

AIRTOCHECK Monitor Manual



Certificate

Airtocheck states that this product meets the published specifications at the time of delivery. Airtocheck states that its calibration measurements are traceable to Sensirion.

Warranty

Airtocheck guarantees that the product has a warranty period of 12 months from the time of delivery. Damages due to dropping/bumping/damp/incorrect supply voltage are excluded.

Service

For maintenance and warranty, please contact Airtocheck.com
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Manufactured in the Netherlands

Safety and preparation for use

! Carefully read the entire manual before using the Airtocheck monitor.

Whenever the term 'monitor' is used in this manual, it refers specifically to the Airtocheck monitor including all accessories.

This manual was created to provide an overview of the most common risks in connection with installation, operation and maintenance, along with additional information.

The Airtocheck monitor is fitted with a highly user-friendly menu and operation is safe, provided it is installed, operated and maintained strictly in line with all safety instructions in this manual.

Safety guidelines and warnings

- These safety guidelines must be strictly observed during all stages of the monitor's installation, operation and maintenance.
- Failure to observe all guidelines may lead to serious damage and bodily harm and is in violation of the safety standards.
- If you have any doubts concerning safe use of the monitor, please contact Airtocheck.
- Always store this manual near the monitor. We recommend storing the manual in the cover.
- The installer is responsible for safe operation. The installer must check the installation, measurement and alarm settings as well as the Airtocheck website.
- The installer is responsible for ensuring fail-safe operation should a defect in the equipment lead to dangerous situations.

The risk of an electric shock

! Electric shock is the most common risk when operating electric equipment.

- Dangerous voltages may lead to bodily harm or death.
- Opening the enclosure is strictly forbidden.
- Always use the monitor in a horizontal position.
- Always place it on a level surface. Prevent external influences such as fluids and/or objects.
- Unauthorised changes to the monitor can lead to fire and electric shock and/or other dangers.
- It is not permitted to replace components and/or make changes to the monitor.
- The monitor must only be used with a three-core supply cable.
- The monitor is shipped with a three-core earthed cable. The metal parts of the monitor are connected to the earth connection, in order to prevent electric shock. Always use an installation with an earth connection.
- If you have any doubts whether your installation meets the requirements – including the earth switch, which needs to be checked regularly in order to prevent electric shocks – please contact an electrician.
- The use of accessories not recommended by Airtocheck is not allowed.
- First connect the cable to the monitor before connecting to the wall socket. When disconnecting the monitor, first remove the plug from the wall socket.
- In order to limit the risk of fire and electrocution do not expose this product to rain or damp. Prevent the spilling of fluids on the monitor.
- Use only the original, high-quality connection cable.
- Do not in any way insert objects into the openings; this can cause a short circuit, fire or an electric shock.



Introduction

Airtocheck offers the latest technology available for measuring negative pressure.

You can opt for the web-based version of the Airtocheck monitor. This allows you to read negative pressure via the app or via the website.

