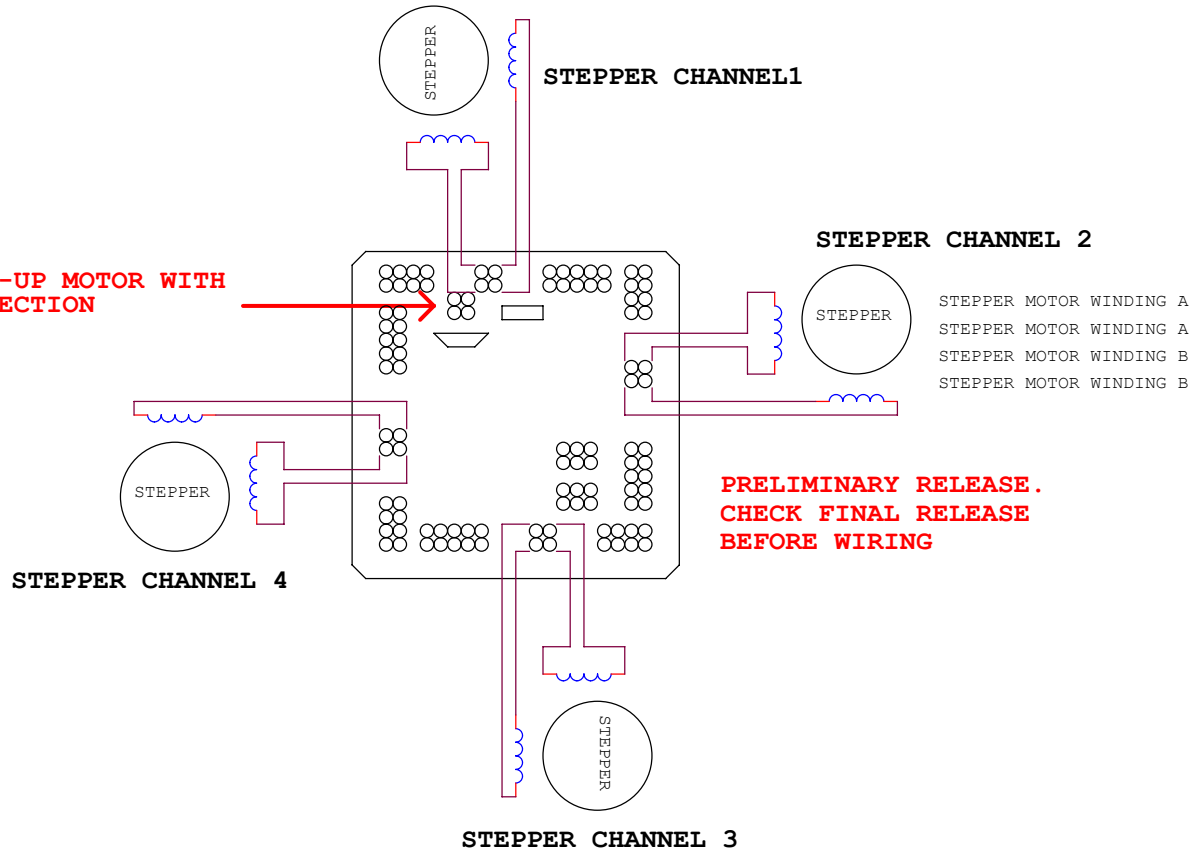


DO NOT MIX-UP MOTOR WITH
RS485 CONNECTION



DO NOT UNPLUG LOADS WHILE
POWER IS ON. BREAKING OF
CURRENT IN THE INDUCTANCE OF
THE MOTOR GENERATES A HIGH
VOLTAGE ARC, WHICH DAMAGES
THE DRIVE.

