



D941X 电动软密封 法兰蝶阀

产 品 说 明 书



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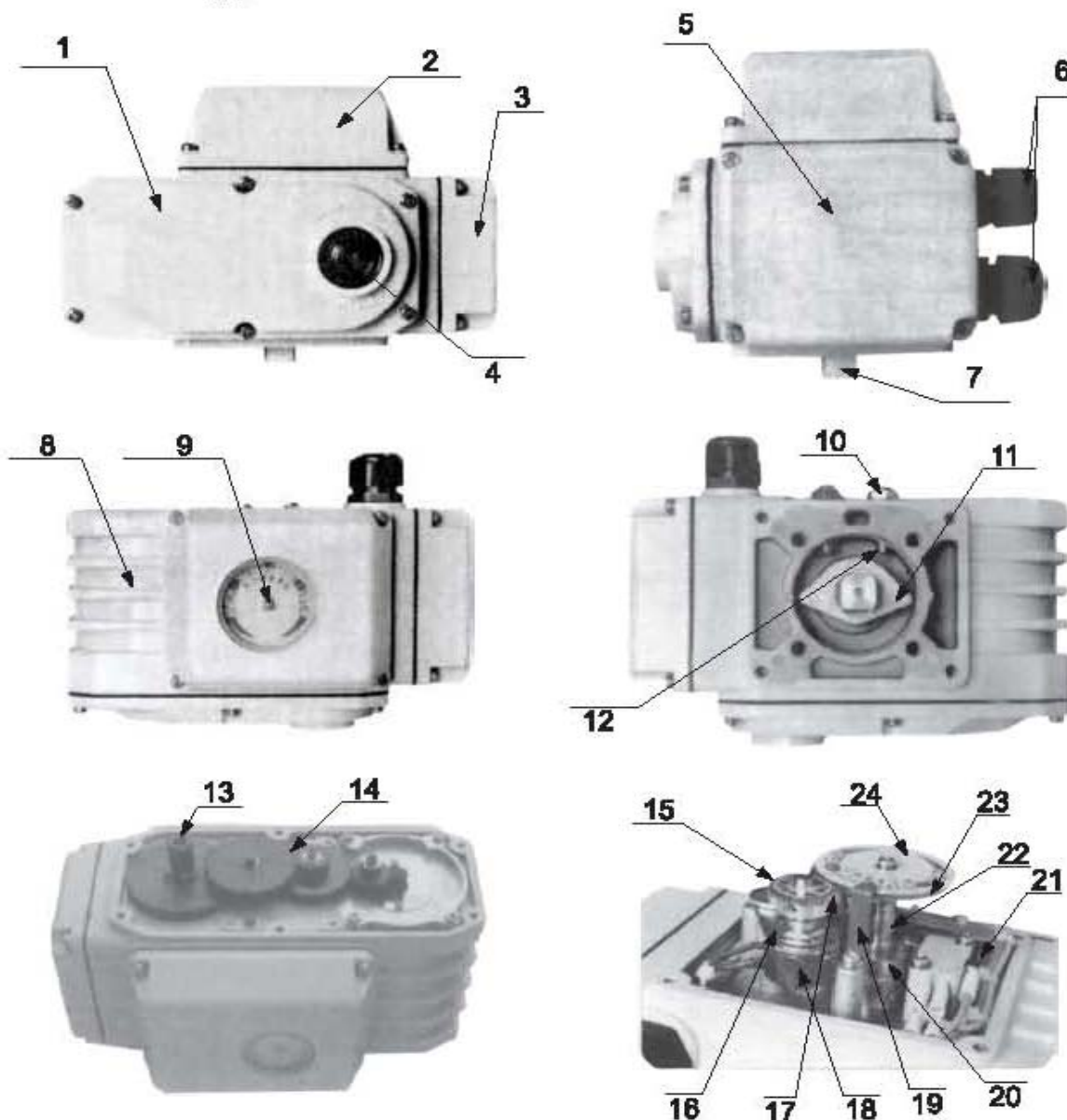
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产品各部名称

The name of every parts



1	驱动盖 Drive cover	2	电装盖 Denso covers	3	制御盖 Make and resist covering	4	手动操作口 Manual handle hole
5	铭牌 Chromium card	6	进出线线锁 In and out line wire lock	7	输出轴 Output shaft	8	箱体 Case
9	开度计 Degree gauge	10	锁紧螺母 Locknut	11	机械限位挡块 Mechanical limited location block	12	调整螺钉 Adjust screw
13	蜗杆轴 Worm shaft	14	减速齿轮组 Backgeared gear wheel group	15	电位器齿轮 Potentiometer gear	16	电位器安装板 Potentiometer mount plate
17	拉簧 extension spring	18	电位器 Potentiometer	19	指针 Needle	20	行程挡块 travel block
21	微动开关 sensitive switch	22	辅助轴电位器 Potentiometer of the auxiliary axle	23	开度齿轮 Turn on one degree of gear	24	标度板 Graduation board

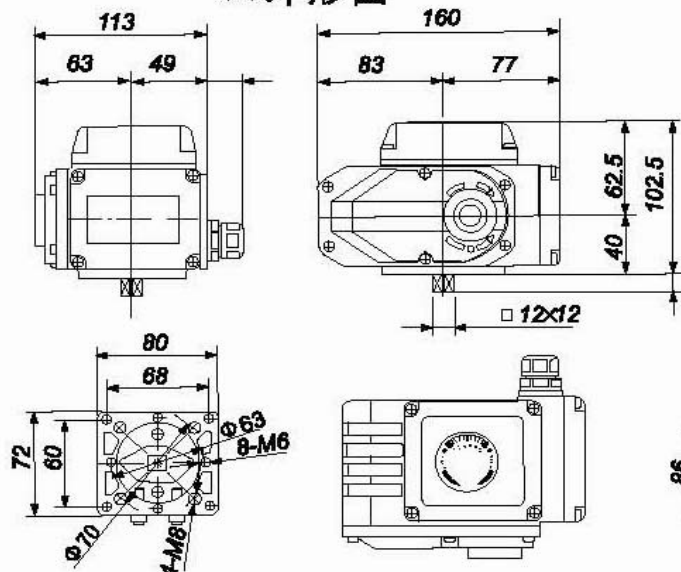
S(SHUT)箭头方向(顺时针)代表关闭
The direction of arrow S(SHUT) point (clockwise) show close

O(OPEN)箭头方向(逆时针)代表开启
The direction of arrow O(OPEN) point (anticlockwise) show open

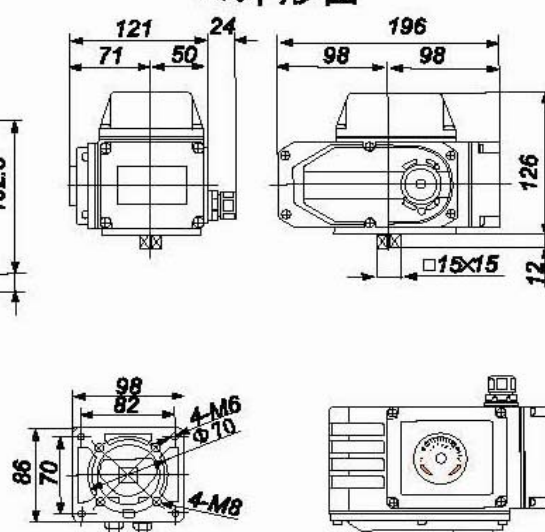
外形尺寸与性能参数

Dimensional and parameter

05外形图



10外形图

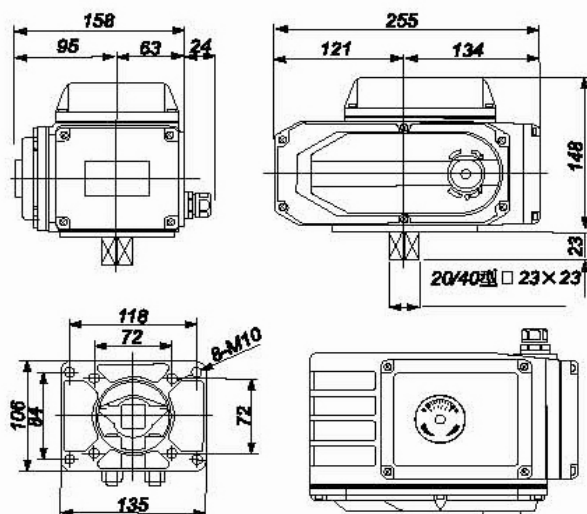


性能 performance	机型 type	02	03	05	10
输出转矩 export torque		20Nm	30Nm	50Nm	100Nm
90° 动作时间 90° motion time		4S	10S	20S/60S	30S/60S
回转角度范围 turn around angle scope		0 - 360°	0 - 360°	0 - 360°	0 - 360°
电机功率 machine power		10W	10W	15W	25W
整机重量 machine weight		2kg	2kg	2kg	3kg
电源 power source		AC110V、AC220V、AC380V、DC24V			
绝缘电阻 nonconducting resistance		100M/500VDC			
耐压等级 resist pressure rank		1500VAC 1分钟 1 min			
防护等级 protection rank		ZP65、67			
安装方位 install position		360° 任意角度安装 360° arbitrary angle install			
电气接口 electric interface		G1/2防水电缆接头、电源线、信号线各一个 G1/2 Waterproof cable fitting、power line signal line each one.			
环境温度 environmental temperature		-30℃~+60℃			
控制电路 选 项 The control circuit selects		A型: 极限位置开关 (标准型) S型: 带电位器 R型: 带电位器 A type: Terminal position switch (standard type) S type: Take the potentiometer R type: Take the potentiometer Rs型: 带电位器和中间位置开关 P型: 带伺服控制器 (调节型) F型: 带R/I变换器 RS type: Take the potentiometer and middle position switch P type: Take the servo controller (regulating type) F type: Take the R/I converter			
任选功能 Optional function		◆除湿加热器◆不锈钢支架、联轴器 ◆Dehumidification heater ◆Stainless steel support, shaft coupling			

