

**MR-BusIO-ACIN™ BusIO AC INPUT BOARD**  
**User Manual**

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# MR-BusIO-ACIN™ BusIO AC INPUT BOARD

## User Manual

### Description

The MR-BusIO-ACIN is an experiment board for receiving 110-220VAC input and translates into TTL 5VDC level. It is using PC817 Photo-coupler IC to isolate high current and low current. It is best for monitoring the present of AC voltage.

The board can be use with MR-BusIO-MAIN board or stand-alone. PCB size is 0.63" x 2.80"

### Operation:

The PC817 require at least 5mA to drive input photo-coupler LED. It can take up to 6V in reverse bias. For an output (between collector and emitter), it can drive up to 35V with 50mA continuous current.

The operation of this board starts when it's receiving input 110-220VAC via 2-PIN terminal. The current is flowing through 0.1uF 250V capacitor and 100Kohm 1W resistor. The circuit acts as a Capacitive Reactance which reduce the input AC voltage. The benefit of this circuit is to reducing the heat of the resistor. The current then flow into bridge rectifier circuit and activate PC817 circuit. The I/O pin then becomes a logic LOW and an indicator LED is illuminated

User can use this board to detect AC voltage.



### MR-BusIO-MAIN

The MR-BusIO-MAIN is available for purchase via our website. If you don't see the item you need, please contract our sales department at [sales@gravitech.us](mailto:sales@gravitech.us)

- **MR-BusIO-MAIN**

Experiment board which receives output signals from any microcontrollers. The signals then distribute to daughter boards for each experiment. It designed to connect directly with 10PIN MRconnect©. It is a quick and easy way to control up to 8 daughter boards.



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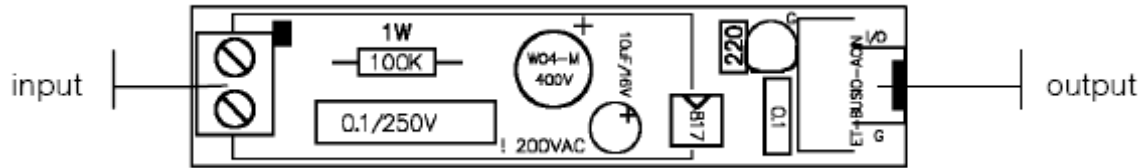


FIG 1: MR-BusIO-ACIN Board Layout

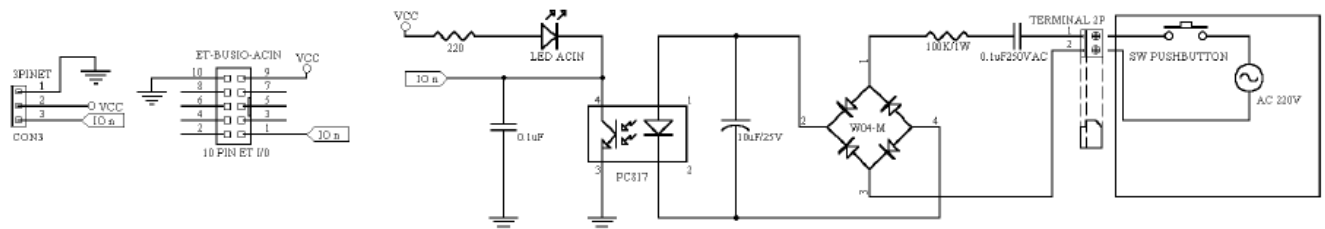


FIG 2: MR-BusIO-ACIN Schematic

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### **Notes**

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