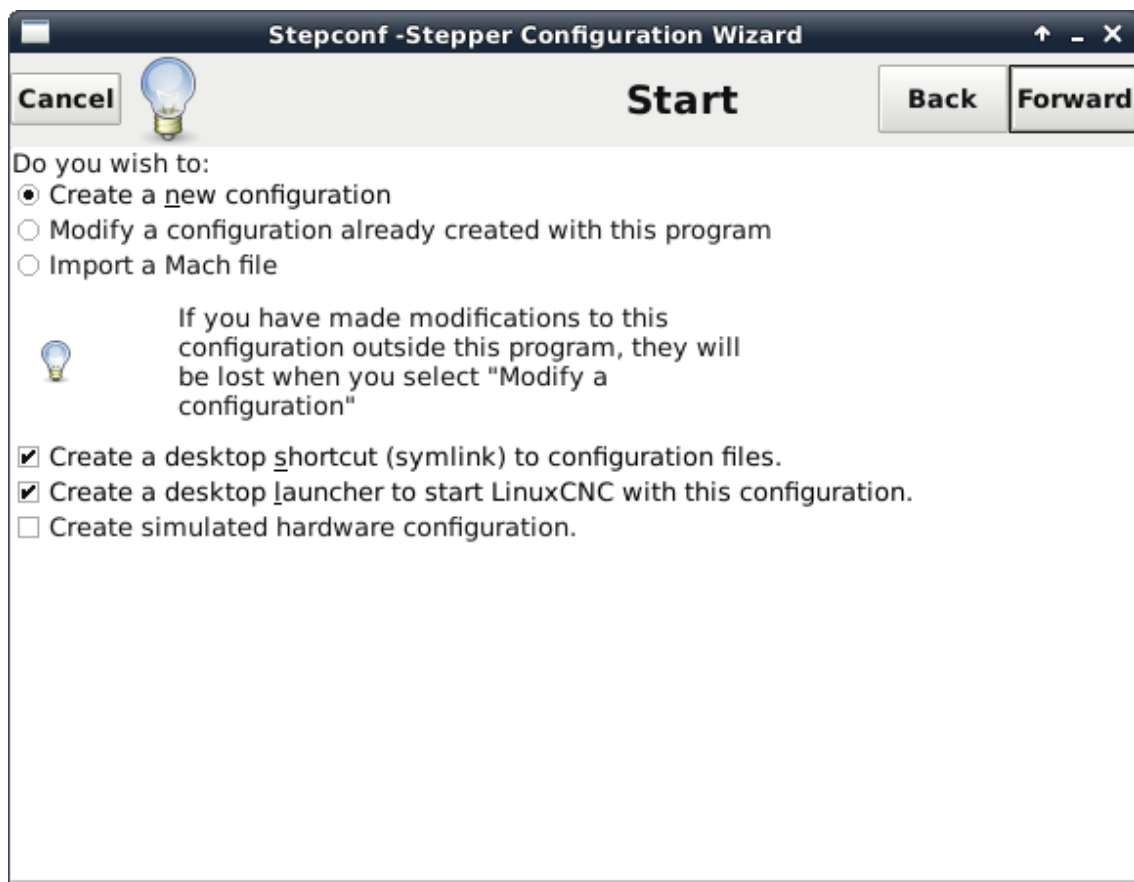


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LINUXCNC CONFIGURATION

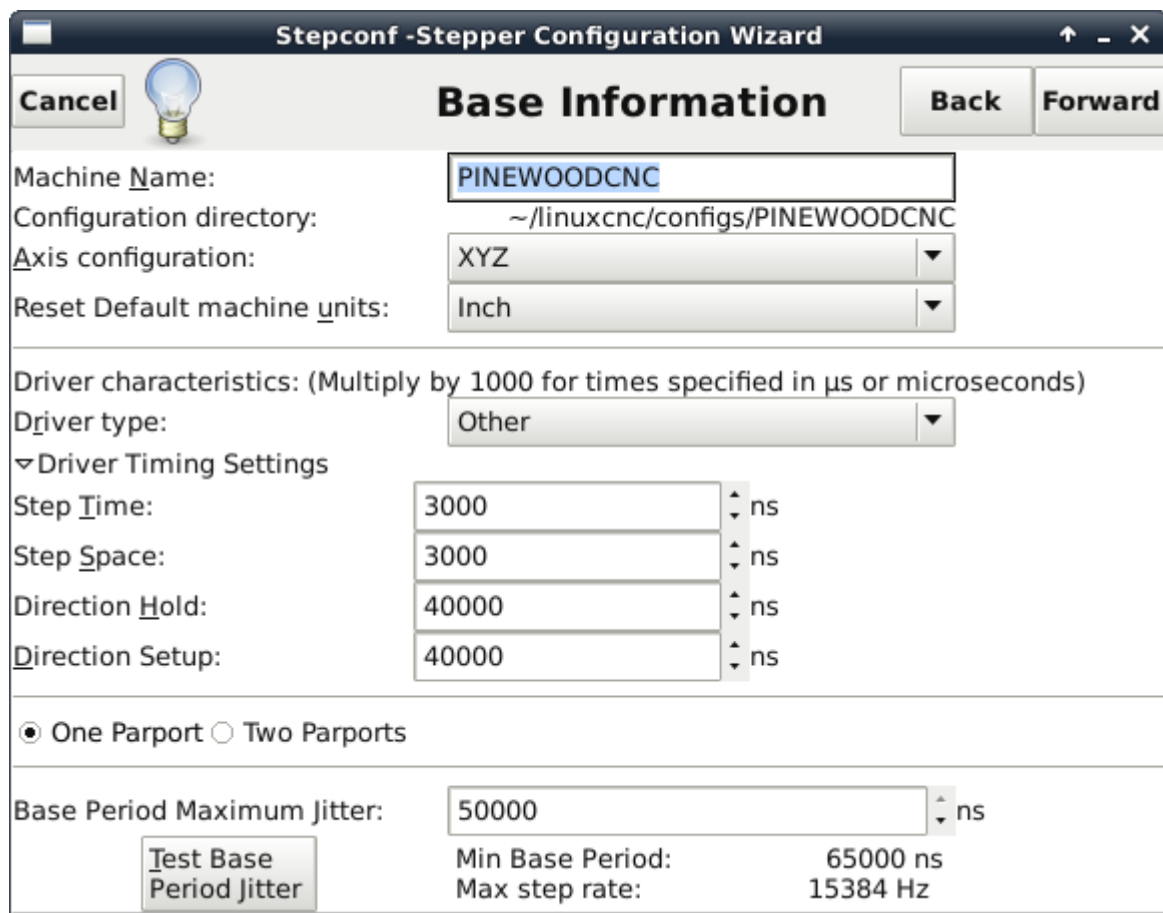
Start the step configuration wizard by going to applications > linuxcnc > stepconfiguration-wizard. You want to create a new configuration.



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Next enter your base information. The machine name will be the name you want to call this configuration and the icon that will be made to launch linuxcnc. Fill out the information in the wizard just like pictured below.



The screenshot shows the 'Stepconf - Stepper Configuration Wizard' window with the 'Base Information' tab selected. The window includes a 'Cancel' button, a lightbulb icon, and 'Back' and 'Forward' navigation buttons. The configuration fields are as follows:

- Machine Name:
- Configuration directory:
- Axis configuration:
- Reset Default machine units:
- Driver characteristics: (Multiply by 1000 for times specified in μ s or microseconds)
- Driver type:
- Driver Timing Settings:
 - Step Time: ns
 - Step Space: ns
 - Direction Hold: ns
 - Direction Setup: ns
- Radio buttons: One Parport Two Parports
- Base Period Maximum Jitter: ns
- Test Base Period Jitter button
- Min Base Period: 65000 ns
- Max step rate: 15384 Hz

