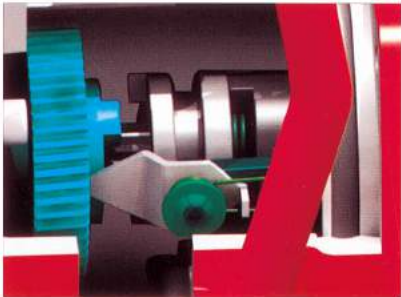


产品结构
product mix



手动操作（离合器系统）
Manual operation (clutch system)

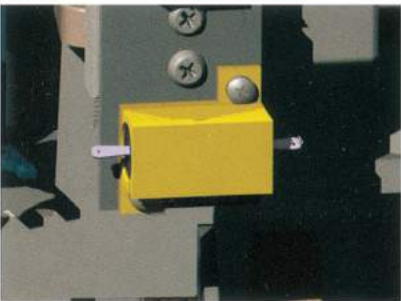
手动/自动转换手柄和手轮用于手动操作通电后，手柄会自动复位转换成自动方式。
Manual / automatic conversion handle and handwheel for manual operation. After that, the handle is automatically reset and converted into an automatic mode.



凸轮和限位开关
Cam and limit switch

有两个螺丝在上面紧固，设置简单，每个凸轮可单独设置，不跑位。

Two fastening screws are arranged in the above, simple, each cam can be set separately, do not run.



干燥器 Dryer

7~30W，采用金属外壳，散热快，寿命长，内置温控开关，核心为陶瓷密封，不会漏电。

7~30W, the use of metal shell, fast heat dissipation, long life, built-in temperature control switch, the core for ceramic seal, no leakage.

1. 壳体（Shell）

硬质阳极氧化压铸铝壳体，外部环氧粉末涂层，适应严苛的工作环境。
Hard anodic oxidation die casting aluminum shell, external epoxy powder coating, adapt to the harsh working environment.

2. 蜗轮（Worm gear）

精加工双涡轮结构，反向回坐力最小，接触面积大，噪音小，输出扭矩大。
Finishing twin turbo structure, reverse recoil minimum, large contact area, low noise, large output torque.

3. 自锁（Self locking）

双涡轮结构，具有自锁功能，在烦收到反向扭矩的情况下，保持阀位不变。
The dual turbine structure has self locking function and keeps the valve position in the case of receiving reverse torque.

4. 密封（Seal up）

IP67 防护等级，所有连接面都有O型圈密封。
IP67 protection grade, all connection surfaces have O ring seal.

