

Mpg through binary inputs

Main window:

The screenshot shows the 'CNC Settings' window with the 'MPG through binary inputs' option selected in the left sidebar. The main area displays two tables for configuring MPG inputs.

MPG/Encoder through binary inputs

	Input1	Input2	Slot	Axis	Dimension	Encoder Resolution
#0	☐ Input 8	☐ Input 9	MPG wheel	Pendant		400
#1	☐ Input 10	☐ Input 11	MPG wheel	General Purpose		400
#2	☒ Input 8	☒ Input 9	MPG wheel	Pendant		65536
#3	☒ Input 10	☒ Input 11	MPG wheel	General Purpose		400

MPG/Encoder ET10 encoder inputs

	Input#	Slot	Axis	Dimension	Encoder Resolution
#4	☐ ET10 Encoder #0	MPG wheel	X		100
#5	☐ ET10 Encoder #0	MPG wheel	X		100
#6	☐ ET10 Encoder #0	MPG wheel	X		100
#7	☐ ET10 Encoder #0	MPG wheel	X		100

Basic functions:

The screenshot shows the same 'CNC Settings' window with yellow callout boxes highlighting the basic functions for configuring MPG inputs:

- Select № of input 1**: Points to the 'Input1' column in the first table.
- Activation MPG**: Points to the checkbox in the first table.
- Select № of input 2**: Points to the 'Input2' column in the first table.
- Select MPG type**: Points to the 'Slot' column in the first table.
- Set axis for MPG**: Points to the 'Axis' column in the first table.
- Set step in «mm» of MPG**: Points to the 'Dimension' column in the first table.
- Set resolution encoder for MPG**: Points to the 'Encoder Resolution' column in the first table.
- Save settings**: Points to the floppy disk icon in the top right.
- Select number of encoder for ET10**: Points to the 'Input#' column in the second table.
- Select MPG type**: Points to the 'Slot' column in the second table.
- Set axis for MPG**: Points to the 'Axis' column in the second table.
- Set step in «mm» of MPG**: Points to the 'Dimension' column in the second table.

Mpg/Encoder throught binary inputs

- To activate the MPG, it is necessary to check the box next to number of MPG:

MPG/Encoder through binary inputs

	Input1	Input2	Slot	Axis	Dimension	Encoder Resolution
#0 ☒	Input 8	Input 9	MPG wheel	Pendant		400
#1 ☐	Input 10	Input 11	MPG wheel	General Purpose		400
#2 ☐	Input 8	Input 9	MPG wheel	Pendant		65536
#3 ☐	Input 10	Input 11	MPG wheel	General Purpose		400

- MPG - designed for manual control of the CNC without resorting to control from the operator panel. With the help of the control panel, the operator of the CNC machine can change the position of the axes, change the feedrate, adjust the spindle operation, set “0” and perform other operations while in close proximity to the workpiece.
- examples of MPG are presented below:



- After activation, you can select the operating input numbers for the MPG on the controller - input1 and input2

input1:

MPG/Encoder through binary inputs

	Input1	Input2	Slot	Axis	Dimension	Encoder Resolution
#0 ☒	Input 8	Input 9	MPG wheel	Pendant		400
#1 ☐	Input 0	Input 11	MPG wheel	General Purpose		400
#2 ☐	Input 1	Input 9	MPG wheel	Pendant		65536
#3 ☐	Input 2	Input 11	MPG wheel	General Purpose		400
#4 ☐	Input 3					
#5 ☐	Input 4					
#6 ☐	Input 5					
#7 ☐	Input 6					
#8 ☐	Input 7					
#9 ☐	Input 8					
#10 ☐	Input 9					

