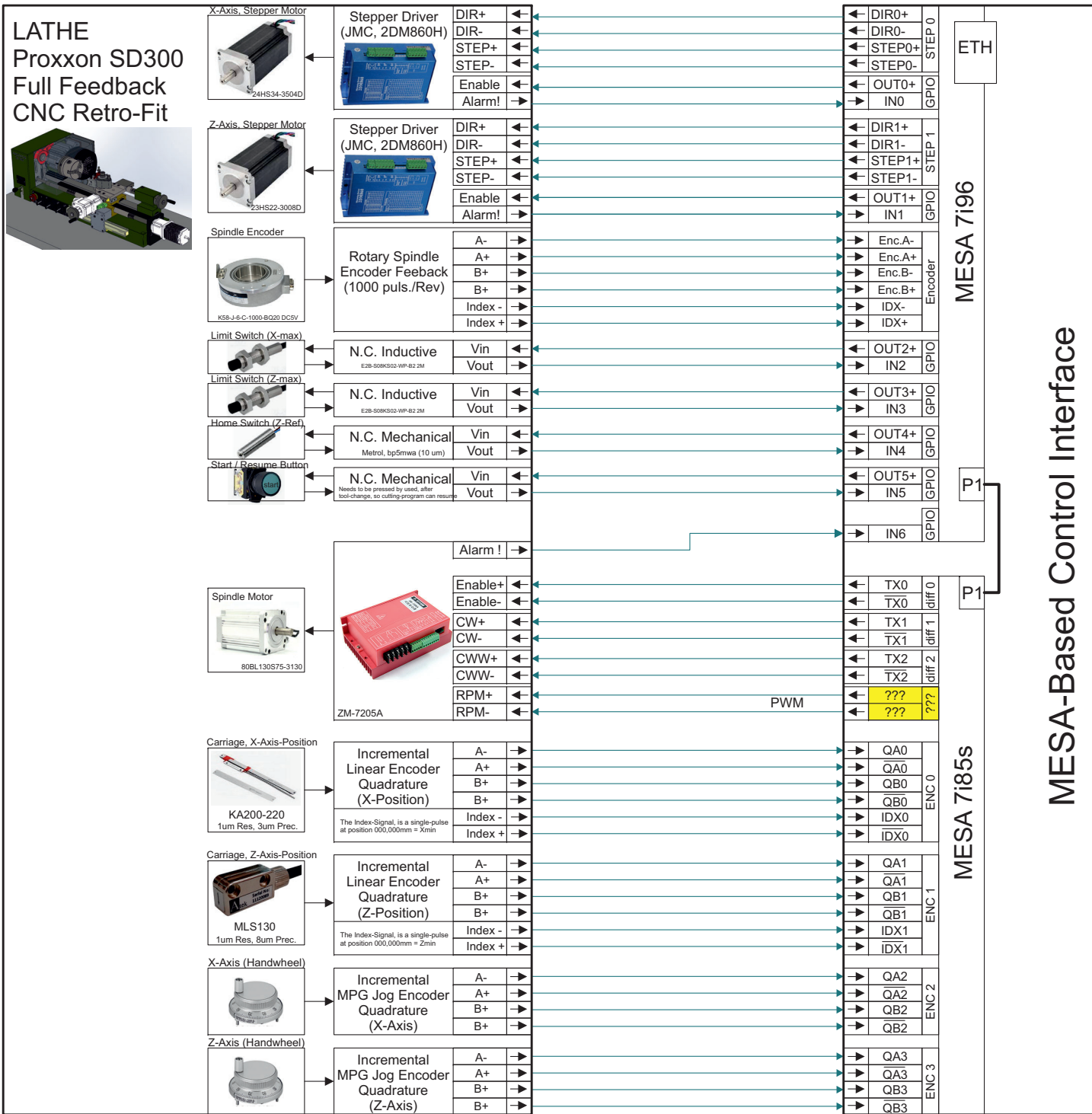
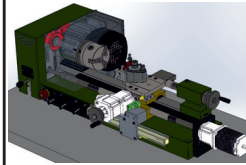


