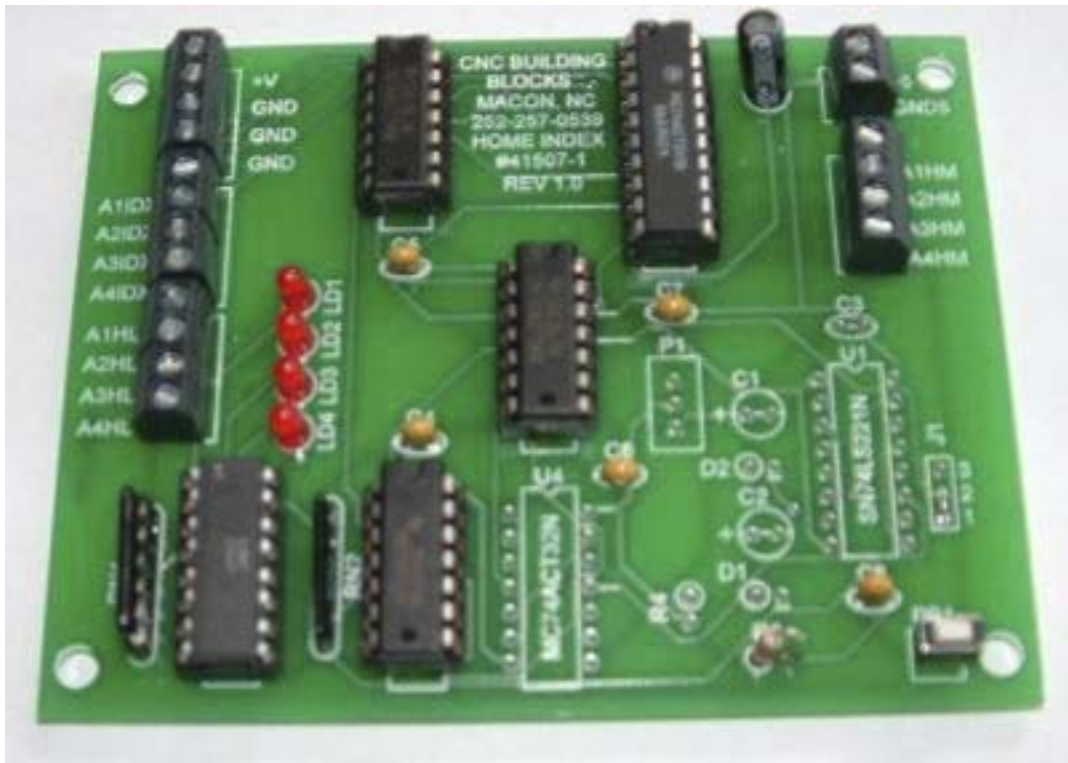


# Home Index Card Installation Manual

Rev 1.0



CNC Building Blocks

Macon, NC 27551

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## Introduction:

CNC Building Blocks Home Index add on card allows users to capture an accurate home position of an axis by using a Home limit switch and an index pulse to drive the home output of the card. Each card can capture up to four axes of home position simultaneously.

The card has four 24 VDC sinking inputs for the home switch inputs labeled A1HLS, A2HLS, A3HLS and A4HLS.

The card has four 5 VDC TTL level inputs for the Index pulse from an encoder or any other type of machine mounted high accuracy positioning switch labeled A1IDX, A2IDX, A3IDX and A4IDX.

The card outputs which correspond to the each input pair are 5VDC TTL level and are labeled A1HM, A2HM, A3HM and A4HM.

The card logic sequence is as follows:

1. Limit switch opens and the home output is latched high to the controller.
2. Home output stays high till the limit switch closes again.
3. Home output is set low on the rising edge of the index input.

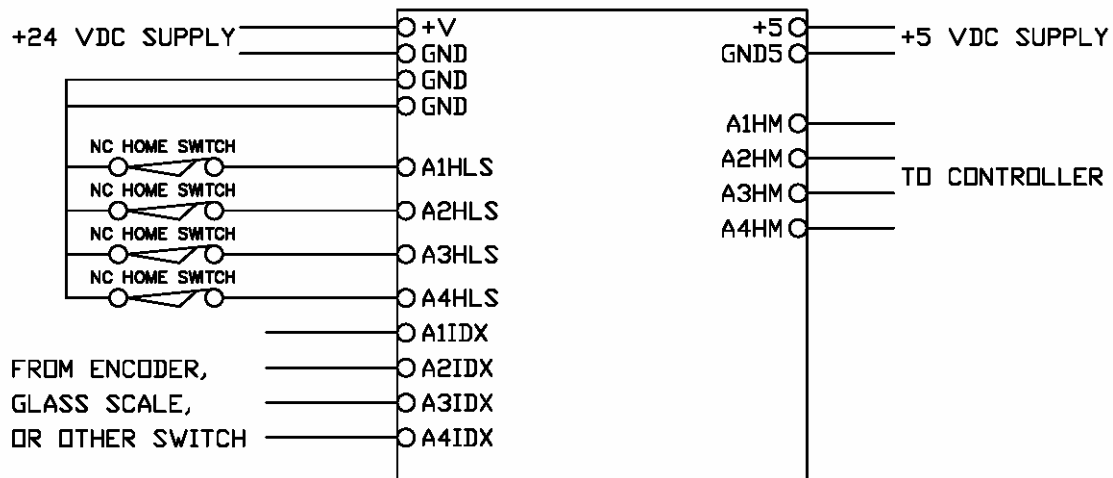


Figure 1

Figure 1 shows typical wiring to the card.

The home limit switches must be normally closed for the card to function properly and may be any switch type including optical or proximity sensors as long as they sink to ground when not actuated and allow the signal to float to +24 VDC when actuated.

The home limit switches may also be used as an over travel limit as it will function as a normal limit when not homing.

The index signals from the encoders must be 5 VDC active high signals and must be referenced to the +5 and GND5 power supply to the card.

The index signals may come from other devices such as glass scales, optical, or proximity sensors as long as they produce a +5 VDC signal when actuated and are normally low level when not actuated.

The outputs to the controller are +5 VDC active high outputs and must not be connected to different voltage inputs; if the controller requires 12 or 24 VDC inputs you can use the card in conjunction with the 8 Bit Driver card on the website.

There is a small push button on the lower right hand corner of the card which will reset all of the home outputs when pressed, this switch may be removed and wires soldered to extend to a normally open push button on the user's console to allow an external reset function.

When installing the switch it is best to allow adjustment so that the index position can be adjusted within  $\frac{1}{4}$  -  $\frac{1}{2}$  turn of the motor or screw once the axis has started to reverse off the switch and it closes again.

**Specifications:**

Card power 5 VDC @ 250 milliamps.

Home switch power 24 VDC @ 200 milliamps.

Dimensions 3.8" x 3.0" x 1".

Mounting can be accomplished using standard PC type stand offs and #6 screws though the mounting holes provided on the card. The card mounting holes are on 2.6" x 3.5" centers.

**Disclaimer:**

CNC Building Blocks assumes no liability for any damage to persons, equipment, loss of time, or income through the use of any of its products.

It is the final user's responsibility to ensure the products purchased from CNC Building Blocks is installed in according with local code regulations and safety directives.

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