



WH41 PM2.5 AIR QUALITY SENSOR



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1. Introduction

Mode d'emploi en français

Téléchargez ce manuel d'instructions en français sur aercusinstruments.com/manuals/

Manuale Operativo in italiano

Scarica questo manuale di istruzioni in italiano da aercusinstruments.com/manuals/

Thanks for purchasing this WH41 wireless air quality sensor. This device measures air quality by measuring particles 2.5 micrometers and smaller. The data can be viewed on an Aercus WeatherMaster HP2550 weather station console or can be streamed using a GW1000 Wi-Fi Gateway and can be viewed on the WS View App after configuration.

Please read this manual and retain it for future reference.

2. Get Started

One PM2.5 Sensor

One USB Cable

One User Manual

Two 1.2v Ni-MH Rechargeable Batteries

3. Overview

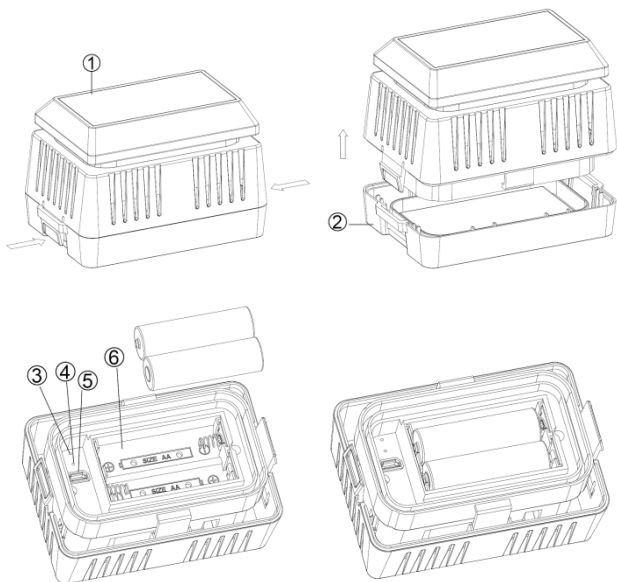


Figure 1: PM2.5 Sensor

- (1) Solar panel
- (2) Battery Compartment Cover
- (3) Red LED – RF transmission status
- (4) Blue LED – charging status
- (5) USB Port
- (6) Battery Compartment

4. Setup Guide

1. Remove the battery door on the base of the air quality sensor.
2. Insert two rechargeable AA batteries.
3. After inserting the batteries, the remote sensor (red) LED indicator will illuminate for 4 seconds, and then flash once every 10 minutes thereafter. Each time it flashes, the sensor is transmitting data.
4. Close the battery compartment cover.
5. Connect the USB cable to a standard USB power adapter (not supplied) and charge battery until the blue LED is turned off, indicating batteries are fully charged.
6. Without the help of sufficient solar radiation, a fully charged pair of batteries can last for about 20 days/500 hours. The battery status monitor on display will reflect the battery power status. When battery is exhausted, please charge the sensor again.

5. Connecting to your WeatherMaster

The PM2.5 sensor does not have its own screen and must be used with a compatible device such as a Weather Master console or other compatible device.

If you have never connected a WH41 to your WeatherMaster HP2550, it should automatically be seen by

the console once data is transmitted. For other devices such as the GW1000, please refer to your manual for those.

6. Sensor Placement

The sensor is ideally mounted in a location that receives direct sunlight to charge the batteries and with air able to reach it from all directions. Examples for this type of location would be on an existing weather station mount, flat roof, or fence post.

Use four screws to fix the base of the outdoor sensor on a flat surface.

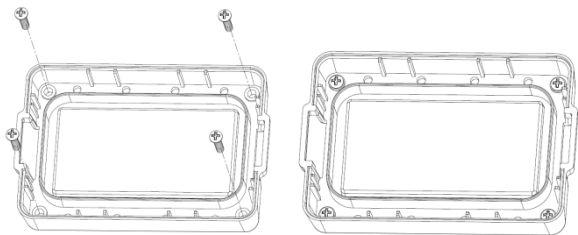


Figure 5: Outdoor sensor mounting

Note: Make sure the sensor is mounted vertically and not lying down on a flat surface. This will insure optimum reception. Wireless signals are impacted by distance, interference (other weather stations, wireless phones, wireless routers, TVs, and computer monitors), and transmission barriers, such as walls. In general, wireless

signals will not penetrate solid metal and earth (down a hill, for example).