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Now enter your parallel port information about the machine. Use the information about the parallel port from the terminal by typing “dmesg | grep par” in a terminal window.

```
Terminal - pinewoodcnc@pinewoodcnc: ~
File Edit View Terminal Go Help
pinewoodcnc@pinewoodcnc:~$ dmesg | grep par
[ 0.004105] AppArmor: AppArmor disabled by boot time parameter
[ 0.114168] hpet0: 3 comparators, 64-bit 14.318180 MHz counter
[ 7.096779] PM: Hibernation image partition 8:5 present
[ 10.623702] parport pc 00:06: reported by Plug and Play ACPI
[ 10.624596] parport0: PC-style at 0x378 (0x778), irq 7 [PCSPP,TRIS
TATE]
[ 21.822738] lp0: using parport0 (interrupt-driven).
[ 21.941755] ppdev: user-space parallel port driver
pinewoodcnc@pinewoodcnc:~$
```

Enter the address shown in the terminal for the parallel port address. In this example it can be either 0x378 or secondary 0x778. Try the first one listed and make the rest of the settings like below.

Stepconf - Stepper Configuration Wizard

Cancel Parallel Port 1 Back Forward

Outputs (PC to Mill):	Invert	Inputs (Mill to PC):	Invert
Pin 1: Unused	<input checked="" type="checkbox"/>	Pin 10: ESTOP In	<input type="checkbox"/>
Pin 2: X Step	<input checked="" type="checkbox"/>	Pin 11: Unused	<input type="checkbox"/>
Pin 3: X Direction	<input checked="" type="checkbox"/>	Pin 12: Unused	<input type="checkbox"/>
Pin 4: Y Step	<input checked="" type="checkbox"/>	Pin 13: Unused	<input type="checkbox"/>
Pin 5: Y Direction	<input type="checkbox"/>	Pin 15: Unused	<input type="checkbox"/>
Pin 6: Z Step	<input checked="" type="checkbox"/>		
Pin 7: Z Direction	<input type="checkbox"/>		
Pin 8: Unused	<input type="checkbox"/>		
Pin 9: Unused	<input type="checkbox"/>		
Pin 14: Unused	<input type="checkbox"/>		
Pin 16: Unused	<input type="checkbox"/>		
Pin 17: Unused	<input type="checkbox"/>		

