

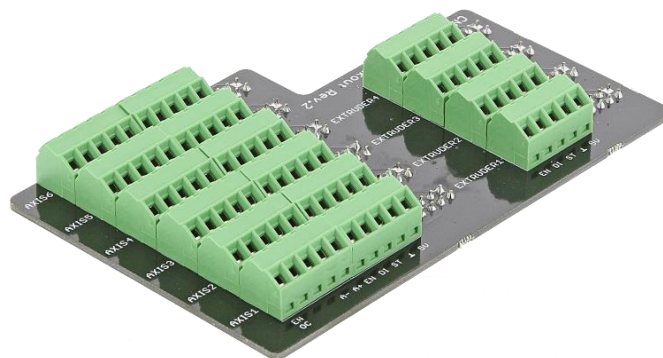


# Hardware Manual

## CNC760 Axis Breakout Board

Revision 1

Released



History:

Revision	Date	Author
1	1-3-2021	AB

Revision overview:

Revision	Remarks
1	Initial version.

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## 1 Introduction

### 1.1 Purpose

This manual describes the hardware of the CNC760 Axis Breakout. The CNC760 Axis Breakout makes it easier to connect wires to the CNC760 Axis output.

### 1.2 Scope

This document describes the hardware of the CNC760 Axis Breakout Board. More information about the different signals can be found in the Hardware Manual of the CNC760.

## 2 Board overview

The image below shows an overview of the Axis Breakout Board. The breakout has separate outputs for each axis but also the extruder outputs.

Please note, the 4 extruder output all use the *step* and *direction* signal from of axis 6. Please check the hardware manual of the CNC760 for more info about this.

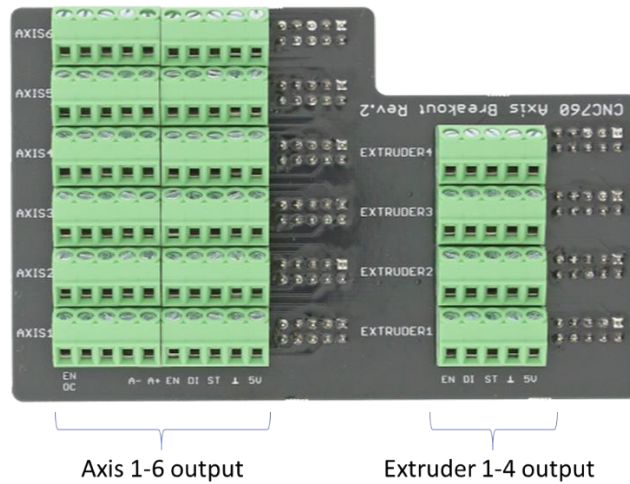


Figure 1. Top view CNC760 Axis Breakout board.

### 3 Mounting the breakout board

The breakout board is mounted on top of the CNC760.

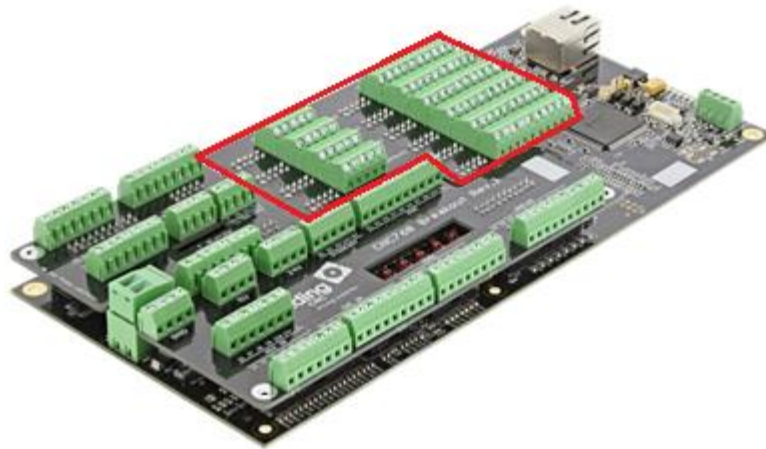


Figure 2. CNC760 Axis Breakout Board mounted on top CNC760.

Mounting the board is done in three steps:

Step 1: Align the axis breakout board with the connector on the CNC760.



