

# 电动执行机构

Electric actuator

使用说明书  
Operating instructions



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**外形尺寸与性能参数**

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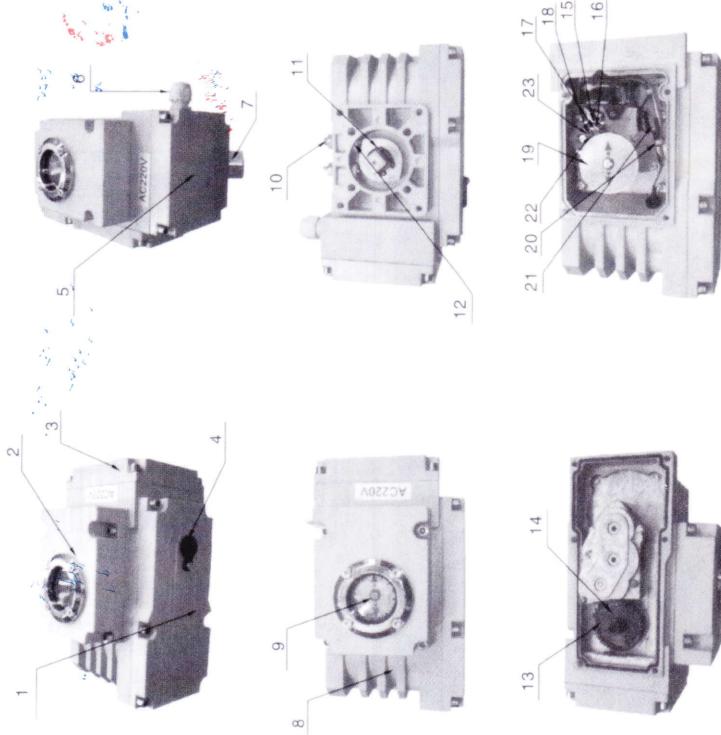
Electric execute device's intellectual controller

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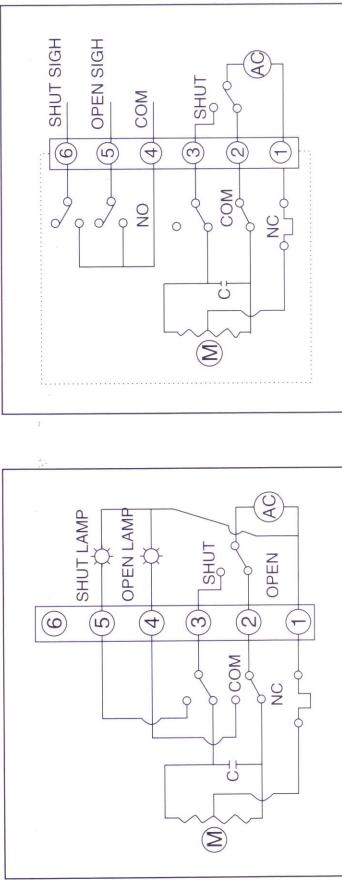
**产品保修卡**

Warranty Card





性能	机型 type	05E	10E	15E	25E
输出力矩 Export torque	50N · M	100N · M	150N · M	250N · M	
90° 动作时间 90° motion time	20S	30S/60S	30S/60S	30S/60S	
回转角度范围 Turn around angle scope	0~90°	0~90°	0~90°	0~90°	
电机功率 Machine power	15W	25W	45W	60W	
整机重量 Machinone weight	2Kg	3Kg	8Kg	8.5Kg	
电源 Power source	AC220V、AC110V、AC380V				
输入信号 Nonconducting resistance	4~20mADC、1~5VDC				
输出信号 Output signal	4~20mADC				
基本误差 Basically error	不超过 ± 0.5% No exceed ± 0.5%				
回差 Lack of	小于0.3% 0.1%~1.6%可调 0.1%~1.6% tunable				
死区 Dying area	0次				
阻尼特性 Damping feature	组织重复性误差 Organization's repeated error	0%			

