

Corentium Pro

by Airthings

Manual



KEY TO FIGURE

- | | |
|-----------------------------|------------------------|
| A STARTS A NEW DATASET | 1 Kensington Lock Slot |
| B BLUETOOTH COMMUNICATION | 2 Mini-USB Connection |
| C STATUS LIGHTS (LEDs) | 3 Battery Compartment |
| | 4 Tripod Mount |
| * There is no ON/OFF button | 5 Calibration Label |
| | 6 Serial Number Label |

SPECIFICATIONS

Sampling Method	Passive radon diffusion chamber
Detection Method	Alpha spectrometry
Detector	4 silicon photodiodes in 4 distinct radon chambers
Power Supply	3 AA alkaline batteries (LR06) ~ 15-month battery life
Dimensions	5.5 x 5.5 x 1.2 inches 140 x 140 x 30 mm
Weight	10.6 ounces (including batteries) 300 grams (including batteries)
Operation Environment	39 to 104 °F 4 to 40 °C 5% RH to 85% RH non-condensing 50 kPa to 110 kPa
Measurement Range	0 - 2700 pCi/L 0 - 100 000 Bq/m ³
Measurement Uncertainty After 24 hours	$\sigma \sim 7\% \pm 0.15 \text{ pCi/L}$ $\sigma \sim 7\% \pm 5 \text{ Bq/m}^3$
After 7 days	$\sigma \sim 5\% \pm 0.06 \text{ pCi/L}$ $\sigma \sim 5\% \pm 2 \text{ Bq/m}^3$
Diffusion Time Constant	25 minutes
Temperature Sensor Range	39 to 104 °F 4 to 40 °C
Resolution	0.36 °F 0.2 °C
Accuracy	$\pm 1 \text{ °F (typical), } \pm 2 \text{ °F (max)}$ $\pm 0.5 \text{ °C (typical), } \pm 1 \text{ °C (max)}$
Humidity Sensor Range	5% RH to 85% RH (non-condensing)
Resolution	0.5% RH
Accuracy	$\pm 4.5\%$ (in range 20 - 85% RH)
Barometric Pressure Sensor Range	50.0 kPa to 115.0 kPa
Resolution	0.06 kPa
Accuracy	$\pm 1 \text{ kPa}$
Memory Capacity	The internal memory stores 5 years of hourly datapoints ~ 1 900 days of measurements ~ 5 datasets of one-year length ~ 177 datasets of 1-week length ~ 325 datasets of 2-day length
Memory Type	Non-volatile flash memory

USAGE

USAGE & SAFETY

The radon sensors in Corentium Pro are made for inside use only. Avoid storing or using the monitor in environments with high humidity, extreme heat, or freezing conditions. Condensation can form on the monitor if it is moved from a warm location to a cold location or vice versa. If condensation forms on the monitor, remove the batteries and leave it in a dry environment for 2 hours. The monitor should not be used in environments with more than 85% relative humidity. The unit must not be exposed to direct sunlight for extended periods. Avoid subjecting the monitor to shocks, impacts, pressure, vibrations, dust, or moisture.

Only use alkaline AA (LR06) batteries. The batteries must not be exposed to fire or other extreme heat. The battery terminals must not be touched, and they must be kept free from dust, sand, liquids and other foreign objects.

Use a Kensington cable Lock (often used for laptops) for securing the instrument from theft, being moved during measurement, etc.

Corentium Pro is designed to be used in horizontal orientation only, do not use the monitor in vertical orientation.

STORAGE INFORMATION

Store the Corentium Pro in its protective case, with batteries installed, in a location with low to normal relative humidity and avoid extreme temperatures. **Storing Corentium Pro in a vehicle is not recommended.**

Insert fresh batteries before long-term storage. Do not allow batteries to die in the monitor at any time.

Contact the manufacturer if the monitor requires service or repairs. Do not try to open the Corentium Pro.

Note: Failure to follow these usage and storage requirements will void the warranty.

CALIBRATION

The monitor is tested, quality assured, and calibrated by manufacturer. Calibration certificate is valid for one year. Most jurisdictions require annual calibrations for professional use.

GETTING STARTED

Use the Torx 6 screwdriver to open the battery compartment and insert the batteries. Allow 45 seconds for the monitor to self-test, and then it will begin recording information.

The Corentium Pro software system is comprised of two parts, the **mobile app** which runs on the user's mobile device and is used for initiating and concluding radon tests, and the online **Pro Dashboard** which is the central hub for a radon testing company's operations.

We have created a series of short instructional videos to help you get started quickly: go to help.airthings.com/pro and then the video section.

CREATING AN AIRTHINGS ACCOUNT

In order to use the mobile app and online Pro Dashboard a user must create an Airthings account by visiting the website at pro.airthings.com and clicking on the "Sign Up with Airthings" button. Follow the remaining prompts to create an account.

USING THE ONLINE PRO DASHBOARD

Radon tests are uploaded from the mobile app to the Dashboard and can be accessed from any location through a modern web browser. This enables technicians to upload a radon test to the Dashboard while in the field, and the radon test can be analyzed from a remote location by a specialist so a radon report can be generated.

