

Thank you for buying a EGON product.

We design these products for a long working life using the best components we can find. We also design them to be easy to install, so that anyone can easily do a high-quality job.

Please read the guides and safety instructions before you begin your installation. They're important.

Have fun and enjoy your installation!

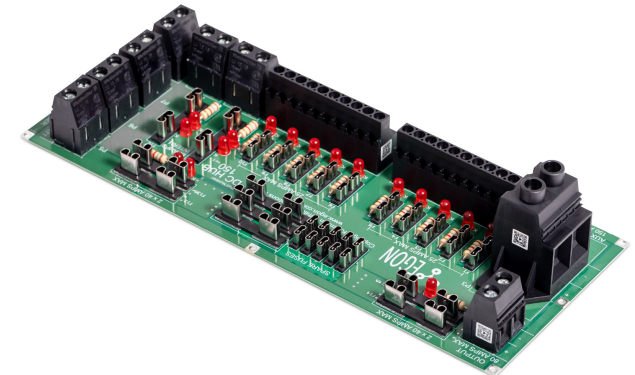
Best wishes from the inventors,  
Heiner Klarmann and Andrew S White.

Scan this code with your device to access the installation guide web page

<https://www.egon.com.au/dc-hub/instal>



## DC-HUB 2.1



## INSTALLATION and OPERATIONS MANUAL

**Contains some serious stuff.**

**If you feel you don't need to read this, that might be a mistake. Guys!!**



## WHAT IS DC-HUB?

The EGON DC Hub greatly simplifies and standardises the installation of a DC electrical system into any vehicle, trailer, boat or tiny house project. All the expert knowledge needed has been integrated into a circuit board. All you need to do is to connect the cables to the right connectors on the circuit board. The only tools needed are cable cutters and screwdrivers. Crimping connections is not necessary. The high quality screw terminals on the circuit board act like crimp connections but instead of crimping they use a screw actuated lift / crimp mechanism which guarantees highest connection quality. Paired with numerous installation example diagrams and a how to video library it has never been easier to install your own electrical DC system. The EGON DC-Hub is compatible with 12V and 24V DC systems. It also simplifies fault finding by bringing on a red LED to indicate a blown fuse for the connected circuit.

### DC-HUB 2.1

- ✓ Standardises and simplifies DC accessory installations.
- ✓ Improves reliability.
- ✓ Easier diagnostics.
- ✓ Reduces faults
- ✓ Time-saving and money saving during installations.
- ✓ Standardise installations means ease of fault finding and repairs.
- ✓ Little or no expertise needed to install and fault trace or even repair.
- ✓ Suitable for multiple battery installations.
- ✓ Suitable multiple charge input devices.
- ✓ Lower voltage drops means improved equipment efficiency.
- ✓ Adding additional accessories made far easier, simpler and saves time
- ✓ Does not rely on external communications or devices to use or maintain.
- ✓ Extremely robust and reliable.
- ✓ Suitable for any house (aux) battery bank size.
- ✓ Suitable for 12V or 24V applications.

## CONNECTOR EXPLANATION

The house (aux) battery (AGM, LiFePO4, flooded Lead Acid, etc...) connects to connector P3 and needs an external 150A fuse at the house battery bank. Any size battery bank can be used. The DC-Hub is not limited to a certain Amp Hour size. The start battery gets connected to connector P8 and needs an external fuse at the start battery of your vehicle.

Solar panels can be connected to connector P7.

Both connectors P8 & P7 positive cables are linked to connector P6 to simplify the connection to a DC/DC charger with integrated MPPT controller.

All ground connections of every single connector are linked on the circuit board.

A DC/DC charger with integrated MPPT controller (Redarc BCDC range, Enerdrive DC/DC, etc...) can be connected to connector P5 with charge output and ground and to connector P6 for solar and start battery input.

All loads (like compressors, fridges, lights, charge ports, etc...) can now be connected to the remaining connectors and will be automatically connected to the house battery.

