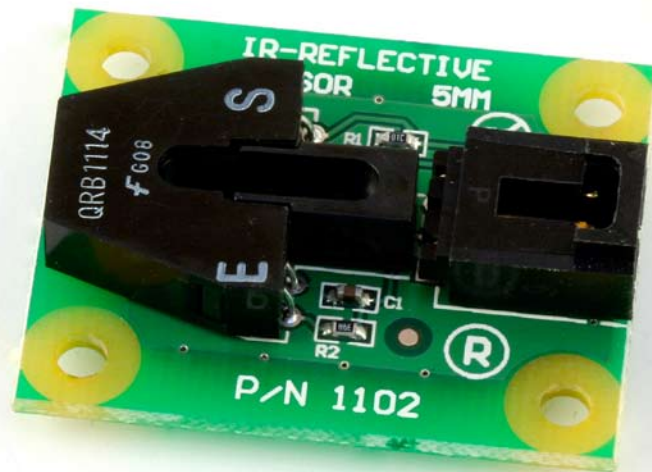# IR Reflective Sensor 5mm

Based on the QRB1114 this sensor can detect an object at 5mm. It can be used to determine the difference between low reflective conditions and high reflective conditions. This device is often used with a white/black pattern to detect movement, or to detect if a reflective object is close.

Designed For Use With:

- **PhidgetInterfaceKit 8/8/8**
- **PhidgetTextLCD with InterfaceKit 8/8/8**

Examples:

You will find program examples in the download section of www.phidgets.com

Getting Started

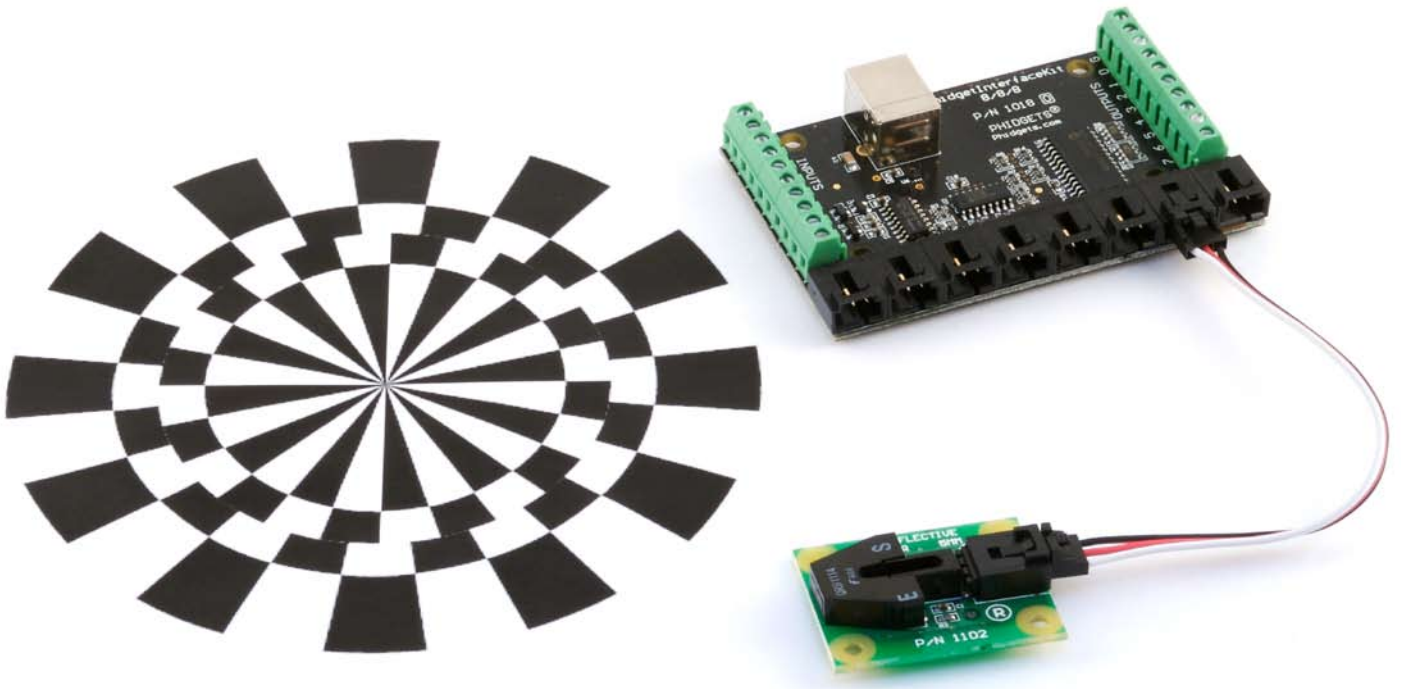## Installing the hardware

The kit contains:

- An IR-Reflective Sensor 5MM

- A Sensor Cable

You will also need:

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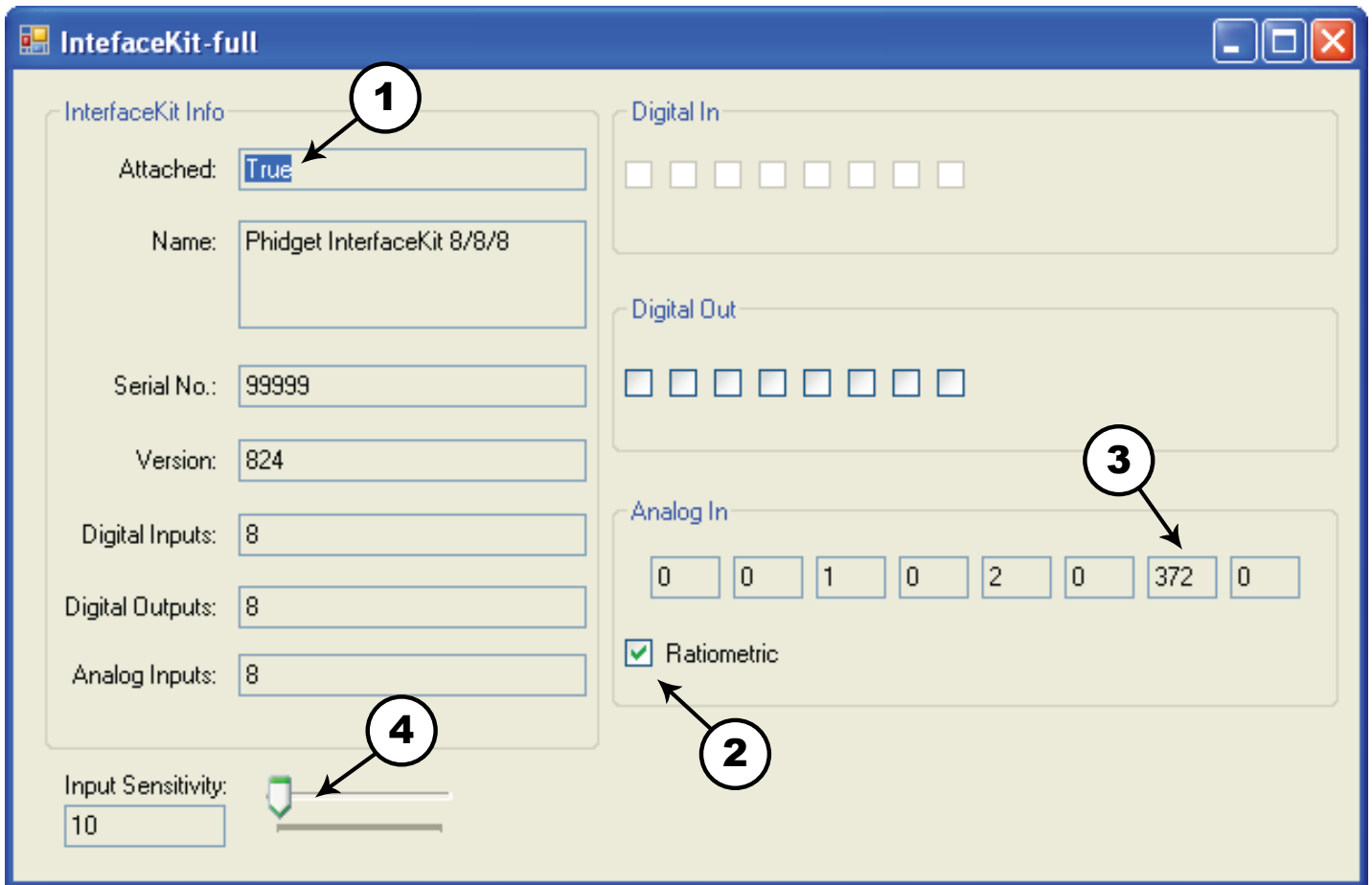
- A USB Cable

Connecting all the pieces

Connect the IR Reflective Sensor 5mm to an Analog Input on the PhidgetInterfaceKit 8/8/8 board using the sensor cable.

Testing the IR Reflective Sensor 5mm using Windows

Run the Program InterfaceKit-full.

1. Run the program ***InterfaceKit-full*** and check that the box labelled Attached contains the word True.

2. Make sure that the Ratiometric box is Ticked.

3. Place a piece of reflective material close (5mm) to the sensor and check the value in the Analog In box. Any value less than 400 means that the sensor has detected the object. If you want to use a pattern like the one we used in the Connecting the Hardware picture, do a search on the Web for "optical encoder pattern" and specify images.

4. You can adjust the input sensitivity by moving the slider pointer.

Technical Information

The Infrared sensor can detect an object at 5mm. It measures the amount of energy from the object and returns a value between 0 and 1000. A returned value between 0 and 400 signifies that the object has been detected. Values over 400 are not meaningful and can be treated as noise.

In theory, the returned value is inversely proportional to the amount of reflexivity of the object (0 being more reflective, and 400 being less reflective), but in practice the variation between sensors is broad enough that the numbers do not truly characterize the amount of reflectivity of the object.

The amount of reflectivity is measured by Infrared and some materials that look very reflective to the human eye might not be as reflective in the infrared spectrum.

The sensor can only detect objects that are between 3 to 7 mm away; it cannot see any objects outside that range.

Device Specifications

Current Consumption	15mA
Output Impedance	10K ohms

Mechanical Drawing

1:1 scale
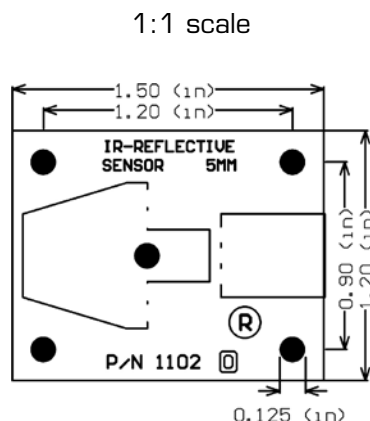
Product History

Date	Product Revision	Comment
October 2005	n/a	Product Release