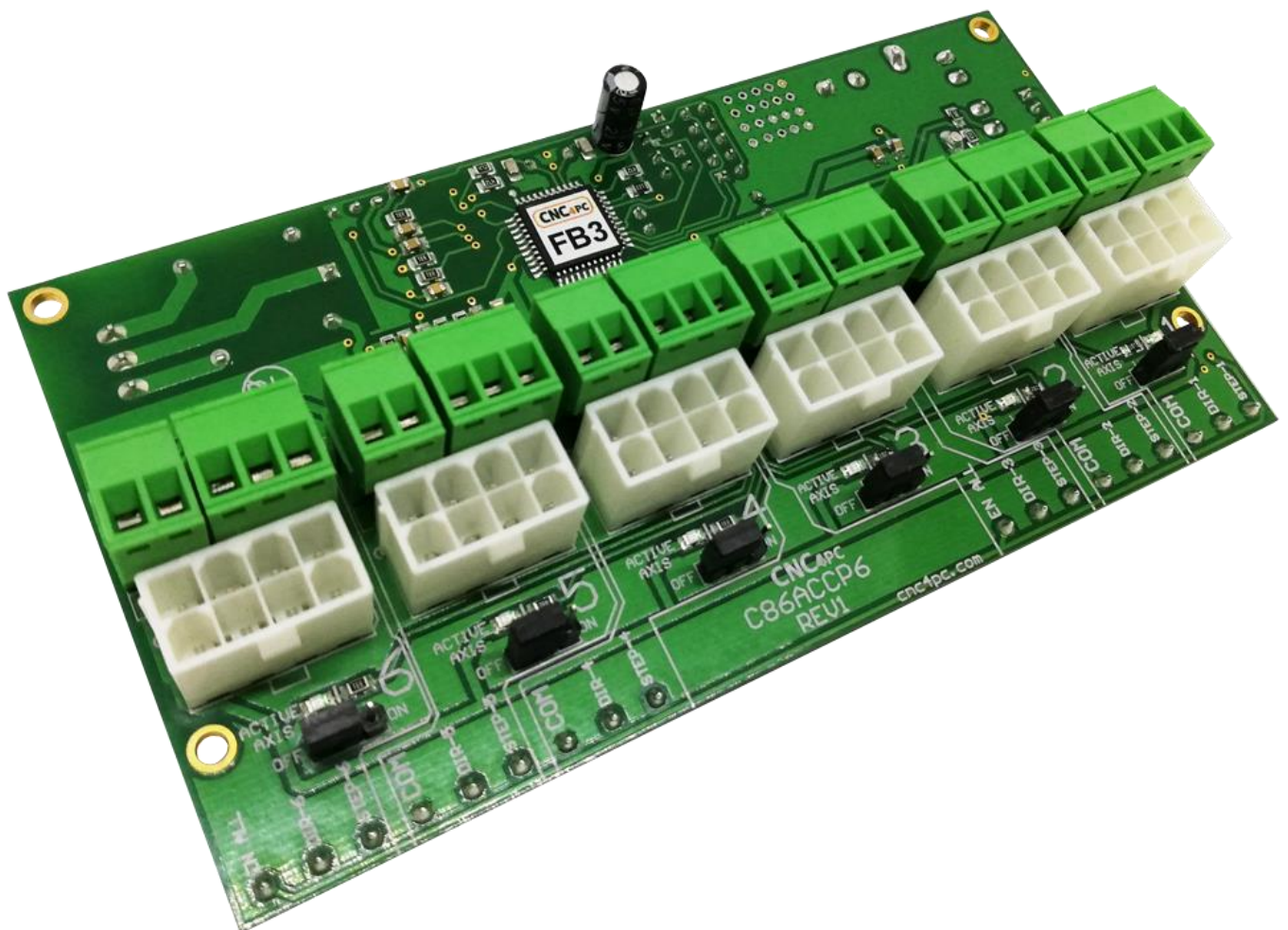


**C86ACCP6 ClearPath Connector  
Board for the AcornSix 6-axis CNC  
controller**

**Rev. 1**



NOVEMBER 2022

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## USER'S MANUAL TABLE OF CONTENTS

