# MPG setup guide

# SAFETY INFORMATION



This product is intended for integration by the user into a computer numerical control (CNC) machine. It is the user's responsibility to assess the overall system design and address all safety considerations that affect the users and equipment. The user assumes all responsibility for system design, including compliance with regulatory standards and codes issued by the applicable entities. PoLabs do not make any claims as to the suitability of this equipment for the user's application. Serious personal injury or equipment damage can occur from the improper integration, installation or operation of this product.

This product is not guaranteed to be fail-safe. The system that this equipment is used with shall be fitted with a separate means of fail-safe protection, emergency-stop capability and/or system power removal. This equipment may be connected to dangerous power sources, including electrical power sources. Dangerous voltage levels may be present at this equipment or at connected devices. Measures must be taken to prevent persons from contacting voltage sources which may be present. Equipment should be housed inside an enclosure suitable for the intended environment. Safety interlocks should be provided to prevent any and all dangers to personnel.

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## PoKeys Mach3 plugin setup

Run Mach3 and under PlugIn Control tab select Configure PoKeys. This will open the Pokeys plugin configuration window.
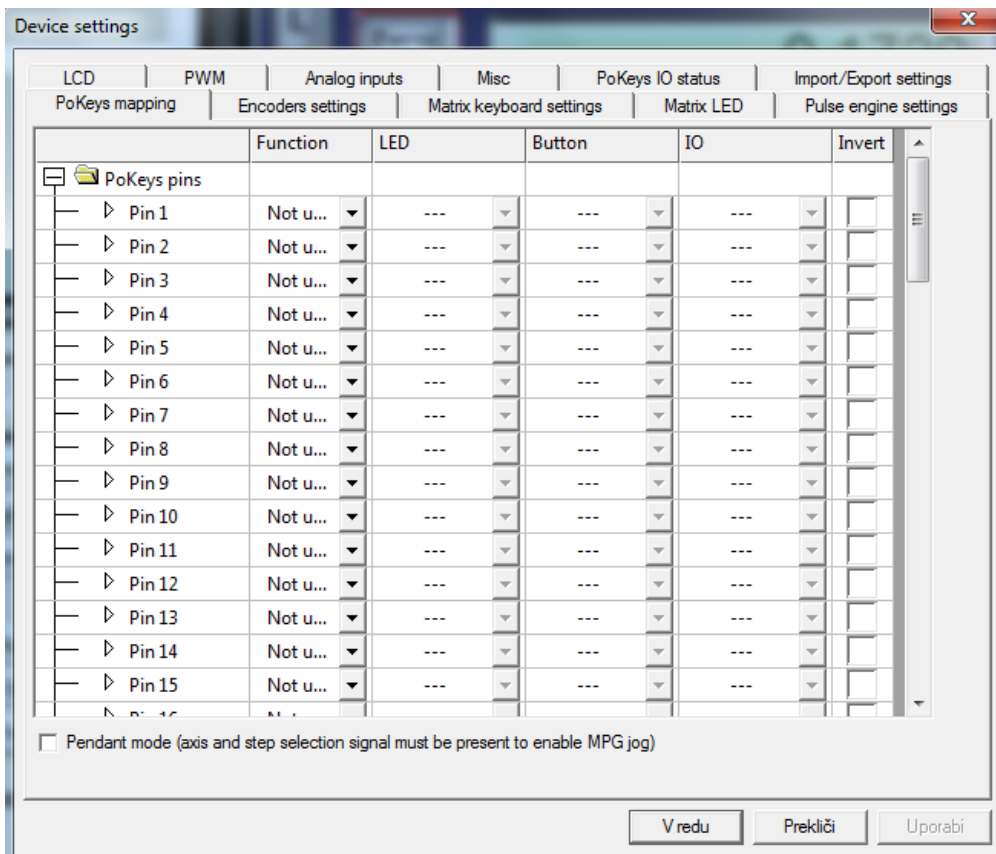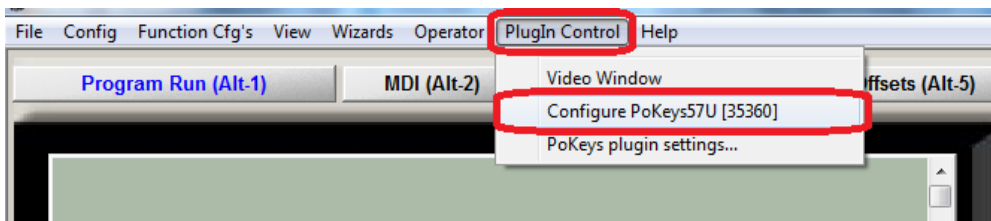




