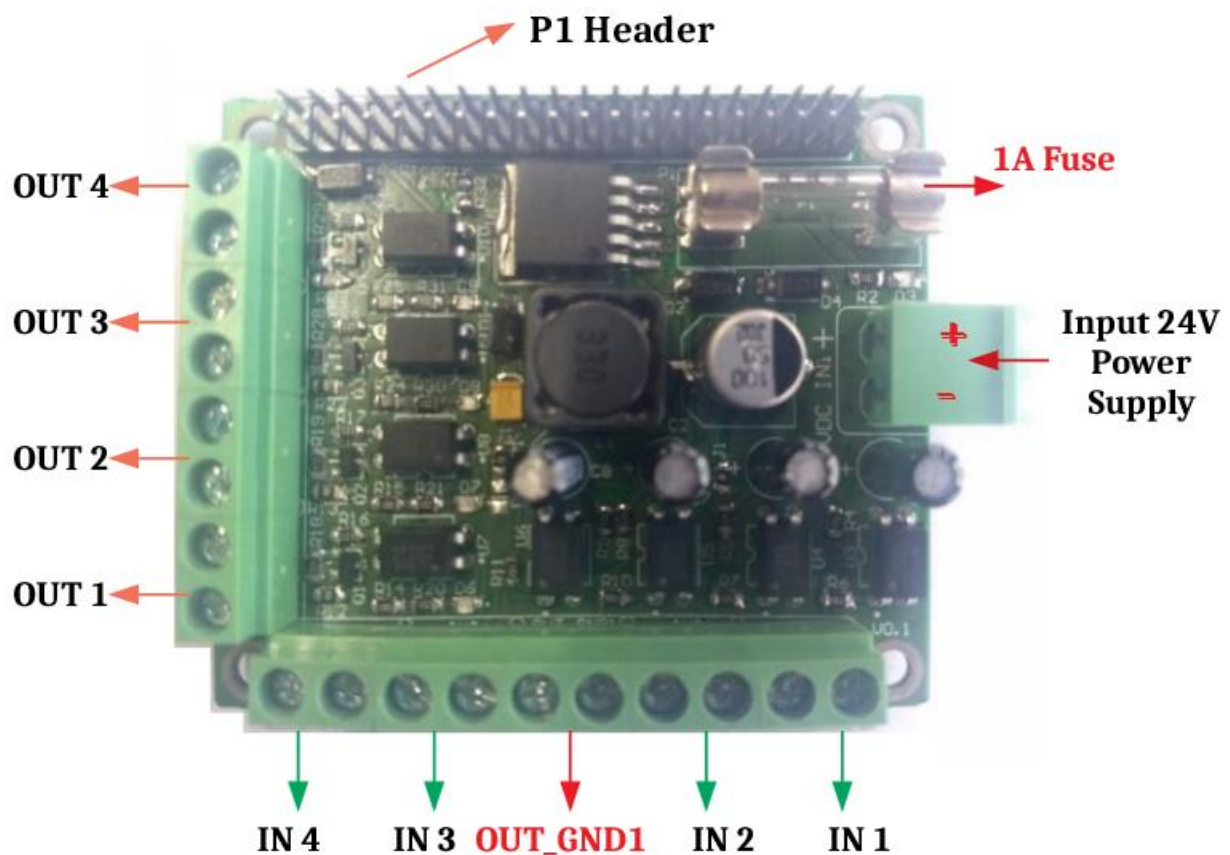


## Raspberry Pi Isolated GPIO Board

This instruction table will help you to build the setup of the Raspberry Pi Isolated GPIO Board.

The features of the board are

- 1) 24V input and output(industrial standards).
- 2) Raspberry Pi pin to pin matching Headers.
- 3) Four Input and Four Output Terminal Blocks.
- 4) One Common Ground Terminal Block.
- 5) On board 24V to 5V converter.



