8 Bit Open Collector Driver Card
Installation Manual

Rev 1.0

CNC Building Blocks

Macon, NC 27551

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Introduction:

CNC Building Blocks 8 Bit Open Collector Driver card is designed provide high voltage open collector outputs from TTL or CMOS logic level inputs.

This card is very handy for interfacing to drives like the Yaskawa and Allen Bradley which have 24 VDC control inputs as well as connecting to PLC's.

There are eight open collector outputs per card, each output is capable of accepting up to 24 VDC voltage reference and can sink up to 40 milliamps per output.

Each of the outputs have a separate voltage reference connection labeled VC1 thru VC8, these connections go to the 1.2k Pull up resistors on the card and pull the collectors up to the reference voltage. The output is tied to the opposite side of the resistor and is connected to the signal you wish to control.

The inputs to the card are grouped in two pairs of four inputs; each input group has a separate enable jumper which can be selected for High or Low level enable inputs.

To connect the card, decide which enable signal level you require and set the jumper on the board to match, either LO or HI. If you select LO the signal on the EN1 or 2 must be tied to logic Low or ground, the HI enable requires a minimum of 3 volts to the enable input.

The EN1 signal controls inputs IN1 thru IN4 which are connected to OC1 THRU OC4. The EN2 signal controls inputs IN5 thru IN8 which are connected to OC5 THRU OC8.

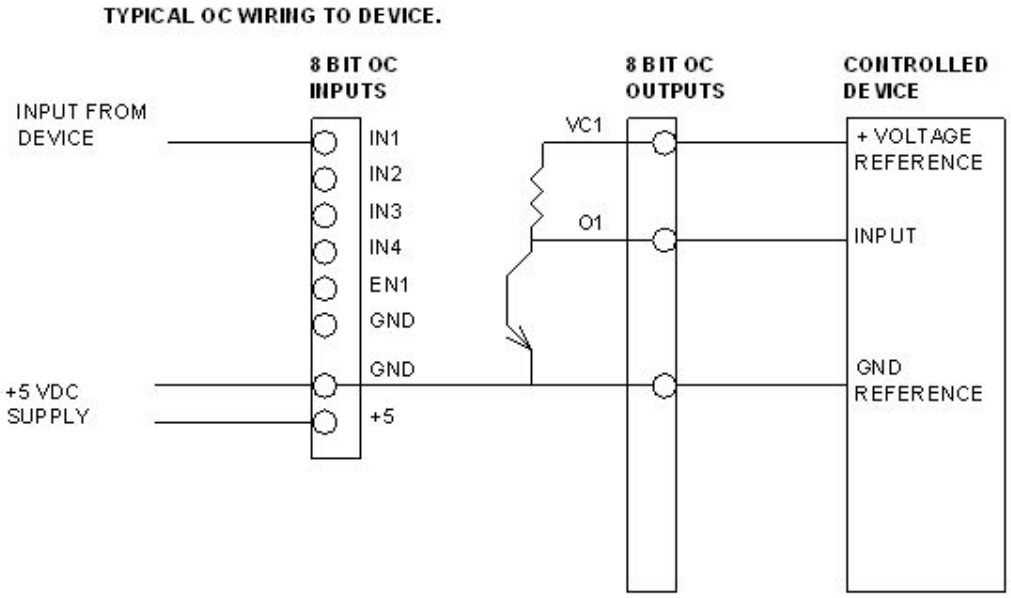
The outputs will be off (high level) if the input is logic low and on (low level) if the input is logic high.

I/O Map Table:

Input	Output Contact	Enable
IN1	VC1, O1	EN1
IN2	VC2, O2	EN1
IN3	VC3, O3	EN1
IN4	VC4, O4	EN1
IN5	VC5, O5	EN2
IN6	VC6, O6	EN2
IN7	VC7, O7	EN2
IN8	VC8, O8	EN2

In order to power the card you need a 5 VDC supply tied to +5 and GND.

Typical wiring connections:



Note that connections to the device reference the grounds together and each of the 8 open collector outputs is referenced to the same power ground on the card.

The card ships with 1.2k ohm resistors which give you 20 milliamps of drive at the output. You can change resistors for connections to other voltages. Do not exceed 30 milliamps and calculate your resistor wattage.

If you want to interface to 12 volt signals at 20 milliamps change the resistor to around 600 ohms. Bear in mind that all signals share the same ground reference.

Specifications:

Power 5 VDC @ 100 milliamps.

Dimensions 4” x 2.7” x 1” including plastic card carrier mount.

Mounting can be accomplished by removing the tape strips and attaching directly to the control console with the pressure sensitive adhesive tape.

Mounting screws can be added by the user if desired. Utilize flat head machine screws and provide insulating barrier between the head and the circuit card. Plastic fasteners can also be used.

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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