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DS08-NFA Servo Motor

(360 degree)

User's Manual V1.0

Contents

1. Introduction

A servomotor is a rotary actuator that allows for precise control of angular position, velocity and acceleration. Nowadays servos are become more popular in robotics, creating humanoid robot, biologically inspired robot, robotic arm and etc. This is because its' ability to rotate and maintain and certain location, position or angle according to control pulses from a single wire.

This plastic gear RC servo possesses 360 degree rotation. This type of servo motor can be used as control car application. Unlike DC motor, this type of servo does not require motor driver to operate.

Specification

- Origin: China
- Plastic gears
- Speed: 0.16sec/ 60deg (no load)
- Torque: 4.2kg.cm
- Voltage: 6VDC
- Size: 40.5x20.5x38mm
- Weight: 44g
- Rotation angle: 360 degree
- Pulse width range: 1.0ms – 2.0ms

2. Packing List

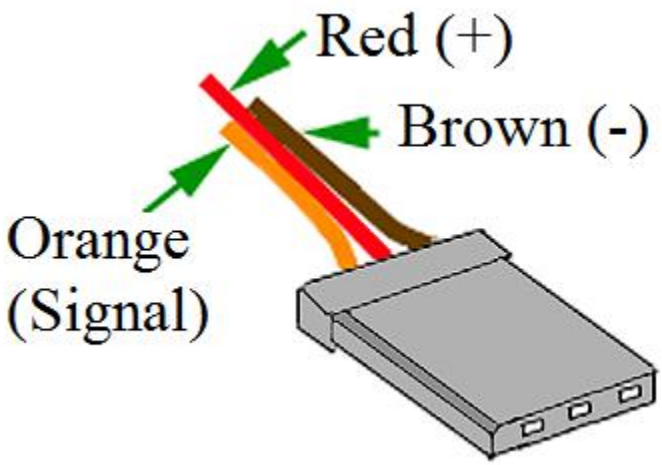
The package includes

1. DS08-NFA Servo Motor 360 degree x 1
2. plastic servo horn and accessories

DS08-NFA Servo Motor 360 degree

Plastic servo horn and accessories

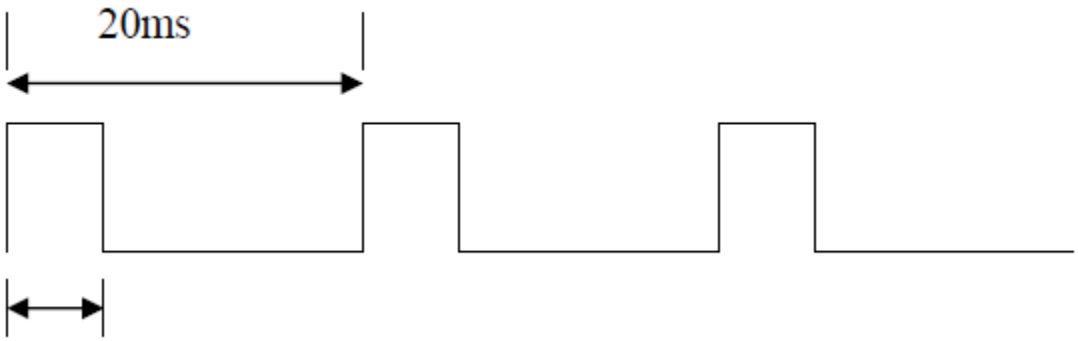
3. Wire Definitions



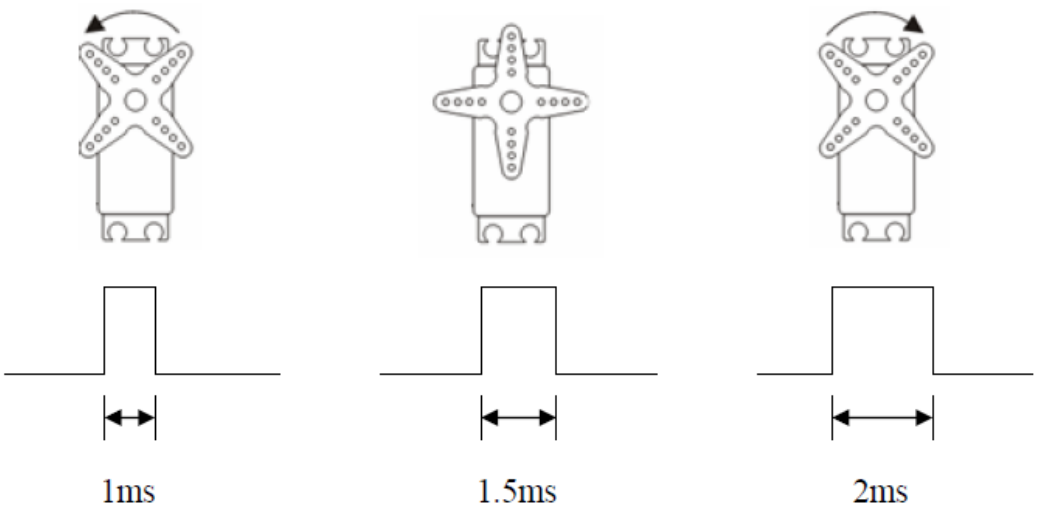
Line	Description	Function
Red	Positive Input (+)	Connect to 5V ~ 6V
Brown	Negative Input (-)	Connect to Ground
Orange	Signal	• Receive the signal from microcontroller in order to rotate servo motor. • Control the speed and rotate direction of the servo motor. Refer to the "How to operate" below.

