



## SENSOR PACK

### LIGHT SENSOR

Provides a value between 0 and 10 depending on the intensity of light sensed. High intensity of light will give a low value and low light intensity will give a high value.

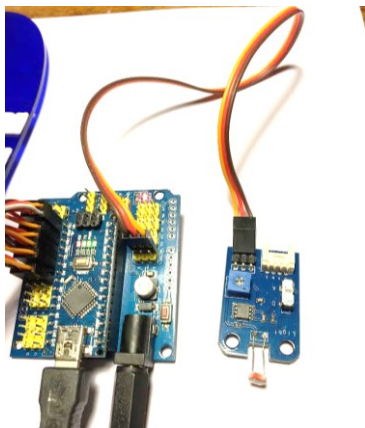


### PLUGGING IN THE SENSOR:

Locate pins A0 to A7 on the opposite side of the board to the ones used for Ohbots servos.

Select either A0, A1, A2 or A3. The one you choose doesn't matter as long as you remember which it is later.

Ensure that the plug is orientated so that the yellow cable is plugged in the on the side marked S and the brown/black cable plugs into the side marked G as shown below:

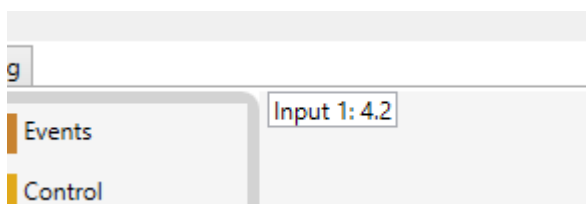


### ACCESSING THE SENSOR VARIABLE IN THE OHBOT SOFTWARE

In Ohbot software on the Sensing menu find the block shown below



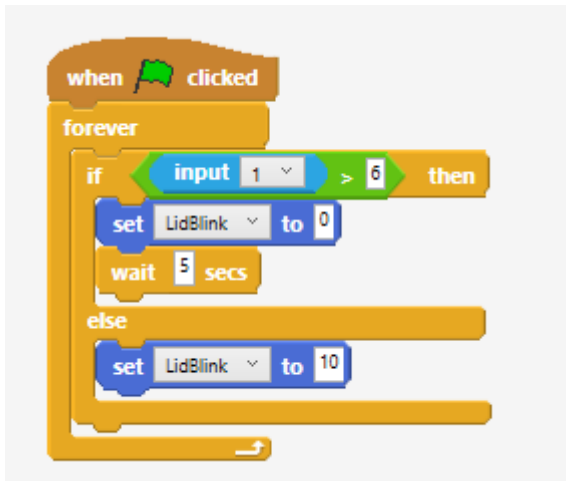
Click on the drop down chevron and select the pin you have connected to. So if you have connected the light sensor to A0 select Input 0, if A1 then select Input 1 and so on. Put a tick in the box next to the input block and you should see the value for the sensor shown at the top of the screen.



As you put your hand over the sensor you should find that the value changes accordingly.

## TRY THIS

Ohbot can be made to respond to light levels by using this variable within your programs. This program will make Ohbot shut its eyes for 5 seconds sleep if it is dark.



## TOUCH SENSOR

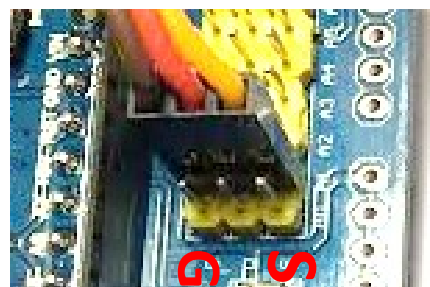
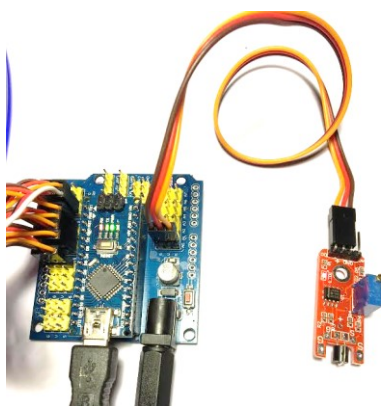
Provides a value depending whether the 'touch wire' on the end is touched. The value will be 0 if not touched and 10 if the wire on end is touched. The sensor can be mounted behind Ohbot's nose with the touch wire touching against the back of Ohbot's nose. In this way Ohbot can sense when its nose is touched.

## PLUGGING IN

Locate pins A0 to A7 on the opposite side of the board to the ones used for Ohbot's servos.

Select either A0, A1, A2 or A3. The one you choose doesn't matter as long as you remember which it is later.