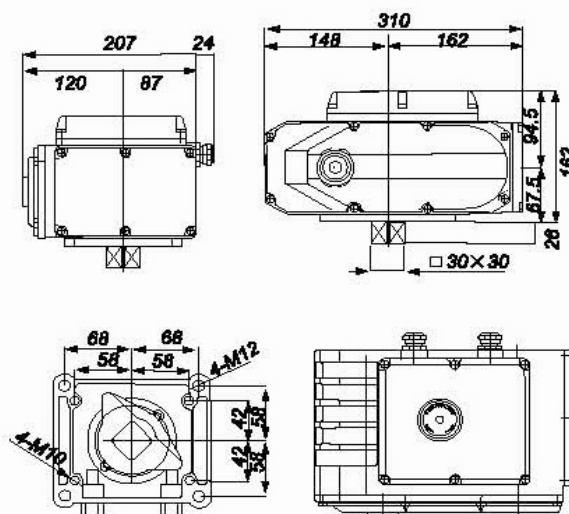
外形尺寸与性能参数

Dimensional and parameter

20、40、60外形图



100、200外形图



性能 performance	机型 type	-20	-40	-60	-100	-200
输出力矩 export torque		200Nm	300Nm	600Nm	1000Nm	2000Nm
90° 动作时间 90° motion time		30S/60S	30S/60S	45S	50S	100S
回转角度范围 turn around angle scope		0 - 90°	0 - 90°	0 - 90°	0 - 90°	0 - 90°
电机功率 machine power		45W	60W	90W	120W	120W
整机重量 machine weight		8kg	8.5kg	9.0kg	17kg	18kg
电源 power source		AC110V、AC220V、AC380V、DC24V				
绝缘电阻 nonconducting resistance		100M/500VDC				
耐压等级 resist pressure rank		1500VAC 1分钟 1 min				
防护等级 protection rank		Ip65、67				
安装方位 install position		360° 任意角度安装 360° arbitrary angle install				
电气接口 electric interface		G1/2防水电缆接头、电源线、信号线各一个 G1/2 Waterproof cable fitting, power line signal line each one.				
环境温度 environmental temperature		-30℃~+60℃				
控制电路 选项 The control circuit selects		A型: 极限位置开关 (标准型) S型: 带电位器 R型: 带电位器 A type: Terminal position switch (standard type) S type: Take the potentiometer R type: Take the potentiometer Rs型: 带电位器和中间位置开关 P型: 带伺服控制器 (调节型) F型: 带R/I变换器 RS type: Take the potentiometer and middle position switch P type: Take the servo controller (regulating type) F type: Take the R/I converter				
任选功能 Optional function		◆除湿加热器 ◆不锈钢支架、联轴器 ◆Dehumidification heater ◆Stainless steel support, shaft coupling				

调节型(P型)整机性能指标

Regulating type (E type) complete machine performance index

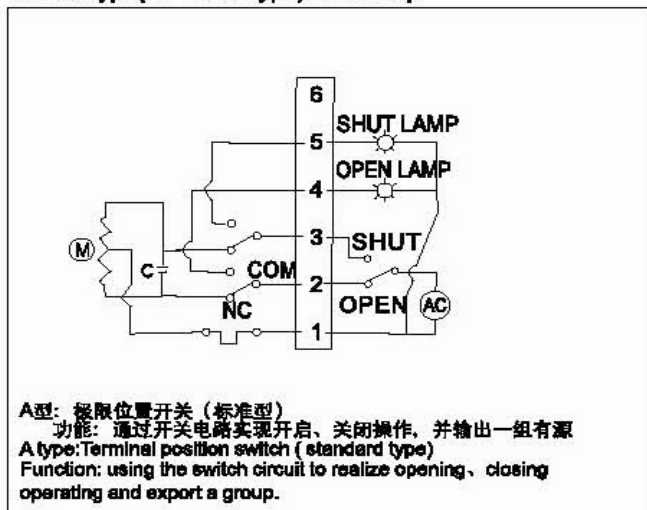
性能 performance	机型 Type	05P	10P	20P	40P
输出力矩 export torque		50Nm	100Nm	200Nm	400Nm
90° 动作时间 90° motion time		20S	30S/60S	30S/60S	30S/60S
回转角度范围 turn around angle scope		0 - 90°	0 - 90°	0 - 90°	0 - 90°
电机功率 machine power		15W	25W	45W	60W
整机重量 machine weight		2kg	3kg	8kg	8.5kg
电 源 power source		AC220V、AC110V、AC380V			
输入信号 monconducting resistance		4 - 20mADC、1 - 5VDC			
输出信号 output signal		4 - 20mADC			
基本误差 basically erro		不超过 ±0.5% no exceed ±0.5%			
回 差 Lack of		小于0.3%			
死 区 Dying area		0.1%~1.6%可调 0.1%~1.6% tunable			
阻尼特性 damping feature		0次			
机构重复性误差 Organization's repeated error		0%			

性能 performance	机型 Type	60P	100P	200P
输出力矩 export torque		600Nm	1000Nm	2000Nm
90° 动作时间 90° motion time		45S	50S	100S
回转角度范围 turn around angle scope		0 - 90°	0 - 90°	0 - 90°
电机功率 machine power		90W	120W	120W
整机重量 machine weight		9.0kg	17kg	18kg
电 源 power source		AC220V、AC110V、AC380V		
输入信号 monconducting resistance		4 - 20mADC、1 - 5VDC		
输出信号 output signal		4 - 20mADC		
基本误差 basically erro		不超过 ±0.5% no exceed ±0.5%		
回 差 Lack of		小于0.3%		
死 区 Dying area		0.1%~1.6%可调 0.1%~1.6% tunable		
阻尼特性 damping feature		0次		
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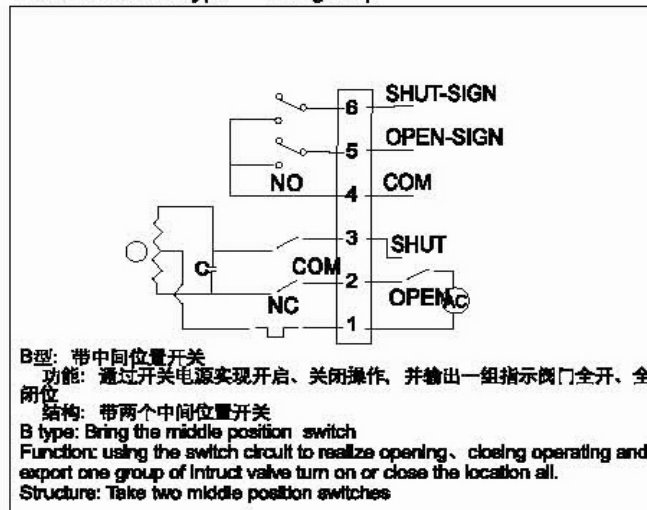
接线图

Wiring diagram

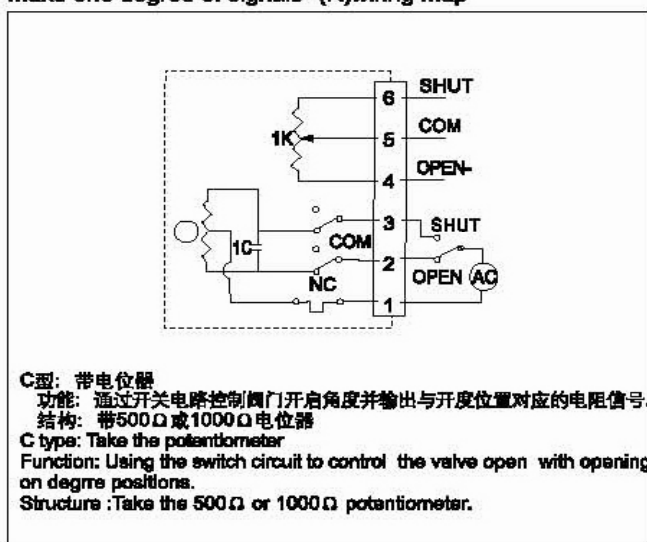
(1) 开关型 (标准型) 线路图
switch type (standard type) route map