# SD300, Connection Diagram, Full-Feedback-loop Lathe with Mesa-Cards

## LATHE Proxon SD300 Full Feedback CNC Retro-Fit

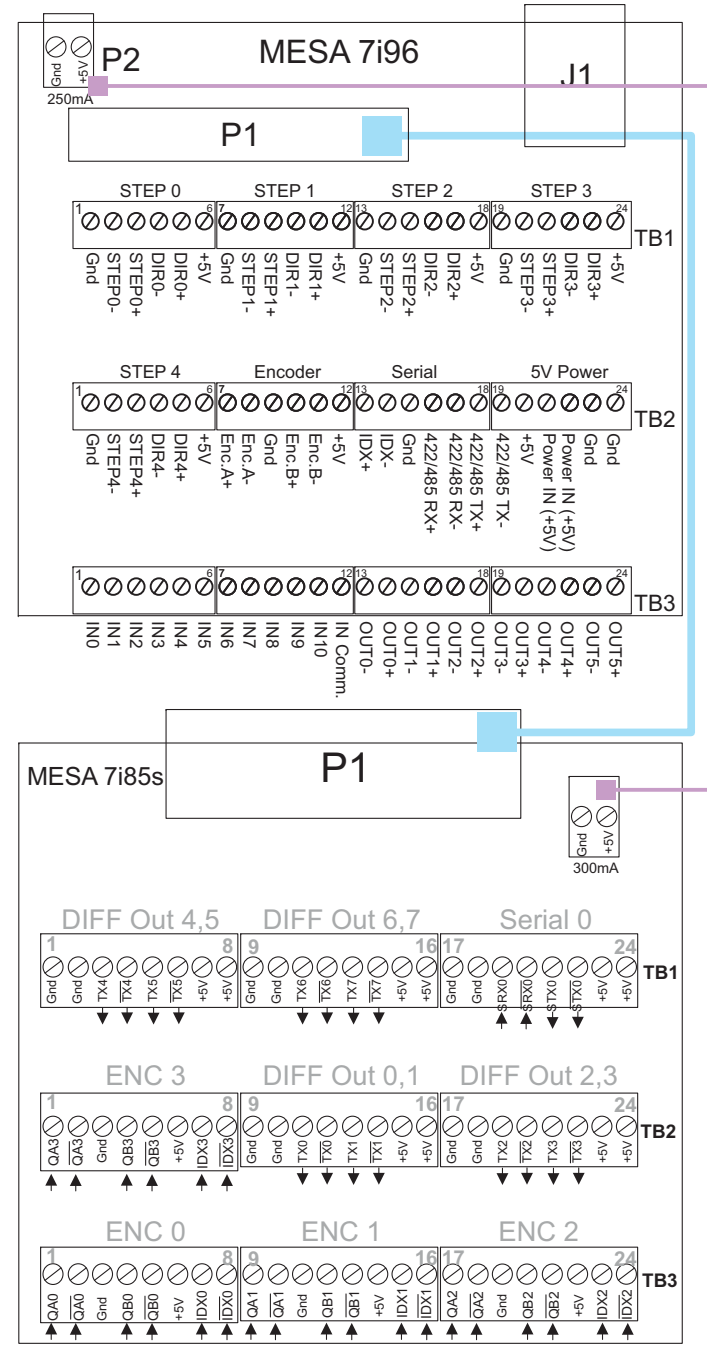


## MESA-Based Control Interface

## Physical Card, IO Overview

Author: Ronald J / 10 Nov 2020  
Conversion Status: IO-DEF

IN10  
IN9  
IN8  
IN7  
IN6



Author: Ronald J / 10 Nov 2020  
 Conversion Status: IO-DEF

Point and click configuration - SD300\_7i96\_and\_7i85s.pncconf

**Mesa Card 0**

Configuration Page: TB3 | TB1/TB2 | P1 | 7i84 I/O (SS# 1)

Press the button to make the tabbed pages accept the changes.  
 Click on each page tab to configure signal names for each connector port.