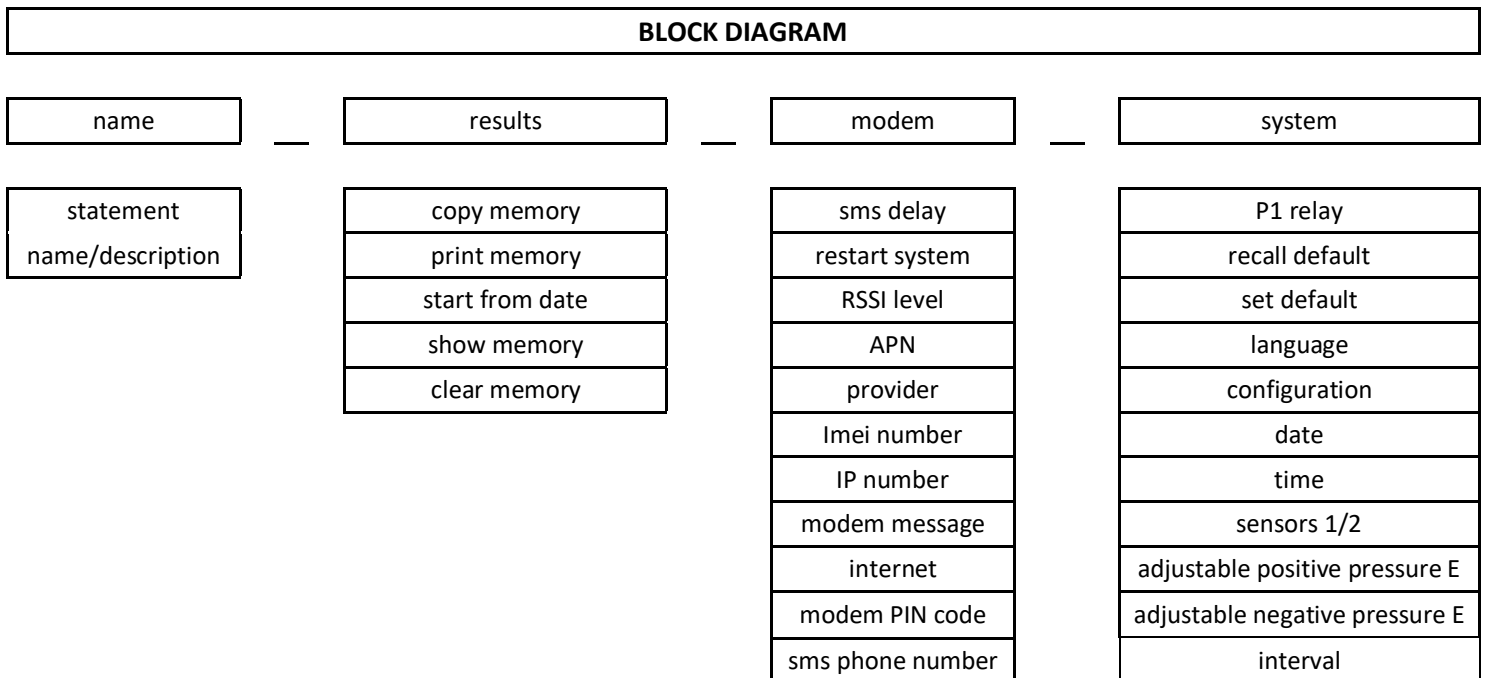
The sensors used result in a very stable and exact measurement.

The case offers the necessary protection for the Airtocheck monitor.

The menu is easily accessible via symbol keys and via the menu key.

The results of your measurements can be printed with the thermal printer.

BLOCK DIAGRAM



Description of keys and components

! Carefully read the entire manual before using the Airtocheck monitor.



Install SIM + SD as shown. See [19](#) and [20](#)

Description of keys and components

- | | | | |
|------------|--|------------|---|
| 1. | - Storage for manual
- Storage for vacuum hose
- Label with serial number + CE statement | 12. | Move cursor right |
| 2. | Connection press 1:
- P1- negative pressure measuring point
- P1+ positive pressure measuring point | 13. | Enter key |
| 3. | Connection press 2 (optional):
- P2- negative pressure measuring point
- P2+ positive pressure measuring point | 14. | Horn on/off |
| 4. | On/Off switch | 15. | Printer key on/off |
| 5. | Connection external horn | 16. | Key for setting measurement range: A-B-C-D-E-off |
| 6. | Connection external relay (for P1) | 17. | GSM key on/off + GSM function test
(press for 4 seconds) |
| 7. | Digital display | 18. | Storage for power cable |
| 8. | Printer + printer roll | 19. | Location of GSM card |
| 9. | Menu key and Move cursor left | 20. | Location of SD card |
| 10. | Move cursor up | 21. | Power connection |
| 11. | Move cursor down | | |

! Before using the monitor, check if the monitor is not damaged.
Open any packaging with care; do not use any sharp implements that might damage the monitor. In case of doubt, contact Airtocheck.

