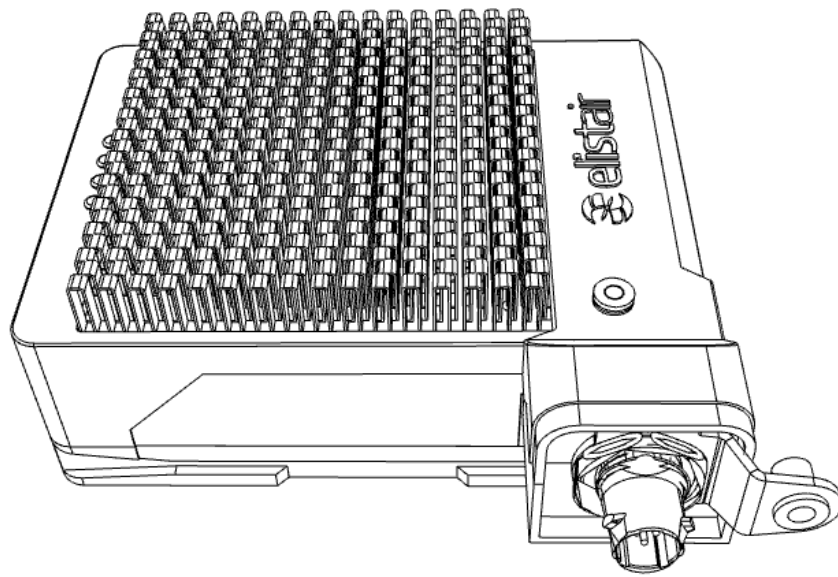


INSPIRE 2 AIR MODULE

User Manual

V1.2

09/10/2019



Contents

Air Module Inspire 2	1
Specifications	2
Using the Air Module Inspire 2	3
During Flight	4
Firmware Incompatibility Message.....	6
Disclaimer and Safety Guidelines	7
NOTICE	7
Disclaimer and Warning.....	7
Appendix.....	9
Technical drawings	9

Warning

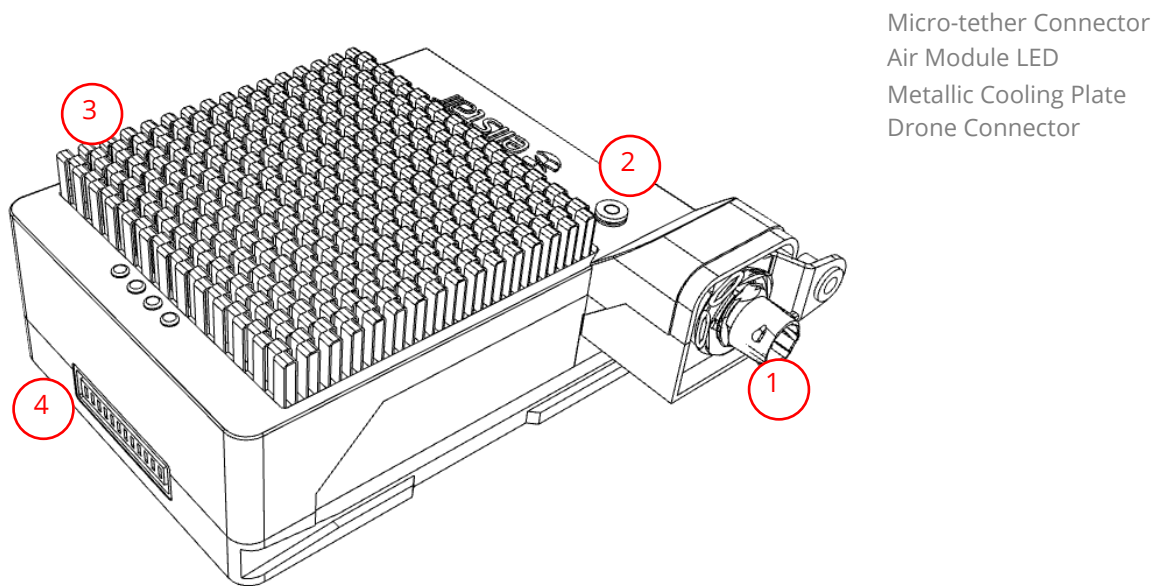
Read this entire user manual before you use this Air Module to ensure safe operation. Failure to adhere to the instructions and precautions below could result in damage or serious injury.

