



▶ Doubling up on the power supply can halve the wires that you need...

Definitely “my bad” as they say.

We have two products in the range that well and truly join the list of useful things that we created.. then totally forgot to talk about or discuss with you.

These are the DCP-SPS12 Power Supply kit and the DCP-SPCB Dual-Supply control board.

Because both of them use the witchcraft of electricity in a simple 3-wire “Negative, Zero, Positive” configuration, they allow clever things to happen, such as reversing the voltage using only 3 terminal single-pole, double-throw switches or simple push-buttons instead of having to use 6 terminal double-pole switches wired as a crossover... And you can also double output voltage for things like solenoid operation with or without CDUs where higher voltages are a real benefit.

In a “brand-related” sense the SPS approach is a winner too - So if you are a user of LGB or KATO solenoids that have only ONE coil that is DC-polarity controlled, here is a way to make life easier!

Electricity is a mystery to some so we’ll avoid long words and algebra, start off it with some simple diagrams, then move on the actual applications around the model railway.

I hope that you find it interesting.

A handwritten signature in blue ink, appearing to be 'DCC Concepts'.





➔ Add ONE wire at the start to remove LOTS of wire later on.

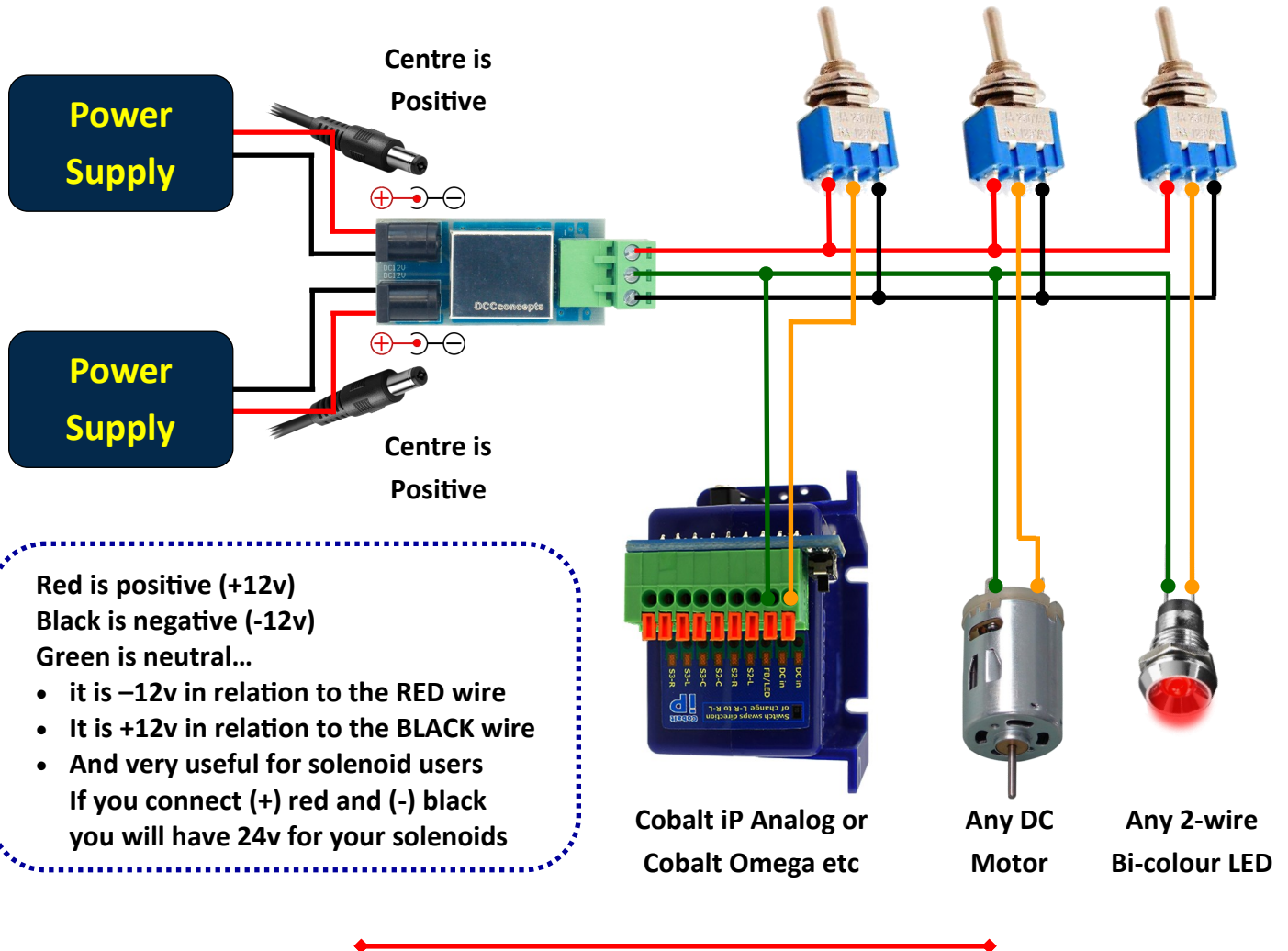
This is the basic diagram. It can be used with a variety of 2-wire DC items!

