



SUCARMO

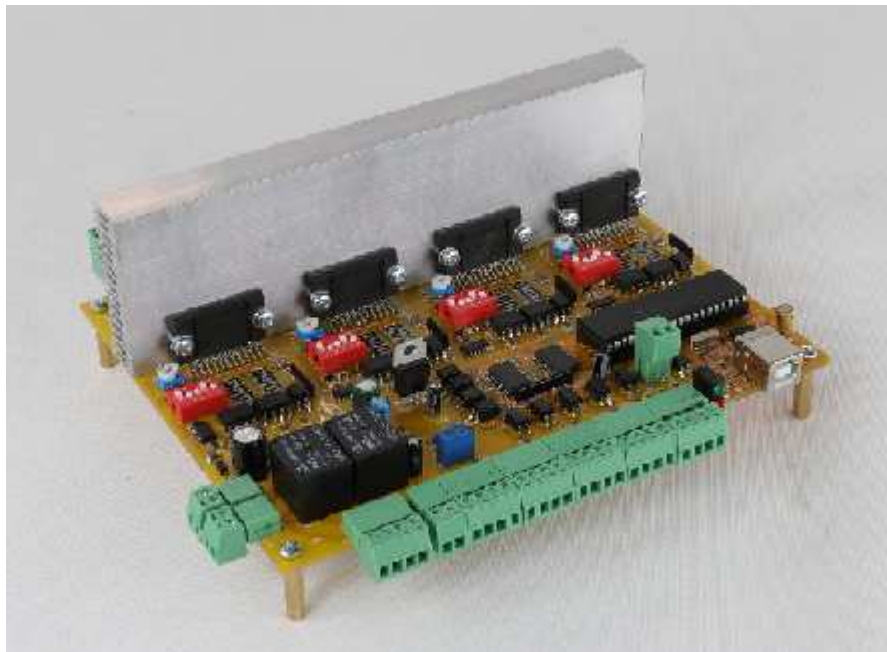
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31500 TUDELA (NAVARRA)

☎ 948 847 640

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Technical characteristics:

- Control 4 Axes X, Y, Z, A 4.5 Amp.
- 2 Relays controlled from Mach3 with "Output 1" and "Output 2".
- Output 24V "Output 3"
- Emergency stop "EStop" configurable from Mach3.
- Probe Input signal configurable from Mach3 "Probe".
- Input signal Home X, Y, Z, A search of 0 Machine, configurable from Mach3.
- General power supply + 24V. (Consumption 500 Watts)
- Optional power supply drivers from 24 to 36 Volts.
- Double Home in Slave Shaft (X-A)
- Output signal of 0-10v (PWM) control speed variator.