In the PoKeys plugin configuration window select the Encoder settings tab.
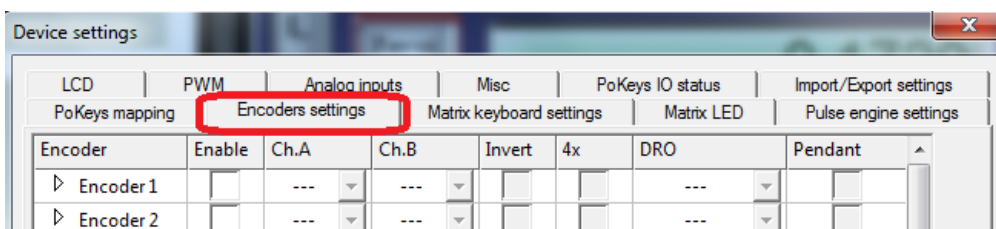


In this example we used PoMPG2 connected on pin 1 which is channel A and pin 2 which is channel B. Normal encoders can be connected to any available pin. You just have to make sure you select the right pins for A and B output from encoder/MPG. Do not forget to power your MPG.

If you also have the Pulse engine enabled you must check the "Let PoKeys handle MPG jogging" check box.

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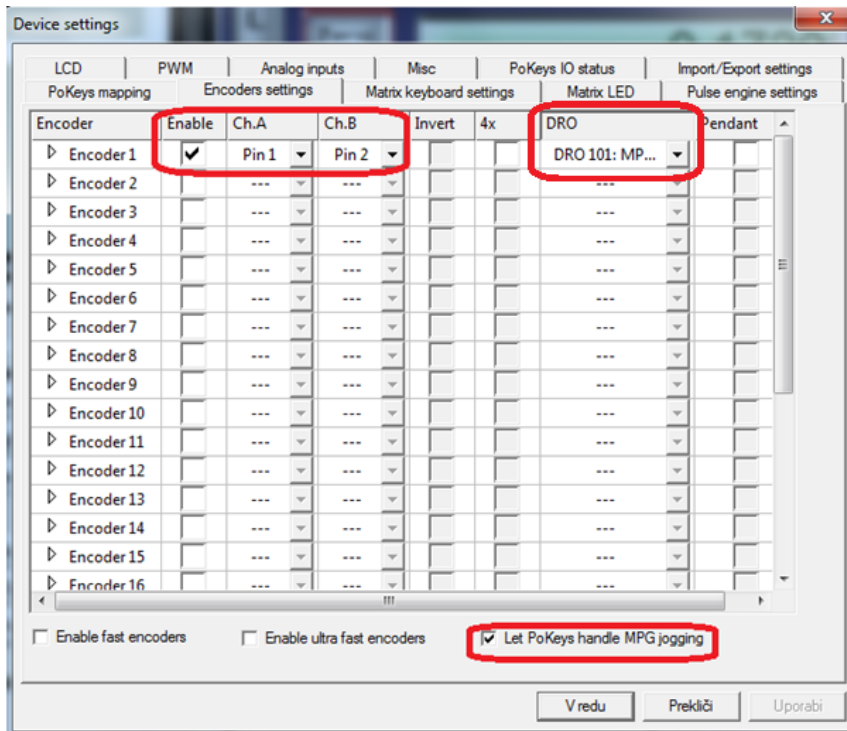
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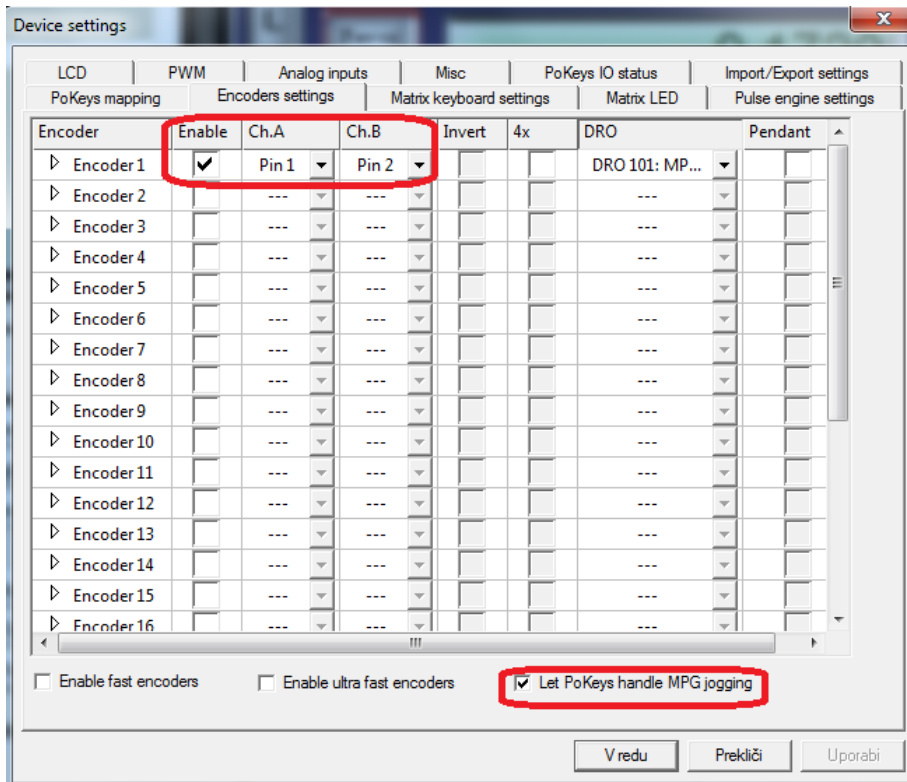