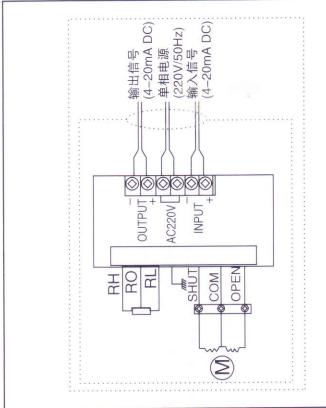


**2 无源触点B型。  
Passive contact type(B)。**

无源触点(B)线路图

Passive contact(B) circuitry chart

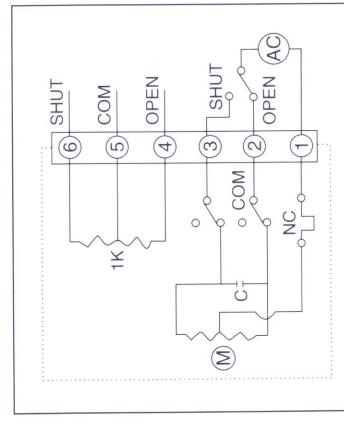
电源：AC220V、AC110V、AC24V  
带中间位置开关功能，通过开关电器实现中间位置限制或接受无源程序开关实现阀门开和关。结构一一带有两个中间位置开关。  
With the on-off function in the middle location through the on-off circuit to restrict the middle location or accept the passive program switch to realize the open and close of the valve. Structure with two middle switches.



**4 智能调节E型  
Integration regulating type**

智能调节型接线示意图  
Connection wiring diagram of intelligent regulating type electric actuator

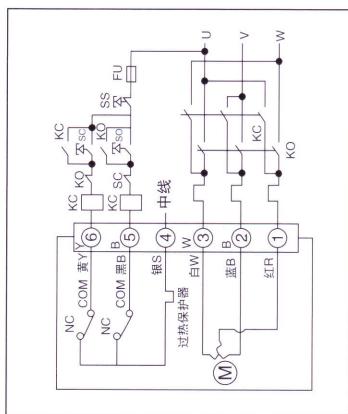
电源：AC220V  
带控制模块(智能型或电子式)功能：调节型作用，输入4~20mA或1~5VDC，输出4~20mA或1~5VDC。  
With control mould (intelligent or electronic) Function: regulating, input 4~20mA or 1~5VDC, output 4~20mA, with control mould and 1KΩ or 5KΩ potentiometer.



**3 开度C型。  
shutter meter signal(C)。**

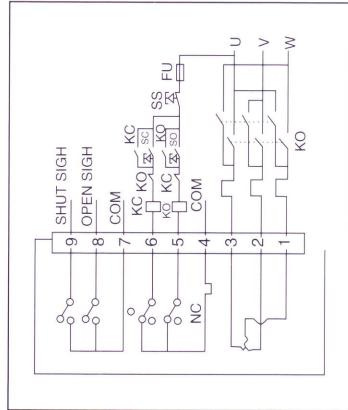
开度信号型(C)线路图  
shutter meter signal(C) circuitry chart

电源：AC220V、AC110V、AC24V  
带电位器—功能：通过开关电器控制阀门开闭角度与电位器阻值对应。结构一#500Ω或1000Ω电位器。  
With potentiometer—function: via the switch circuit to control the open angle of the valve to match the resistance range of the potentiometer.Structure—with 500Ω or 1000Ω potentiometer.



**5** 三相交流开关型A型。  
Three phase AC switch type  
AC380V标准线路图  
AC380V standard circuitry chart

电源：AC380V  
极限位置开关(标准型)功能全开、全闭极限位置开关操作  
Limit location on-off (standard) standard-sized sheet  
ish completely limit location on-off handle.



**6** 三相交流无源触点B型。  
Three phase B passive connect type  
AC380V无源触电型 (B) 线路图  
AC380V passive contact(B) circuitry chart

电源：AC380V  
特征：通过外部电气控制，实现控制电器换相，使阀门电动执行器开启、关闭。同时输出一组无源触电信号。  
Feature: Through external electrical control, realize control electrical switch, make the electric actuator open and close, meanwhile, export a group passive contact signal.