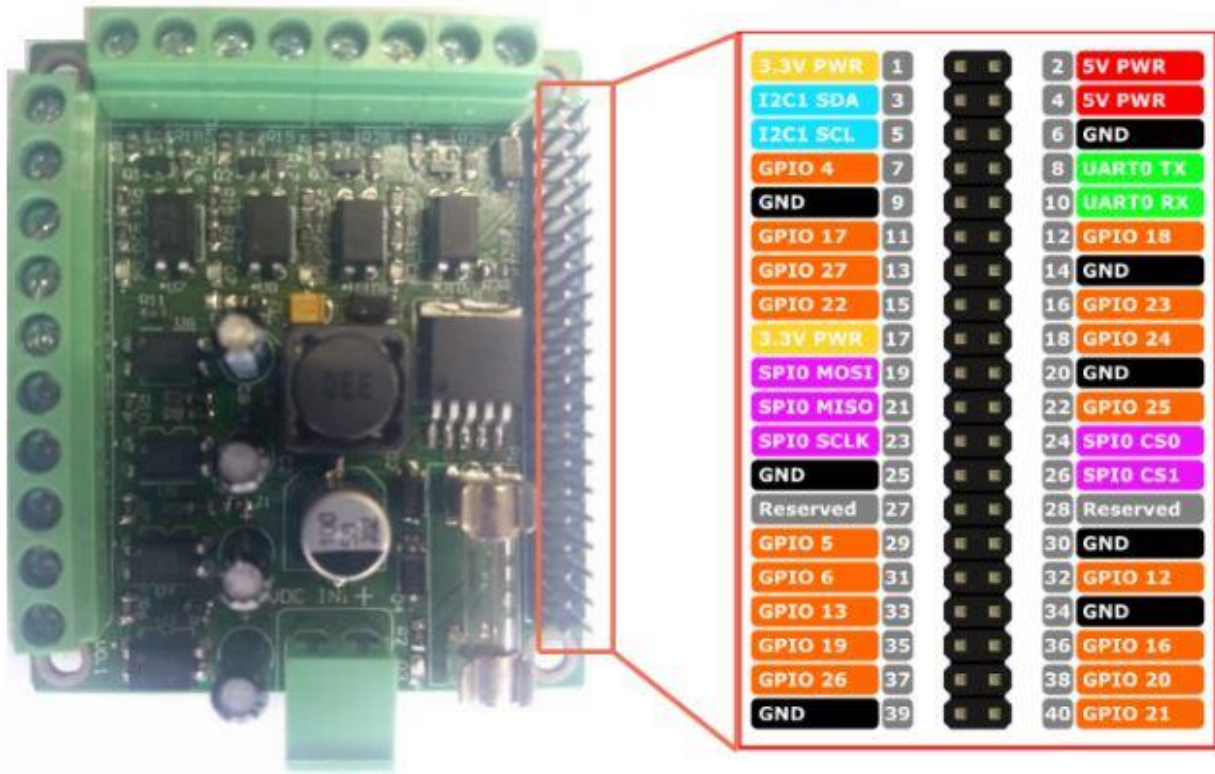
Above image.1 shows input power supply connector, fuse holder, P1 header for connecting to raspberry pi and input, output connectors.

IN1, IN2, IN3, and IN4 are inputs (24V).

OUT1, OUT2, OUT3 and OUT4 are output (24V).

OUT\_GND1 common ground, P1 shows raspberry pi one to one matching header.

## Image shows P1 header and GPIO Pinout



### INPUT GPIO'S

IN1 connected to **gpio26**  
 IN2 connected to **gpio19**  
 IN3 connected to **gpio13**  
 IN4 connected to **gpio6**

### OUTPUT GPIO'S

OUT1 connected to **gpio22**  
 OUT2 connected to **gpio27**  
 OUT3 connected to **gpio17**  
 OUT4 connected to **gpio4**

Above image.2 Shows the P1 header pinout.

