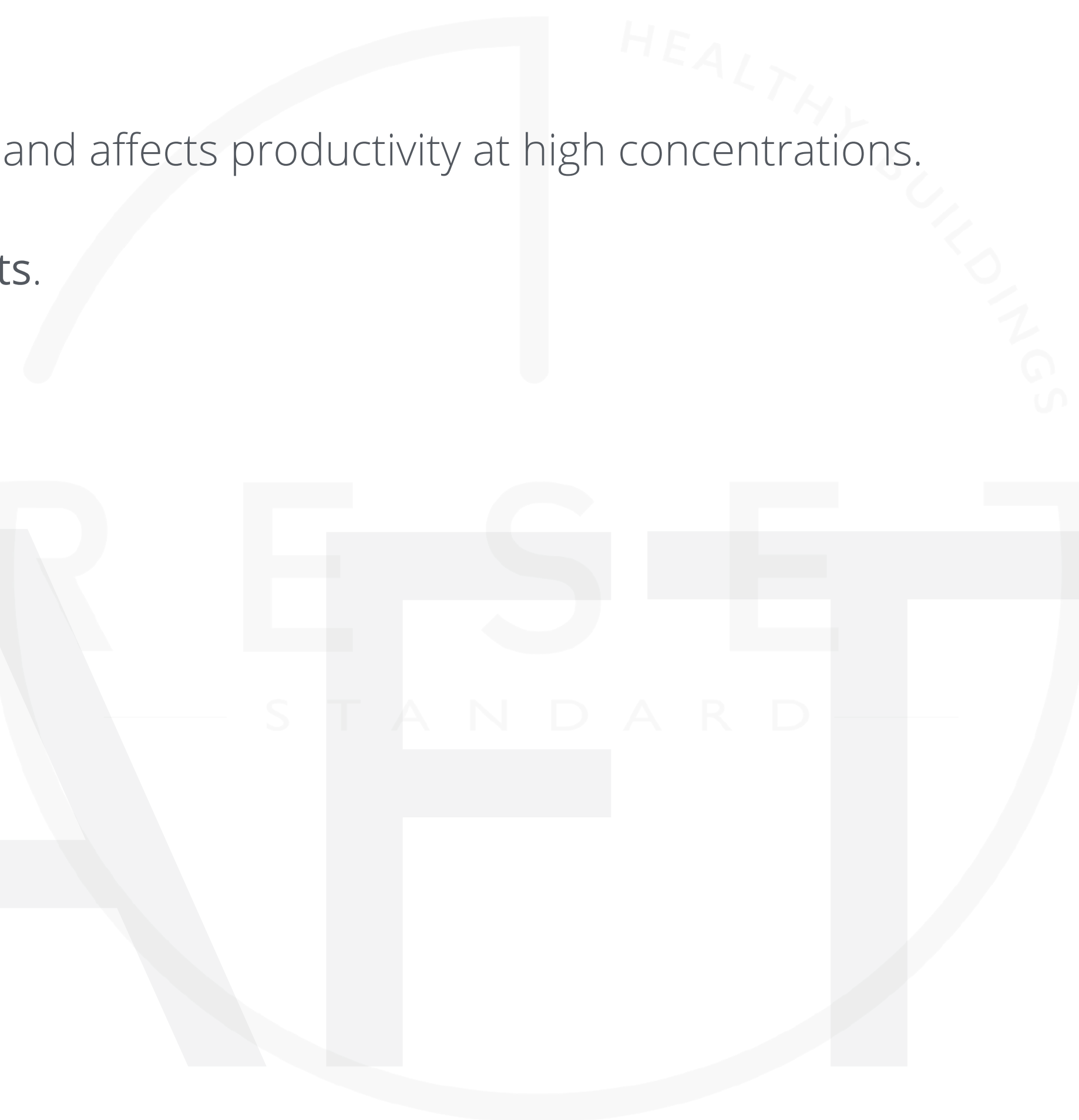
			Specification
a	Sensor Type/Technology and Brand/Make		Reported
b	Sensor Output Resolution	µg/m ³	1
c	Measuring Range (min)	µg/m ³	1 - 300
d	Measuring Range (max)	µg/m ³	1 - 500
e	Relative Accuracy	±%	0 - 150 : ±5 ±15% 150 - 500 : ±5 ±20%
g	Calibration Capability and Auto-calibration		Reported

2.6.2.4 Sensor Requirements (1/2) Carbon Dioxide (CO₂)

Carbon Dioxide (CO₂) is a colorless gas that causes discomfort and affects productivity at high concentrations.

