

VistaCNC P2-S(E) CNC Control Pendant for UCCNC



PREFACE

Any machine tool, including computer controlled machine tool, is potentially dangerous. VistaCNC LLC accepts no responsibility for any damage or injury caused by its use. It is your responsibility to insure that you understand the machine you are using and the procedures for safety operations.

If you are in any doubt you must seek guidance from a professionally qualified expert rather than risk injury to yourself or to others.

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WARNING

E-STOP switch button in iMach^{III} P2-S(E) CNC Control Pendant only provides Emergency STOP signal to UCCNC application.

For further protection in CNC operation, other emergency protection methods may be needed.

FEATURES

- Plug n' Play USB connection and controls.
- 100 steps high precision MPG encoder.
- Step, Velocity and Continuous mode jogging through MPG.
- Feed rate, Spindle speed, and Step jogging size and rate change through MPG.
- Program Cycle Start and Spindle control buttons.
- X, Y, Z button jogging.
- LCD display with backlit.
- Large E-Stop button.
- 4 Axis selections.
- 4 control functions.
- Extended E-STOP functions. (P2-SE model).



PLUGIN and FW

Download the latest UCCNC P2-S Plugin package from www.vistacnc.com download page and unzip the package.

The package includes following files:

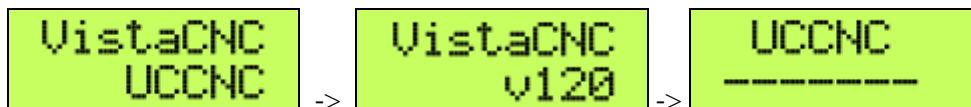
1. This manual
2. P2Spendant.dll --- P2-S pendant UCCNC plugin file
3. Pendant FW update procedure --- for pendant firmware upgrade
4. Pendant FW Loader --- tools for FW upgrade
5. P2S_UCCNC_FW_v --- FW for UCCNC

Move the plugin file into UCCNC Plugins directory.

Refer to “iMach3 Pendant FW update procedure” to upgrade the pendant firmware (FW) to UCCNC if the pendant was preinstalled or used with other CNC application, or a newer FW version is available.

CONNECTION and START

- Directly plug the USB cable into any USB port on the PC.
- Start UCCNC application.
- Click CONFIGURATION and GENERAL SETTINGS, select Configure plugins, and check Enable on P2-S Control Pendant.
- Close and restart UCCNC application.

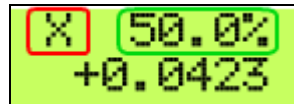
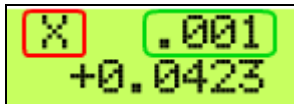


FUNCTIONS and OPERATIONS

1. Axis selection



Turn axis selection knob to X, Y, Z, or A position to select an axis to jog.




- X Selected axis name. It flashes at ½ second rate.
- .001 Step size and Step jogging rate. The size and rate display changes alternately every 2 seconds.

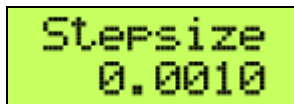
2. MPG (Manual Pulse Generator) mode selection


2.1 STEP, STEP SIZE and STEP JOG RATE



STEP In STEP mode, the selected axis moves 1 step at each MPG click (detent) with the step size currently in the system and with speed of step jogging rate.

STEP SIZE While pressing and holding the EN side button , turn MPG one or few clicks clockwise or counterclockwise to select predefined step size.




STEP JOG RATE While double clicking (press, release, and press, within half a second) and holding the EN side button , turn MPG to change step jogging rate.

```
Step Joe%
  49.7%
```


2.2 VELOCITY, SLOW V and SLOW V RATE

VELOCITY Axis moves at 0 to 100% of maximum axis speed based on how fast the MPG wheel is turned.

```
X Vel
+0.3997
```

SLOW V Pressing and holding the EN side button  while in V mode temporarily slows down the axis movement .

```
X Vel/3
+0.3997
```

SLOW V RATE Double clicking and holding the EN side button  and turn MPG clockwise or counterclockwise to change V slow down rate. Settable number: 2, 3 and 4.


```
Vel Slow
Rate 3
```

2.3 CONTINUOUS, CONTINUOUS RATE

CONTINUOUS In CONTINUOUS mode, axis moves at constant speed of continuous rate set in CONTINUOUS RATE mode.


```
Y 45.7%
+0.0232
```

Continuous rate

CONTINUOUS RATE Pressing and holding the EN side button  to change to C% mode. In C% mode, turning MPG changes the speed used in CONTINUOUS mode.