Contents	<u>Page #</u>
1.0 OVERVIEW.....	3
2.0 FEATURES.....	3
3.0 BOARD DESCRIPTION.....	4
4.0 REQUIREMENTS .....	5
4.1 Power Requirements.....	5
5.0 TERMINAL POWER .....	5
6.0 ACTIVATING THE BOARD .....	5
6.1 Operation Sequence: .....	6
7.0 JUMPER TO SELECT THE ACTIVE AXIS .....	7
8.0 JUMPER TO SELECT THE ENABLE .....	7
9.0 LED INDICATOR .....	8
9.1 INDICATOR FAULT DETECTION .....	8
10.0 PINOUT.....	9
11.0 WIRING EXAMPLE PLUGGABLE TERMINAL .....	10
12.0 WIRING EXAMPLE.....	11
13.0 DIMENSIONS.....	12

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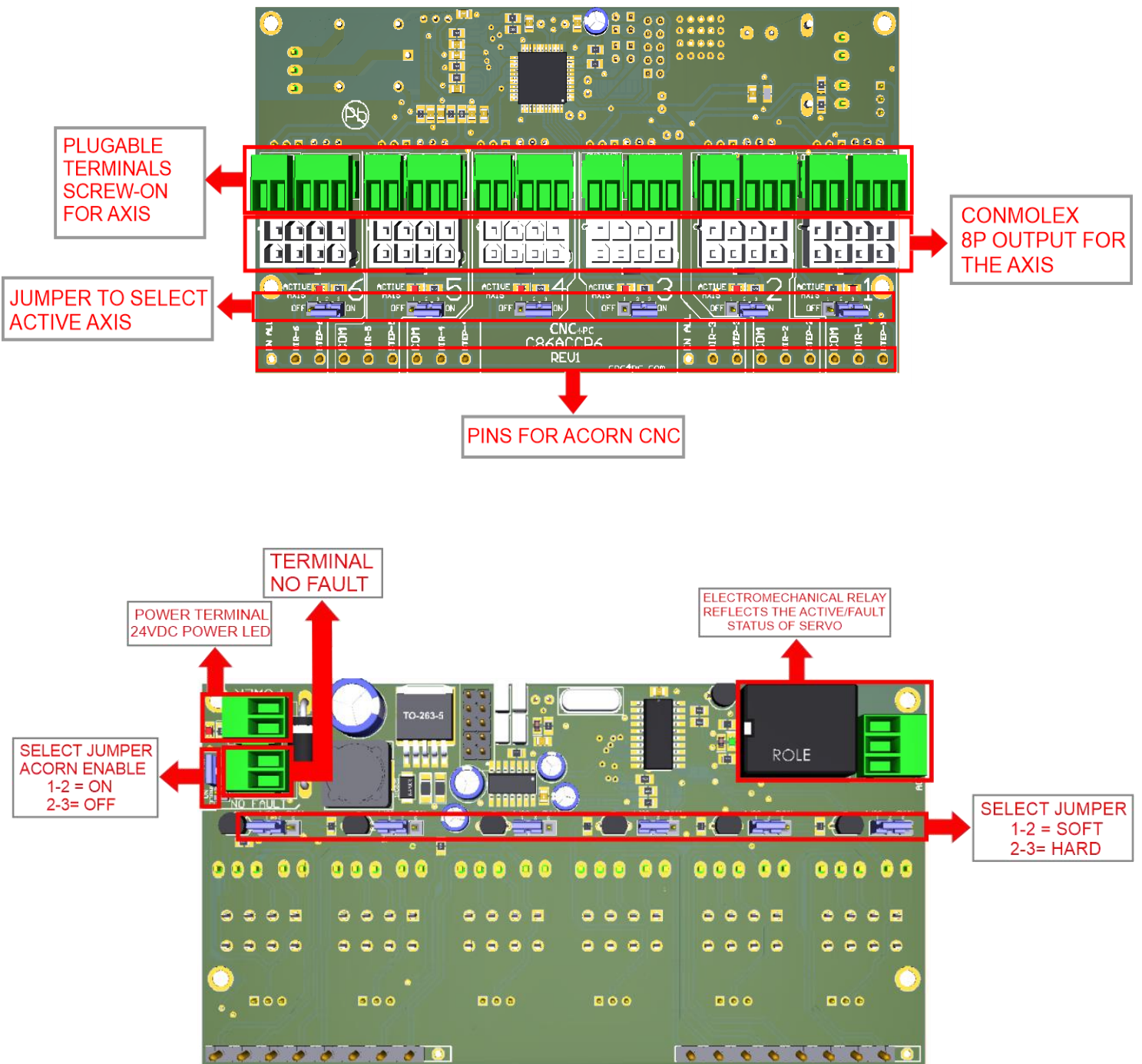
## 1.0 OVERVIEW