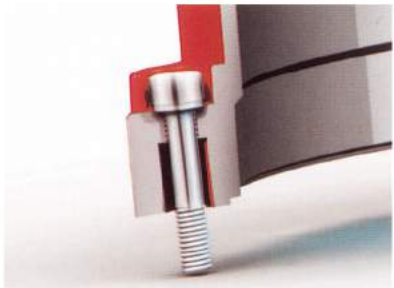
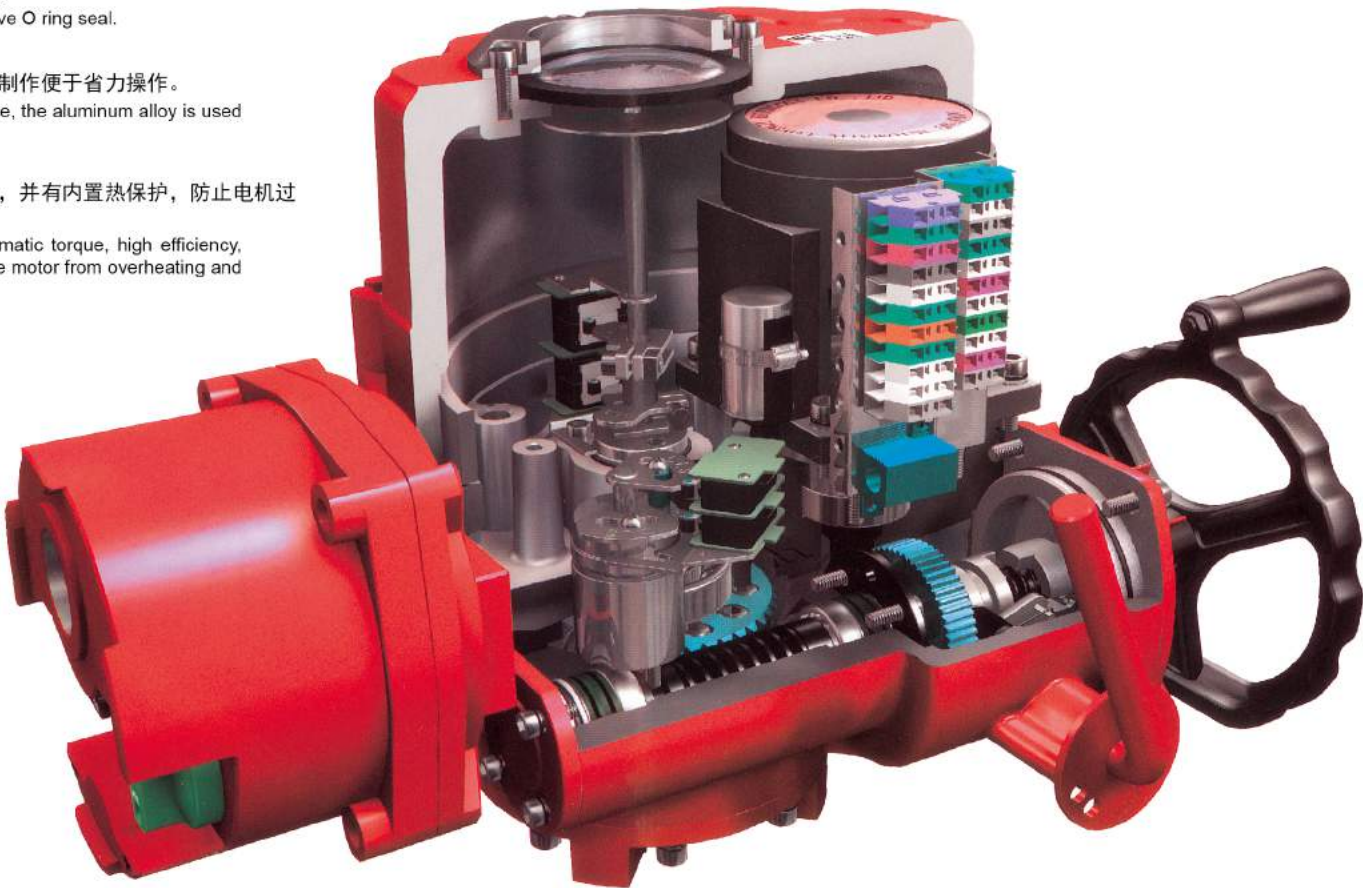
5. 手轮（Handwheel）

随着执行器扭矩增大尺寸增大，采用铝合金制作便于省力操作。
With the increase in the size of the actuator torque, the aluminum alloy is used to make the operation easier.

6. 电机（Electric machinery）

一体设计的感应电机，气动扭矩大，效率高，并有内置热保护，防止电机过热烧坏。绝缘等级F级。

Integrated design of induction motor, high pneumatic torque, high efficiency, and have built-in thermal protection to prevent the motor from overheating and burning. Insulation grade F level.



防脱螺丝（screwsleeve）

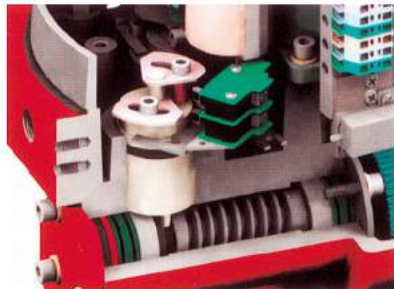
上盖螺丝为专门设计，保养及安装时不会脱落，材质全部为不锈钢，不会生锈。

The upper cover screws are specially designed, and the maintenance and installation will not fall off. All the materials are not embroidered and will not rust.



