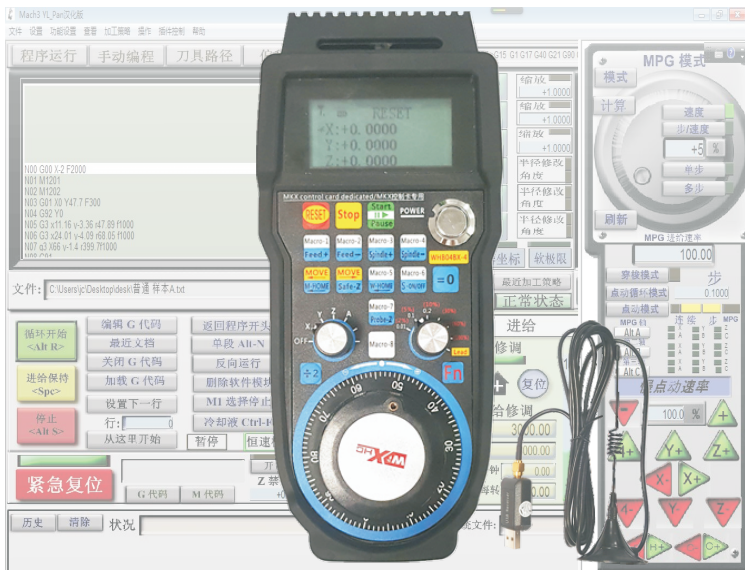


MACH3系统专用无线电子手轮

Special wireless handwheel for MACH3

说明书

Manual



型号
Model

- WHB04BX-4:4轴, 无线电子手轮
- WHB04BX-4:4 axis,wireless handwheel
- WHB04BX-6:6轴, 无线电子手轮
- WHB04BX-6:6 axis,wireless handwheel

● 特点 Characteristic

- 采用433MHZ无线传输频率，发射功率10DBM，无障碍传输距离40米。
- 采用跳频传输技术，同一范围内可以支持32套无线设备同时使用。
- 手轮采用背光LCD显示屏，可以同时显示3个轴的坐标值，电量信息，信号强度等。
- 专业适配MKX系列MACH3控制卡，电子手轮信号直接由控制卡处理，响应及时，位移精确。
- 增加快速移动按键，适合长距离移动操作，提高工作效率。
- USB接口接收器，配备外置天线，增强信号，通讯稳定。
- 无线电子手轮无需安装软件驱动，直接可以配套MKX系列控制卡使用。
(仅支持MKS-V, MKX-V, MKX-ET系列控制卡)
- 采用低功耗设计，平均工作电流小于8毫安，2节AA电池可以正常使用30天以上。
- Radio frequency:ISM433MHZ,the TX power is 10DBM,Wireless distance is 40 meters.
- Hopping transmission technology,can support 32 sets of equipment at the same home,each other is not affected
- Backlight LCD display,At the same time, it shows the coordinate values of 3 axes, electric quantity, signal intensity, etc.
- Professional adapter MKX series MACH3 control card, the electronic handwheel signal processing directly by the control card, timely response, accurate displacement.
- Adding the fast moving buttons is suitable for long distance move operation and improving work efficiency.
- The USB interface receiver is equipped with external antenna to enhance signal and stable communication.
- The wireless electronic handwheel can be directly matched with the MKX series control card without installing software drivers.
(only support MKS-V, MKX-V, MKX-ET series control card)
- The average working current is less than 8 mA and two AA batteries can be used for more than 30 days.

操作工人可以手持无线电子手轮，实现远距离对机床的操作控制，比如返回原点，开始加工，对刀等操作。
Workers can hand-hold wireless hand wheels to achieve remote control of machine, such as return to the reference point, start processing, tool setting and other operations.



各种MACH3系统机床
MACH3 system machine

USB接收器与
机床主机相连
The USB receiver
is connected to
the computer.

增加外置天线，
无线信号更稳定
Increase external
antenna, signal
more stable



无线USB接收器
wireless receiver



40米无线通讯
40M Wireless distance



区别于以前的无线电子手轮信号由电脑处理，专用型无线电子手轮的移动信号直接由控制卡处理，响应及时，移动准确
The signal of the special wireless handwheel is directly controlled by the control card, which responds promptly and moves accurately.

