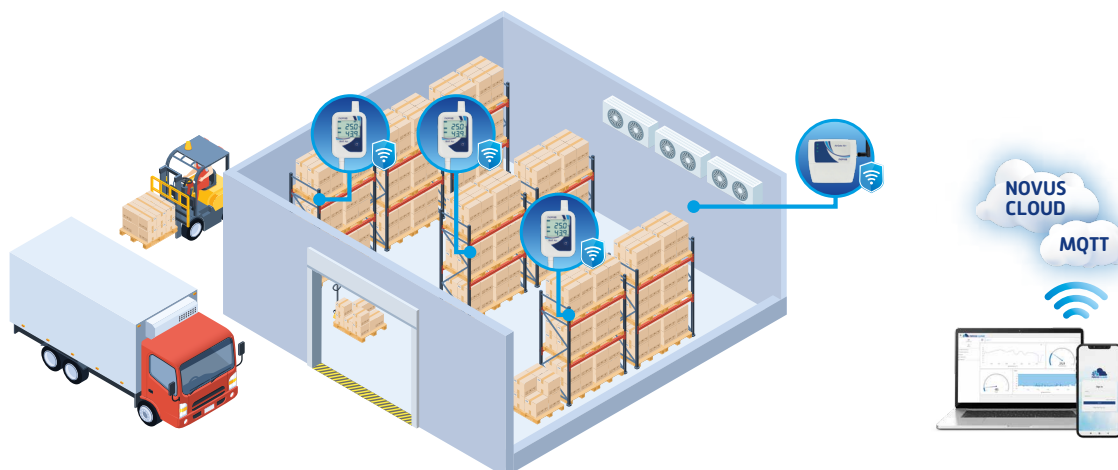# Environmental Monitoring

## Climate Air+

**Resilient coverage to maintain an uninterrupted data history**



### IIOT CONNECTIVITY
MQTT protocol with security

### FLEXIBLE INTEGRATION
Compatible with industry-standard protocols

### LONG BATTERY LIFE
Up to 2 years of operation

### SECURE DATA MONITORING
Consistent data for precise decision-making

### LONG-RANGE COMMUNICATION
Effective in environments with barriers

### GUARANTEED COMPLIANCE
FDA CFR 21 Part 11 and GMP

- **Continuous and reliable monitoring for controlled environments**
- **Uninterrupted data recording with global reach**
- **Flexible integration, compatible with legacy systems**
- **Secure and low-maintenance communication for several applications**
- **Resilient connectivity, ideal for pharmaceutical warehouses and data centers**

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# Technical Specifications

## RHT Air+

| TEMPERATURE MEASUREMENT | Range: -10 to 70 °C (14 to 158 °F) Resolution: 0.1 °C Accuracy: ± 0.2 °C | | | | |
|---|---|---|---|---|---|
| RELATIVE HUMIDITY MEASUREMENT | Range: 0 to 100 % RH Resolution: 0.1 % RH Accuracy: ± 1.5 % RH | | | | |
| MEMORY | **Type** | Circular | | | |
| | **Capacity** | 15,000 logs (2 quantities) 50 days with a 5-minute recording interval | | | |
| RECORDING INTERVAL | 2 to 720 minutes* | | | | |
| COMMUNICATION INTERFACES | **USB-C** | For configuration, download and diagnostics. | | | |
| | **LoRa** | | **Models** | | |
| | | | **915 MHz** | **868 MHz** | **865 MHz** |
| | | **Frequency [MHz]** | 915.4~927.4 | 865.15~869.85 | 865.15~866.86 |
| | | **Bandwidth [kHz]** | 500 | 250 | 250 |
| | | **Spreading factor** | 7~11 | 7~12 | 7~12 |
| | | **Transmission power [dBm]** | 20 | 14 | 20 |
| | | **Reception sensitivity** | -136 dBm | | |
| | | **Radio coverage** | Up to 3km with a clear line of sight** | | |
| POWER SUPPLY | **Non-rechargeable batteries** | Up to 2 years (publication interval of 10 minutes, SF10 and power of 14dBm) | | | |
| | **USB-C** | It is recommended to use a 5 V ~ 1 A power supply (Do not use cables longer than 1.5 m) | | | |
| DISPLAY | 2 lines, 4 digits | | | | |
| PROTECTION INDEX | IP65, Sensor: IP40 | | | | |
| ENVIRONMENT | Operating temperature: -10 to 70 °C (14 to 158 °F) | | | | |
| | Storage temperature: -20 to 70 °C (-4 to 158 °F) | | | | |
| | Humidity: 5 to 95 % RH (Non-condensed) | | | | |
| DIMENSIONS | 70 mm x 175 mm x 45 mm | | | | |
| HOUSING | Polycarbonate (V2 flame retardant) | | | | |
| SOFTWARE | NXperience (via USB) | | | | |
| | NXperience Trust (FDA 21 CFR part 11) | | | | |
| CERTIFICATIONS | **Anatel** | 07860-24-07089 | | | |
| | **FCC** | Contains LoRA module, FCC ID: 2ADHKR34M | | | |
| | **ISED** | Contains LoRA module, IC: 20266-R34M[1] | | | |