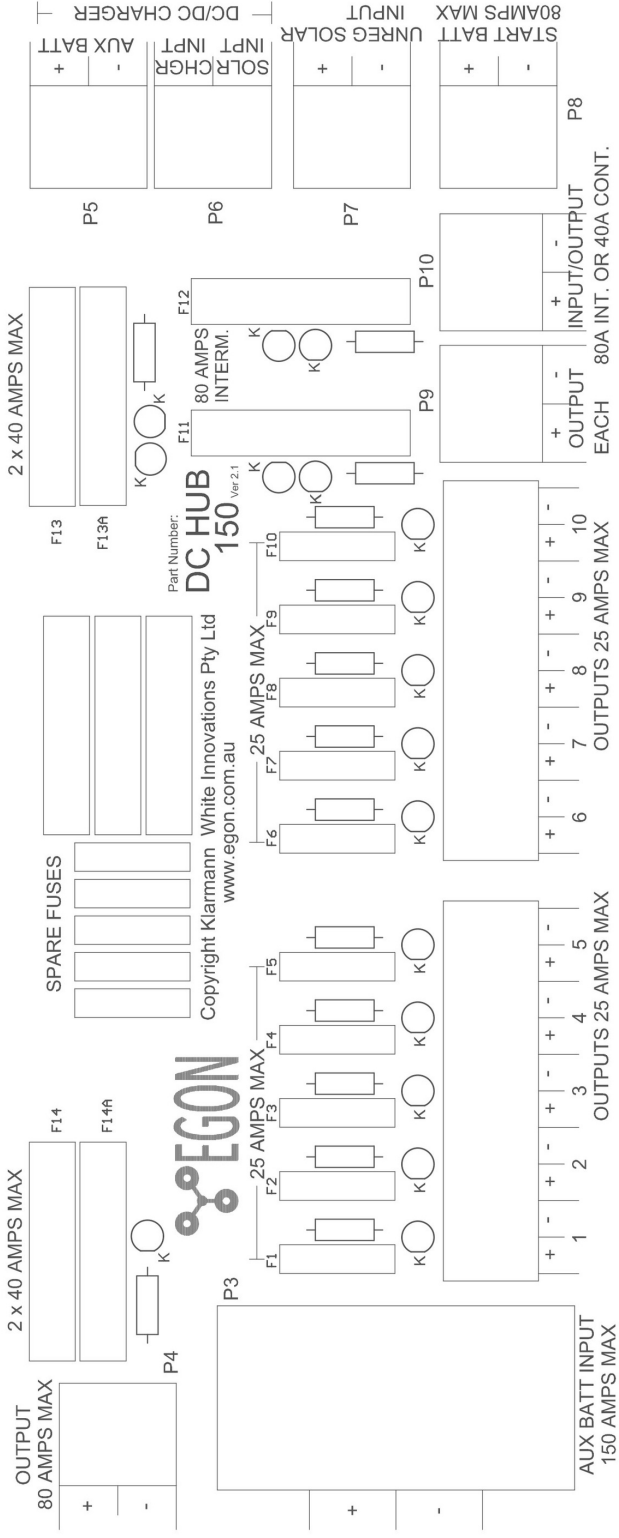
### ATTENTION:

Connectors P4 & P5 can handle a constant 80A load. To prevent the Maxi Fuses from overheating please use 2 Maxi Fuses.

Example: When connecting a DC/DC charger to connector P5 that requires a 60A fuse insert 2 x 30A fuses into fuse holder F13 & F13A.

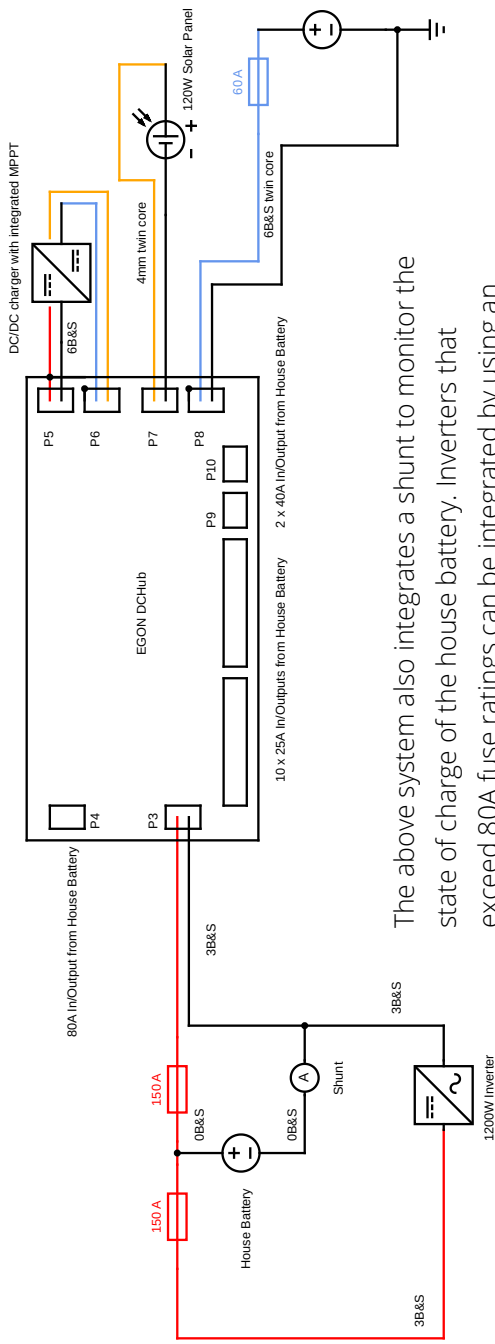
Do the same with connections to connector P4 and use the fuse holder F14 & F14A. Connectors P9 & P10 can only handle 40A constant load or 80A intermittent load. Currents of 40A must not be exceeded for more than 10 minutes at a duty cycle of 50% (10 minutes on / 10 minutes off) to allow the contacts to cool.

