# GARS October 2023

Show and Tell

#### Presenters

- Paul Kelley W4KLY
- Bill Cohron WD4AMC
- Kevin Igarashi-Ball W4KIB
- Mark Prichard KN2TOD
- Kevin Scott K4GTR

## Paul Kelley – W4KLY

Fold-up support system for POTA or other operations

### Bill Cohron – WD4AMC

Portable Solar Power Distribution Kit





# DIY LiFePo4 Battery Box

Kevin Igarashi-Ball / W4KIB

#### Problem

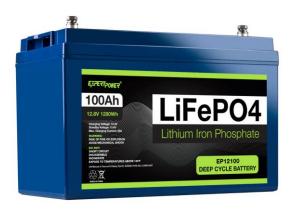
- I'm an avid camper, hiker, and backpacker
- I'm a ham
- I've got a lot of USB chargeable devices
- I have 12 volt compressor fridges for overlanding and camping









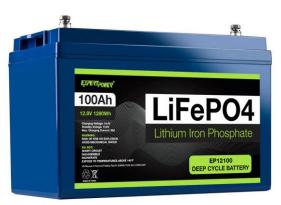












\*\*Premade batteries generally haveadditional padding and follow standard sizes

























## My battery box

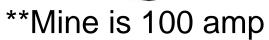
















#### Pros

- More capacity in same package size
- Additional safety feature overall circuit breaker and individually fused circuits
- Customized USB outlets and powerpoles are sized for my exact needs
- Show off factor

#### Cons

- Minimal to zero cost savings (if buying Grade A cells)
- You need to know what you are doing; you are dealing with electricity after all
  - Minimal
    - Understand series vs parallel and how to top-balance
    - Consult a wire size / amp chart and oversize

#### Resources

#### Suppliers

- <a href="https://www.18650batterystore.com/">https://www.18650batterystore.com/</a> LiFePo4 cells (local Stockbridge)
- https://batteryhookup.com/products/12v-lifepo4-smart-bms-w-low-tempcutoff - BMS (get the optional bluetooth module
- https://www.amazon.com/65W-12V-USB-Outlet-Laptop/dp/B09YTWNCM2 65w USB PD Panel Mount
- https://powerwerx.com/panelpole-panel-mount-powerpole-black-dual Powerpole Dual Panel mount

#### - Videos

- https://youtu.be/uN1h0XIpfTg?si=xaRvXBZFP7wMOJbD Building a DIY LiFePo4
   Battery Box
- <a href="https://www.youtube.com/@WillProwse">https://www.youtube.com/@WillProwse</a> One of the go to YouTubers on batteries and solar

### Mark Prichard – KN2TOD

• Pi-Star Mods

### Kevin Scott – K4GTR Five Output DC Switch with Anderson PowerPoles





Price \$12.99





Nilight 5 Gang 3 Pin Rocker Switch Panel Waterproof On-Off Toggle Switches for Car Vehicle Trailer Truck SUV Marine Boat RV Ship 12V/24V 20A,2 Years Warranty

Visit the Nilight Store 4.6 ★★★★★ 2,099 ratings | 31 answered questions 100+ bought in past month

-11% \$1296 List Price: \$14.49

Thank you for being an Amazon customer. Get \$50 off: Pay \$0.00 \$12.96 upon approval for Amazon Visa.

Plastic box - \$5 16 Gauge Zip Cord - \$6 Grounding Clamp - \$4

#### Plus a lot of Accessories

- Y-cables
- Extension cables
- 12 Volt Lights
- Battery adapter cables
  - All batteries have two sets of Anderson PowerPoles; one for charging, one for discharging



# Actual Use





### Six Output DC Switch with Anderson PowerPoles

• Or if you prefer to buy: From ebay - \$60

12V 45A Compatible With Anderson Powerpole Power Distribution 1 input-6 output

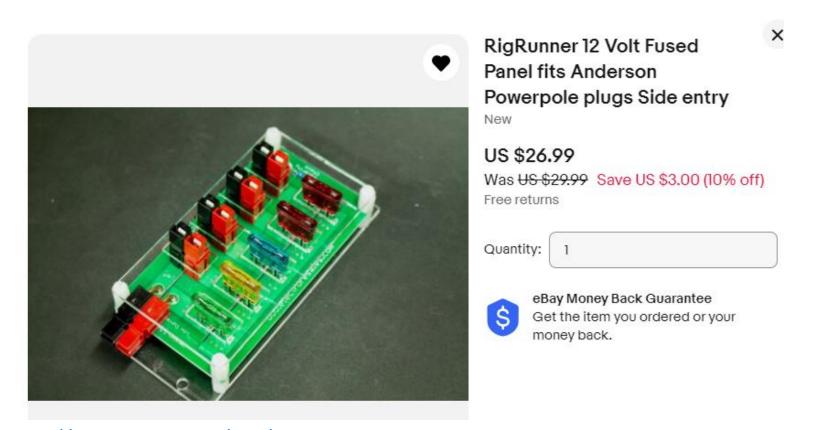


thecrazyham (5735)
100% positive - Seller's other items - Contact seller

https://www.ebay.com/itm/185348739074?hash=item2b27a 55002:g:HJcAAOSwLf9iNp98&amdata=enc%3AAQAIAAAAOG PJMDZT7jL2QplfbLigEql8za5nClL5ybJ3Qk%2Fm%2Bn7kN%2Fr KSsyuyUdM9YK%2Ftv%2FpaLN3j2O20tx%2BKf7SAvbvx9z1V WVHTM%2F6gktU40n8l4v%2BQxCPlvnFqLiRFjEPjmzewnTT4u gSOB5vxsZiOAdeJ3dsa4hDCOIAkcDFBovM8aEzkAUEFIv%2Bt0 qQE%2BqOcX%2FYq1E5jRJivIVjJrr5GujRJhi9dNzGBRVWK0cLe NaZiFKqL4ou9kMapoQBXYqSQ%2FdJBumSy1ODEZKQ0Jof7SR DOko%3D%7Ctkp%3ABk9SR6TSi5HgYg



## Or if you prefer a non-switched coupler



https://www.ebay.com/itm/153147334217?hash=item23a84ade49:g:Wlw AAOSwhhFbe3cD