视窗采用聚碳酸酯，内置O型圈，金属压盖固定，压紧自带两个排水槽，不易积水，易观察。

The window uses polycarbonate, built-in O type ring, metal cap fixed, tight with two water drain, not easy to water, easy to observe.



扭矩开关（Torque switch）

扭矩开关可防止因过载引起的电机、内部电气元件以及其他连接阀门的损坏。一旦扭矩开关起作用，执行器立即停止动作。

Torque switches can prevent damage to motor, internal electrical components and other connecting valves caused by overload.

Once the torque switch works, the actuator stops at once.



可换驱动轴套

（Commutative driving shaft sleeve）

轴套是可更换的，可根据不通的要求加工，四个悬耳用于驱动轴和轴套的紧密配合，和阀门安装方便。

The shaft sleeve is replaceable and can be processed according to the inability to meet the requirements. The four hanging ears are used to drive the shaft and the shaft sleeve closely, and the installation of the valve is convenient.

性能特点

Performance characteristics

1、壳体 shell

壳体为硬质铝合金,经阳极氧化处理和聚酯粉末涂层,耐腐蚀性强,防护等级为 IP67, NEMA4 和 6, 并有 IP68 和防爆型供选择。

The shell is hard aluminum alloy. It is corrosion-resistant by anodizing and polyester powder coating. The protection level is IP67, NEMA4 and 6, and has IP68 and explosion-proof type.

2、电机 Motor

全封闭式鼠笼式电机,体积小,扭矩大,惯性力小,绝缘等级为 F 级,内置过热保护开关,可防止过热损坏电机。

Full closed squirrel cage motor, small volume, large torque, small inertia force, insulation level of F level, built-in overheating protection switch, can prevent overheat damage motor.

3、手动结构 Manual structure

手轮的设计保证安全可靠、省力、体积小。不通电时,扳动离合器手柄可进行手动操作。通电时,离合器自动复位。(注:在电机不通电的状况下,电动执行器将保持永久手动状态)

The design of handwheel is safe, reliable, labor-saving and small. When the electricity is not connected, the handle of the clutch can be operated manually. When the power is connected, the clutch is reset automatically. (Note: under the condition of electric motor, the electric actuator will keep the permanent manual state)

4、指示器 Indicator

指示器安装在中心轴上,可以观察阀门位置。镜面采用凸透镜设计,不积水,观察更方便。

The indicator is mounted on the center axis and the valve position can be observed. The mirror is designed with convex lens, and it is more convenient to observe without water.

5、干燥器 Dryer

用来控制温度,防止由于温度和天气变化导致执行器内部水分凝结,保持内部电气元件的干燥。

It is used to control the temperature and prevent the condensation of the internal water in the actuator due to temperature and weather changes, and the drying of the internal electrical components.

6、限位开关 Limit switch

机械,电子双重限位。机械限位螺钉可调,安全可靠;电子限位开关由凸轮机构来控制,简单的调整机构能精确并方便地设定位置,无需电池支持。(微动开关接点均为银质触点)

Mechanical, electronic double limit. The mechanical limit screw is adjustable, safe and reliable. The electronic limit switch is controlled by the cam mechanism. The simple adjusting mechanism can set the location accurately and conveniently without battery support. (microswitch contacts are all silver contacts)

7、扭矩开关 Torque switch

可提供过载保护(VSQ-1 除外),在阀门卡涩,有异物时,自动断开电机电源,更有效的保护阀门和电动执行器不受损坏。(出厂前已设定好,请用户不要随意更改设置)

Overload protection can be provided (except VSQ-1). When the valve is stuck and foreign matter is present, it will automatically disconnect the motor power and protect the valve and electric actuator from damage. (set up before the factory is set, please do not change the settings at random.)