2.4 FEED OVERRIDE and SPINDLE OVERRIDE


FEED OVERRIDE In F% mode, turning MPG changes current feed overridden (FO) rate

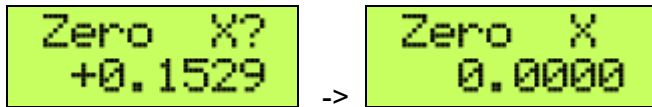
SPINDLE OVERRIDE Pressing and holding the EN side button  to change to S% mode.

In S% mode, turning MPG changes current spindle speed overridden (SO) rate.


2.5 AXIS ZEROING



Turn axis selection knob to select an axis and double click  to zero selected axis



2.6 FUNCTION F1, F2, F3, F4 button

Turn axis selection knob to select an axis and double click  execute the function.

F1 Home All

Home All

F2 Zero All

Zero All

F3 Go to zero


GoTo
Zero

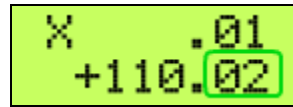
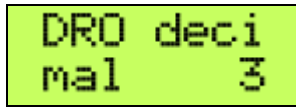
F4 Machine Coordinates

Machine
Coords

2.7 OFFLINE and DECIMAL PLACE

OFFLINE When the pendant is in Offline mode, any MPG signals are not sent to UCCNC application. Offline mode can be used to align the MPG wheel to a specific number with no axis movement.

DECIMAL DIGITS Pressing and holding the EN side button  to set up number of decimal digits to display. Settable number: 2, 3 and 4.

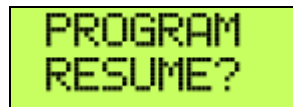
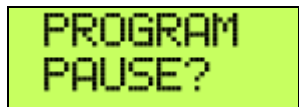
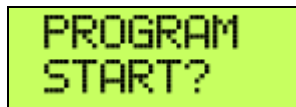


4 and 2 decimal digits.

3. Operation Controls

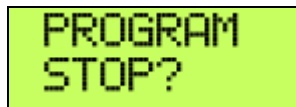
START / HOLD button :

Double click  execute the function



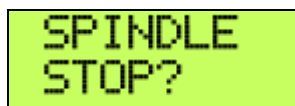
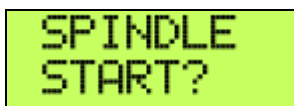
STOP button :

Double click  execute the function



SPINDLE ON / OFF button :