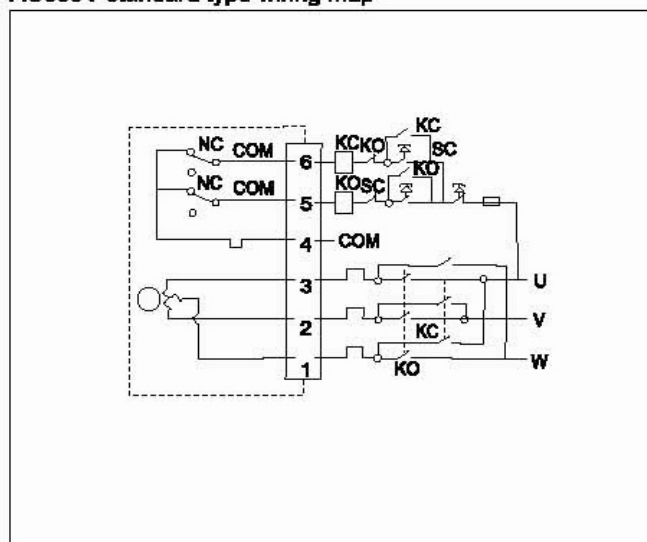
(2) 无源触点型 (S) 线路图
Passive contact type wiring map



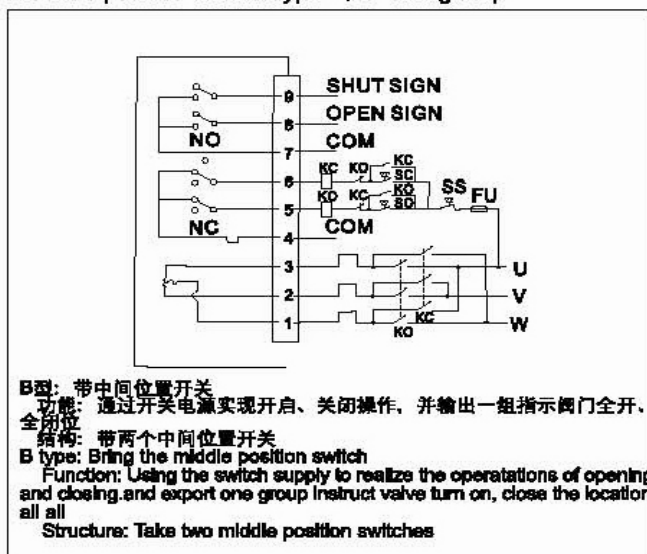
(3) 开度信号 (R) 线路图
Make one degree of signals (R) wiring map



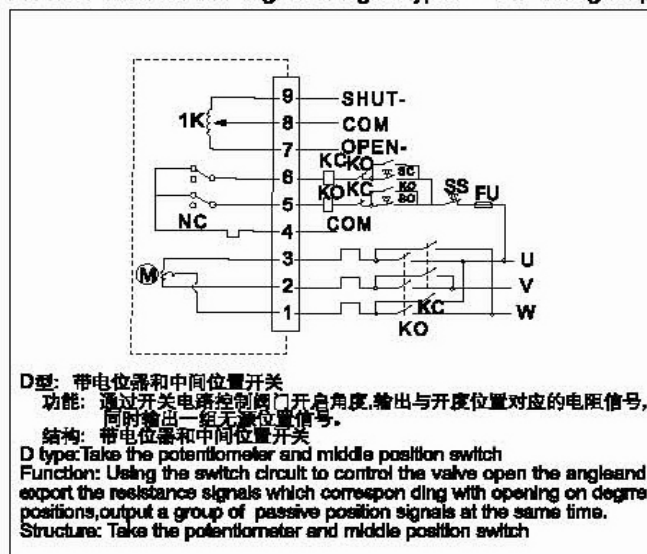
(4) AC380V标准型线路图
AC380V standard type wiring map



(5) AC380V无源触点型 (S) 线路图
AC380V passive contact type (S) wiring map



(6) AC380V开度信号型 (R) 线路图
AC380V turns on one degree of signal types (R) wiring map

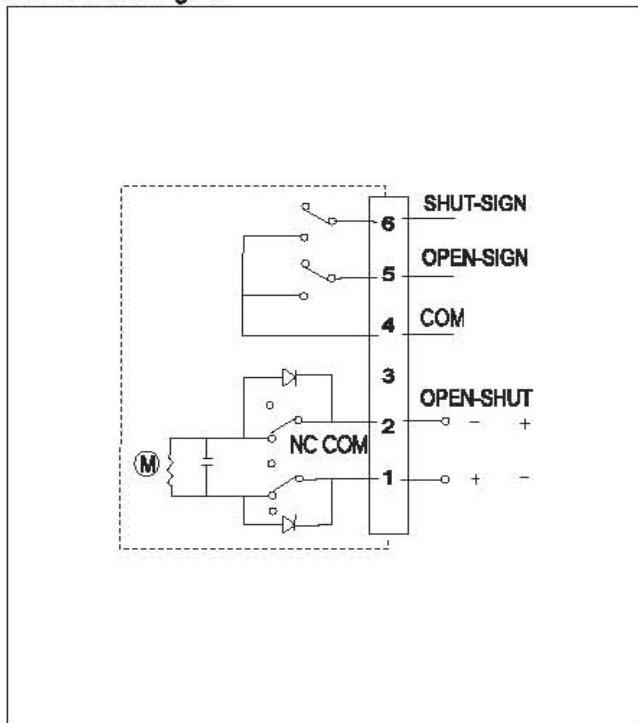


接线图

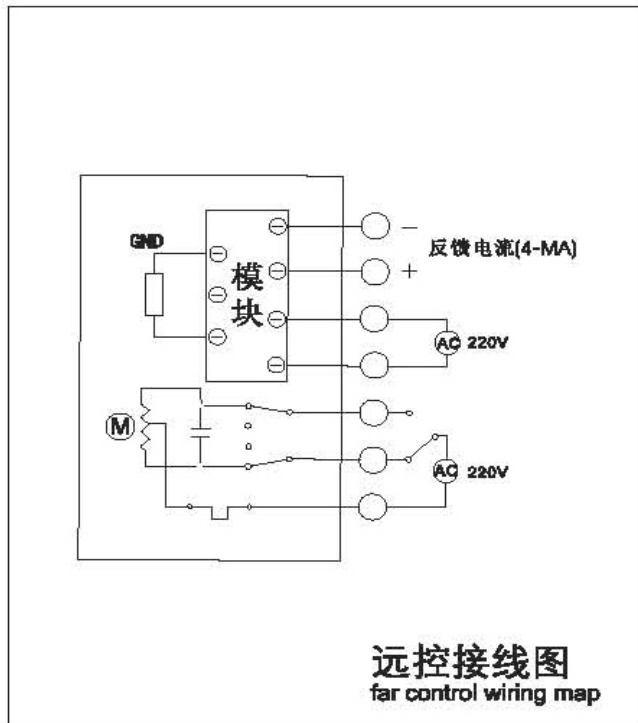
Wiring diagram

(7) 直流电路图

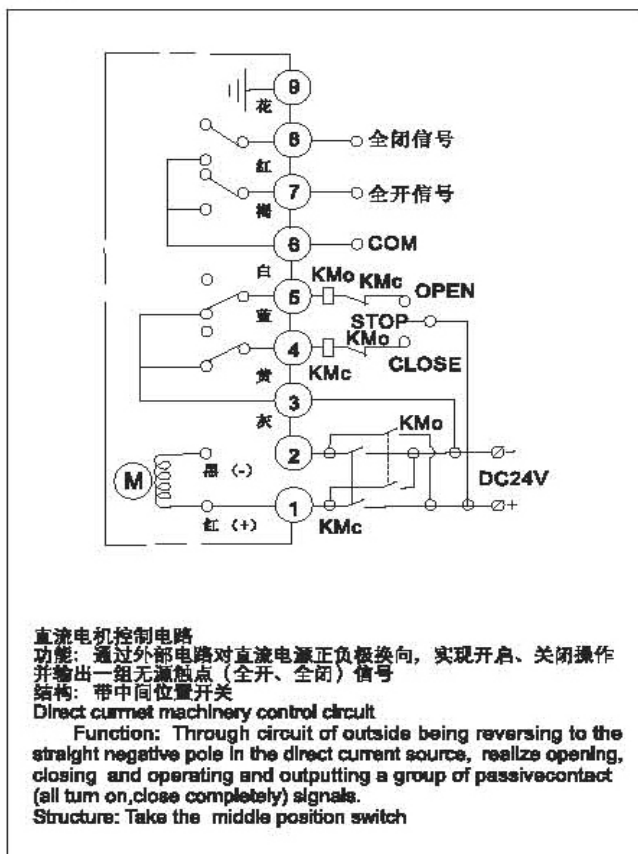
direct circuit diagram



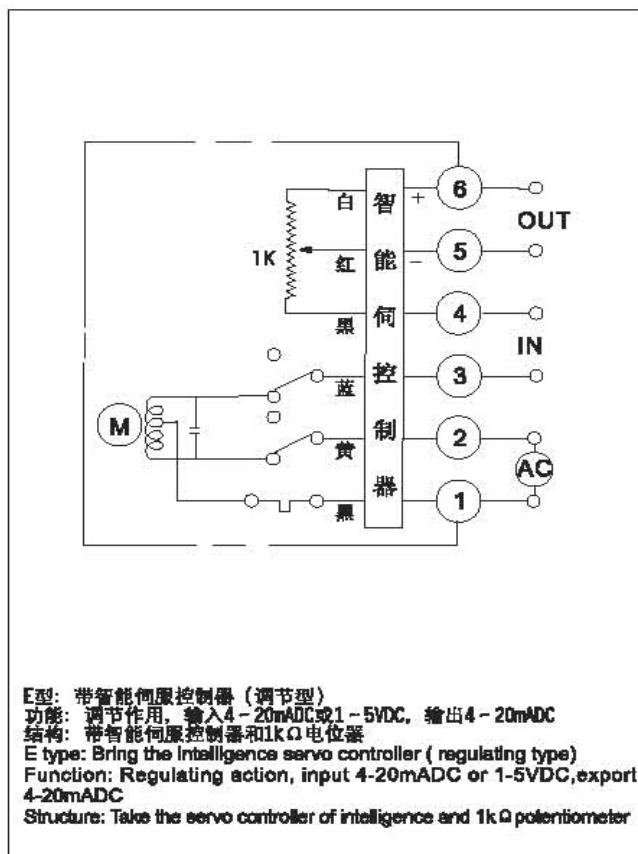
(8)