Air Module Inspire 2

Elistair Air Module for Inspire 2 enables drone users to easily connect their Ligh-T or Safe-T tethering station to the Inspire 2, for extended flight times and increased safety. The Air Module is a key component of the Safe-T and the Ligh-T stations. Miniaturized and ruggedized to fit in standard battery compartments, this compact module delivers a continuous DC power supply to the drone, whilst also providing a failsafe feature with a safety battery system.

Elistair Air Modules for M200, M210 and Inspire 2 are designed for specific software versions of the Aircraft, the battery and the control application. We recommend to our users to carefully check the compatibility of the equipment they are using with our Air Modules, and to prevent future software updates that would jeopardize compatibility, for instance by keeping their gear offline.

Please read carefully your Safe-T or Ligh-T User Manual as well. Do not hesitate to contact our team for further information or compatibility checks.



Specifications

Weight	550g
Dimensions	133x123x57
Safety Switch	Included
Max power	550W
Maximum takeoff weight (Inspire2)	3,8 kg
Inspire 2 software version compatibility	V01.02.0300 (30/01/2019) aircraft firmware V01.00.00.71 battery firmware for Inspire 2
Temperature	-10/40°C
Safety Battery	TB50 (Minimum 90% charge)

Using the Air Module Inspire 2

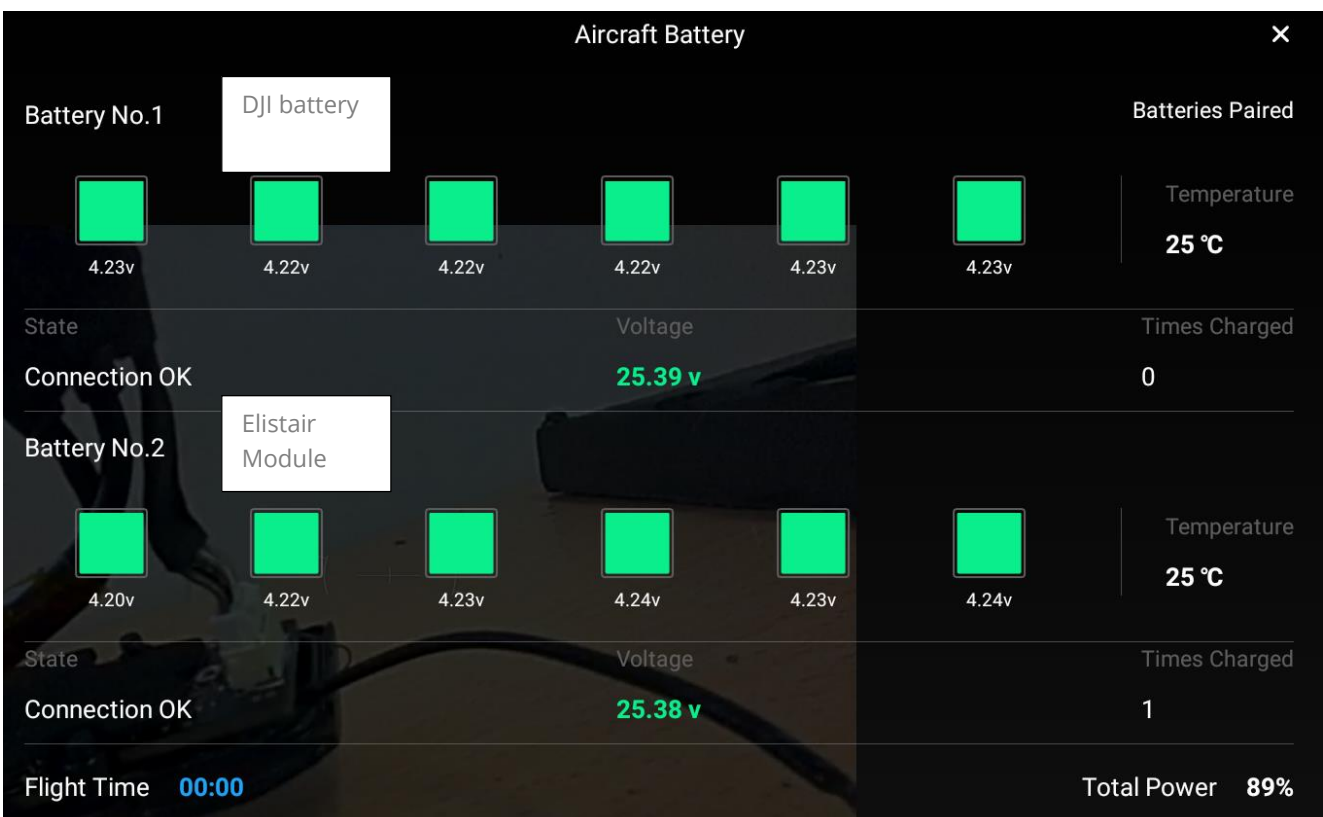
The Inspire 2 Air Module replaces the left-hand battery on the drone, and powers the aircraft continuously from the ground source through an Elistair tethering station, Ligh-T or Safe-T. The paracord lanyard should be affixed to the drone to provide an anchor point for the mechanical connector on the micro tether. To ensure a solid electrical connection, use the screw to secure the micro-tether connector (1) to the bolt on the module.