Logging into the Online Dashboard

To log into the Dashboard, open a web browser and go to pro.airthings.com and enter in your login information from the section above.

Managing Monitors of the Company

To add a monitor to the company, log into the Dashboard and click on the monitor management icon in the left menu, and then click on the "Add a Monitor" bar at the top of the page. Enter in a nickname for the monitor for easier identification of the monitor, and then enter the monitor's serial number and click on the green checkmark to the right. Once a monitor is added to the company it must be confirmed in the mobile app when in proximity to the monitor. This is a safety feature to help ensure that only monitors belonging to the company can be added to the Dashboard.

Modifying Company Information

To modify company information, log into the Dashboard and click on the company profile icon in the left menu. The company name, mailing address, phone number, email address, and company logo can be modified. Additionally, company certifications/licenses can be added or modified.

Managing Users of the Company

To add a user to the company, log into the Dashboard and click on the user management icon in the left menu, and then click on the "Add a User" bar at the top of the page. Enter the user's name, email address, and select whether they will have manager or employee privileges and click on the green checker to the right. (Managers can add and remove users and monitors whereas employees are restricted from these operations.) The user will receive an invitation link at the email address entered. The user must click on this

invitation link and will be taken to a webpage to create their account. To modify or delete a user click on the "... menu to the right of their name and select "edit" or "delete". In the edit page, the user's name and phone number can be modified. Additionally, professional certifications/licenses can be added or modified here.

Managing Report Templates

For your convenience, we have included ready-to-use report templates which can be used as is, duplicated, or customized to suit your needs!

To manage your templates, log into the Dashboard and click on the report templates icon in the left menu. To add a new template, click on the "Add a New Template" bar at the top of the page. Name the template and add a description and then click on the green checkmark. In the menus on the right are information blocks which you can add to the template. These blocks can be added multiple times, and in any order you choose. To see what your template will look like, click on the "Preview" button at the top of the page. Changes are saved as you make them. Once all changes are complete, and the template is ready for use, click on "Publish". You may also use the "duplicate" feature to create additional templates.

Generating a Report in the Dashboard

Once a radon test dataset has been uploaded to the Dashboard it can be accessed by clicking on the datasets icon in the left menu. A list of all datasets in the Dashboard is presented, and a specific dataset can be located using the search field. To generate a report, click on the dataset name and then click on the "Generate Report" button at the top of the screen. Follow the prompts to set various options for the final radon report. These options will vary based on the information blocks that are included in the selected report template. These options can include information about motion events that occurred during the measurement, selecting a dynamic paragraph option (dynamic paragraphs are typically used to inform the client of the recommended actions regarding the overall radon average), and signing the report.

USING THE MOBILE APP

The mobile app is used for initiating and concluding radon tests, and can also be used to view dataset information, and generate radon reports in the field.

Downloading the App

- **iPhone and iPad:** Go to the Apple App Store and search for Corentium Pro.
- **Android phones and tablets:** Go to Google Play and search for Corentium Pro.

Logging into the Mobile App

The first time the mobile app is opened a login screen is presented. Enter the same login credentials that you created to access the Pro Dashboard.

Connecting to Corentium Pro

To connect to a radon monitor, from the home screen of the app, simply tap on the monitor you wish to connect to. Monitors will be listed in one of four sections:

1. **Pending Monitors**
2. **Monitors in Range**
3. **Monitors Out of Range**
4. **Nearby Monitors Not Registered to This Company**

Monitors under section 1 are ones which have been added through the Dashboard and are awaiting confirmation to be added to the company. Simply tap on the monitors in this section to confirm adding them to the company. Monitors under section 2 are those which have been added to the company and are in Bluetooth range and can be connected to. Monitors under section 3 are those which are registered to the company and have datasets cached on the mobile device, but are not nearby. These cached datasets can still be accessed to generate a report even when the monitor is not in range. *Please note that this is cached data only and does not allow for live, remote access to the monitor.* Monitors under section 4 are nearby and are not accessible, either because they have not been added to the company yet through the Dashboard, or because they are registered to another company.

The proper monitor can be identified by the serial number on the monitor, which is also listed in the app. Additionally, the monitor can be identified by a custom nickname assigned to the monitor through the Dashboard. The monitor will beep once, and the blue light will flash once to confirm the connection and help you identify that you are connecting to the correct monitor. The app will begin transferring the dataset information from the monitor to the mobile device. Recent datasets are stored locally on the mobile device.

INITIATING A RADON TEST

Corentium Pro, like all radon testing devices, must be placed and used in accordance with all radon testing protocols required by the jurisdiction where the radon test is taking place.

Note: *This information is not exhaustive, and does not contain any protocol or requirements for placement of the monitor. Please become familiar with, and comply with all regulations and requirements of your jurisdiction.*

Scheduling a Radon Test

To start a radon test, connect to a monitor as described in the Connecting to Corentium Pro section. If the monitor is available to use for a radon test, a green button that says "Start Test" will be seen at the bottom of the screen, tap on this button to begin the scheduling process. You will be prompted to enter some mandatory information while the rest are optional.