Figure 3. Aligning both boards.



Step 2: Let the board come down so all pins will be automatically aligned.

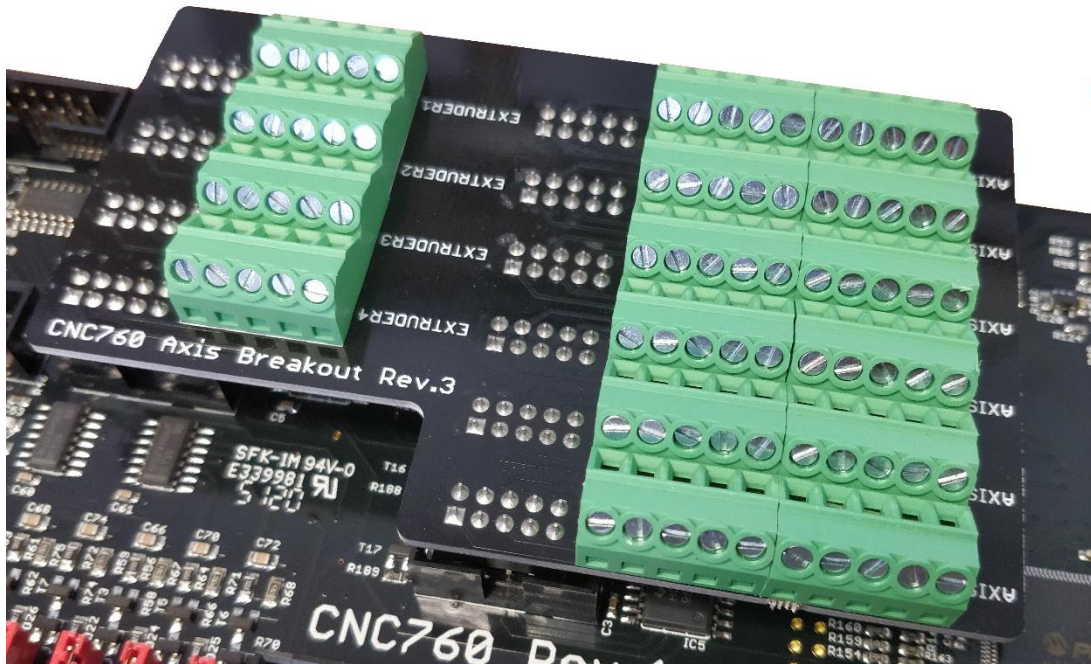


Figure 4. Both boards completely aligned.

Step 3: Press down on the axis breakout board to make both boards connect. Make sure the breakout board is equally pressed down everywhere.

