An Introduction to Servos and Dingo Servo Mounts.

Originally points were changed by hand or by “Wire in Tube” systems.
Once automation became the thing various options entered the market.
Noticeably Solenoid-operated point motors with twin coils which were energized in order to change the point (Such as Peco, Hornby or Seep Twin coil machines.) and are still popular today due to their simplicity.

The next generation of “Stall” motors came into being offering a smoother and slower transition. Units like those sold by Tortoise and Cobalt.
However, they were large and expensive and as such had a limited appeal.

Servos have become very popular in model railways in the last few years.
The smaller, lighter servos that are common in model aircraft that are now found in railway layouts. Apart from their use in operating points, they can be found in semaphore signals, crossing gates and barriers, uncouplers, cranes, and a variety of lineside animations (moving people, animals, cars, aerials, radar heads, guns, etc.).

A servo can be made to stop at any position in its mechanical range – it does not have to go from absolute end to end. So, the servo can be made to move the point tie bar by the exact amount needed each time.

Normal point motors can be fitted ‘straight from the box’, but Servos need additional mounting arrangements and additional control circuitry.

Servos don’t come with mounts for baseboards, unlike other devices designed for model railway use. Also servos have a rotary motion which must be translated to a linear motion to move points or signals.
Dingo Servo Mounts were designed to offer this “Linear Motion” in a simple yet effective way.
Most of our units are designed to work with standard 9 gram servos like the HobbyKing HK 15178 or the TowerPro SG90 servos.

The control of the servo depends on this simple rule:
The width of the input pulse to the servo determines where the output shaft rotates to.
So a particular pulse width should always result in the same movement of the servo horn.
All servos are designed so that a pulse width of 1.5ms rotates the output shaft to a mid position, while 1ms moves the output shaft to its most counter-clockwise position and a pulse width of 2ms rotates the shaft fully clockwise.

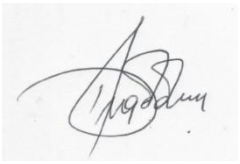
To control a servo, we need a source of pulses as described earlier. The circuit is called a 'servo controller'
Most Servos operate on 5V DC, so the Controller board has to provide these pulses and a 5Volt smooth supply from the normal 12Volt DC supply that is used for most layouts.
Servo Controller boards come in many forms from a variety of suppliers and can control various amounts of servos from one board.

Dingo Servo Mounts offer 2 different boards for this application. A Single and a Twin controller board
Both of these can be set by a simple setting box which plugs into the unit with a cable meaning that the board can be set, even if fixed to the underside of the layout, by looking at said point from the top.
(Note: **Dingo Servo Controller Boards** come with a preset slow speed)

Unlike some less expensive control boards, the Dingo Servo boards remove the pulse once the point is in position to avoid chattering or buzzing. The Dingo Servo Mounts are constructed in such a way that the point will be held securely once it is in position so that the pulses are no longer needed until the point is thrown again.

I Hope that this brief introduction will help those modelers who are thinking about servos to give them a try as they offer a fantastic way of controlling a model railway layout.

There is a lot more specific information on the various mounts and controls on the pages of our website, as well a videos showing each mount in operation as well as step by step assembly and setting up videos on the “Video Links” page



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