(9)



(10)



电机执行机构的应用选型

Application selecting type of the electrical machine institution

1.常用普通阀门

Daily ordinary valve

电动执行机构型号 Type	额定输出 扭矩Nm Amount exports the torsion	配套阀门 Related valve		
		软密封球阀PN1.6MPa Soft sealed ball valve	中线软密封蝶阀PN1.0MPa Soft sealed butterfly's valve of centre line	通风蝶阀PN<0.1MPa Ventilate butterfly's valve
02	20	DN15-20	DN32-40	
03	30			
05	50	DN25-40	DN50-65	DN50-80
10	100	DN50-65	DN80-100	DN100-200
20	200	DN80-100	DN125-150	DN250-300
40	400	DN125	DN200	DN350-DN450
60	600	DN150	DN250	DN500-600
100	1000	DN200	DN300	DN700-800
160	1600	DN250	DN350	DN900
200	2000	DN300	DN400-450	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 is disposed and is only for reference, it is subject to that the valve manufacturer offers the data to be concrete

2.其它类型阀门

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有不同，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。对系列电动执行机构，本公司要求选型时保留系数不低于1.3倍。

Because of valve being various in style, the same kind of type the same kind of valve because different producer production technology, quality level, structural form of specification, valve body material, etc. different their torsion index have nothing in common with each other, while using actually, often because such factors as the pressure fluctuates, medium type, on-the-spot environment, performance characteristics cause the valve to open the torsion to change greatly. So, in order to guarantee it is reliable that the electronic executive body works steadily, must leave me abundantly on the selecting type abundantly. To serial electronic executive bodies, our company demands to keep coefficient and is at least 1.3 times at the time of the selecting type.

电动执行机构额定输出扭矩 (Nm)

即：_____ > 1.3

阀门带压 (PN) 测试扭矩 (Nm)

3.选型举例

The selecting type example

有一只D73-25P DN65金属硬密封蝶阀，25kgf/cm²压力下测试的扭矩为93Nm，问配何种规格电动执行机构为宜？

There is a D73-25P DN65 metal hard sealed butterfly's valve, 25kgf/cm². The torsion tested under the pressure is 93Nm, ask which kind of electronic executive body of specification is mixed?

解：按保留系数1.3倍考虑，则该台阀门所需的开启扭矩为：93Nm × 1.3 = 120.9Nm。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100Nm、200Nm，虽然10型额定输出扭矩大于该台阀门的测试扭矩，但因为没考虑保留系数，故不能选用，应当选用20型。

Solve: According to keep coefficient 1.3 consideration, whom the valve need open torsion: 93Nm * 1.3 = 120.9Nm According to the serial parameter forms of properties of product, check so that is 100Nm, 200Nm respectively that 10, 20 type amount export the torsion, though 10 type amount outputs the test torsion that the torsion is greater than this valve, because has not considered keeping coefficient, so can't select for use, should be elected using 20 typely.

使用要求

Instructions for use

1、安装环境要求

The requirement of installation environment

- 本产品既可在室内安装，也可在室外安装。

This product can be installed indoors, can also install outdoors.

- 本产品属非防爆产品，请注意避开易燃、易爆环境。

This product belongs to the non- anti-blast products, please pay attention to avoiding the flammable, explosive environment

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

In the environment where have the rainwater, raw materials such splash thing and that shoot directly of sunshine for a long time need to install the protective equipment for protecting whole Electric execute institution.

- 请预留接线、手动操作等维修用空间。

Please reserve wiring, manual operation, etc. and maintain and use the space.

- 周边环境温度-30℃ - +60℃范围内。

Peripheral ambient temperature -30 is - in +60 ℃ 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。

While using with the valve together, the job medium temperature is passed to the executive body, the temperature of executive body 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。

When the job medium is at a high temperature, the support connected with valve plays a role in reducing the heat -conduction.

- 工作介质温度60℃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 ℃.

- 工作介质温度60℃以上时请选用高温支架。

More than 60 ℃ 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 .

用电缆管时，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 Φ 9 - Φ 11 .

- 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执机构以确保其安全。

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.

使用要求

Instructions for use

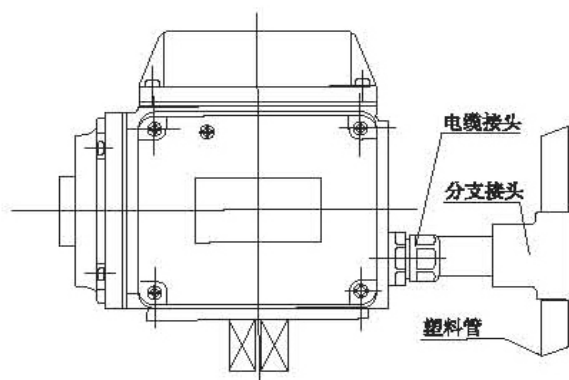


图3

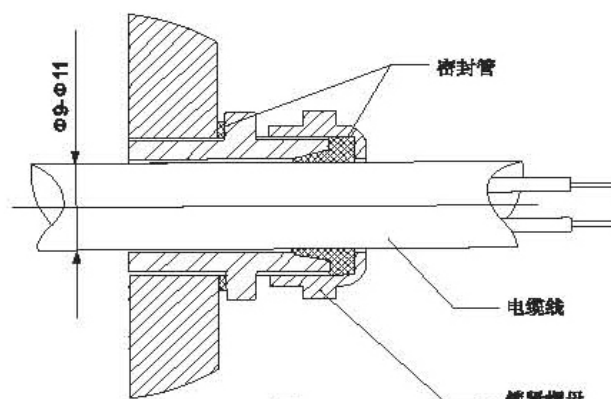


图4

用电缆时，其外径是 $\Phi 9 - \Phi 11$ 的电缆。

A cable that the electric wire's external diameter is $\Phi 9 - \Phi 11$.

如图（4）一律不准使用与线锁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

信号线原则上要使用屏蔽线，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 $\pm 10\%$ 50/60Hz

AC110V $\pm 10\%$ 50/60Hz

AC380V $\pm 10\%$ 50/60Hz

24V $\pm 5\%$

5、断路器保险丝的选用：

Exertion of the switch fuse of the broken circuit

机 型	安 培		AC220V	AC110V	AC380V	DC24V
	电 压					
05			2A	3A	1A	5A
10			3A	5A	2A	7A
20、40、60			5A	7A	3A	15A
100、200			7A	10A	5A	20A

电动执行机构与阀体的安装

Installation of electronic executive body and body of valve

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 and make the valve in a completely closing position.

2. 将支架固定在阀门上。

Fix the support on 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. 用手柄驱动电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) all, insert the output shaft the 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 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 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) 的标注要求。

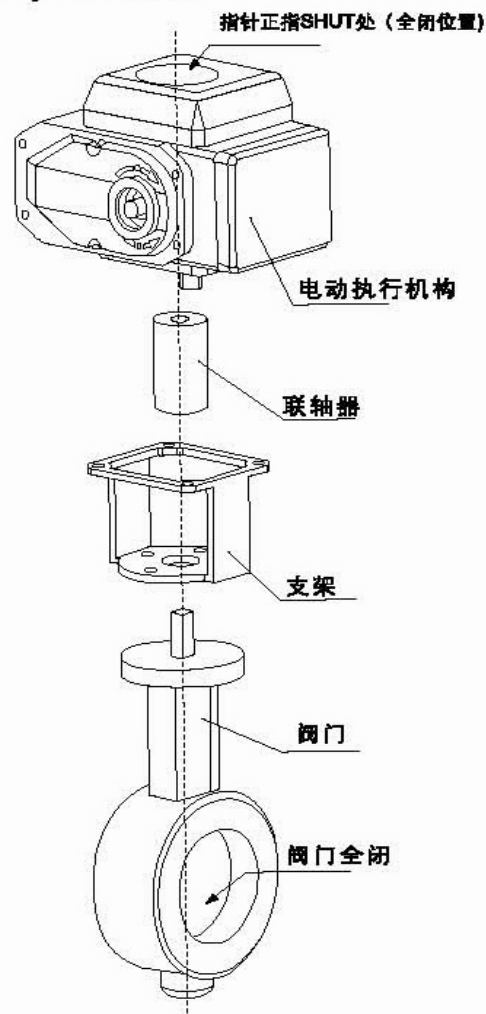
Support, shaft coupling should be designed by the professional mechanical technical staff to process the requirement of marking that should also accord with (Fig. 6).