Board name: 7i96-Internal Data  
 Firmware: 7i96d  
 Card address: 192.168.1.222  
 PWM base frequency: 20000 Hz  
 PDM base frequency: 6000000 Hz  
 Watchdog timeout: 5000000 ns  
 Num of encoders: 1  
 Num of pwm generators: 0  
 Num of step generators: 2  
 Num of Smart Serial Ports: 1  
 Total number of pins: 34

Sanity Checks:  
 7i29 daughter board  
 7i30 daughter board  
 7i33 daughter board  
 7i40 daughter board  
 7i48 daughter board

Accept components Changes

Point and click configuration - SD300\_7i96\_and\_7i85s.pncconf

**Mesa Card 0**

Configuration Page: TB3 | TB1/TB2 | P1 | 7i84 I/O (SS# 1)

Num	function	Pin Type	Inv
000:	Digital out 0	GPIO Output	<input type="checkbox"/>
001:	X Maximum Limit	GPIO Input	<input type="checkbox"/>
002:	Digital out 1	GPIO Output	<input type="checkbox"/>
003:	X Minimum Limit + Hor	GPIO Input	<input type="checkbox"/>
004:	Digital out 2	GPIO Output	<input type="checkbox"/>
005:	Z Maximum Limit	GPIO Input	<input type="checkbox"/>
006:	Z Minimum Limit + Hor	GPIO Input	<input type="checkbox"/>
007:	Digital out 3	GPIO Output	<input type="checkbox"/>
008:	Digital in 3	GPIO Input	<input type="checkbox"/>
009:	Cycle Start	GPIO Input	<input type="checkbox"/>
010:	Unused Input	GPIO Input	<input type="checkbox"/>
00:	Machine Is Enabled	SSR Output	<input type="checkbox"/>

Num	function	Pin Type	Inv
01:	Spindle Enable	SSR Output	<input type="checkbox"/>
02:	Spindle CW	SSR Output	<input type="checkbox"/>
03:	Spindle CCW	SSR Output	<input type="checkbox"/>
04:	Unused Output	SSR Output	<input type="checkbox"/>
05:	Unused Output	SSR Output	<input type="checkbox"/>

Point and click configuration - SD300\_7i96\_and\_7i85s.pncconf

**Mesa Card 0**

Configuration Page: TB3 | TB1/TB2 | P1 | 7i84 I/O (SS# 1)

Num	function	Pin Type	Inv
0:	X Axis StepGen	Dir Gen-B	<input type="checkbox"/>
0:	X Axis StepGen	Step Gen-A	<input type="checkbox"/>
0:	Z Axis StepGen	Dir Gen-B	<input type="checkbox"/>
1:	Z Axis StepGen	Step Gen-A	<input type="checkbox"/>
021:	Unused Input	GPIO Input	<input type="checkbox"/>
022:	Unused Input	GPIO Input	<input type="checkbox"/>
023:	Unused Input	GPIO Input	<input type="checkbox"/>
024:	Unused Input	GPIO Input	<input type="checkbox"/>
025:	Unused Input	GPIO Input	<input type="checkbox"/>
026:	Unused Input	GPIO Input	<input type="checkbox"/>
0:	Spindle Encoder	Quad Enc-A	<input type="checkbox"/>
0:	Spindle Encoder	Quad Enc-B	<input type="checkbox"/>

Num	function	Pin Type
0:	Spindle Encoder	Quad Enc-I
0:	Unused Channel	SSERIAL-P0-RX
1:	7i84 Mode 3 I/O Card	SSERIAL-P1-TX
0:	Unused Channel	SSERIAL-P0-EN
0:	8i20 Amplifier Card	
0:	7i64 I/O Card	
0:	7i69 I/O Card	
0:	7i70 I/O Card	
0:	7i71 I/O Card	
0:	7i73 Mode 1 Pendant Card	
0:	7i84 Mode 1 I/O Card	
0:	7i84 Mode 3 I/O Card	