Note: This device has a range of 100m/300' is perfect line of sight conditions with no interference or barriers. Typically, you will get a realistic range of 30m in most real-world installations, which include passing through barriers.

7. Air Quality Levels

AQI	Air Pollution Level	PM2.5 Concentration $\mu\text{g}/\text{m}^3$	Health Implications
0 - 50	Good	0.0-12.0	Air quality is considered satisfactory, and air pollution poses little or no risk
51 -100	Moderate	12.1-35.4	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
101-150	Poor	35.5-55.4	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
151-200	Unhealthy	55.5-150.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects
201-300	Severe	150.5-250.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
300+	Hazardous	250.5+	Health alert: everyone may experience more serious health effects

8. Specification

Power: 2x 1.2v Ni-MH Rechargeable Batteries

Sensor Size: 100x65x65mm

Frequency: 915 (AU/NZ), 868 (EU/UK)

Range: Up to 100m (300') line of sight

PM2.5 range: 0-999 μ g/m³

PM2.5 resolution: 1 μ g/m³

PM2.5 accuracy:	0-100 ug/m ³	\pm 10 ug/m ³
	100-500 ug/m ³	\pm 10% ug/m ³

Sensor reporting interval: 10 minutes

Note: 2x AA 1.2v NiMH batteries are recommended, recharged every two weeks using the USB charging method described in the setup guide.

9. Contact Information

We warrant our products to be free of defects in components and workmanship, under normal use and service, for one year from the date of original purchase. For product support and warranty claims please contact the following:

Purchased in UK/EU: Please contact our local distributor Greenfrog Scientific greenfrogscientific.co.uk and their team will be happy to help.

Purchased in AUSTRALIA: Please contact our local distributor Monax Test & Weather monaxtestandweather.com.au and their team will be happy to help.

Purchased in NEW ZEALAND: Please contact our local distributor Scientific Sales scientificsales.co.nz and their team will be happy to help.

For all others, please contact the retailer who sold you this item.

This handbook may contain mistakes and printing errors. The information in this handbook is regularly checked and corrections made in the next issue. We accept no liability for technical mistakes or printing errors - or their consequences.

Manual version: 2021/1.1

EU DECLARATION OF CONFORMITY

Hereby, Aercus Instruments, declares that this Wireless Weather Station (Model: WH31) is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. A copy of the signed and dated Declaration of Conformity is available on request from contact@aercusinstruments.com.



**COUNTRIES RTE
APPROVAL COMPLIED**

All EU countries

DECLARATION DE CONFORMITE UE

Par la présente, Aercus Instruments, déclare que cette station météo sans fil (Modèle : WH31) est conforme aux exigences essentielles et autres dispositions pertinentes de la Directive 1999/5/CE. Une copie de la Déclaration de conformité datée et signée est disponible sur simple demande auprès de contact@aercusinstruments.com.



**CONFORMITE AUX
EXIGENCES NATIONALES RTE**

Tous les pays de l'Union européenne

DICHIARAZIONE DI CONFORMITÀ UE

Con la presente, Aercus Instruments dichiara che questa Stazione Meteorologica Wireless (modello: WH31) è conforme ai requisiti essenziali e alle altre disposizioni pertinenti della Direttiva 1999/5 / CE. Una copia della Dichiarazione di Conformità, firmata e datata, è disponibile su richiesta all'indirizzo contact@aercusinstruments.com.



**PAESI RTTE DI COMPLETATA
OMOLOGAZIONE**
Tutti i paesi dell'UE

UK DECLARATION OF CONFORMITY

Hereby, Aercus Instruments, declares that this Wireless Weather Station (Model: WH31) is in compliance with the essential requirements and other relevant provisions of the Electromagnetic Compatibility Regulations 2016. A copy of the signed and dated Declaration of Conformity is available on request from contact@aercusinstruments.com.



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