

ANAHEIM AUTOMATION JSC2002 JOYSTICK CONTROLLER



- CONTROLS 2 AXES FOR X-Y APPLICATIONS
- STICK DISPLACEMENT CONTROLS SPEED
- ADJUSTABLE LINEAR ACCELERATION/ DECELERATION
- OUTPUT PULSE RATES UP TO 2.5 MHz
- DIVIDE PULSES BY 1 TO 32768
- OPEN COLLECTOR PULSE AND DIRECTION OUTPUTS
- AUTOMATIC START/STOP
- +/- HARD LIMITS
- INHIBIT INPUT
- 110VAC POWER INPUT

General Description

The JSC2002 is a two-axis joystick controller package designed to be used with Anaheim Automation Step Motor Drivers. The JSC2002 is ideal for X-Y applications that require manual positioning. CLOCK and DIRECTION signals for two axes of step motor drivers are produced by the JSC2002. The speed or frequency of the CLOCK pulses is determined by the displacement of the joystick; as the stick is moved further from the center position, the frequency increases. When the stick is in the center position, no pulses are created. Pulses begin when the joystick is moved just enough to overcome a small threshold. The maximum output frequency of the CLOCK pulses is 2.5 Mhz which allows the JSC2002 to be used with microstep drivers. The CLOCK pulses can be divided (by 1 to 32768) for lower speed ranges. The JSC2002 also features HARD LIMIT inputs, which may be used to prevent damage to the system.

Clock and Direction Outputs

The Clock and Direction outputs are both open collector outputs. When using the JSC2002 with Anaheim Automation Drivers, the driver should be set up for a negative going clock input (pulled up internally). If the step motor driver requires TTL/CMOS level inputs, a pullup resistor will be necessary if the inputs are not pulled up internally in the driver (see Figure 1).

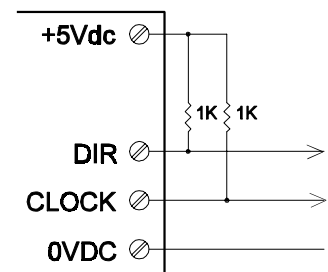


FIGURE 1

Table 1: Ordering Information

AA2840	Joystick Controller (Board Only)
JS2000	Joystick
JSC2000	Joystick Controller (Packaged W/ Joystick) 110VAC
JSC2002X220	Joystick Controller (Packaged W/ Joystick) 220VAC



Hard Limits

Hard limit switch inputs are provided to prevent damage to the machine. Switches placed at the end limits of the machine may be wired to the Hard Limit inputs. When these inputs are pulled low, motion is stopped in the applicable direction. See Figure 2.

