WiXHC ®

带急停的无线电子手轮
General Wireless Remote Control MGP with E-stop

说 明 书
MANUAL

使用本产品之前，请阅读本手册并妥善保存手册作日后参考。
The Manual For Funlly Functional Wireless Handle For Engraving Machine

典型应用：数控机床、数控雕铣机、加工中心
applications: CNC machine tools,CNC engraving and milling machine, machining center

该产品是数控机床上配套使用的手摇脉冲发生器(Manual Pulse Generator)，已广泛应用于数控机床、数控车床、加工中心、数控雕铣机等领域。该产品采用无线传输技术，省去了传统的弹簧线连接，减少因电缆引起的设备故障，免去电缆拖动，粘上油等污染，操作更方便。该产品套装包括接收器和无线电子手轮。接收器通过16芯电缆线与设备连接，电子手轮（手摇脉冲发生器）通过无线传输技术与接收器进行连接通讯。操作者手持手轮，可摆脱弹簧线的连接束缚，自由走动。针对大型的龙门铣、数控车床、行走机床、切割等应用，更是带来极大的方便性，提高工作效率。

the product is CNC machine tools supporting the use of manual pulse generator, has been widely used in CNC machine tools, CNC lathes, machining centers, CNC engraving and milling machine, such as fields. The product uses wireless transmission technology,eliminating the need for the traditional spring line connection, reduce the cable caused by equipment failure,replacing the cable drag, sticky, mail and other pollution, more convenient operation. The package includes a receiver and a wireless electronic handwheel, through the receiver is connected to the 16 core cable and equipment, electronic handwheel through wireless transmission technology and the receiver of communication connection. Operator hand wheel, can get rid of the shackles of the spring line, freedom to move around. For large-scale Longmen milling. CNC lathe, machine tools, cutting and other applications, but also bring great convenience, improve work efficiency

O 产品系列 The product model

带急停的无线电子手轮有两个系列(has 2 series)：

1、ATWGP0X
2、CTWGP0X

O 支持系统 Support system

适用于德国西门子（SIEMENS）、日本三菱（MITSUBISHI）、法那科（FANUC）、西班牙发格（FAGOR）、法国NUM、台湾元宝、新代等数控.
Apply to SIEMENS 、MITSUBISHI、FANUC、NUM、SYNTE CNC……Numerical Control System.

O 产品特点 Product features

- 无线ISM频段，433MHZ.
  Wireless ISM frequency band、433MHZ
- 10DB发射功率，-98DB接收灵敏度,无障碍距离50米
  10DB Transmit power, RX sensitivity -98DB, 50meters distance without barrier
- 具有急停按钮功能,3个扩展按键输出
  Emergency stop button function, 3 button output
- 抗干扰设计，稳定可靠，同房间使用32套无线手轮，互不影响
  Anti-interference design, stable and reliable, 32 sets can be used in 1 room without affecting each other at the same time
- 低功耗设计，2节AA电池，正常使用30天
  Low-power consumption design,2AA batteries lasting 30 days in normal operation
- 具有轴选功能，倍率选择功能
  Axis and Speed selecting knob function
- 采用合金编码器，性能稳定可靠，手感好，齿位清晰
  Alloy encoder is in good performance, stable and reliable, feel good and precision calibration.

○ 产品特点 Product features

■ 按键采用防水开关,防止油,灰尘进入。
   Press key to waterproof,can prevent oil,dust into.

○ 工作原理 Working principle

采用无线传输技术，操作方便，省去了传统的弹簧线连接，减少了电缆故障率，免去电缆拖动，粘上油等污染。

Using wireless transmission technology, convenient operation,eliminating the traditional spring wire connection, reduce the failure rate of cable and remove cable drag viscous oil pollution