This board interface is used for the connection between AcornSix 6-axis CNC controller and the CLEARPATH SERVO DRIVE.

## 2.0 FEATURES

- *Enable and disable the drives.*
- *Splits Step and Direction signals from axis X or Y to allow wiring an additional axis using the same signals.*
- *The board can be activated and start monitoring for a driver fault using the axis enable or NO\_FAULT signal.*
- *Electromechanical relay reflects the ACTIVE / FAULT Status of a servo.*
- *Power terminal (24VDC).*
- *Status LEDs for fault axis and relay status.*
- *Connector CONMOLEX 8P for driver CLEARPATH.*
- *Pluggable Screw-On Terminals*

### 3.0 BOARD DESCRIPTION



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## 4.0 REQUIREMENTS

### 4.1 Power Requirements

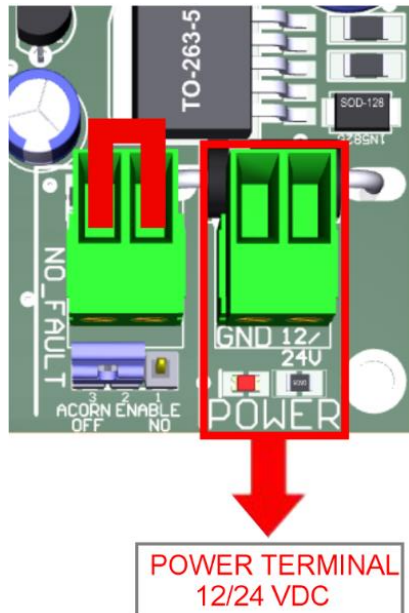
Regulated 24VDC@200mA is required to power this board.



#### **WARNING**

Check the polarity and voltage of the external power source and connect the 24VDC and GND. Overvoltage or reverse-polarity power applied to these terminals can cause damage to the board, and/or the power source.

## 5.0 TERMINAL POWER



Regulated 12 or +24VDC@200mA is required to power this board.

