

Instillation guide for a 12v Voltage Sense Split Charge Relay System

Thank you for purchasing this kit from Simply Split Charge.

All of our systems are very easy to install if you follow the simple instructions. You will find all the components you need in the kit. Please have a look at the instructions below and if you have any questions then please contact us. All our kits should always be installed by a qualified auto electrician.

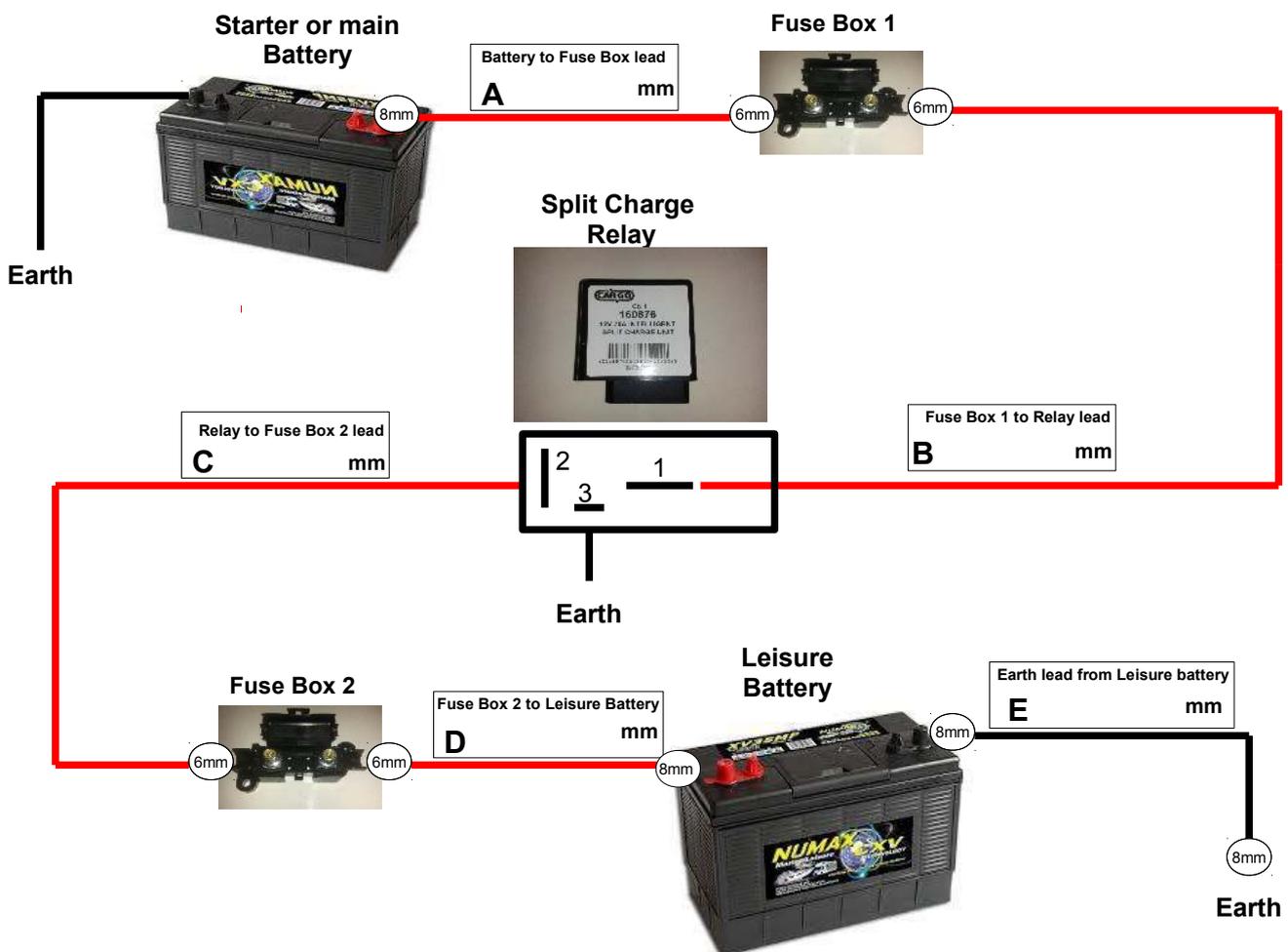
You will need basic tools and fixings to install this kit including

1. Cable cutters for trimming cables to length and Crimping tools, or a soldering kit to fix the terminals on
2. Screwdrivers for trim work and fixing components
3. Spanners for battery terminals ECT.
4. Electrical multi-metre to check everything is working as it should when you are finished
5. A small blow torch to shrink the heat shrink onto the terminals but you manage with a lighter
6. Suitable fixings to bolt on all the components

In your kit you will have received

1. Voltage sensed Split charge relay
2. Cable to connect everything together depending on the size of kit you purchased
3. 2 x Fuse holders and Fuses including spares
4. Terminals
5. cable ties & self adhesive bases to keep it all tidy

Basic wiring diagram for Voltage sense system



Before starting the instillation the first thing you need to do is make a plan of where your going to fit all your components and how long each cable will need to be. Have a look at the diagram above to see the basic wiring diagram of your voltage sensed split charge kit. I have left boxes on the diagram on the left to help you with your measurements.