ET10 encoder inputs

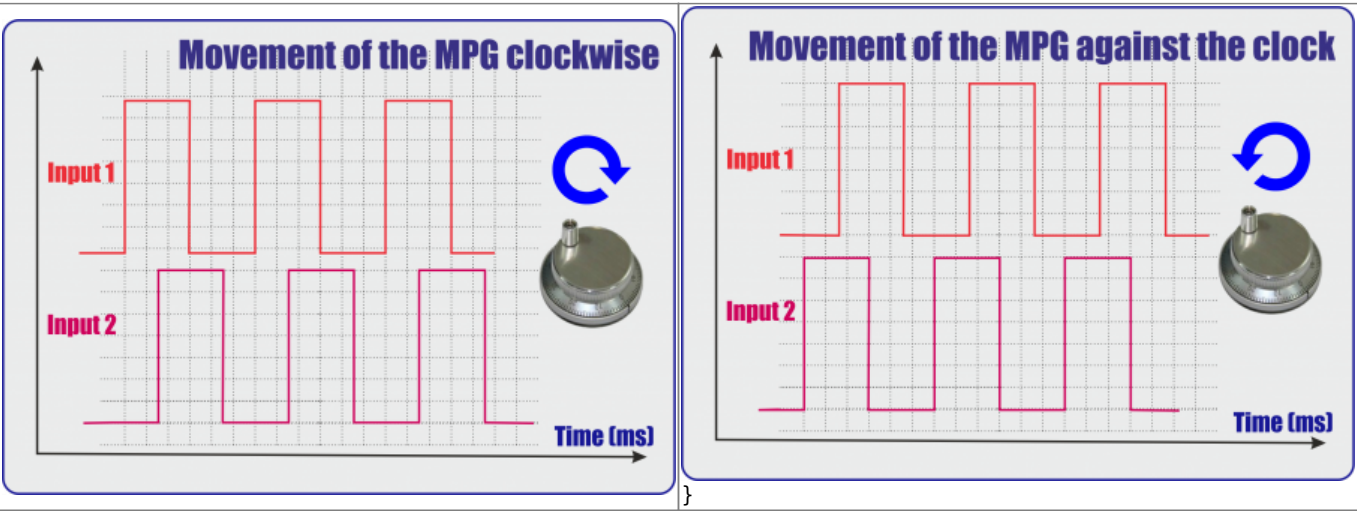
	Input#	Slot	Axis	Dimension	Encoder Resolution
#4 ☐	ET 10 Encoder #0	MPG wheel	X		100

input2:

MPG/Encoder through binary inputs

	Input1	Input2	Slot	Axis	Dimension	Encoder Resolution
#0	☒ Input 8	Input 9	MPG wheel	Pendant		400
#1	☐ Input 10	Input 0	MPG wheel	General Purpose		400
#2	☐ Input 8	Input 1	MPG wheel	Pendant		65536
#3	☐ Input 10	Input 2	MPG wheel	General Purpose		400
		Input 3				
		Input 4				
		Input 5				
		Input 6				
		Input 7				
		Input 8				
		Input 9				
#4	☐ ET 10 Encoder #0		MPG wheel	X		100

- Timing diagram of signals of MPG:



- It is also necessary to select the MPG function:

MPG/Encoder through binary inputs

	Input1	Input2	Slot	Axis	Dimension	Encoder Resolution
#0	☒ Input 8	Input 9	MPG wheel	Pendant		400
#1	☐ Input 10	Input 11	MPG wheel	General Purpose		400
#2	☐ Input 8	Input 9	THC/Z axis offset	Pendant		65536
#3	☐ Input 10	Input 11	MPG wheel	General Purpose		400

Functions	Discriptions
MPG wheel	Direct control of MPG
THC/Z axis offset	Controlling the tracking on cutting with the help of MPG
Spindle Sync	Spindle control, via the analog output to control the spindle speed.

- If necessary, select the coordinate axis, which will be controlled by MPG

	Input1	Input2	Slot	Axis	Dimension	Encoder Resolution
#0	☒ Input 8	Input 9	MPG wheel	Pendant		400
#1	☐ Input 10	Input 11	MPG wheel	X		400
#2	☐ Input 8	Input 9	MPG wheel	Y		65536
#3	☐ Input 10	Input 11	MPG wheel	Z		400

MPG/Encoder ET10 encoder inputs

	Input#	Slot	Axis	Dimension	Encoder Resolution
#4	☒ ET 10 Encoder #0	MPG wheel	X		100
#5	☐ ET 10 Encoder #0	MPG wheel	X		100
#6	☐ ET 10 Encoder #0	MPG wheel	X		100
#7	☐ ET 10 Encoder #0	MPG wheel	X		100

- Next we select the length of displacements with the help of MPG. Number of movements in mm per pulse MPG:

	Input1	Input2	Slot	Axis	Dimension	Encoder Resolution
#0	☒ Input 8	Input 9	MPG wheel	Pendant	0.1	400

- We set the resolving power of the PGM - the number of pulses per one revolution of PGM

	Input1	Input2	Slot	Axis	Dimension	Encoder Resolution
#0	☒ Input 8	Input 9	MPG wheel	Pendant	0.1	401

Mpg/Encoder ET10 through binary inputs

If you use the ET10 controller <https://shop.pv-automation.com/et10/9-mycnc-et10.html>, you can use not only MPG function, but also the encoders, to monitor the position of any of the axes.

