

WARNING



Electrical shock or serious physical injury could result due to misuse Control BOX.

Disconnect power cables while installing the Control Box.



Read and follow instructions on the manual.

Images below show the step required to install the kit into the XMT control box.

- **1.1 Step 1.** Remove the bottom cover of the controller box.
- **1.2 Step 2.** Remove all connections between the manual control panel and the control box.



1.3 Step 3. Install the C61 over the mounting holes of the box.



1.4 Step 4. Insert the AC cord cable receptacles to the AC input terminals of the C61.



Note: Connect to the C61 only the neutral and line terminal.`

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1.5 Step 5. Connect the black and white 16 AWG cable provided in the kit from the C61 AC output terminal to the AC terminals of the motherboard incluided inside the XMT box.



1.6 Step 6. Connect the 5 wires cable provided in our kit from the C61 to terminals of the daugtherboard incluided inside the XMT box.

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1.7 Step 7. Insert an standar RJ45 cable through the slot of one side of the control box, and plug the cable in the RJ45 connector located in the C61 board.



1.8 Step 8.Connect the other side of the RJ45 cable to the terminal of the C11 board.



2. CONFIGURING THE VARIABLE SPEED CONTROL (PIN 14 OF THE C11)

This function lets you control your XMT KIT with PWM and REV signals, as if it was an axis motor. The C11 board converts the PWM into an analog (0-10VDC).

2.1 Configuring the Control Software

1. Go to Config / Ports &Pins / Motor Outputs. Enable the spindle and select the port and pins you wired for step and direction

Signal	Enabled	Step Pin#	Dir Pin#	Dir LowActi	Step Low A	Step Port	Dir Port
X Axis	4	2	3	*	X	1	1
Y Axis	4	4	5	X	X	1	1
Z Axis	4	6	7	X	X	1	1
A Axis	4	8	9	X	X	1	1
B Axis	X	0	0	X	X	0	0
C Axis	X	0	0	X	X	0	0
Spindle	4	14	16	X	×	1	1

2. Go to Config/ Ports & Pins/ Output Signal. Enable the output #1, select port 1 and pin 1

Signal	Enabled	Port #	Pin Number	Active Low	<u>^</u>
Digit Trig	X	1	0	X	
Enable1	X	1	0	X	=
Enable2	×	1	0	×	
Enable3	X	1	0	X	
Enable4	X	1	0	X	
Enable5	X	1	0	X	
EnableC	*	1	9	¥	-
Output #1	4	1	1	X	
Output #2	×	1	16	X	
Pi	ns 2 - 9 , 1, 14, 16, an	d 17 are output pins. No	o other pin numbers shou	ld be used.	

3. Go to Config / Ports&Pins / Spindle Setup. In the motor control box, check Use Spindle Motor Output and Step /Dir Motor. Under Pulley Ratios set the pulley ratios of the machine.

Engine Configuration Ports & Pins Port Setup and Axis Selection Motor Outp	uts Input Signals Output Signals Encoder/M	PG* Spindle Setup Mill Options
Relay Control Disable Spindle Relays Clockwise (M3) Output # 1 CCW (M4) Output # 0 Outout Signal #'s 1-6 Plood Mist Control Disable Flood/Mist relays Delay Mist M7 Output # 1 0 Plood M8 Output # 0 Output Signal #'s 1-6 ModBus Spindle - Use Step/Dir as well Enabled Reg 64 64 - 127 Max ADC Count 16380	Motor Control Special Funct ✓ Use Spindle Motor Output Use Spindle PWM Control Closed Log ✓ Step/Dir Motor P 0 % PWMBase Freq. 301 Minimum PWM 0 © % General Parameters 1 CW Delay Spin UP 1 CW Delay Spin UP 1 CW Delay Spin DOWN 1 Seconds 1 CW Delay Spin DOWN 1 Seconds 1 Immediate Relay off before delay	ions Ile Feedback in Sync Modes op Spindle Control I I D 0.3 peed Averaging Special Options, Usually Off HotWire Heat for Jog Laser Mode. freq I Torch Volts Control Torch Auto Off
		Aceptar Cancelar Aplicar

4. Go to Config / Spindle Pulleys. Under Pulley Ratios set the pulley ratios of the machine

Current Pulley		Min Speed	Max Speed	Ratio
ulley Number 1	-	100	2200	1

5. Go to Config / Motor Tuning / Spindle. On Steps per unit put 1,000, set velocity to maximum. For Acceleration, choose the acceleration that you feel comfortable with. Start slow, increase acceleration as you test your system. Under Step Pulse length, use a number from 3 to 5, but start with 3. This number is directly proportional to the final voltage you will get in the analog output. Use this number and the fine tuning pot to adjust the voltage you want to get at max speed.



Disclaimer:

Use caution. CNC machines could be dangerous machines. DUNCAN USA, LLC or Arturo Duncan are not liable for any accidents resulting from the improper use of these devices. This Kit is not 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.