iMach^{III} M2 CNC Control Pendant

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 button in iMach^{III} M2 CNC Control Pendant only provides Emergency STOP signal to Mach3 CNC application.

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

FEATURES

- Plug n' Play USB connection and controls.
- 4 axis Step and Continuous mode jogging.
- Feed rate and Spindle speed change.
- Program Cycle Start/Stop, Spindle control buttons.
- 2 custom control functions.

PLUGIN

- Download the latest iMach3-M2 **v1.x** Plugin from www.vistacnc.com download page.
- Move the plugin file into Mach3 Plugins directory.

CONNECTION and START

- Directly plug the USB cable into any USB port on the PC.
- Start Mach3 application.
- Click Config from menu, select Config Plugins, and enable iMach3-M2-Pendant.
- Close Mach3 application and restart Mach3 application.

FUNCTIONS and OPERATIONS

1. Jog mode selection
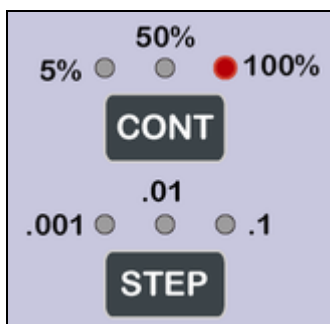
Press CONT button to select Continuous jogging mode. Press STEP button to select Step jogging mode.

In CONT jogging mode, lit LED indicates what Slow Jogging Rate (SJR) is selected.

Press CONT button to cyclically set SJR to 5%, 50% or 100%.

If SJR is set through Mach3 screen or other tools, 5% LED will flash when SJR is less than 5%, and 50% LED will flash when SJR is between 5% and 100%, but not 50%,.

In STEP jogging mode, lit LED indicates what step size is selected.

Press STEP button to cyclically set step size to 0.001, 0.01 or 0.1

If step size is set through Mach3 screen or other tools, .001 LED will flash when step size is less than 0.001, .01 LED will flash when step size is between 0.001 and 0.1, but not 0.01, and .1 LED will flash when step size is larger than 0.1.

2. Jogging and axis zeroing
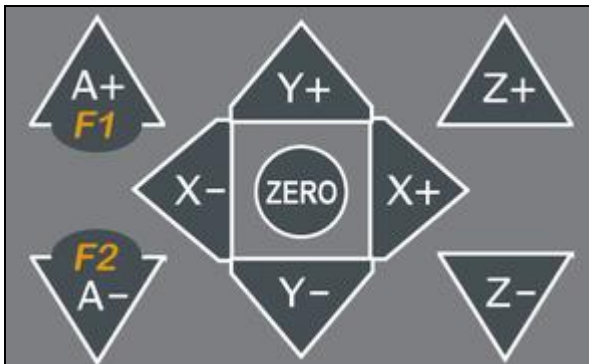
In STEP mode, press and release jogging button to move selected axis one step with selected step size.

In CONT mode, press and hold jogging button to move selected axis till releasing the button.

To zero X axis, press and release EN and ZERO button once to enable zeroing, then within 1 second, press X+ or X- to zero X axis. Apply the same to zero other axes.

3. Feed rate and spindle speed change
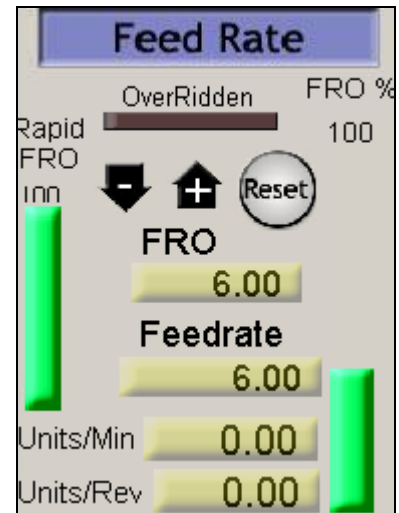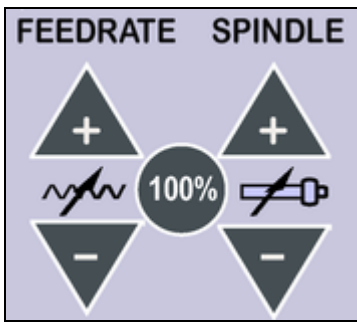
Press FEEDRATE + button to increase Feedrate OverRidden (FRO) 10% each time. Press FEEDRATE - button to decrease FRO 10%.
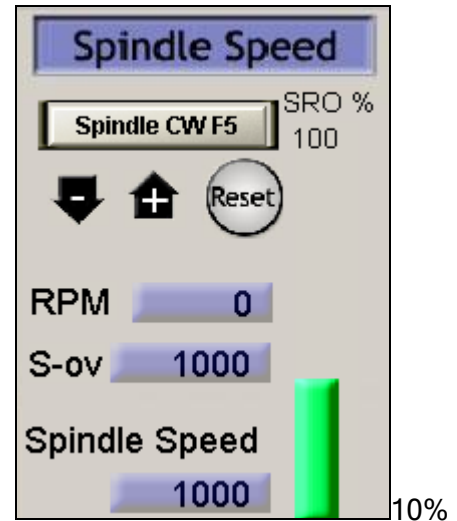
Press SPINDLE + button to increase Spindle OverRidden (SRO) 10% each time. Press SPINDLE – button to decrease SRO 10%.

To reset FRO or SRO to 100%, press and release 100% button once to enable reset, then, within 1 second, press FEEDRATE + or FEEDRATE – to reset FRO. Apply the same to reset SRO.

FRO and SRO reset function is disabled when a program is running.