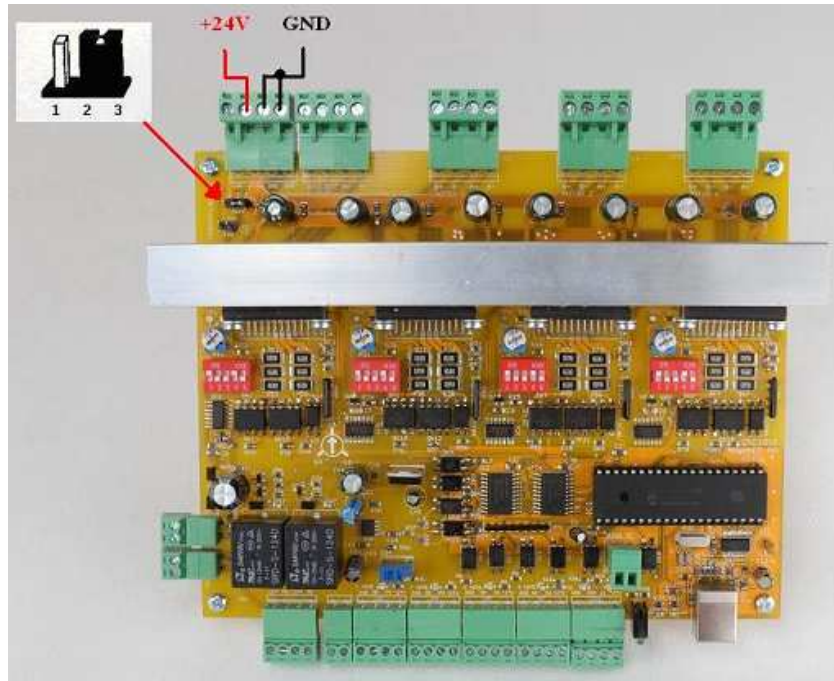


Connections

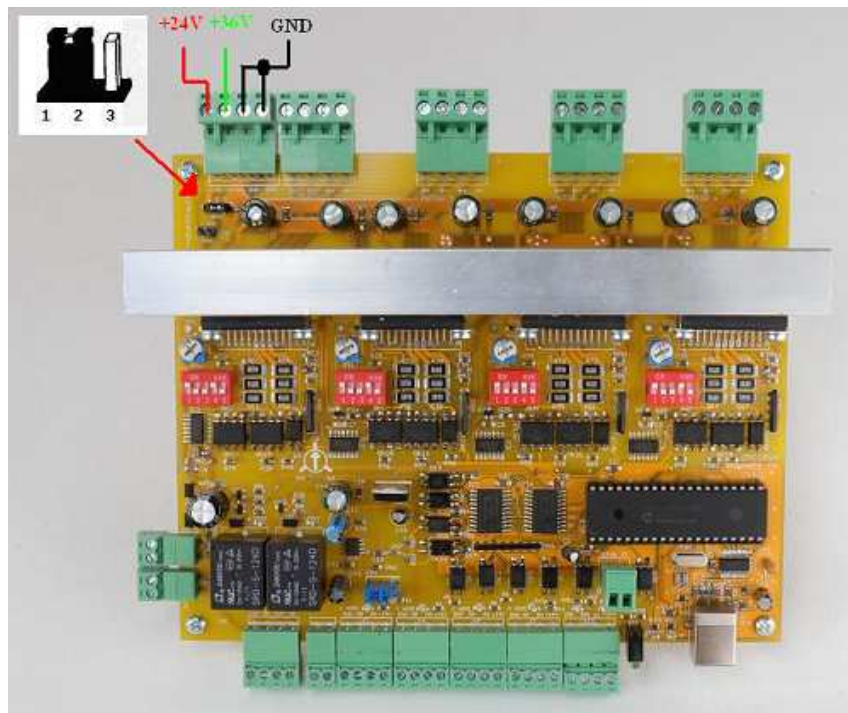
1.- Power Supply:

Optional 24V (Mode A) or 24-36v (Mode B)

- Mode A, connection to 24V. (General power supply to 24V)



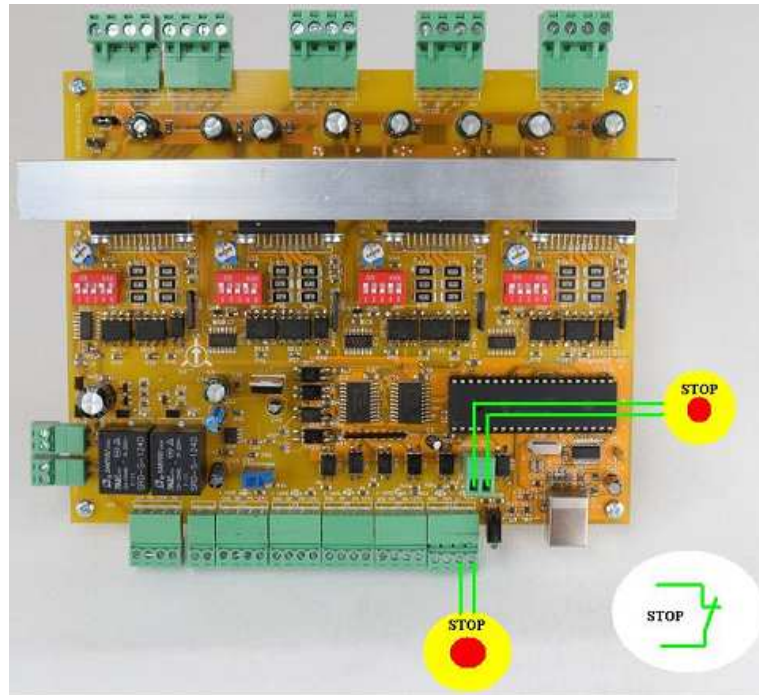
- Mode B, connection to +24V and +36V (drivers). Power drivers to 36v and Low power electronics to 24v)