The monitor is shipped including:

- SD card
- 2 x 3 metre pressure hose
- manual
- printer roll

! The Airtocheck monitor must only be used outside the contaminated area.

Installation:

- Determine the correct location (near a wall socket and near the area to be measured).
- Do not place the monitor near a window, fan/heater or similar situations that might cause pressure variations.
- Connect the negative pressure hose to measuring points No. 2 (for 1 containment) and No. 3 (for 2 x containment - optional). When removing the negative pressure hose, press and hold the top ring!
- Connect the power cord to the monitor (check the cord for any breaks or damages).
- Connect the monitor to the mains voltage (21).
- Install the paper roll in the printer (8).
- Install the SD card if necessary (20).
- Set the On/Off switch (4) to On (start-up takes about 60 seconds).
- Check access (for the Internet version, the strength of the RSSI signal must be at least >10).
- The system is now ready for use.

Explanation of display:

0	1	0	4	2	0	1	6	0	9	:	5	5	A	C	O	F	F	
S	D							P	1	-	0	0	P	A	O	F	F	
O	K							P	2	-	0	0	P	A	O	F	F	
S	T	A	T	U	S	L	I	N	E							O	F	F

Yellow: date field

Red: time

Orange: AC or DC indication

Light blue: SD card present

Dark blue: sensor 1 negative pressure value

Dark blue: sensor 2 negative pressure value

Light grey: horn on/off

Smoke grey: printer on/off

Grey: limit selection

Dark grey: GSM on/off

Settings:

- Set horn on/off (14) (see display on/off 1st line).
- Set printer on/off (15) (see display on/off 2nd line).
- Set measurement range (16) (see display A-B-C-D-E-Off 3rd line).
- Set GSM on/off (17) (see display 4th line).
- Press function key for 4 seconds to send a text message to your phone.

Menu operation (key 9)

NAME / RESULTS / MODEM / SYSTEM

- Press the Menu key (9).
- Press the Enter key (13).

You are now in the **Name** menu.

In the text field you can enter, for example, a location and a name.

- Use key 11 to go to the 2nd line and enter the name or location.

Deleting text:

Move the blinking cursor to the first position (2nd line).

Use keys 10-11-12 to go to _ and press the Enter key (13).

All text will be deleted.

Adding text:

Move the blinking cursor to the first position (2nd line).

Use keys 10-11-12 to go to the correct letter or number, and press the Enter key (13).

Repeat this procedure until you've defined the desired description.

Saving text to memory:

Use key 12 to move to the next empty position (2nd line), then press the Enter key (13).

The text is now saved; you are now in the **Name** menu.

- Press the Menu key (9) again to exit the menu.

- Press the Menu key (9).

- Press key 12, and press the Enter key (13).

You are now in the **Results** menu.

- Copy memory
- Print memory
- Start date.....
- Show memory
- Clear memory

How to handle measurement data

The monitor will start registering the measurement data as soon as it is switched on. The data is stored in the monitor's internal memory. The internal memory has a capacity of 30 days. It is very important that you regularly process the measurement data, and clear the internal memory.

When the internal memory is full, the monitor cannot store any new data in the internal memory!

It is recommended to regularly use the option Copy memory to SD card, or to print the memory. You can then clear the internal memory without data being lost (install the program Plus ++ to properly read the data from the SD card). With the web-based version, if you have made sure that all data has been sent to your website, you can still copy the internal memory to the SD card or print the memory. You can then clear the internal memory without data being lost.

Copy memory (save memory to SD card)

Press the Enter key (13).

Press the Enter key (13). The internal memory is written to the SD card.

-Press key 11 to go to the next function.

Print memory (print the entire memory)

Please note! For this function the printer must be switched off (key 15).

Press the Enter key (13). The full memory is now printed.

-Press key 9 to return to the Results menu.

-Press key 11 to go to the next function.

Start (print memory from date.....)

-Press the Enter key (13).