4. Operation controls, function buttons and screen selection

4.1 START / HOLD button :

- While pressing and holding the Enable Button , press and release START/HOLD button to cycle start the program if the program is not running or is in Feed Hold, or feed hold the program if the program is running.

- When program enters Cycle Start state, 6 LEDs in Jogging Mode flash one by one.
- When program enters Feed Hold state, all 6 LEDs flash twice in the first half second and stop flashing in the next half second.

4.2 STOP / REW button :

- While pressing and holding the Enable Button , press and release STOP/REW button to stop the program if the program is running, or rewind the program if the line of the program is not zero, or stops any axis movement.

4.3 SPINDLE button :

- While pressing and holding the Enable Button , press and release SPINDLE button to start the spindle if the spindle is off, or stop the spindle if the spindle in on.

4.4 F1 and F2

While pressing and holding the Enable Button , press and release the F1, or F2 function button to execute predefined Mach3 OEM button, Custom Button, or Custom Macro.

4.5 Screen selection

Pressing and releasing SCR (SCReen) button within 1 second will open or close the TAB window on Mach3 screen, and pressing and holding SCR button for more than 1 second and

releasing the button will change Mach3 screens. Screen selection can be setup in PlugIn configuration table.

5. E-Stop switch button

5.1 E-Stop switch button

▪ Press E-STOP switch button to send out E-Stop signal to Mach3 application and activate Emergency Mode in Mach3 application.

▪ While pressing and holding the Enable Button , press the E-STOP button to exit Emergency mode.

▪ When in Emergency Mode, 6 LEDs in Jogging Mode flash at ½ second rate.

PENDANT PLUGIN CONFIGURATION

In Mach3 menu, select Config, then Config PlugIns

In PlugIns menu, click CONFIG
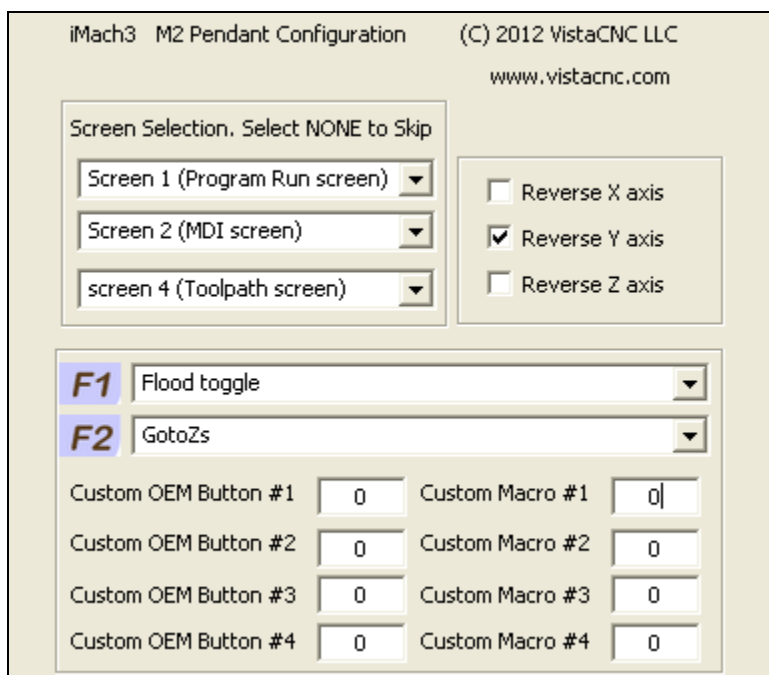
- F1 and F2 buttons each has 62 functions to select:

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Jog ON and OFF toggle                    ▼
Screen 1 (Program Run screen)            ▲
Screen 2 (MDI screen)
screen 3 (Toolpath screen)
screen 4 (Positioning screen)
screen 5 (Diagnostics screen)
screen 6 ( Corrections screen)
screen 7 (Tables screen)
Toggle visibility of TAB screen
Regen toolpath display
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Flood toggle
Mist toggle
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Offline toggle
Jog ON and OFF toggle
Softlimits Toggle
Clear error label
Z inhibit toggle
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mm/inch
Machine Coordinates toggle
Toggle Dist to Go                        ▼
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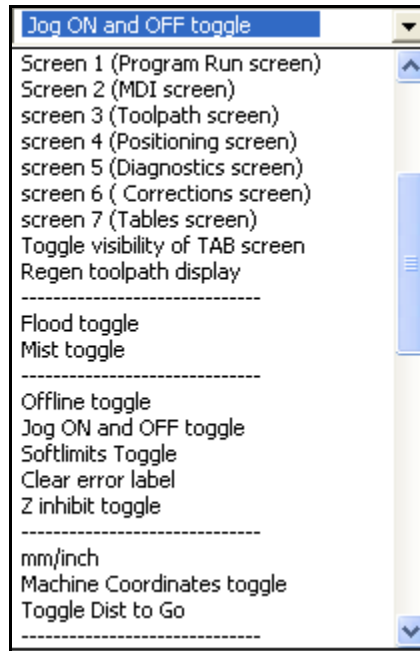
- Custom OEM button: Input any valid Mach3 OEM button number. See Mach3 manual for complete Mach3 OEM button number list.

- Custom Macro Number: Input any Custom Macro Number. See Mach3 manual for more information about Mach3 Macro.

SPECIFICATIONS

- Work with Mach3 R2.63 and above.
- Shipped with10' High Speed USB cable. Extendable to 15' with extension cable, or to 45' with USB hub cables.
- Size (over all) 4.7"(L) x 3.1"(W) X 1.0"(H)