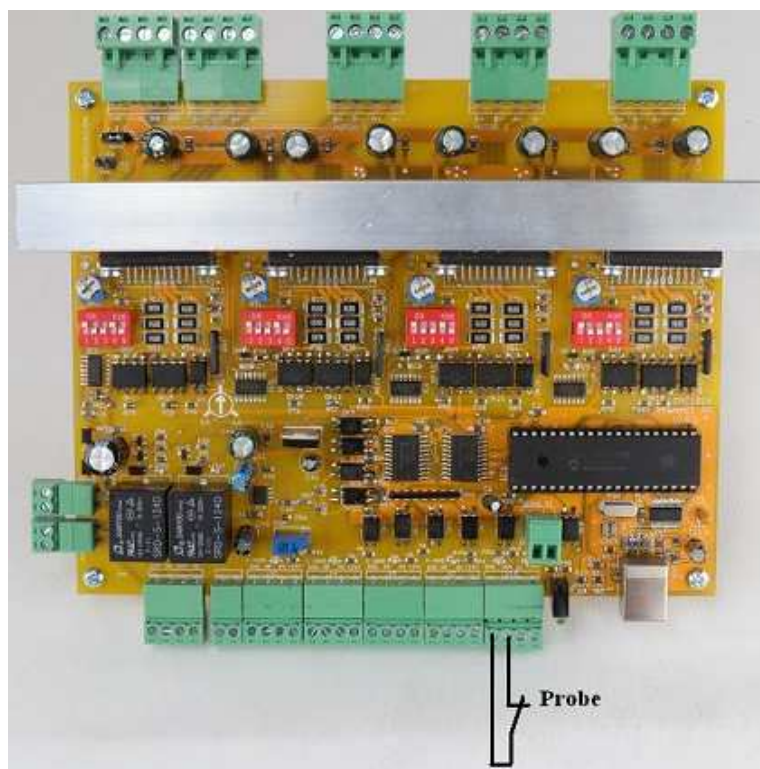
- 5 volt, internal connection from USB port.

Input Signals:

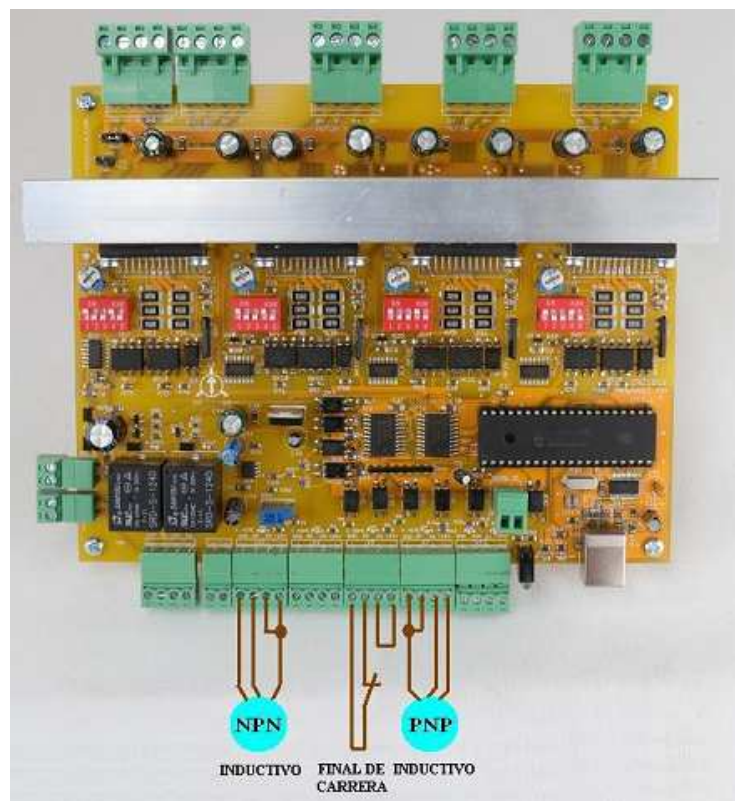
- Connection "Z" Emergency Stop, 2 inputs connected in series according to the image for internal or external use or 2 at a time:



- Connection "Probe":