-Use keys 10 and 11 to enter the date.

-Press the Enter key (13).

-Use keys 10 and 11 to enter the time.

-Press the Enter key (13) to confirm your selection.

-Press key 9 to return to the Results menu.

-Press key 10 to print your selection.

-Press key 9 to return to the Results menu.

Show memory (show registered data)

-Press the Enter key (13).

-Use keys 10 and 11 to view all memory lines.

-Press key 9 to return to the Results menu.

-Press key 11 to go to the next function.

Clear memory (internal memory)

Make sure you carefully read the procedure of 'how to handle measurement data'!

-Press the Enter key (13).

-Press the Enter key (13) to clear the memory.

-Press key 9 to return to the Results menu.

-Press key 9 to go to the next function.

-Press key 12.

-Press the Enter key (13).

Modem

- You are now in the **Modem** menu.
- Press the Enter key (13).

- SMS delay
- Restart system
- RSSI level
- APN
- Provider
- Imei number
- IP number
- Modem message
- Internet
- Modem PIN code
- SMS phone number

SMS delay (option to send an alarm text message after a time delay)

- Press the Enter key (13).
- Use keys 10 and 11 to set the delay time.
(When there is an alarm, the alarm message will only be sent after the delay you set here.)
- Press the Enter key (13) to confirm the delay time.
- Press key 11 to go to the next function.

Restart system (required after the Modem function has been set to ON!)

- Press the Enter key (13).
- The monitor restarts (required after the Internet function has been set to ON!).
- Press key 11 to go to the next function.

RSSI level (option to read modem activity)

- Press the Enter key (13).
- Use key 10 or 11 to set the function to ON.
- Values concerning data transmission and signal strength can be read on the status line. Minimum required strength > 10.
- Press key 11 to set the RSSI level to OFF.
- Press the Enter key (13).
- Press key 9 to go to the next function.

APN (option to select KPN or M2M)

- Press the Enter key (13).
- Press key 10 or 11 to select KPN or M2M.
- Press the Enter key (13).
- Press key 10 to restart the monitor (required)
- Press key 9 to go to the next function.

Provider

- States which provider is selected.
- Press key 9 to go to the next function.

Imei number (show Imei number)

- Press the Enter key (13).
- The Imei number is now shown.
- Press key 9 to go to the next function.

IP number (show IP number – only for web-based version)

- Press the Enter key (13).
- The IP number is now shown.
- Press key 9 to go to the next function.

Modem message

- Press the Enter key (13).
- Modem message is now shown.
- Press key 9 to go to the next function.

Internet (option to switch the modem on/off)

(For the web-based version, the modem must be set to 'ON'; if the Internet is not used, this option must be set to 'OFF'.)

- Press the Enter key (13).
- Press key 10 or key 11 to select setting the modem to on or off.
- Press the Enter key (13).
- Press key 10 to go to Restart System (required).

Modem PIN code (option to change the PIN code for the modem)

- Press the Enter key (13).
- Press key 11 to select the new PIN code.
- Press the Enter key (13) (repeat until the correct PIN code is set).
- Press key 9 to go to the next function.

SMS telephone number (option to send a text message to 3 telephone numbers in the event of an alarm)

- Press the Enter key (13).
- Press the Enter key (13).
- You can enter the telephone number for alarm text messages.
- Press key 11.
- Press the Enter key (13).
- Press key 12 to select the correct option.
- Press the Enter key (13) (repeat until the correct number has been entered).
- Press key 10.
- Press the Enter key (13). The telephone number has now been saved.

Deleting an SMS telephone number

- Press key 11.
- Press key 12 and go to DEL.
- Press the Enter key (13).
- The telephone number has now been deleted.
- Press key 9 to return to the main menu.
- Press key 12 to go to System.

You are now in the **System** menu.

- P1 relay
- Recall Default
- Set Default
- Language
- Configuration
- Date
- Time
- Number of sensors
- Positive pressure (E)
- Negative pressure (E)
- Interval

- Press key 13 to go to the P1 relay.

