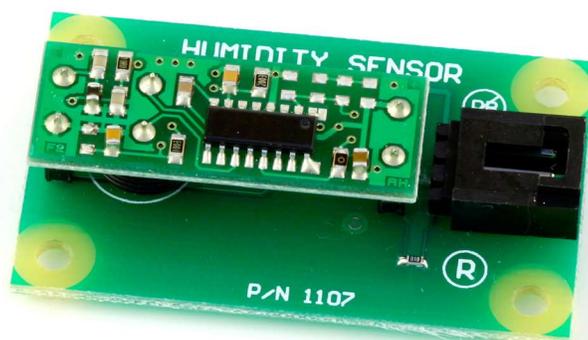


## Humidity Sensor



### Product Features

- Measures Relative Humidity from 10% to 95%.
- The sensor is Ratiometric

### Designed to be used with:

- 1018 PhidgetInterfaceKit 8/8/8
- 1202/1203 PhidgetTextLCD with InterfaceKit 8/8/8

# Getting Started

## Installing the Hardware

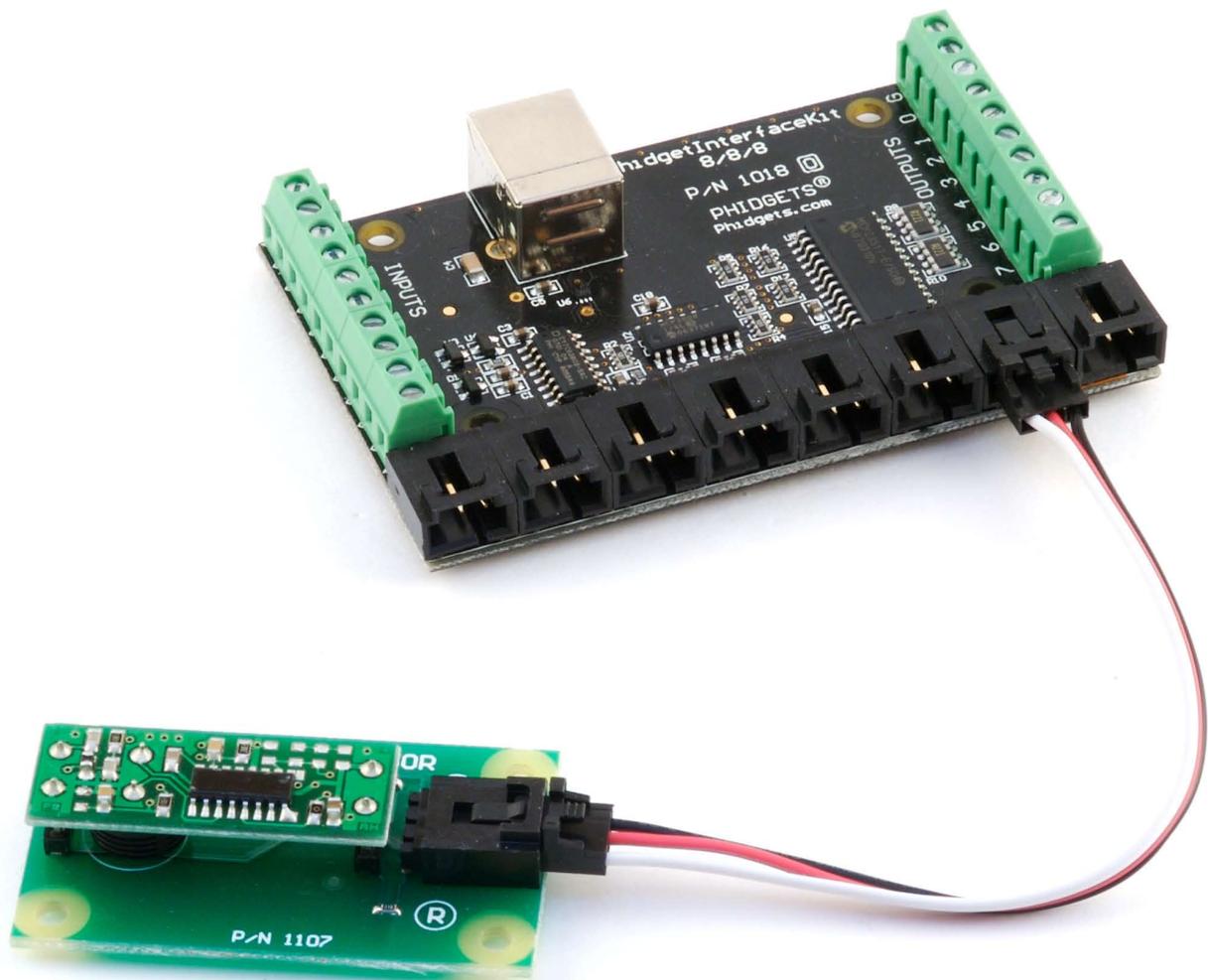
### The Kit contains:

- A Humidity Sensor
- A Sensor Cable

### You will also need:

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

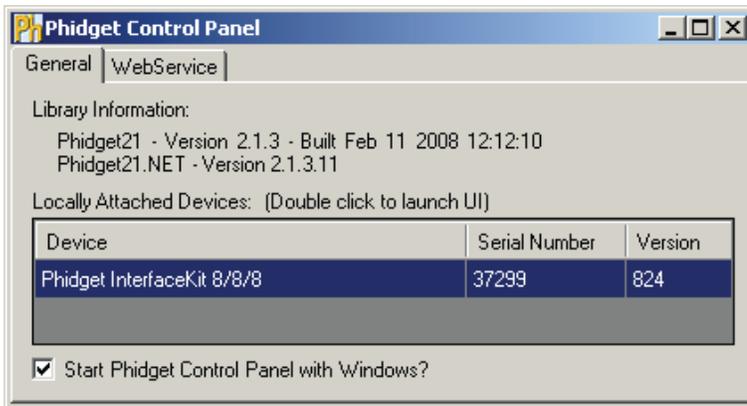
## Connecting all the pieces



Connect the Humidity Sensor to an Analog Input on the PhidgetInterfaceKit 8/8/8 board using the sensor cable.

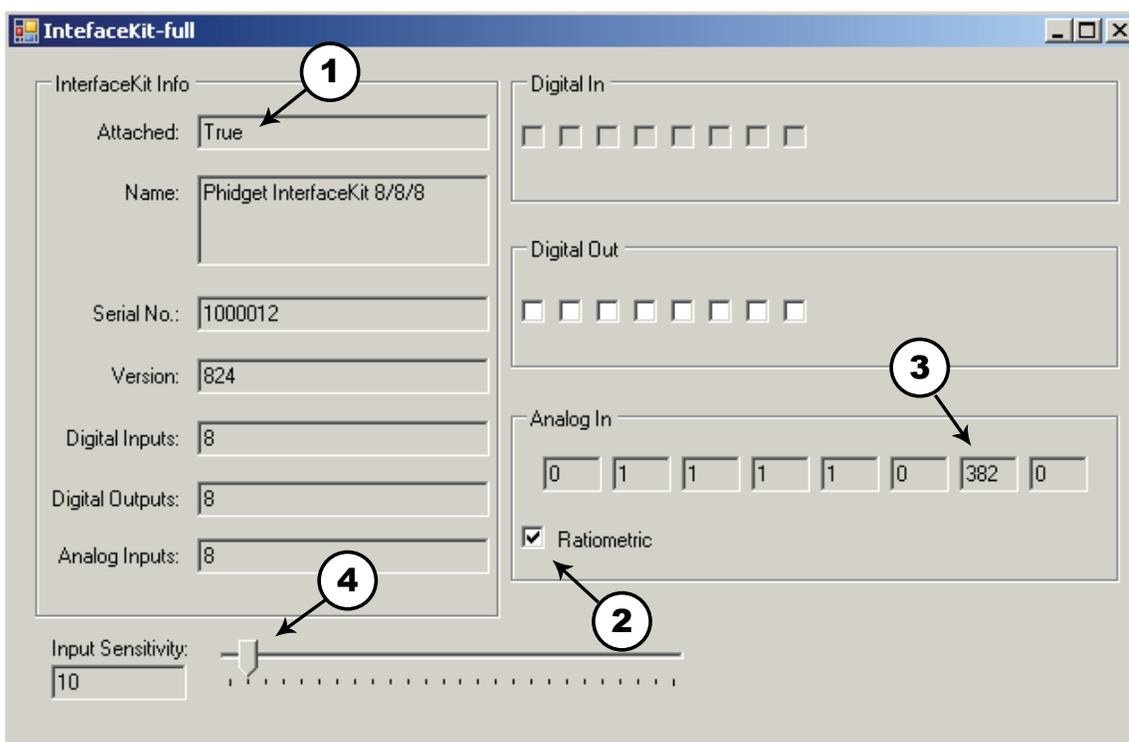
# Testing the Humidity Sensor connected to an InterfaceKit 8/8/8

