

AAS & ADS Series Instructions

from ultra small Analog servo to Quarter scale Digital Servo

Please read these instructions carefully for the safe operation, and best performance from AAS and ADS servos before operating your RC model.

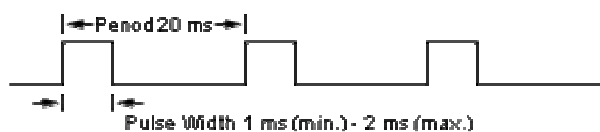
PRECAUTIONS

1. Check the polarity and integrity of connections, when plugging servo connectors into your receiver.
2. Always turn on the transmitter power first, before you turn on the receiver battery. When you turn the system off, always turn the receiver off first, and then the transmitter.
3. Choose the right servo for the job. Too weak and it will overheat from strain. Too strong and your battery will not last as long. Using a high torque servo to overcome too strong a throttle return spring causes heat and high battery drain. If the throttle return spring is very strong then we recommend you replace it with a slightly weaker spring.
4. We do not recommend the use of dry batteries (non rechargeable) when using any servo products. The amperage demand of the servos is more than what these batteries are able to deliver.
5. We do not recommend the use of BEC circuits incorporated in some receivers found in many RTR vehicles which were designed around a standard servo and have inadequate protection for upgraded servos. The BEC receiver or battery eliminator circuit built into the PC circuit protection will limit the amount of power available to the servo and reduce it's performance.
6. Please determine if your transmitter is digital or general type. Most transmitters on the market are general type, there are some high end transmitters which are "HRS" system, that encoding should match with digital decode servo. The reason is analog servos receives a signal from the amplifier 50 times a second or at 50Hz. This signal allows the amplifier to update the motor position 50 times a second. Digital servos use a high frequency amplifier that updates the servo motor position 300 times a second or at 300Hz.
7. Please double check the ESC can give provide enough power at 6 volts to support the quantity of servos you have in the model.

INSTALLATION AND OPERATION

A servo is a position device, which means that you tell it what position to go to. Servos are controlled by sending them a pulse modulated signal of variable width (PWM). The position where the servo moves to is determined by the duration (width) of a pulse that is applied to the control wire. A standard servo has three electrical connections: Vcc, GND, and control input.

The repetition rate (frame rate) specifies how often per second a signal is sent to the internal control circuit. The typical frame rate is 20 ms (as shown in above graph) which means that the electronic circuit gets a signal 50 times per second.



The step resolution for analog servo is about 7 ~8 us.

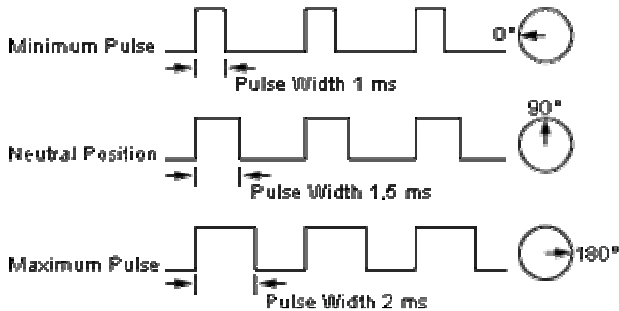
The step resolution for digital servo is about 1 ~3 us.

The length of the pulse will determine to which exact position the servo will move. For example, a 1.5 ms pulse will make the motor turn to the 90 degree position (neutral position).

When servos are commanded to move, they move to the position and hold that position. If an external force pushes against the servo while the servo is holding a position, the servo will resist from moving out of that position.

In the sample shown below for an analog servo the values for the pulse range between 1ms and 2ms. Any values in between represent a certain position within the total travel angle.

The neutral position typically is defined at a value of 1.5 ms.



The figure above is an example for a servo with a 180 degrees configuration, in which for example a signal of 1.5 ms represents a position at 90 degrees.

Contact & Warranty Information

The Alturn USA Company covers warranty for one year from date of purchase to be free from manufacturing and component defect, this warranty doesn't cover abuse, neglect, or damage due to incorrect wiring, over voltage, or overloading. If you have any questions or have any problems, or wish to repair then please contact our support team directly:

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