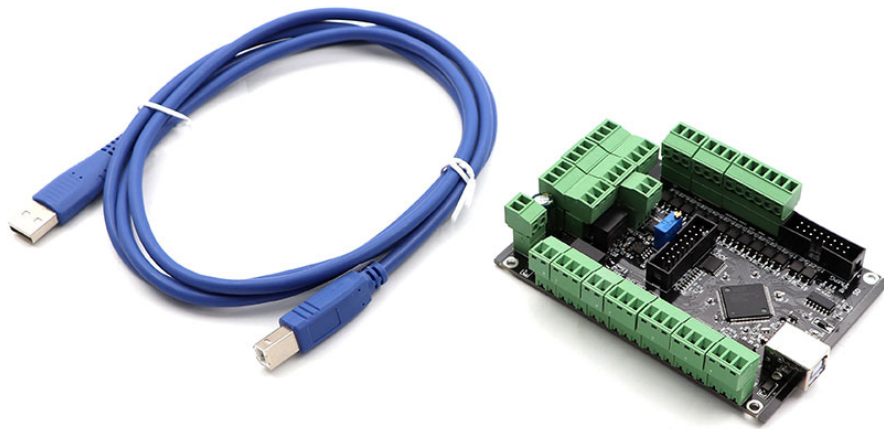# Offline USB CNC Motion Control Card HBOT

Model:MK2-4

Features:

- 100% photoelectric isolation, 100% can be run offline, can completely eliminate the need for a computer
- Comes with start, stop interface, suitable for users with strict requirements for stability
- One computer can manage multiple control boards, suitable for technical transformation of manufacturers
- Support manual control board (hand control board supports continuous and stepping jog mode, comes with start, pause, emergency stop switch)
- All axes are 100K output, support straight line, circular interpolation supports 4-axis linkage
- Support for 3D printing (requires an additional temperature controller)
- Support HBOT structure, MakerBot, Prusa I3, Ultimaker2 agency

Specifications:

1. Incoming motor and servo motor drivers that support all *pulse /direction* control signal inputs
2. 4-axis output, up to 100K frequency output per axis, can be connected to servo
3. Support 7-channel control signal output, spindle control, cooling, spray, and tool change control
4. Support 5 channels of control signal input - open, pause, stop, emergency stop, tool setting signal interface;
5. Support hardware 4 axis 8 direction limit input
6. Support soft limit
7. Support for backlash
8. Support 4-axis linkage, true four-axis linkage;
9. Support SD card, run offline, the tool path file can be greater than 100M;
10. Support straight line, circular interpolation
11. Support manual control panel to control 4-axis motion, support jog stepping mode
12. Support 3 axis electronic handwheel, need to be customized
13. Supports Windows XP , Vista , Windows 7 , 8 or 8.1 (32 -bit or 64- bit) desktop / laptop USB (V2.x)

14. Standard RS274/NGC G code (compatible with EMC2 and Linuxcnc)

15. Support advanced G code - G40 , G41 , G42 (tool radius compensation)

16. Support for advanced G code - G43 , G49 (tool length offset)

17. Support for advanced G code - G54 , g59.3 (origin of the coordinate system)

18. Compatible with G- code generated by software such as SolidCAM, MasterCAM, ArtCAM, Vectric, CamBam, MeshCAM

19. G code supporting Profili4 axis and 3 axes

20. Support DXF file to directly generate tool path

21. Support PLT/HPGL file import to directly generate tool path

22. Support NC-Drill (Excellon) file import to directly generate tool path

23. Support Gerber (RS-274x) file import to directly generate tool path

24. Tool path simulation

25. Automatic coordinate zero return procedure

26. Supported tool change program

27. Automatic measurement of tool length

28. Export tool path to G code

Offline Function:

Offline principle: the control board does not need to connect to the computer, but save the tool path file to the SD card, press the start button on the control panel, the control board reads data from the SD card, the system performs CNC machining work, and gets rid of the dependence on the computer.

During the offline process, you can also connect to the computer to display the status of the tool path, or you can not connect to the computer. In fact, you can plug and unplug the USB cable at any time. The reason is that the host computer only accepts data and displays coordinate data from the control panel, and does not send data. Therefore, the USB cable is plugged and unplugged, and the offline operation status is not affected.

There are two main reasons for using offline operation:

First: computer USB communication is easily disturbed, which may cause communication between the control board and the computer to control the host computer software to be interrupted, resulting in system interruption and scrapping of the workpiece.

Second: At the same time, the stable system of the computer is also a big problem. Even if there is no problem with USB communication, the computer may have a chance of crashing, which will cause the system to be interrupted and the workpiece scrapped.

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