DJI Mavic Air 2S Battery Guide (2022 Complete Guide)

As the successor to the Mavic Air 2 starts to gain a foothold in the drone market, content creators now have one more product to consider while on the lookout for top-tier equipment.

The DJI Air 2S comes with new flight features and is capable of 20-megapixel photos and 5.4K video through its 1-inch sensor. What's more, the Air 2S stays true to its name by being incredibly lightweight.

But content creators don't just look for power and portability — they need reliability as well. Our topic today focuses on the component that can potentially make or break a drone's reliability: the battery.

So, is the Air 2S's small frame size made possible by compromising on its power supply? Or did DJI set new benchmarks with the image quality *and* the battery performance?

You'll be able to answer those questions yourself by the end of this post. We dive into the ins and outs of the drone model's battery, explore the best ways of use, and make some interesting comparisons.

What Wh is a DJI Air 2S battery?

Before all else, it's best to familiarize yourself with the technical features of the Air 2S battery. One measurement often used by experts for battery comparisons is the watt-hour (Wh).

The watt-hour can be used to express the power capacity of a battery. For example, a 50Wh battery delivers 50 watts in 1 hour and 10 watts in 5 hours. Let's see what watt-hour the Air 2S battery is in exact terms.

A DJI Air 2S battery can either be 41.4 Wh or 40.42 Wh. The 41.4 Wh battery comes fitted into Air 2S drones that are part of the RC Pro controller bundles. On the other hand, the regular smart controller combos feature Air 2S drones with 40.42 Wh batteries.

You may be wondering why a watt-hour measurement is relevant to you as a pilot.

Well, it may not be if you're a casual flyer who's not looking to get into the intricacies of battery performance.

But for the more enthusiastic pilots, the fact that a higher watt-hour battery comes with its own set of little advantages is important. It plays a role in making valid comparisons between different drone models.

The point is this: a higher Wh battery does more work before needing to be recharged. This saves you some time in preparation, as well as money over the long term (subject to your maintenance techniques).

The mAh measurement is another way to look at a battery's capacity. We review that and other relevant features in the next section.

Is the Mavic Air 2 and 2S battery the same?

One of the most frequently asked questions about the Air 2S is whether there's *any* difference between its battery and the one featured by its predecessor. Here's the answer.

The Mavic Air 2 and Air 2S batteries are the exact same. However, the Air 2S drones shipped with the new RC Pro controller bundle feature a different version of the battery. These new batteries are of the same type but have a higher capacity.

These "new" batteries are reportedly *exclusive* to the RC Pro controller bundle and aren't sold separately. Therefore, an Air 2 and 2S picked at random are far more likely to have the (exact) same batteries than not.

The table below compares the specifications of the two battery versions. You'll notice that the capacities aren't the only difference.

DJI Mavic Air 2 battery	**DJI Air 2S battery (in the RC Pro combo)**
LiPo 3S	LiPo 3S
3500 mAh	3750 mAh
40.42 Wh	41.40 Wh
11.55 V	11.04 V

Now, it's important to not get the wrong idea.

The two battery versions are chemically different. However, the high battery capacity doesn't directly translate to significantly better performance. Note how the Air 2S battery with the higher capacity also operates at a lower voltage.

In fact, DJI made it a point to clarify that both batteries are *basically* the same in terms of performance.

Enthusiastic pilots, on the other hand, have carried out their own experiments. Their results reinforce DJI's statement as the newer battery version can only offer up to an extra minute of Air 2S flight time.

Can you use Air 2 batteries with Air 2S?

If you didn't skip over the section above, you already know what to expect here. Still, here's the definite answer to whether you can use the old Air 2 batteries with the new Air 2S.

You can certainly use Air 2 batteries with your Air 2S drone. In fact, DJI Air 2S drones are shipped with batteries of the same version that the Air 2 uses. Similarly, the batteries sold separately for the Air 2 and Air 2S are also the exact same.

A new DJI drone typically also comes with a new, better-than-before drone battery. But with the DJI Air 2S, this obviously hasn't been the case. It uses the 3500 mAh battery that Air 2 pilots are already familiar with.

If you browse through DJI's online store, you'll find that it features the same product for Air 2 and 2S pilots looking to buy batteries on their own.

So, if you're looking to upgrade your Air 2 to the 2S, you know your spare batteries will be put to good use.

How do you charge your Air 2S battery?

If you look at things from a broader perspective, DJI's drone models are charged the same way. You connect the stationary battery to the charger that comes included or a charging hub and keep an eye on its status.

Sounds pretty simple, right? Well, there *are* a few more essential steps — ones that a beginner may not know about. Take a look.

