Dingo Servo Mounts
Single Servo Control Board

Safety Precautions.

Before installing this product, make sure that you have read the full instruction guide and are comfortable with the requirements.

Make sure that all parts, especially plastic packets, are kept away from young children.

Only use certified power supplies for your region and **DO NOT** interfere with the Mains side of the power supply.

If you are unsure as to how to do the electrical connections, please consult with someone who has the required expertise or contact Dingo Servo Mounts for more information.

These units are not toys, but serious modelling parts.

These boards are still in a test phase of marketing and maybe subject to failure.

Description and Origin

There are many servo control boards on the market to-day which can be used for model railway point and signal operation.

Most are for multiple servos and offer all sorts of bells and whistles.

There are also a range of excellent kits available to members of the MERG group which offer a variety of control options.

I believe there is a need for a very simple board that offers easy setup and operation for model railway points or semaphore signals.

This is the reason behind the development of this particular board.

The Single Servo Control Board is designed for use with standard 9g servos like the TowerPro SG90 Hobby King HK15178 or similar. I have also tried it with the larger waterproof HK15139 units and it works fine. (These servo motors are often used in Garden layouts)

The Single Servo Control Board has a preset slow speed to simulate real life point movement and there is no provision for adjusting the speed. (However they can be supplied with a faster speed on request.)

The two end positions are set very simply by means of a plug in setting box.

A simple single pole on/off switch is all that is required to move the servo from one position to the other.

Wiring up.

You will need a smoothed and regulated DC power supply of 9 – 12 V DC with a capacity of at least 1Amp for a single board.
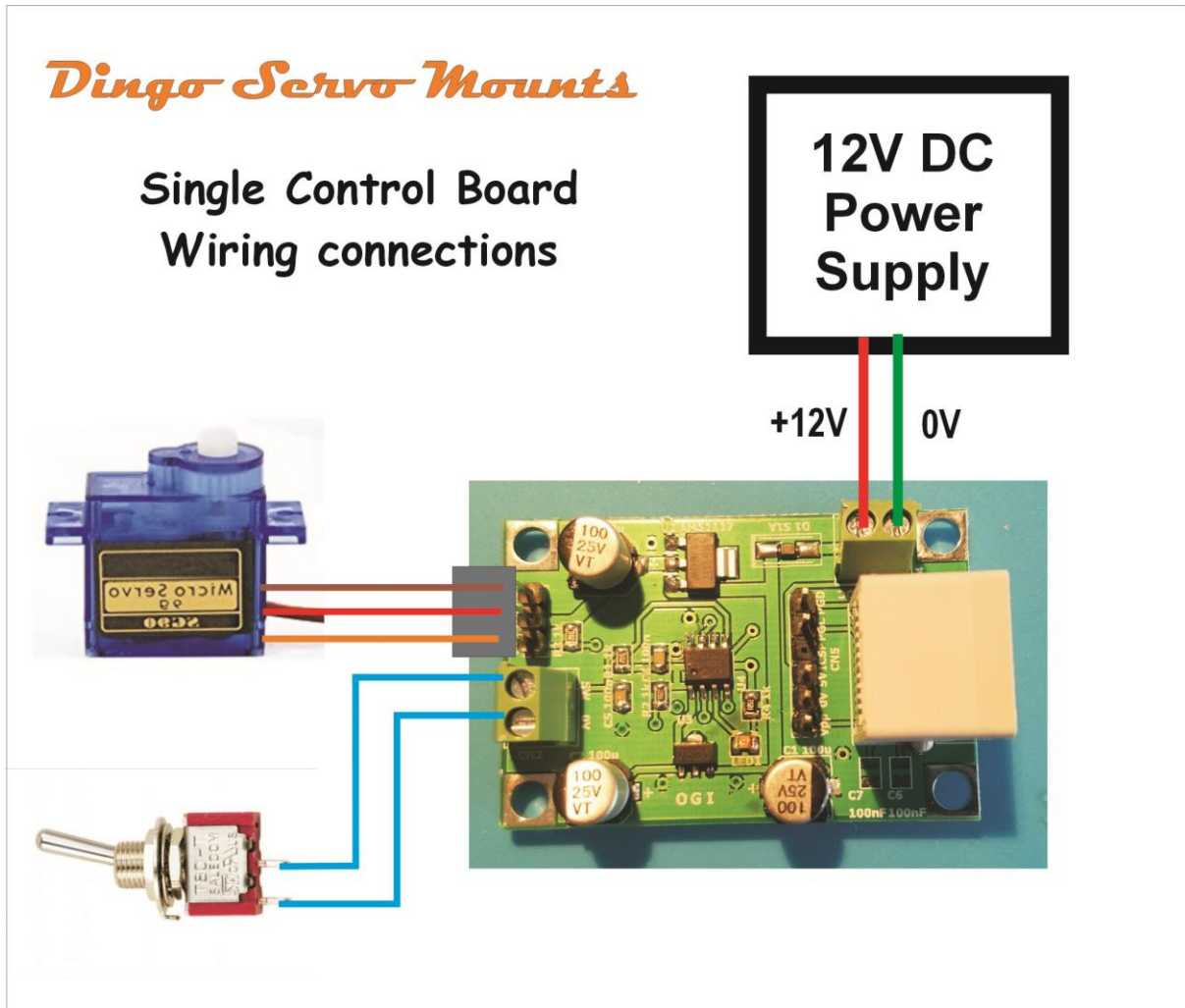
A standard 2A wall wart will be sufficient to drive quite a few boards as long as not more than 2 are actuated at the same time.