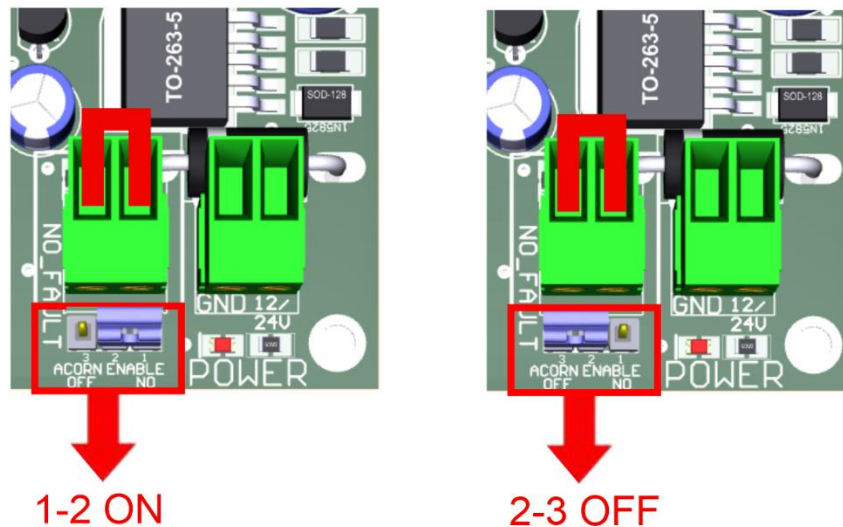
## 6.0 ACTIVATING THE BOARD

Fault monitoring starts when the board is active. When the board is active the relay is activated and the green LED is on.

Two conditions must be met to activate the system and start monitoring for a fault:

1. At least one axis is receiving an active enable signal from the ACORN board or the jumper is set not to monitor the ACORN enable signals.

2. The contacts on the NO\_FAULT terminal are closed. You can configure a relay and read the NO\_FAULT signal from the ACORN, or you could just put a jumper on it if not used.



The board can be activated by the axis enable or the NO\_FAULT signal, or a combination of both signals. It could also be hardwired to be permanently active if both inputs are jumped.

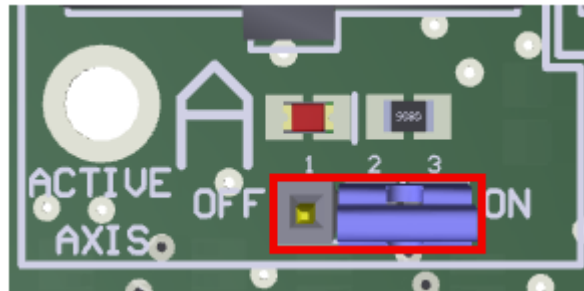
## 6.1 Operation Sequence:

1. Once the board gets enabled, it will take 5 seconds in order for it to start monitoring for a fault. This to preserve compatibility with some drivers which may need time to activate.
2. If a driver faults, the relay will trip and the green LED will go off. An LED indicating the which driver or drivers triggered the fault will light next to the RJ45 of the axis that tripped the fault.

## 7.0 JUMPER TO SELECT THE ACTIVE AXIS

Set of jumpers as shown in the image

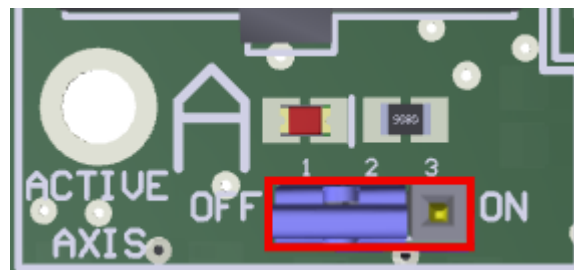
2-3: ON



Set of jumpers as shown in the image

1-2:

OFF



**Note:** Set the jumper to ON for connected axis and off if no drivers are connected.

## 8.0 JUMPER TO SELECT THE ENABLE

Use Software Enable to keep the driver active only while the system is active. Set of jumpers as shown in the image.

**1-2=SOFT**



**2-3=HARD**

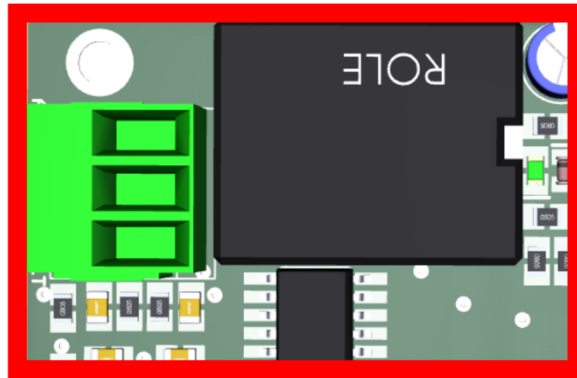


Use Hardware Enable to keep the driver enabled all the time.