增加快速移动按键，适合长距离移动使用，提高效率
Increase fast moving buttons.improve work efficiency

电子手轮齿位清晰，定位准确，脉冲无丢失
The MPG is positioned accurately and the pulse is not lost.



无线电子手轮
handwheel

为了保证信号质量，请将接收器外置天线外置于机柜顶部
To ensure the quality of the signal, please put the external antenna of the receiver outside the top of the cabinet.

① 使用步骤 Using the step

① 插入USB接收器，等待驱动自动安装完成。

Insert the USB receiver, wait for the automatic driver installation is completed.

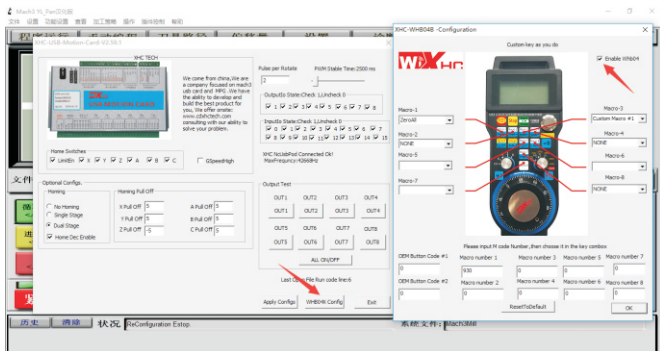
② 宏代码安装：

将光盘里macro文件夹下的所有文件拷贝到MACH3安装目录..\Mach3\macros\Mach3Mill下。

The all macro files (in the CD inside macro folder) copied to .. \Mach3 \ macros \ Mach3Mill.














③ 启动MACH3软件，打开控制卡插件，进入到手轮插件，将手轮启动选项Enable WHB04B勾选，退出然后重启软件。

Start the MACH3 software, open the control card plug-in, enter the handwheel plug-in and tick Enable WHB04B, restart the software.































③ 无线电子手轮，安装上2节AA电池，打开手轮的电源开关，就可以正常使用了。

Wireless MPG, install 2 AA batteries, turn on the power switch, you can normally use.












对应图标 Icon	功能 Function
	复位按钮 RESET button
	停止按钮 Stop button
	开始/暂停按钮：当机器停止时，按下按钮机器开始工作；当机器工作时，按下按钮，机器停止工作 Start/Pause button:When machine stops,press the button,machine starts to work;When machine is working, press the button,machine stop working
	宏代码功能1/进给速度+按钮：单独按下按钮,宏代码功能1输出;按下  +  按钮,加工速度增加 Macro-1/Feed+ button:When press the button alone,macro function-1 works; When press the  +  ,Processing speed increase.
	宏代码功能2/进给速度-按钮：单独按下按钮,宏代码功能2输出;按下  +  按钮,加工速度减小 Macro-2/Feed- button:When press the button alone,macro function-2 works; When press the  +  ,Processing speed decreases.

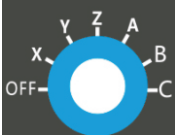
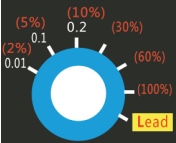
● MACH3手轮按键功能说明 The MACH3 MPG key function