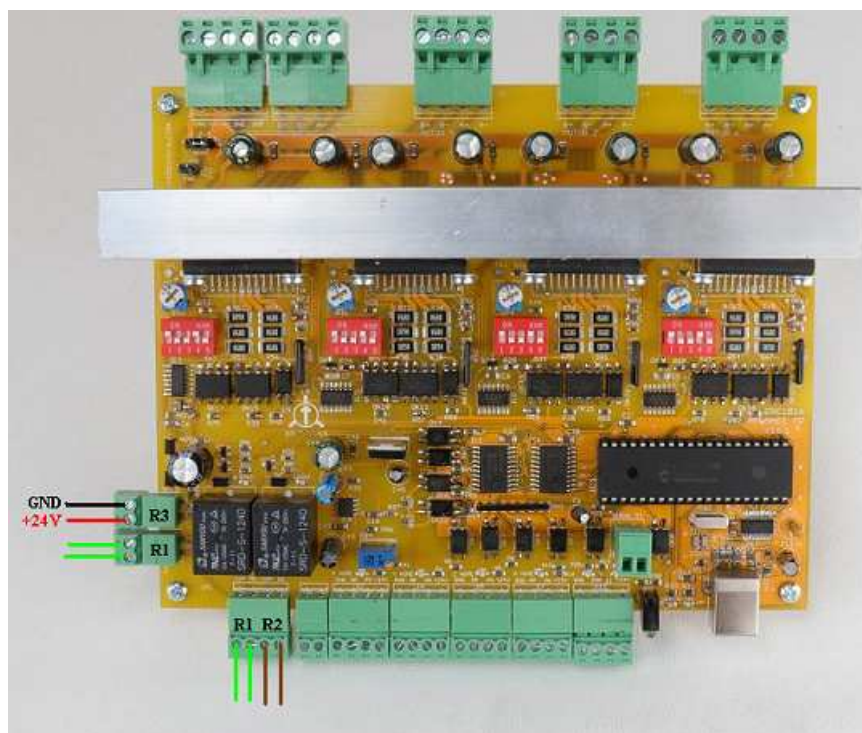


- Connection Home X, Y, Z, A type NPN - PNP and with limit switches:

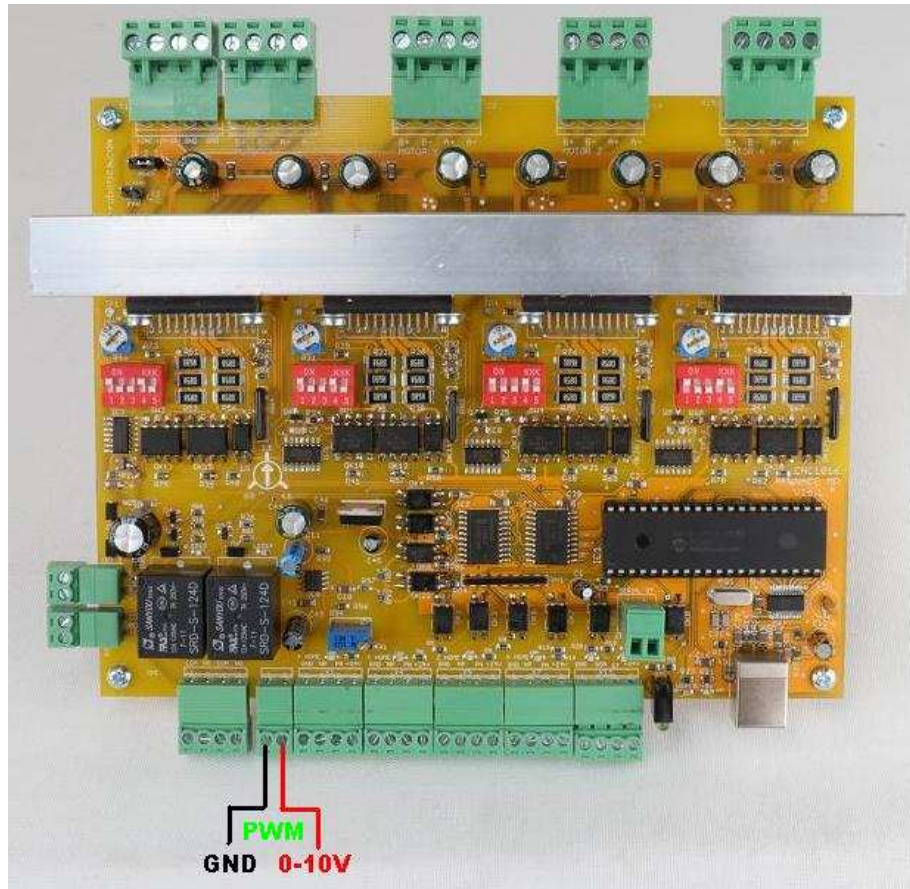


Output Signals

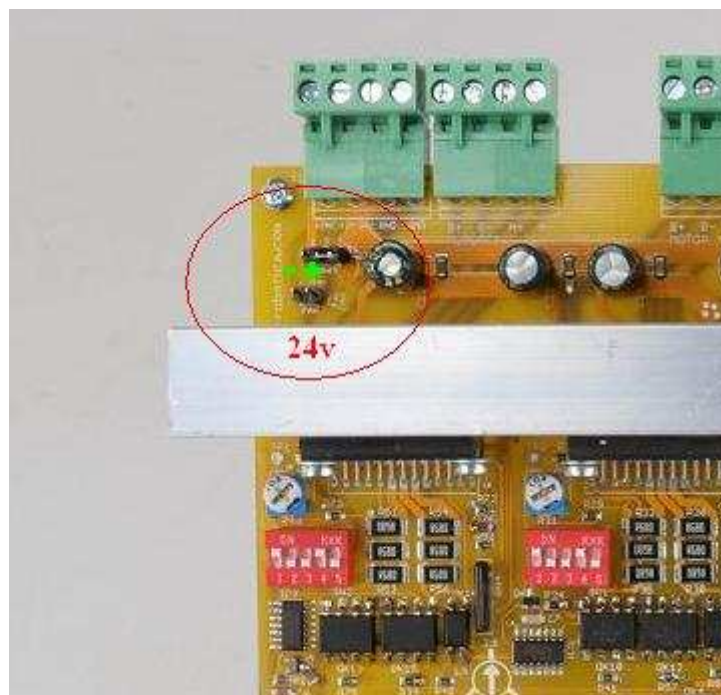
- Output Relays 1 and 2 Normally Open (Relay 1 has 2 connectors for both front and rear connectors, these 2 connectors are connected in parallel):



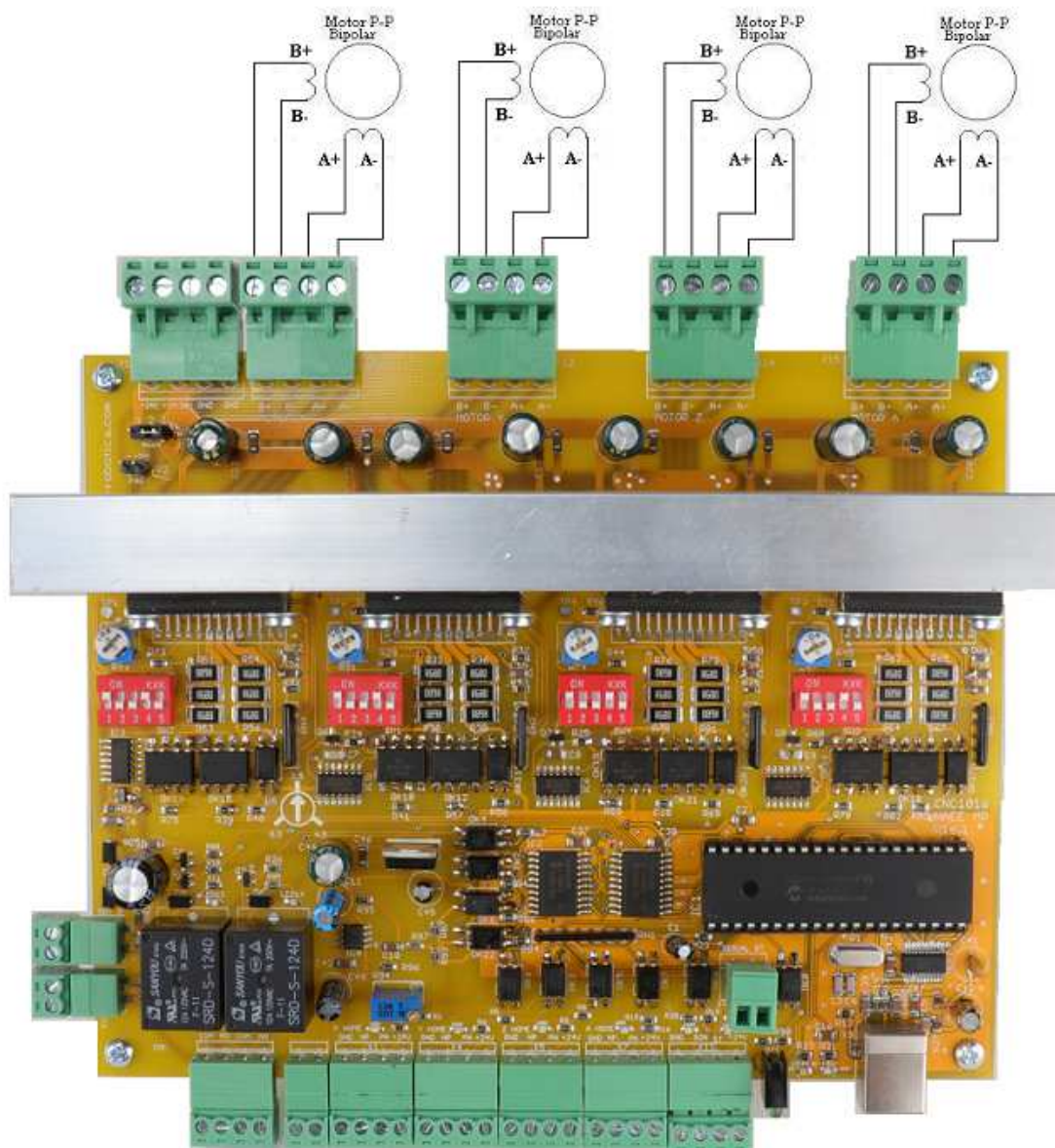
- PWM connection (Output 0-10v) Signal to control spindle speed.