### DC-HUB 150 vs 2.1 layout



### Connection Example: Standard DC system

For a standard DC system with mid-sized inverter, single House battery and DC/DC charger with integrated MPPT controller you can use the following connection example. Red cables are connected to house battery. Blue cables to house battery. Yellow cables to unregulated solar.



The above system also integrates a shunt to monitor the state of charge of the house battery. Inverters that exceed 80A fuse ratings can be integrated by using an external fuse from the house battery as shown above. Twin ANL or twin Mega fuse holders work well for external high current fuses. Please also see the Egon videolibrary for connection examples.



## Tightening Torque Settings & Connector Maintenance

**It is extremely important to tighten the screw terminals on the DC Hub connectors properly. Please use the following torque settings to tighten the connectors:**

- 150A connector: 3.5Nm
- 80A / 40A connectors: 1.5Nm
- 25A connectors: 0.6Nm

Ensure all unused clamps are tightened to prevent rattling from the circuit board.

In high-vibration applications make sure you check the screw tensions as part of your regular vehicle maintenance schedule.

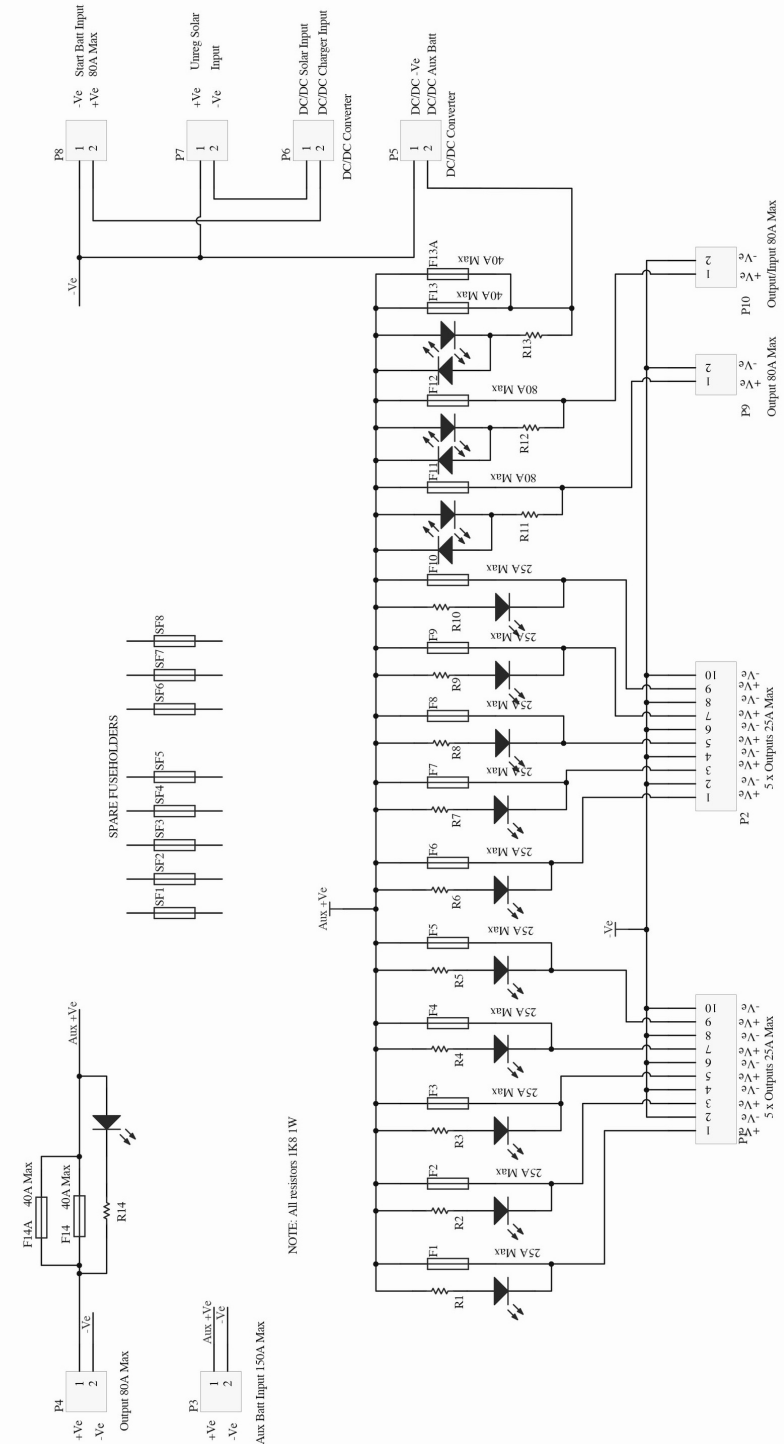
## Cable Ratings and Fuses. You don't wanna get this wrong