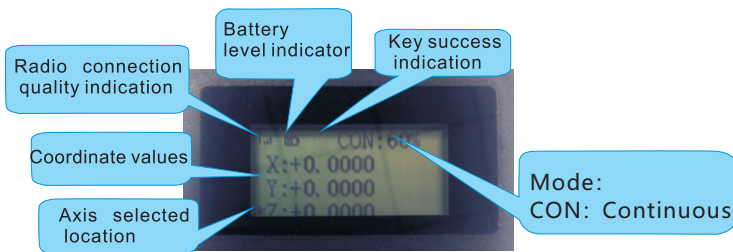
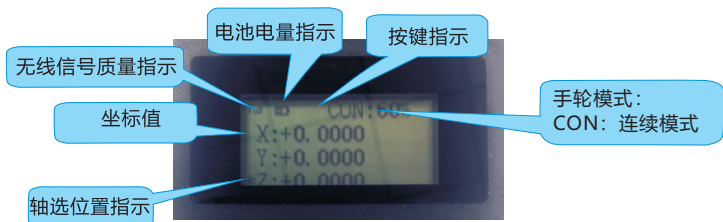
对应图标 Icon	功能 Function
	<p>宏代码功能3/主轴速度+按钮：单独按下按钮,宏代码功能3输出;按下  按钮,主轴速度增加</p> <p>Macro-3/Spindle- button:When press the button alone ,macro function-3 works; When press the  ,Spindle speed increases.</p>
	<p>宏代码功能4/主轴速度-按钮：单独按下按钮,宏代码功能4输出;按下  按钮,主轴速度减小</p> <p>Macro-4/Spindle- button:When press the button alone ,macro function-4 works; When press the  ,Spindle speed reduction.</p>
	<p>宏代码功能5/工件原点按钮：单独按下按钮,宏代码功能5输出;按下  按钮,回工件原点.</p> <p>Macro-5/M-HOME button:When press the button alone,macro function-5 works; When press the  ,go to zero workpiece.</p>
	<p>宏代码功能6/主轴启动/关闭按钮：单独按下按钮,宏代码功能6输出;按下  按钮,主轴启动/关闭.</p> <p>Macro-6/M-HOME button:When press the button alone,macro function-6 works; When press the  ,spindle on/off</p>

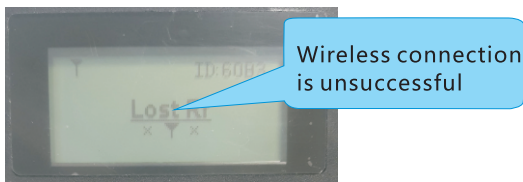
对应图标 Icon	功能 Function
	<p>宏代码功能7/对刀按钮：单独按下按钮,宏代码功能7输出;按下  +  按钮,执行对刀操作.</p> <p>Macro-7/Probe-Z button:When press the button alone,macro function-7 works; When press the  +  ,execution of tool setting.</p>
	<p>宏代码功能8：按下按钮,宏代码功能8输出; Macro-8 button:When press the button ,macro function-8 works;</p>
	<p>负方向移动键/返回机床原点按钮：单独按下按钮,控制机器向负方向移动;按下  +  按钮,返回机床原点.</p> <p>Negative direction moving/M-HOME button:When press the button alone,it control the machine to move in a negative direction.; When press the  +  ,execution of tool setting.</p>
	<p>正方向移动键/返回Z安全高度按钮：单独按下按钮,控制机器向正方向移动;按下  +  按钮,返回Z安全高度.</p> <p>Positive direction moving/Safe-Z button:When press the button alone,it control the machine to move in a positive direction.; When press the  +  ,Back to Z safe height.</p>

● MACH3手轮按键功能说明

对应图标 Icon	功能 Function
	<p>清零按钮:按下  +  将当前坐标值清零.</p> <p>ZERO button:When you press  +  ,</p> <p>Clearing coordinates</p>
	<p>坐标减半按钮:按下  +  将当前坐标值减半.</p> <p>Coordinate halving button:When you press  +  .Halve the coordinates.</p>
	<p>功能按钮:用来实现组合按钮功能</p> <p>Function button:When you press the button,then press the other button to achieve the combination function.</p>

对应图标 Icon	功能 Function
	<p>轴选开关:OFF关闭轴选开关 X.Y.Z.A.B.C选择操作的轴; Axis selection switch: OFF :turn off axis selection switch. X.Y.Z.A.B.C :selects the axis of operation.</p>
	<p>速度/步距选择开关: 2%, 5%.....100%: 连续移动时选择电机速度百分比, 基于电机调试中的最大速度值。 Speed / step selector switch:2%, 5%100%: select motor speed when moving continuously.The percentage is based on the maximum speed of soft motor tuning.</p> <p>0.01, 0.1, 0.2: 使用手轮进行点动操作时, 选择摇动手轮一格对应的步距值。 0.01, 0.1, 0.2: when using the handwheel for step operation,Choose to move a pulse corresponding to the step value.</p> <p>Lead:手动引导模式: 切换到此模式,摇动手轮将进行手动引导模拟加工, 摇动手轮代码运行,不摇动手轮, 代码停止。 Lead: Manual boot mode: when shake the MPG will be manually booted simulation processing, shake the MPG and G code to run, stop shake MPG, G code run stop.</p>