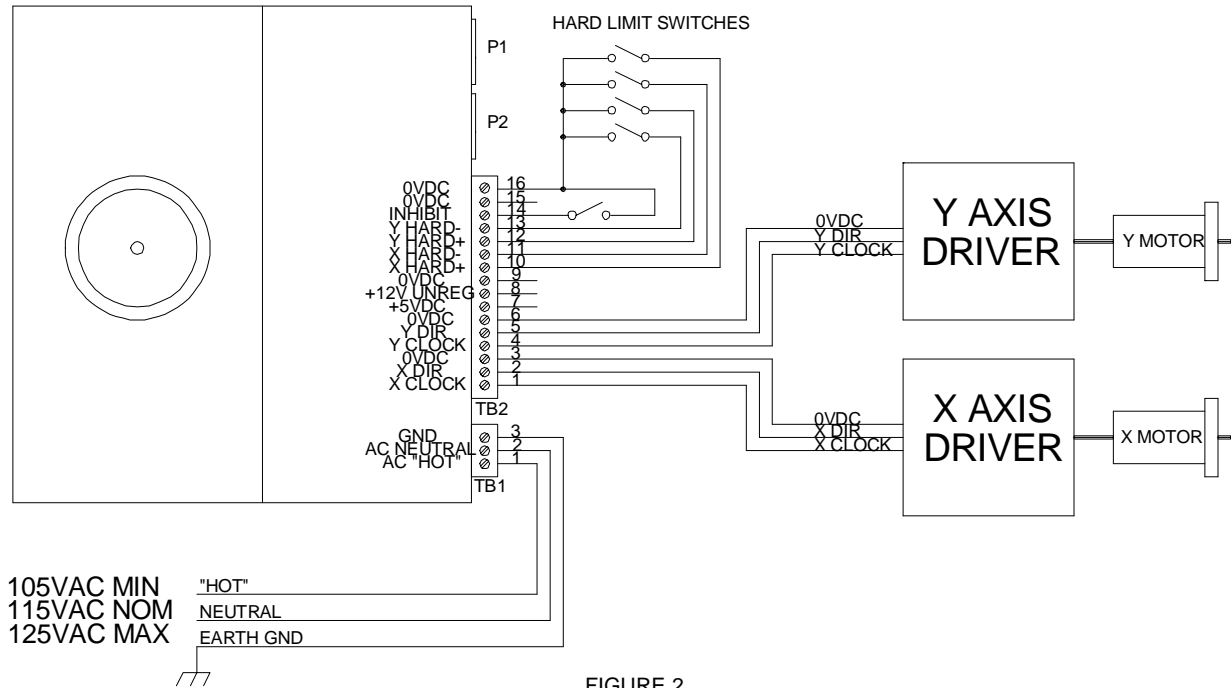


FIGURE 2

Inhibit Input

When this input is pulled low, the Clock outputs will be in a high impedance (or open) state, and all motion on the driver/motor will stop.

Accel/ Decel Ramp

The JSC2002 requires ramping to accelerate the motor to high speeds. There are separate adjustments for the X axis ramp and the Y axis ramp. Some motor/driver combinations may require slower ramp times (turn pots CCW) to get up to speed. When using slow ramp times, it will NOT be possible to change motor direction very quickly. Attempting to do this will stall the motor. If quick directional changes are necessary, the fastest ramp time (turn pots CW) should be used.

Power Requirement

The JSC2002 requires 110VAC for power. A 220VAC version is available (part number JSC2002x220). The JSC2002 can also be powered by a regulated +5Vdc or an unregulated voltage of 8 to 12Vdc.



Speed Ranges/ Divider Selector

The maximum output pulse rate is 2.5MHz. The pulse rate may be divided to obtain different speed ranges. See Table 3 for max speed vs. divider switch settings.

SWITCH	DIVIDER	MAXIMUM FREQUENCY	SWITCH	DIVIDER	MAXIMUM FREQUENCY
0	1	2.5 MHz	8	256	9.76kHz
1	2	1.25MHz	9	512	4.88kHz
2	4	625MHz	A	1024	2.44kHz
3	8	312kHz	B	2048	1.22kHz
4	16	156kHz	C	4096	610Hz
5	32	78.12kHz	D	8192	305Hz
6	64	39kHz	E	16384	153Hz
7	128	19.5kHz	F	32768	76Hz

TABLE 3: Switch settings and Maximum Frequency

SPECIFICATIONS

All Inputs

TTL-compatible

Logic "0"-0 to 0.8Vdc

Logic "1"-3.5 to 5.0Vdc

Inhibit

Logic "0" - inhibited

Logic "1" - enabled

Hard Limits

Logic "0" - activated (motion stopped)