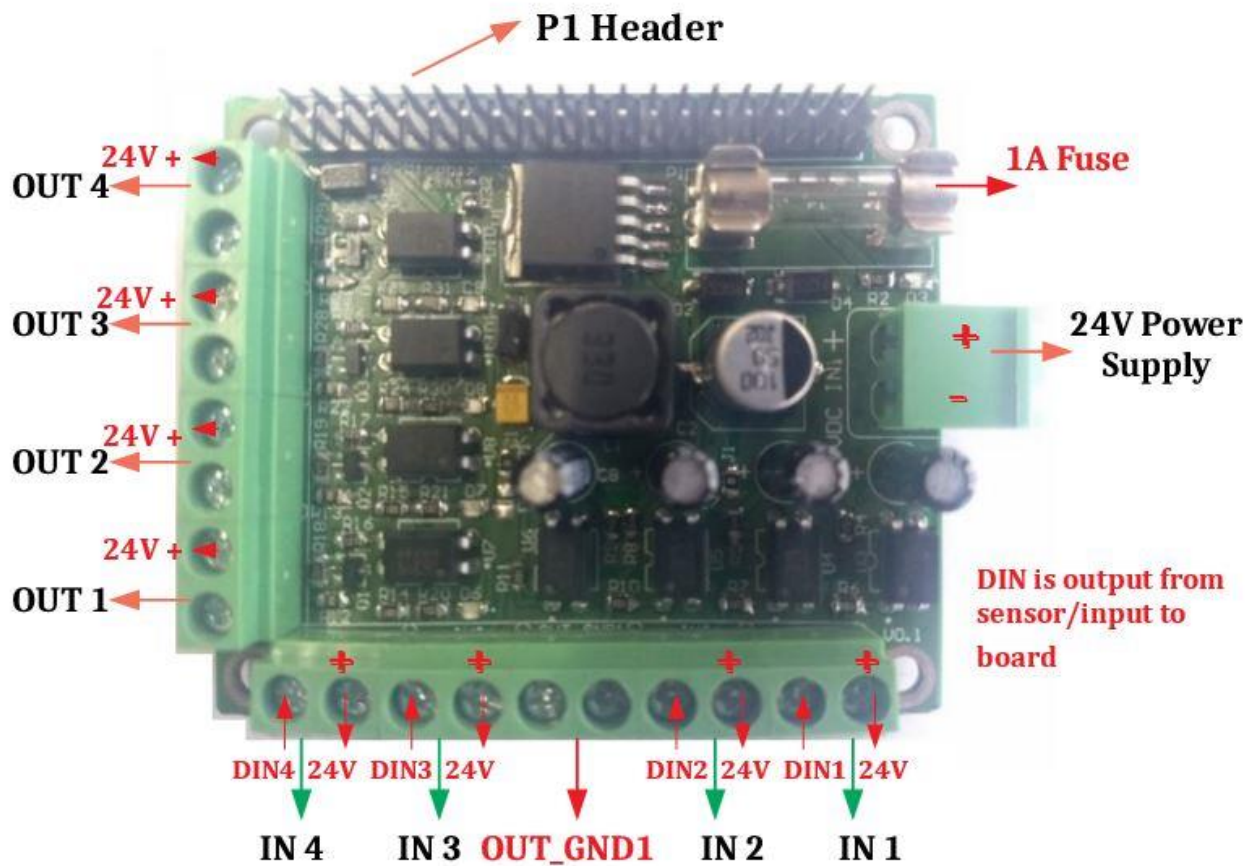
We used eight gpio's for four input and four output in raspberry pi isolated gpio board

Four input gpios are gpio6, gpio13, gpio19, gpio26 (Raspberry pins are 31,33,35,37).

Four output gpios are gpio4, gpio17, gpio27, gpio22 (Raspberry pins are 7,11,13,15).

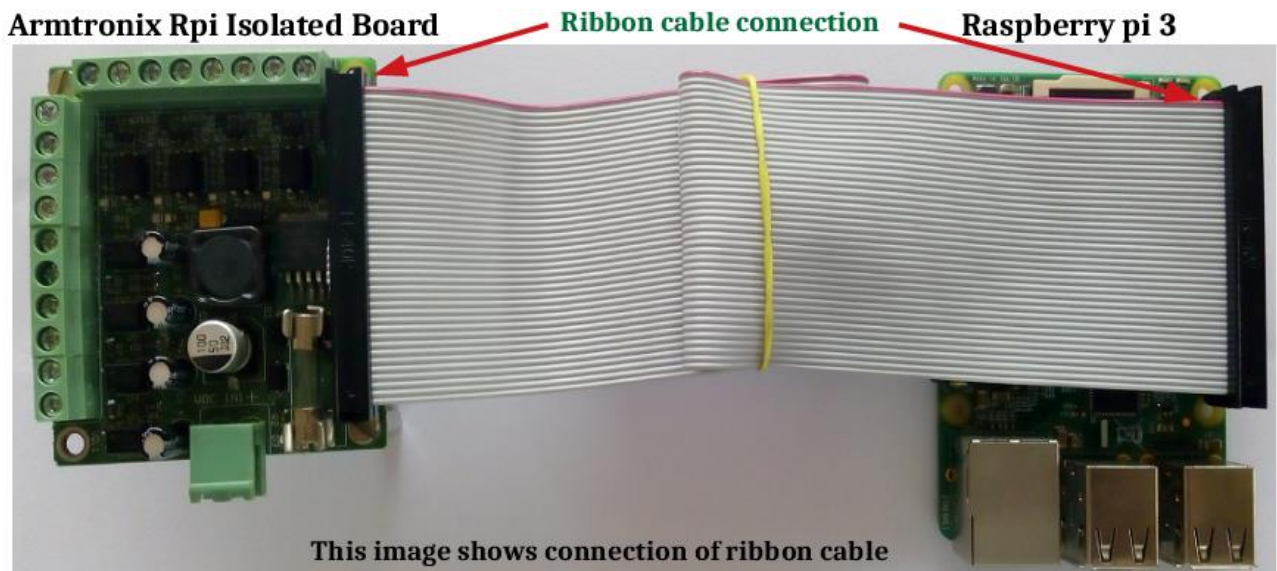
IN1 connected to gpio26  
 IN2 connected to gpio19  
 IN3 connected to gpio13  
 IN4 connected to gipo6

OUT1 connected to gpio22  
 OUT2 connected to gpio27  
 OUT3 connected to gpio17  
 OUT4 connected to gpio4



DIN is output from sensor/push button and input to board.