8、自锁 Self locking

精密的双蜗轮蜗杆机构可高效传输大扭矩,效率高,噪音低(最大 50 分贝),寿命长有自锁功能,防止反转,传动部分稳定可靠,出厂已经加满高效润滑脂,使用无需再加油。

The precision double worm and worm mechanism can efficiently transmit large torque, high efficiency, low noise (up to 50 dB), long life and self locking function, so as to prevent inversion. The transmission part is stable and reliable. The factory has been filled with high efficiency grease and no need to refuel.

9、防脱螺栓 Anti bolt

拆除外壳时,螺栓附在壳体上,不会脱落。外部螺栓均采用不锈钢材质。

When the shell is dismantled, the bolt is attached to the shell and will not fall off. The external bolts are made of stainless steel.

10、安装 Install

底部安装尺寸符合 ISO5211 国际标准,驱动轴套可拆下根据需要进行加工,适应性强。可以垂直安装,也可以水平安装。

The bottom installation size accords with the international standard of ISO5211, and the driving axle sleeve can be machined according to the needs. It can be installed vertically and can be installed horizontally.

11、线路 line

控制线路符合单相或三相电源标准,线路布置紧凑合理,接线端子可有效满足各种附加功能的要求。阀开关到位均有无源接点输出(可根据客户要求另行加工。)

The control line meets the standard of single-phase or three-phase power supply, the line layout is compact and reasonable, the terminal can effectively meet the requirements of all kinds of additional functions. The valve switch in place has a passive connection output (can be processed according to the requirements of the customer.)

12、智能模块 Intelligent module

采用集成度高,功耗很低的单片机与模拟电路混合的控制板,更采用全金属外挂式安装,使执行器电机热源与控制板有效隔离,很大程度地提高了软件及硬件的抗干扰性能及耐温性。

The control board with high integration and low power consumption is integrated with the analog circuit, and the all metal external installation is adopted. The motor heat source and the control board are effectively isolated, which greatly improves the anti-interference performance and temperature resistance of the software and hardware.

13、阀位数字显示 Digital display of valve position

执行器在打开或关闭过程中,阀位的变化在液晶屏上以大数字方式实时显示。

In the process of opening or closing the actuator, the change of the valve position on the LCD screen is displayed in a large digital manner on the LCD screen.

14、相序自动调整 Phase sequence automatic adjustment

智能型执行器自动检测接入的三相电源相序,无需用户考虑三相电源的相序问题。

The intelligent actuator automatically detects the phase sequence of the three-phase power supply, and does not need the user to consider the phase sequence of the three-phase power supply.

