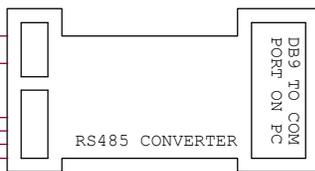


EZCTRL17 WIRED AS 2 AXIS SERVO CONTROLLER

9V TO 28V POWER SUPPLY

TO PC COM PORT
USE 9600 BAUD, 8BIT, NO PARITY, 1 STOP, NO FLOW CTRL.

RS485 A
RS485 B
GROUND
+9V TO +28V

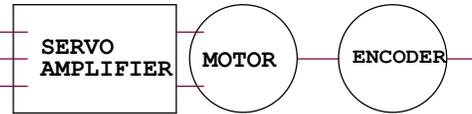


+9V TO +28V
GROUND
RS485 B
RS485 A
CAN HI
CAN LO
+9V TO +28V
GROUND
0.7A OUTPUT/ ANALG IN
2A OUTPUT
ANALOG INPUT

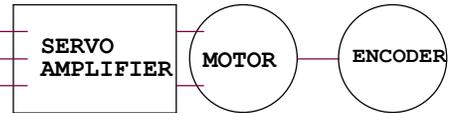
I/O BLOCK #1

SERVO AXIS #1

+9V TO +28V
GROUND
DRIVER ENABLE OUTPUT
+/- 10V OUT
ANALOG INPUT / AXIS 1 HOME INPUT



+9V TO +28V
GROUND
DRIVER ENABLE OUTPUT
+/- 10V OUT
ANALOG INPUT / AXIS 2 HOME INPUT



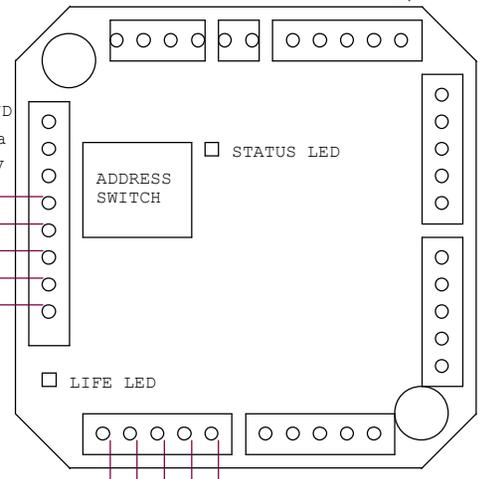
SERVO AXIS #2

DO NOT UNPLUG LOADS WHILE POWER IS ON

SERVO AXIS #2 ENCODER

GROUND
INPUT /1?4 /1?aa
200 OHM TO +5V
GROUND
AXIS #2 HOME /AXIS #2 INDEX
+5V
AXIS #2 ENCODER CHAN A
AXIS #2 ENCODER CHAN B

NOTE: NOT SAME PIN ORDER AS CHANNEL 1 ENCODER



CHAN B
+5V
CHAN A
INDEX
GROUND
ANALOG INPUT
2A OUTPUT
ANALOG INPUT
GROUND
+9V TO +28V
0.7A OUTPUT/ ANALOG INPUT
I/O BLOCK #4

SERVO AXIS #1 ENCODER

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EZCTRL17-SV SOLENOID DRIVERS

9V TO 28V
POWER
SUPPLY

TO PC COM PORT

USE 9600 BAUD
8BIT, NO PARITY,
1 STOP, NO FLOW
CTRL.

