VESPERA PRO2 VEP50-II

Instruction Manual v1.0 ROW EN 2025-12



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I. Package contents

The original packaging contains the following elements:

1 flycase
1 Vespera Pro2 telescope
1 hygrometer sensor
1 lens cap installed on the product
1 carbon tripod

We recommend that you keep the packaging pack of your telescope so that you can use it to store the telescope when not in use or to send it back in case of a product return.

We cannot be held responsible for any damage that may occur during transport if the instrument is not shipped in its original packaging.
In this case, you will be charged for new packaging to ensure safe transport. To find out the price associated with your product reference, contact support us using support form .

II. Product presentation

Vespera Pro2 is a new generation telescope, a perfect hybrid between a connected telescope and a camera.
Intelligent and fully automated, Vespera Pro2 is a revolution in the world of astronomy. With a completely redesigned observing experience, replacing the eyepiece with a mobile application, it becomes easy for everyone to access the wonders of the Universe.

Compact, intuitive, smart and connected, it allows you to discover and share the wonders of the night sky with your family or friends.

Thanks to its compact dimensions and optimized weight, the telescope is easy to carry in a hiking bag or carry-on suitcase. Its ergonomics offers the user an unforgettable experience whatever the observations conditions.

Once installed on its tripod and levelled, Vespera Pro2 unfolds and locates itself automatically. It is equipped with a built-in battery and can also be recharged by an AC adapter if needed.

Once the telescope is connected, you can browse the mobile app via your smartphone or tablet and choose an object from the suggestions. Vespera Pro2 can be controlled remotely thanks to the developed application and in a few minutes, the telescope is ready to photograph.

Thanks to its integrated microcomputer, Vespera Pro2 pushes the limits of on-board intelligence by automatically managing the star alignment, pointing and tracking of stars, image processing and application updates. The telescope also uses live stacking technology to provide optimal image quality.

With an Internet connection, you will be able to share your photos instantly on social networks, but also access the community of Vespera Pro2 users around the world, with whom you can interact and progress.

III. Warnings

Before use, please read this instruction manual carefully and observe all warnings and precautions.
Keep the documentation in an easily accessible place and ensure that all users are aware of it.

If you give or lend the device to another person, be sure to pass on the operating instructions.

The contents of this manual are subject to change. For the latest instructions on how to use this product, please refer to the manual available online at Manuals and Documents – Vaonis
If you have any questions about your product, please visit https://www.vaonis.com or contact us using the support form.

- Vespera Pro2 should never be pointed at the sun without a proper filter, placed on the lens.
- When using a mains charger, you are responsible for its proper use. The use of the charger must be in accordance with the manufacturer's recommendations. Vaonis can not be held responsible for any damage caused by a mains charger.
- This instrument is composed of fragile optical, mechanical and electronic components. Protect the instrument as much as possible from shocks and vibrations in order to improve the life of your Vespera Pro2..
- Do not open the instrument. Do not attempt to disassemble, modify or repair the instrument under penalty of voiding the warranty. Contact support using the support form .
- Use only the accessories supplied by Vaonis and respect the conditions of use recommended by Vaonis.
- Unplug the device in case of thunderstorms or when it is not used for a long period of time..
- Use the product at temperatures between 0°C and 40°C.
- Store the product in a clean and dry place (preferably at room temperature and humidity less than 65°%).
- Do not immerse the product in water.
- Vespera Pro2 is not a toy.
- The product is not intended for use by children under the age of 14.
- This product may be used by children of at least 14 years of age and by persons with reduced physical, sensory or mental capabilities or lack of experience, if they are properly supervised or instructed in the safe use of the product and are aware of the risks involved.
- Children must not play with the device.
- Cleaning and maintenance by the user must not be carried out by unsupervised children.
- Do not use chemical solvents (e.g. alcohol, thinner) or other flammable cleaning fluids to clean the product or its accessories.
- Do not dispose of the product in a fire, nor with household products as there is a risk of explosion of the battery; refer to chapter XI of this document.