### 1. 常用普通阀门

电动执行机型号 Type	额定输出扭矩N·M Amount exports the torque	中线软密封蝶阀 PN1.6MPa Soft sealed butterfly's valve of centre line	配气室 Related valve
DQF	0.6	≤25	中线软密封蝶阀 PN1.0MPa Soft sealed butterfly's valve of centre line
DQF	0.6	≤250	通风蝶阀 PN < 0.1MPa Ventilate butterfly's valve
DQF	0.6	DN50-80	
DQF	0.6	DN25-40	
DQF	0.6	DN50-65	
DQF	0.6	DN65	
DQF	0.6	DN80-125	
DQF	0.6	DN100-125	
DQF	0.6	DN125-150	
DQF	0.6	DN200-250	
DQF	0.6	DN250-300	
DQF	0.6	DN300-350	
DQF	0.6	DN350-400	
DQF	0.6	DN500-600	
DQF	0.6	DN700-800	
DQF	0.6	DN1000	

注：以上配置仅供参考，具体以阀门生产商提供数据为准。  
Note: The above configuration is for reference, specifically refer to the data provided by the valve manufacturer.

### 2. 其他类型阀门

Other types valve

因阀门种类繁多，即使同种型号同种规格的阀门由于不同厂家生产工艺、质量水平、结构形式、阀体材质等的不同其扭矩指标各不相同，实际使用中，往往因为压力波动，介质类型、现场环境、工作特性等因素致阀门开启扭矩变化很大。因此，为确保电动执行机构工作稳定可靠，必须在选型上留有充分余裕。

Because the valve variety, even if the same models with different specifications of valve manufacturers due process, quality level, structure, body material and other indicators of different torque varies, the actual use, often because of pressure fluctuations, media types, site environmental factors, work characteristics cause their valve to open a large torque variation. Therefore, to ensure stable and reliable electric actuators must allow sufficient margin in the selection. Of series electric actuators agencies, when required by the Company to retain the selection coefficient of not less than 1.3 times.

即：  
电动执行机构额定输出扭矩 ( N · M ) 测试扭矩 ( N · M )  $\geq 1.3$   
即：  
阀门带压 ( PN ) 测试扭矩 ( N · M )

### 3. 选型举例

**7** 直流电机(LDC)型  
DC motor controlling type  
直接线路图  
Direct-current circuitry chart

有一只D73-25P DN65金属硬密封蝶阀，25kgf/cm<sup>2</sup>，压力下测试的扭矩为93N·M，问配何种规格电动执行机构为宜。

There is a D73-25P DN65 metal seal butterfly, 25kgf / cm<sup>2</sup>, under the stress test torque of 93N · M, and asked what kind of specifications with appropriate electric actuators.

解：按保留系数1.3倍考虑，则该台阀门所需的开启扭矩为93N · M  $\times$  1.3=120.9N · M。根据系列产品性能参数表，查得10、20型额定输出扭矩分别为100N · M、200N · M，虽然10型额定输出扭矩大于该阀门的测试扭矩，但因为没有考虑保留系数，故不能选用，应当选用20型。

Solution: Press the retention factor of 1.3 times considered necessary for the station to open the valve torque 93N · M  $\times$  1.3 = 120.9N · M. According to product performance parameters, Richard 10, 20 Rated output torque of 100N · M, 200N · M, although 10 Rated output torque is greater than the station test valve torque, but because there is no consideration of retention factor, it can not choose. It should be the choice of 20 types.

### 1. 安装环境要求

The requirement of installation environment

- 本产品即可以在室内安装，也可在室外安装。

This product can be installed indoors or also be installed outdoors.

- 本产品属非防爆产品，请注意避开易燃、易爆环境。

This product is a non-hazardous product, please pay attention to avoid flammable and explosive environment.

- 在长期有雨水、原料等飞溅物和阳光直射的环境，需要安装保护整个执行机构的防护装备。

In the long term there is rain, raw materials spatter and direct sunlight, you need to install the protection of the entire electric actuator protective equipment.

- 请预留接线、手动操作等维修用空间。

Please allow wiring, manual operation and other maintenance space.

- 周边环境温度 -30°C~+60°C范围内。

Peripheral ambient temperature -30 is~+60°C range.

### 2. 工作介质温度的要求

Requirement for the job medium temperature

- 与阀门配套使用时，工作介质温度传到执行机构上面，执行机构温度会升高。

And supporting the use of the valve, the working medium temperature reached the implementation of the above mechanism, the actuator temperature will rise.

- 工作介质是高温时，与阀门连接的支架起减少热传导的作用。

Working medium is high temperature, with the valve connection bracket from reducing heat conduction effect.

- 工作介质温度60°C以下时请选用标准支架。

Please select the standard support for use when the job medium temperature is under 60 °C.

- 工作介质温度60°C以上时请选用高温支架。

More than 60 °C of job medium temperature please select the high-temperature support for use.