RS485 A
RS485 B
GROUND
+9V TO +28V

GROUND
+9V TO +28V

RS485 CONVERTER

DB9 TO COM
PORT ON PC

I/O
BLOCK
#1

EXAMPLE WIRING

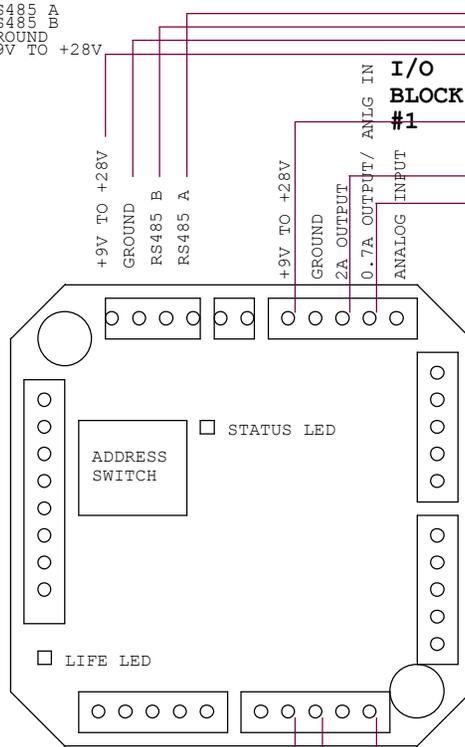
MIN 40 OHM
LOAD

MIN 20 OHM
LOAD

EXAMPLE I/O BLOCK 1 COMMANDS:
/1J10R TURNS OFF BOTH DRIVERS
/1J11R TURNS ON 0.7A OUTPUT
/1J13R TURNS BOTH OUTPUTS
/1?aa1 READS BACK ANALOG
INPUTS, NOTE SECOND INPUT IS
SHARED WITH OUTPUT AND REQUIRES
A FACTORY CHANGE TO MAKE IT AN
INPUT

NOTES:

- 1) ANALOG INPUTS ARE ACCURATE TO 7 BITS AS SOLD, HOWEVER THE RESOLUTION CAN BE IMPROVED TO 10 BITS BY REMOVING INPUT PROTECTION CIRCUITRY. PLEASE CONTACT THE FACTORY FOR DETAILS.
- 2) THE PIN THAT IS BOTH OUTPUT OR INPUT IS AN OUTPUT AS SOLD, BUT CAN BE CHANGED AT THE FACTORY TO BE AN INPUT.
- 3) OUTPUTS ARE OPEN COLLECTOR PULLDOWNS



SERVO
AXIS
#1

SERVO
AXIS
#2

ADDRESS
SWITCH

STATUS LED

LIFE LED

ANALOG INPUT
ANALOG INPUT
2A OUTPUT
GROUND
+9V TO +28V

I/O
BLOCK
#4

EXAMPLE WIRING

MIN 40 OHM
LOAD

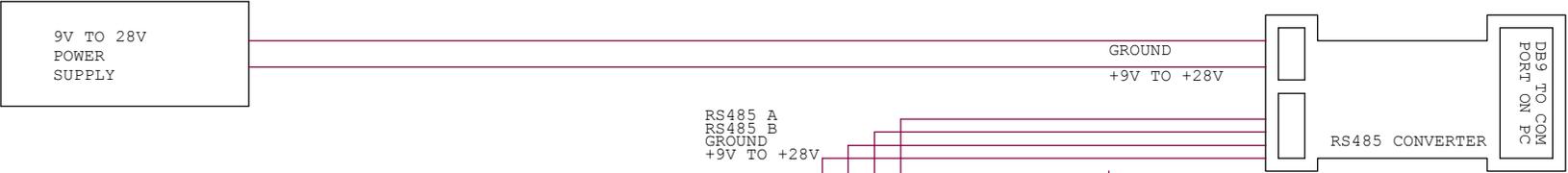
MIN 20 OHM
LOAD

DO NOT UNPLUG LOADS WHILE POWER IS ON

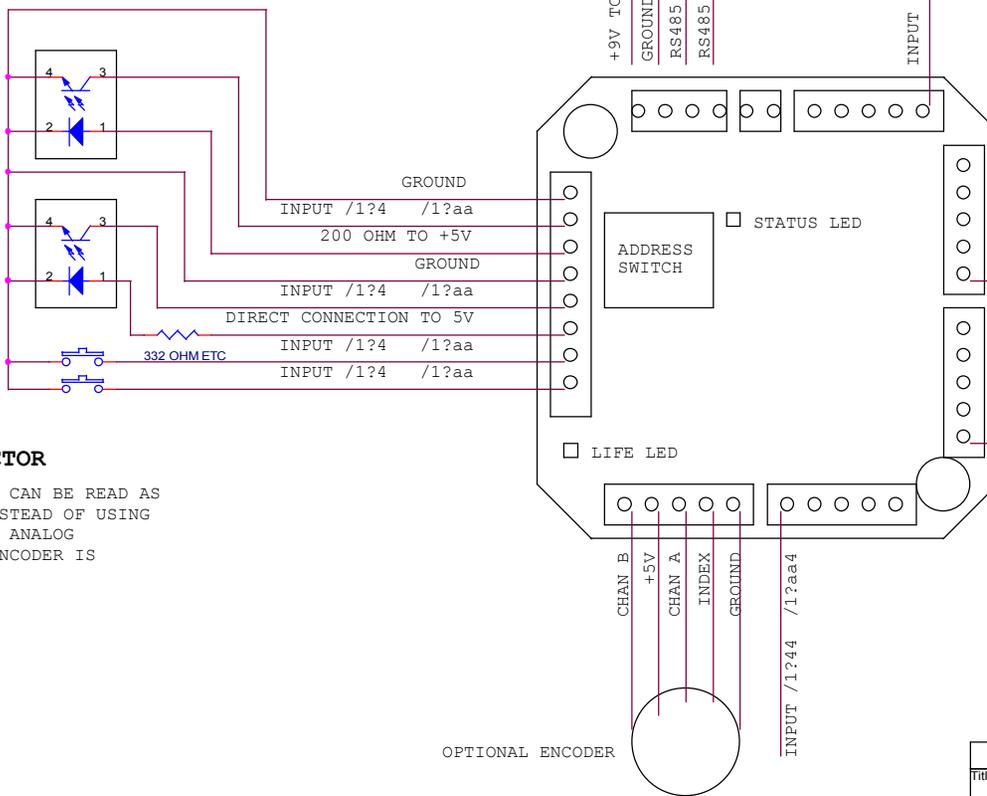
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EZCTRL17 AUXILIARY MODES FOR INPUT CONNECTOR