IV. Installation

Attaching Vespera Pro2 to the tripod and positioning the tripod

1. Screw the tripod base onto the black mounting interface of the Vespera Pro2

2. Lay the Vespera Pro2 flat and position the bubble level plate between the tripod base and the Vespera Pro2 base then screw the tripod base onto the Vespera Pro2

3. Look for the flattest, hardest ground possible. Avoid stony or loose ground to ensure maximum stability.

4. Level the tripod by using the bubble level.

5. To make sure the tripod is stable, apply vertical pressure to the top of the tripod.
   If the tripod remains stationary, you can proceed to the next step. If not, move the tripod and try again on more stable ground.

Power supply

Vespera Pro2 is equipped with an integrated battery with a 11 hours battery life.

Mains charging

Plug the product into the power outlet.

- ⇨ If the product is turned off: the button flashes green every 10 seconds when the product is charging
- ⇨ If the product is on: the button changes from red to green every 10 seconds when the product is charging



It is recommended to perform this charging step indoors using a cable and an AC adapter or a powerbank compatible with Vespera Pro2.

V. Operation

Getting started



The button is tactile, no need to apply strong pressure

Charge the product to 100% before first use

To start the instrument, press the button on the side of the instrument. Hold the button down for 3 seconds, it flashes white at first. When it becomes static, release the button. It turns blue indicating that start-up has begun. The button flashes red at first and then becomes static when Vespera Pro2 is ready to be used (WiFi network available).

Note:

- If pressed for too long or too short, the product switches off. Repeat the start-up procedure
- If the button does not light up, put it on charge for a few minutes.
- If the button flashes orange 1 time, the battery level is low

- If the button flashes orange twice, the battery level is critical; put the product to charge
- If the button flashes orange 4 times, the product has a problem; contact the support service

Connecting to Vespera Pro2

Once turned on, Vespera Pro2 creates its own Wi-Fi network.

To connect to it, first download the "Singularity" application from the App Store or Google Play.

Refer to the FAQ on our website to know the software versions supported by the application

Activate your Wi-Fi connection and connect to "VESPERAPRO2-XXXXX"

Control from the mobile app

In the mobile application, let the tutorial guide you.

The 5 main steps are:
- Initialization
- Object choice
- Pointing and settings
- Observation
- Saving and sharing pictures

How to turn off Vespera Pro2

Shut down the product either via the app or by pressing the button on the side of the instrument.
Hold the button down for 3 seconds, it flashes white at first. When it becomes static, release the button.
The light on the button will go out when the shutdown process is complete, indicating that Vespera Pro2 is shut down.

Note :
- If pressed for too long or too quickly, the button reverts to red. Repeat the shutdown process.

VI. Accessoires (OPTIONS)

Vespera Pro2 AC023 Light Pollution Filter



Only handle the filter by its edge to avoid dirtying or damaging it

1. Turn the product on.
2. Connect to Vespera Pro2 via the Singularity application.
3. In the application, go to the "space center" page.
4. Go to "Instrument".
5. Press "open arm". The arm will open 110°.

6. Remove the cover on the front end of the optical arm by pressing the button provided for that purpose.
7. Position the AC023 light pollution filter.
8. If properly assembled
    ⇨ a filter icon and the name of the filter, "CLS", will appear under the product image
    ⇨ initialize the product and launch an observation
9. If improperly assembled or defective
    ⇨ the filter icon will not appear under the product image, "no filter detected" will appear instead
    ⇨ remove the filter and reassemble. If the problem persists, contact support

Note:

- There is a visual marker with the letter C located on the inside of the filter for easy identification when the filter is not mounted on the product.
- For optimal storage, we recommend storing the filter in its original plastic box.
- Cleaning and maintenance must be performed with caution. Only use wipes specifically intended for optical lenses.