!/\ Be sure to power off the air module before powering off the drone after landing to avoid any potential damage to the air module.

Pre Take Off Checks

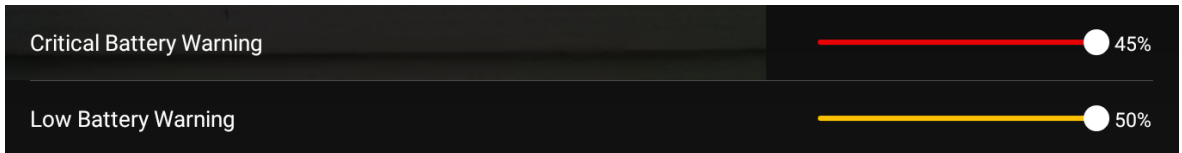
1. Turn ON the power supply to the SAFE-T or LIGH-T, ensure power to the tether is OFF.
2. Plug a fully charged TB 50 battery in to the Inspire 2 (Minimum 90% charged).
3. Plug the air module into the left-hand battery port on the drone.
4. Connect the tether to the module (1) and attach the cable using the screw fitting and mechanical attachment on the tether.
5. Power ON the output to the tether (Power Arming ON and Power switch ON for the SAFE-T and Power Arming ON for the LIGH-T)
 - a. After 3 seconds, the LED (2) should be blinking red and green.
6. Power ON the Inspire 2
 - a. After 10 seconds, the LED should be blinking red.
7. Power OFF the Inspire 2.
 - a. After 10 seconds, the LED should be blinking red and green.
8. Power ON the Inspire 2 again.

After 10 seconds, the LED should be blinking green slowly (1 blink per 0.5 second) (CAUTION: if **the LED is a solid green or red, DO NOT take off**, the module is not correctly initialized).
9. On the DJI Go app, select the Aircraft Battery page by touching the battery indicator at the upper right corner of the screen.