P1 Relay (option to address an external relay for P1 only, with a delay)

- Press key 13 to use this function; here you can change the delay time for the external relay.
- Press key 10 or 11 to set the correct interval.
- Press the Enter key (13).

NOTE: The switch-on time can be set using the delay time. As soon as the correct negative pressure is reached, the relay block will be immediately disabled.

The exit is only controlled for channel P1. As soon as a value outside the minimum limit is measured, the external relay block will be activated (taking into account the set delay). As soon as the upper value is reached, the external relay block will be disabled.

- Press key 11 to go to the next function.

Recall default

This option is used to remove all current monitor settings and reset the original factory settings.

- Press key 13 to use this function.
- Press the Enter key (13) to clear all settings.
- Press key 11 to go to the next function.

Set default

This option is used to save all current settings for the monitor.

-Press key 13 to use this function.

-Press the Enter key (13) to save all settings.

-When the monitor is restarted, the set values remain active.

-Press key 11 to go to the next function.

Language

The option is used to set the language for the text shown by the monitor.

-Press the Enter key (13).

-Use keys 10 and 11 to select the language.

-Press the Enter key (13) to set the selected language.

-Press key 11 to go to the next function.

Configuration

You have no access.

-Press key 11 to go to the next function.

Date

-Press key 13 to use this function.

-Press the Enter key (13) to select the date.

-Use keys 10 and 11 to enter the date.

-Press the Enter key (13).

-Use keys 10 and 11 to enter the date.

-Press the Enter key (13) to confirm the date.

-Press key 11 to go to the next function.

Time

-Press the Enter key (13) to select the time.

-Use keys 10 and 11 to enter the day.

-Press the Enter key (13).

-Use keys 10 and 11 to enter the time.

-Press the Enter key (13).

-Press key 11 to go to the next function.

Sensor

This option is used to activate 1 channel (P1) or 2 channels (P1 and P2).

-Press the Enter key (13).

-Use keys 10 and 11 to select the number of sensors.

-Press the Enter key (13) to set the selected number.

-Press key 11 to go to the next function.

Positive pressure

This option is used to set the variable positive pressure value "E" (key 16).

-Press the Enter key (13).

-Use keys 10 and 11 to select the value.

-Press the Enter key (13) to save the value.

-Press key 11 to go to the next function.

Negative pressure

This option is used to set the variable negative pressure value "E" if this value deviates within the fixed measured range (key 16).

-Press the Enter key (13).

-Use keys 10 and 11 to select the value.

-Press the Enter key (13) to save the value.

-Press key 9 to return to the main menu.

Technical specifications:

Dimensions	33.5cm x 29cm x 14.5cm
Weight	4.5 kg
Electricity grid	100-240V AC 50/60 Hz 35W
Battery	Standby time 4 hours
Temperature	5 to 45°C non-condensing (in use)
Temperature	-20 to 60°C non-condensing (in storage)
Humidity	10% to 80% relative humidity non-condensing (in use)
Humidity	10% to 90% relative humidity non-condensing (in storage)
Waterproof	IP 54 excluding printer/relay/horn, SD and data access connections.
Printer type	Thermal
Printer roll	Width 56mm, diameter 30mm
Printer resolution	204 high printing size
Screen size	20x4 character display
Battery back-up	4 hours
Pressure range	-40 / +6 Pascal
Display	20x4 character display
Internal memory	30 days
Included	User Manual, 6mm tube, power cord, SD card
GSM function	Yes
Modem function	Optional (web-based version)
Communication	GSM/GPRS
SD storage	Yes
Memory capacity	Depends on SD card
Measuring points	2 channels
Pressure reading	60 Pa
Span accuracy	3%
User alarm	1 x high, 1 x low alarm
Connection	External speaker; cable length max. 3m 100 Ma
Connection	External relay; cable length max. 3m 100 Ma
Connection	Hose for measuring pressure; max. 3m
CE certification	Yes