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Servo 7



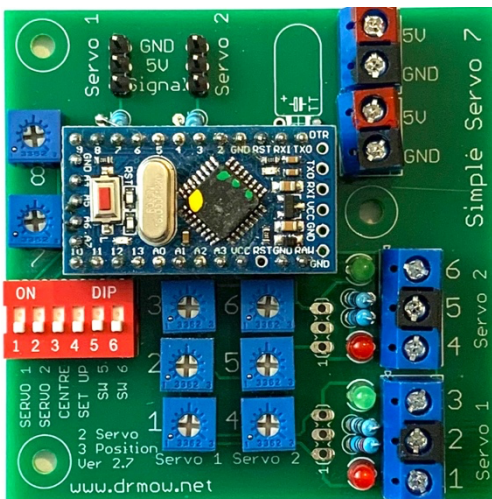
2 Servos
2 or 3 Positions

Servos are ideal for moving turnouts, signal arms, operating gates, or animating people and animals on your model railway.

With SimplyRail **Servo 7** you easily control the position and speed of travel of two servos to any of three positions.

Especially, for very small movement and slow operation.

The setup is simple
no programming, no computers.



Once set-up, each servo is controlled by a simple switch.

ON/OFF switch for two positions.

ON/OFF/ON for three positions.

Servos and switches are connected as indicated on page 2

You use a screwdriver to turn the Trimpot to adjust the servo position and speed as required.



SimplyRail Servo 7 was specifically designed for Semaphore Signals, both 2 position and 3 position signals.

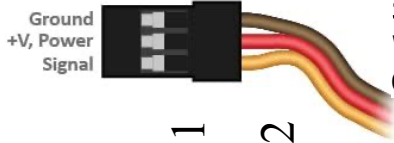
Simplified Electronic Control for Model Railways

SimplyRail Servo 7 (page 2)

Wiring Diagram



x2



Connecting the servos to the board

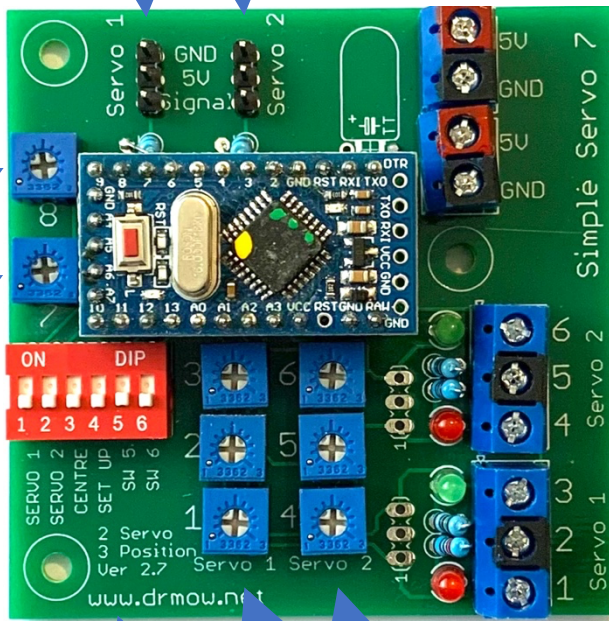
Servos come with two common sets of wiring colours

White / Red / Black - White is for the signal, Red 5V, Black is ground.

Orange / Red / Brown - Orange is for the signal, Red 5V, Brown is ground.

If the servos are installed the wrong way they won't be damaged but they will not operate.

Servo 1
Servo 2



5 V (DC)

0 V (Ground)



Switches, Servos and the Power Supply can be supplied with the controller if requested.

Switch for Servo 2

ON / OFF / ON 3 POSITION SWITCHES
or ON / ON 2 POSITION SWITCHES

Switch for Servo 1

Trim Pots for Servo 2 (Adjust travel)

Trim Pots for Servo 1 (Adjust travel)

Trim Pot 8 to Adjust Servo 2 travel speed.

Trim Pot 7 to Adjust Servo 1 travel speed.

Switch 1 (Reverse the position of Servo 1)

Switch 2 (Reverse the position of Servo 2)

Switch 3 (Servos at centre of their travel)

Switch 4 (For setting travel and reverse)

Switch 5 (Servos 1 reduced travel)

Switch 6 (Servos 2 reduced travel)

Switch 4 must be ON when adjusting Trim Pots and Red DP Switches 1 - 6

Other items you will need *These can be supplied with your controller at extra cost.*

5V DC Power supply (also socket for plug pack lead)

Switches to operate the servos –

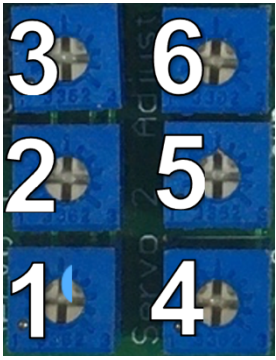
2 Position operation require an ON/ON switch.