Vespera Pro2 AC022 Dual-Band Filter



Only handle the filter by its edge to avoid dirtying or damaging it

1. Turn the product on.
2. Connect to Vespera Pro2 via the Singularity application.
3. In the application, go to the "space center" page.
4. Go to "Instrument".
5. Press "open arm". The arm will open 110°.
6. Remove the cover on the front end of the optical arm by pressing the button provided for that purpose.
7. Position the AC022 dual-band filter.
8. If properly assembled

⇨ a filter icon and the name of the filter, "DUAL", will appear under the product image

⇨ initialize the product and launch an observation

9. If improperly assembled or defective

⇨ the filter icon will not appear under the product image, "no filter detected" will appear instead

⇨ remove the filter and reassemble. If the problem persists, contact support

Note:

- There is a visual marker with the letter D located on the inside of the filter for easy identification when the filter is not mounted on the product.
- For optimal storage, we recommend storing the filter in its original plastic box.
- Cleaning and maintenance must be performed with caution. Only use wipes specifically intended for optical lenses.

Vespera Pro2 AC021 Solar Filter



1. never point Vespera Pro2 at the sun without a Vaonis solar filter installed
2. ensure the product is level
3. only handle the filter by its edge to avoid dirtying or damaging it
4. an "alert" window may appear:

⇨ if the instrument detects too much light, the observation will be interrupted for safety reasons. Ensure the filter is properly positioned

⇨ if the instrument detects the solar filter was removed, the observation will be interrupted for safety reasons. Ensure the filter is properly positioned

Installing the filter

1. Turn the product on.
2. Connect to Vespera Pro2 via the Singularity application.
3. In the application, go to the "space center" page.
4. Click on Solar Pointing

⇨ for the first observation, read the information, then press Close

5. Select your observatory.
6. Press the start button: the arm will open to 90°.

7. Remove the cover located on the front end of the optical arm by pressing the button provided for that purpose.

8. Position the AC021 solar filter.

9. If properly assembled

   ⇨ a filter icon and the name of the filter, "SOLAR", will appear under the product image

   ⇨ press the "confirm filter installation" button

   ⇨ follow application instructions to properly position the instrument

   ⇨ press the "confirm arm orientation" button for Vespera Pro2 to start the solar observation

10. If improperly assembled or defective

    ⇨ the "confirm filter installation" button will not be available (dimmed)

    ⇨ the filter icon will not appear under the product image, "no filter detected" will appear instead

    ⇨ remove the filter and reassemble. If the problem persists, contact support

Stopping the observation

1. Remove the AC021 solar filter by pressing the button provided for that purpose.

2. Put the cover back on and press the "close arm" button.

Note:

- There is a visual marker with the letter S located on the inside of the filter for easy identification when the filter is not mounted on the product.

- For optimal storage, we recommend storing the filter in its original plastic box.

- Cleaning and maintenance must be performed with caution. Only use wipes specifically intended for optical lenses.

VII. Care and maintenance

Vespera Pro2 is an optical instrument, it is therefore fragile and requires a lot of precaution during its use.

The front lens must not come into contact with fingers, cloths, eyeglass cloths, liquids etc.. Only specific wipes for optical lenses can be used.

The plastic shell can be cleaned with a soft cloth and soapy water.

Do not open the device under any circumstances. Do not attempt to disassemble, modify or repair the device, as this will void the warranty and may cause the instrument to malfunction. otherwise the warranty may be void and the instrument may malfunction.

If any issue arises, please contact support

- either by phone after selecting a call slot using the link callback request
- or in writing using support form

VIII. Transport and storage

Vespera Pro2 should be transported with care, keeping shocks and vibrations to a minimum.

Do not transport Vespera Pro2 outside a dedicated bag or carrying case.

The telescope should be stored in a clean and dry place. If moisture is present on the instrument, it is recommended to let it dry before storing it in the box to prevent the formation of mold.