10. The 6 cells of each battery have to be within a range of 0.1V.

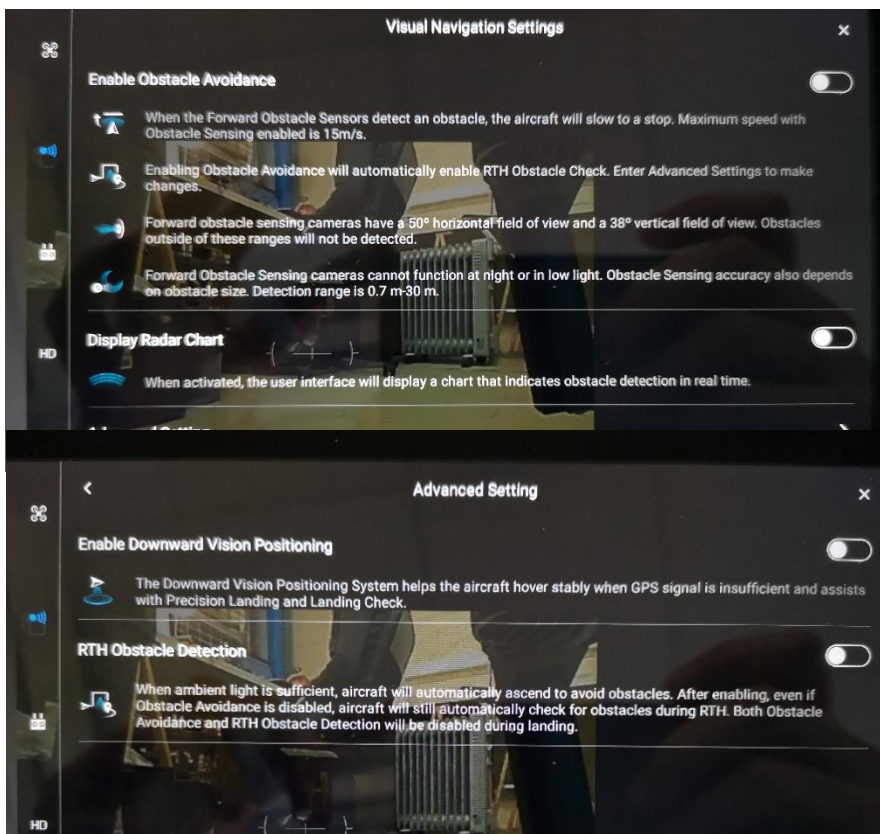
- a. The 6 cells of each battery have to be within a range of 0.1V. (The example above shows a range of 4.23-4.22=0.01V for the battery and 4.24-4.20=0.04V for Module, this is within acceptable limits of less than 0.1V).
- b. The two total battery voltages must also be within 0.1V (25.39-25.38V=0.01V so in the example above this is good to take off.)
- c. At startup it may take 5 seconds or more for the Battery voltage to be refreshed and displayed.
- d. Temperature of the Module is fixed to 25°C to prevent the <15°C failsafe implemented in the last firmware. There is no heating module in the air module.



- e. You can adjust low battery to 50% and critical battery warning to 45% in case there is a loss of power from the Module.
- f. Battery percentages must be within **13%** of each other.
- g. The voltage reflects the voltage of the least charged cell of each battery or power module.
- h. The percentage of the Module will stay at its initial value. It can be updated sometimes by the algorithm of the DJI Intelligent Battery which will estimate a new % (often lower than its initial value).

During Flight

1. Disable Obstacle Avoidance and Downward Vision Positioning before each flight to avoid the drone detecting the tether.