## Using Windows 2000/XP/Vista



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

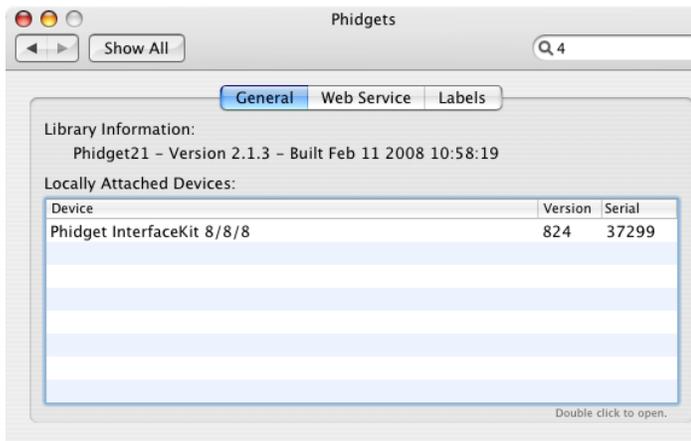
1. Double Click on Phidget InterfaceKit 8/8/8 in the Phidget Control Panel to bring up InterfaceKit-full and check that the box labelled Attached contains the word True.



2. Make sure that the Ratiometric box is Ticked.
3. Check the value in the Analog In box. The above value of 382, for example, equals to 32% relative humidity.
4. You can adjust the input sensitivity by moving the slider pointer.

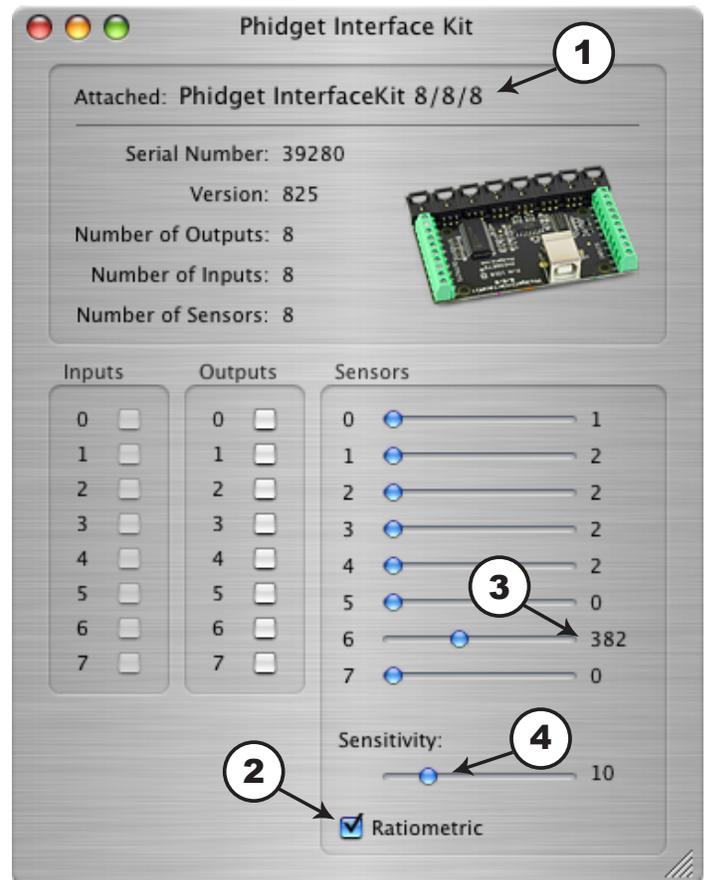
# Testing the Humidity Sensor connected to an InterfaceKit 8/8/8

## Using Mac OS X



Click on System Preferences >> Phidgets (under Other) to activate the Preference Pane. Make sure that the Phidget InterfaceKit 8/8/8 is properly attached.