You can also use fast and/or ultra fast encoders. In that case, the pins cannot be changed and are predefined. For available fast and ultra fast encoder pins please look at the PoKeys device user manual.
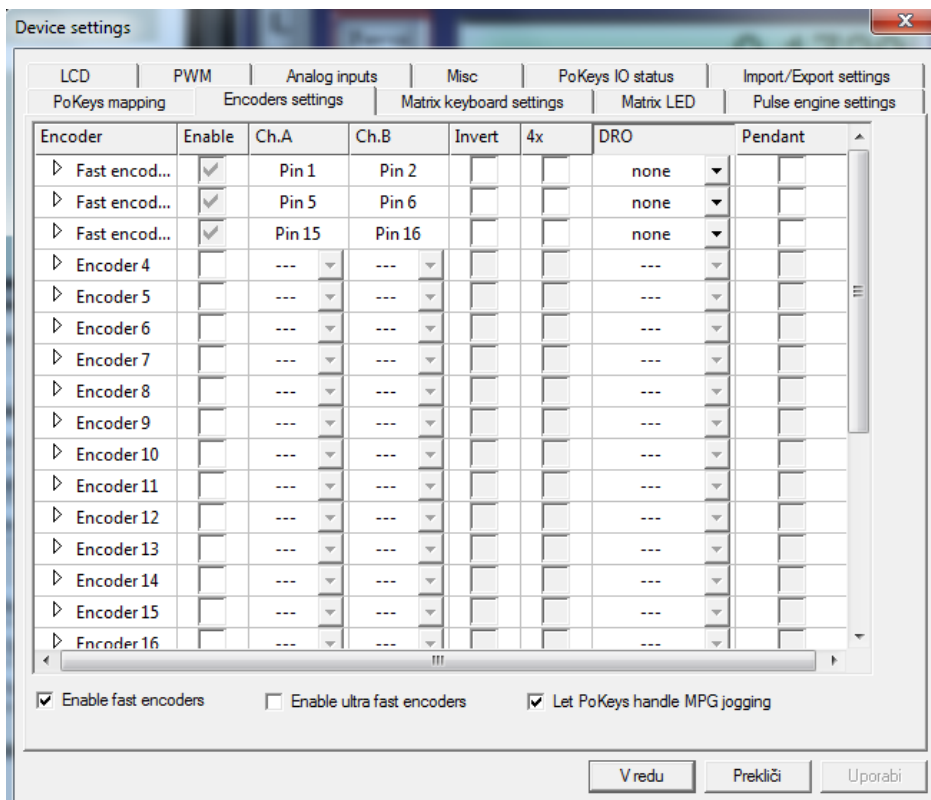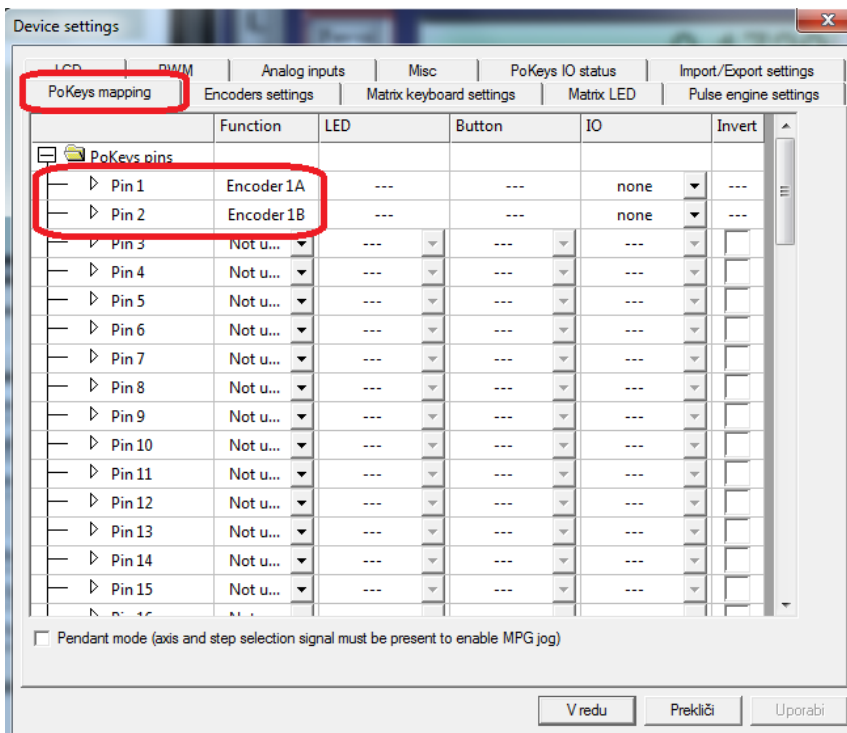
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Next you must select the right DRO. For MPG1 select DRO 101, for MPG2 select DRO 102, for MPG3 select DRO 103. Remember which DRO you used as it will be needed in the Mach3 configuration later.



