2.5A Stepper Phidget

If you're looking for a compact solution for controlling a medium-sized stepper motor, the STC1001 is an affordable and convenient option. You can control the position, velocity, and acceleration of the motor by sending commands from your program. This Phidget connects to a VINT Hub; for a list of options see the "Compatible Products" tab.

Safety Features

The STC1001 comes equipped with a heatsink to prevent the board from overheating during use. The power terminals on this device are polarity protected: if you happen to hook up the power supply backwards, the device simply won't power up and won't be damaged. A 5-amp automotive-style fuse is also included to protect the board from current spikes from the motor's back-EMF. This Phidget is isolated from input to output, so your VINT hub and computer will be protected if anything goes wrong.

Power Saving Options

For power-conscious users, we also allow for separate control over the current limit and the holding current limit. If you know your motor will be stationary for long periods of time, but still needs a small amount of holding torque to maintain its position, you can set the holding current appropriately without interfering with the running current limit.

Product Specifications

Board Properties	
Controlled By	VINT
Controller Properties	
Motor Type	Bipolar Stepper
Number of Motor Ports	1
Motor Position Resolution	1/16 Step (40-Bit Signed)
Position Max	± 1E+15 1/16 steps
Stepper Velocity Resolution	1 1/16 steps/sec

Stepper Velocity Max	115000 1/16 steps/sec
Stepper Acceleration Resolution	1 1/16 steps/sec²
Stepper Acceleration Min	2 1/16 steps/sec²
Stepper Acceleration Max	1E+07 1/16 steps/sec²
Sampling Interval Min	100 ms/sample
Sampling Interval Max	60 s/sample
Electrical Properties	
Available Current per Coil Max	2 A
Supply Voltage Min	8 V DC
Supply Voltage Max	30 V DC
Current Consumption Min (VINT Port)	500 µA
Current Consumption Max (VINT Port)	1 mA
Quiescent Power Consumption Max	* 200 mW
Physical Properties	
Recommended Wire Size	16 – 26 AWG
Operating Temperature Min	-20 °C
Operating Temperature Max	85 °C

* This is the power consumption for the board only. Add the motor’s rated power consumption for total maximum power consumption.