### 3. 现场电线管、电缆线安装要求

The requirement of the electric wire tube, cable install on-the-spot.

#### 用电线管时，请按图（3）安装

When being in charge of electric wire, please install according to the picture(3)

- ① 电线管外径是Φ9-Φ11的电缆。

A cable that the electric wire's external diameter is Φ9-Φ11.

- ② 要充分采取防水对策。

Fully adopt the waterproof countermeasure.

- ③ 执行机构应高于电线管，使电线管内水珠不至流进机构以确保其安全。

The executive body should be higher than the electric wire to manage, the drops of water are unlikely to flow into to hold the organization in order to guarantee its security in making the electric wire in charge of.

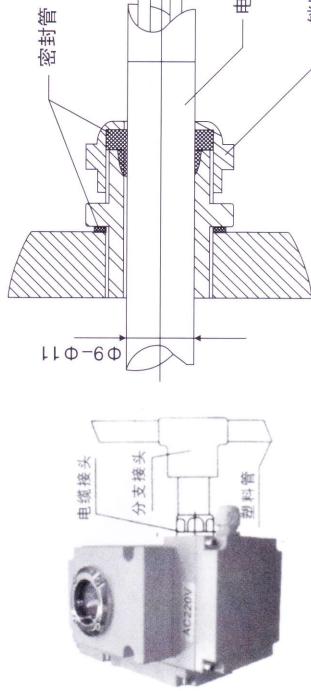


图3

图3

如图(4)一律不准使用与电缆直径不相适应的电缆，否则水可以从线锁进入执行机构内损坏所有内部零件。  
A cable that electric wire's external diameter is Φ9-Φ11.

如图(4)一律不准使用与电缆直径不相适应的电缆，否则水可以从线锁进入执行机构内损坏所有内部零件。  
Forbid use with line lock diameter incompatible cable without exception, otherwise water can lock and enter executive body to damage all internal parts from line.

信号线上要使用屏蔽线，应当与动力线分开配线。  
Signal line should use the shielding line in principle, should separate from line of motive force.

### 4. 电源的要求

Requirement for the power

根据所订购机型使用电源的类型提供相应的现场供电。  
Use the type of the power to offer the corresponding power supply live according to the ordered model.

对于现场的供电电源、电压应符合以下要求：

AC200V ± 10%~50/60Hz

AC110V ± 10%~50/60Hz

AC380V ± 10%~50/60Hz

24V ± 5%

### 5. 断路开关保险丝的选用

Exertion of the switch fuse of the broken circuit

机型	电压	安培	AC220V	AC110V	AC380V	AC24V
	05	2A		3A	1A	5A
	10	3A		5A	2A	7A
	25、50	5A		7A	3A	15A
	100、200	7A		10A	5A	20A

### 电动执行机构与阀体的安装 (图5)

1. 手动转动阀门，检查无异常情况，并使阀门处于全闭位置。

Rotate the valve manually, and make sure have unusual situation to check.

2. 支架固定在阀门上。

Fix the support valve.

3. 将联轴器的一端套在阀门芯轴上。

Suit at the valve core axle one end of shaft coupling.

4. 用手柄驱动执行机构至全闭位置（指针正指SHUT处零开度刻度线处），将输出轴插入联轴器四方孔内。

Urge electronic executive body to close position (indicator mean with handle shut zero turn on one degree of scale marks), insert the output shaft coupling all sides in the hole.

5. 坚固支架与电动执行机构和阀体间的连接螺栓。

Connection bolt among firm support and electronic executive body and body of valve.

6. 用手柄转动执行机构，确认运行平稳、无偏心、无歪斜、检查阀门在执行机构开度计指示范围能否实现全闭和全开。

Rotate the executive body with the handle, partial, does not have and crooked that confirm operating steadily. Not having, check valve turn on degree count, instruct the range will you please realize, close and turn on all in executive body.

注意：用力不可过猛，否则会导致执行机构超程运行而造成损坏。

Attention: It exerts oneself to be can't too quickly, otherwise, it will lead to the fact executive body exceed body Cheng run and cause the damage.

### 特别提示 Special suggestion

对于自备支架、联轴器的用户，请注意：

For the users who providing the support, shaft coupling by oneself, please note:

支架、联轴器应由专业机械技术人员设计加工并应符合（图6）的指标要求。

Support, shaft coupling should be designed by the professional mechanical technical staff to process the requirement of marking that should also accord with(Fig. 6).

