



Feedback 360 Degree - High Speed Continuous Rotation Servo

PRODUCT ID: 3614

• Description

Harder, better, faster, stronger! All the control and customization for your robot project. The Parallax Feedback 360° High Speed Servo has the functionality of a light-duty servo, continuous rotation servo, high-speed servo, and encoder in one convenient package - what a triple threat!

Like most continuous rotation servos, this is controlled by a standard 50 Hz pulse-width-modulation signal. But it adds a little extra - a feedback wire. This wire connects to an internal Hall effect sensor that will give you the absolute location/rotation of the horn. This feedback makes it easy to create projects where you want to turn and hold any angle with an unlimited range of motion! Or, rotate the servo continuously at a controlled speed—up to 120 RPM—as a robot drive motor.

Works great with the [Motor Shield for Arduino](#), [Servo/PWM HAT for Raspberry Pi](#), or our [16-channel Servo Driver](#), or by wiring up with the [Servo Arduino library](#) or CircuitPython code. Just about every microcontroller platform has support for analog Servo driving.

- Features
 - Bidirectional, continuous, feedback-controllable rotation from -120 to 120 RPM
 - PWM positional feedback across entire angular range
 - Internal Hall effect position sensor, which is not subject to wear or sensor deadband as are potentiometer-style feedback systems
 - No need to manually “center” the servo
 - 3-pin ground-power-signal cable plugs onto standard 0.1" 3-pin headers used for servos
 - Separate single wire with female connector supplies feedback to a separate I/O pin

• Technical Details

Specifications

- RPM: +/-120 w/feedback control, 140 max (+/- 10) @ 6 V, no load
- Gears: POM
- Case: Nylon & fiberglass
- Spline: 25-tooth, 5.96 mm OD
- Peak stall torque @ 6 V: 2.2 kg-cm (30.5 oz-in)
- Voltage requirements: 6 VDC typical, 5–8.4 VDC max range*
- Current requirements: 15 mA (+/- 10) idle, 150 mA (+/- 40) no-load, 1200 mA stalled
- Control signal: PWM, 3–5 V 50 Hz, 1280–1720 μ s
- Control signal zero-speed deadband: 1480–1520 μ s (+/- 10)
- Feedback sensor: Hall effect
- Feedback signal: PWM, 3.3V, 910 Hz, 2.7–97.1% duty cycle
- Product weight: 1.4 oz (40 g)
- Cable length: ~ 9.8 in (250 mm)
- Dimensions: approx. 2.15 x 1.46 x 0.79 in (50.4 x 37.2 x 20 mm)
- Mounting hole spacing: 10 x 49.5 mm on center
- Operating temperature range: 5 to 158 °F (-15 to +70° C)

*5 VDC is absolute minimum required for no-load angular position control. We recommend 5.8 to 8 VDC for continuous rotation speed control.