



APU4D4 Supply voltage range

a_px Apr 1st 2022



a_px

[Beginner]

Apr 1st 2022

Hi, what is the input supply voltage range for the APU4D4? The spec says 12 volts, but does not specify a range. If I supply 15v will it fry the board?

Thanks,
Alan

Likes Received: 2
Posts: 7



rahlquist

[Beginner]

Apr 5th 2022

I would not advise exceeding 12v. That said based on p14-15 of the schematic.
The 3.3v reg APW8713A by spec can take up to 28v in
The 5v reg APW8715a by spec can take up to 28v in
But that is just 2 components.

Without digging more I am willing to bet it was designed with parts with a bit of range. The problem is will it produce the proper output with a higher input? Not sure.

Posts: 21
If it were me I would make certain to keep it at 12. I am assuming you have an application where it would be easier to feed it more. A cheap \$10-20 buck/boos converter could take 8-40v in and turn it into 12V within 1.5% or tighter if you dig for a good one and pay a smidge more. If you were looking to do POE then there are splitters that will get it down to 12v/2a just like the original AC adapters.



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[Beginner]

Apr 6th 2022 +1

Hi, thanks for the reply. The reason is I am intending to use this in a vehicle application and the vehicle voltage is likely to vary from 11 to 17 volts. With similar applications I have used vehicle laptop supplies to stabilize the voltage, but in general these have an output range of 15-21v. I will try to find a 12v device.

Thanks,
Alan

Likes Received: 2
Posts: 7 rahlquist likes this.



rahlquist

[Beginner]

Apr 6th 2022

Some devices are more tolerant. With the shortage of parts for these boards and them being generally hard to get now..

Something along this line may do what you need. <https://www.amazon.com/Converter-Transformer/dp/B08D8L79TS/>
(<https://www.amazon.com/Converter-Automatic-Regulator-Waterproof-Transformer/dp/B08D8L79TS/>)

Posts: 21
That's not a referral or a recommendation, just a suggested starting point. With buck to lower voltage and boost to raise it when it drops (like during cold cranking) it may protect the device from;


Key on (+12v), start boot-->engine crank, voltage(+10v) drop, APU shuts back off>post crank(+13.8-14v) power up again.

Good luck! These apu would make a great mobile vehicle AP/Router.



a_px

[Beginner]

Apr 7th 2022  +1

Thanks. I obtained one of these which seems to do the job: <https://uk.rs-online.com/web/p/car-chargers/2431658> (<https://uk.rs-online.com/web/p/car-chargers/2431658>)


I'm also using an OpenUPS2 device in the power line. This takes care of engine crank and eco engine cut-out events, but passes the voltage straight through otherwise. <https://www.mini-box.com/OpenUPS2> (<https://www.mini-box.com/OpenUPS2>)

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2

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7

 rahliquist likes this.