适用于MACH3系统

Application system：MACH3

MACH3有线电子手轮

Mach3 system wired MPG instructions

说 明 书



LHB04B-6:6 axis,wired handwheel

特点 Characteristic

- 采用带屏蔽的5米USB线进行连接，信号传输稳定可靠
- 100PPR电子手轮功能，支持10个自定义按键
- 显示X,Y,Z,A,B,C轴的机械坐标和工作坐标
- 显示主轴转速值，加工进给速度值
- Connected with a shielded 5meters USB cable,signal transmission is stable and reliable.
- 100PPR manual pulse generator,support 10 macro function button
- LCD Dispiay:machine coordinates and workpiece coordinates X,Y,Z,A,B,C-axis
- LCD Display:Spindle speed value,processig feed rate value

产品功能介绍 Product function introduction



CNC machine

机床

Computer Control center

机床控制面板



有线手轮

Wired MPG

使用步骤 Using the step

Please note that the new version has cancelled the CD. Please download the plugin according to the instructions on the card inside the package.

1. 将遥控器USB线插到电脑主机的USB端口，等待电脑自动安装硬件设备驱动。
   Insert the USB line to PC, wait for the automatic driver installation is completed.

2. 在MACH3安装目录下有个 "PlugIns" 文件夹,然后把驱动文件（在光盘里边）ShuttlePro.V3.84.dll拷贝到此文件夹\Mach3\PlugIns下.
   The drivers (in the CD inside) ShuttlePro.V3.84.dll copied to \ Mach3 \ PlugIns.

3. 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 \ under Mach3Mill.

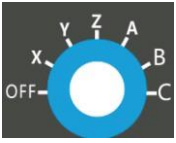
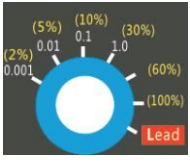
4. 有线电子手轮，直接打开手轮的电源开关，就可以正常使用了
   Wired MPG,turn on the power switch of the handwheel direetly,you can normally use.

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 Fn + Macro-1 Feed+ 按钮,加工速度增加 Macro-1/Feed+ button:When press the button alone,macro function-1 works; When press the Fn + Macro-1 Feed+ ,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 Fn + Macro-2 Feed– 按钮,加工速度减小 Macro-2/Feed- button:When press the button alone,macro function-2 works; When press the Fn + Macro-2 Feed– ,Processing speed decreases.

对应图标 Icon	功能 Function
	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 Fn + Macro-3 Spindle+ 按钮,主轴速度增加 Macro-3/Spindle- button:When press the button alone,macro function-3 works; When press the Fn + Macro-3 Spindle+ ,Spindle speed increases.
	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 Fn + Macro-4 Spindle− 按钮,主轴速度减小 Macro-4/Spindle- button:When press the button alone,macro function-4 works; When press the Fn + Macro-4 Spindle− ,Spindle speed reduction.
	宏代码功能5/机床原点按钮：单独按下按钮,宏代码功能5输出;按下 Fn + Macro-5 M-HOME 按钮,回机床原点. Macro-5/M-HOME button:When press the button alone,macro function-5 works; When press the Fn + Macro-5 M-HOME ,refer all home.
	宏代码功能6/返回安全Z高度按钮：单独按下按钮,宏代码功能6输出;按下 Fn + Macro-6 Safe-Z 按钮,返回安全高度. Macro-6/M-HOME button:When press the button alone,macro function-6 works; When press the Fn + Macro-6 Safe-Z ,Return to the safe height of the Z axis

对应图标 Icon	功能 Function
	宏代码功能7/工件原点按钮：单独按下按钮,宏代码功能7输出;按下 Fn + Macro-7 W-HOME 按钮,返回工件原点. Macro-7/W-HOME button:When press the button alone,macro function-7 works; When press the Fn + Macro-7 W-HOME ,go to zero work.
	宏代码功能8/主轴开关按钮：单独按下按钮,宏代码功能8输出;按下 Fn + Macro-8 S-ON/OFF 按钮,主轴开启或者关闭. Macro-8/S-ON/OFF button:When press the button alone,macro function-8 works; When press the Fn + Macro-8 S-ON/OFF ,Spindle on or off.
	宏代码功能9/对刀按钮：单独按下按钮,宏代码功能9输出;按下 Fn + Macro-9 Probe-Z 按钮,执行对刀操作. Macro-9/ probe-Z button:When press the button alone,macro function-9 works; When press the Fn + Macro-9 Probe-Z ,probe Z
	宏代码功能10按钮：按下按钮，宏代码功能10输出 Macro-10 button:press the button,macro function-10 works.
	功能按钮:用来实现组合按钮功能 Function button:When you press the button, then press the other button to achieve the combination function.