- To activate the MPG or Encoder, it is necessary to check the box next to needed number:

	Input#	Slot	Axis	Dimension	Encoder Resolution
#4	☒ ET 10 Encoder #0	MPG wheel	X		100
#5	☐ ET 10 Encoder #0	MPG wheel	X		100
#6	☐ ET 10 Encoder #0	MPG wheel	X		100
#7	☐ ET 10 Encoder #0	MPG wheel	X		100

- After activation, you can select the encoder number on the controller for operating

MPG/Encoder ET10 encoder inputs

	Input#	Slot	Axis	Dimension	Encoder Resolution
#4 ☒	ET 10 Encoder #0	MPG wheel	X		100
#5 ☐	ET 10 Encoder #0	MPG wheel	X		100
#6 ☐	ET 10 Encoder #0	MPG wheel	X		100
#7 ☐	ET 10 Encoder #0	MPG wheel	X		100

- It is also necessary to select the MPG function:

MPG/Encoder ET10 encoder inputs

	Input#	Slot	Axis	Dimension	Encoder Resolution
#4 ☒	ET 10 Encoder #0	MPG wheel	X		100
#5 ☐	ET 10 Encoder #0	MPG wheel	X		100
#6 ☐	ET 10 Encoder #0	MPG wheel	X		100
#7 ☐	ET 10 Encoder #0	MPG wheel	X		100

Functions	Discriptions
MPG wheel	Direct control of MPG
THC/Z axis offset	Controlling the tracking on cutting with the help of MPG
Spindle Sync	Spindle control, via the analog output to control the spindle speed.

- If necessary, select the coordinate axis, which will be controlled by MPG

MPG/Encoder ET10 encoder inputs

	Input#	Slot	Axis	Dimension	Encoder Resolution
#4 ☒	ET 10 Encoder #0	MPG wheel	X		100
#5 ☐	ET 10 Encoder #0	MPG wheel	X		100
#6 ☐	ET 10 Encoder #0	MPG wheel	X		100
#7 ☐	ET 10 Encoder #0	MPG wheel	X		100

- Next we select the length of displacements with the help of MPG. Number of movements in mm per pulse MPG:

MPG/Encoder ET10 encoder inputs

	Input#	Slot	Axis	Dimension	Encoder Resolution
#4 ☒	ET10 Encoder #0	MPG wheel	X	0.1	100
#5 ☐	ET10 Encoder #0	MPG wheel	X		100
#6 ☐	ET10 Encoder #0	MPG wheel	X		100
#7 ☐	ET10 Encoder #0	MPG wheel	X		100

- We set the resolving power of the PGM - the number of pulses per one revolution of PGM

MPG/Encoder ET10 encoder inputs

	Input#	Slot	Axis	Dimension	Encoder Resolution
#4 ☒	ET10 Encoder #0	MPG wheel	X	0.1	100
#5 ☐	ET10 Encoder #0	MPG wheel	X		100
#6 ☐	ET10 Encoder #0	MPG wheel	X		100
#7 ☐	ET10 Encoder #0	MPG wheel	X		100

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MPG/Encoder through binary inputs

	Input1	Input2	Slot	Axis	Dimension	Encoder Resolution
#0 ☐	Input 8	Input 9	MPG wheel	Pendant		400
#1 ☐	Input 10	Input 11	MPG wheel	General Purpose		400
#2 ☒	Input 8	Input 9	MPG wheel	Pendant		65536
#3 ☒	Input 10	Input 11	MPG wheel	General Purpose		400

MPG/Encoder ET10 encoder inputs

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<https://docs.pv-automation.com/> - myCNC Online Documentation

Permanent link:

https://docs.pv-automation.com/mycnc/mpg_throught_binary_inputs

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