Now if you click on the PoKeys mapping tab in the plugin configuration window you should see the pins mapped to the correct function.

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If you click on the Settings tab in Mach 3 (Alt-6), you should see the count value od the defined MPG change. If that is not the case please recheck the MPG connection to the PoKeys device and correct pin configurations.
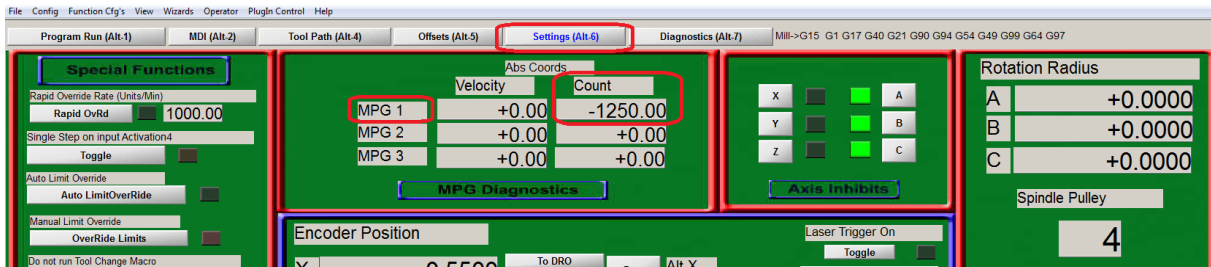


Now in Mach 3 click on Config tab and select Ports and Pins. In the Ports & Pins window, click on the Encoder/MPG's tab. Here you must enable the MPG you previously defined with the DRO setting: MPG1->DRO 101, MPG2->DRO 102, MPG3->DRO 103. As we have selected the DRO 101 we enable the MPG #1.
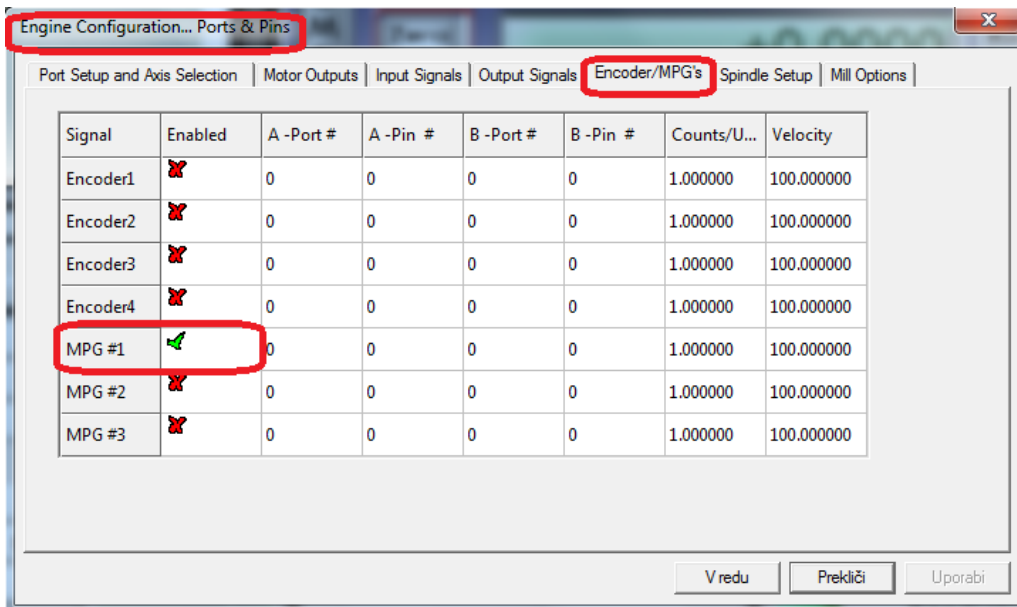