- Fan connection +24V:



Stepper motor connection



Configuration Drivers:

Input SW2	NOT CONNECTED
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TQ configuration (automatic pulse detection)

LATCH configuration:

Input LATCH – SW1	RESET
L	MANUAL
H	AUTO

Setup Steps per Turn:

INPUT			MODE
SW5	SW4	SW3	
L	L	L	STANDBY MODE
L	L	H	1/1 PHASE
L	H	L	1/2 PHASE TYPE A (0%,71%,100%)
L	H	H	1/2 TYPE B (0%,100%)
H	L	L	1/4 PHASE
H	L	H	1/8 PHASE
H	H	L	1/16 PHASE
H	H	H	STANDBY MODE

* H = ON L = OFF 1/1 200 CICLES FOR 360°

Configure Mach3.

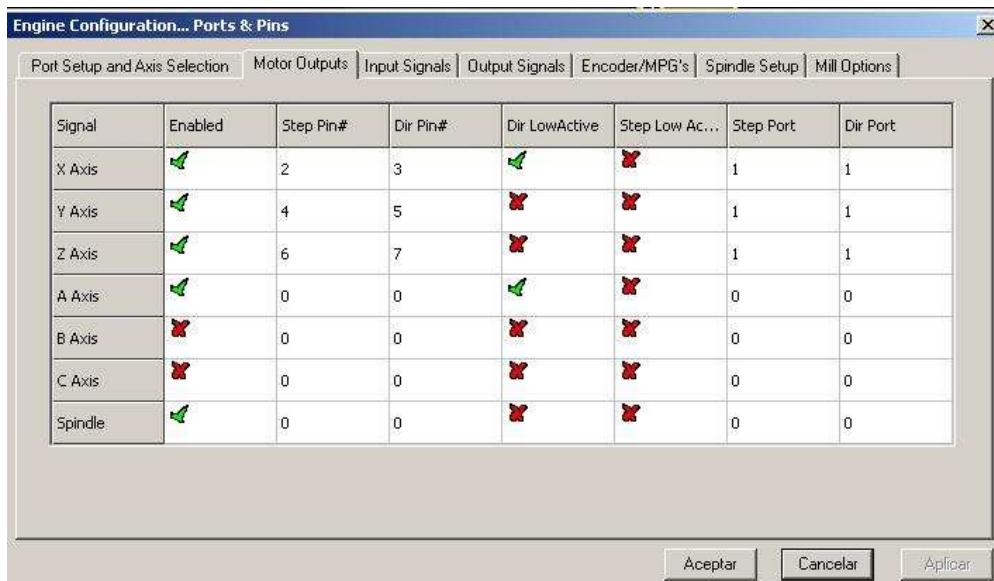
- 1.- Connect the interface to PC by USB cable.
- 2.- Power on the interface.
- 3.- Run Mach3, select "Motion Control Hardware Plugin Sensed!!" and select "CNC-Robótica-USB"



- 4.- Main Menu -> Config (Ports & Pins).
Is not necessary to configure "Port" nor "Pin", they are predefined in the interface.