4. How to Operate

Servos are controlled by sending them a pulse of variable width. The signal wire is used to send this pulse. To operate the DS08-NFA Servo Motor (360 degree), a 50HZ or 20ms period of pulse is needed. A given period of high logic within the 20ms period of pulse determines the behavior (speed and rotate direction) of the servo motor. The range of the high logic is from 1ms to 2ms. See the below diagram.



1ms ~ 2ms

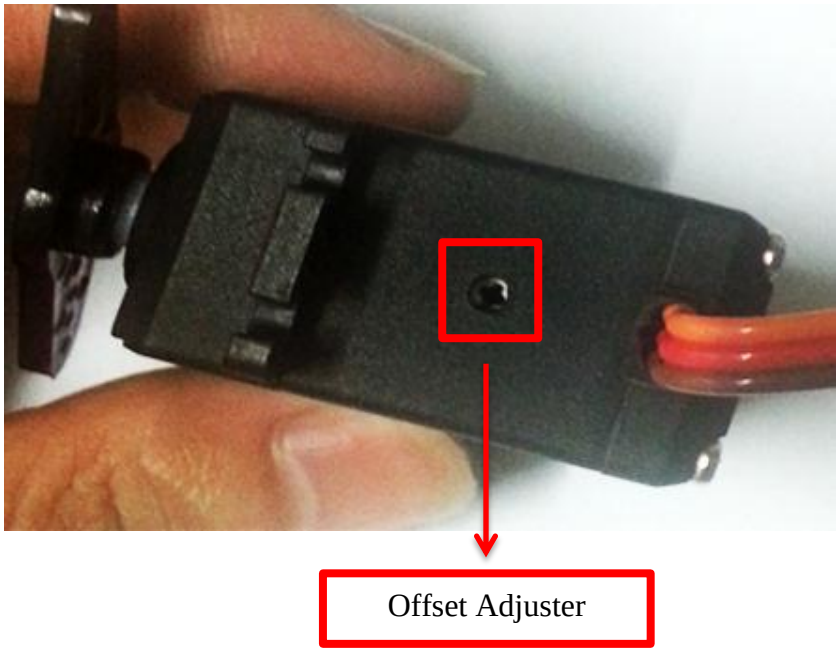


Period Of High Logic Within 20ms Period Of Pulse. (ms)	Behavior Of Servo Motor
1	Rotate in one direction with the maximum speed.
1.1 ~ 1.4	Rotate in one direction with the gradually decreasing of speed.
1.5	Stops rotate.
1.6 ~ 1.9	Rotate in another direction with gradually increasing of speed.
2.0	Rotate in another direction with the maximum speed.

*Note: Over range may cause the damage of the servo motor.

5. Servo Calibration

This type of servo motor comes with an offset adjuster. This offset adjuster is used to eliminate the offset of the servo. Before using this servo, set a 1.5ms high logic within 20ms period of pulse. If found that the servo continue rotate, put the screw driver into offset adjuster and adjust it until the servo stop rotate.



6. Warranty

- Product warranty is valid for 6 months.
- Warranty only applies to manufacturing defect.
- Damaged caused by misuse is not covered under warranty.
- Warranty does not cover shipping cost for both ways.

Prepared by Mybotic

4, Jalan Universiti 3,
Taman Universiti,
86400, Parit Raja, Johor

Tel: +6016-7170703 / +6018-9510703

URL : www.mybotic.com.my
Email : support@mybotic.com.my
sales@mybotic.com.my