CO₂ is one of the required air parameters for **RESET Air Projects**.

The default unit for CO₂ is ppm.



2.6.2.4 Sensor Requirements (2/2) Carbon Dioxide (CO₂)

RESET [Air](#) Accredited Monitor - CO₂ sensor specification requirements are outlined below:

			Specification
a	Sensor Type/Technology and Brand/Make		Reported
b	Sensor Output Resolution	ppm	1
c	Measuring Range (min)	ppm	400 - 4000
d	Measuring Range (max)	ppm	1 - 5000
e	Relative Accuracy	± ppm	1 - 2000 : ±50 ±3% 2000 - 5000 : ±50 ±5%
g	Calibration Capability and Auto-calibration		Reported

2.6.6 Sensor Requirements (1/3)

Total Volatile Organic Compounds (TVOC)

Total Volatile Organic Compounds (TVOC) is the sum of the concentrations of all identified and unidentified VOCs.* VOCs are numerous, varied, and ubiquitous. An example of a VOC is formaldehyde. Whether or not TVOCs pose a health risk depends on the specific VOCs contributing to the overall TVOC measurement.

TVOC is one of the required air parameters for **RESET Air Projects**.

The default units for TVOC include two options: $\mu\text{g}/\text{m}^3$ and ppb.**

TVOC is used as a reference and does not serve to replace laboratory testing methodologies for air sampling and/or speciation. TVOC detection is used to simplify reporting when VOCs are present in ambient air or air emissions. VOCs that contribute to a TVOC reading may represent a wide range of organic chemical compounds, which may result in different results with different sensor manufacturers.

* Refer to California definition of TVOC (CDPH 1350) or Australia's (<http://www.npi.gov.au/resource/total-volatile-organic-compounds>)

** The conversion between the two units uses isobutylene's molecular weight of 56.106 g/mol at 25°C and 1 atm: $X \text{ ppb} = (Y \mu\text{g}/\text{m}^3)(24.45)/(\text{molecular weight})$. Isobutylene's molecular weight is used because it is often used for TVOC calibration and it is a good middle ground between formaldehyde (30.031 g/mol), toluene (92.14 g/mol), benzene (78.11 g/mol), and ethanol (46.07 g/mol).

2.6.6 Sensor Requirements (2/3)

Total Volatile Organic Compounds (TVOC) - $\mu\text{g}/\text{m}^3$

RESET [Air](#) Accredited Monitor - TVOC sensor specification requirements, in $\mu\text{g}/\text{m}^3$, are outlined below:

			Specification
a	Sensor Type/Technology and Brand/Make		Reported
b	Sensor Output Resolution	$\mu\text{g}/\text{m}^3$	1 - 10
c	Measuring Range (min)	$\mu\text{g}/\text{m}^3$	150 - 2500
d	Measuring Range (max)	$\mu\text{g}/\text{m}^3$	1 - 5000
e	Relative Accuracy	$\pm\%$	1 - 600 : $\pm 20 \pm 15\%$ 600 - 2500 : $\pm 20 \pm 20\%$
g	Calibration Capability and Auto-calibration		Reported

2.6.6 Sensor Requirements (3/3)

Total Volatile Organic Compounds (TVOC) - ppb

RESET [Air](#) Accredited Monitor - TVOC sensor specification requirements, in ppb, are outlined below:

			Specification
a	Sensor Type/Technology and Brand/Make		Reported
b	Sensor Output Resolution	ppb	1 - 5
c	Measuring Range (min)	ppb	65 - 1100
d	Measuring Range (max)	ppb	1 - 2200
e	Relative Accuracy	±%	1 - 260 : ±10 ±15% 260 - 1100 : ±10 ±20%
g	Calibration Capability and Auto-calibration		Reported

2.6.8 Sensor Requirements (1/2)

Temperature

Temperature refers to the average temperature of the air surrounding a building occupant, with respect to location and time. Temperature, in the context of **RESET Air**, is not to be confused with thermal comfort.

Temperature is one of the required air parameters for **RESET Air Projects**.

