Club Show and Tell

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Adding universal charging port to LiFePO4 Battery

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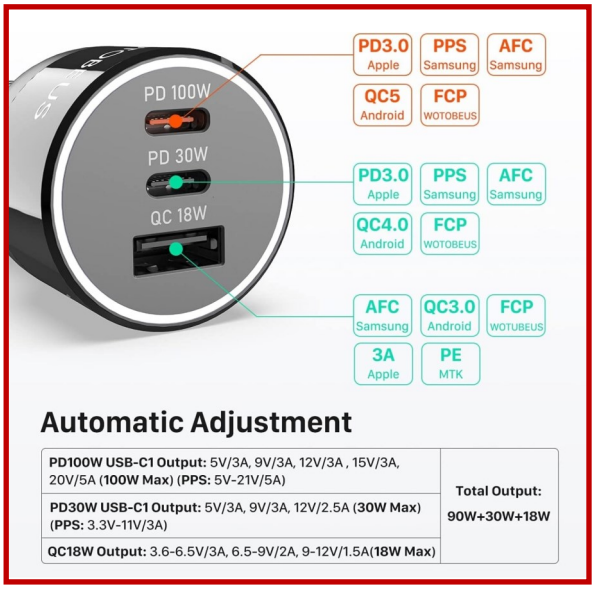
KC1IKA, Smitty, 03-28-2023

I have been using this battery to power my Lab599 HF Radio due to it's size and power rating. I also use it for portable 12V power for other items such as portable fans. I wanted to add a universal charge adapter to it so I can charge anything from my phone to my laptop. This is what I came up with and will only take a few hours to build. It is modular and attaches to the battery with Velcro straps so I can move it between my other batteries, I own four of these. You can also use the Power Pole connector to plug it into any power source with a power pole and skip the battery purchase. I purchased all of the parts except for the Anderson Power Poles through Amazon.

Features:

- Lithium Iron Phosphate battery, 6 Amp hour, 12.8V with built in switch and display
- Ports for USB 5V, DC 12V, 9V, and 6V built in
- Added 12V accessory socket
- Added Anderson Power Pole connector
- Added 12V barrel connector (shown in photo above but not in photo of parts required)
- Added Charger for multiple devices (see picture to right)

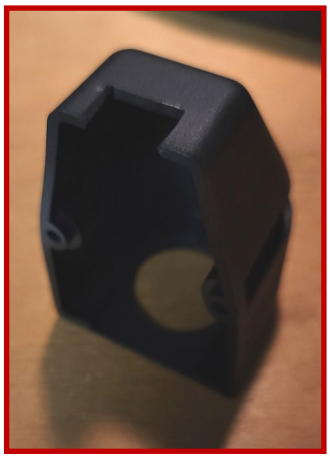


Parts required:

- Talentcell LF4106 12V LiFePO4 Battery Pack (1)
- WOTOBEUS 120W USB C Car Adapter (1)
- Anderson Power Pole 30 Amp pins (6)
- Anderson Power Pole housing, Black (3)
- Anderson Power Pole housing, Red (3)
- MILAPEAK (Real 18AWG) 10 pairs 12V 5A DC pigtail
- Polarlander 12/24V Outlet (1)
- Velcro strapping (as needed)
- 2 part epoxy to attach outlet to board (as needed)
- Rigid board to secure outlet to (about 3.5"x 6.5")

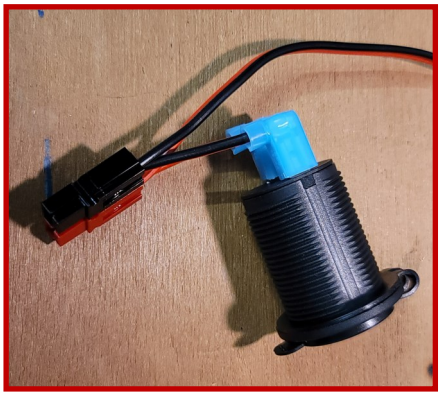
Step 1:

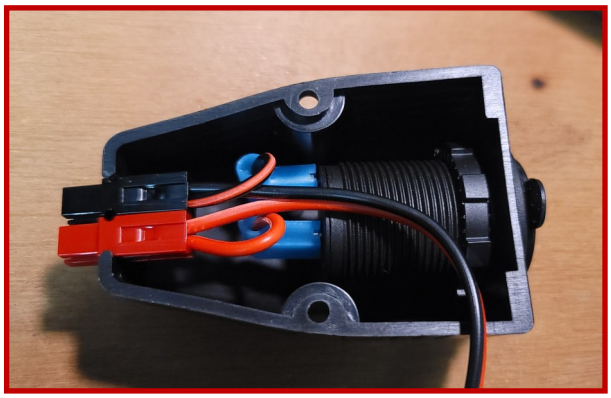
Use a nibbling tool or file to make notch in the rear of the power port to fit Anderson Power Pole connector. The notch should fit the groove in the connector. Also cut a notch for the 12V wire to feed out the front of the power port (not shown).



Step 2:

Using the cable that will plug into the barrel connector on the front of the battery, crimp the two connectors from the power port and the Anderson Power Pole. You can cut 1.5” from the cable to make the short connection from the Anderson to the power port. Assemble as shown paying close attention to polarity of connections, red to +, black to -.



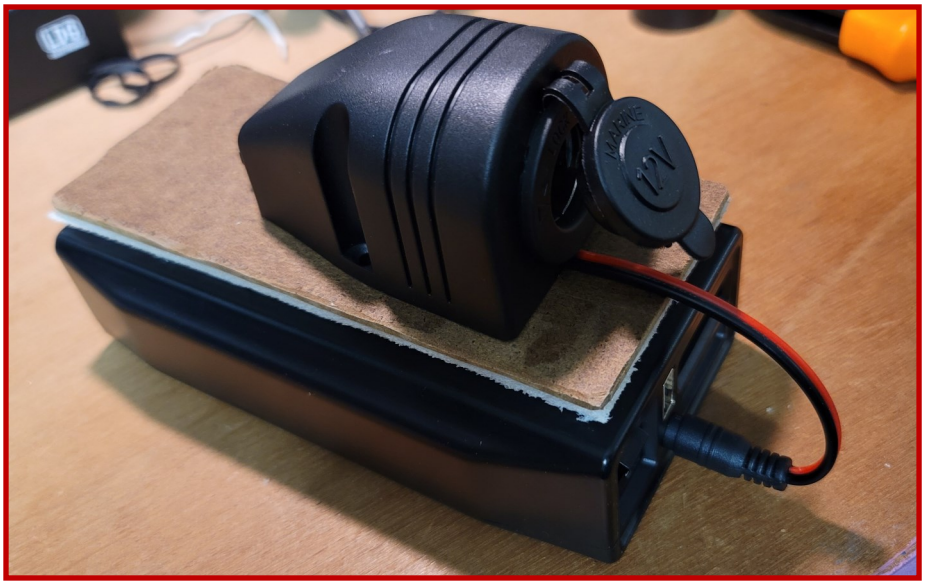


Step 3:

Test the assembly by plugging in the cable and turning on the switch. The display should light up as shown. Then plug in the USB plug and it should light up as shown. If it doesn’t work properly, check your connections, red to +, black to –.

Step 4:

Cut your mounting board to fit then epoxy the power port to your board. Make sure the wires are in the notch at the front and the plug will reach the battery port



Step 5:

Using the other half of the pigtail pair, crimp an Anderson Power Pole connector on the tinned end and plug it into the Anderson connector on the rear of the outlet. This will allow you to use the 12.8V outlet of the battery without unplugging the assembly. My power cable to my Lab599 radio uses this connection while my tablet is plugged into the charger port.

Step 6:

Use the Velcro straps to attach the board to the battery and enjoy!

73, Smitty, KC1IKA