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

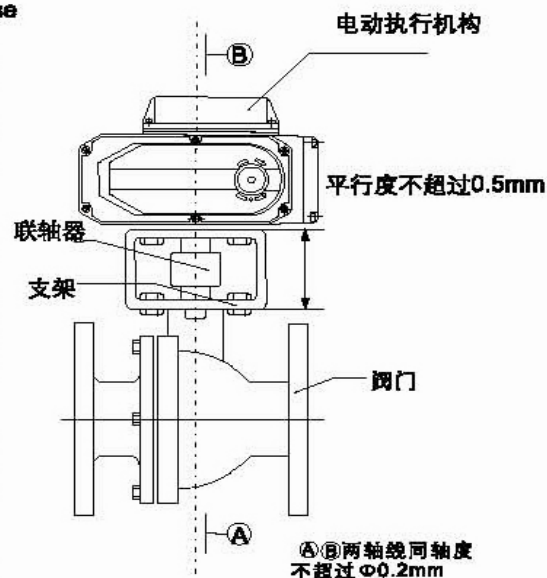
The processing of the both ends shaft hole of the shaft coupling should guarantee the essential precision, dispel the interval of transmission as much as possible, in case that the difference that the appearance goes back in the valve work.

● 应严格保证联轴器两端轴孔的位置度, 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 to adjust.



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



(图6)

开光角度的调整

Adjustment of the light angle

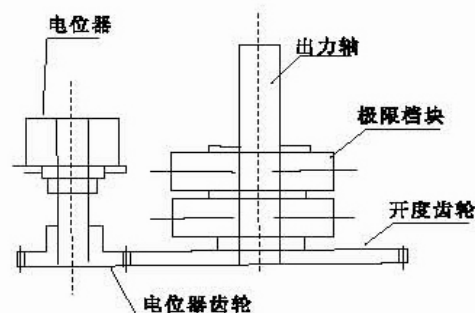
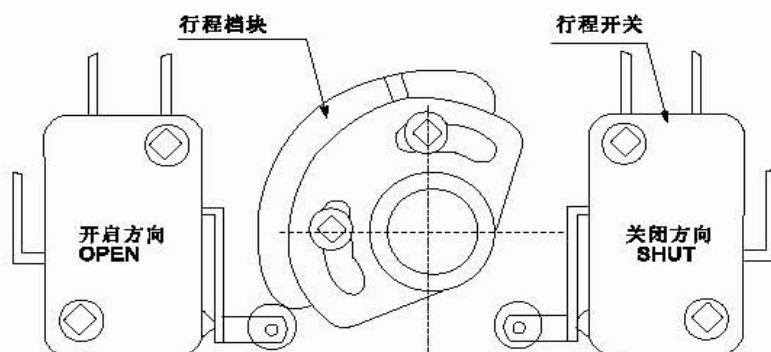
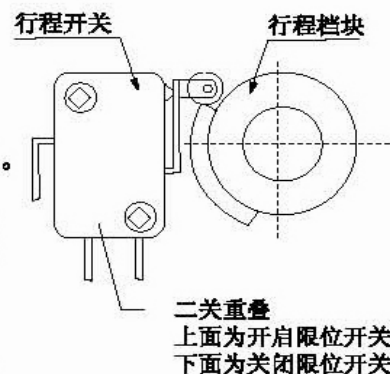
1、电气限位的调整

Adjustment of the limited location of electric

松开行程挡块的螺钉，用螺丝刀轻敲行程挡块，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。Unclamp the screw that the journey blocked one, rap the journey and block one with the screwdriver, 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.

20/40/50/60/100/200的行程挡块和行程开关布局图

20/40/50/60/100/200 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1KΩ、5KΩ。

The resistance value of the potentiometer is 1KΩ、5KΩ

b、用手柄转动阀门到全关闭位置。

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，用万能表测量4-5接线端子间的电阻值，使4-5间的电阻值到5Ω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 value of 4-5 under 5Ω, 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。

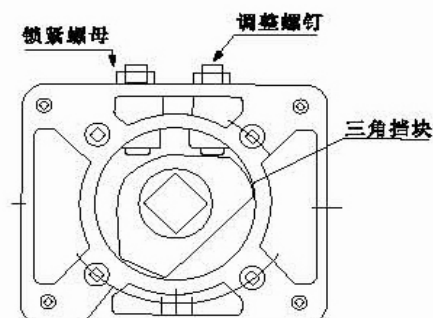
Rotate to completely opening position with the handle.

B、松解锁紧螺母，旋转调整螺钉，使之与机械挡块接触，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.



GH-2005电动执行智能控制器

GH-2005 Electric execute device's intellectual controller

GH-2005智能控制器是我公司最新研制的高精度电动执行器控制器，能直接接收工业控制系统，工业仪表或计算机控制系统输出的4~20mA Dc信号和执行器内部位置反馈信号，对各种电动执行器实现比例调节式控制。

该产品操作简单，调试方便，可靠性强，体积小，适合直接安装在各种电动执行器接线盒内，是升级执行器的可靠选择。

GH-2005 Intellectual controller is the high precision electronic execute device controller that our company developed newly, can receive industry's control system, 4-20mA DC signal and feedback signal of internal position of carrying out device that industrial instrument or computer control system outputted directly, realize the regulating type control of proportion to various electronic execute devices. This product is easy to operate, it is convenient to

debug, highly reliable,

the volume is small and exquisite, suitable for installing directly in various electronic carrying out device terminal boxes, it is a reliable choice of upgrading the carrying out device.

一、性能特点

Performance characteristic

- 1、可自适应各种电动执行器，适用的反馈电阻：500Ω~10KΩ
Can be self-adaptation of various electronic execute devices, applicable feedback resistance: 500Ω - 10KΩ
- 2、单键自动标定，省却了复杂的初始标定。
The single bond is automatic and standard, it is complicated and initial and standard to save.
- 3、即可接收工业仪表的信号自动定位，亦可手动控制执行器开度，以利现场控制。
The signal that can receive the industrial instrument makes a reservation automatically, can also control the carrying out device to open degree manually, control live with the profit.
- 4、故障自我诊断，自我保护功能。
The trouble is diagnosed oneself, self-protection function.
- 5、系统模式设置采用波动开关，直观、方便，可实现无扰切换。
The systematic mode is set up to adopt fluctuating the switch, ocular, convenient, can have realized not disturbing switching over.
- 6、可设定执行器无信号时状态：开、停、关。
The state when have no signal to can establish the carrying out device: Open, stop, close.
- 7、可输出4~20mA直流信号，并实现与电源，输入信号的完全隔离。
The state when have no signal to can establish the carrying out device: Open, stop, close.
- 8、可方便的调整灵敏度（精度）。
Convenient adjustment sensitivity (precision).

二、技术指标

Technical indicator

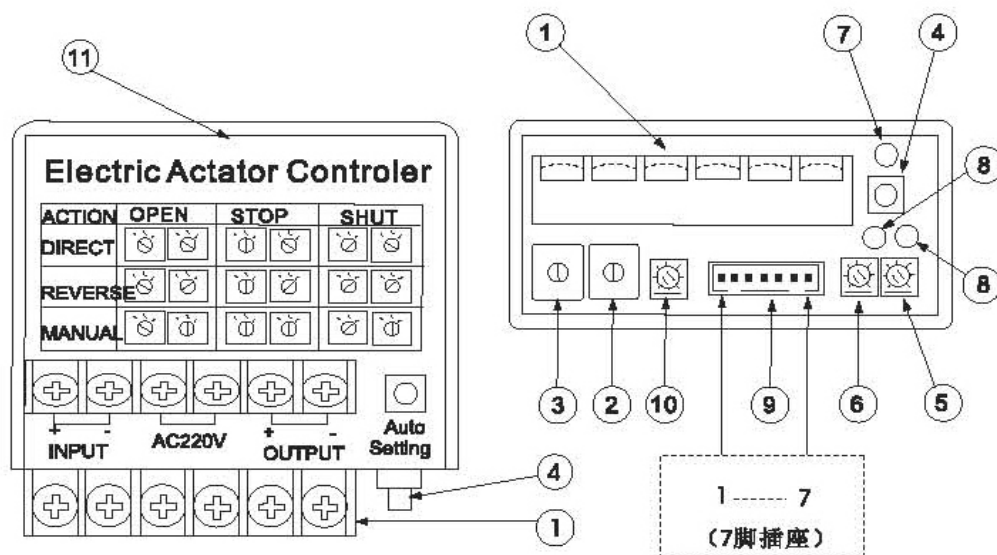
- 1、精度：最高25%，最低：1%。
Precision: Highest 25% are the lowest 1%.
- 2、控制信号：4~20mADC。(特殊可定制)。
Control signal: 4-20mADC (can be customized specially).
- 3、工作电源：220V/50HzAC
Working power: 220V/50HzAC
- 4、最大驱动电机功率：<300W
The max power of the dirve machinery: ≤300W
Ambient temperature: 65℃
- 5、环境温度：65℃
Ambient temperature: 65℃
- 6、环境湿度：70%
Ambient temperature: 65℃
- 7、输出组抗：<500Ω
Export impedance: ≤500Ω
- 8、输入组抗：>250Ω
Input impedance: ≥250Ω

GH-2005电动执行智能控制器

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三、产品外观

Appearance of the products



各部分说明:

Appearance of the products

1、6P外部接线端子台

6P outside wires terminal platform

2、动作模式及手动控制切换开关

Action pattern and manually controlling shift the switch .

3、无信号（或手动控制）执行器动作模式

There is no signal (or control manually) execute device action pattern

4、自动标定按键

There is no signal (or control manually) execute device action pattern

5、零位手动调整旋钮

Adjust the knob manually In a location

6、行程手动调整旋钮

Adjust the knob manually in travel

7、电源、自动标定、手动控制指示灯

Power, controlling the indicator lamp automatically and standardly, manually .