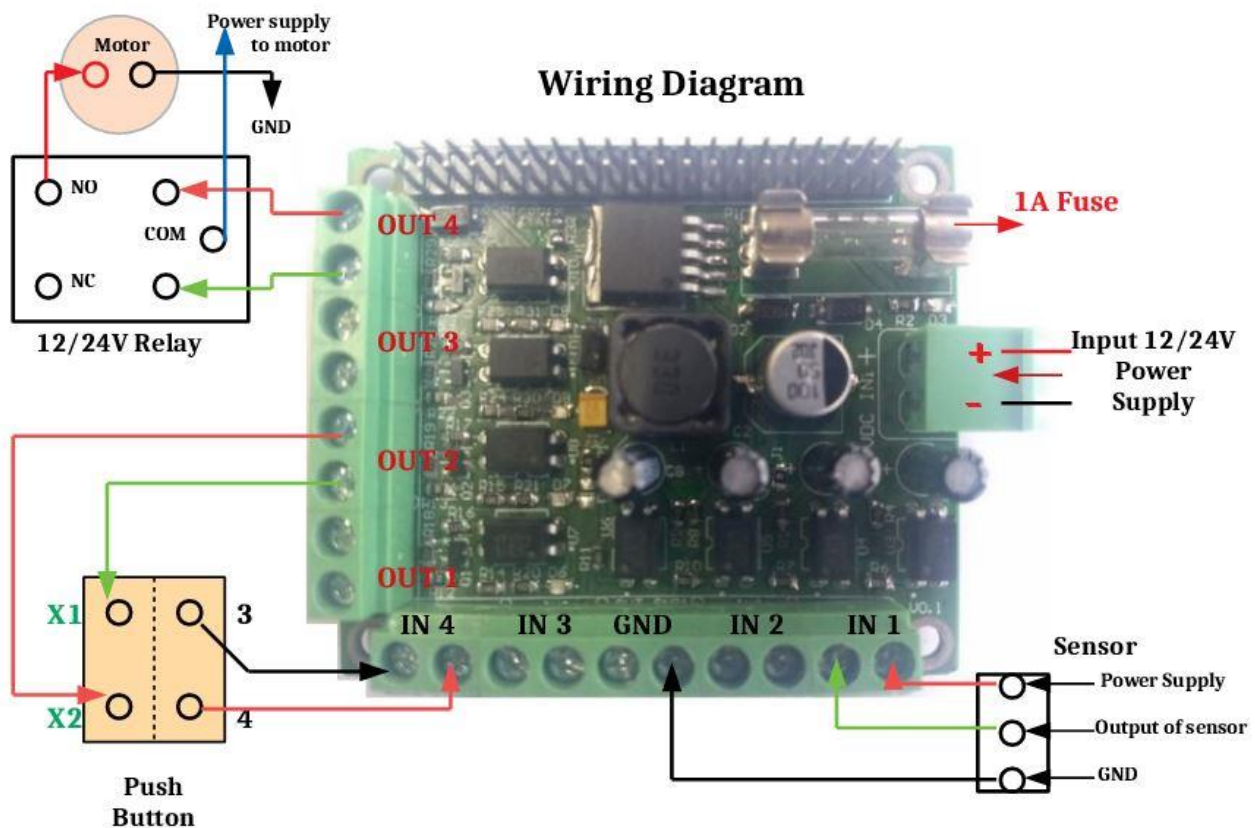
## Ribbon Cable Connection



**\*Note:** Red colour point is the 1<sup>st</sup> pin, this should be match each other as shown in image



## Wiring Diagram



Above Diagram shows the wiring of sensor, push button and a relay.

### 1] Sensor

A three-wire sensor has 3 wires present. Two power wires and one load wire. The power wires will connect to a power supply and the remaining wire to some type of load. The load is a device that is being controlled by the sensor. Raspberry pi isolated gpio board inputs are two terminal block where we connected sensors two wires, one is to power on the sensor and other is output of the sensor, 3<sup>rd</sup> wire is to connect ground. Refer above image.

### 2] Push Button

Push button has four connecting points two for input other two for output, above diagram show the connection of input and output of push button. Refer above image.

### 3] Relay

Above image show the wiring connection of relay, we can drive motor through relay, connection of relay and motor shown in diagram, COM should connect 12/24V(depends on relay) power supply.

Some useful images for reference