You will also need a SPST switch to control your board. (This may also be a set of relay contacts or similar from your layout control panel.)

Note a push button switch will not work unless it is self latching.

Wire up as per this diagram.

Note the polarity of the power supply is important. (If connected the wrong way around, the board will not work but will not be damaged.

The servo needs to be connected with the black or dark brown lead towards the top end of the board.

The switch simply shorts the two switch contacts together.

Note that the one nearest the servo plug is the "Live" contact and the bottom one is connected internally to earth. (0v)

It is advisable to test the servo and board before fitting the servo to the layout and advisable to use a setting box as outlined in the following section to centre the servo.

We always recommend using one of our Dingo Servo Mounts to get optimum performance from your servo on your layout.
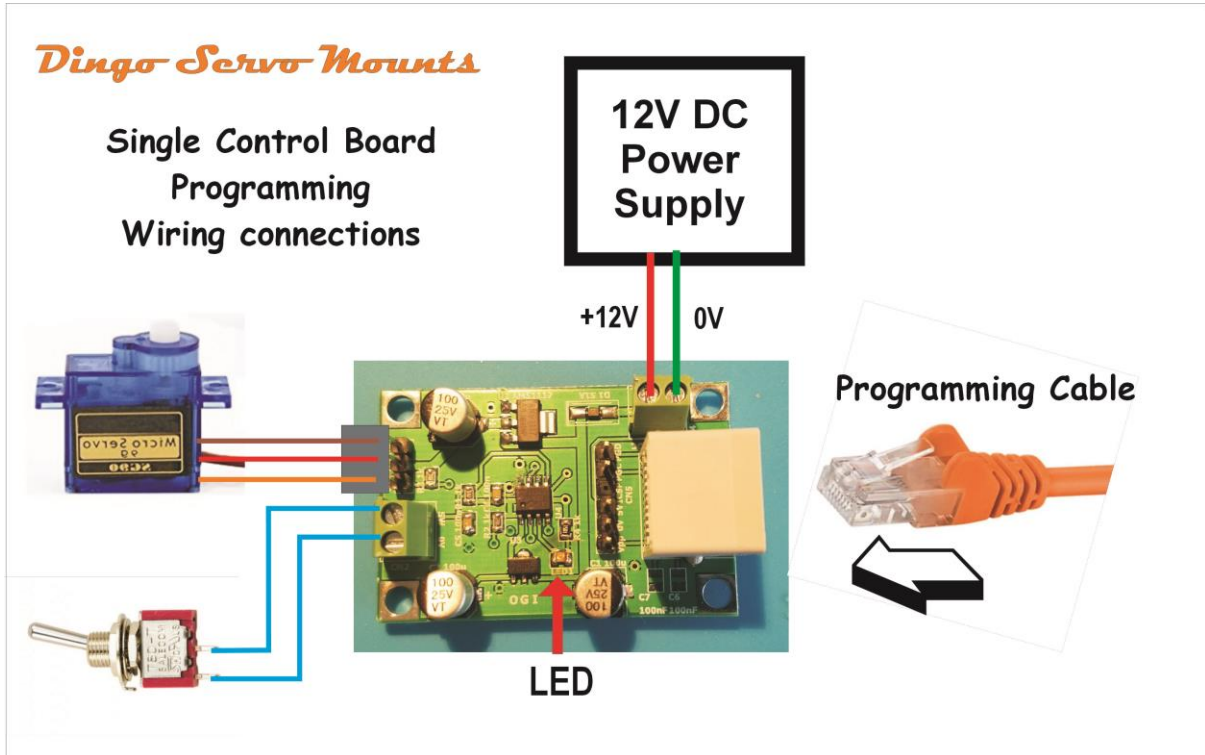
Note: Newer versions of this board look a little different but connections are still the same.