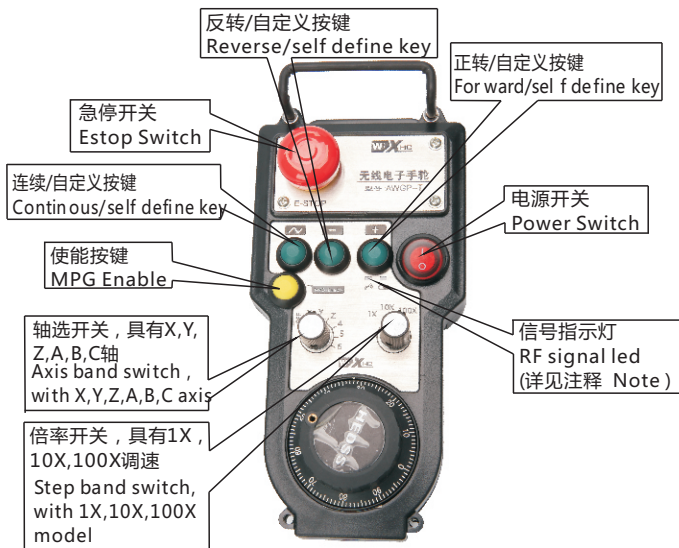无线有效距离 50米
wireless distance 50m

无线接收器
wireless receiver

○ 使用说明 Instructions

1.先将接收器电缆连接到机床系统上。
1.Connect receiver cable into your CNC machine system interface
2.手轮安装2节AA电池，打开电源开关，就可以正常使用
 2.Open battery cover and install 2AA battery, then it works

○ 产品功能描述 The product function description

ATWGP0X:

反转/自定义按键
Reverse/self define key

正转/自定义按键
For ward/sel f define key

急停开关
Estop Switch

连续/自定义按键
Contin ous/self define key

使能按键
MPG Enable

电源开关
Power Switch

轴选开关，具有X,Y,
Z,A,B,C轴
Axis band switch ,
with X,Y,Z,A,B,C axis

信号指示灯
RF signal led
(详见注释 Note)

倍率开关，具有1X ,
10X,100X调速
Step band switch,
with 1X,10X,100X
model

注释.电源开关打开:

　　　对手轮无任何操作时，信号灯闪烁频率非常快表示无线信号正常;
　　　使用手轮时,信号灯一直亮表示无线信号正常;
　　　信号灯慢闪,并且显示屏显示RF LOST表示掉网.

Note.The power is turned on:

　　　The MPG without any operation, the signal flashes very fast
　　　that the wireless signal is normal;
　　　When using MPG, the signal light is on to indicate that the
　　　wireless signal is normal;
　　　The signal light flickers slowly, and the display shows RF LOST,
　　　MPG lost connection.

○产品功能描述 The product function description

CTWGP0X:

电源指示灯 Power led
信号指示灯 RF signal led
低压指示灯 Low power led
急停开关 Estop Switch
连续/自定义按键 Continous/self define key
使能按键 MPG Enable
电源开关 Power Switch
正转/自定义按键 Forward/self define key
反转/自定义按键 Reverse/self define key
轴选开关，具有X,Y,Z,A,B,C轴 Axis band switch, with X,Y,Z,A,B,C axis
编码器 MPG Encoder
倍率开关，具有1X,10X,100X调速 Step band switch, with 1X,10X,100X model

电源指示灯：当按下电源开关时，电源灯亮
Power led : When the power switch is pressed, the power led is on
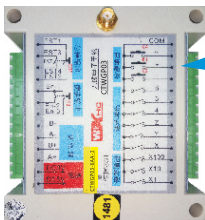
信号指示灯：当按下电源开关时，对手轮无任何操作，信号指示灯灭；
　　　　　　当按下电源开关时，对手轮有任意操作，信号指示灯闪烁。
RF signal led:When the power switch is pressed, the MPG without any
　　　　　　　operation, the RF signal led is off;
　　　　　　　When the power switch is pressed, the MPG has any
　　　　　　　operation , the RF signal led flashes.

低压指示灯：当电池低于2.2V，低压指示灯亮
Low power led:When the battery is below 2.2V, the low power led is on.

◯ 接收器功能与接线原理

function and wiring diagram

为了保证距离远，需要将接收器安装在机箱顶部，外露，不要装在机箱内

To guarantee proper operation from far distance, receiver need to be installed on top of the chassis instead of inside the chassis

线号/Mark	功能/Function	线号/Mark	功能/Function
EST	急停输出/Estop Output	COM	倍率和轴选公共端/Axis Rate common
K3	使能输出/Enable Output	~(K4)	连续/自定义 / Continue/self define key
B-	脉冲B-相/Pulse B-	+(K1)	正转/自定义 / Forward/self define key
A-	脉冲A-相/Pulse A-	-(K2)	反转/自定义 / Reverse/self define key
B+	脉冲B+相/Pulse B+	6	轴选6轴/Axis 6
A+	脉冲A+相/Pulse A+	5	轴选5轴/Axis 5
DC0V	电源负极/Power-	4	轴选4轴/Axis 4
DC5V	电源正极/Power+	Z	轴选Z轴/Axis Z
		Y	轴选Y轴/Axis Y
		X	轴选X轴/Axis X
		X100	倍率100X/Rate X100
		X10	倍率10X/Rate X10
		X1	倍率1X/Rate X1