Important things to remember:

- The power supplies **MUST** be identical, not just the same voltage
- The power supplies should be double insulated... as per the typical laptop or wall-plug type.
- Centre zero plus either outside wire will give the same voltage but swap polarity.
- Using just the two outside wires will double the output voltage at the **SAME** current level.

Simplifying the visuals...

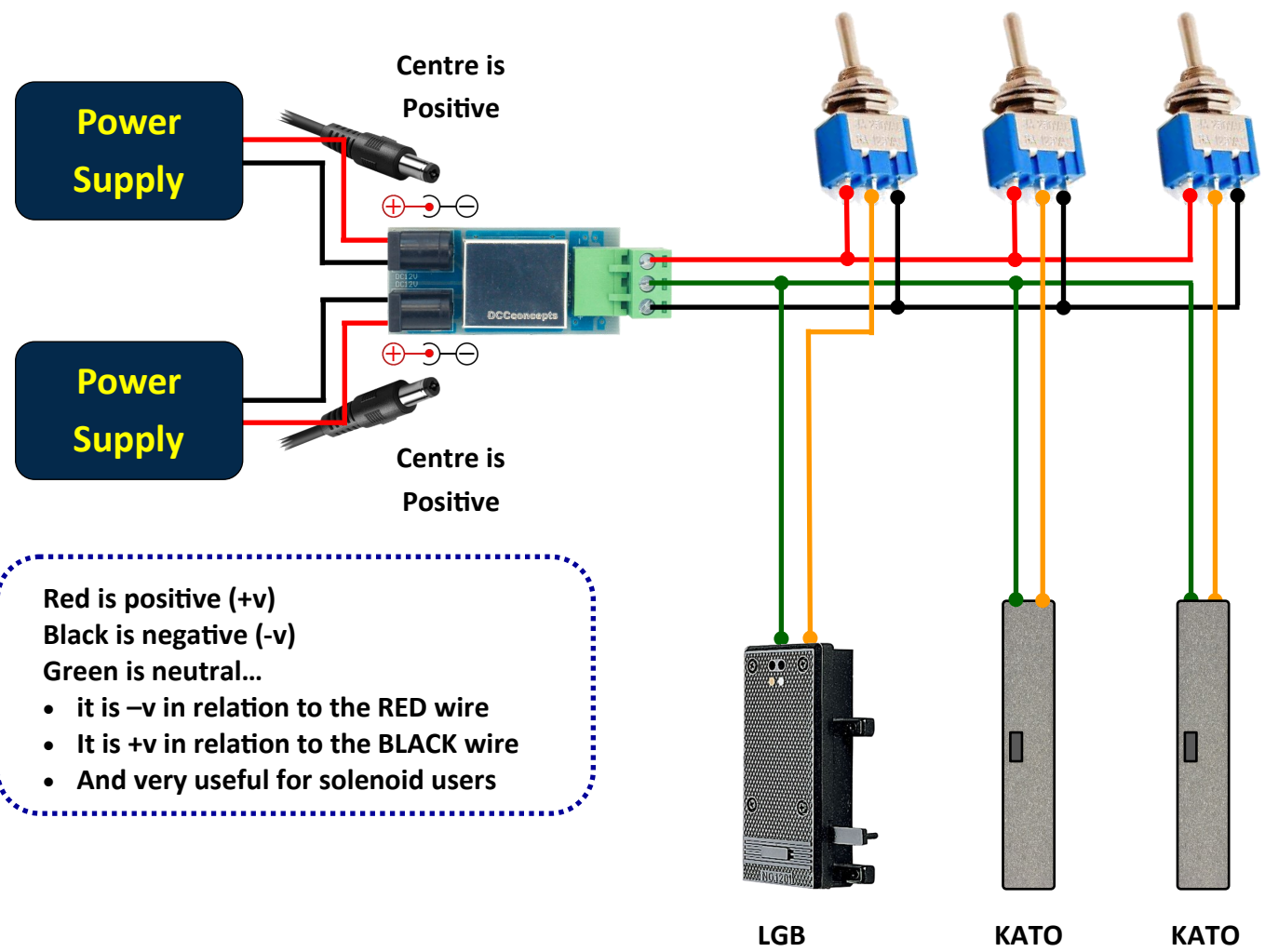
- The green wire becomes a daisy-chained common that is run to all things being powered.
- The Red and black are daisy-chained common wires for all switches.
- The Orange wire is **ONE** wire from each switch to each motor. (The **ONLY** individual control wire)





