

<http://www.HomeBrewPower.co.uk>

Building A Battery Bank

Batteries!

In this section I will try and explain some do's and don'ts of selecting / obtaining your batteries, which in my opinion are going to be the most important part of your system, after all, they are going to store the fruits of your labour Electricity)

Please note, the batteries you use are ultimately going to make or break your homebrew system, if at all possible, get the best you can possibly afford!

The batteries to use are ones that are maintenance free (SLA or Sealed Lead Acid) they should be Deep Cycle batteries designed for deep discharge i.e. Marine batteries, Golf cart batteries or Electric vehicle batteries.

Try and avoid if possible car / van batteries, they are Wet batteries, not designed for deep cycle charging & discharging plus they Gas when being charged, the gas is extremely flammable and ventilation will be required if you opt for these types of batteries, you have been warned!

The best batteries I could recommend would be the USA brand called Hawker SLA's, they out rate any battery I know of and everyone raves about them, me included. They are however expensive but below I am listing you some suggestions for obtaining batteries that are in good condition for a good price or in my case for free!

Battery Sources

1. Commercial fire alarm panels
2. Central battery systems for emergency lighting systems
3. Uninterrupted power supply units
4. Golf courses (With electric golfing carts)

Further battery sourcing information

You will have good luck contacting the likes of commercial electrical contracting companies, look in the yellow pages for ones near to you, ask to speak to one of their Electrical Engineers, tell them a little about what you are doing and ask them if they have any batteries coming out from upcoming

refurbishments or contract jobs they currently have secured. Companies like this have to pay to dispose of batteries and will be more than happy to drop them off for you as and when they come across some, which no doubt will be sooner rather than later!

Any large commercial company with sizable premises will require to have their batteries for Fire alarm, UPS, Emergency lighting systems replaced at least once every 3 years, these batteries will have been properly maintained, charged at the optimum rates and more than likely never deep discharged in there short life, this means tip top batteries for free!

Any further questions you have on batteries molesmail@gmail.com I will do my best to help you out.

My Homebrew battery bank



All the batteries you see above in my battery bank were acquired for nothing; they are all in great condition and as new!

Details:

16 x Hawker SBS 60's @ 12VDC 60AH Deep cycle SLA's

10 x Yuasa's @ 12VDC 48AH Deep cycle SLA's

All wired in parallel to provide 12VDC @ 1440AH

Choosing a battery bank operating voltage???????

I will not go into much detail on this subject as it is a massive debate amongst likeminded people, 12, 24 or 48VDC?

Below are the pros and cons of each system, please choose your own to best suit your own needs.

12VDC System

- Current draw can be huge
- Safe to work on without risk of shock
- Voltage drop from batteries to inverter mean large cabling
- Vast amount of 12VDC accessories available for your system

24VDC System

- Better current draw than 12VDC system
- Safe to work on without risk of shock
- Better voltage drop characteristics than 12VDC system
- Only commercial wagon accessories available

48VDC System

- Lowest current draw compared with other systems
- Risk of electric shock when working on live system
- Lowest voltage drop characteristics
- Hard to source electrical accessories for 48VDC systems

A note on DC!

DC stands for 'Direct Current' it is a pure form of current that unlike AC 'Alternating Current' does not fluctuate.

When working on any electrical system, safety must be of paramount at all times but even more so with DC systems, if you where to get a shock from a DC system 48V and above, your muscles will react by seizing, just like a cramp, your muscles will contract and lock, the current will block out all signals from your brain which will render you unable to let go. I have been there and walked away, DO NOT under any circumstances take any chances, and my bet is you will not be as fortunate as I was.

Electricity can and will KILL, please play safe.