You charge your DJI Air 2S battery by, firstly, removing it from the drone's battery compartment and then connecting it to the charger. The battery is attached to the power adapter through the charging cable and the power adapter is plugged into a power supply.

Unmounting the battery is very simple. All you have to do is press the battery buckles located on the sides and *pull*.

Once that's out of the way, get a hold of your AC power adapter and battery charging cable. Both of these charging accessories come included.

Next, plug your AC power adapter into an AC power supply that has a voltage rating of 100 to 240.

You then use your charging cable to connect the (powered off) drone battery to the AC power adapter. Your battery should begin charging with its LED lights reflecting its status.

These steps are directly sourced from the Air 2S user manual, so you can rest assured you won't be doing anything wrong if you follow them. However, you *can* charge your drone battery in other ways. These include using DJI's charging hub.

You can get the visuals of charging a Mavic Air 2 Intelligent Flight Battery (which the Air 2S uses) from the YouTube video below.

https://www.youtube.com/watch?v=jhH7pd_2wKs

Can you charge DJI Air 2S with USB-C?

I previously mentioned that there are *other* ways to charge a DJI Air 2S battery. This begs the question: is charging the battery while it's in the drone one of those ways? Here's the answer.

According to DJI representatives, you cannot charge a DJI Air 2S drone's battery via USB-C. The drone's USB-C port is designed for data transmission and syncing purposes only. This also means that the battery must be removed from the drone before it could be charged.

Some drone owners (understandably) may not be used to this. The DJI Mini 2, for example, can be charged by directly connecting the drone to a USB charging cable. This draws out the charging time by a bit but is convenient nonetheless.

On the other hand, the DJI Air 2S sports a larger, more power-hungry battery. This can be seen as the main reason why DJI didn't make the drone's USB-C port capable of charging.

You might be wondering: when *exactly* will you be using the USB-C port then?

Its purpose is to facilitate a connection between your drone and your PC. This allows you to copy all of the pictures and video footage you've shot without having to use an SD card reader.

Can you charge DJI Air 2S with a power bank?

Another charging method that's worth exploring is using a power bank. This method is a *lifesaver* for pilots always on the go. But the question is, can the Air 2S even be charged with a power bank? Here's the truth.

You can charge a DJI Air 2S with the right type of power bank. This refers to power banks that are specially designed to charge Air 2S batteries or have suitable (100-240V, 50/60Hz) AC power outlets. Alternatively, regular USB power banks can not charge an Air 2S at all.

It's important to note that DJI doesn't recommend the use of any non-official power banks. So there *is* a slight risk that you'll be taking on regarding the health and longevity of your batteries.

At the same time though, a sizable section of the drone community is thoroughly impressed by the convenience of power banks and swear by their reliability.

One popular model is the Smatree SP160 charging station. It's high-capacity, portable, and can charge two Air 2/2S (and only Air 2/2S) batteries simultaneously.

Another power bank that you can use is the Bluetti AC50S. It has two suitable AC power outlets and can fully charge your Mavic Air 2 Intelligent Flight Battery over ten times!

But here's something to remember: the smaller USB power banks won't be of any help to you in this case.

They're very popular and a lot easier to carry around. But, as I've already covered, the Air 2S battery cannot be charged via USB. So if you *do* want to use power banks as a viable charging solution, you'll have to pick from the bulkier options.

https://www.youtube.com/watch?v=x-Wt7JRDmYc

How do you know when your DJI Air 2S battery is fully charged?

You now know how to start replenishing your drone battery. But when exactly are you supposed to halt the process? DJI drones have a mechanism to indicate a fully charged battery.

You can know when your DJI Air 2S battery is fully charged by keeping an eye on the battery's LED lights. All four LED lights turn off as soon as the battery level reaches

100%. If all four LED lights are flashing, the battery level is above 75% but not 100% at that point in time.

So, the battery level indicating system is LED-based. This means that you'll only be getting an *idea* of what level your battery's at and not an exact percentage.

It's super easy to interpret the LED lights. Each flashing light represents a battery level of 25%. Once the battery is fully charged, all LED lights stop flashing and turn off.

The table below is from the Air 2S user manual. It covers *all* of the ranges your battery level can be in to avoid confusion.

LED1	LED2	LED3	LED4	Battery Level
☼	☼	○	○	0% < Battery Level ≤ 50%
☼	☼	☼	○	50% < Battery Level ≤ 75%
☼	☼	☼	☼	75% < Battery Level < 100%
○	○	○	○	Fully Charged

Note that this information only applies to batteries that are actually being charged.

A battery that's detached from its charger indicates its battery level differently. For instance, four solid green lights indicate a battery level greater than 88%. The LED lights start to blink and then turn off, one after the other, as the battery depletes.

