Quadrature Encoder Phidget

A quadrature encoder is the most commonly used feedback device for a DC or stepper motor. With an encoder, you can keep track of how far your motor has turned, which then allows you to control the position and velocity in your code. Whether you want to build a robot whose wheels can respond to uneven terrain or measure the speed of a bicycle, you'll need an encoder and this adapter. The ENC1000 connects to a port on a **VINT Hub**. See the "Comaptible Products" tab for a list of hubs.

High Compatibility

The Quadrature Encoder Phidget can read incremental encoders with line driver, open collector, or push-pull output circuits by selecting the appropriate mode in our API. For line driver and open collector, you can also choose between 2.2 kΩ or 10 kΩ resistors. Basically, if you have a 0-5V quadrature encoder, this adapter can read it. It can read at speeds of up to 100,000 quadrature cycles per second, which is faster than any motor we sell at Phidgets.

Power Saving Options

If power consumption is imporant in your project, you can turn off the encoder through a command in software when you know the attached device won't be turning. When the encoder is not being powered, this board draws a mere 20µA of current.

Product Specifications

Board Properties	
Controlled By	VINT

Encoder Interface	
Number of Encoder Inputs	1
Count Rate Max	400000 pulses/s
Encoder Interface Resolution	x4
Time Resolution	1 µs
Encoder Input Low Voltage Max	2.4 V DC
Encoder Input High Voltage Min	2.6 V DC
Sampling Interval Min	20 ms/sample
Sampling Interval Max	1 s/sample
Pull-up Resistance (Open Collector)	2.2 kΩ or 10 kΩ
Pull-down Resistance (Line Driver)	2.2 kΩ or 10 kΩ
Electrical Properties	
Current Consumption Min	(unconfigured) 24.6 µA
Current Consumption Max	encoder current + 4.2 mA
Physical Properties	
Operating Temperature Min	-40 °C
Operating Temperature Max	85 °C