Logic "1" - not activated

Clock and Direction Outputs

Open Collector - sink 100mA

Power Requirement

105-125VAC on TB1

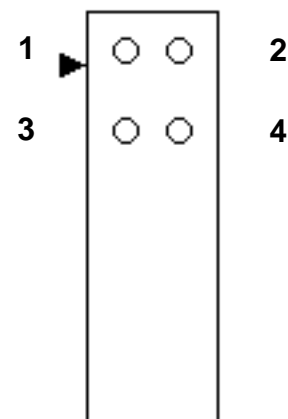
(210-250VAC for X220 version) or

8 - 12Vdc on TB2, pin 8 or

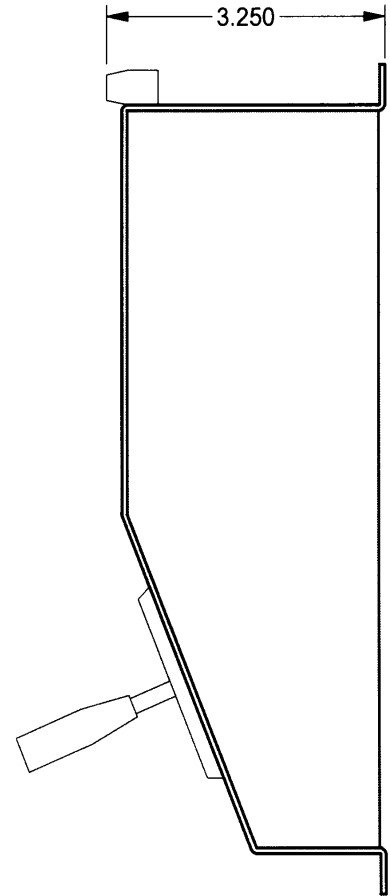
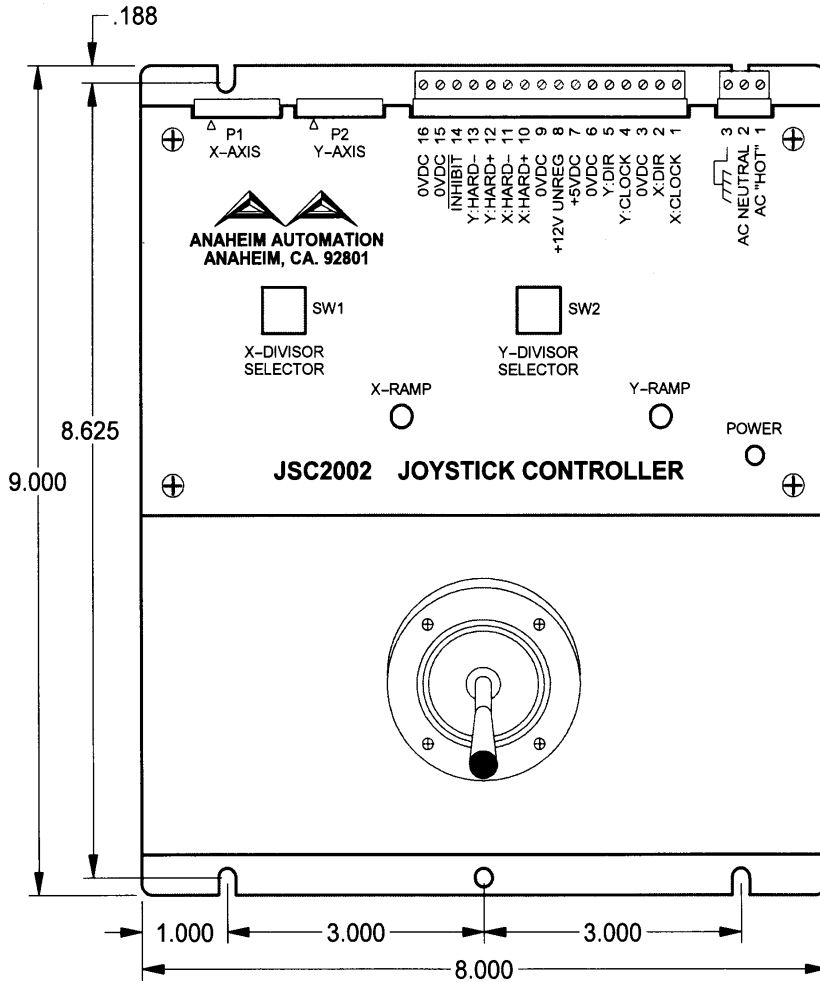
+5Vdc regulated on TB2, pin 7

Fuse: 0.5 Amp, 5x20mm

Pin 1 has an arrow pointing to it.



Dimensions



Connector Pinouts

P1 - X Axis

P2 - Y Axis

1	N/C	8	N/C
2	N/C	9	N/C
3	N/C	10	Clock
4	N/C	11	0VDC
5	Direction	12	0VDC
6	N/C	13	0VDC
7	N/C	14	0VDC