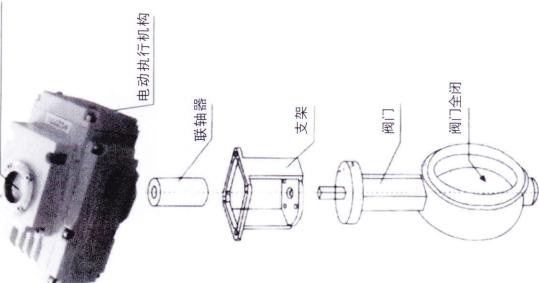
联轴器两端轴孔的加工应保证必要的精度，尽可能消除转动间隙，以免免阀门工作中出现回差。

The processing of the both ends shaft hole of the shaft coupling should guarantee the essential precision, dispel the interval of transmission as much possible, in case that the difference that the appearance goes back in the valve work.

应严格保证联轴器两端孔的位置度，否则有可能超出执行机构设计的工作范围，导致因执行机构行程无法调整而使阀门不能正常工作。

Should guarantee position degree of the both ends shaft hole of the shaft coupling strictly, otherwise probably beyond the scope of job which the executive body designs,lead to the fact that makes the valve unable to work normally because the journey of executive body is unable adjust.

指针正指SHUT处全闭位置



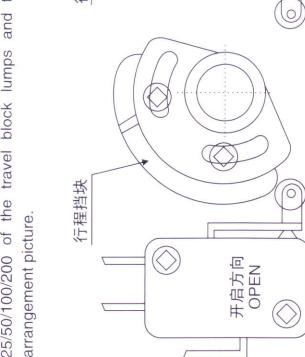
(图5) 电动阀门安装示意图  
(5 Fig) electronic valve install sketch map

### 1. 电位限位的调整 Adjustment of the limited location of electric

松开行程挡块的螺钉，用螺丝刀轻轻行程挡块，即可调整行程挡块的角度，从而改变电气限位的开闭角度。最后，切实紧固好行程挡块的螺钉。5、10、的行程挡块和行程开关布局图。

Unalamp the screw that the journey blocked one, rap the journey and block one with the screw driver, i.e. the adjustable journey blocks the angle of one, thus change the holding and closing the angle of the location of electric limit. Finally, fasten the screw that the good journey blocked one conscientiously.

25/50/100/200行程挡块和行程开关布局图  
25/50/100/200 of the travel block lumps and travel switch overall arrangement picture.



2. 电位器的调整 (开度型、智能型)  
Adjustment turn on one degree of types, intelligent) of the potentiometer

a. 电位器的电阻值为 $1K\Omega$ 、 $5K\Omega$ 。  
The resistance value of the potentiometer is  $1K\Omega$ 、 $5K\Omega$ .

b. 用手柄转动阀门到全闭位置。

Rotate the valve and reach to close the position completely with the handle.  
c. 松开电位器，转动电位器齿轮，使4-5接线端子间的电阻值，使4-5间的电阻值到 $5\Omega$ 以下，紧固电位器固定螺钉。（如果是智能型的七线接插件连接时请测量对RV和RS两插孔的电阻值）

Unclamp the potentiometer, rotate the gear wheel of the potentiometer, measure the resistance value among 4-5 wiring sons of end with the universal meter, enable the resistance 4-5 under  $5\Omega$ , fasten the potentiometer fixed screw.(if please measure the resistance value to RV and RS two jack when being that intelligent line seven connects the plug-in package connection)  
注：手动操作时，不能过分超出全开，全关的极限位置，转角过大，会导致其部件的损坏。  
Note:At the time of manual operation, can't go beyond and is open excessively completely, the terminal position that is closed completely, the corner is too big, will cause its part's damage.