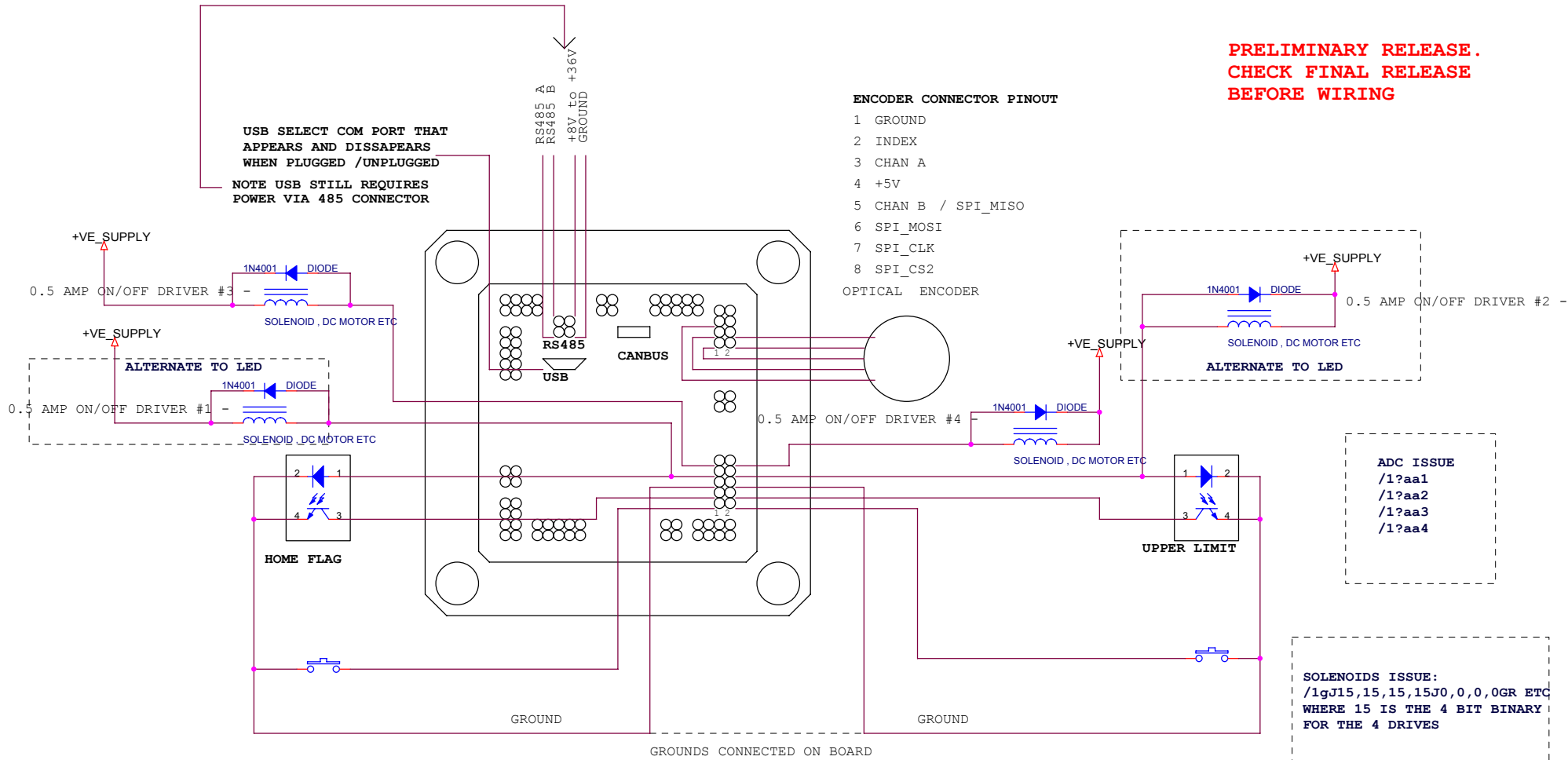
EZ4AXIS17XR POWER SECTION WIRING DIAGRAM

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CHECK FINAL RELEASE
BEFORE WIRING**



ENCODER CONNECTOR PINOUT

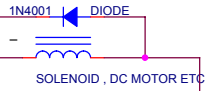
- 1 GROUND
 - 2 INDEX
 - 3 CHAN A
 - 4 +5V
 - 5 CHAN B / SPI_MISO
 - 6 SPI_MOSI
 - 7 SPI_CLK
 - 8 SPI_CS2
- OPTICAL ENCODER

USB SELECT COM PORT THAT APPEARS AND DISSAPEARS WHEN PLUGGED /UNPLUGGED

NOTE USB STILL REQUIRES POWER VIA 485 CONNECTOR

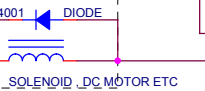
+VE_SUPPLY

0.5 AMP ON/OFF DRIVER #3



SOLENOID , DC MOTOR ETC

+VE_SUPPLY



SOLENOID , DC MOTOR ETC



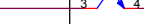
HOME FLAG

GROUND

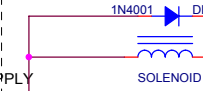
GROUPS CONNECTED ON BOARD

GROUND

UPPER LIMIT



+VE_SUPPLY



+VE_SUPPLY

0.5 AMP ON/OFF DRIVER #2 -

SOLENOID , DC MOTOR ETC

ALTERNATE TO LED

ADC ISSUE

- /1?aa1
- /1?aa2
- /1?aa3
- /1?aa4

SOLENOIDS ISSUE:
/1gJ15,15,15,15J0,0,0,0GR ETC
WHERE 15 IS THE 4 BIT BINARY
FOR THE 4 DRIVES

I/O CONNECTOR PINOUT

- 9 DRIVER 3 (OPEN DRAIN)
- 7 OPTO 1 LED DRIVE/ DRIVE 1 (OPEN DRAIN)
- 5 GND
- 3 OPTO 1/HOME/LOWER LIMIT/DIGITAL IN 2^2
- 1 SWITCH 2 IN/DIGITAL 2^0/ ANALOG CH2
- 10 DRIVER 4 (OPEN DRAIN)
- 8 OPTO 2 LED DRIVE/ DRIVE 2 (OPEN DRAIN)
- 6 GND
- 4 OPTO 2/UPPER LIMIT/DIGITAL IN 2^3
- 2 SWITCH 2 IN/DIGITAL 2^1/ ANALOG CH2

