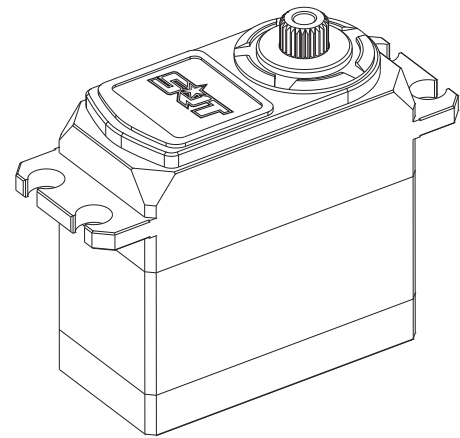


## SRT Standard Servo (BH9022)

The SRT Standard Servo provides 180° Limit angle range of motion and position control for your project. Great for animatronics and ideal scale applications .

### KEY FEATURES

- Ideal for 1/10 on road and 1/8 off road scale applications, as well as large scale airplanes and jets
- incredible efficiency and low power consumption
- Titanium & Alu gears for precision and durability
- Standard dimension make it perfect for vehicles that can benefit from a high quality servo
- CNC Machined aluminum case for exceptional cooling
- HD 4096 Resolution
- 2  $\mu$ sec Dead Band
- Superior Holding Torque
- 1-Year Limited Warranty



### OVERVIEW

The latest generation of SRT servos provides you with the performance you need for any 1/10th to 1/8th scale vehicle application. are standard size servos for High-Voltage applications up to 8.4V, feature all metal case construction for the ultimate 1/8th scale performance. All these servos feature SRT innovations like the removable wire leads that allow for custom lead length and ease of maintenance and all metal servo mounting tabs to keep them in place through the most extreme conditions.

### Power Requirement Notes

The manufacturer specifies 6.0-8.4VDC for this servo. However, we find that this servo is tolerant of a 9 V battery for very brief periods of time when there is no load, as used in some activities in the Stamps in Class series of tutorials. (Slight jittering may be observed when batteries are fresh; this does not cause damage). Do not use this servo with an unregulated wall-mount supply, or a regulated wall mount supply exceeding 8.4VDC.

Servo current draw can spike while under load. Be sure that your application's power supply and voltage regulator is prepared to supply adequate current for all servos used. Do not try to power this servo directly from a BASIC Stamp module's or any microcontroller's Vdd or Vin pins; do not connect the servo's Vss line directly to the BASIC Stamp module's or any microcontroller's Vss pin.

## Apply Environmental Condition

Storage Temperature Range: -20°C~60°C

Operating Temperature Range: -10°C~50°C

Operating Voltage Range: 6.0V~7.4V~8.4V

## Standard Test Environment

Every characteristic of the inspect must be carried out under normal temperature and humidity, temperature 25±5°C and relative humidity 65±10%, judge the characteristics according to this standard testing conditions.

## Electrical Specification (Function of the Performance)

| item                                     | 6.0V          | 7.4V          | 8.4V          |
|--|---------------|---------------|---------------|
| Operating speed (at no load)             | 0.085 sec/60° | 0.065 sec/60° | 0.060 sec/60° |
| Running current at no load(Slow to Fast) | 200 mA        | 300 mA        | 400 mA        |
| Stall torque (at locked)                 | 18.0 kg-cm    | 20.0 kg-cm    | 22.0 kg-cm    |
| Stall current (at locked)                | 3050 mA       | 3200 mA       | 3600 mA       |
| Idle current (at stopped)                | 28 mA         | 33mA          | 35mA          |

Note: Item definition is average value when the servo running with no load

## Mechanical Specification

| Item                  | Standard         |
|-----------------------|------------------|
| Materials of the gear | Titanium & Steel |
| Weight                | 79 ± 1g          |
| Limit angle           | 180° ± 10°       |
| Connector wire gauge  | # 28 AWG 0.08*60 |
| Connector wire length | 300 ± 5 mm       |
| Horn gear spline      | ψ5.8*25T         |
| Horn type             | Single, Double   |
| Reduction ratio       | 1/298            |
| Motor Type            | Brushless Motor  |

## Control Specification

| Item               | Standard                        |
|--------------------|---------------------------------|
| Control system     | Pulse Width Modification        |
| Amplifier type     | 333Hz Digital Controller        |
| Operating travel   | 90° (1500→2000 μsec)            |
| Neutral position   | 1500 μsec                       |
| Dead band width    | 2 μsec                          |
| Rotating direction | Clockwise (when 1500→2000 μsec) |
| Pulse width range  | 800→2200 μsec                   |
| Maximum travel     | Approx 125°(when 800→2200 μsec) |

## Appearance Inspection

Appearance: No damage which affects functions allowed

Outline Drawing: Dimension see below

\*mm