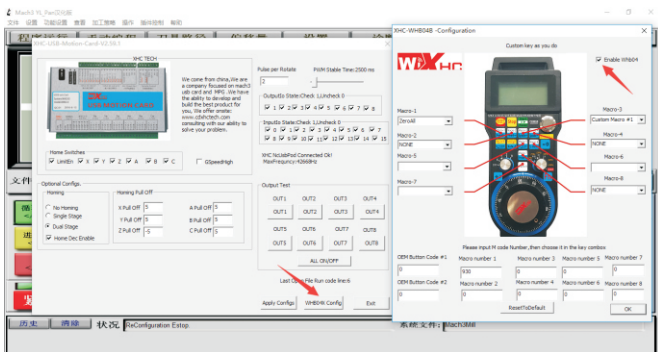


当无线MPG和USB接收器连接不成功（比如USB接收器没有插上电脑），则无线MPG的LCD会如下显示：

When the wireless USB receiver is connected MPG and unsuccessful (eg USB receiver does not plug in the computer), the wireless MPG's LCD will appear as follows:

● 插件说明 Plugin instructions

1. 打开软件, 在“设置”菜单下, 选择“设置插件”选项, 找到控制卡插件“Ncusbpod-xhc-Mach3-usb-motion-card”, 点击黄色“CONFIG”, 会弹出插件窗口, 在控制卡插件窗口里面点击“WHB04BX Config”按钮, 打开手轮插件窗口, 进行手轮宏按键功能设置;
Open Mach3 and go to the “Config” menu choice and select “Config Plugins”. You should see “Ncusbpod-xhc-Mach3-usb-motion-card”, Click the “CONFIG” in yellow and click the “WHB04BX Config” button to open handwheel congfig. you can set up macro button function as you wish.



2. 点击WHB04BX Config打开插件后, 出现设置界面. 根据图示进行设置
2. Click the "WHB04BX Config", there will be plug-in settings interface, According to the following method set.

设置扩展功能: 点击Macro-1的下拉菜单按钮, 可以选择下拉菜单中的扩展功能, 保存退出, 即可将手轮上Macro-1按键设置为插件中选择的功能. 其他按键以此类推。

Set up macro button extension function: click the Macro-1 drop-down menu button, Select various extended functions. Then save and exit. Other macro buttons settings are the same.

设置关联M宏代码：

1： 点击Macro-1的下拉菜单按钮，在菜单中选择Custommacro#1； 点击Macro-2的按钮选择Custom Macro#2，以此类推。

2： 在下面Macro-1对应的Macro number 1中输入你需要关联的M代码， Macro-2对应Macro number 2.以此类推,将其他按钮设置完成. 最后点击OK保存设置.

(你输入的M代码必须已经拷贝到Mach3>Macro>Mach3Mill里面,否则无法工作)

Setting associated macro code:

1:Click the Macro-1 drop-down menu button,choice "Custom Macro#1" , Macro-2 choice "Custom Macro#2", And so on.

2:In the following "Macro Number" input M code you need. Macro-1 corresponds to Macro number 1,Macro-2 corresponds to Macro number 2 and so on.

(The M code you entered must be copied to the Mach3>macro>Mach3Mill folder)

Macro-1

- Run from here
- Run from here
- Run reverse
- Radius Tracking Tog
- Raise spindle speed
- Reset

XHC-WHB04B -Configuration

Custom key as you do

Enable Whb04

Macro-1: Run from here

Macro-2: Custom Macro #2

Macro-3: Custom Macro #7

Macro-4: Custom Macro #8

Macro-5: [Empty]

Macro-6: [Empty]

Macro-7: [Empty]

Macro-8: NONE

Please enter M code Number, then choose it in the key combobox

OEM Button Code #1	Macro number 1	Macro number 3	Macro number 5	Macro number 7
0	930	0	0	0
OEM Button Code #2	Macro number 2	Macro number 4	Macro number 6	Macro number 8
0	0	0	0	0

ResetToDefault OK

Macro number 1

930



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<http://www.cdxhctech.com>

如有印刷或翻译错误，望用户谅解。产品设计和规格如有变化，恕不另行通知。
此使用手册的出版日期**2018年10月**。关于此日期后上市的产品驱动程序的变化，
请登录公司网站查看并更新，或与我们售后联系。