1. Double Click on Phidget InterfaceKit 8/8/8 in the Phidget Preference Pane to bring up the Phidget Interface Kit Example and check that the Phidget InterfaceKit 8/8/8 is attached.
2. Make sure that the Ratiometric box is Ticked.
3. Check the value in the Sensors box. The above value of 382, for example, equals to 32% relative humidity.
4. You can adjust the input sensitivity by moving the slider pointer.



# Technical Information

This sensor measures the relative humidity of the environment around the sensor. Built in temperature compensation produces a linear output ranging from 10% to 95% relative humidity. Values outside of this range may be usable but will have increased error.

## Formulas

The Formula to translate SensorValue into Relative Humidity is:

$$RH (\%) = [(SensorValue/1000) \times 190.6] - 40.2$$

To translate RawSensorValue into Relative Humidity:

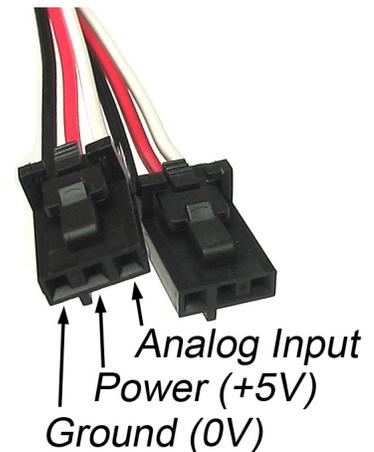
$$RH (\%) = [(RawSensorValue/4095) \times 190.6] - 40.2$$

If you are using a generic Analog to Digital Converter (not a Phidget device):

$$RH (\%) = \{[(Measured Value / (Max ADC Range - 1)) \times 190.6] - 40.2$$

## Analog Input Cable Connectors

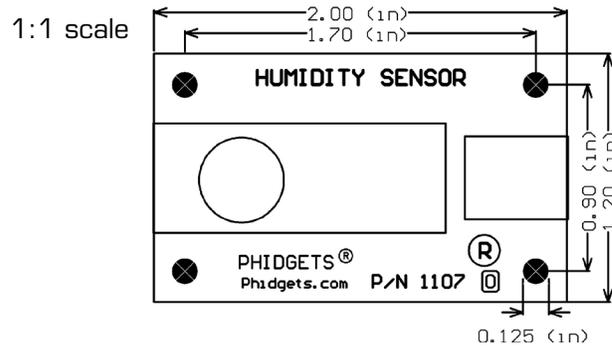
Each Analog Input uses a 3-pin, 0.100 inch pitch locking connector. Pictured here is a plug with the connections labeled. The connectors are commonly available - refer to the Table below for manufacturer part numbers.



Cable Connectors		
Manufacturer	Part Number	Description
Molex	50-57-9403	3 Position Cable Connector
Molex	16-02-0102	Wire Crimp Insert for Cable Connector
Molex	70543-0002	3 Position Vertical PCB Connector
Molex	70553-0002	3 Position Right-Angle PCB Connector (Gold)
Molex	70553-0037	3 Position Right-Angle PCB Connector (Tin)
Molex	15-91-2035	3 Position Right-Angle PCB Connector - Surface Mount

Note: Most of the above components can be bought at [www.digikey.com](http://www.digikey.com)

# Mechanical Drawing



## Device Specifications

Current Consumption	3.6mA
Output Impedance	1K ohms
Accuracy	±2% RH @ 55% RH

## Product History

Date	Product Revision	Comment
June 2005	n/a	Product Release