Now bring up the pendant window in Mach 3 by pressing the Tab key on your keyboard.

Click on the Jog Mode button a few times until the MPG window becomes yellow. This will enable the MPG jogging. Next click on the Alt A, B or C button to select the axis you want to jog. The button depends on your DRO selection: A is for MPG1, B is for MPG2 and C is for MPG3.
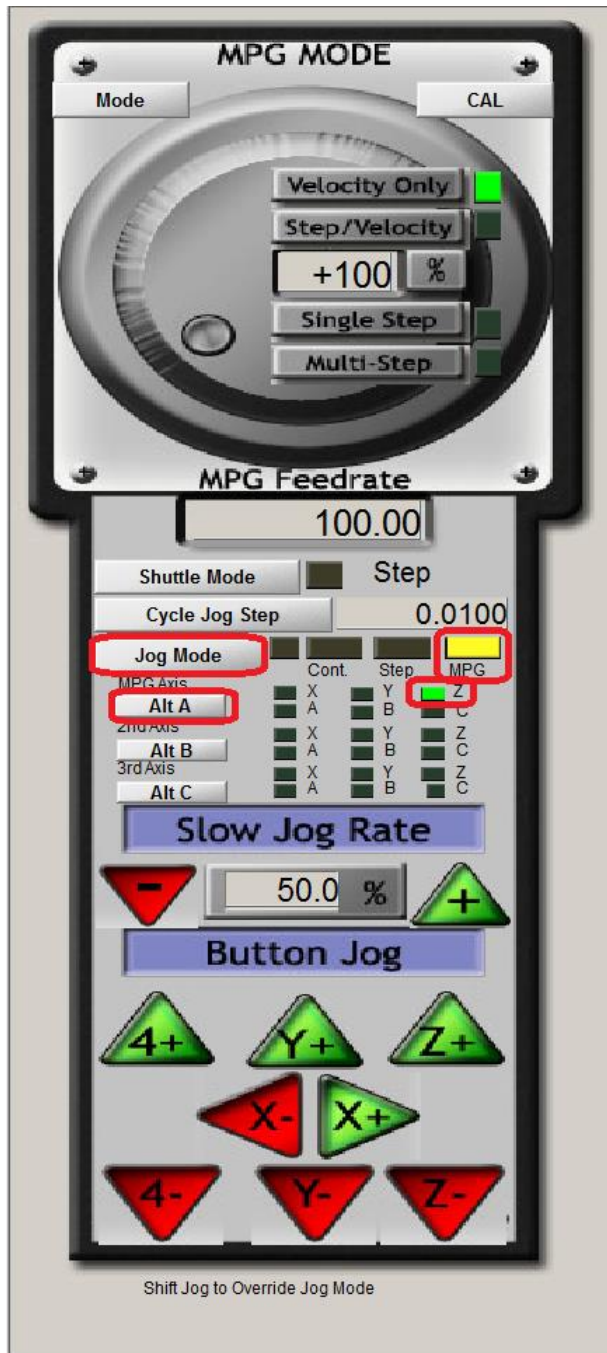
If everything was configured correctly you should see the selected axis move as you turn the MPG. If not, please recheck all of the above steps to make sure you have configured everything correctly.

This example was done using only one MPG, you can have up to 3 connected. The configuration steps are the same for each one.

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