The default unit for temperature can be either °C or °F as the default unit for temperature because an exact conversion factor between the two is available.

2.6.8 Sensor Requirements (2/2) Temperature

RESET [Air](#) Accredited Monitor - Temperature sensor specification requirements are outlined below:

			Specification
a	Sensor Type/Technology and Brand/Make		Reported
b	Sensor Output Resolution	°C	0.1
c	Measuring Range (min)	°C	0 - 40
d	Measuring Range (max)	°C	No limit
e	Relative Accuracy	± °C	1
g	Calibration Capability and Auto-calibration		Reported

2.6.9 Sensor Requirements (1/2)

Relative Humidity

Relative Humidity is the ratio of the amount of water vapor in the air to the amount of water vapor that the air could hold at a specific temperature and pressure.

Relative Humidity is one of the required air parameters for **RESET Air** Projects.

The default unit for relative humidity is % RH.

2.6.9 Sensor Requirements (2/2)

Relative Humidity

RESET [Air](#) Accredited Monitor - Relative Humidity sensor specification requirements are outlined below:

			Specification
a	Sensor Type/Technology and Brand/Make		Reported
b	Sensor Output Resolution	% RH	1
c	Measuring Range (min)	% RH	10 - 80
d	Measuring Range (max)	%RH	1 - 99
e	Relative Accuracy	± % RH	8
g	Calibration Capability and Auto-calibration		Reported

2.6.3 Accreditation Requirements and Process

To become a **RESET Air Accredited Monitor**, documentation must be submitted for transparency purposes and a 3-week continuous monitoring test, with at least 5 monitors, must be performed in an occupied environment instead of a lab environment. The main goal is to test for consistency of data readings across monitoring devices of the same brand and make.

For more information and instructions on the process, please refer to the **RESET website**:

<https://reset.build/programs/monitors/process-air>

Accreditation

Upon accreditation, **RESET Air Accredited Monitors** will be showcased in the **RESET Directory** (<https://reset.build/directory/monitors/air>), inclusive of accreditation details, contact information, and links.

Accreditation applies only to the specific monitor model submitted to **RESET** for accreditation.

Once accredited, there are no additional renewal fees. The accreditation is permanent with an accreditation date. If alterations are made to the design of the monitor or sensors, the monitor is considered a different monitor and is subject to re-certification requirements where an additional test will be needed.

2.6.3.1 Testing Disclaimer and Limitations

Disclaimer

The testing procedure for a **RESET Air Accredited Monitor** is a one-time test that checks the monitor's capability of performing within requirements. As it does not test every monitor coming off the manufacturing line, it cannot guarantee that every monitor manufactured is calibrated properly.

Limitations

The focus of the testing procedure for **RESET Air Accredited Monitors** is on relative accuracy instead of absolute accuracy. The reason for this is that calibration is potentially different depending on location (i.e. PM2.5) and sensor type (TVOC). Additionally, due to the test being only 3 weeks long, it is impossible to guarantee that devices will not drift over time.

Therefore, it is important that all **RESET Air Accredited Monitors** have calibration capability.

For more information about the testing process, refer to **RESET Air Accredited Monitor Process:**
<https://reset.build/programs/monitors/process-air>.

2.6.3.2 Optional Parameters for Testing

For the purposes of testing, optional parameters can be included.

Testing will use relative accuracy with no specific performance target.

Optional Parameters include:

- PM0.5, PM1, PM5, PM10
- Ozone
- Formaldehyde
- SO_x
- NO_x (recommended for the lowest floor in places with a lot of cars)
- CO (recommended in all combustible spaces)
- Radon
- Atmospheric Pressure
- Air flow velocity (for Induct monitors)

Air quality parameters not in the above list can be added upon request.

2.6.4 Trust & Transparency Score

The Trust & Transparency Score, also known as the TT Score, is a method to display trust and transparency details that go beyond the basic requirements of accreditation and certification.

The **RESET Air Accredited Monitor TT Score** does not affect the accreditation and is used to incentivize projects to go above and beyond the base requirements. It also plays a big role in **Alternative Pathways**.

The **RESET Air Accredited Monitor TT Score** will be updated once a year. Historical scoring methodologies will always be available for viewing (once 2024 is released, the 2023 score will still be available for viewing).