IX. Technical characteristics

General	
Weight	5kg
Dimensions (H x L x D)	40 x 20 x 9cm
Usage temperatures	0°C à 40°C
Power	built-in, 10000mAh , 72Wh
Fast charge	USB PD
Battery's life	≈ 11h with the built-in battery
AC Adapter or power bank (not included)	USB-C tension de charge 5V/9V/12V/15V/20V protocol USB PD2.0/Type-C v1.2
Image Processing	Built-in and adapted to each object
Astrometry	Automatic
Included accessories	Carbon tripod and its accessories
Control	Smartphone/Tablet via the mobile application
Connection	This equipment contains specified radio equipment that has been certified to the Technical Regulation Conformity Certification under the Radio Law WiFi 2.4GHz Frequency band : 2412-2462MHz Modulation : 802.11 b, g, n (HT20/40) Maximum transmitted power : 17.4dBm (EIRP) WiFi 5.0GHz with TPC slave without radar detection Frequency band : 5180-5240MHz Modulation : 802.11 n(HT20/40), ac(VHT20/40/80) Maximum transmitted power: 21.3.00dBm (EIRP) Software : brcmfmac version 7.45.222 USB 2.0 data transfer via USB-C port
Mobile Application	Singularity compatible with iOS and Android
Observations	Deep sky objects (galaxies, nebulae, star clusters) Moon, Sun (with specific filter), comets, asteroids.
Warranty	5 years

Optics	
Lens	Apochromatic Quadruplet
Aperture	50mm
Focal length	245mm
Focal ration	F/D 4.9
Autofocus	Automatic
Image sensor	CMOS Sony IMX676 1/1.6"
Sensor Resolution	3536 x 3536 pixels (12.5 MPixels)
File formats	JPEG,TIFF, 16-bit FITS raw files
Field of View	1.65° x 1.65°
Filter	UV-IR filter integrated
Mount	
Type	Alt-Azimuth
Pointing	Automatic with star field detection
Dew control	Integrated dew control system

X. Warranty

Vaonis warrants that due care has been taken in the design and manufacture of this equipment.

Vaonis warrants that the telescope will be free from defects in materials and workmanship for a period of 5 years, in accordance with the 2-year legal conformity warranty, supplemented by an additional three-year commercial durability warranty.

Vaonis will repair or replace this product or any part thereof when it has been determined, subject to diagnosis by Vaonis support, that the product presents a material or workmanship defect. Please refer to the Vaonis General Terms and Conditions of Sale for details of this warranty coverage.
The terms of this warranty are limited to the repair or replacement of the equipment. Vaonis assumes no responsibility for theft or loss, damage or consequential or incidental expenses resulting directly or indirectly from the use of the equipment.

This warranty shall be void in the event that the design or function of any product covered by this warranty has been altered, or the product has been subjected to misuse, mishandling or unauthorized repair.

Vaonis is not responsible for damage caused by misuse of the product.

The warranty does not cover damage caused by improper use, non-compliance with these operating instructions or intervention by unauthorized persons.

Failure or deterioration of the product due to normal wear and tear, including consumable parts such as batteries and other components, is not covered by this warranty.

If any warranty issues arise, or if you need assistance in using your telescope, contact support using the support form.

Note: This warranty is valid for European customers who have purchased this product from a Vaonis authorized dealer in Europe. The warranty outside Europe is only valid for customers who have purchased the product from a Vaonis international distributor or an authorized distributor in the country in question. Please contact them for any warranty repair.

XI. Regulatory compliance

EU declaration of conformity

Vaonis S.A.S declares that the radio equipment type Vespera Pro2 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: Manuals and Documents – Vaonis

Federal Communications Commission (FCC) Statement

Contains FCC ID : 2ABCB-RPICM4

This device complies with FCC 47 CFR Part 15

This equipment has been tested and found to comply with the limits for a Class B radio device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can radiate radio 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 cause 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 or more of the following measures:

- 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.

The equipment must be installed and used with a minimum distance of 20cm between the radiation source and your body.

XII. Disposal and recycling

This symbol affixed to the product, its packaging, its instructions or other document or accessories of the product means that the product belongs to the family of electrical and electronic equipment. It indicates that throughout the European Union, this product, when it is at the end of its life, should not be thrown away with household products.

To avoid potential damage to the environment and human health from uncontrolled waste disposal, recycle the product responsibly to promote the sustainable reuse of material resources.

The European regulations ask you to proceed with its selective collection:
- in distribution points in case of purchase of an equivalent product,
- in collection points made available to you locally (waste collection, selective collection, etc.)

In this way you are participating in the reuse and recovery of Waste Electrical and Electronic Equipment (WEEE).