**PRELIMINARY RELEASE
EZ4AXIS17 XR
I/O SECTION WIRING DIAGRAM**

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EZ4AXIS17XR ACESSORIES AND OTHER ELECTRICAL NOTES

CONNECTORS HIROSE DF11 SERIES

4PIN DF11-4DS-2C

8PIN DF11-8DS-2C

10PIN DF11-10DS-2C

USB: USB MICRO

OPTO HOME SWITCH:

- 1) "Z" OR HOME COMMAND RUNS MOTOR UNTIL OPTO #1 IS ON FLAG EDGE.
- 2) AN OPTO SWITCH PROVIDED WITH EACH STARTER KIT
- 3) USE TRANSISTOR OPTO THAT HAS $I_c > 1\text{mA}$ @ $I_F = 20\text{mA}$.

4) EXAMPLES OF ACCEPTABLE OPTOS ARE:

DIGIKEY P/N QVA11134

DIGIKEY P/N H21A1

HONEYWELL HOA1887-012 (IS PREWIRED)

HONEYWELL HOA1870-33 (IS PREWIRED)

OPTEK OPB830W11 (IS PREWIRED)

- 5) THE OPTO COUPLER LED PIN HAS 200 OHM TO 5V IN SERIES ON THE BOARD. THE 200 OHM CAN BE REMOVED IF DESIRED FOR RUNNING SENSORS THAT REQUIRE DIRECT ACCESS TO 5V. (OR USE ENCODER 5V POWER) THE COLLECTOR OF THE TRANSISTOR HAS A 10K PULLUP TO 5V. THE TOTAL CURRENT DRAWN FROM THE 5V SUPPLY (INCLUDING OPTOS) MUST BE LESS THAN 200mA.

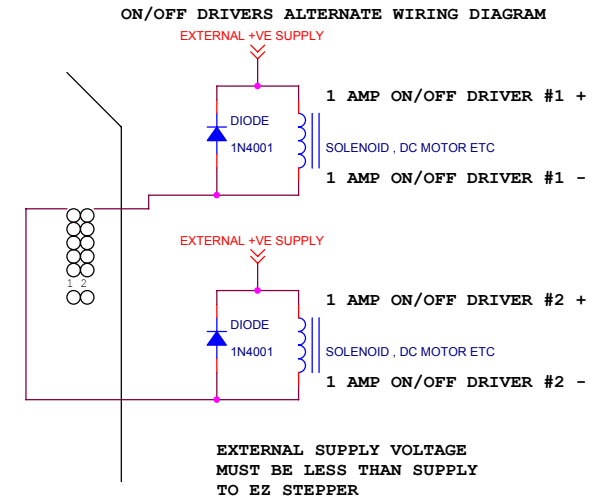
- 6) ALL INPUTS ARE 0-3.3V ADC INPUTS, THE ONE/ZERO THRESHOLD IS FACTORY SET TO 1.23V, TO BE TTL COMPATIBLE, AND CAN BE CHANGED BY SOFTWARE COMMAND.

MOTORS:

- 1) THE EZ STEPPER WILL DRIVE MOST STEPPER MOTORS
- 2) FOR BEST PERFORMANCE SELECT A MOTOR RATED AT ABOUT 1/4 OF THE SUPPLY VOLTAGE. Eg USE A 6V MOTOR WITH A 24V SUPPLY).

ON/OFF DRIVERS ALTERNATE WIRING DIAGRAM

- 1) ON/OFF DRIVERS RATED AT 1 AMPS PEAK, 0.5 AMP CONTINUOUS.
- 2) THE NEGATIVE PIN OF THESE DRIVERS IS ACTUALLY AN OPEN COLLECTOR (OPEN DRAIN) 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) LED OUTPUTS ARE ALSO 1 AMP CAPABLE OPEN DRAIN OUTPUTS, HOWEVER THESE HAVE A 200 OHM ON THE BOARD TO 5V TO POWER THE LED, WHICH MAY INTERFERE WITH TURN OFF IF A SUPPLY HIGHER THAN 5V IS USED FOR POWERING THE LOAD



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