Parport Base Address: 0x378

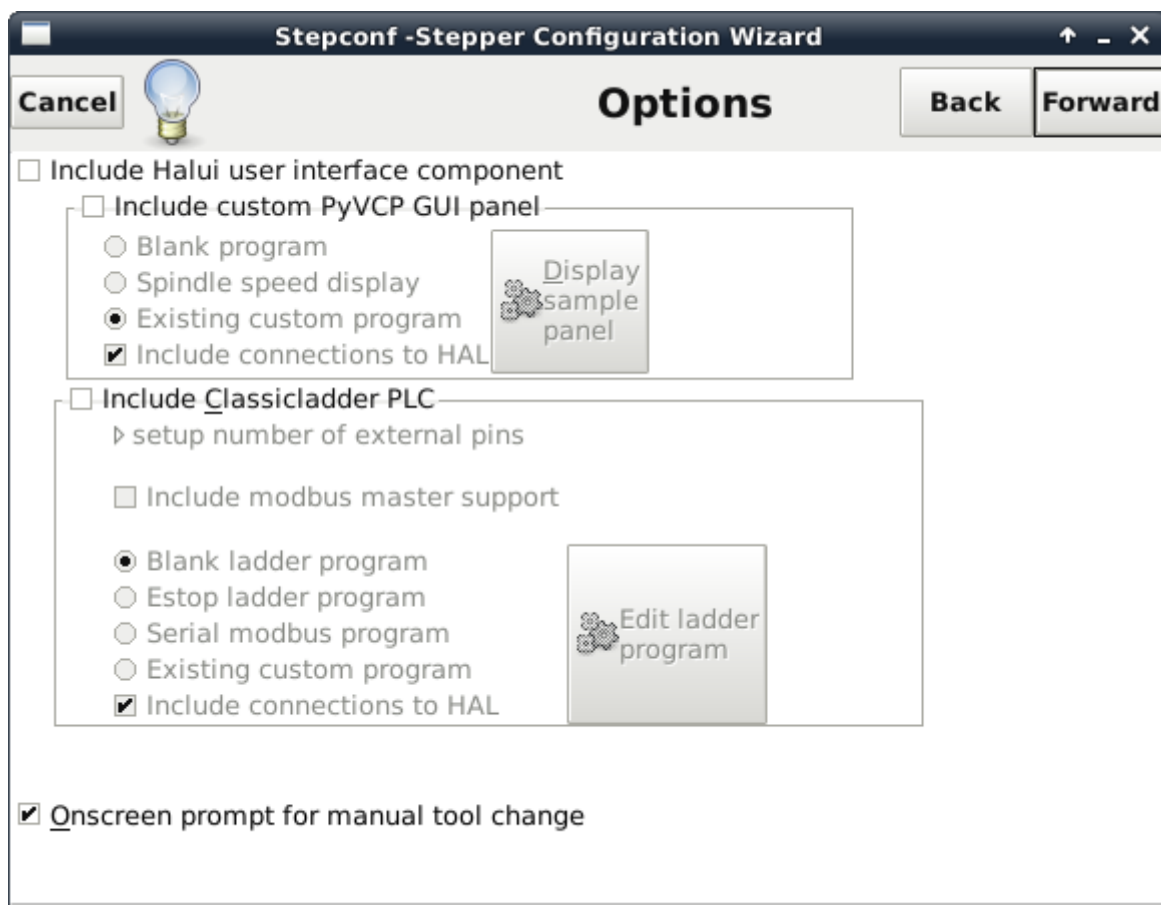
Output pinout presets: Sherline

Preset

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Disregard the options screen we won't be setting anything here.




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Enter the information for the X Axis like below. We've found that there are many different Machines out there. If you order the one we have this should work. It lists the lead screw as a 1204. That's a 12mm diameter with a 4mm pitch. So take $4/25.4 = .15748$ this is the pitch in inches. To set rev/in we take $1" / .15748 = 6.35$ rev/in.

Stepconf - Stepper Configuration Wizard

Axis X

Cancel  Back Forward

Motor steps per revolution:	<input type="text" value="800.0"/>	 Test this axis
Driver Microstepping:	<input type="text" value="2.0"/>	
Pulley teeth (Motor:Leadscrew):	<input type="text" value="1.0"/>	: <input type="text" value="1.0"/>
Leadscrew Pitch:	<input type="text" value="6.35"/>	rev / in
Maximum Velocity:	<input type="text" value="0.4"/>	in / s
Maximum Acceleration:	<input type="text" value="3.0"/>	in / s ²
Home location:	<input type="text" value="0.01"/>	
Table travel:	<input type="text" value="0.0"/>	to <input type="text" value="11.625"/>
Home Switch location:	<input type="text" value="0.0"/>	
Home Search velocity:	<input type="text" value="0.05"/>	
Home Latch direction:	<input type="text" value="Same"/>	
Time to accelerate to max speed:		0.1333 s
Distance to accelerate to max speed:		0.0267 in
Pulse rate at max speed:		4064.0 Hz
Axis Scale: $800 \times 2 \times (1.0 \div 1.0) \times 6.350 =$		10160.0 Steps / in

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Set the Y Axis just like the X and continue to setting the Z.