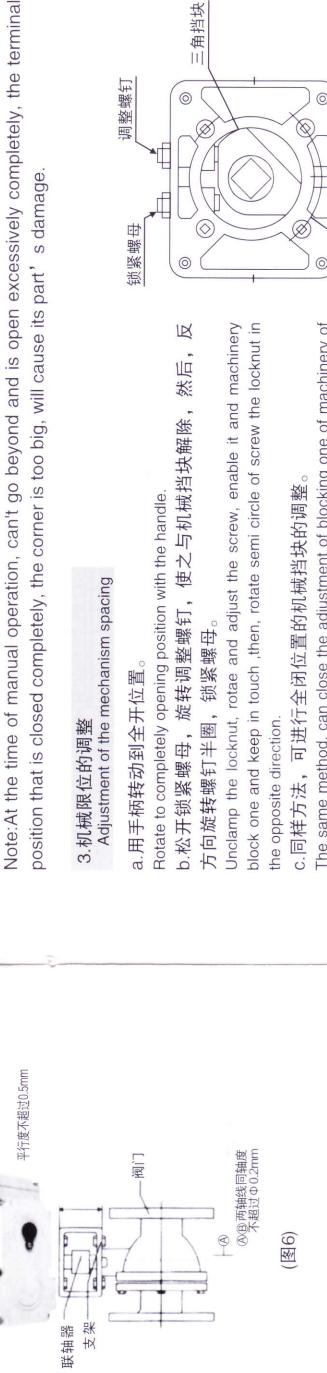
### 3. 机械限位的调整 Adjustment of the mechanism spacing

a. 用手柄转动到全开位置。  
Rotate to completely opening position with the handle.

b. 松开锁紧螺母，旋转调整螺钉，使之与机械挡块解除，然后，反方向旋转螺钉半圈，锁紧螺母。  
Unclamp the locknut, rotate and adjust the screw, enable it and machinery block one and keep in touch, then, rotate semi circle of screw the locknut in the opposite direction.

c. 同样方法，可进行全闭位置的机械挡块的调整。  
The same method can close the adjustment of blocking one of machinery of the position completely.

(图6)



## 一、主要技术指标：

- 1、控制精度：0.1%~3.0%（通过d参数可调）
  - 2、可接电动执行器反馈信号：电位器500Ω~10KΩ
  - 3、可接收外部控制信号（DC）：4~20mA（1~5V、0~10V、开关量出厂前定制）
  - 4、输入阻抗：250Ω；
  - 5、通过修改参数可设定：  
    正动作模式；反动作模式  
    输入信号中断时“中断”模式—OPEN(JF)、STOP(停)、SHUT(闭)
  - 6、可控硅输出（1200V AC, 25A）
  - 7、输出执行器位置信号（DC）：  
    4~20mA（1~5V、0~10V、开关量出厂前定制）  
    低漂移输出4~20mAADC对应执行器全开，输出位置信号与输入信号及电源双重光电隔离；最大带负载能力≤500Ω
  - 8、环境温度：-40~80℃，相对湿度：≤90RH%
  - 9、超保温功能：定位器壳内温度≥80℃（可设置）时，定位器超温报警

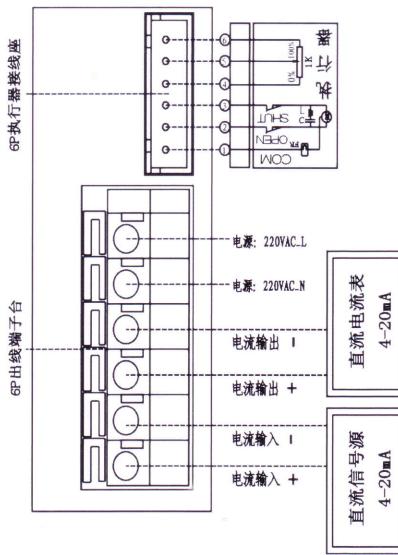
三、标定方法

方法一（手动标注）

- (1) 零位“uL”参数设定  
进入到P参数，按▲或▼，使P参数=3.1，按A/M键确定后，显示闭位“uL”值，通过按▲或▼，执行器相应朝“开”或“闭”方向运作，同时显示的阀位实际开度值也相应逐渐变大或变小，当到达期望零位时（一般设在全闭位置），按A/M键，确认零位闭位“uL”参数值。
  - (2) 满位“uH”参数设定。  
接着进入开位“uH”参数设定。同理按▲或▼到期望满位（一般设在全开位置），按A/M键，确认满位“uH”参数，再次按A/M键，使P参数=5.0，定位器自动退出参数设置状态，并保存设置的参数值，返回自动测控状态。