8、开、关动作运动指示灯

Open , close movments the sport Indicator lamp

9、与执行器连接的7脚插座

7 foot sockets connected with execute device

10、灵敏度调整旋钮

The knob that adjust in sensitivity

11、标贴

Mark

四、接线

Wiring

接线如图:

To wire as the follow figure:

控制器通过7脚插座与电动执行器相联接, 接线如图:

The controller is linked through 7 foot socket and electronic execute device,to wire as the follow figure:

1、执行器开关控制线:

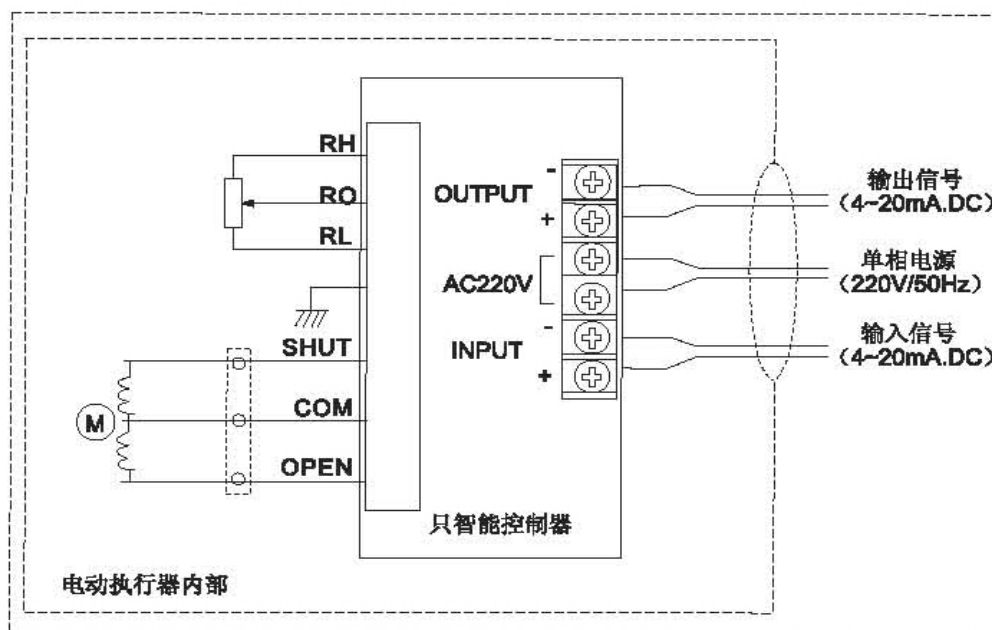
The line of control of execute device:

A、控制器7脚插座1、2、3脚分别接执行器COM、OPEN、SHUT端, 即执行器伺服电机公共、开、关端子。

Controller 7 foot 1 - 2 socket, 3 foot connect COM, OPEN, SHUT end of carrying out etc. separately, person who carry out servo electrical machinery public driving, closing something small and hard of end.

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B、识别COM、SHUT、OPEN线:

将电机三条驱动线用万用表电阻档两两测量，阻值最大的两条线为OPEN、SHUT端，别一条为COM端。在COM端和其它两条线分别接AC220V，执行器向开方向转动的为OPEN端，向关方向转动的为SHUT端。

Discern COM, SHUT, OPEN thread:

Urge line two two measure by resistance shelf three of electrical machinery with universal meter, person who hinder heavy two line OPEN, SHUT end most, one don't be COM end. Connect AC220V in COM end and other two lines respectively, what the carrying out device rotated in the direction of making is OPEN end, it was SHUT end that rotated in the direction of closing.

1、位置反馈电位器:

Feedback the potentiometer in the position:

A、控制器7脚插座5、6、7脚分别接反馈电位器的RL、RO、RH端。

foot of controller 7 foot sockets 5, 6, 7 connect RL, RO, RH end that feedback the

potentiometer separately.

B、识别位置反馈电位器RH、RO、RL线:

discern position feedback potentiometer RH, RO, RL line:

将反馈电位器三条线用万用表电阻档两两测量：并同时手摇电动执行器。发现阻值不变时，则不处于测量态的线标记为RO。然后可测量RO与其它两根线的阻值，并手摇执行器向OPEN方向转动，如阻值增加，则该线标记为RL，如阻值减小，则该线标记为RH。

Measure three lines of feedback potentiometer with two shelf Liang of resistance of universal meter: And the hand electronic carrying out device at the same time. Find the hindering value when not changing, the line mark not in attitude of measuring is RO. Then can measure RO and hindering value of other two lines, and the hand carrying out device rotates toward OPEN, if the hindering value increases, this line mark is RL, if the hindering value is reduced, this line mark is RH.

一、设置

Establishment

1、系统初始标定：系统初始运行时，须标定执行器初始状态，可选择自动标定和手动标定。

The system is initial and standard: The initial state of the carrying out device that the system is initial while running, must be standard, can choose automatically and standardly and manually and standardly.

A、自动标定:

系统采用单键自动标定方式，可自动执行标定过程。

The system adopts the automatic standard way of the single bond, can carry out the standard course

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只需用手按住自动标定键3秒钟以上，系统即进入自动标定状态：此时电源指示灯由绿色变为橙色，控制器先输出SHUT信号，直到执行器转到零位限位开关处自动停下，即确定该点为零位，对应控制器输出电流20mA(反作用)，然后控制器输出OPEN信号，直到执行器转到满为限位开关处自动停下，即确定该点为满位，对应控制器输出电流20mA（反作用）。为保证标定准确，系统连续执行上述过程两遍，无误后完成自动标定。

Only need to pin the automatic standard key for more than 3 seconds with hands, the system enters the automatic standard state promptly: The power indicator lamp is turned into orange green at this moment, the controller outputs SHUT signal first, until the fact that person who carry out turn into zero limit location switch stop automatically, confirm this point as zero, correspond to the controller and export the electric current 20mA (reaction), then the controller outputs OPEN signal, until the carrying out device is turned into too fully to exceed the location switch to stop automatically, confirm this point as all over location, correspond to the controller and export the electric current 20mA (reaction). For guarantee standard and accurate, system carry out described above course twice continuously, finish being automatic and standard after being errorless.

B、手动标定：可手动设置执行器零位、行程（满位），调整范围为：先调整零位旋钮，再调行程旋钮

Only need to pin the automatic standard key for more than 3 seconds with hands, the system enters the automatic standard state promptly: The power indicator lamp is turned into orange green at this moment, the controller outputs SHUT signal first, until the fact that person who carry out turn into zero limit location switch stop automatically, confirm this point as zero, correspond to the controller and export the electric current 20mA (reaction), then the controller outputs OPEN signal, until the carrying out device is turned into too fully to exceed the location switch to stop automatically, confirm this point as all over location, correspond to the controller and export the electric current 20mA (reaction). For guarantee standard and accurate, system carry out described above course twice continuously, finish being automatic and standard after being errorless.

2、动作模式及手动操作

Action pattern and manual operation

通过动作模式选择及手动操作选择开关可设置系统在输入信号作用下的动作模式，分为正作用及反作用及手动操作：

Can set up the action pattern of the system under the function of the input signal through the mode selection of movements and selector switch of the manual operation, divided into acting on and reaction and manual operation:

对应：

Correspond to

正作用： 4mA——全开（90°）

Acting on 20mA——全关（0°）

反作用： 4mA——全关（0°）

Reaction 20mA——全开（90°）

手动操作：

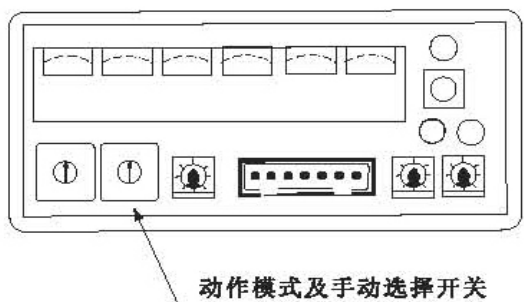
Manual operation:

在手动操作模式下执行器不接受输入信号控制，可根据输入信号中断模式选择开关作开、关、停动作，手动控制执行器到达指定位置。

Person who carry out accept input signal control, can cut off according to input signal mode selector switch make, turn on, imprison, park movements under manual operation mode, control the carrying out device manually and reach the appointed position.

此时电源指示灯由绿色变为红色，调整输入信号中断模式选择开关可手动控制执行器动作。

The power indicator lamp is turned into red green at this moment, adjusting the input signal can control carrying out device movements to cut off the selector switch of the mode manually.