技术参数 Technical parameter

型号	输出 最大扭矩	动作 时间	最大 轴径	电机 功率	额定电流 (A) 50/60Hz Rated current (A) 50/60Hz				手轮 转数	重量
Model	output Maximum torque	O/S times	Maximum Shaft diameter	Motor power	单相 Single-phase		三相 Three-phase		handwheel Revolutions	weight
	N.M	S	mm	W	110V	220V	380V	440V	N	Kg
QT-10	100	18/22	20	20	1.10/0.95	0.55/0.54	0.3/0.3	N/A	10	7.5
QT-15	150	18/22	22	40	1.65/1.67	0.88/0.84	0.31/0.31	0.30/0.31	11	17.3
QT-20	200	21/25	22	40	1.67/1.67	0.89/0.85	0.31/0.31	0.30/0.31	11	17.3
QT-30	300	21/25	35	60	1.85/1.86	0.92/0.92	0.35/0.35	0.34/0.34	13.5	22
QT-40	400	26/31	35	60	3.60/3.62	1.55/1.58	0.59/0.59	0.58/0.58	13.5	23
QT-50	500	26/31	35	90	3.60/3.62	1.55/1.58	0.59/0.59	0.58/0.58	13.5	23
QT-60	600	26/31	45	90	4.10/4.10	1.60/2.20	0.60/0.59	0.59/0.58	16.5	29
QT-80	800	31/37	45	120	4.20/4.10	2.15/2.20	0.85/0.85	0.79/0.79	16.5	29
QT-90	900	31/37	45	120	4.20/4.10	2.35/2.30	0.87/0.87	0.81/0.81	16.5	29
QT-100	1000	31/37	45	180	4.20/4.10	2.15/2.20	0.85/0.85	0.79/0.79	16.5	29
QT-160	1600	93/112	55	200	4.10/4.10	2.15/2.20	0.85/0.85	0.79/0.79	49.5	75
QT-180	1800	93/112	55	200	4.20/4.10	2.35/2.30	0.87/0.87	0.81/0.81	49.5	75
QT-200	2000	93/112	55	200	4.20/4.10	2.35/2.30	0.87/0.87	0.81/0.81	49.5	75

标准件技术参数 Technical parameters of standard parts

外壳 The shell	防水级别IP67 Waterproofing level IP67
电机电源 Power	标准AC220V 单相 Standard AC220V single-phase
	可选110V单相, 380V/440V AC 3相 Optional 110V single phase, 380V/440V AC 3 phase
电机 Motor	鼠笼式异步电机 Squirrel cage asynchronous motor
限位开关 Limit switch	开/关 各一个SPDT 250V AC 10A O / S a SPDT 250V AC 10A
辅助限位开关Auxiliary limit switch	开/关 各一个SPDT 250V AC 10A O / S a SPDT 250V AC 10A
扭矩开关 Torque switch	开/关 各一个SPDT 250V AC 10A O / S a SPDT 250V AC 10A
行程 Trip	90度±10度 0-270度可选 90 degree ± 10 degree 0-270 degree optional

失效保护/操作温度 protection temperature	内置过热保护 Built-in overheating protection
指示器 Indicator	连续位置指示刻度 Continuous position indicator
手动操作 Manual operation	机械离合机构, 配手轮使用 Mechanical separation mechanism, with handwheel
自锁装置 Self locking device	蜗轮, 蜗杆机构提供自锁 Worm gear and worm mechanism provide self locking
机械限位 Mechanical limit	2个外部调整螺丝 2 external adjustment screws
干燥器 Dryer	7-10W (AC110V/220V)
接线孔 Connection hole	2个PF3/4" 2 PF3/4 "
环境温度 ambient temperature	-20度-70度 -20 degree -70 degree
润滑 lubrication	铝基润滑脂 Aluminum base grease
材料 Material Science	铜, 铝合金, 铝青铜, 聚碳酸酯 Copper, aluminum alloy, aluminum bronze, polycarbon polyester
环境湿度 Ambient humidity	最大90% Maximum 90%
抗震性能 Aseismic performance	X Y Z 10Kg 0.2-34Hz 30分钟 X Y Z 10Kg 0.2-34Hz 30 minutes
外涂层 Outer coating	干粉 环氧树脂 具有超强防腐功能 Dry powder epoxy polyester has super strong anticorrosion function