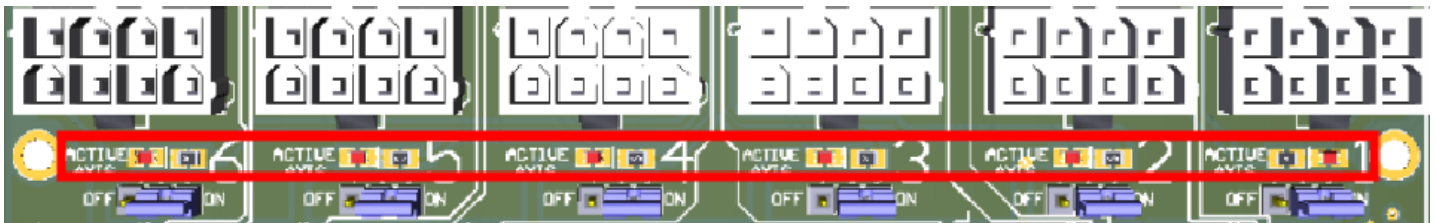
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## 9.0 LED INDICATOR

When **Status LED**, (Green LED) lights, it indicates that the system is enabled.

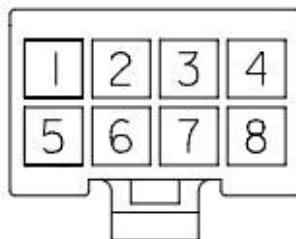










## 9.1 INDICATOR FAULT DETECTION





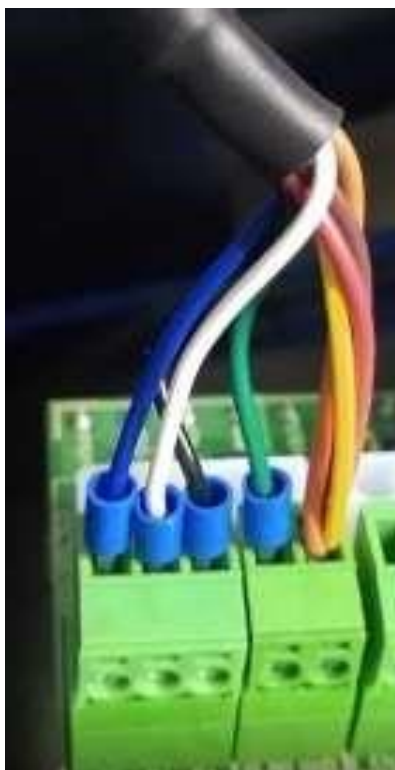