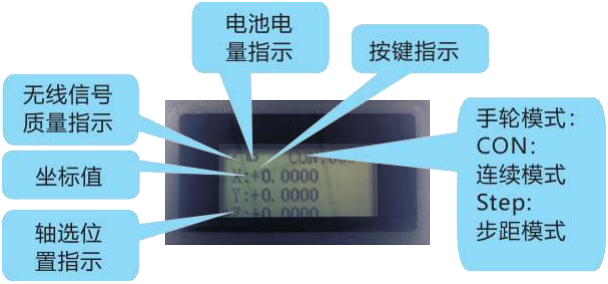
MACH3手轮按键功能说明

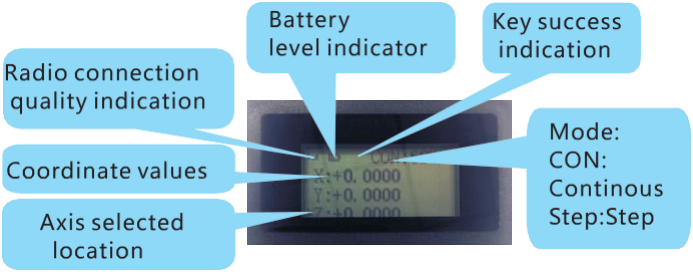
对应图标 Icon	功能 Function
	连续按钮：按下按钮，手轮进入连续模式 MPG button:press the button,Hand wheel into Continuous mode.
	步距按钮：按下按钮，手轮进入步距模式 Step button: press the button,Hand wheel into Step mode
	轴选择波段开关：OFF位置，关闭电子手轮功能。 X,Y,Z,A,B,C:实现对应的X,Y,Z,A,B,C:6个轴选择功能。 Axis selection band switch: OFF position to switch off MPG X, Y, Z, A, B, C: 6 axis selection function.
	倍率开关： 0.001（2%）:当手轮在步距模式时,单位是0.001;当在连续模式时,手轮速度是2%. 0.01(5%):当手轮在步距模式时,单位是0.01,当在连续模式时,手轮速度是5%. 0.1(10%):当手轮在步距模式时,单位是0.1,当在连续模式时,手轮速度是10% 1.0(30%):当手轮在步距模式时，单位是1.0,当在连续模式时,手轮速递是30%. 60%:当手轮在连续模式时,手轮速度是60% 100%:当手轮在连续模式时,手轮速度是100% Lead:手动引导加工速度

波段开关对手轮功能起到控制作用，手轮的各种功能，通过波段开关的档位切换，而进行相应切换

to control the various function of the hand wheel through the band swittch

对应图标 Icon	功能 Function
	Selection speed: 0.001 (2%) :When handwheel in Step mode,move unit 0.001;when in Continuous mode,move speed is 2% 0.01(5%):When handwheel in step mode,move unit 0.01;when in Continuous mode,move speed is 5% 0.1(10%):When handwheel in step mode,move unit 0.1;when in Continuous mode,move speed is 10% 1.0(30%):When handwheel in step mode,move unit 1.0;when in Continuous mode,move speed is 30% 60%:When handwheel in Continuous mode, move speed is 60% 100%:When handwheel in Continuous mode,move speed is 100% **Lead** location：Processing L**ead** mode;By shaking the **MPG** to change the processing speed


电池电量指示
按键指示
无线信号质量指示
手轮模式:
CON:
连续模式
Step:
步距模式
坐标值
轴选位置指示


Battery level indicator
Key success indication
Radio connection quality indication
Mode:
CON:
Continous
Step:Step
Coordinate values
Axis selected location

说明：
按键指示：当按下按键，接收器接收到按键值后，该指示灯闪烁一下，表示按键操作成功。

倍率指示：当按下step按键，波段开关选择0.001,0.01等，对应倍率值;当按下Continuous按键，波段开关选择2%，5%等，对应不同速度

轴选位置指示：轴选开关位置，对应LCD显示轴选。X代表X轴工件坐标,X1表示X轴机械坐标.

Explantion:
Key success indication:When you press the button,the receiver receives the key value,the indicator flashes about,indicating successful key operation.

Speed indicator:When you press CONTINUOUS button,band switch to select 2%,5%...,LCD display CON and different speed. When you press Step button,band switch to select 0.001,0.01..., LCD display Step and different speed.

Axis selected location:Axis selection switch position,LCD display axis selected. X: X axis workpiece coordinate axis, X1: X axis mechanical coordinate

1.打开软件，在"Config"配置菜单下,选择"Config Plugins"配置插件找到手轮插件"ShuttlePro-VXX-XHC-HB04BX-FOR-MACH3",点击黄色"CONFIG",会弹出手轮配置窗口，在窗口里面设置宏功能按键，

Open Mach3 and go to the “Config” menu choice and select “Config Plugins”.You should see “ShuttlePro-V3xx-XHC-HB04BX-FOR-MACH3”,Click the “CONFIG” in yellow and macro button function as you wish.

