

# I/O Electrical Specifications

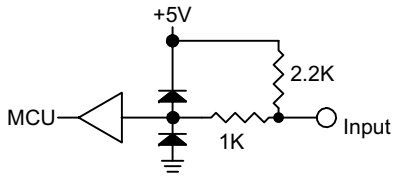
All User I/O inputs and outputs (except limit switch inputs) are TTL levels (0 to +5VDC.)

Inputs have a 2200 ohm resistor to +5VDC, and are activated by connecting to 0V.

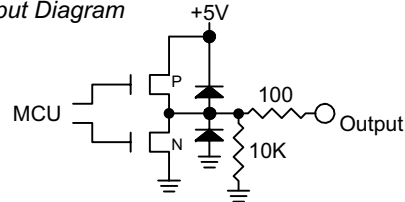
**NOTE: When Input 4 (Stop) is held low (0V) program will not run.\***

Outputs are normally low, and can sink and source 20 mA max.

Input Diagram



Output Diagram



Limit switch inputs are optically isolated. Limit inputs operate on 24VDC through a 10K ohm resistor to power the LED in the optical isolator (see Appendix N for more information.)

The +5VDC on I/O,2 is intended for use with additional analog input circuitry. Current draw should not exceed 75mA.

## CAUTION:

Optically isolated relays may be required on all user I/Os to insure long term reliable operation.

Never directly connect a VXM I/O to an inductive load, any device that is not within 10 feet of the VXM, or anything not powered at the same AC source.

Damage due to improperly interfacing VXM controllers to other devices is not covered under the warranty.

As a minimum precaution against electrostatic discharge (ESD) damage follow these guidelines:

1. Provide the shortest conductive path possible to earth ground from user designed panels or enclosures that have switches or buttons the operator will come in contact with.
2. Use metal panels and enclosures to house buttons or switches electrically bonded to a protective earth ground.
3. Use shielded cables on all VXM I/O.
4. If no other protective earth ground is available, use the earth ground on the VXMs Auxiliary I/O connector shell or connector shell on shielded cable.

\* New feature: Only on VXM firmware versions 1.21 & up

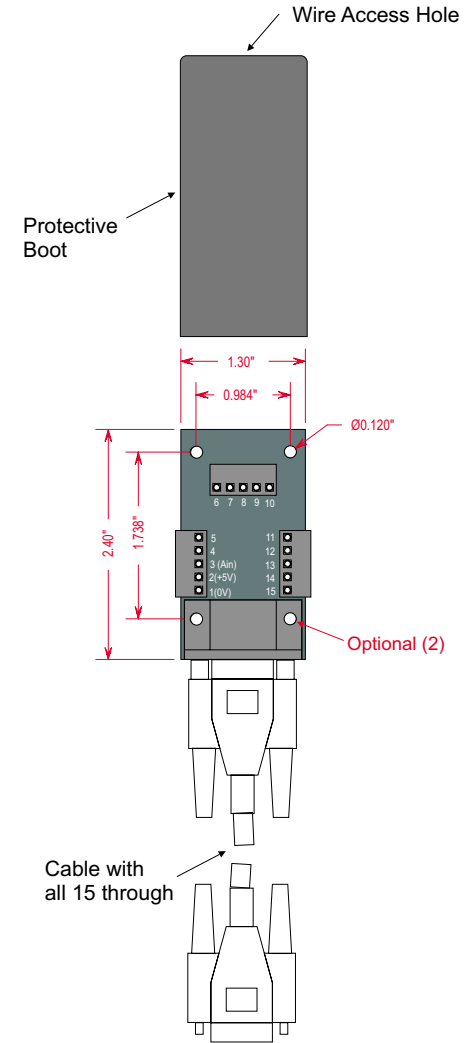
# Optional Auxiliary I/O Breakout Module

The optional auxiliary I/O breakout module is a convenient method to interface to the VXMs auxiliary I/O. Wire connections can be made to all 15 I/O connections using the screw type terminal blocks.

## Specifications

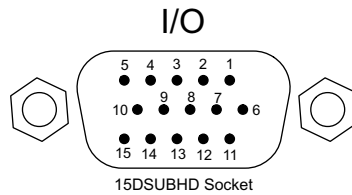
Wire size: 26 to 18 AWG  
 Boot material: PVC  
 Boot dielectric strength: 700 V/mil

Pin#	Name
1	0V
2	+5V
3	Ain
4	Run
5	I1
6	I2
7	I3
8	I4
9	0V
10	J1-
11	J1+
12	J2-
13	J2+
14	O1
15	O2



## Auxiliary I/O Connection

The I/O connections can be used for signaling external equipment or waiting for an external signal. The front panel button inputs are also available on the I/O connector for remote jog, run, and stop.



**NOTE: All inputs and outputs are TTL levels (0 to +5VDC.) Inputs have resistive pull-ups, and are activated by connecting to 0V. Outputs are normally low, and can sink and source 20 mA max.** For more information refer to Appendix K in the VXM Users Manual.

Pin#	Name	Function
1	0V	Logic reference ground for inputs and outputs
2	+5V	+5VDC for Joystick power and other external logic (75mA max. output)
3	Ain	Analog input for Joystick, speed setting, or analog sensor.
4	Run	Run input to start program, same input as Run button (active low)
5	I1	Input 1 (active low)
6	I2	Input 2 (active low)
7	I3	Input 3 (active low)
8	I4	Input 4 and Stop (Same as Stop button on front panel) (active low)
9	0V	Logic reference ground for inputs and outputs
10	J1-	Jog Motor 1 CCW (Same as front panel button) (active low)
11	J1+	Jog Motor 1 CW (Same as front panel button) (active low)
12	J2-	Jog Motor 2 CCW (Same as front panel button) (active low)
13	J2+	Jog Motor 2 CW (Same as front panel button) (active low)
14	O1	Output 1 (normally low)
15	O2	Output 2 (normally low)