Retarder of servo movement NF - SD1

Description:

The **NF-SD1** module (**NightFly - SlowDown**) serves to limit the speed of movement of servo at response to a change of deviation. The unit is designed for aeromodellers for slow pushing out of landing gear and wing flaps. In ship-modelling and models of military or construction machines, the unit can be used for slow, fluent positioning of gibs, special bodies, opening of bars and tops, slow starts and slowing down. With that kind of technique, you will appreciate long running times – they can be set in the range between 0.7 to 14.7 for run between the end positions.

The module reads information about the desired deviation of servo from the receiver and sends it to output. In the stable state, the values on input and output are equal. When a fast change on input occurs, the output starts changing slowly so that the set maximum speed is not exceeded. The maximum speed can be used won a trimmer with a small screwdriver.

Installation:

The module can be just connected after the receiver before the cable of servo. With switch-controlled channels it makes possible a fluent, linear change of deviation on a model. If you need a slow start-up and stopping of an electromotor, do connect the module between the receiver and the regulator. **ATTENTION**: The module SD1 is designed to be connected with the voltage stabilizer BEC 5V. Connecting the module to 6 or more volts can cause damage to it. NF-SD2 is designed for higher voltage.

The module is connected to receiver with a Graupner, Hitech type connector. The servo or regulator cable is connected to the output connector on the other side. **ATTENTION**, the output connector is not secured against change of polarity. The order of colors must be kept the same as on the cable to receiver, as is indicated on the first picture. **The same colors must be towards each other, not the other way!**

The time it takes the servo to run from one end position to the other one is called "running time". The shortest settable running time is 0.7 sec, the longest is 14.7 sec. The first half turn of the trimmer is used to set short times and the scale is linear with a .5 sec step. The second half of the scale is exponential for longer times. A total of 16 values can be set. A groove with two points is an indicator of the trimmer's setting (set on the picture to .7 sec). It is not recommended to turn the trimmer past the range between the values 0.7 and 14.7, indicated in red.
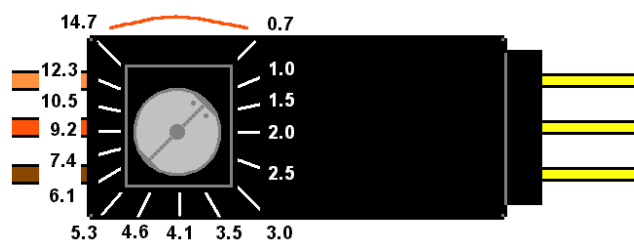
If the module is sensitive to touch, the likely cause is a free overthrust of the servo-cable to the module connector. A dependable contact can be ensured by bending down the middle contact by a half, or at most its entire size. Bend it with small pliers, holding the module in your fingers as close as possible to the connector to reduce the risk of the contact's breaking.

Technical parameters:	min.	typ.	max.
Operational voltage:	4.5V	5.0V	5.3 V
Consumption:		< 1.7 mA	
Operational temperature:		0 - 70°C	
Dimensions:		30 x 10.5 x 6 mm	
Weight:		< 3.9 g	
Pulse width:		0.95 ms – 2.05 ms	
Running time:	0.7 s	-	14.7 s

Enjoy your module.

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