Using DCP-SPS12 (or the DCP-SPCB) with Kato or LGB ~ any 2 wire solenoid

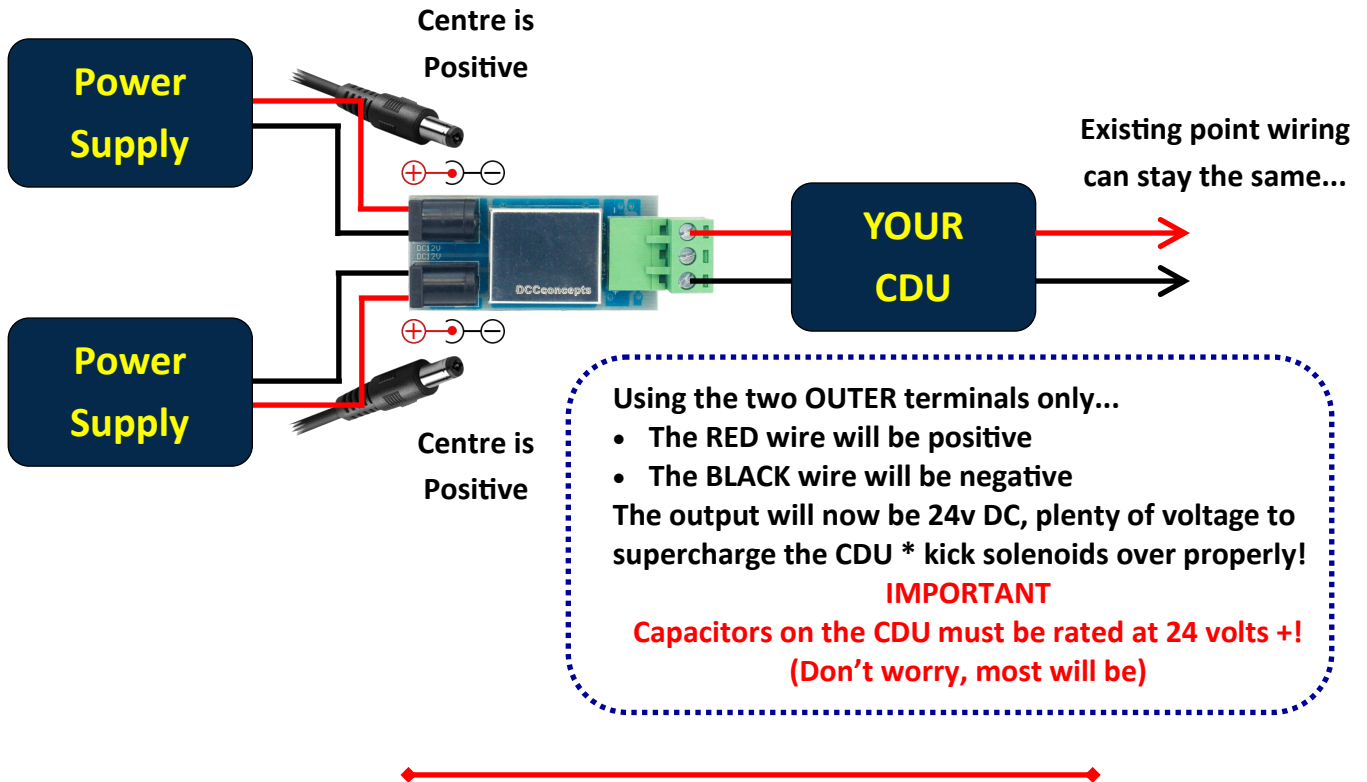
- Both of these brands have ONE coil solenoids to change their points. Using wiring exactly as above with momentary switches OR two pushbuttons will give you simplest possible wiring.
- Drive voltage:
 - * It is our experience that KATO are happy at 12v so use the DCP-SPS12.
 - * LGB, particularly if outside or on long wires, likes a higher voltage, so we recommend using the DCP-SPCP plus two 18~24v DC power supplies. Switches should be either a momentary SPDT OR use two pushbuttons so the higher voltages will not harm solenoids coils.