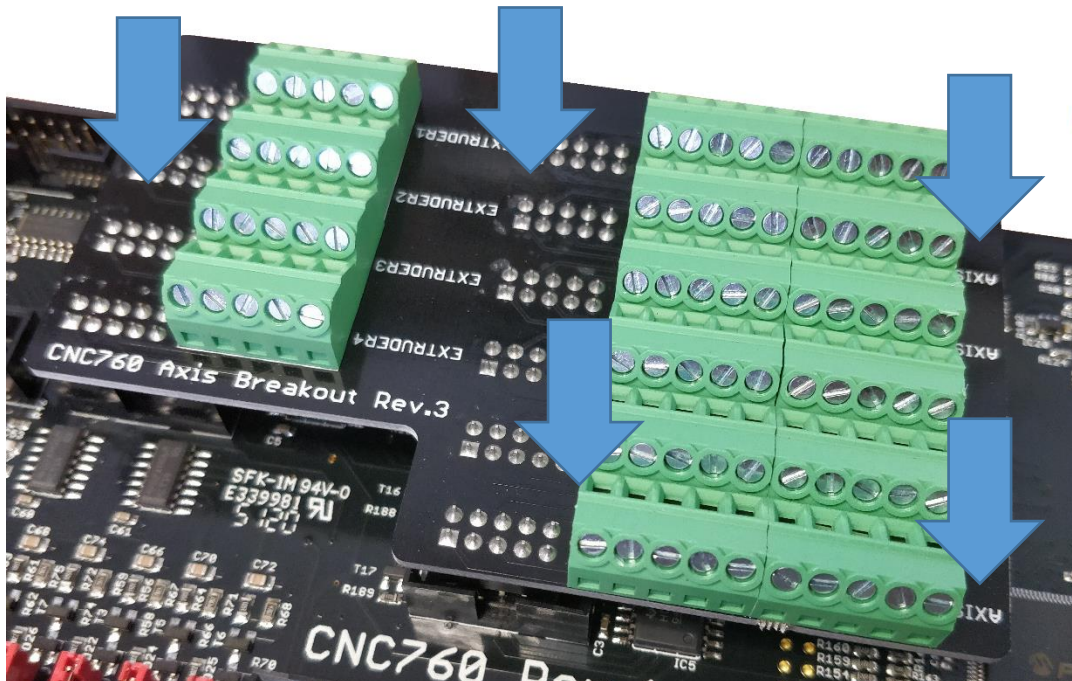


Figure 5. Pushing down on breakout board.

## 4 Pinning of the breakout board

The board connects to the connectors of the CNC760. In this chapter the exact pinning between those is described. For more detailed information about each signal at its usage please have a look at the 'CNC760 hardware manual'.

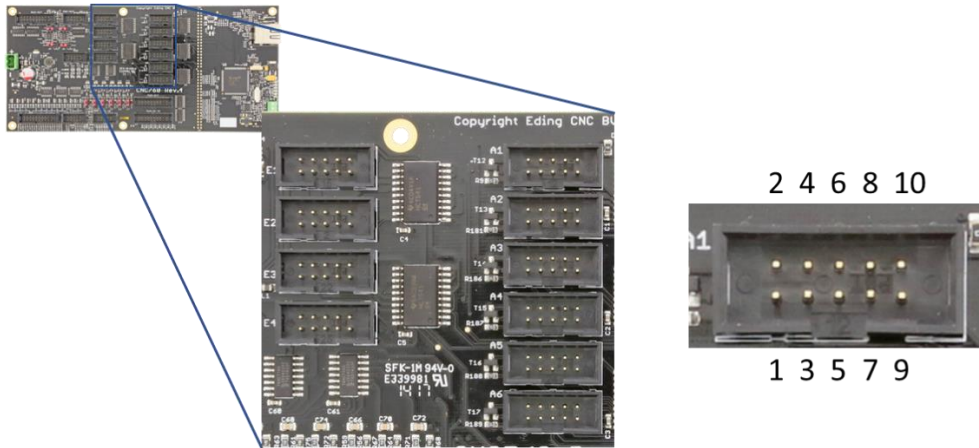


Figure 6. CNC760 used connector for connecting axis breakout.

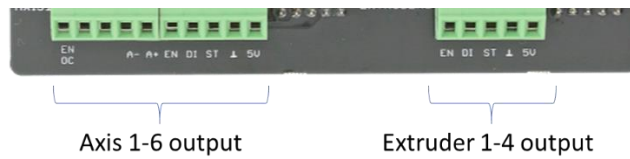


Figure 7. Close-up axis breakout board connections.

Below the connections for each of the main axis:

Pin #	Name	Direction	Type	Function	Electrical Spec.	CNC760 Connector pin	Remarks
1	EN OC		Open-Collector	Enable OC		#2	This is open collectors signal of the enable signal
2	GND		Ground	Ground		#4	
3	GND		Ground	Ground		#6	
4	A-			Alarm -	GND	#8	
5	A+	IN	DIGITAL	Alarm +	+5V	#10	
6	EN	OUT	DIGITAL	Drive Enable	+5V	#1	
7	DI	OUT	DIGITAL	Direction signal	+5V	#3	
8	ST	OUT	DIGITAL	Step signal	+5V	#5	
9	GND	OUT	Power	Ground		#7	
10	+5V	OUT	Power	Ground		#9	



In the table below the extruder connections

Pin #	Name	Direction	Type	Function	Electrical Spec.	CNC760 Connector pin	Remarks
1	EN	OUT	DIGITAL			#1	AUX7-AUX10
2	DI	OUT	DIGITAL	Direction signal	+5V	#3	This is axis 6 signal
3	ST	OUT	DIGITAL	Step signal		#5	This is axis 6 signal
4	GND		Power		+5V	#7	
5	+5V		Power		+5V	#9	