

Electronics Optoisolator Breadboard Layout

Terry Sturtevant

Wilfrid Laurier University

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- Many sensors and other device use 5V logic.

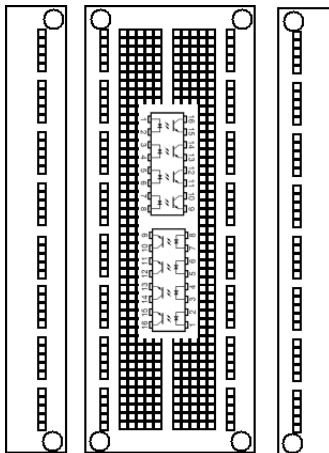
Optoisolator breadboard layout

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- Many sensors and other device use 5V logic.
- To mix the two, it is essential to protect the Raspberry Pi from potentially harmful voltages.

Optoisolator breadboard layout

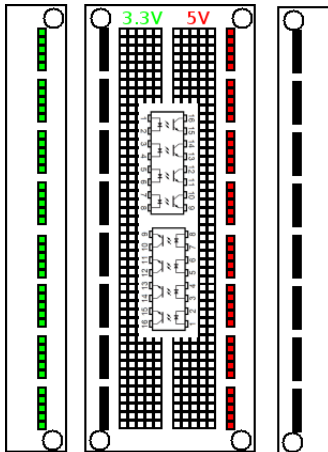
- The Raspberry Pi uses 3.3V logic.
- Many sensors and other device use 5V logic.
- To mix the two, it is essential to protect the Raspberry Pi from potentially harmful voltages.
- The best way to do this is with *optical isolation*.

Suggested layout



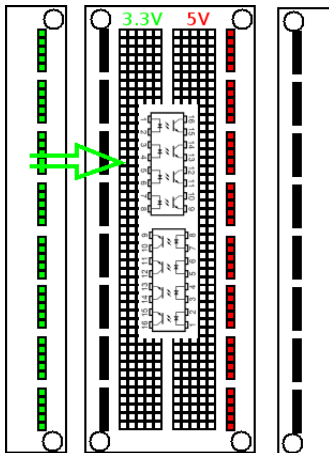
This has the Raspberry Pi on the left and the 5V “world” on the right.

Suggested layout



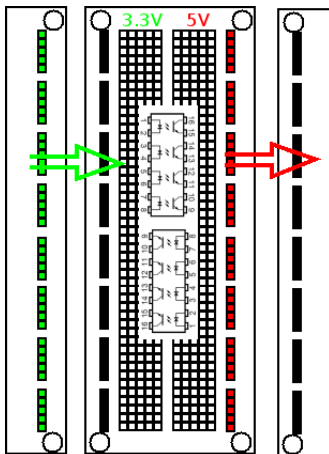
The left breadboard will have a **3.3V** supply, while the right will have a **5V** supply.

Suggested layout



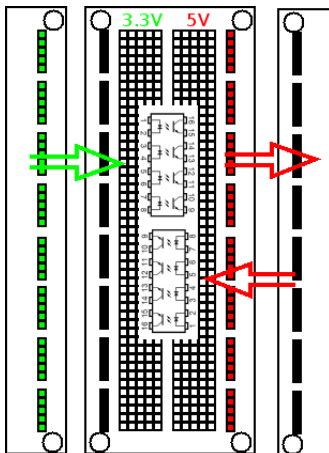
Signals *from* the Raspberry Pi will be 3.3V.

Suggested layout



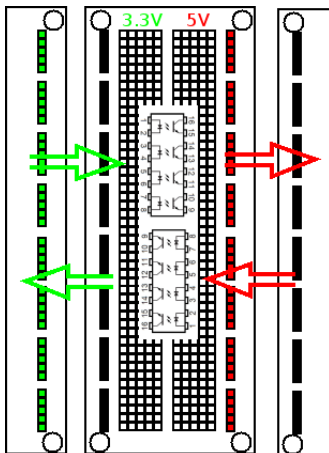
Signals to the outside will be 5V.

Suggested layout



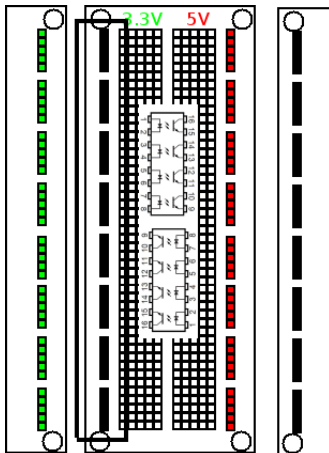
Signals *from* the outside will be 5V.

Suggested layout



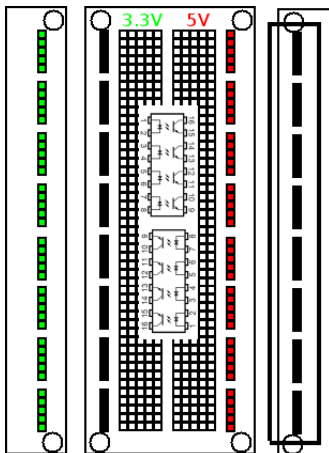
Signals to the Raspberry Pi will be 3.3V.

Suggested layout



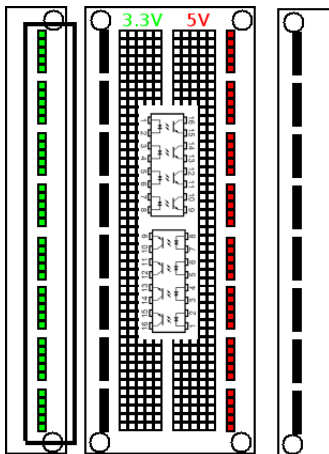
Ground for the Raspberry Pi side can be on the middle breadboard.

Suggested layout



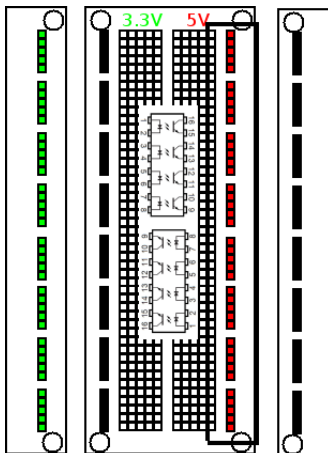
Ground for the other side can be on the right breadboard.

Suggested layout



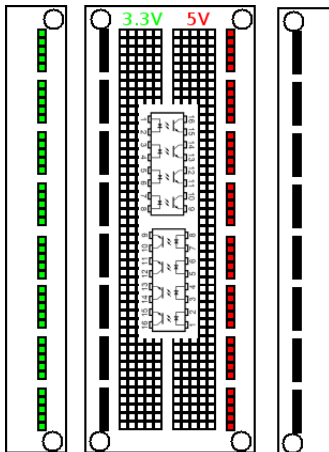
Power for the Raspberry Pi side can be on the left breadboard.

Suggested layout



Power for the other side can be on the middle breadboard.

Suggested layout



If no wires cross the centre of the middle breadboard, there will be no chance of damaging the Raspberry Pi.