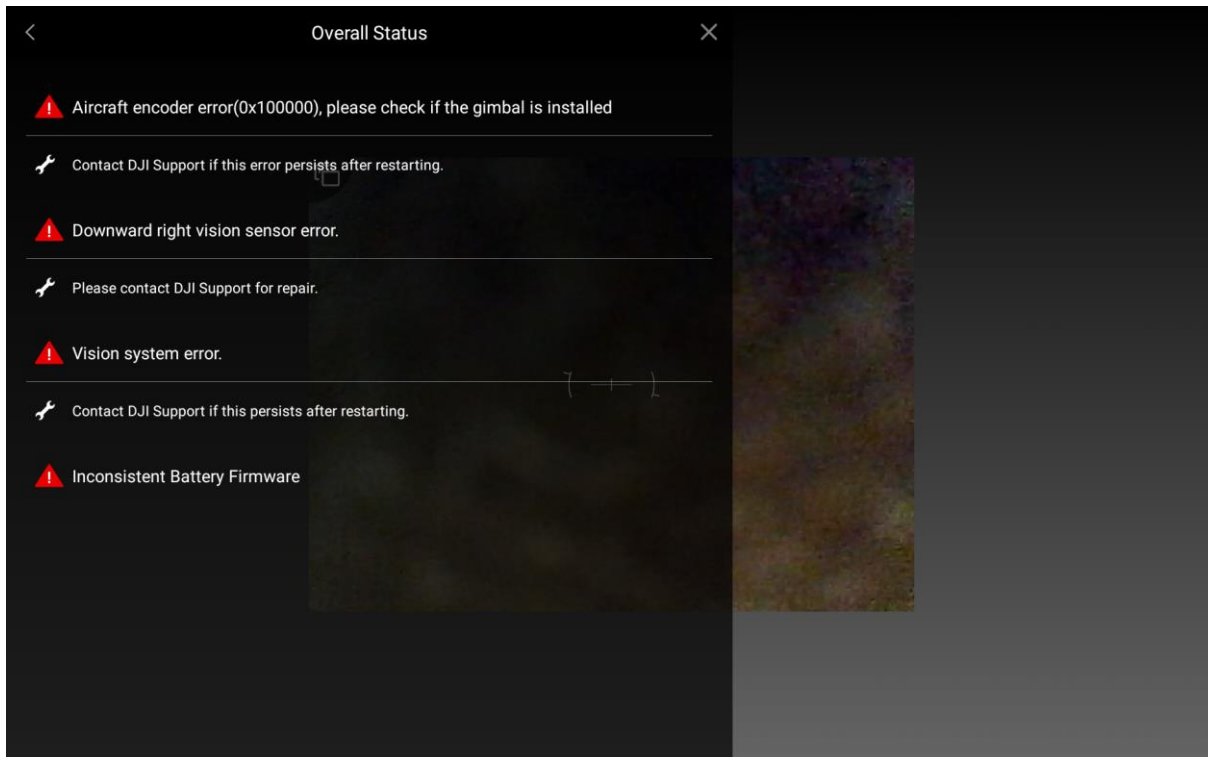
2. **Always fly with T-Monitor App** to have access to Power and Temperature information of the Safe-T or Ligh-T and the different alerts. If the power consumption falls below **200W**, you need to land the drone.
3. It is normal to see the battery discharge until it reaches 25 to 25.2V. Battery No.1 will go down to a range of approximately 80 to 85% depending on the power demand by the Inspire 2 (which depends on environmental conditions and payload weight).
4. The % of the Module will stay at its initial value. It can be updated sometimes by the algorithm of the DJI Intelligent Battery which will estimate a new % (often lower than its initial value).
5. If the percentage of power is less than **70%** you need to land the drone.
6. Battery #1 temperature have to be within the range specified by DJI User Manual. Battery #2 is the Elistair Power Module and is fixed to 25°C.
7. The battery #2 (Power Module) cells have to be within 0.1V between each other. If there is a larger voltage drop in one or more cell you have to land the drone.
8. If you lose power from your supply the module will no longer be supplying power to the drone. The drone will be using the safety battery which will be discharging until you land it. Before you take off again, check your power source, **insert a new, fully charged battery** and carry out the setup procedure above.