STEP AND DIR MODE	DUAL ENCODER MODE	INPUT MODE
		OPTO SENSOR #1 GROUND
		OPTO SENSOR #1 INPUT
		OPTO SENSOR #1 LED
		OPTO SENSOR #2 GROUND
	INDEX 2	OPTO SENSOR #2 INPUT
		OPTO SENSOR #2 LED
STEP IN	CHAN A2	SWITCH #1 INPUT
DIR IN	CHAN B2	SWITCH #2 INPUT



TO PC COM PORT
USE 9600 BAUD
8BIT, NO PARITY,
1 STOP, NO FLOW
CTRL.

AUXILIARY MODES FOR INPUT CONNECTOR

IN CASE ONLY ONE AXIS IS USED, THESE INPUTS CAN BE READ AS USING THE /1?aa AND THE /1?4 COMMANDS (INSTEAD OF USING AS 2ND AXIS ENCODER INPUT). THE READBACK AS ANALOG /DIGITAL IN IS ALWAYS ACTIVE EVEN WHEN AN ENCODER IS CONNECTED.

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EZCTRL ACCESSORIES AND OTHER ELECTRICAL NOTES

MATING CONNECTORS:

AMP MTA 100 SERIES
 4PIN 22 GA, AMP PART 3-643813-4
 5PIN 22 GA, AMP PART 3-643813-5
 8PIN 22 GA, AMP PART 3-643813-8
 8PIN 26 GA, AMP PART 3-643814-8

CONNECTOR CRIMP TOOLS:

T HANDLE CRIMP TOOL DIGIKEY P/N A9982
 PISTOL GRIP TOOL DIGIKEY P/N A1998 + A2031

SUITABLE POWER SUPPLIES:

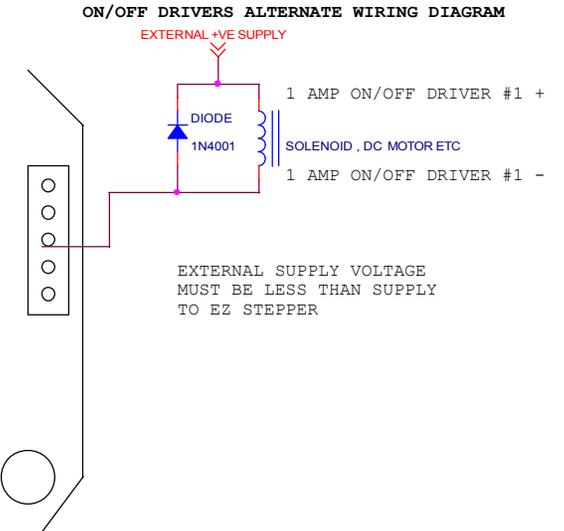
- 1) FOR FIRST TIME USERS, TO GUARD AGAINST A POSSIBLE MISWIRE, A CURRENT LIMITED LAB SUPPLY SET TO 12V AND 0.5A IS RECOMMENDED.
- 2) A SUPPLY OF 24V AND 2A CAPABILITY IS GOOD FOR MOST PURPOSES. POSSIBLE CHOICES ARE:
 DIGIKEY P/N 285-1820
 DIGIKEY P/N 1470-2290

HOME INPUT:

- 1) "Z" OR HOME COMMAND RUNS MOTOR UNTIL HOME INPUT CHANGES STATE. MOTOR WILL GO ONE DIRECTION (SAY CW) IF INPUT IS HIGH AND TURN IN OPPOSITE DIRECTION (SAY CCW) IF INPUT IS LOW. THERE SHOULD BE ONLY ONE BLACK TO WHITE TRANSITION POSSIBLE IN THE WHOLE RANGE OF MOTION, SO THAT HOMING IS UNAMBIGUOUS.
- 2) ALL INPUTS CONSIDER 3.3V AS A HIGH LEVEL , BUT WILL TOLERATE UPTO 24V