Using an DCP-SPS12 to make your existing CDU set-up work better

Increasing voltage is the best way to make a CDU work better. With 24v available via the DCP-SPS12 an improved performance is guaranteed





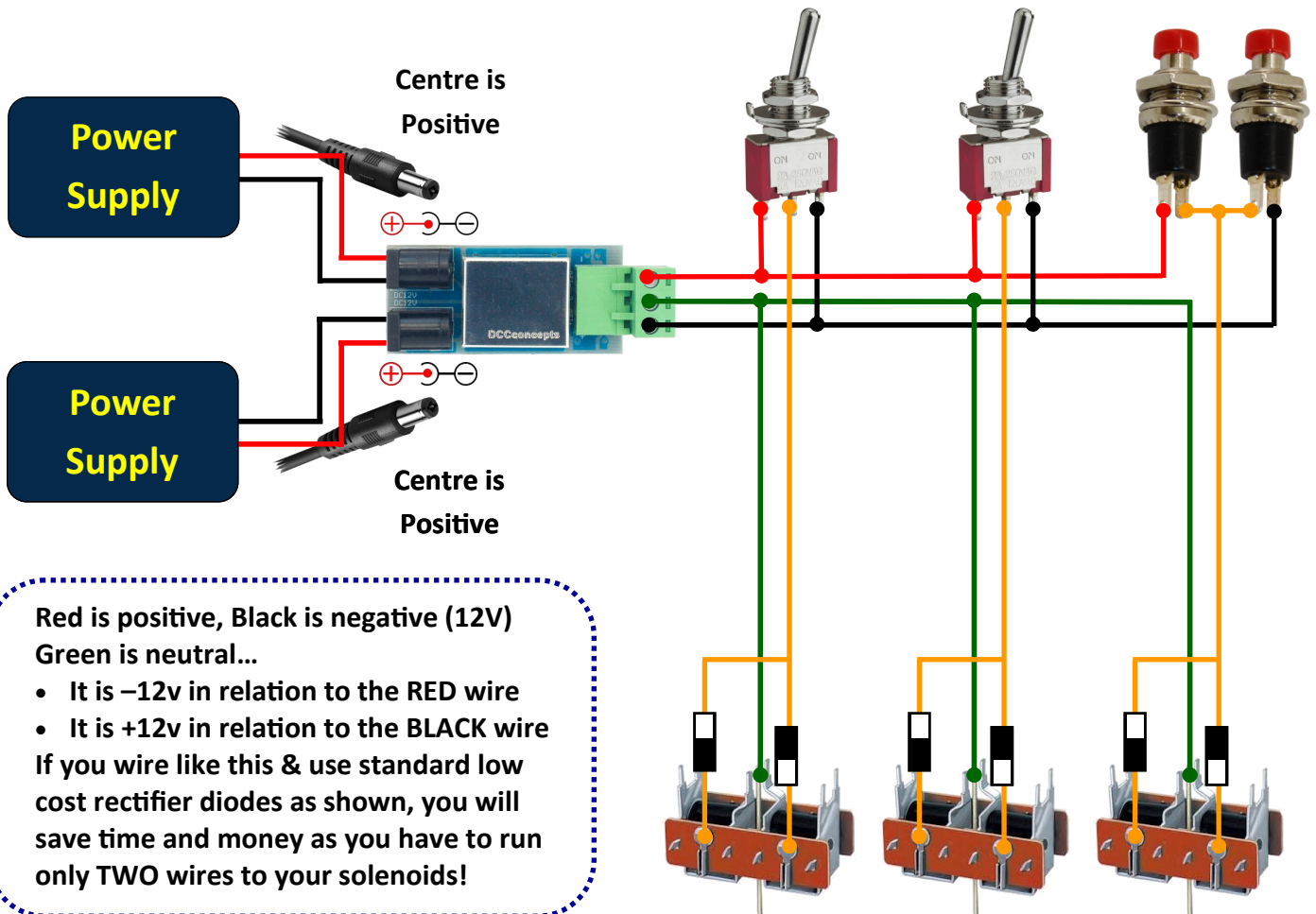
Using DCP-SPS12 or DCP-SPCB to simplify PECO, SEEP, HORNBY Solenoid wiring

We can use the same sort of approach that we use with DC motor drives and add a couple of diodes. Of course - the switches WILL have to be momentary types OR "push to make" push-buttons.

