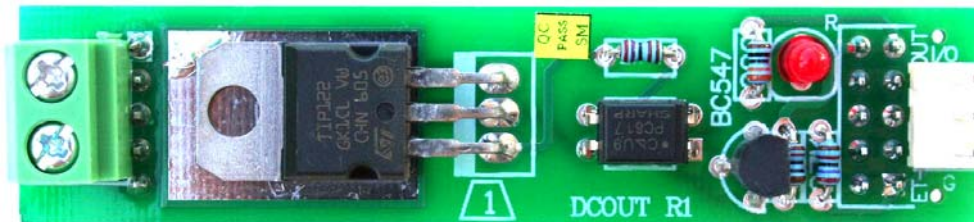


MR-BusIO-DCOUT™ BusIO DC OUTPUT BOARD
User Manual

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Description

The MR-BusIO-DCOUT is an experiment board for switching DC output voltage by using NPN Power Transistor 2SC1061. The advantage of this transistor is $V_{CE(sat)} = 1V$ (max.) at $I_C = 2A$ and $I_B = 0.2A$. The output DC voltage is switching ON and OFF by TTL level 5VDC. It is using PC817 Photo-coupler IC to isolate high current and low current. It is best for controlling DC voltage for up to 50V at 3A.

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

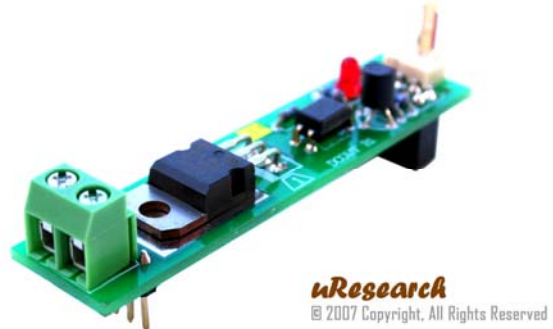
Operation:

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 applying logic HIGH to an I/O pin. The voltage get divide down to turn on BC547 transistor which then activate PC817 photo-coupler and indicator LED. The output of PC817 is driving 2SC1061 which start the current flow at the 2-PIN terminal block.

User can connect output DC load up to 50V at 3A continuous current. Total power can be up to 25W at 25°C.

This board can be use to control DC voltage.

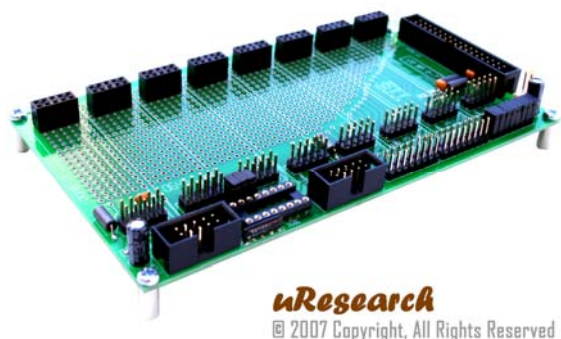


MR-BusIO-MAIN

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

- **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-DCOUT Board Layout

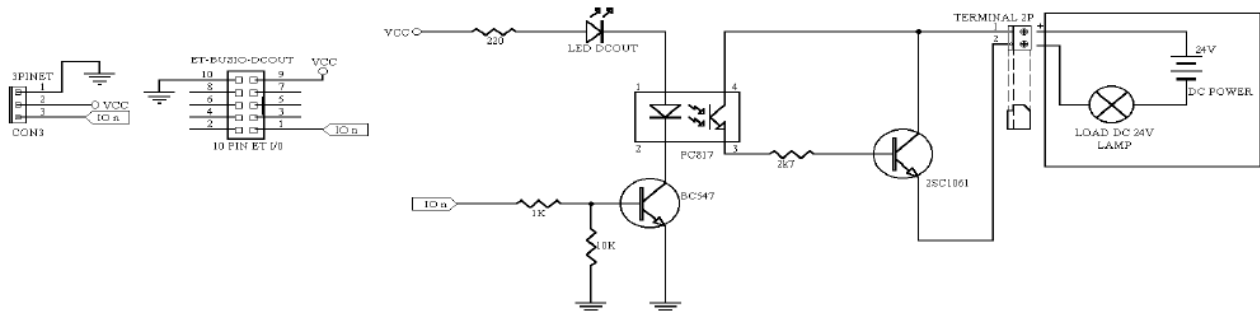


FIG 2: MR-BusIO-DCOUT Schematic