编号NO.	可选配置 Optional configuration	备注
1	防爆执行器 (EXIICT4) Explosion-proof actuator	QT系列 QT series
2	防水执行器 (IP68 10m 250HR) Waterproofing executor	QT系列 QT series
3	电位计 (1-10K) Potentiometer	QT系列 QT series
4	比例式控制器 (input/output 4-20mA,0-5V) Proportional controller	QT系列 QT series
5	现场控制单元 (就地/远程开关) Field control unit (in-situ / remote switch)	QT系列 QT series
6	行程120度, 180度, 270度 120,180,270 degrees	QT系列 QT series
7	直流电机 (DC24V) DC motor (DC24V)	QT系列 QT series
8	附加扭矩开关 (SPDTX2 250V AC 10A) Additional torque switch	QT-10除外 Except QT-10
9	断电后, 电动阀自动开或关 Electrical reduction	QT系列 QT series
10	电流位置传感器 (输出4-20mA) Current position sensor (output 4-20mA)	QT系列 QT series
11	耐高温执行器 (-10度-100度) High temperature resistant actuator (-10 -100 degree)	QT系列 QT series
12	耐低温执行器 (-40度-70度) Low temperature resistant actuator (-40 -70 degree)	QT系列 QT series
13	低速执行器 Low speed actuator	QT系列 QT series

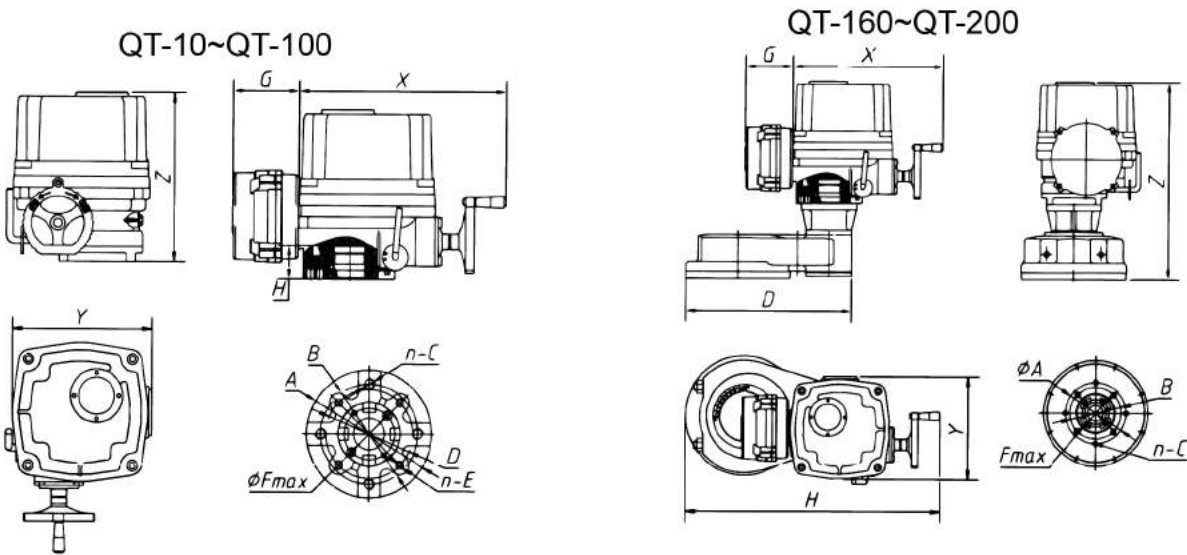
结构 Structure

电动执行器主要由以下几部分组成 The electric actuator is mainly composed of the following parts

壳体部分	Shell part	驱动部分	Drive part
传动部分	Transmission part	比例控制部分	Proportional control part
力矩开关和限位开关	Torque switch and limit switch	开关检测与反馈部分	Switch detection and feedback part

