

# 01™ Hitec HS-311 15bit SMS V3.0



The Standard Supermodified Servo

No DEAD ZONE – Continuous Rotation – Full PID Control

15 bit ABSOLUTE ENCODER

## Overview

Our Hitec Standard - supermodified servos are based on a version of HS 311 Standard servo and are modified for continuous rotation of the output shaft (by removing in our lab the mechanical stop from the output servo gear) offering innovative PID position/speed control, rendering appropriate solutions for most inexpensive robotics applications. And don't worry we offer you also a legacy PPM interface.

The **HS-311** servos are powered by **Hitec** technology. The gears and the motor of this specific servo are manufactured by **Hitec** and their torque rating is 51 oz-in (3.7 kgcm) @ 6V. The equipped Cored Metal Brush motor can operate also up to 6.0 Volts.

The HS-311 is a perfect match for the SMS. Each modified servo is documented over an integration protocol so you know exactly its capabilities. Every shipped HS-311 supermodified has an INDIVIDUAL integration report that let you know exactly its characteristics. Also in our lab we have investigated the correct P,I,D (at no load) so you get the optimal repeatability!

**... and don't worry we are offering a warranty of 2 years .**



## Specifications



# Hitec HS - 311 15bit SMS V3.0

## Standard

<b>Weight (gr)</b>	43	<b>Actuator Mode</b>	Yes
<b>Dimensions (mm)</b>	39.88 x 19.81 x 36.32	<b>Wheel Mode</b>	Yes
<b>Resolution</b>	0.011 degs	<b>Communication without additional electronics</b>	RS-485/I2C/LEGACY PPM
<b>Rotation Measurement</b>	Continuous ( <b>64bit position counter</b> )	<b>Position Feedback</b>	Yes
<b>Encoder Type</b>	Absolute Magnetic Encoder	<b>Load Voltage Feedback</b>	Yes
<b>Ticks/rev</b>	<b>32768</b>	<b>Input Voltage Feedback</b>	Yes
<b>Torque (oz-in)</b>	<b>42 @ 4.8V / 51 @ 6V</b>	<b>Compliance/PID</b>	Yes
<b>Torque (kg-cm)</b>	<b>3 @ 4.8V / 3.7 @ 6V</b>	<b>Current Measurement</b>	Yes
<b>Speed (No Load) RPM</b>	62.5	<b>Overload Protection</b>	See our manual commands 11.2.6 & 11.2.7 (pp28,29)
<b>Maximum Current</b>	4900 mA	<b>Velocity</b>	Can be provided as ticks/sec
<b>Motor Type</b>	Cored Metal Brush	<b>Realtime tick</b>	YES
<b>Standby</b>	30 mA	<b>Joint Torque Sensing</b>	Via command getcurrent (11.2.6)
<b>Gear</b>	<b>NYLON</b>	<b>Setpoints</b>	YES – (velocity & Position)

## Also keep in mind ...

- The perfect servo for inexpensive apps!
- Modified for continuous rotation (360 degrees) with 32768 ticks/rev!
- Continuous Rotation WITHOUT DEAD BAND and 3.7 kgcm torque (@6V)
- Selection of communication bus: I2C, RS485 and Legacy PPM offered.
- Nylon Gears & Plastic bushing support.
- 64 bit position measurement.
- Positioning repeatability up to 50 ticks.
- 2 year warranty offered by 01

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