* The 915 MHz model can be configured with a log interval of 1 to 720 minutes, but it is recommended to use a log interval of 5 minutes or more. To increase performance, consider the maximum number of devices on the network in the ratio of 6 devices for each minute of logging interval.

**The communication distance decreases as the number of obstacles between the Gateway and the sensor increases.

[1]https://ised-isde.canada.ca/site/spectrum-management-telecommunications/en/devices-and-equipment/radio-equipment-standards/radio-standards-specifications-rss/rss-gen-general-requirements-compliance-radio-apparatus#s4.3 (itens 4.3, 8.4)

## AirGate Air+

| MEMORY | **Type** | Circular | | | |
|---|---|---|---|---|---|
| | **Capacity** | 480,000 logs (2 quantities) | | | |
| RECORDING INTERVAL | 2 to 720 minutes* | | | | |
| COMMUNICATION INTERFACES | **USB-C** | For configuration, download and diagnostics. | | | |
| | **LoRa** | | **Models** | | |
| | | | **915 MHz** | **868 MHz** | **865 MHz** |
| | | **Frequency [MHz]** | 915.4~927.4 | 865.15~869.85 | 865.15~866.86 |
| | | **Bandwidth [kHz]** | 500 | 250 | 250 |
| | | **Spreading factor** | 7~11 | 7~12 | 7~12 |
| | | **Transmission power [dBm]** | 20 | 14 | 20 |
| | | **Reception sensitivity** | -136 dBm | | |
| | | **Radio coverage** | Up to 3km with a clear line of sight** | | |
| | **Ethernet** | 10/100 Mb/s, IEEE standard 802.3u. | | | |
| | **Wi-Fi** | IEEE standard 802.11 b/g/n 2.4G GHz. Support for WPA-Personal (PSK) WPA/WPA2 TKIP/AES/TKIP and AES encryption. | | | |
| PROTOCOLS | **IP** | SMTP, NTP, MQTT, and Modbus-TCP. | | | |
| POWER SUPPLY | **External power supply** | 8~30 Vdc | | | |
| PROTECTION INDEX | IP20 | | | | |
| ENVIRONMENT | Operating temperature: -10 to 60 °C (14 to 140 °F) | | | | |
| | Storage temperature: -20 to 70 °C (-4 to 158 °F) | | | | |
| | Humidity: 5 to 95 % RH (Non-condensed) | | | | |
| DIMENSIONS | 220 mm x 180 mm x 38 mm | | | | |
| HOUSING | ABS + PC | | | | |
| SOFTWARE | NXperience (via USB) | | | | |
| | NXperience Trust (FDA 21 CFR parte 11) | | | | |
| CERTIFICATIONS | **Anatel** | 07859-24-07089 | | | |
| | **FCC** | Contains Wi-Fi module, FCC ID: 2AC7Z-ESPWROOM32D | | | |
| | | Contains LoRA module, FCC ID: 2ADHKR34M | | | |
| | **ISED** | Contains Wi-Fi module, IC: 21098- ESPWROOM32D[1] | | | |
| | | Contains LoRA module, IC: 20266-R34M | | | |

* The 915 MHz model can be configured with a log interval of 1 to 720 minutes, but it is recommended to use a log interval of 5 minutes or more. To increase performance, consider the maximum number of devices on the network in the ratio of 6 devices for each minute of logging interval.

**The communication distance decreases as the number of obstacles between the Gateway and the sensor increases.

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