The following chart can be used as a guideline for picking the right cable size for your application. We also integrated a guide for picking the right lug and heat shrink size. Never exceed the amp rating for a cable. Always use a fuse that is smaller or equal to the maximum current carrying capability of the cable that you are using. Never exceed the manufacturers recommend fuse rating for the appliance you are connecting.

Cable	Rating	Lug/Crimp	Heatshrink
3mm	7.5A	red	3mm
4mm	15A	blue	6mm
6mm	30A	yellow	10mm
8B&S	50A	yellow	10mm
6B&S	100A	16mm	13mm
3B&S	150A	25mm	19mm
1B&S	200A	35mm	19mm
0B&S	250A	50mm	25mm
00B&S	300A	70mm	25mm
4mm twin	15A	blue	10mm
6mm twin	30A	yellow	13mm
8B&S twin	50A	yellow	13mm
6B&S twin	100A	16mm	19mm

## Circuit Board Schematics

For better product understanding and fault finding we think it is important to integrate the circuit layout of this product. In case you need to do fault finding during installation or in the field.



## FUSE CONNECTIONS

- Fuses are meant to fit tightly in the sockets on the DC-Hub board.
- Do not be tempted to pry open the receiving sockets to make fuses easier to remove or be replaced.
- The tight nature of the fuse in their holders insures minimal voltage-drop.
- If they become loose-fitting, the connection may heat up and voltage-drop and efficiency will be reduced.
- If you find a fuse that is not tight in its holder, we recommended using pliers, gently squeezing the connector before inserting the fuse.
- Pay special attention to the DC-DC charger connection fuse (P5).

## PAY SPECIAL ATTENTION

- To the location of fuses. ALL batteries MUST be fused as close to the battery as possible. This is VERY important! Do not rely on the fuses built into the DC-Hub for this.
- To the size of cables you use. Cables that are too thin can cause heat build-up and reduce efficiency of chargers and accessories by a large factor.
- All connections. We've made connecting cables extremely easy! But one can still get them wrong, so please check your own work. The copper must be clean and enter into the connection cleanly (no bits of copper wire hanging out) and the screw tightened firmly. (see torque settings for guides).
- Fuse sizes. Fuses protect the cables from burning in case of a short-circuit. So fuses must be capable of handling the current required to run the accessory, but NOT MORE THAN 25% of that. Accessory manufacturers will recommended fuse sizes. Don't think its okay to change these! These are provided to protect against fire.
- Car batteries can produce a huge amount of energy, and short-circuit fires cannot easily be put out. Pay attention to your work and stick to these guidelines. If you think you know better, you are fooling yourself and could be putting yourself and your family in danger.

## SUPPORT

Support and additional installation information can be found here: (type these links into your browser window).

Website: <https://www.egon.com.au/>

Email: [support@egon.com.au](mailto:support@egon.com.au)

YouTube: <https://bit.ly/EGONYoutube>.

## SAFETY FIRST

Please read these instructions and guides BEFORE you begin your installation. They will save time, improve performance and keep you and your vehicle/installation safe.

## For more information

<https://www.egon.com.au/dc-hub-instal/>



## Stainless steel mounting bracket (recommended) available separately

<https://www.egon.com.au>