Airthings recommends a minimum 48-hour measurement duration and 4 hours delay for all short-term radon tests. Radon tests should terminate in 24-hour increments to better account for day-to-night fluctuations of indoor radon concentrations.

Once all information about the property has been entered in the various fields spread across several pages, as indicated at the top of the screen, tap the "Start" button at the bottom of the last scheduling page. The monitor will beep, and the lights will flash for approximately 45 seconds as the monitor reboots and performs self-tests. The monitor will beep again, and if a delay was used, the green light will flash rapidly, once per second, to indicate that the radon test has been successfully scheduled. If no delay was scheduled the green light will flash once every 5 seconds to indicate that the monitor is currently recording information.

CONCLUDING A RADON TEST

Finalizing a Dataset

Once a radon test is complete, connect to the monitor. After the datasets have loaded, locate the proper dataset and tap on "Finalize Dataset", here you can add any photos to the dataset, such as a building footprint diagram, or a photo showing that the monitor was indeed placed at the property. You can also add comments about deviations from protocol, such as the monitor being moved, or if it could not be placed according to protocol, and the reason for this placement. Additionally, you can add comments about temporary conditions, such as extreme weather which may have affected the measurement, or temporary radon reduction measures in place.

Once the photos and comments are added, or if you wish to conclude the radon test with no added photos or comments, tap on the "Finalize Test" button at the bottom of the screen. This will begin uploading the dataset to the Dashboard. Once the dataset is uploaded, you will be taken back to the main screen of the monitor.

Viewing a Dataset

To view the information of a dataset, first finalize the dataset as described in the above section. After the dataset has been finalized, a button will appear titled "View Dataset". Tap this button to see the details of the radon test including the measurement information, and logged motion events if any occurred.

Note: *Your mobile device must be connected to the internet to view the dataset information.*

Generating a Report in the App

To generate a radon report in the field, locate the correct dataset and tap on the "Generate Report" button. The dataset must first be finalized before the Generate Report button will appear. Follow the prompts to set various options for the final radon report. These options will vary based on the information blocks that are included in the selected report template. These options can include information about motion events that occurred during the measurement, selecting a dynamic paragraph option (dynamic paragraphs are typically used to inform the client of the

recommended actions regarding the overall radon average), and signing the report.

Note: *Your mobile device must be connected to the internet to generate a radon report.*

Checking Monitor Details

To check details of the monitor, such as the firmware version, date and time, calibration expiration date, or status of a monitor, connect to it as described in the section above. Once connected to the monitor, tap on the "i" button near the serial number at the top of the screen

Other Operations

To log out of the app, from the home screen, tap on the gear icon at the top right corner of the screen, then tap on "Log Out". You can also get help with the Corentium Pro software system by tapping on the Help button. The version number of the mobile app is located at the bottom of this screen.

STATUS LIGHTS

- **Flashing green once every 5 seconds:** Normal operation, monitor is recording data.
- **Flashing green once per second:** Radon test scheduled, monitor in delay period.
- **Flashing green, yellow, and red sequentially:** Monitor rebooting and performing self-test.
- **Flashing yellow:** Indicates a warning but is still operational. This usually means that the monitor needs to synchronize the date, time, and time zone. Connect to the monitor through the app to synchronize the time.
- **Flashing red:** Error. Go to help.airthings.com/pro and search for the keyword RED. If this does not solve the issue, go back to the search bar and type Pro-Technical Support Hours
- **Blue flash and beep:** Bluetooth connection established.
- **Blue flash (once):** Bluetooth connection ended.
- **Continuous blue:** USB connected.

CRA PC Software

1. To download the software, go to help.airthings.com, and type CRA in the search bar.
2. Refer to the Installation Guide and Software Manual and open CRA PC Software
3. Connect the monitor to the PC via the USB cable.

Note: The CRA software is mainly used to remotely troubleshoot a unit. It can be used to create report, but due to its complexity, we highly recommend using only the Corentium Pro App and Pro Dashboard.

MORE INFORMATION

For more information and help, go to help.airthings.com/pro where you will find many helpful articles, FAQs, QA/QC, instruction guides and videos. We hope you enjoy using your new Airthings Corentium Pro radon monitor.

Compliance

The monitor and the batteries must not be disposed of as ordinary household waste. The materials used in Corentium Pro can be recycled.

It is the user's environmental responsibility to ensure that electronic equipment and batteries

are disposed of in accordance with national regulations. Users should contact the seller or their local authority for information about environmentally friendly waste disposal.

In the event of incorrect use or operation of the monitor, Airthings AS cannot be held responsible for any losses resulting from failure or from the loss of measurement data.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residual installation. This equipment generates uses and can radiate frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

ICES-003 Class B Notice

This Class B digital apparatus complies with Canadian ICES-003.

Avis NMB-003, Classe B

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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