## 10.0 PINOUT



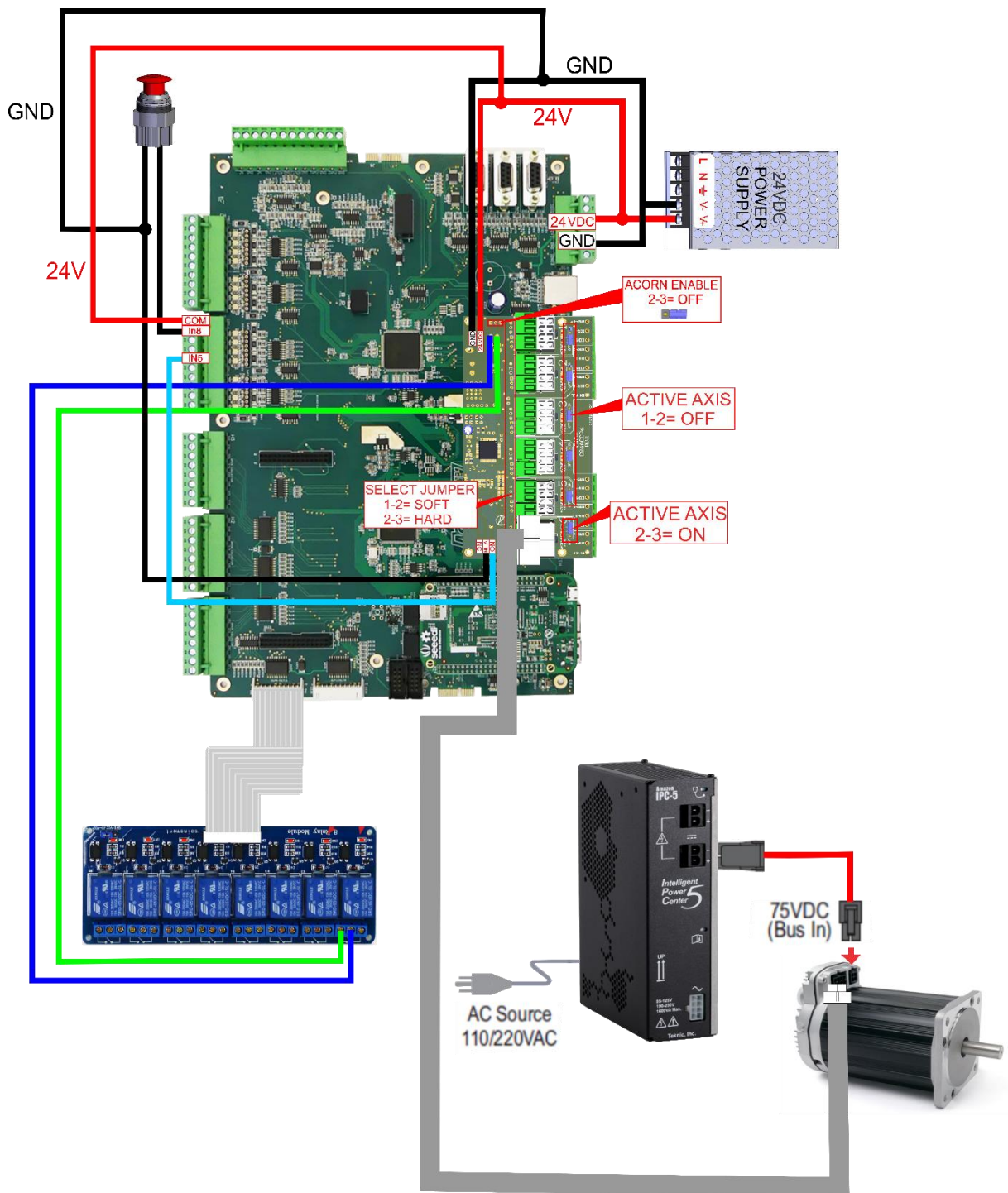
CONTROL CABLE PIN ASSIGNMENTS				
PIN	COLOR	NAME CLEAR PATH	PLUGGABLE TERMINAL C86ACCP	FUNCTION
1	GRN 	HLFB+	HLFB+	ALARM
2	BLK 	INPUT B+	B+	STEP
3	WHT 	INPUT A+	A+	DIRECTION
4	BLU 	ENABLE +	EN+	ENABLE
5	RED 	HLFB-	GND	GND
6	YEL 	INPUT B-	GND	GND
7	BRN 	INPUT A-	GND	GND
8	ORN 	ENABLE -	GND	GND

