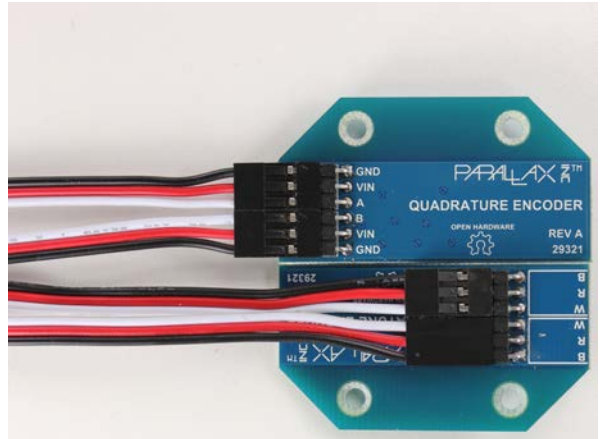


## 36-position Quadrature Encoder Set (#29321)

The Parallax 36-position Quadrature Encoder Set conveniently provides rotational feedback for robotic or mechanical drive systems. Although these Encoders were designed specifically for the Motor Mount and Wheel Kit #28962 (which is included with the Arlo Complete Robot System #28966), it can be used for many other applications that require real-time rotational feedback. Therefore, you can use this kit with your own custom robots or any mechanical systems with 1/2" diameter axles.

Although earlier versions of this kit *did not* require soldering, they now do. This provides more flexibility for cable routing in order to make more reliable connections.



### Features

- Provides two out-of-phase outputs from within a single sensor assembly
- 36-position Delrin encoder disks are incised to firmly grip 1/2" diameter axles
- Dual-signal out-of-phase outputs indicate direction, pulse widths indicate speed, and number of pulses indicates distance traveled
- Small form-factor and low voltage/current operation are easy to integrate with your robotic system
- 6-pin, single row header with 0.1" spacing provides a simple 4-wire or dual 3-wire interface

### Kit Contents

- (2) Quadrature encoder circuit boards
- (2) Encoder disks, 36-position
- (4) 3-wire extension cables, 12"
- (4) flat-head screws, #4-40

### Specifications

- Power requirements: 2.5 VDC @ 3.5 mA, 3.0 VDC @ 5.0 mA, 11.6 ma @ 5.5 VDC max.
- Communication: two-channel high/low pulse output
- Dimensions: 2.0 x 1.1 x .25 in (5.1x 2.7 x 0.6 cm)
- Operating temp.: 32–158 °F (0–70 °C)

### Tools Required

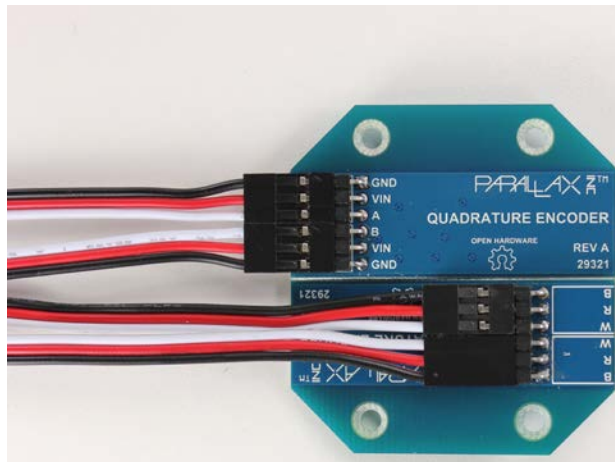
- Small Philips screwdriver
- Soldering iron
- Solder
- Flux
- Safety eyewear

## Assembly Instructions

You can solder each of the 6-pin right-angle headers in any orientation you choose, depending on your application. If you are using these Encoders with the Parallax Motor Mount and Wheel Kit (#28962), then insert the right-angle portion of the headers into the boards as shown below. This allows all four of the encoder cables to go in the same direction when mounted to the Motor Bearing Blocks.



Next, connect two 3-pin cables to each of the Encoder Boards as shown here. The Black wires are ground, the Red wires are +V (typically +3.3v to +5.0v) and the White wires deliver the pulses to your circuit,



The (4) Phillips-head screws are used to mount the boards to the device of your choosing. Typically they will be used to attach the Encoder boards to the Parallax Motor Mount and Wheel Kit (#28962)

**Revision History:** Version 1.1; soldering now required.