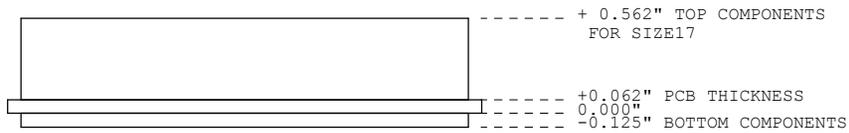
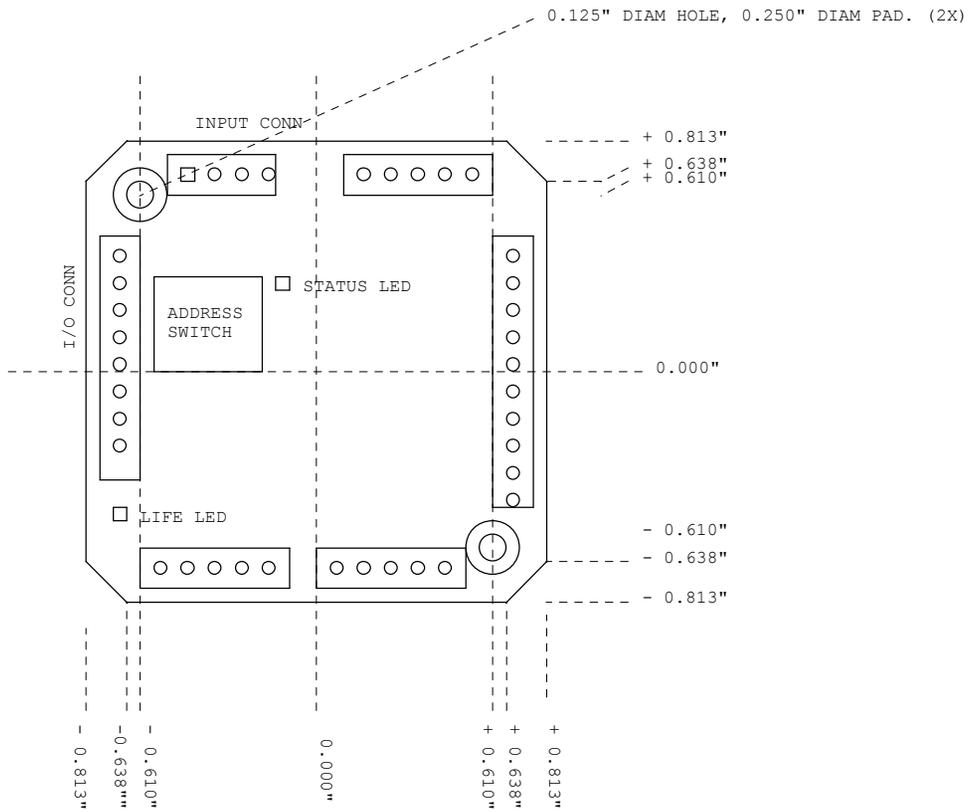
ON/OFF DRIVERS ALTERNATE WIRING DIAGRAM

- 1) ON/OFF DRIVERS RATED AT 0.7A / 2A AMPS.
- 2) THE NEGATIVE PIN OF THESE DRIVERS IS ACTUALLY AN OPEN COLLECTOR TYPE OUTPUT THAT PULLS DOWN TO GROUND. IT IS POSSIBLE TO DRIVE LOADS THAT ARE OF A DIFFERENT VOLTAGE THAN THE SUPPLY VOLTAGE, BY CONNECTING THE POSITIVE SIDE OF THE LOAD TO AN EXTERNAL SUPPLY, AND THE NEGATIVE SIDE TO THE -VE OUTPUT PIN. HOWEVER, IN CASE THIS IS DONE IT IS NECESSARY TO PLACE AN EXTERNAL "FREE WHEELING" DIODE ACROSS ANY INDUCTIVE LOADS. EXTERNAL SUPPLY VOLTAGE MUST BE LESS THAN SUPPLY VOLTAGE TO EZ STEPPER
- 3) EXTERNAL DIODE IS NOT NECESSARY IF BOTH SIDES OF LOAD ARE WIRED BACK TO THE EZ STEPPER.



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DESIGN USES THE NEMA 17 SIZE STANDARD 1.22" SQUARE BOLT PATTERN

EZCTRL DIMENSIONAL INFORMATION

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