If you are going to do this, I'd also recommend using the DCP-SPCB with 18~24v DC power supplies.

Note: We used Peco in this example, but all 3-wire solenoids will work on the same principals.

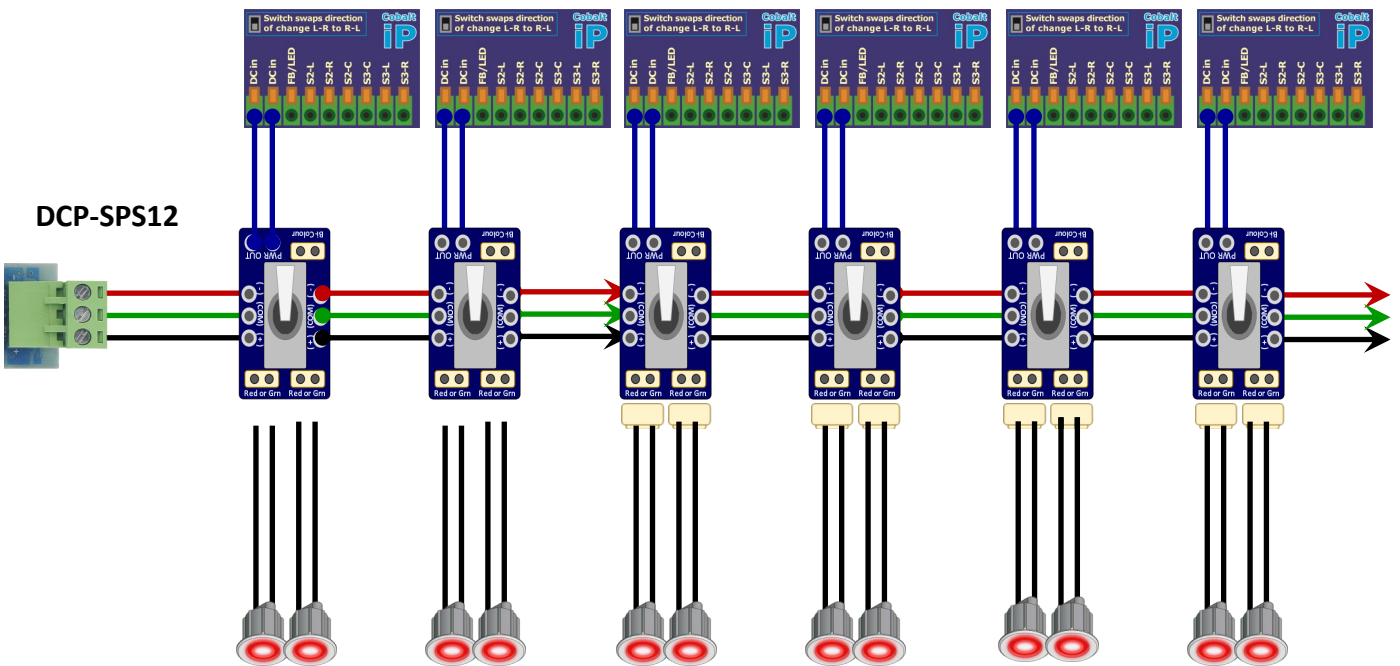
MOMENTARY TOGGLES or PUSHBUTTONS.... It's up to you





Combine DCP-SPS12 with our DCP-CBS switch pack and it's nearly plug and play!

Available with Red, Green or Red + Green bicolour LEDs, these switch packs are easy to use & create the perfect combination when used for control of Cobalt iP Analog, Cobalt Omega and other slow-action turnout motors. All done with less soldering, faster installation & giving you more time for driving trains!



There are 6 sets of switches & 12 LEDs in each pack. The switches are standard 1/4" hole mount. The LEDs plug into the switches. As the LEDs are designed to be "push fit" into the panel, all you need to do is use the correct drill size for the easiest control panel creation that you have ever had!