Configurable items **"Motor Outputs"** (X Axis, Y Axis, Z Axis, A Axis Spindle):

- Enable or disable output signal to motors, option "Enabled"
- Enable or disable output signal Spindle analog signal "Enabled" PWM
- Change direction "Dir LowActive"



PWM Configuration 0 -10 V signal

Engine Configuration... Ports & Pins

Port Setup and Axis Selection | **Motor Outputs** | Input Signals | Output Signals | Encoder/MPG's | Spindle Setup | Mill Options

Relay Control

☐ Disable Spindle Relays

Clockwise (M3) Output #

CCW (M4) Output #

Output Signal #'s 1-6

Flood Mist Control

☐ Disable Flood/Mist relays Delay

Mist M7 Output # Delay

Flood M8 Output # Delay

Output Signal #'s 1-6

ModBus Spindle - Use Step/Dir as well

☐ Enabled Reg 64 - 127

Max ADC Count

Motor Control

☒ Use Spindle Motor Output

☒ PWM Control

☐ Step/Dir Motor

PWMBase Freq

Minimum PWM %

Special Functions

☐ Use Spindle Feedback in Sync Mode

☐ Closed Loop Spindle Control

P I D

☐ Spindle Speed Averaging

General Parameters

CW Delay Spin UP Seconds

CCW Delay Spin UP Seconds

CW Delay Spind DOWN Seconds

CCW Delay Spin DOWN Seconds

☐ Immediate Relay off before delay

Special Options, Usually Off

☐ HotWire Heat for Jog

☐ Laser Mode. freq

☐ Torch Volts Control

☐ Torch Auto Off

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Configurable items **"Input Signals"** (X Home, Y Home, Z Home, A Home, Probe, EStop):

- Enable or disable input signal, option "Enabled"
- Signal "Active Low"

Engine Configuration... Ports & Pins

Port Setup and Axis Selection | Motor Outputs | **Input Signals** | Output Signals | Encoder/MPG's | Spindle Setup | Mill Options

Signal	Enabled	Port #	Pin Number	Active Low	Emulated	HotKey
X ++	<input checked="" type="checkbox"/>	0	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
X --	<input checked="" type="checkbox"/>	1	13	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
X Home	<input checked="" type="checkbox"/>	1	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
Y ++	<input checked="" type="checkbox"/>	0	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
Y --	<input checked="" type="checkbox"/>	0	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
Y Home	<input checked="" type="checkbox"/>	1	11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
Z ++	<input checked="" type="checkbox"/>	0	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
Z --	<input checked="" type="checkbox"/>	0	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
Z Home	<input checked="" type="checkbox"/>	1	12	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
A ++	<input checked="" type="checkbox"/>	0	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
A --	<input checked="" type="checkbox"/>	0	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0

Pins 10-13 and 15 are inputs. Only these 5 pin numbers may be used on this screen

Automated Setup of Inputs

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Configurable Item **“Output Signals”** (Enable1, Output #1, Output #2, Output #3):

- Enable or disable input signals, option “Enabled”.
- Signal “Active Low”.

Signal	Enabled	Port #	Pin Number	Active Low
Digit Trig		0	0	
Enable1		1	1	
Enable2		0	0	
Enable3		0	0	
Enable4		0	0	
Enable5		0	0	
Enable6		0	0	
Output #1		1	14	
Output #2		0	0	
Output #3		0	0	
Output #4		0	0	

Pins 2 - 9 , 1, 14, 16, and 17 are output pins. No other pin numbers should be used.

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Configurable items **“Motor Home/SoftLimits”** (Axis X, Y, Z, A):

- Signal “Home Neg”
- “Auto Zero”

Entries are in setup units.

Axis	Reversed	Soft Max	Soft Min	Slow Zone	Home Off.	Home Neg	Auto Zero	Speed %
X		580.00	0.00	1.00	0.0000			50
Y		380.00	0.00	1.00	0.0000			50
Z		0.00	-120.00	1.00	0.0000			50
A		100.00	-100.00	1.00	0.0000			20
B		100.00	-100.00	1.00	0.0000			20
C		100.00	-100.00	1.00	0.0000			20

G28 home location coordinates:

X A
Y B
Z C

OK