正作用

反作用

手动控制

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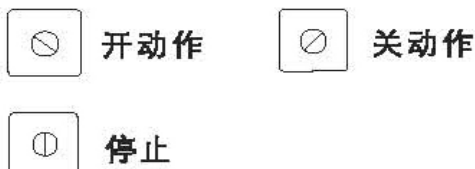
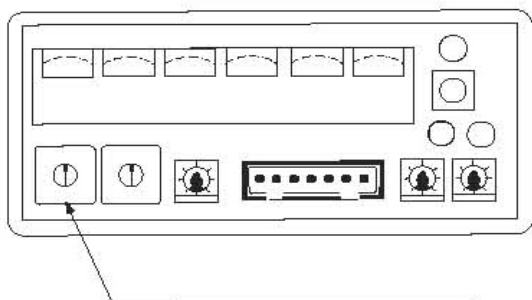
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3、输入信号中断模式

Input signal cuts off mode

控制器运行时，输入信号中断或低于2.5mA时，被认定为输入信号"中断"状态，此时执行器可根据选择开关设置作开、停、关三种状态设定。

When the controller runs, when the input signal cuts off or lower than 2.5mA, regarded as the input signal and "cut off" the state, person who carry out can set up, make, turn on, park, Imprison according to selector switch three state establish at this moment



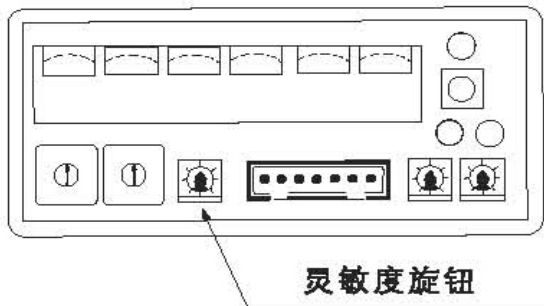
选择开关置于"1"时，执行开 (OPEN) 动作。
The selector switch is put when " 1 ",carry out the movements of making (OPEN).

选择开关置于"2"时，执行停止 (STOP) 动作。
The selector switch is put when " 2 ",carry out the movements of stopping (STOP).

选择开关置于"3"时，执行关 (SHUT) 动作。
The selector switch is put when " 3 ", carry out the movements of closing (SHUT).

1、灵敏度设置

The sensitivity's set up.



灵敏度旋钮

灵敏度旋钮

Sensitivity knob

顺时针方向灵敏度提高

Clockwise direction Improvement of sensitivity

逆时针方向灵敏度降低

Anticlockwise direction The sensitivity is reduced

最大灵敏度: 2.5%

The largest sensitivity: 2.5%

最小灵敏度: 1%

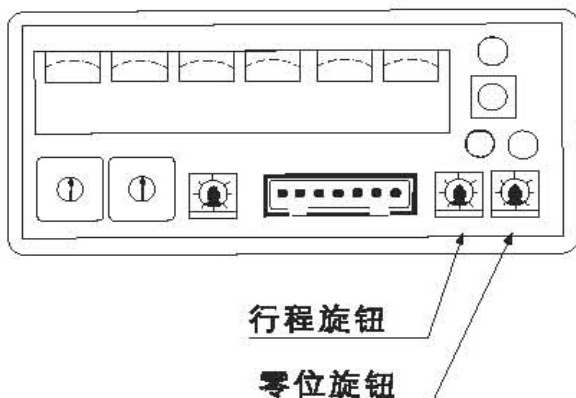
Minimum sensitivity: 1%

初始设置: 0.5%

Set up Initially: 0.5%

2、零位及行程 (满位) 调整

Adjust in a location and journey (full location)



行程旋钮

零位旋钮

当执行器因特殊要求需要调整运行范围或因其他原因需要手动标定执行器零位及行程(满位)时，可调整零位及行程旋钮。

零位旋钮：输入4mADC信号可调整执行器零位。为顺时整方向，可调整范围为0%~50%。

Because special requirement need, adjust operation range or need manual standard zero of carrying out etc. because of other reasons and when the the journey (all over location) as person who carry out, can adjust a location and journey knob. A location knob: Input 4mADC signal adjustable zero of carrying out etc.. For the direction while obeying sharp, can regulate range Into 0%-50%.

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行程旋钮：输入20mADC信号可调整执行器行程，为顺时整方向，可调整范围为100% - 60%。

六、故障及错误状态

The trouble and wrong state

系统检测到运行时的错误或异常情况时，会自动停止执行器运行，并给出错误指示：

At the time of the mistake that the system measures when arriving and operating or unusual situation, will stop the carrying out device and run automatically, give and make mistakes to point out:

1、无信号输入时：控制器检测到无信号或信号小于2.5mA时，电源指示灯为绿色，开关动作运行指示灯一定闪烁。

When there is no signal to input: When the controller has no signal or signal to smaller than 2.5mA to measure to, the power indicator lamp is green, switch movements operate the indicator lamp and will certainly glimmer

2、堵转或接线错误：电源指示灯灭，开关动作运作指示灯连续闪烁包括：

top up transferring to or wiring mistake: Indicator lamp puts out the power, the switch movement operation indicator lamp glimmers and includes continuously:

电机控制线OPEN、SHUT线错

The electrical machinery controls the line OPEN, SHUT thread wrong

反馈电位器RL、RH、RO线错

The electrical machinery controls the line OPEN, SHUT thread wrong

电机运行不畅或堵转

The electrical machinery can not be run smoothly or stopped up and rotated

标定后执行器调整或变更

The carrying out device is adjusted or altered after being standard

新PT-28型控制模块说明书

New PT-28 type control module operation instructions

PT-28型控制模块是以AC220V单相交流电作为电源，接受来自PLC、DCS系统或其它操作器的DC4~20mA信号，控制执行器进行开关动作，构成全电子式电动执行器。

PT-28 type controls the module to use AC220V single-phase alternating current as the power, accept DC4-20mA signals from PLC, DCS system or other operation device, control the carrying out device and carry on switch movements, form the whole electron type electronic carrying out device.

一、主要技术特点

Main technological characteristic

输入电压范围：AC180V~245V

Input voltage range: AC180V-245V

控制模块具有刹车功能，极大地提高了阀门的定位精度

Control module have, brake function, Improve the localization precision of the valve greatly

输入/输出信号均经过光电隔离（可承受2000V浪涌电压）

Input/output the signal and pass the photoelectricity and isolate (can bear 2000V wave and well up the voltage)

位置反馈4~20mA信号负载电阻：50Ω~700Ω，精度：5‰；三电位器调节技术使4~20mA反馈可一次调节完成，大大简化调节过程

Feedback 4-20mA signal load resistance in the position: 50Ω - 700Ω, precision: 5‰; Three potentiometers regulate technology to make 4-20mA feedback and can be regulated and finished once, simplify the course of regulating greatly

若输入信号丢失，执行器将根据用户事先在模块上的拨码选择使阀门或保持原位不动，或动作到阀门全开的位置，或动作到阀门全关的位置

If the input signal is lost, the carrying out device will be set aside yard and choosing to enable the valve or keep the normal position not moving on the module in advance according to users, or movement reach position that at valve turn on all, or movement reach position that valve imprison all

工作温度范围：-40℃~+85℃

The temperature range of job: -40℃ - +85℃

金属外壳密封，防电磁干扰

The metal outer cover is sealed, defend interfering with electromagnetically

二、使用方法

Operation method

1、接线与拨码选择

Wiring, with setting aside one yard of choices

PT-28型模块按图1所示完成模块与执行器接线。位置电位器的阻值应为 $> 1K\Omega$ 。

The module of Model PT-28 finishes module and carrying out device wiring according to the show of Fig. 1.

The hindering value of the position potentiometer should be $\geq 1K\Omega$.

用万用表检查模块上的电机连接线端，确保无短路现象。以上连线检查无误后，接入220V电源线。

Check the electrical machinery connecting wire end on the module with the universal meter, guarantee that there is not phenomenon of shorting out

2、调试

Debugging

先通过执行器上的手轮将执行器动到全行程的中间位置。

Through the middle position where the executes device moves to the whole travel of handwheel on the carrying out device first.

将“丢信”选择开关拨到丢信保持位置，接通AC220V电源不加控制电流，此时电源指示灯，丢信灯点亮。将“丢信”选择开关拨到“丢信打开”位置，此时执行器应向开关方向动作；将“丢信”选择开关拨到“丢信关闭”位置，此时执行器应向关方向动作；将“丢信”选择开关拨到“丢信保持”位置，此时执行器应停止动作；若执行器动作相反，应将“电机开”和“电机关”接线交换。

Movement get imprison location as person who carry out, regulate "return to zero" potentiometer, make Ts1, TS2 two voltage difference ordered to test zero, then it is 4mA to regulate the potentiometer of "low end" and

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enable and output the signal; Person who carry out movement get turn on location, regulate " advanced " potentiometer make, output signal 20mA. The aforesaid regulate, need one can finish and " advanced " potentiometer to increase clockwise rotation only, reduce counterclockwise). Attention: Imprison to turn on, by location as valve, valve location potentiometer in the center take a percentage absolute value of voltage should be from little to the great change to ground GND.

