单立柱控制器使用说明书

一，功能简介：

智能单立柱控制器，具备如下特点：

1，可控单路电机输出
2，实时显示运行高度
3，四组位置设置，断电记忆
4，遇阻反弹（可选）
5，无线遥控（可选）

二，系统参数：

1，输入电压：DC29V
2，输入电流：根据负载情况而定，推荐使用1.8A以上适配器
3，电机接口最大输出电压：DC29V
4，电机接口最大输出电流：4A
5，工作温度：0-40℃
6，工作湿度：20%-90%
7，存储温度：-20 -70℃

三，系统连接：

a. 手持控制器
b. 主控器
c. 遥控器
d. 非本系统器件

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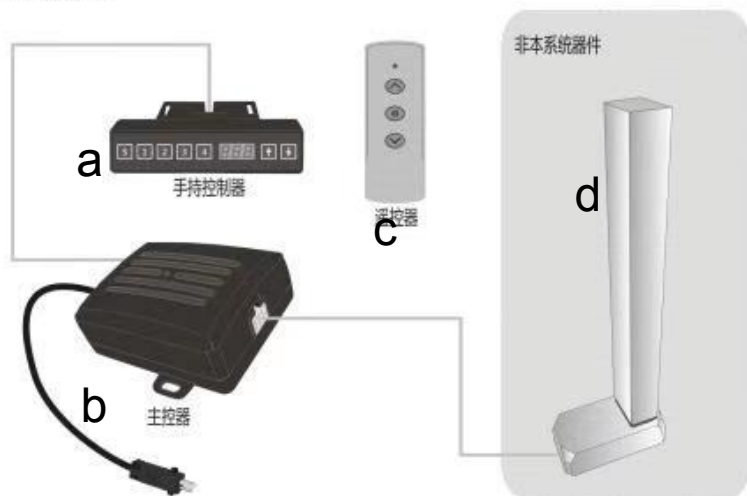
Single column controller instruction manual
I.Function introduction

Intelligent single column controller has the following characteristics:

1.It can control two motors` output to achieve synchronous operation;
2.Showing the operating height every time;
3.Four-phase position setting and outage memoty;
4.It will rebound when meeting resistance.

II.System parameters

1.Input voltage:DC29V;
2.Input current: recommending above 1.8A and according to the load;
3.Maximum output voltage of motor interface:DC29V;
4.Maximum output current of motor interface:4A;
5.Operating temperature:0~40℃
6.Working humidity:20~90%;
7.Storage temperature:20~70℃.

III.System connection

a.*Handheld* controller   b.*Main* controller
c.*tele*controller   d.*Non-part of the system*

四，电机接口插头定义：

电机电源：+(-) 〉0-29VDC
电机电源：-(+)
霍尔开关：2ch
霍尔开关：GND
霍尔开关：1ch 〉5VDC
霍尔开关：Vcc
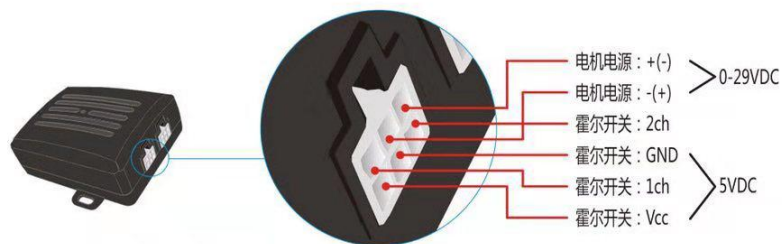
五，故障代码及其处理：

1，故障代码Err1：

手控器显示Er1时为Err1故障，出现该代码时表明M1接口通道（见下图）出现问题，可能的问题有：未正确连接匹配的电机，未正确连接兼容的霍尔信号板，连接线断线等。

问题排除后，长按"下键"三秒以上，即可消除故障显示，整机恢复到复位状态。

IV.Motor interfase plug definition:

Motor power:+(-) ⎤ 0~29VDC
 Motor power:(+)- ⎦
Hall switch:2ch
Hall switch:GND ⎤
Hall switch: 1ch ⎟ 5VDC
Hall switch:Vcc ⎦

V.Fault code and its treatment

1.Fault code Err1

When the manual controller shows Er1,it`s a foult of Err1.It meas there is something wrong with M1 interface channel (see the following picture).For exemple ,motors are not connected in a positive way;Hall sidnal boar is not connected;Paper line,etc.