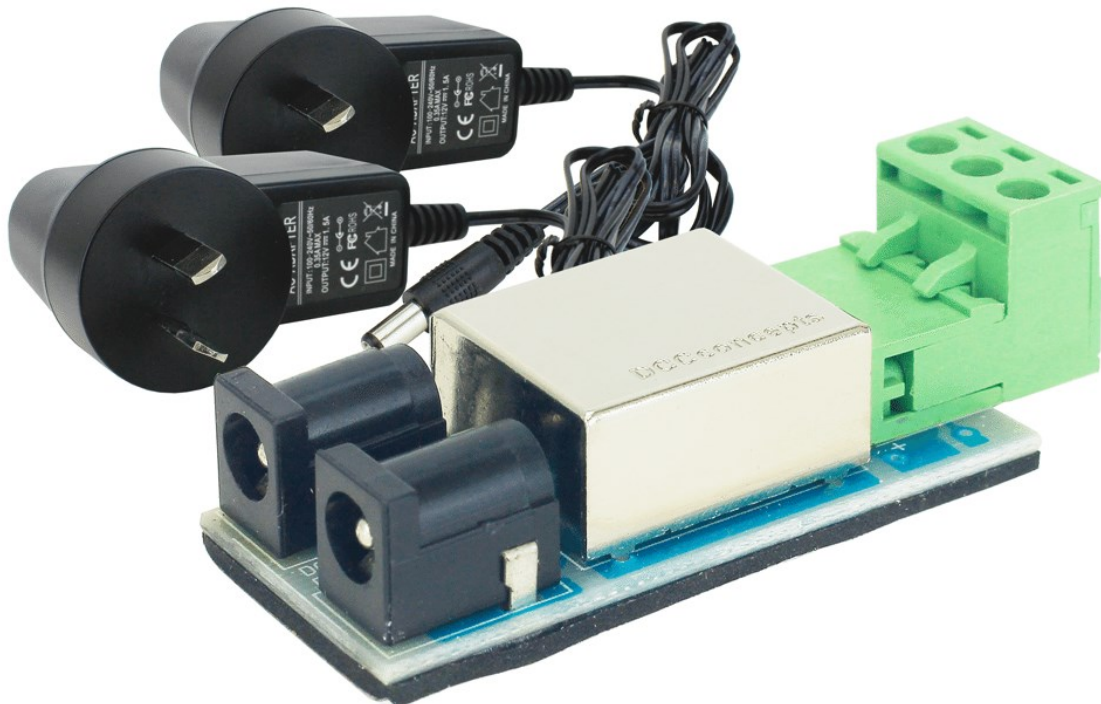


DCP-SPS12 and DCP-SPCB. What is in the pack?

To read about the DCP-SPS12 online, please [HERE](#)

The DCP-SPS12 includes the DCP-SPCB and two Universal Wall Plugs. The power supplies are universally usable and will be provided with power supplies or adapters suitable for your country.

It is perfect for Alpha-Switch and also simplifies the wiring of Cobalt Classic, Cobalt Omega, Cobalt iP Analog or Tortoise turnout motors. It is also perfect for 2-wire solenoids such as LGB and Kato, as well as being appropriate for solenoids or CDU power purposes as per the preceding diagrams.



DCP-SPCB is the link PCB for any two power supplies as discussed above. Use this PCB to link them if you need higher voltages or higher current power supplies. A power system put together with this board will greatly simplify wiring.

If you buy other power supplies, then please check that the two DC input plugs they are fitted with have a 2.5mm~2.6mm centre-pin hole to match the DCP-SPCB connectors.





➤ That's it for this time....

We hope that you enjoyed reading about these products, and that the wiring diagrams included may inspire you to experiment with this approach to layout power as it can be used for so many things!

Did you enjoy the contents—please let us know.

Don't be shy: We invite you to email us and discuss any changes you might like to see and welcome ideas for any "style" changes or additions we could consider to make more interesting reading.

Of course, if you have a specific subject that you would like us to cover, we will listen. Please email us at web@dccconcepts.com and we will see what we can do.

Meanwhile... Hopefully at the end of next week, we will talk about soldering and do a "Blow-by-blow" presentation on how to solder wire-to-rail plus we will be detailing what we use to solder with (and why) plus our real-world techniques for several other common model railway soldering tasks.

Until then, thank you for sharing your valuable hobby time with us.

Richard Johnson

PS: We look forward to seeing you all in Glasgow 22~24th February.