Double click  execute the function



4. E-Stop switch button



5.1 E-Stop switch button in P2-S model

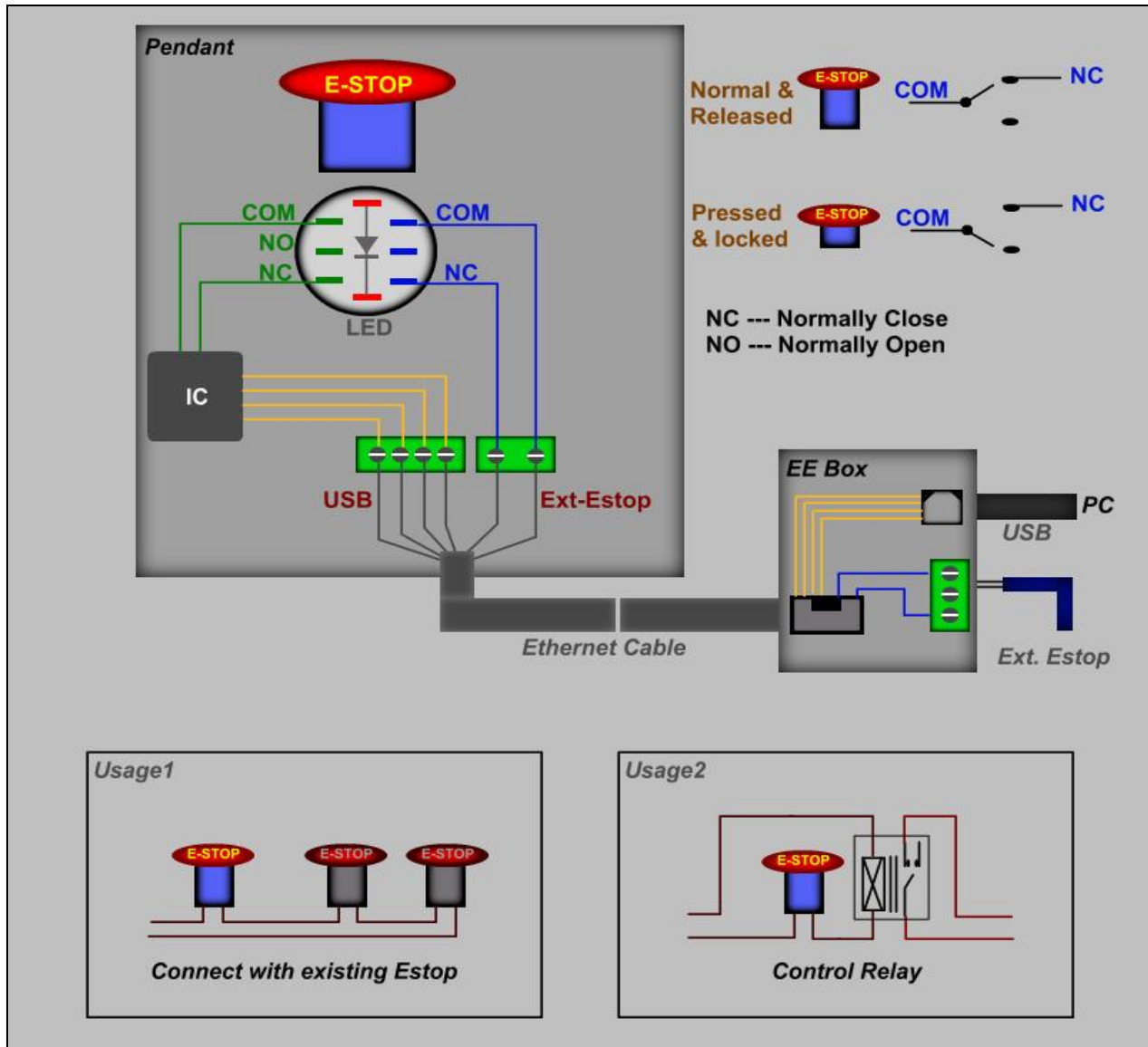
- Press E-STOP switch button to send out E-Stop signal to UCCNC application and activate Emergency Mode in UCCNC.



- When the button is pressed, the switch is locked down. Twist the button to reset the button and reset E-STOP.

5.2 E-Stop switch button in P2-SE model

- Press E-STOP switch button to send out E-Stop signal to UCCNC application and activate Emergency Mode in UCCNC.
- The same E-stop signal is simultaneously sent out through a 2-wire loop, which can be used to control a relay or to connect with other E-stop buttons.
- When the button is pressed and the switch is locked down, the 2-wire loop is open.
- Twist the button to reset the switch and reset E-STOP signal, and at the same time, the two wires are connected at the switch end and form a closed loop.
- ❖ A EE box is needed as an interface to separate the 2-wire loop and USB signal.



E-STOP switch and EE box connection in P2-SE

SPECIFICATIONS

- 100 steps (clicks) per Rev MPG.
- MPG MTBF > 10000 hour.
- Shipped with 10' High Speed USB cable. Extendable to 15' with extension cable, or to 45' with USB repeater cables.
- Size (over all) 6.1"(L) x 3.1"(W) X 2.7"(H)