Setting up the end positions.

Once the unit is connected as described above, switch on the power and after a second or so the LED will light to show that the board is in working order.

Now plug one of our setting boxes into the RJ45 connector on the board.

Note that the Budget box has a cable permanently connected, whereas the De Luxe model needs to have a network cable (Cat5) plugged into the back of the unit. (There is a short cable supplied)

Before connecting the setting box make sure that both controls are in the mid position. Arrows or markers pointing straight up.

Immediately the LED will start to flash indicating that the board is now in setting mode.

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With the switch in the "OPEN" position you can move the servo to the required position using VR1 on the setting box.

Once you have moved the servo into position wait a few seconds until the LED stops flashing – this position is now written to the boards memory.

Now operate the switch to the "CLOSED" position and set the other end by means of VR2 on the setting box.

Again wait until the LED stops flashing and then remove the setting box.

The end positions are now set and the unit should operate when the switch is toggled.

If you are not sure which is the open position of the switch you can use which ever control (VR1 Or VR2) moves the servo in the set switch position. Obviously the opposite control will operate in the other switch position.

Note that you cannot operate the servo once the LED stops flashing until you remove the setting box.

At anytime the settings can be changed by plugging the setting box in again and repeating the above procedure.

NOTE! The unit will not set if the servo is pushing hard against a stop as the board won't be able to reach the setting point and will thus not set. (LED will continue to flash). Back off slightly until the LED stops flashing before removing the setting box.

The board is now set and should continue to operate to the same endstops until reprogrammed.

ONE FINAL NOTE! Sometimes at switch-on the servos my move to the mid position before going back to the set positions. This is a software protection device to make sure that the servos don't go the wrong way with a bad switch on spike or bad shutdown. It is therefore important that the midpoint of travel is within the 2 set points of the servo.

I hope that you will find this unit useful and as always I welcome any feedback, especially as these boards are still in test production so that I can modify if required to make this a really good servo controller board.

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If you haven't already seen our amazing servo mounts in action, please check out the Video Links Page on our website.

Note: A RED dot on the PCB indicates that the firmware has been updated to be compatible with the Ultra Micro Servos: HK5330 and HK282A as well as operating normal 9g servos. (HK15178, SG90, etc)

Update on these boards

In an effort to standardise our boards we are now using the same board outline as for the Signal board with some differences

The boards look the same at first glance but the differences are as follows

1. It has a Red dot on the setting box connector
2. The board is marked "Dingo Control" and not "Dingo Signal"
3. There is no "Bouncy" label on the back
4. When powered up the LED is red and not WHITE

All connections are the same as in the diagrams above