After the problem is eliminated,presing the"down button" more than 3 secnds to eliminate the fault,and the mathine retuns to the reset state.
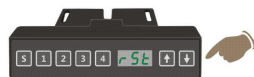
六，系统复位：

1，提示复位：
当手控器显示"RST"时（见下图），需要手动操作对整个系统进行复位。

2，强行复位：
当手控器显示高度处于最小值时（例如复位高度为60CM的系统，见下图），长按"下键"5秒以上。

手控器显示"RST"后松手，之后即可对系统进行复位。

3，复位方法：
当手控器显示"RST"时（见下图）按住"下键"不要松手

立柱开始缩短，复位速度相对缓慢，操作时请留意是否会造成其他损害，如有异常，立即松开"下键"

非本系统整件，用户提供

复位过程中，立柱开始缩短

VI.System reset

1.Prompt reset

When the manual controller shows "RST"(see the following picture),the whole system needs to reset maunally.

2.Line reset

When the manual controller shows the minimum heigh(for example,for a system with a reset height of 60cm,see the following picture),pressing"down button" more than 5 seconds.

When the manual controller shows RST,releasing the hand and starting to reset system.

3.Reset method

When the manual controller shows "RST"(see the following figure),pressing the "down button" and don`t let go.

Column began to shorten.the speed could be slow.Observing other damages during operation,if so,let go.

Column began to shorten,when reseting.

立柱缩至最低点后，稍微停顿，再上升5-10毫米。

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到达最低点后，再次上升一小段距离
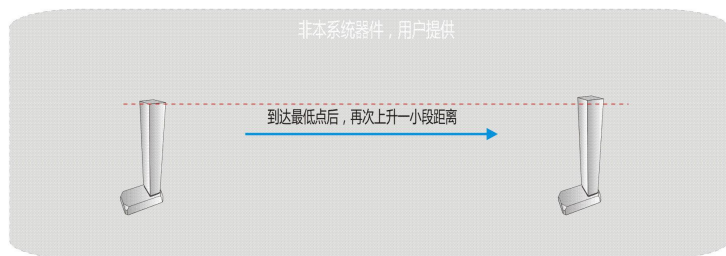
当手控器显示 "RST" 消失后时（见下图）， 方可松手，复位结束 。

七,预置目标高度：

1,预置目标高度数量：
系统提供4组高度预置存储，数据保存10年以上。

2,初始预置目标高度：
4组高度预置数据，手工预置其它参数前，全部为最低高度。

3,预置目标高度数据擦除：
系统不单独设置擦除功能，新的参数设置时，会自动擦除旧的参数。

4,预置目标高度操作方法：
任何高度下（复位状态，错误状态下不能进行本操作），均可将当前高度参数预设至1-4号键中去。

例：将当前高度97设置到2号键中

按 "S" 键，显示 "SET"

The colunm will rise5~10mm after a short time when it reach the lowest point.

After all arrive,rising a small distance.

When the manual controller "RST"disapper(see the following picture),releasing the hand and end at resetting.

VII.Preset the target height

1.The number of presetting target height:

The system provide 4 sets of target height,all of them can be saved more than 10 years.

2.Initial preset target height:

The 4 sets of target height ,all of which are the minimum height before manually preset other parameters.

3.Daleting the date of target height:

The system does not set the erase function separately.Setting the new paremeter of the target height ,the old one will be automatically erased.

4.The way of presetting target height:

At any height(reset state,wrong state unable to perform this operation),can set the paremeter into 1~4 keys.