After landing

11. Switch the power supply to the micro-tether to OFF

12. Power off the drone
13. Turn OFF the mains power supply to the SAFE-T or LIGH-T
14. Wait 60 seconds before disconnecting the module and electrical connections

Firmware Incompatibility Message



If you get an Inconsistent battery firmware you must check the following:

Check that the Inspire 2 firmware is corresponding to the version specified in this User Manual or by an Elistair representative.

If yes, then check if the TB50 battery inserted on Bank #1 is correctly updated with the same firmware version as the Inspire 2.

It is sometimes possible to fly with a battery on an older firmware than the aircraft without being alerted, please carefully check that your battery is at the advised software version. These batteries will not work with the power module as there will be a firmware difference between them. Ensure the battery voltages and charges are within the limits above.

You can update or downgrade the battery firmware with DJI GO or by refreshing firmware in DJI Assistant 2 with the battery to be updated inserted in Inspire 2 battery compartments.

CAUTION: Do not have the Air Module inserted into the Inspire 2 when you do a battery update or firmware update. It will stop the Power module and it will need a replacement DJI control card.

Disclaimer and Safety Guidelines

NOTICE

Thank you for purchasing the Air Module Inspire 2. Information in this manual is subject to change without prior notice. When using this product, please follow all instructions carefully.

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Elistair accepts no liability for damage, injury or any legal responsibility incurred directly or indirectly from the use of this product. The user shall observe safe and lawful practices including, but not limited to, those set forth in these Safety Guidelines.

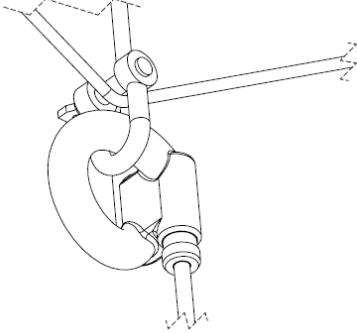
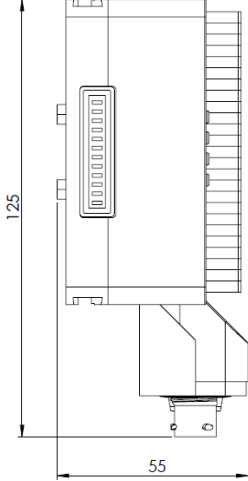
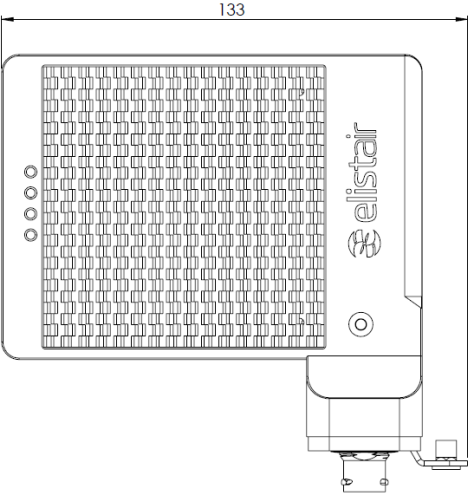
Air Module

1. Make sure that the Air Module is securely attached and is positioned to allow proper connection to your drone (power connector and Ethernet connector).
2. Only use safety battery with XT90 anti-spark connector.
3. Use a safety battery in accordance with the power matching table.
4. Please note that the ventilation grid needs to be free of obstructions to ensure a proper airflow and cooling of the Air Module. A 3D model of the Air Module can be supplied by Elistair (.step file) for integration work.

5. The Air Module is designed to power a drone drawing 1800W average (with the right micro-tether, see power table above). The safety battery is not meant to handle power peaks. It could damage the Air Module.
6. The module is not compatible with regenerative braking esc or similar function. This function will generate a voltage peak on the module and damage some electrical components or the fan.

Appendix

Technical drawings



AIR MODULE INSPIRE 2

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