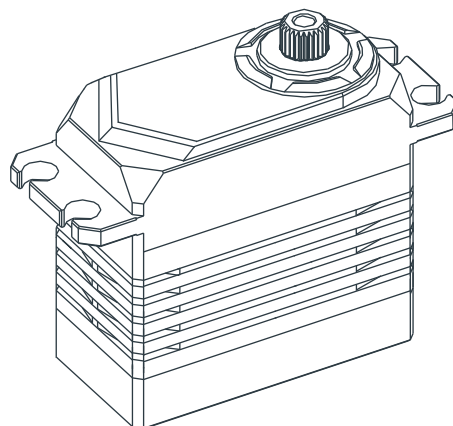


## SRT Standard Servo (BHX8)

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
- Superior Holding Torque
- Incredible efficiency and low power consumption
- Standard dimension make it perfect for vehicles that can benefit from a high quality servo
- CNC Machined aluminum case for exceptional cooling
- Programmable High torque Brushless servo
- Supporting SXR, SUR, SR, SFR multiple ultra high speed modes
- 25T output shaft
- 2  $\mu$ sec Dead Band
- 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  $25\pm 5^{\circ}\text{C}$  and relative humidity  $65\pm 10\%$ , 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)             | 0.11 sec/60° | 0.078 sec/60° | 0.07 sec/60° |
| Running current at no load(Slow to Fast) | 200 mA       | 300 mA        | 300 mA       |
| Stall torque (at locked)                 | 50.0 kg-cm   | 55.0 kg-cm    | 60.0 kg-cm   |
| Stall current (at locked)                | 2000 mA      | 2300 mA       | 2600 mA      |
| Idle current (at stopped)                | 70 mA        | 80mA          | 80mA         |

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

## Mechanical Specification

| Item                  | Standard                     |
|-----------------------|------------------------------|
| Materials of the gear | Steel                        |
| Weight                | $82 \pm 1\text{g}$           |
| Limit angle           | $180^{\circ} \pm 10^{\circ}$ |
| Connector wire gauge  | # 28 AWG 0.08*60             |
| Connector wire length | $295 \pm 5\text{ mm}$        |
| Horn gear spline      | $\psi 5.9*25\text{T}$        |
| Horn type             | Single, Double               |
| Reduction ratio       | 1/369                        |
| Motor Type            | Brushless Motor              |

## Control Specification

| Item               | Standard                             |
|--------------------|--------------------------------------|
| Control system     | Pulse Width Modification             |
| Amplifier type     | 333Hz Digital Controller             |
| Operating travel   | 90° (1000→2000 $\mu$ sec)            |
| Neutral position   | 1500 $\mu$ sec                       |
| Dead band width    | 2 $\mu$ sec                          |
| Rotating direction | Clockwise (when 1500→2000 $\mu$ sec) |
| Pulse width range  | 900→2100 $\mu$ sec                   |
| Maximum travel     | Approx 110°(when 900→2100 $\mu$ sec) |

## Appearance Inspection

Appearance: No damage which affects functions allowed

Outline Drawing: Dimension see below

\*mm

