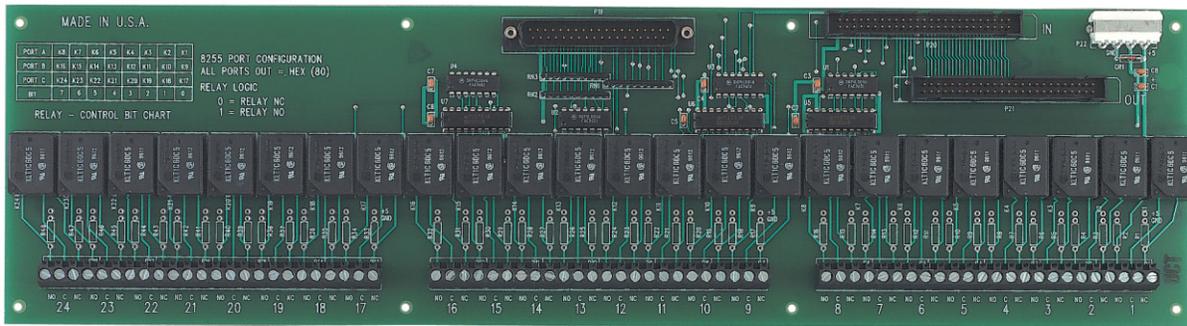


CIO-ERB24

Electromechanical Relay Accessory, Form C, 4.3 A (SPDT) for Digital I/O Boards



Product overview

The CIO-ERB24 provides 24 single pole, double throw (SPDT) Form C electromechanical relays. The CIO-ERB24 is a 24-channel relay accessory for Measurement Computing Corporation (MCC) digital I/O boards.

Interface to DIO boards

The CIO-ERB24 is compatible with MCC digital I/O boards such as the USB-DIO24 Series, the USB-DIO96H/50, and the PCI-DIO48.

Powered from the PC

The CIO-ERB24 does not require 110 VAC power. The board runs from the 5 V computer power supply or from an external 5 V supply. Power is connected through a four-pin MOLEX connector, just like that found on all PC power supplies.

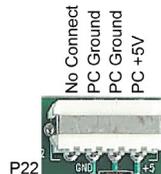


Figure 1. Molex connector (P22) pin assignments

Screw terminal wiring

The CIO-ERB24 has screw terminals for connecting your field wiring to the relays. Each relay has three terminals: Common, Normally Open and Normally Closed. The screw terminals are high-quality jaw types that do not bind when removing wires. Use 12-22 AWG wire gauge.



Figure 2. Typical relay channel

The screw terminal/module numbers correspond to 8255 ports:

- 1 to 8 correspond to PORTA bits 0 to 7
- 9 to 16 correspond to PORTB bits 0 to 7
- 17 to 20 correspond to PORTC low bits 0 to 3
- 21 to 24 correspond to PORTC high bits 4 to 7

The CIO-ERB24 has a maximum current of 4.3 A.

All Form C relays

The CIO-ERB24 has single pole, double throw (SPDT) Form C relays, with each relay having three terminals.

- The center terminal is the Common terminal. This terminal is switched between the other two.
- The Normally Closed terminal is in contact with the Common terminal whenever the CIO-ERB24 is powered up, reset, or when a 0 is written to the controlling bit of the digital I/O board.
- The Normally Open terminal is in contact with the Common terminal whenever a 1 is written to the controlling bit of the digital I/O board.

I/O connectors

The CIO-ERB24 has one 37-pin D type connector and two 50-pin connectors. Use a C50FF-x cable to connect with 48-bit DIO boards, such as the PCI-DIO48. Use a C37FF-x cable to connect with 24-bit DIO boards, such as the USB-DIO24/37.

- Connect the 37-pin connector (P19) to a compatible MCC digital I/O board.

OR

- Connect the 50-pin connector labeled **IN** (P20) to a compatible MCC digital I/O board.

If you have a second CIO-ERB24 that you wish to drive from the unused digital lines of a 48-bit DIO board, use a C50FF-x cable from the **OUT** connector (P21) of the first CIO-ERB24 to the **IN** connector (P20) of the second CIO-ERB24.

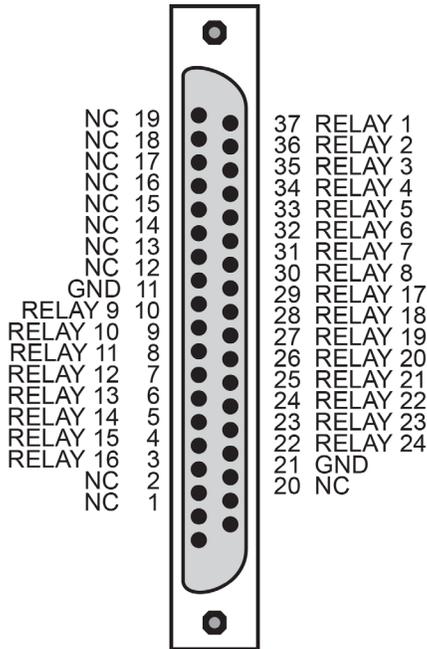


Figure 3. 37-pin connector pinout (P19)

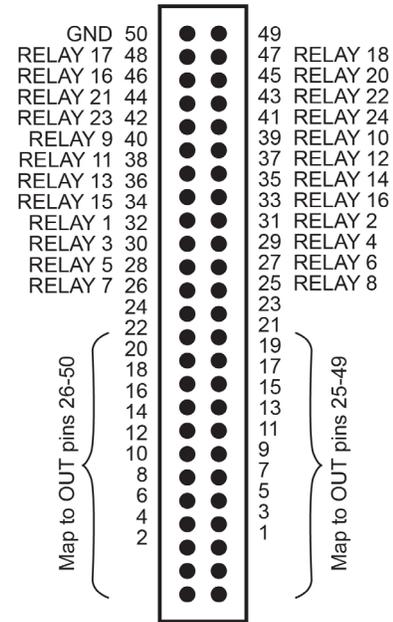


Figure 4. 50-pin connector pinout (P20)

Buffers and pull-downs

The CIO-ERB24 inputs from the digital I/O board are pulled to a steady state by circuitry on the board, so they do not randomly open or close on power-up. Also, buffer/ drivers on board accept signals from simple 8255 type digital I/O boards.

