

# Phidgets Tutorial

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# What are Phidgets?

- plug and play building blocks for low cost USB sensing and control from your PC
- Published in UIST 2001: Greenberg and Fitchett
- [www.phidgets.com](http://www.phidgets.com)



# Inputs (Sensors)

- Linear Touch
- Circular Touch
- Temperature
- Knob
- Ph
- Accelerometer
- IR reflective
- Vibration
- Force
- Gas Pressure
- Light
- Magnetic
- Rotation
- Touch
- Motion
- Slider
- Joy Stick
- Pressure
- Current
- Voltage
- Sonar
- IR Distance

**Best Selection of Sensors!**

# Outputs

- Motor
  - Servo
  - Stepper
  - DC



- Display
  - Text LCD

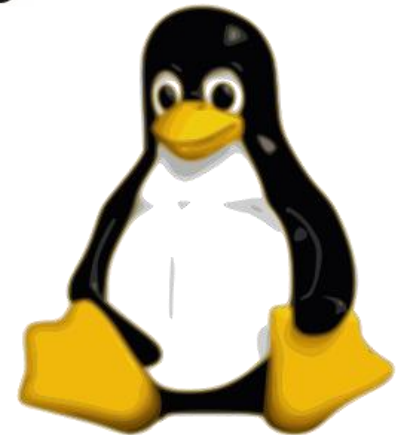


- Host Computer



# Platforms

- Windows
- Linux
- Mac OS X
- Windows Mobile/CE
- SBC Firmware
- iPhone



# Software API

- Adobe Director
- C#
- Cocoa
- Flash AS3
- Java
- Matlab
- Microsoft Robotics Studio 1.5
- REALBasic
- Visual Basic 6.0
- Visual Basic Script
- Autolt
- C/C++
- Delphi
- Flex AS3
- LabVIEW
- Max/MSP
- Python
- Visual Basic .NET
- Visual Basic for Application
- Visual C/C++/Borland

[http://www.phidgets.com/programming\\_resources.php](http://www.phidgets.com/programming_resources.php)

# Phidget Control Panel

- <http://www.phidgets.com/drivers.php>

The screenshot displays the Phidget Control Panel software interface, which is divided into several windows and panels. The main window, titled "Phidget Control Panel", has tabs for "General", "WebService", and "PhidgetSBC". The "General" tab is active, showing library information and a table of locally attached devices. The table lists three devices: "Phidget Servo Controller 1-motor" (Serial Number: 45014, Version: 313), "Phidget InterfaceKit 8/8/8" (Serial Number: 68081, Version: 123), and "Phidget TextLCD" (Serial Number: 68081, Version: 123). The "Phidget TextLCD" device is highlighted in blue. Below the table, an orange banner reads "Devices Connected".

To the right of the main window are three smaller windows. The "Servo-full" window shows settings for the "Phidget Servo Controller 1-motor", including "Attached: True", "Name: Phidget Servo Controller 1-motor", "Serial No.: 45014", "Version: 313", "Servos: 1", "Servo Position" (Servo No.: 0, Type: HITEC\_HS322HD, Position: 180), and an "Engaged" checkbox. The "InterfaceKit-full" window shows settings for the "Phidget InterfaceKit 8/8/8", including "Attached: True", "Name: Phidget InterfaceKit 8/8/8", "Serial No.: 68081", "Version: 123", "Digital Inputs: 8", "Digital Outputs: 8", "Analog Inputs: 8", and "Analog In" settings (Ratiometric checked, Input Sensitivity: 10). The "TextLCD-full" window shows settings for the "Phidget TextLCD", including "Attached: True", "Name: Phidget TextLCD", "Serial No.: 68081", "Version: 123", "LCD Control" (Display text: [empty], Contrast: [slider]), and checkboxes for "Backlight", "Cursor", "Cursor Blink", and "Custom Characters".

At the bottom of the interface, an orange banner reads "Control Panel".

# Demo

- **Inputs:** RFID reader, Slider
- **Output:** LCD, Servo motor, and Command Line
  
- All written in python using resources at [http://www.phidgets.com/programming\\_resources.php](http://www.phidgets.com/programming_resources.php)
- Demo code available at: [www.gabeacohn.com/teaching/micro](http://www.gabeacohn.com/teaching/micro)