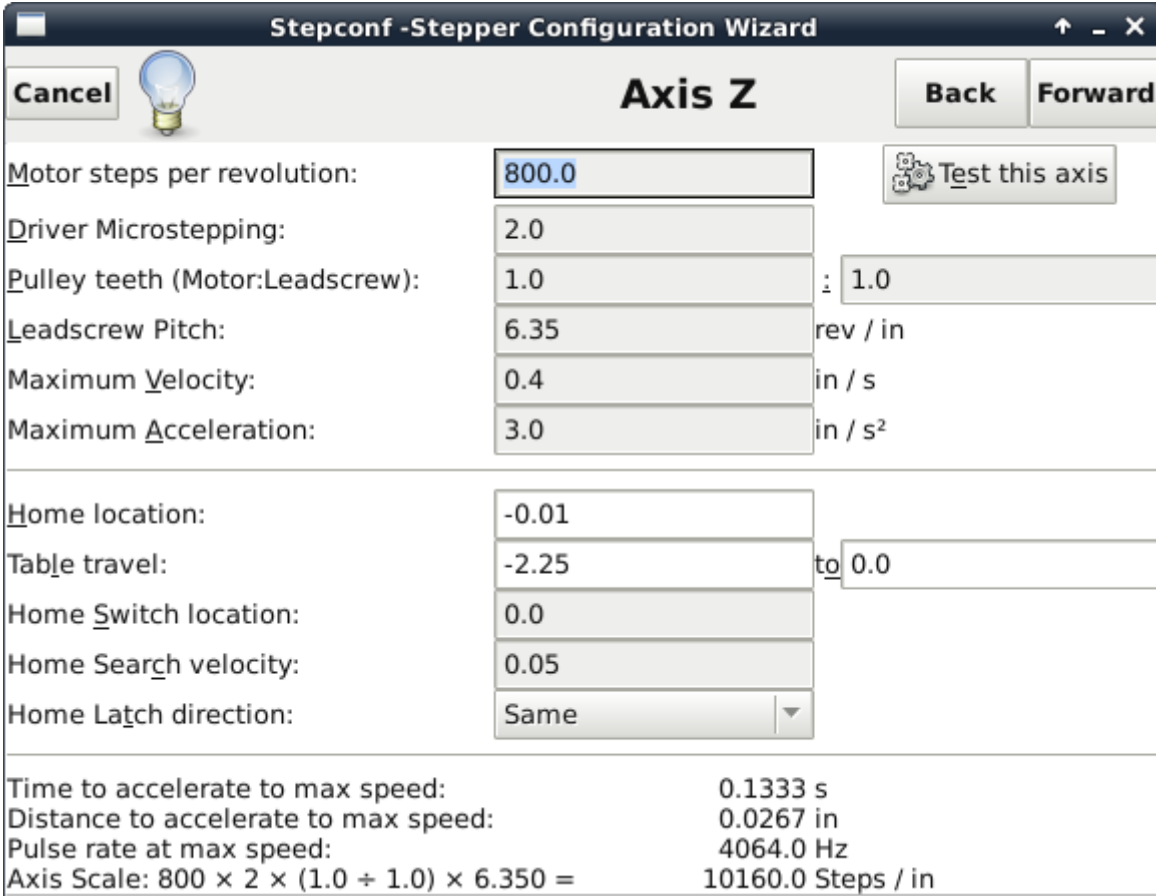
The screenshot shows the 'Stepconf - Stepper Configuration Wizard' window for 'Axis Y'. The window has a title bar with standard window controls and a 'Cancel' button with a lightbulb icon. The main area contains several input fields for configuration parameters, a 'Test this axis' button, and a summary section at the bottom.

Parameter	Value	Units
Motor steps per revolution:	800.0	
Driver Microstepping:	2.0	
Pulley teeth (Motor:Leadscrew):	1.0	: 1.0
Leadscrew Pitch:	6.35	rev / in
Maximum Velocity:	0.4	in / s
Maximum Acceleration:	3.0	in / s ²
Home location:	15.49	
Table travel:	0.0	to 15.5
Home Switch location:	0.0	
Home Search velocity:	0.05	
Home Latch direction:	Same	
Time to accelerate to max speed:	0.1333	s
Distance to accelerate to max speed:	0.0267	in
Pulse rate at max speed:	4064.0	Hz
Axis Scale: $800 \times 2 \times (1.0 \div 1.0) \times 6.350 =$	10160.0	Steps / in

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Now that we have our information continue and save your changes. A new icon will be put on your desktop to launch Linuxcnc.



Stepconf - Stepper Configuration Wizard

Axis Z

Cancel  Back Forward

Motor steps per revolution: 

Driver Microstepping:

Pulley teeth (Motor:Leadscrew): :

Leadscrew Pitch: rev / in

Maximum Velocity: in / s

Maximum Acceleration: in / s²

Home location:

Table travel: to

Home Switch location:

Home Search velocity:

Home Latch direction:

Time to accelerate to max speed: 0.1333 s
Distance to accelerate to max speed: 0.0267 in
Pulse rate at max speed: 4064.0 Hz
Axis Scale: $800 \times 2 \times (1.0 \div 1.0) \times 6.350 = 10160.0$ Steps / in