Ensure that the plug is orientated so that the yellow cable is plugged in the one on the side marked S and the brown/black cable plugs into the side marked G as shown below:

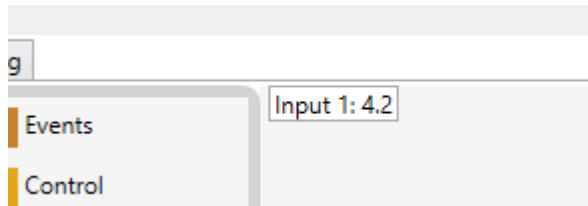


## ACCESSING THE SENSOR VARIABLE IN THE OHBOT SOFTWARE

In Ohbot software on the Sensing menu find the block shown below



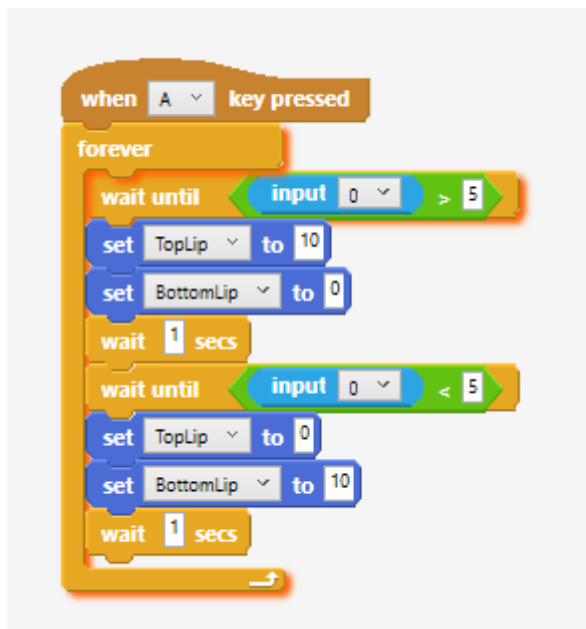
Click on the drop down chevron and select the pin you have connected to. So if you have connected the touch sensor to A0 select Input 0, if A1 then select Input 1 and so on. Put a tick in the box next to the input block and you should see the value for the sensor shown at the top of the screen.



As you touch the touch wire at the end of the sensor board you should find that the value changes accordingly.

#### TRY THIS

Ohbot can be made to respond to touch by using the input variable for the touch sensor within your program. This program will make Ohbot smile if the sensor is not touched and frown if the sensor is touched.

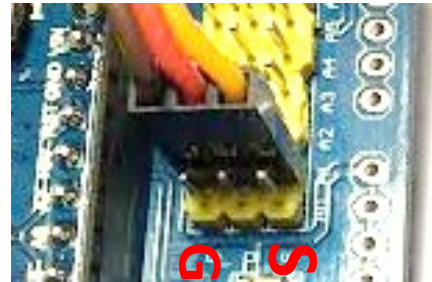
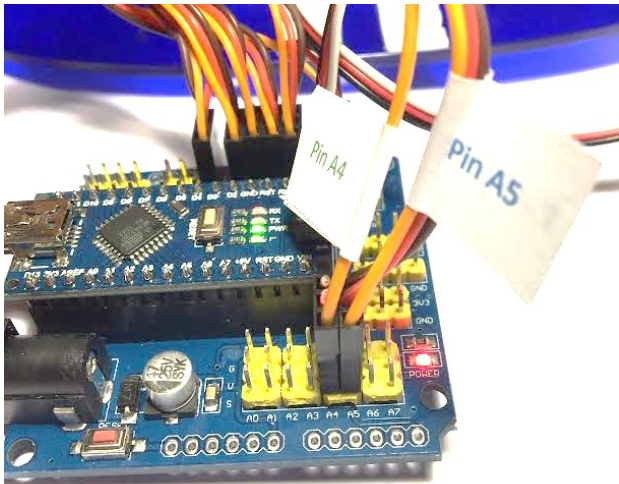


## TILT SENSOR

Provides two values based on the tilt and turn of the sensor.

## PLUGGING IN

Locate the pins marked A4 and A5. The tilt sensor can only be connected to these pins. Connect the plug labelled A4 to pins on the control board marked A4 and the one labelled A5 to pins marked A5. Ensure that the plugs are connected the correct way round.



## ACCESSING THE SENSOR VARIABLES IN THE OHBOT SOFTWARE

Before you can start using the tilt sensor a file will need to be saved into the Ohbot folder in My Documents.

1. Download the file from here: [www.tinyurl.com/tiltsensorohbot](http://www.tinyurl.com/tiltsensorohbot)
2. Save it into the Ohbot folder that is in My Documents or Documents

## TRY THIS

Ohbot can be made to move following the position of the sensor. This program sets the headturn and headnod position to the X and Y variables from the tilt sensor.