Things to remember when making your plan are,

That both the fuse boxes need to be positioned as close to the positive terminals of both the starter and the leisure batter as possible. This is because they are fitted to Protect the cables running through your vehicle from either the currant being too high for the cables or that the cable may become damaged and short circuit.

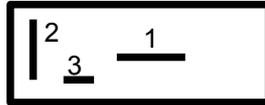
The Split charge relay Can be fitted anywhere between the main battery and the Leisure battery. Remember though the relay will need to be earthed so bare that in mind when choosing the position.

Measure the cable lengths very carefully maybe with a piece of string as once they are cut they are cut. All the ins and outs and ups and downs in a vehicle will soon add up and like ive always been told its always better to measure twice and cut once as it will save you a lot of time and money if you make a mistake and have to order more cable.

1. With the screws provided attach FUSE BOX 1 and FUSE BOX 2 as close to the main starter Battery and Leisure batteries positive battery terminal as you can.
I always try to fix the Fuse Box under 250mm if possible



2. Select where your going to install the Split Charge relay.
There are two 9.5mm terminals located underneath the relay which you will use to connect your starter battery to your leisure battery later



You will also see a smaller 6.3mm terminal that will be connected to the vehicles earth, usually the bodywork so work out the best way to attach this lead. You will have to attach the relay later when all the leads are made up

3. Using the red 42amp cable you can measure, cut and make up your leads for the split charge circuit. Cut each lead as accurately as you can using the measurements from your plan and label them if it will make things easier. (A) (B) (C) (D) with a piece of masking tape

On some vehicles or installations it might be easier to install the leads through smaller holes in the bodywork ECT. before you can connect the terminals.

Trim approx. 10mm of insulation off the end of each lead to attach the terminals.

Please see terminal sizes on the diagram above and using suitable crimp pliers make up your leads

Repeat the above process using the 42amp black earth lead (E).

4. Connecting your leads

Insert any long leads through bodywork and trim until they are all in position to connect to either the relay or the fuse boxes.

First connect lead (D) to the Leisure battery positive terminal and tighten, Connect the other end of lead (D) to Fuse box 2 but leave the 6mm nut loose

Connect lead (C) to Fuse Box 2 insert a 40 amp strip link fuse into Fuse Box 2 and tighten nuts. Connect the other end of lead (C) to terminal (2) on the split charge relay

Connect lead (B) to terminal (1) of the Split Charge Relay and fix the Relay into the vehicle connect the small black earth lead to terminal (3) on the Split Charge Relay to a suitable Earth on the vehicles body or to the negative battery terminal.

Connect the other end of lead (B) to to Fuse Box 1 but leave the nut loose.

Connect Lead (A) to Fuse Box 1. Insert a 40amp strip link fuse into the fuse box and tighten the nuts. Connect the other end of lead (A) to the Positive Battery terminal on the main Starter battery and tighten.

Connect lead (E) to the negative battery terminal on the Leisure Battery and tighten. Connect the other the other end of lead (E) to a suitable earth.

This must be a paint,rust free location to ensure you get a good earth.

Finally using the cable tie bases and cable ties stick or screw on the bases and secure and tidy the leads throughout the kit.

Congratulations you have now installed your split charge kit

Before starting the vehicle to check everything is working its essential you check all the leads are correctly installed and all the terminals are all tight.

You can now Start the Vehicle to check everything is working.

When you start your vehicle the voltage at your main starter battery voltage should rise from 12.5volts to approx. 14.5volts. This is because the vehicles charging circuit usually known as the alternator will start working to charge your main battery.

As your Split Charge Relay Kit is now connected to you main battery this will now allow the to alternator charge your leisure battery as well.

The split charge relay switch will on and allow currant to flow through to the leisure battery when the voltage rises above 13.2volts.

With a multi-metre you can check that the voltage on both batteries are the same to ensure everything is working OK. The voltage in both batteries should be the similar between 14 to 14.5volts depending on how charged both batteries are.

If Both voltages are a similar voltage then your split charge relay kit is working correctly and charging your leisure or second battery.

If they are not the same you will need to switch off the vehicle and check all the connections and leads are fitted correctly, the fuses in both fuse boxes are OK and that the earth for the relay is OK.

You can now go back to the top and start the vehicle again.

If everything is working OK now and both batteries are charging at the same voltage then continue to the next test.

Switch off your vehicle

The voltage at your main battery should then drop back down. When it drops below 12.8volts the relay will switch off isolating your leisure battery. This may take a few minutes depending on how well you main starter battery holds a charge.

When the vehicle is switched off both batteries will be isolated.

This will ensure whatever you are using the leisure battery for you will never drain the main starter battery so you will always have enough power to start the vehicle

If you have a multi-metre you can now check both batteries voltage again. You will probably find them having a voltage if charged between 12volts and 12.8volts and it's OK if each battery is different as it will have its own level of charge and this will also prove that both batteries are now isolated and everything is installed correctly.

If you have any problems with this kit or require any help then please contact us at info.simplysplitcharge@gmail.com so we can deal with any problems you may have as quickly as we can.

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