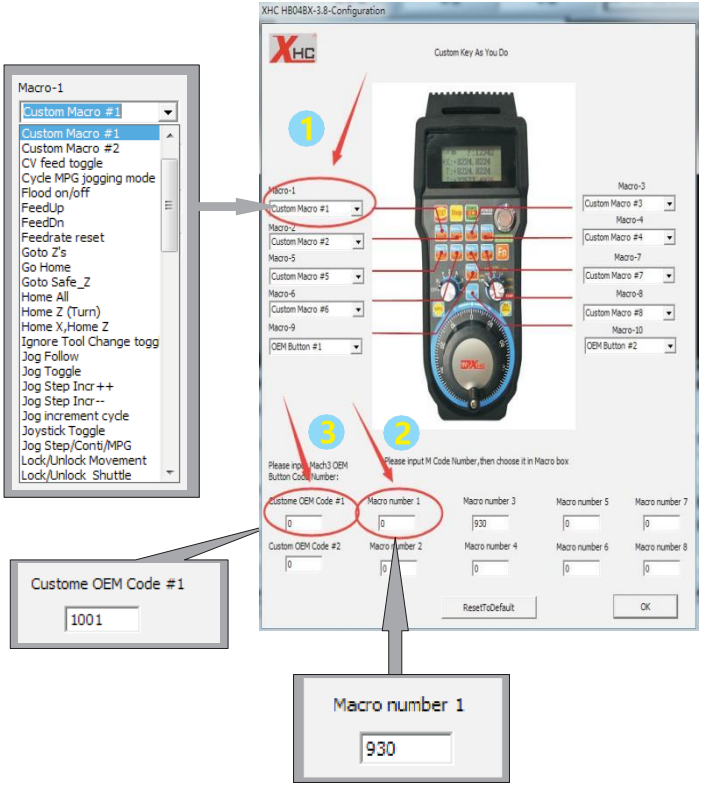


2.如下图所示，可以直接在macro-1的下拉菜单中选择自带的扩展功能，保存之后即可生效。

如果你自己编写了宏代码文件，你可以根据下面的图示进行设置：

第一步:点击Macro-1的下拉菜单按钮，选择Customacro#1；点击Macro-2的下拉菜单按钮，选择Custom Macro#2,以此类推，将Macro1-Macro-8设置完成. 点击Macro-9下拉菜单按钮,选择OEM Button#1,将Macro-10选择为OEM Button#2.

第二步:在下面Macro-1对应的Macro number 1输入你需要的M代码，在下面Macro-9对应的OEM Custom Code#1输入你需要的OEM代码.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)


Macro-1
Custom Macro #1
Custom Macro #1
Custom Macro #2
CV feed toggle
Cycle MPG jogging mode
Flood on/off
FeedUp
FeedDn
Feedrate reset
Goto Z's
Go Home
Goto Safe_Z
Home All
Home Z (Turn)
Home X,Home Z
Ignore Tool Change togg
Jog Follow
Jog Toggle
Jog Step Incr ++
Jog Step Incr--
Jog increment cycle
Joystick Toggle
Jog Step/Conti/MPG
Lock/Unlock Movement
Lock/Unlock Shuttle
XHC HB04BX-3.8-Configuration
Custom Key As You Do
1
Macro-1
Custom Macro #1
Macro-2
Custom Macro #2
Macro-5
Custom Macro #5
Macro-6
Custom Macro #6
Macro-9
OEM Button #1
Macro-3
Custom Macro #3
Macro-4
Custom Macro #4
Macro-7
Custom Macro #7
Macro-8
Custom Macro #8
Macro-10
OEM Button #2
3
2
Please input Mach3 OEM Button Code Number:
Please input M Code Number,then choose it in Macro box
Custome OEM Code #1
Macro number 1
Macro number 3
Macro number 5
Macro number 7
Custom OEM Code #2
Macro number 2
Macro number 4
Macro number 6
Macro number 8
930
ResetToDefault
OK
Custome OEM Code #1
1001
Macro number 1
930

2.As shown in the figure below, you can select the extension function of the plug-in directly from the drop-down menu of macro-1, which will take effect after saving.If you write your own macro code file, you can set it according to the following illustrations:

First step:Click the Macro-1 drop-down menu button,choice "Custom Macro#1", Macro-2 choice "Custom Macro#2", And so on.Click Macro-9 drop-down menu button,choice "OEM Custom Code#1", Macro-10 choice "OEM Custom Code#2".

Second step:In the following "Macro Number" input M code you need.Macro-1 corresponds to Macro number 1. and so on. Macro-9 corresponds to OEM Custom Code#1, Macro-10 corresponds to OEM Custom Code#2.

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