○ 无线电子手轮WGP型号规则

Wireless Remote Control WGP model rule

型号说明　ATWGP03-6 A A-3 X

① ② ③ ④⑤ ⑥ ⑦

序号	说明
①	手轮款式：A系列；B系列；C系列 MPG collections: A series; B series; C series
②	脉冲输出参数： 01:100PPR,A,B相位差为90度的5V脉冲信号输出 Pulse output parameters: 01:100PPR,5V pulse signal output with A,B phase difference of 90 degrees
	02:25PPR,A,B相位差为90度的12V脉冲信号输出 02:25PPR,12V pulse signal output with A,B phase difference of 90 degrees
	03:100PPR,A,B,A-,B-相位差为90度5V差分脉冲信号输出 03:100PPR,5V differential pulse signal output whith A,B, A-,B- phase difference of 90 degrees
③	手轮支持轴数：6表示6轴;4表示4轴;3表示3轴. Number of axis supperted: 6 denotes 6 axis;4 denotes 4 axis;3 denotes 3 axis;
④	手轮轴选输出方式：A表示点对点输出，B表示编码输出. Axis option output signal: Adenotes non-coding,B denotes encoding output
⑤	手轮倍率输出方式：A表示点对点输出，B表示编码输出. Rate option output signal: Adenotes non-coding,B denotes encoding output
⑥	手轮扩展案件输出： 3表示扩展3按键输出；没有，表示无扩展按键输出. Extension key output: 3 denotes extension key 3 output; otherwise no extension key output.
⑦	X:西门子手轮专用,替代西门子MINI手轮；倍率脉冲输出 X:Special for Sisemens handwell,substitute Siemens MINI MPG rate pulse output.

脉冲输出选型指南
Pulse Output Selection Guide

型号 Model	参数描述 paramenter description	适合系统 suitable systems
Gp01	电源DC5V,输出脉冲100PPR,相位输出为A,B两路脉冲序列A和B相差90; 开路集电极电路,内装200欧5V上拉电阻 DC5V power supply,100PPR pulse output,phase outputA,B phase difference 90degrees between A and B; open collector circuit with 200 ohm 5V pull-upresistor	日本法那科FANUC系统 台湾中达电通TNC 台湾忆图(HUST)系列 国内如航天数控,华中数控,广州诺信凯恩帝KND等系列 FAUNC system made in Japan TNC system made in Taiwan HUST series made in Taiwan Aerospace CNC,HuazhongCNC,Guangzhou Nordson,KND etc
Gp02	电源DC12V,输出脉冲25PPR,相位输出为A,B,两路脉冲序列A和B相差90 开路集电极电路,内装2K欧12V的上拉电阻 DC12V power supply,25PPR pulse output,phase output A,B phase difference 90degrees between A and B open collector circuit with 2K ohm 12V pull-up resistor	日本三菱MELDAS电子手轮(MELDAS M64;M65;E60等系统为电源DC12V,输出为DC5V) MELDAS handwheel made in Japan(MELDAS M64;M65;E60) SELCA systems made in Italy

○ 脉冲输出选型指南
Pulse Output Selection Guide

型号 Model	参数描述 paramenter description	适合系统 suitable systems
Gp03	电源DC5V,输出脉冲100PPR,相位输出为A,A-,B,B-,采用5V差分脉冲信号输出 DC5V power supply,100PPR pulse output,phase outputA, A-,B,B-, 5V differential pulse signal output	适合PC_BASE系统,典型系统如：台湾宝元POUYUEN M600 M500 M520i T300 ELC-1000系列,台湾新代SYNTEC系统,德国PA系统,典型如:海德盟Higerman,海那克Higerman,广州数控GSK,开通数控 等数控系统；国外系统：西门子,NUM,西班牙法格FAGOR(NEW,8055I)等 PC BASE systems,eg:Taiwan POUYUEN M600 m500 m520i T300 ELC-1000 series; Taiwan SYNTEC systems Germany PA systems such as Higerman, HANUC,GSK,Kaitong CNC; other systems such as Siemens, NUM,FAGOR (new,8055I)

◎ 轴选和倍率编码方式选择

Encoded mode of Axis selection and Rate

1. 型号：ATWGPX-6-AA-3或　　CTWGPX-6-AA-3									
2. 轴选输出：-A型(非编码输出)									
3. 倍率输出：-A型(非编码输出)									

倍率和轴选 编码									
倍率值	线号			轴选	线号					
	1X	10X	100X		X	Y	Z	4	5	6
1X	1	0	0	OFF	0	0	0	0	0	0
10X	0	1	0	X轴	1	0	0	0	0	0
100X	0	0	1	Y轴	0	1	0	0	0	0
				Z轴	0	0	1	0	0	0
				4轴	0	0	0	1	0	0
				5轴	0	0	0	0	1	0
				6轴	0	0	0	0	0	1