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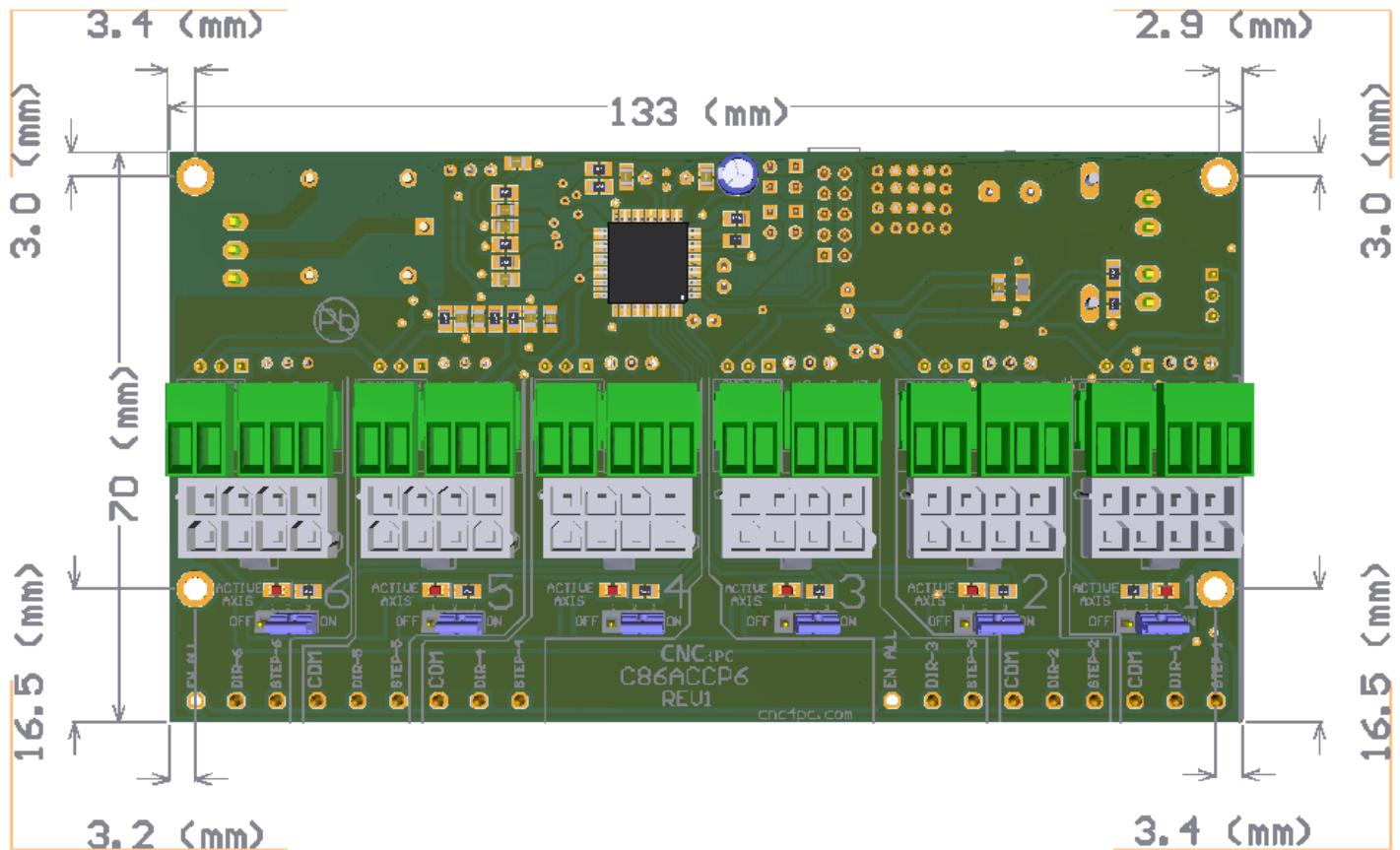
## 11.0 WIRING EXAMPLE PLUGGABLE TERMINAL



## 12.0 WIRING EXAMPLE



## 13.0 DIMENSIONS



All dimensions are in Millimeters  
**Fixing holes (3 mm)**

## DISCLAIMER

Use caution. CNC machines can be dangerous machines. Neither DUNCAN USA, LLC nor Arturo Duncan is liable for any accidents resulting from the improper use of these devices. This product is not a fail-safe device and it should not be used in life support systems or in other devices where its failure or possible erratic operation could cause property damage, bodily injury or loss of life.