### 二、标定接线及操作方法：

- 1、电流输入和电流输出标定接线：  
如需要对定位器的电流输入和电流输出进行标定，则按下面的接线图连接好给定信号源、定位器、电动执行器、输出信号测量仪表及电源之间的连线；
  - 2、参见下图进行接线。按照接线端子和仪表外壳上的接线图，连接好电动执行器和电源连线，注意连接时的极性。



四、输入、输出操作指工程师在工厂后端通过串行通信完成对生产现场的控制和数据采集。

1 始入由法的标志

- (1) 在定位器的正常测控状态下, 按下 $\wedge/\text{M}$ 键约2秒钟, 将进入参数设定, 选择“P”参数状态。按 $\blacktriangle$ 或 $\blacktriangledown$ 键可以修改“P”参数的数值, 使之为“11.1”, 按 $\text{A}/\text{M}$ 键。(数值含义参见参数一览表)

(2) 首先标定“I<sub>L</sub>”参数(校准输入电流零位点): 标定时, 输入零点信号4mA, 待稳定后, 按 $\text{A}/\text{M}$ 键确认, 然后进入“II”参数。

(3) “I<sub>H</sub>”参数为(校准输入电流满位点): 标定时, 输入满量程信号20mA, 待稳定后, 按 $\text{A}/\text{M}$ 键确认。

(以上操作确保输入信号的洁净和稳定)

## 2、输出电流的标定：

- (1) 修改“P”参数为“1.1”，按A/M键；进入电流输出标定，进入“OL”参数；按▲或▼键可以修改“OL”的数值，使输出电流=4mA，按A/M键确认，然后进入“OH”参数。

(2) 标定“OH”参数（满量程输出电流值）：

按▲或▼键可以修改“OL”的数值，使输出电流=20mA，按A/M键确认。然后进入机内报警温度“t”参数设置。

(3) 进入“t”参数（壳内报警温度）：

按▲或▼键可以修改“t”的数值，一般设置“t”=70—80度，按A/H键确认后，退回“P”参数。

## 3、退出方式：

- (1) 标定完毕需要按▲或▼键修改“P”的数值=5.0，按A/M键确认，定位器自动退出设置状态，并保存设置的参数。
- (2) 上述设置过程中，无按键等待时间不要超过30秒，否则，定位器自动退出，本次设置的参数不保存。

## 五、错误代码及解决方案

序号	错误代码	含义	解决方案
1	ERR	电机未接或接反、上下行同时接线	检查电机是否接线正确
2	ERR0	定位器缺相	380AVC，三相控制缺项
3	ERR 1		厂家保留
4	ERR 2	机内超温报警	设备或机内温度过高，采取降温措施。
5	ERR3	开向运行电机堵转	检查阀门或执行器机械部分
6	ERR4	闭向运行电机堵转	检查阀门或执行器机械部分
7	ERR5	电机驱动过载	厂家保留
8	ERR6	给定电流过小	< “iL” 值，增大给定信号到4mA
9	ERR7	给定电流过大	> “iH” 值，减小给定信号到20mA
10	ERR8	阀位小于下限	检查cL值至0.00
11	ERR9	阀位大于上限	检查cH值至10.00

序号	名称	参数	显示值	含义
1	进入设置界面			进入参数设置界面，需按A/M键第2秒以上
2	电子制动手	Eb	Eb=1	Eb=1 先升，按▲或▼键选择，按A/M键确认，进入Ac参数
3	作用方式	Ac	Ac=0	Ac=0 正作用，输入电流从输出4mA到20mA，阀门开度从小到大，按▲或▼键选择，按A/M键确认，进入I参数
4	中继信号模式	I	I=2	I=2 不动作(保持阀门当前角度)，按▲或▼键选择，按A/M键确认，进入CL参数
5	阀门关闭下限	CL	CL=0	I=3 闭动作(直到阀门全闭)，按▲或▼键选择，按A/M键确认，进入CL参数
6	阀门开启上限	CH	CH=100	限制阀门开启的下限最小值(百分比值)，按▲或▼键选择，按A/M键确认，进入CH参数
7	定位精度	d	d=0.4	d=0.1~3.0 按▲或▼键修改(百分比值)，按A/M键确认，进入D参数
8	手动阀门锁定	P	P=3.1	P=3.1 已圈圈可以自锁阀门开度，一般设在全开位置，按▲或▼方向操作，同向操作，阀门实开度值也相应逐渐变大或变小，当到达后期锁定位置(如开关或▲或▼键直接到P=3.1，按A/M键确认，进入IL参数)。(注意：要先标记阀门小角度，后标记大开度)
9	退出设置状态	P	P=5.0	P=5.0 退出▲或▼键达到近期的满意值。按A/M键确认，返回P=5.0
10	恢复缺省参数	P	P=20.1	P=20.1 按A/M键确认，保存设置参数，退出设置状态，回到设置前的操作状态
11	输入电源插座	P	P=11.1	P=11.1 保证最小输入电流IL，调节外部给定电流强度为4mA，待数码显示区数值稳定后，按A/M键确认，进入IH参数
12	输出电源插座	P	P=1.1	P=1.1 保证最大输出电流OL，按▲或▼键修改，待外部测试电流表读数为20mA，按A/M键确认，进入OH参数