For example:Set the curren height of 97 to key 2

Press "S" to display "SET"

2秒钟内，在 "SET" 消失前按 "2"

显示 "S-2" 预置结束，回复此前显示

5、使用预置目标高度的方法：
　　任何高度下（复位状态，错误状态下不能进行本操作），均可利用1-4号键，快速到达预置目标高度，
如当前高度已经位于该预置目标高度附近，则不执行任何动作。

八、改变高度操作：

1、立柱伸长
1），手控器操作：利用 "上" 键操作立柱伸长运行，到达行程极限后自动停止，此按键为点动按键，松手后即为
发出停止命令，松开按键后不会立即停止，马上转为减速运行一小段距离后停止。

2），遥控器操作：利用 "上" 键操作立柱伸长运行，到达行程极限后自动停止，此按键为非点动按键，松手后不
发出停止命令，再次按下任意键后发出停止命令，发出停止命令后不会立即停止，马上转为减速运行一小段距离
后停止。

2、立柱缩短
1），手控器操作：利用 "下" 键操作立柱缩短运行，到达行程极限后自动停止，此按键为点动按键，松手后即为
发出停止命令，松开按键后不会立即停止，马上转为减速运行一小段距离后停止。

In 2 seconds,pressing 2 before "SET" disappears
Displaying "S-2"means setting over.
5.The way of using target height:
At any height(reset state,wrong state unable to perform this operation),can quickly reache for the target height by 1~4 keys.
VIII.The way to change height
1.Colunm elongation
1).Operating by *Handheld* controller :Using"up button" to achieve longation operation,stopping when travel limit.Releasing hand is the order to stop but not quickly.It stops after a short distance.
2).Operating by *tele*controller :Using"up button" to achieve longation operation,stopping when travel limit.Releasing hand is not the order to stop,passing any key again will stop,but not quickly.It stops after a short distance.
2.Colunm shortening
1).Operating by *Handheld* controller Using"down button" to achieve shorten operation,stopping when travel limit.Releasing hand is the order to stop but not quickly.It stops after a short distance.

2）.遥控器操作：利用"下"键操作立柱增短运行，到达行程极限后自动停止，此按键为非点动按键，松手后不发出停止命令，再次按下任意键后发出停止命令，发出停止命令后不会立即停止，马上转为减速运行一小段距离后停止。

1.Do not pass the"up button" in 3 seconds repowering
2. Do not release when passing the"up button"
3.The buzzing sound for success of matching is:di~~di~~di~~di~~di~di~di~
4.Releasing after liseaning the right buzzing sound

九，遥控器配对操作：

1，配对窗口期

本系统每次重新上电后3秒钟内为配对窗口期，窗口期结束时会有单次蜂音提示。

2，对码方式

在配对窗口期内，长按遥控器"上"键，等待提供蜂音长间隔提示4次，短间隔提示3次，对码完成，方可松开"上"键，此后控制系统就会识别该遥控器的编码。

操作提示：
1）上电3秒内，是配对窗口期，过时不候
2）按住"上"键，不要松手
3）配对成功的蜂音提示节奏为：滴—滴—滴—滴—滴 滴 滴
4）听到正确蜂音提示后，才可以松手

十，缓升缓降：

所有的模式下的电机启停都采用速度渐变的方式，即缓升缓降，为避免启停时对立柱造成比较大的冲击。

十一，遇阻回退：

除复位状态外，正常工作过程中，机械结构遭遇到负载的突变，将会引起控制器对其进行回退操作，以防止外界造成伤害。

重要提示：复位时，请特别观察桌子下方是否有可能造成伤害的人或物体！

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2).Operating by *tele*controller :Using"down button" to achieve longation operation,stopping when travel limit.Releasing hand is not the order to stop,passing any key again will stop,but not quickly.It stops after a short distance.

IX.T*ele*controller operation

1.Matching window period

Matching window period is repowering after 3 seconds.There will be buzzing sound when the period stop.

2.Right code

In matching window period,passing the "up button"longly and waiting for 4 long and 3 short intervals of buzzing sound,it means righting code is over.

X.Slow rise and fall

In all modes,the motor starts and stops in a new speed change mode,named slow rise and fall,to avoid large impact for desktop when starting and stopping.

XI.Backtracking when encountering obstacles

In addation to the reset state,when working ,the mechanical structure encounter a sudden changes from loading ,which will cause the contrller to carry out a fallback operation to prevent external sound of injury.

P:When resetting,please pay special attention to whether there are people or objects under the table that may cause harm.