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Getting Started

Welcome to the STC1001 user guide! In order to get started, make sure you have the following hardware on hand:

- STC1001- 2.5A Stepper Phidget
- VINT Hub
- Phidget cable
- · USB cable and computer
- Power supply (8-30 V DC)
- 4-wire, 6-wire, or 8-wire bipolar stepper motor

Next, you will need to connect the pieces:



- 1. Connect the STC1001 to the VINT Hub using the Phidget cable.
- 2. Connect the stepper motor to the Phidget's output terminals. See your motor's data sheet or product page for wiring instructions.
- 3. Connect the VINT Hub to your computer with a USB cable.
- 4. Connect the power supply to the power terminals on the STC1001.

Now that you have everything together, let's start using the STC1001!

Using the STC1001

Phidget Control Panel

In order to demonstrate the functionality of the STC1001, the Phidget Control Panel running on a Windows machine will be used.

The Phidget Control Panel is available for use on both macOS and Windows machines. If you would like to follow along, first take a look at the getting started guide for your operating system:

- · Getting started with Windows
- Getting started with macOS

Linux users can follow the getting started with Linux guide and continue reading here for more information about the STC1001.

First Look

After plugging the STC1001 into your computer and opening the Phidget Control Panel, you will see something like this:

P Phid	get Control Pane	21			– U	~
File	Help					
Phidgets	Network Server	PhidgetSBCs				
Name - Loca	A Phidgets		Serial #	Label	Channel	Version
⊨- \$ 6-Port USB VINT Hub Phidget			370097			118
6	Port 0					
	- 2.5A Ste	pper Phidget			0	100
6	Port 1					
6	Port 2					
6	Port 3					
6	Port 4					
F	Port 5					

The Phidget Control Panel will list all connected Phidgets and associated objects, as well as the following information:

- Serial number: allows you to differentiate between similar Phidgets.
- Channel: allows you to differentiate between similar objects on a Phidget.
- Version number: corresponds to the firmware version your Phidget is running. If your Phidget is listed in red, your firmware is out of date. Update the firmware by double-clicking the entry.

The Phidget Control Panel can also be used to test your device. Double-clicking on an object will open an example.

Stepper Motor

Double-click on the Stepper object, labelled Stepper Phidget, in order to run the example:

P Bipolar Stepper Controller	_		^
Phidget Info			
Attached: STC1001 - 2.5A Stepper Phidget			
Version: 100 Hub Serial Number: 370097 Channel: 0 Hub Port: 0			
Motor Status			
Rescale Factor: 1 Set			
Motor Position: N/A Motor Velocity: N/A		Engage	
Position (Step) Control Velocity (Continuous) Control			
Acceleration: 10000			
Acceleration: 10000		1000	0000
Acceleration: 10000 2 Velocity Limit: 10000		1000	0000
Acceleration: 10000 2 Velocity Limit: 10000		1000	0000
Acceleration: 10000 2 Velocity Limit: 10000 0 Target Position: 0	00000	1000 1150 Range	0000
Acceleration: 10000 2 Velocity Limit: 10000 0 Target Position: 0 1 -100000	00000	1000 1150 Range	0000 00
Acceleration: 10000 2 Velocity Limit: 10000 0 Target Position: 0 10000 Current Limit: 1 A	00000	1000 1150 Range	0000

General information about the selected object will be displayed at the top of the window. You can also experiment with the following functionality:

- Toggle the *Engage* button to provide power to the motor coils.
- By default, motor position, velocity, and acceleration are measured in sixteenths of a step. If you want to use different units, change the value in the *Rescale Factor*textbox.
- Use the *Target Position* slider to set a new target position. Change the *Acceleration* and *Velocity* sliders to speed up or slow down the STC1001's approach.
- Select the Velocity (Continuous) Control tab for continuous rotation instead of specifiying a position.

Technical Details

Rescale Factor

Further Reading

For more information, have a look at the Stepper Motor and Controller Primer.

What to do Next

- Software Overview Find your preferred programming language here to learn how to write your own code with Phidgets!
- General Phidget Programming Read this general guide to the various aspects of programming with Phidgets. Learn how to log data into a spreadsheet, use Phidgets over the network, and much more.
- Phidget22 API The API is a universal library of all functions and definitions for programming with Phidgets. Just select
 your language and device and it'll give you a complete list of all properties, methods, events, and enumerations that are at
 your disposal.