当执行器动作到关位，调节“调零”电位器，使TS1、TS2两测试点的电压差为零，然后调节“低端”电位器使输出信号为4mA；将执行器动作到开位，调节“高端”电位器使输出信号为20mA。上述调节只需一次即可完成（“调零”、“低端”和“高端”电位器均是顺时针方向增大，逆时针方向减小）。注意：当阀位由关到开时，阀位电位器中心抽头对地GND电压的绝对值应由小到大变化。

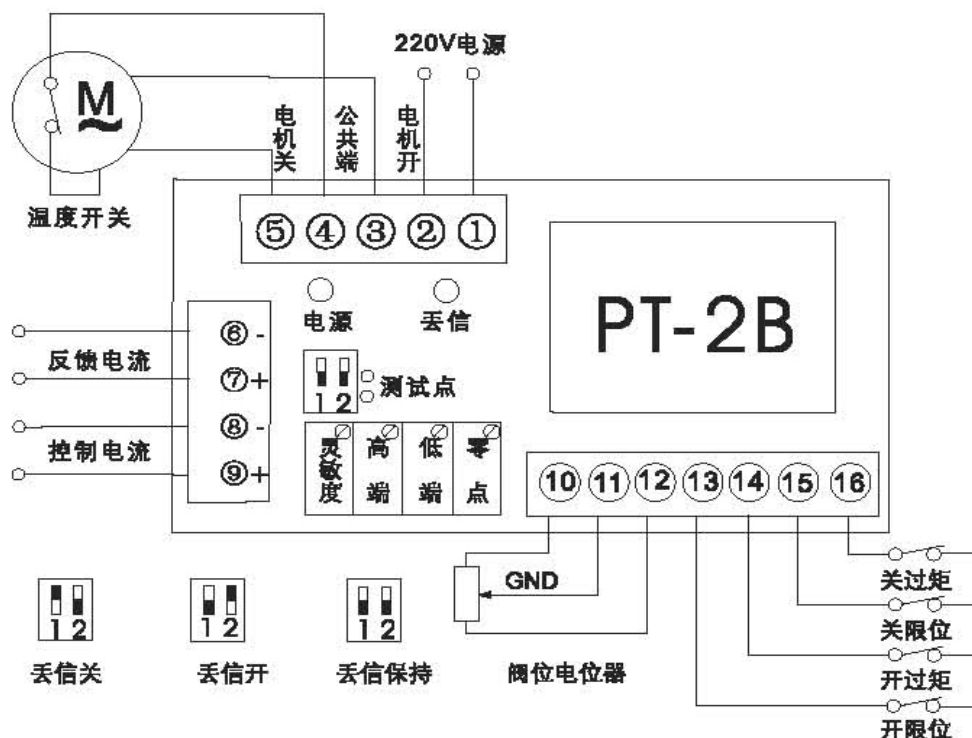
Through the middle position where the execute device moves to the whole travel of handwheel on the carrying out device first. " throw letter " selector switch dial, get, throw letterkeep position, put through AC220V power control the electric current ", the power indicator lamp, loses the light of the letter to light at this moment. The selector switch will be set aside to the position of " losing the letter and opening ", the carrying out device should act toward switch at this moment to " lose the letter "; " throw letter " selector switch set aside get " throw letter shut off " position, person who carry out should to imprison direction movements at this moment "; " the selector switch will be set aside to " to lose the letter to keep to lose the letter " the position, the carrying out device should stop movements at this moment; if carrying out device movements are opposite, should exchange with wiring of " electric organ "

为了保证执行器在自动控制中的定位精度，须调节灵敏度范围。灵敏度小，定位精度高，但容易产生振荡；灵敏度大，不容易产生振荡，但定位精度差。调节“灵敏度”电位器可在二者之间取折中，使其不产生振荡为最佳调节值。

In order to guarantee the localization precision of the carrying out device Inautomaticallying control, must regulate sensitivity range. The sensitivity is small, it is high to orient the precision, but apt to produce shaking; The sensitivity is large, non- apt to produce shaking, but It is bad to orient the precision. Regulating " sensitivity " potentiometer can be fetched and compromised among two, make it not produce shaking for the best regulating value.

注：本产品所采用之电位器，均为精密多圈电位器（可旋转约25圈）。另，模块上10到16号端子不能接入其他任何电源，否则会损坏模块！

Note: The potentiometer that this product adopted, it is the precision that enclose more potentiometers (can rotate about 25 circles). Another, module 10 to the 16th theend son can insert any other power, otherwise will damage the module !



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三、端子序号对照表

Terminals number contrast form

端子序号 Terminal serial number	接线端子含义 wiring terminal meaning
1	220V交流电源输入 220V AC current source input
2	220V交流电源输入 220V AC current source input
3	电机开 The electrical machinery is turned on
4	电机公共端 Public end of the electrical machinery
5	电机关 Electric organ
6	反馈电流 (4 ~ 20mA) "-" Feedback electric current (4-20mA) "-"
7	反馈电流 (4 ~ 20mA) "+" Feedback electric current (4-20mA) "+"
8	控制电流 (4 ~ 20mA) "-" Control electric current (4-20mA) "-"
9	控制电流 (4 ~ 20mA) "+" Control electric current (4-20mA) "+"
10	阀位电位器接地端 Location potentiometer earthing end of the valve
11	阀位电位器中心抽头 Take a percentage in the potentiometer centre of location of valve
12	阀位电位器电源端 Location potentiometer power end of the valve
13	开限位1端 Open limited location 1 terminal
14	开限位2端 Open limited location 2 terminal
15	关限位1端 Close limited location 1 terminal
16	关限位2端 Close limited location 2 terminal

使用与维护

Use and safeguard

1. 维护与保养

Maintenance

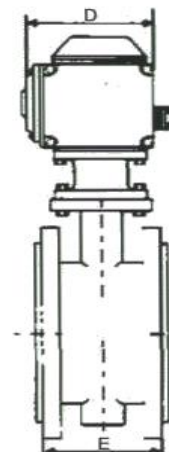
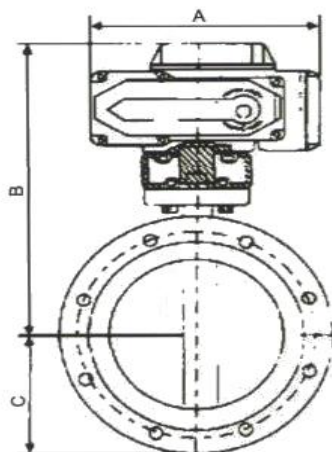
- ① 由于使用了寿命长、耐压性好的高级钼基润滑脂，所以无需点检及加油。
 Because of using advance molybdenum base lubricating grease which having long performance life and have good resist presureg ,so does not need to hand over item by item and refuel.
- ② 在阀门的动作很稀少时，请定期驱动执行机构，检查有无异常。
 When the movements of the valve are very rare, please drive the executive body regularly, to check it whehter 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
电机不启动 The electrical machinery is not started	没有接上电源 Have not connected the power	接好电源 Connect to the power
	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 break line, the correct connection fastens the terminals
	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
	过热保护器运作（环境温度是否过高，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，用手动的方法检查阀门的开闭是否正常 Lower ambient temperature, check the opening and closing of valve is normal by manual means
	极限开关的动作不良 The movements of the terminal switch are bad	更换开关 Change the switch
	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 Contact manufacturer to change the electric capacity
开闭指示 灯不亮	灯泡坏 The bulb is out of order	更换灯泡 Change the bulb
	极限开关动作不良 Terminal switch movements are bad	更换开关 Change the switch
	挡块的调整不良 The bad adjustment of the block	再调整 Change again
运行极限位置 电机不能停转	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 inslde 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 circult	调整接线 Adjust the wiring

D941X 电动软密封法兰蝶阀


特点及用途:

D941X电动软密封法兰蝶阀性能可靠、配套简单、流通能力大，特别是适合于介质是粘稠、含颗粒、纤维性质的场合。目前该阀门广泛应用于食品、环保、轻工、石油、造纸、化工、教学和科研设备、电力等行业的工业自动化控制系统中。

技术参数和性能:

电动执行机构技术参数		阀 体 参 数	
电源	AC110、220、380V/DC24、220V	公称通径	DN40~500mm
输出力矩	50N·M~2000N·M	公称压力	PN1.0、1.6MPa
任选功能	开关型、触点型、开度信号、智能型	阀轴材质	碳素钢、304/316/316L 不锈钢
动作范围	0~90° ±5°	阀体材质	球墨铸铁、碳素钢、不锈钢
动作时间	30 秒/60 秒	阀板材质	球墨铸铁、304/316/316L 不锈钢、尼龙
环境温度	-30° ~60°	阀座密封	EPDM、NBR、耐磨橡胶
手动操作	附带手柄操作	结构形式	中线型 、无销型
限 位	电气、机械二重限位	温度	EPDM≤80℃；NBR≤68℃
防护等级	IP-67(防爆外壳:Exd II BT4 IP67 可选)	适用介质	水、空气、天然气、煤气
输入信号	0-10, 1-5VDC/4-20mA(智能型)	特点	用途广、整体造价低、流量大、流阻小

外形尺寸

公称通径 DN	A	B	C	D	E	额定功率	额定电流
压力	1.0/1.6	1.0/1.6	1.0/1.6	1.0/1.6	1.0/1.6		
40	155	349	57	104	108	15W	0.2A
50	155	353	62	104	108	15W	0.2A
65	155	362	70	104	112	15W	0.2A
80	155	368	89	104	114	15W	0.2A
100	208	392	106	115	127	25W	0.5A
125	208	407	120	115	140	25W	0.5A
150	208	446	132	115	140	25W	0.5A
200	256	489	164	127	152	50W	0.8A
250	256	514	200	127	165	50W	0.8A
300	256	568	238	127	178	90W	1.0A
350	288	629	280	164	190	150W	1.2A
400	288	662	302	164	216	150W	1.2A
450	288	693	335	164	222	150W	1.2A
500	288	729	360	164	229	150W	1.2A

质量第一 信誉至上



唐玛泵阀以——

一流的产品质量，

一流的合作信誉，

一流的售后服务，

真诚期待与您合作。

上海唐玛泵阀有限公司
SHANGHAI TANGMA PUMP VALVE CO.,LTD