

1111 User Guide



Go to this device's product page ^[1]

Getting Started

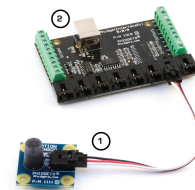
Checking the Contents

You should have received: **In order to test your new Phidget you will also need:**

- A Motion Sensor
- A PhidgetInterfaceKit 8/8/8 or a PhidgetTextLCD
- A Sensor Cable
- A USB Cable


Connecting the Pieces

1. Connect the Motion Sensor to the Analog Input 6 on the PhidgetInterfaceKit 8/8/8 using the sensor cable.
2. Connect the PhidgetInterfaceKit to your PC using the USB cable.




Testing Using Windows 2000 / XP / Vista / 7

Make sure you have the current version of the Phidget library installed on your PC. If you don't, follow these steps:

1. Go to the Quick Downloads section on the Windows page
2. Download and run the Phidget21 Installer (32-bit, or 64-bit, depending on your system)
3. You should see the  icon on the right hand corner of the Task Bar.


Running Phidgets Sample Program

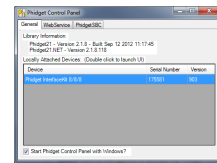
Double clicking on the  icon loads the Phidget Control Panel; we will use this program to ensure that your new Phidget works properly.

The source code for the **InterfaceKit-full** sample program can be found in the quick downloads section on the C# Language Page. If you'd like to see examples in other languages, you can visit our Languages page.

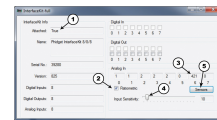
Updating Device Firmware

If an entry in this list is red, it means the firmware for that device is out of date. Double click on the entry to be given the option of updating the firmware. If you choose not to update the firmware, you can still run the example for that device after refusing.

Double Click on the  icon to activate the Phidget Control Panel and make sure that the **Phidget InterfaceKit 8/8/8** is properly attached to your PC.

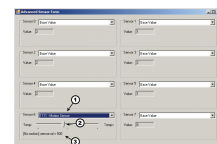


1. Double Click on **Phidget InterfaceKit 8/8/8** in the Phidget Control Panel to bring up InterfaceKit-full and check that the box labelled Attached contains the word True.
2. Make sure that the Ratiometric box is Ticked.
3. When there is no movement the value in the Analog In box is around 500. If you wave your hand in front of the sensor you will see this number vary rapidly up and down. Numbers outside the 400 to 600 range denote the detection of a moving object.
4. You can adjust the input sensitivity by moving the slider pointer.
5. Click on the Sensors button to bring up the Advanced Sensor Form.



1. In the Sensor 6 box, select the 1111 - Motion Sensor from the drop down menu.
2. The infrared variance detected by an object moving in front of the sensor is shown here.
3. Formula used to convert the analog input SensorValue into motion.

Note: This sensor is designed to measure relative changes in temperature.



Testing Using Mac OS X

1. Go to the Quick Downloads section on the Mac OS X page
2. Download and run the Phidget OS X Installer
3. Click on System Preferences >> Phidgets (under Other) to activate the Preference Pane
4. Make sure that the Phidget InterfaceKit 8/8/8 is properly attached.
5. Double Click on Phidget InterfaceKit 8/8/8 in the Phidget Preference Pane to bring up the InterfaceKit-full Sample program. This program will function in a similar way as the Windows version.

Using Linux

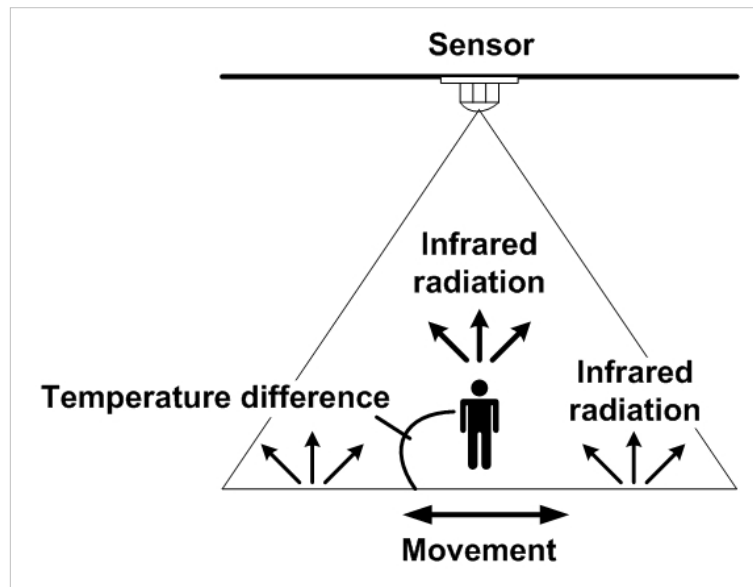
For a step-by-step guide on getting Phidgets running on Linux, check the [Linux](#) page.

Using Windows Mobile / CE 5.0 / CE 6.0

For a step-by-step guide on getting Phidgets running on Windows CE, check the [Windows CE](#) page.

Technical Details

This sensor detects changes in infrared radiation which occur when there is movement by a person (or object) which is different in temperature from the surroundings. As this sensor detects temperature differences, it is well suited to detecting the motion of people by their body temperature. The sensor is also characterized by a narrow sensing area.

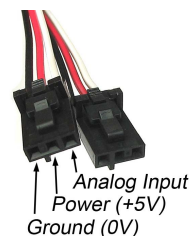


Other Interfacing Alternatives

If you want maximum accuracy, you can use the `RawSensorValue` property from the `PhidgetInterfaceKit`. To adjust a formula, substitute `(SensorValue)` with

$(\text{RawSensorValue} / 4.095)$ If the sensor is being interfaced to your own Analog to Digital Converter and not a Phidget device, our formulas can be modified by replacing `(SensorValue)` with $(V_{in} * 200)$. It is important to consider the voltage reference and input voltage range of your ADC for full accuracy and range.

Each Analog Input uses a 3-pin, 0.100 inch pitch locking connector. Pictured here is a plug with the connections labelled. The connectors are commonly available - refer to the [Analog Input Primer](#) for manufacturer part numbers.



API

Phidget analog sensors do not have their own API- they simply output a voltage that is converted to a digital value and accessed through the "Sensor" properties and events on the `PhidgetInterfaceKit` API. It is not possible to programmatically identify which sensor is attached to the Analog Input. To an `InterfaceKit`, every sensor looks the same. Your application will need to apply formulas from this manual to the **SensorValue** (an integer that ranges from 0 to 1000) to convert it into the units of the quantity being measured. For example, this is how you would use a temperature sensor in a C# program:

```
// set up the interfacekit object
InterfaceKit IFK = new InterfaceKit();

// link the new interfacekit object to the connected board
```

```
IFK.open("localhost", 5001);

// Get sensorvalue from analog input zero
int sensorvalue = IFK.sensors[0].Value;

// Convert sensorvalue into temperature in degrees Celsius
double roomtemp = Math.Round(((sensorvalue * 0.22222) - 61.11), 1);
```

See the PhidgetInterfaceKit User Guide for more information on the API and a description of our architecture.

For more code samples, find your preferred language on the Languages page.

Product History

Date	Board Revision	Device Version	Comment
June 2002	0	N/A	Product Release
August 2004	0	N/A	Analog input connector changed from stereo jack to 3-pin

References

[1] http://www.phidgets.com/products.php?product_id=1111

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