Details about the **RESET Air Accredited Monitor TT Score** can be found on the **RESET Website**:

<https://reset.build/programs/monitors/tts>

The **RESET Air Accredited Monitor TT Score** will be displayed in the **RESET Monitors Directory**:

<https://reset.build/directory/monitors/air>

2.6.5 Alternative Pathways

Alternative Pathways are alternative ways in which a monitor can achieve accreditation. It is designed to provide more flexibility around implementation.

Depending on the Alternative Pathway, it can limit the monitor's use in **RESET Air Projects** or affect the Trust & Transparency Score.

The following pages will showcase Alternative Pathways that are available to monitors. Each Alternative Pathway will include:

- Alternative Pathway title and what part of the standard the alternative pathway is for
- Default Requirement of the original pathway
- Alternative Pathway requirement
- How to access the alternative pathway (upon request + case-by-case basis)

Applying for New Alternative Pathways

To request an Alternative Pathway, an official way to apply is available with the following requirements:

- All Alternative Pathways must be backed by data
- All Alternative Pathways must provide a Case Study, which will include reasoning as to why it will work, the actual implementation used, the data collected, and a conclusion.
- The Alternative Pathway will be used in at least one pilot project.
- New Alternative Pathways will be reviewed and considered on a case-by-case basis.

2.6.5.1 Alternative Pathways

Alternative Options to Interfacing with the RESET Cloud

Alternative Pathway for 2.6.2.1a Interfaces with RESET Cloud

By default, **RESET Air Accredited Monitors** must have the capability to interface with the **RESET Cloud** by interfacing with a software platform or a BAS/BMS with cloud capability that is a **RESET Air Accredited Data Provider**.

An alternative pathway is available where monitors can interface with a software platform or a BAS/BMS with cloud capability, but there is no active pathway to interface with the **RESET Cloud** yet because the software platform or the BAS/BMS does not connect to the **RESET Cloud**. In this scenario, a monitor can still be accredited with a disclaimer that it cannot be used for a **RESET Air Project** because it is not yet able to interface with the **RESET Cloud**. This alternative pathway will:

- require a disclaimer highlighting this alternative pathway to be displayed in the **RESET Directory**.
- limit the monitors use in **RESET Air Projects** until they can connect to a **RESET Accredited Data Provider**.
- affect the monitor's Trust & Transparency Score.

This alternative pathway can be accessed upon request and is reviewed on a case-by-case basis. A description and/or narrative around how the software platform the monitor is connected to can become a future accredited data provider is required.

2.6.5.2 Alternative Pathways

Alternative Data Output Interval

Alternative Pathway for 2.6.2.1b Data Output Interval

By default, RESET Air Accredited Monitors must have a data output at least once every 5 minutes.

An alternative pathway is available for monitors that cannot output data at least once every 5 minutes, but can output data at least once every 30 minutes. A monitor pursuing this alternative pathway can become accredited with a disclaimer that the monitor does not fulfill the Data Output Interval requirements. This will affect the Monitor's TT Score and the TT Score of a project that uses this monitor because the extended data output interval lowers resolution, affecting the data quality. To summarize, this alternative pathway will:

- require a disclaimer highlighting this alternative pathway to be displayed in the **RESET Directory**.
- affect the monitor's Trust & Transparency Score.
- affect the Trust & Transparency Score of the project it is used in.

This alternative pathway can be accessed upon request and is reviewed on a case-by-case basis.

2.6.5.3 Alternative Pathways

Accreditation for Individual Sensor Parameters

Alternative Pathway for 2.6.2.2 Sensor Requirements

By default, all 5 sensor parameters are included in the accreditation.

An alternative pathway is available where accreditation is assigned for each of the sensor parameters individually. An air quality monitor can be awarded **RESET Air Monitor Accreditation** for a single air quality parameter or for multiple air quality parameters, provided that the monitor fulfills the Basic Requirements. This alternative pathway will:

- require a disclaimer highlighting this alternative pathway to be displayed in the **RESET Directory**.
- display which sensor parameters have been accredited and which ones have not been.
- affect the monitor's Trust & Transparency Score.

This alternative pathway can be accessed upon request and is reviewed on a case-by-case basis.

Note that if not all 5 sensor parameters are accredited, then a project will need multiple monitors for one monitoring station in **RESET Air Projects**.

End of **RESET Air STANDARD**
For Accredited Monitors

DRAFT RESET STANDARD

