Hitec HS-785HB Winch Servo

Accessories Bag

Product Description

The HS-785HB winch servo with it’s large drum wheel has 8 revolutions of travel. With its dual ball bearing supported output shaft the HS-785HB will provide years of reliable service when used in RC applications.

RC servos are hobbyist remote control servos typically used in radio-controlled models, where they provide actuation for various mechanical systems such as the steering of a car, the flaps on a plane, or the rudder of a boat. These servos are not industrial grade and are not recommended for continuous heavy use.

Motor Controllers

The 3201 – Winch Servo can be used with the following Phidget motor controllers:

- 1066 – PhidgetAdvancedServo 1-Motor
- 1061 – PhidgetAdvancedServo 8-Motor

You must, though, use the 1061 if you want to get the maximum torque out of your motor.

Undocumented Feature

When testing the winch servo we found out that the motor will go into continuous rotation mode when provided with a target position outside its documented range. Target Positions between 2670 and 2730µs will produce clockwise rotation in increasing velocity and positions between 550 to 350µs

will product counter-clockwise rotation in increasing velocity.

Set Phidget_ServoType to PHIDGET_SERVO_RAW_us_MODE to be able to command the Target Position in µs instead of degrees.

Resources

- Servo Motor and Controller Primer
- Hitec Data Sheet
- Service Manual

Errata: The manufacturer's data sheet gives 1.75 turns as the operating travel. The actual number of rotations is 7 to 8 as stated in the product specifications below.

Product Specifications

Motor Properties

Motor Type	Limited Rotation Servo
Range of Rotation	Approx. 2700°
Maximum Speed at Rated Voltage	225°/s
Rated Torque	11 kg·cm

Physical Properties

Gear Train Material	4 Metal, 2 Plastic
Bearing Type	Dual Ball Bearing
Motor Length	50 mm
Motor Width	59 mm
Motor Depth	29 mm
Weight	110 g

Electrical Properties

Rated Voltage	5 V DC
Rated Current (on 1061 controller)	80 mA
Rated Current (on 1066 controller)	70 mA
Stall Current (on 1061 controller)	1.3 A
Stall Current (on 1066 controller)	420 mA

These product specifications are based on our own tests using the HS-785 motor with the Phidgets 1061 and 1066 motor controllers.