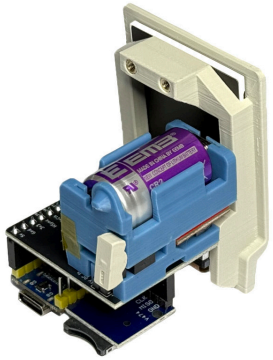
pico-mac-nano

Battery Power Module User Guide



Thanks for your interest in pico-mac-nano and the optional Battery Power Module.

The important stuff
This battery module is a hand made, personal hobby project, not a commercial product. It has not been tested against any recognised safety standards so **PLEASE** read and follow these safety instructions and use it at your own risk :

- **Never leave unattended while powered on.**
- **Never turn on while the pico-mac-nano is connected to USB power.**
- **Never leave close to highly flammable items while powered on.**
- **Never attempt to re-charge the included battery. It is single use, non-rechargeable.**
- **Don't try to disassemble the battery module. If you do, never use it again.**
- **Avoid leave your pico-mac-nano running from the battery module for more than 30m.**

The basics
Every pre-assembled pico-mac-nano we have supplied has a 2-pin connector inside for the optional Battery Power Module (BPM) which allows you to power it up without USB power. It takes a CR2, non-rechargeable lithium battery which is commonly used in cameras, and incorporates a tiny rocker switch which is presented on the rear of the Mac.

If you ordered a BPM at the same time as your pico-mac-nano, we would have pre-fitted it for you so all you need to do is press down the switch. The rocker switch is intentionally recessed to prevent it being turned on by accident.

If you purchased the battery power module separately or you need to change the battery, then you will need to open up your pico-mac-nano. It's much easier to show the procedure than document it so we put a video on our YouTube channel.

Did we mention the battery is non-rechargeable?
As mentioned above, the battery used is non-rechargeable. Attempting to re-charge it is a fire risk. The pico-mac-nano internal circuit board does include basic protection for the battery in the event you accidentally plug in USB power at the same time, but please avoid doing so.

Please be aware that pico-mac-nano is a gadget and not intended for serious use. Prolonged use on battery power is not advised. Use of a keyboard and mouse on battery power may work if the devices are low enough power, but that will drain the CR2 battery much faster.

Going wireless
It's very cool being about to boot up your tiny Mac in the palm of your hand without a USB power cable but to use it you still need at least a USB mouse, right? Well no, actually. You can use a 2.4GHz wireless mouse making the Mac truly wireless.

Although our testing shows that many wireless mice don't for some reason, we have identified a low cost one that does work and uses a tiny USB received which can be plugged into the pico-mac-nano USB-C port using a USB-A to USB-C adapter. This is available on our parts store here.

For the nerds
Want to know a bit more about what's inside? The module incorporates a battery holder for a single 3.0v CR2 **non-rechargeable** lithium battery, a voltage boost/regulator board to take the voltage up to 5v, a tiny microswitch and a little rocker piece that operates the microswitch and is presented on the rear of the Mac.

The CR2 lithium battery was chosen because it was small enough to fit in the case, it had a very high power capacity for its size, and because it could provide a sustained current sufficient to power the pico-mac-nano. The other obvious contender was the half AA cell but these are designed for long term low current application and could not provide sufficient current. Coin cells would have been much lower capacity.

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