1. 维护与保养  
Maintenance

① 由于使用了寿命长、耐压性好的高级钼基润滑油，所以无需点检及加油。

Because of using advance molybdenum base lubricating grease which having long performance lift and have good resist pressure, so does not need to hand over item but refuel.

② 在阀门动作很稀少时，请定期驱动执行机构，检查有无异常。

When the movements of the valve are very rare, please drive the executive body regularly, to check it whether have the unusual or not.

2. 故障与对策  
Trouble and countermeasure

故障现象 Trouble phenomenon	原因 Reason	对策 Countermeasure
没有接上电源 Have not connected the power	接好电源 Connect to power	购买日期 Purchase date
断线、接头与端子脱离 Break, connect is independent from terminal	修理断线, 正确连接紧固端子 Repair the breakline the correct connection fastens the terminals	维修项目 Repair project
用户地址 User address	用户姓名 User name	用户地址 User address
电源电压不对或电压过低 The power is queer in voltage or the voltage is too low	检查电压是否正常 Check the voltage whether is normal	出厂编号 Serial number
过热保护器运作（环境是否过高，阀门是否卡死） Overheated protecting device operation(whether ambient temperature is too high,whether the valve is seized)	减低环境温度, 用手动的方法 Lower ambient temperature, check the opening and closing of valve is normal by manual means	维修日期 Repair date
电机不启动 The electrical machinery is not started	与生产厂家联系更换电容 Change manufacturer to change the electric capacity	维修人员签名 Repair personnel signature
极限开关的动作不良 The movements of the terminal switch are bad	更换开关 Change the switch	销售单位名称 Sales unit name
启动运动电容不良 It is bad to start the electric capacity of sport	与生产厂家联系更换电容 Change manufacturer to change the electric capacity	保修须知 Warranty information
灯泡坏 The bulb is out of order	更换灯泡 Change the bulb	1. 用户购买时, 随机带有一本说明书及保修卡。用户填好后妥善保管, 以作保修凭证。 2. 自购机之日起, 一年之内正常使用下出现质量问题, 持证用户享受免费维修服务。 3. 以下不属于保修范围: A.保修卡无销售单位签章或盖章; B.人为或不可抗拒因素造成损坏; C.仪表示正常磨损。 4. 如因为、超过保修期及不可抗拒因素造成的故障, 我们将收取适当的零件费用, 免收人工费。 5. 产品出现故障时, 请向当地代理商或我厂要求保修, 请写明具体地址、姓名、电话及故障现象。
极限开关动作不良 Terminal switch movements are bad	更换开关 Change the switch	1 users to buy, with a random manual and warranty card. Users fill in the proper custody, in order to make the warranty certificate. 2 from the date of purchase, within a year under normal use of quality problems, the users enjoy free maintenance service. 3 the following does not belong to the scope of the warranty: A. warranty card no sales unit signature or seal; B. artificial or irresistible factor causing damage; C. meter normal wear. 4. As a result of man-made, more than the warranty period and irresistible factors caused by fault, we will charge the appropriate spare parts cost, free labor costs. 5. product failure, please ask the local agent or factory for the maintenance, please specify the specific address, name, telephone and fault phenomenon.
挡块的调整不良 The bad adjustment of the block	再调整 Change again	
极限开关动作不良 Terminal switch movements are bad	更换开关 Change the switch	
DC24V、AC380V主电源相序接反 DC24V、AC380V main power source phase list connect inside out	调整相序 Adjust the phase list	
限位开关接入控制回路接线错误 The wiring wrong of limit switch connect to the control circuit	调整连线 Adjust the wiring	