Point and click configuration - SD300\_7i96\_and\_7i85s.pncconf

**Mesa Card 0**

Configuration Page: TB3 | TB1/TB2 | P1 | 7i84 I/O (SS# 1)

Num	function	Pin Type	Inv
034:	Unused Input	GPIO Input	<input type="checkbox"/>
035:	Unused Input	GPIO Input	<input type="checkbox"/>
036:	Unused Input	GPIO Input	<input type="checkbox"/>
037:	Unused Input	GPIO Input	<input type="checkbox"/>
038:	Unused Input	GPIO Input	<input type="checkbox"/>
039:	Unused Input	GPIO Input	<input type="checkbox"/>
040:	Unused Input	GPIO Input	<input type="checkbox"/>
041:	Unused Input	GPIO Input	<input type="checkbox"/>
042:	Unused Input	GPIO Input	<input type="checkbox"/>
043:	Unused Input	GPIO Input	<input type="checkbox"/>
044:	Unused Input	GPIO Input	<input type="checkbox"/>
045:	Unused Input	GPIO Input	<input type="checkbox"/>

Num	function	Pin Type	Inv
046:	Unused Input	GPIO Input	<input type="checkbox"/>
047:	Unused Input	GPIO Input	<input type="checkbox"/>
048:	Unused Input	GPIO Input	<input type="checkbox"/>
049:	Unused Input	GPIO Input	<input type="checkbox"/>
050:	Unused Output	GPIO Output	<input type="checkbox"/>

# Basic Setup of Proxon SD-300, Lathe CNC-Conversion (LinuxCNC) - Initial Pncconf Config

Author: Ronald J / 10 Nov 2020  
 Conversion Status: IO-DEF

Point and click configuration - SD300\_7196\_and\_7185s.pncconf

Help Cancel Mesa Card 0 Back Forward

Configuration Page TB3 TB1/TB2 P1 7184 I/O (SS# 1)

7184-I/O-MPG TB3 7184-I/O TB2

Num	function	Pin Type	Inv
00:	Unused Input	GPIO Input	<input type="checkbox"/>
01:	Unused Input	GPIO Input	<input type="checkbox"/>
02:	Unused Input	GPIO Input	<input type="checkbox"/>
03:	Unused Input	GPIO Input	<input type="checkbox"/>
04:	Unused Input	GPIO Input	<input type="checkbox"/>
05:	Unused Input	GPIO Input	<input type="checkbox"/>
06:	Unused Input	GPIO Input	<input type="checkbox"/>
07:	Unused Input	GPIO Input	<input type="checkbox"/>
08:	Unused Input	GPIO Input	<input type="checkbox"/>
09:	Unused Input	GPIO Input	<input type="checkbox"/>
10:	Unused Input	GPIO Input	<input type="checkbox"/>
11:	Unused Input	GPIO Input	<input type="checkbox"/>

Point and click configuration - SD300\_7196\_and\_7185s.pncconf

Help Cancel Mesa Card 0 Back Forward

Configuration Page TB3 TB1/TB2 P1 7184 I/O (SS# 1)

7184-I/O-MPG TB3 7184-I/O TB2

Num	function	Pin Type	Inv
0:	X Hand Wheel	Quad Enc-A	<input type="checkbox"/>
1:	Z Hand Wheel	Quad Enc-A	<input type="checkbox"/>
20:	Unused Input	GPIO Input	<input type="checkbox"/>
21:	Unused Input	GPIO Input	<input type="checkbox"/>
22:	Unused Input	GPIO Input	<input type="checkbox"/>
23:	Unused Input	GPIO Input	<input type="checkbox"/>
24:	Unused Input	GPIO Input	<input type="checkbox"/>
25:	Unused Input	GPIO Input	<input type="checkbox"/>
26:	Unused Input	GPIO Input	<input type="checkbox"/>
27:	Unused Input	GPIO Input	<input type="checkbox"/>