3 Position operation require an ON/OFF/ON switch.

Servo leads are only 250mm long, if your servos are mounted further away from the controller servo extension leads are an easy solution. They can also make it easier to install the controller in a more accessible location.

Servo extension leads are available in 300mm, 500mm and 1 meter lengths.

Setup instructions

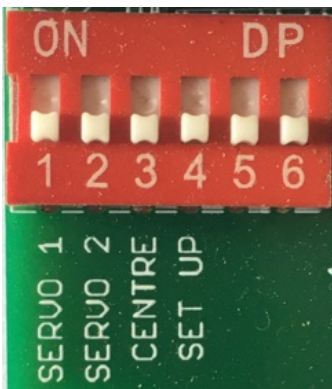


Step 1 - Before turning on the power, Please rotate each of the top and lower blue Trimpots anticlockwise, (1,3,4 & 6)
Please rotate each of the middle blue Trimpots to the centre position, (2 & 5)

This sets the travel of the servos to their minimum travel, to prevent them from damaging delicate components you wish to animate when power is first applied.

Connect the Servos - If the servos are installed the wrong way they won't be damaged but they will not operate.

Connect external switches to select servo position
Connect the Power Supply 5V DC.



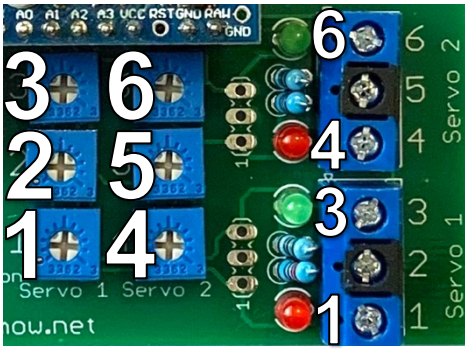
Step 2 - To make it easy to position the servo, DP 3 will drive both servos to the middle of their travel and hold them in that position.
Now turn on the power.

Mount the servos to the middle of the travel on the item you wish to animate.

Once the servo is mounted turn DP 1 to OFF Reverse Servo 1
DP 2 to OFF Reverse Servo 2
DP 3 to OFF Center Servos
DP 4 to ON **SETUP only**
DP 5 to OFF *reduce travel Servo 1*
DP 6 to OFF *reduce travel Servo 2*

For Semaphore Signals turn DP 5 (Servo 1) and DP 6 (Servo 2) to ON for reduced travel. This reduces the maximum travel of the servo and provided finer adjustment.

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Step 4 - To adjust the centre position of each servo. (Only for 3 position Signals)

On the Red switch bank, turn switch 4 to ON, This will drive both servos to their set travel and read any changes to the Trim Pots.

Set Servo Centre position with external switch set to centre.

Both the **GREEN** and **RED** LEDs for that servo will be off (LEDs 1&2 for Servo 1, LEDs 4&6 for Servo 2 OFF)

Then adjust the centre travel trimpot,

Trimpot 2 for Servo 1 or Trimpot 5 for Servo 2.

Step 5 - To adjust the distance and direction of the travel.

With switch 4 to ON (On the Red switch bank), the servo will move as you adjust the trimpots.

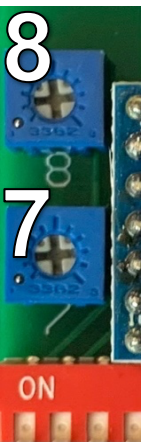
Trimpot 1 for servo 1 when the **RED LED 1** is on (via external switch)

3 for servo 1 when the **GREEN LED 3** is on

4 for servo 2 when the **RED LED 4** is on (via external switch)

6 for servo 2 when the **GREEN LED 6** is on

To reverse the servos direction of travel for the external switch position; (On the Red switch bank), for **Servo 1** turn switch 1 to ON, for **Servo 2** turn switch 2 to ON. The readjust as per step 4



Step 6 - To adjust the speed of the travel.

Adjust Trim Pot 7 to Adjust Servo 1 travel speed.

Adjust Trim Pot 8 to Adjust Servo 2 travel speed.

↻ Anticlockwise for faster

↻ Clockwise for faster

Once you are happy with the travel and direction of the servos turn switch 4 to OFF. (On the Red switch bank)

The servos will now move to your set location as you operate your external Switches for the servos.

If you need to readjust the servos go back to Step 4 or 5

For a new setup please go back to Step 1