How long do Air 2S batteries take to charge?

DJI drones have different charging times. Here's how long DJI Air 2S batteries take to go from 0% to 100%.

DJI Air 2S batteries take up to 1 hour and 40 minutes to charge through a single battery charger. Similarly, DJI's charging hub takes up to 5 hours to charge three Air 2S batteries. These charging times are, however, subject to mainly battery temperature and charger quality.

It's pretty well-known that heat and batteries don't go well together. So if you've plugged in your batteries in a *hot* setting where their temperature is above 30℃, you may also notice longer charging times. This is a result of reduced efficiency.

Another factor I've mentioned is charger quality. The deal is that cheaper chargers also come with low output quality. In slightly technical terms, they produce more *noise*. This, in turn, may cause slower charging.

Needless to say, you should always opt to use DJI-approved accessories — particularly the 38-watt charger that already comes with the standard Air 2S package.

Can you overcharge the DJI Air 2S battery?

You can't really monitor your battery's status for the entirety of its charging process — even if you know how long it usually takes.

But has DJI recognized this and included a protection feature? Take a look.

You can not overcharge the DJI Air 2S battery. This is because all DJI drones feature different versions of the Intelligent Flight Battery. These batteries have overcharge protection built into them, which means they automatically stop charging once they hit the 100% battery level.

So whether you're fast asleep or just not there to unplug your Air 2S battery, it's perfectly fine to leave it charging for a few more hours.

Here's another fact you might find useful: once your DJI drone battery automatically stops charging, it won't restart charging unless you disconnect and reconnect the charger.

This defeats the purpose of intentionally leaving your batteries plugged in *forever*. But in all honesty, it isn't particularly safe to do so anyway — due to the minute chance of something going wrong.

Your DJI Air 2S battery also comes with numerous other features. These include:

- Overcurrent Protection
- Over-discharge Protection
- Short Circuit Protection

In combination, these features make DJI's drone batteries *far* more reliable compared to batteries from cheaper drones.

How long does the DJI Air 2S battery last?

Since DJI drones come in all sorts of sizes with differing features, their batteries don't last the same amount of time on a single charge. But on the flip side, most DJI batteries last for a similar number of charge cycles over the long term.

Here's what the numbers are for the Air 2S battery regarding its longevity.

According to DJI, the Air 2S battery lasts for 31 minutes of flight on a single charge. Some pilots may find their times to be a little shorter. The true value is dependent on the mode used and the amount of wind resistance. Over the long term, the battery can offer around 300 charge cycles.

Of course, the last part is dependent on taking good care of your battery (more on that up next). DJI officially rates the battery for 200 charge cycles but most pilots can (and have) safely pushed it well past that mark.

You may also be wondering what the “true value” is for most pilots. And to be honest, the realistic times are almost always shorter than what’s advertised — the culprits being rough conditions and more battery-intensive flying styles.

According to my experience, you can expect your Air 2S battery to last for a maximum of just around 22 to 24 minutes of flying time.

One interesting thing to note is how the Air 2S has a shorter flight time compared to the Mavic Air 2. To be specific, there’s a 3-minute difference between their maximum times according to their specification sheets.

But if both drone models use the same battery, why is the Air 2S falling a bit short in this comparison?

Well, circling back to the start of this section, it all comes down to size. The DJI Air 2S weighs exactly 25 grams more than the Mavic Air 2. The heavier drone draws more current from the same battery, which consequently results in a shorter maximum flight time.

If you’re interested in knowing where *other* DJI batteries land on the longevity leaderboard, check out my article on how long DJI batteries last. I made detailed comparisons and also drafted up a full table for easy viewing.

Conclusion - How do you take care of DJI Air 2S batteries?

This wouldn’t be a complete guide if I didn’t cover the precautionary measures you need to take to ensure your battery’s health. Take a look at what these measures consist of.

You can take care of DJI Air 2S batteries by following official and expert advice on usage, storage, and maintenance practices. These include charging them only when they're cool (ideally 22-28℃), discharging them to at least 30% before recharging, and storing them at a battery level of 40-60%.

I feel that it's important to make one clarification: the first point doesn't imply that you should accelerate the cooling down process using, for example, an air conditioner. This may internally damage your batteries. Instead, let their temperatures fall naturally.

The last point (on storing them) prevents cell damage. In addition to using that trick, make sure you cycle your batteries every three months and use them equally (instead of leaving one fresh).

There are *a lot* of techniques you'll have to use to keep your batteries in immaculate condition. But the truth is that the average pilot doesn't need to delve into all of them.

As long as you're following DJI's guidelines and actively taking on a bit of (proven) advice, you can have faith that your batteries will stand the test of time.