备注：1表示线号与COM端连通；为0表示线号与继电器截止；COM端可以接VCC也可以接地；连通电阻20欧姆，电流小于50毫安

Model: ATWGPX-6AA-3 or CTWGPX-6AA-3									
Axis option output: model A (non-coding output)									
Rate coding output: model A (non-coding output)									

Rate and axis									
Rate value	label No.			Axis value	label No.					
	1X	10X	100X		X	Y	Z	4	5	6
1X	1	0	0	OFF	0	0	0	0	0	0
10X	0	1	0	X axis	1	0	0	0	0	0
100X	0	0	1	Y axis	0	1	0	0	0	0
				Z axis	0	0	1	0	0	0
				4 axis	0	0	0	1	0	0
				5 axis	0	0	0	0	1	0
				6 axis	0	0	0	0	0	1

Note: 1 denotes labeled line is connected with COM; 0 denotes labeled line is disconnected with relay; COM can be connected VCC or ground; connectivity 20 ohm resistor, less than 50 mA current

⭕ 轴选和倍率编码方式选择

Encoded mode of Axis selection and Rate

1. 型号：ATWGPX-6BB-3 和 CTWGPX-6BB-3						
2. 轴选输出：-B型(编码输出)						
3. 倍率输出：-B型(编码输出)						
倍率和轴选 编码						
倍率值	线号			轴选	线号		
	1X	10X	100X		X	Y	Z
1X	1	0	0	OFF	0	0	0
10X	1	1	0	X轴	1	0	0
100X	0	1	0	Y轴	1	1	0
				Z轴	0	1	0
				4轴	0	1	1
				5轴	1	1	1
				6轴	1	0	1
备注：1表示线号与COM端连通；为0表示线号与继电器截止；COM端可以接VCC也可以接地；连通电阻20欧姆，电流小于50毫安							

Model: ATWGPX-6BB-3 or CTWGPX-6BB-3						
Axis option output: model B (encoding output)						
Rate coding output: model B (encoding output)						
Rate and axis						
Rate value	label No.			Axis value	label No.		
	1X	10X	100X		X	Y	Z
1X	1	0	0	OFF	0	0	0
10X	1	1	0	X axis	1	0	0
100X	0	1	0	Y axis	1	1	0
				Z axis	0	1	0
				4 axis	0	1	1
				5 axis	1	1	1
				6 axis	1	0	1
Note: 1 denotes labeled line is connected with COM; 0 denotes labeled line is disconnected with relay; COM can be connected VCC or ground; connectivity 20 ohm resistor, less than 50 mA current							

◎ 轴选和倍率编码方式选择

Encoded mode of Axis selection and Rate

西门子系统专用的轴选编码方式；
倍率是非编码，是脉冲输出
The coding method of axis selection for SIEMENS system;
Rate is not coding, it is pulse output.

1. 型号：ATWGP03-6BA-3X 和 CTWGP03-6BA-3X							
2. 轴选输出：-B型（编码输出）							
3. 倍率输出：-A型（非编码输出，而且是脉冲输出）							
倍率和轴选 编码							
倍率值	线号			轴选	线号		
	1X	10X	100X		X	Y	Z
1X	1	0	0	OFF	1	1	0
10X	0	1	0	X轴	0	1	1
100X	0	0	1	Y轴	1	1	1
				Z轴	0	1	0
				4轴	1	0	1
				5轴	0	0	1
				6轴	0	0	0
备注：1表示线号与COM端连通；为0表示线号与继电器截止；COM端可以接VCC也可以接地；连通电阻20欧姆，电流小于50毫安							

Model：ATWGPX-6BA-3X or CTWGPX-6BA-3X							
Axis option output:model B(encoding output)							
Rate coding output:model A(non-coding output)							
Rate and axis							
Rate Value	lable No			Axis Value	lable No		
	1X	10X	100X		X	Y	Z
1X	1	0	0	OFF	1	1	0
10X	0	1	0	X axis	0	1	1
100X	0	0	1	Y axis	1	1	1
				Z axis	0	1	0
				4 axis	1	0	1
				5 axis	0	0	1
				6 axis	0	0	0
Note:1denotes labeled line is connected with COM,0denotes labeled line is disconnected with relay;COM can be connected VCC or ground;connectivity 20 ohm resistor,lessthan 50mA current							

成 都 芯 合 成 科 技 有 限 公 司

Chengdu XinHeCheng Technology Co.,Ltd

http://www.cdxhctech.com