外观图

Appearance diagram

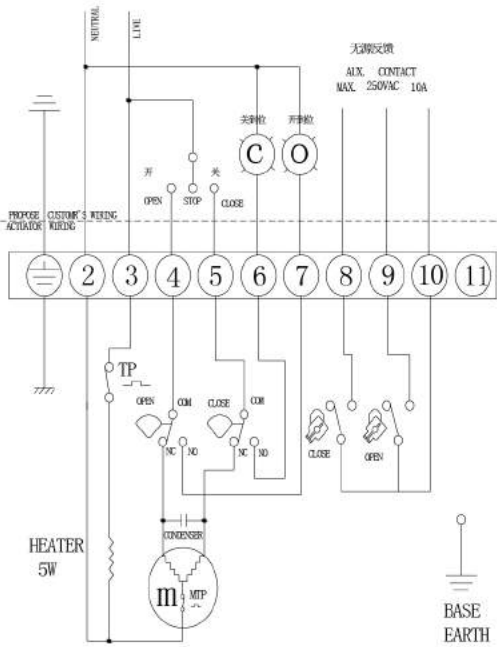


Model	X	Y	Z	A	B	N-C	D	N-E	F	G	H
QT-10	260	161	235.5	Φ90	Φ70	4-M8	Φ50	4-M6	Φ20	137	35
QT-15	346	240	270	Φ125	Φ102	4-M10	Φ70	4-M8	Φ22	137	40
QT-20	346	240	270	Φ125	Φ102	4-M10	Φ70	4-M8	Φ22	137	40
QT-30	358	240	290	Φ150	Φ125	4-M12	Φ102	4-M10	Φ35	137	45
QT-40	358	240	290	Φ150	Φ125	4-M12	Φ102	4-M10	Φ35	137	45
QT-50	358	240	290	Φ150	Φ125	4-M12	Φ102	4-M10	Φ35	137	45
QT-60	390	260	322	Φ180	Φ140	4-M14	Φ125	4-M12	Φ45	137	55
QT-80	390	260	322	Φ180	Φ140	4-M14	Φ125	4-M12	Φ45	137	55
QT-90	390	260	322	Φ180	Φ140	4-M14	Φ125	4-M12	Φ45	137	55
QT-100	390	260	322	Φ180	Φ140	4-M14	Φ125	4-M12	Φ45	137	55
QT-160	390	260	491	Φ210	Φ165	4-M16	Φ140	4-M14	Φ55	137	65
QT-180	390	260	491	Φ210	Φ165	4-M16	Φ140	4-M14	Φ55	137	65
QT-200	390	260	491	Φ210	Φ165	4-M16	Φ140	4-M14	Φ55	137	65

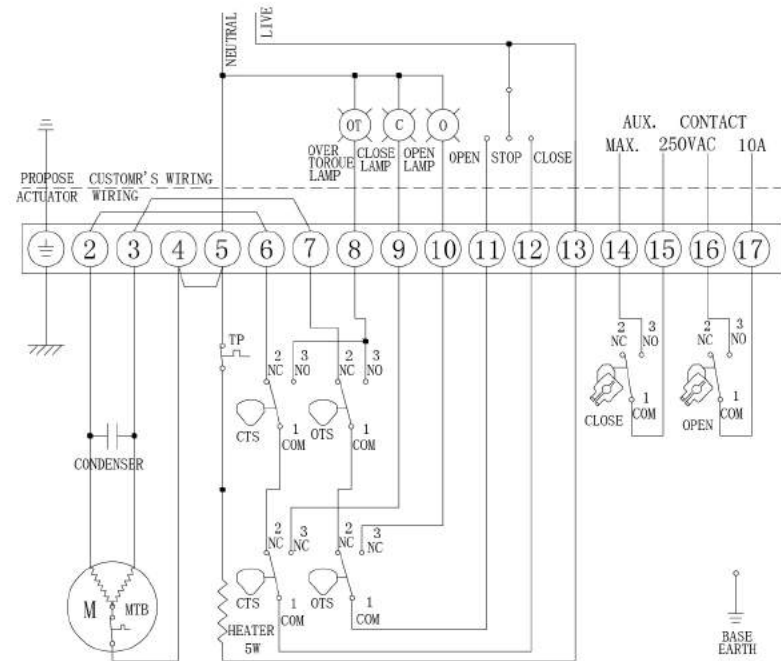
接线图

Wiring diagram

1、QT-10 AC110V/AC220V（开关型）ON/OFF Type



2、QT-15~200 AC110V/AC220V（开关型）ON/OFF Type

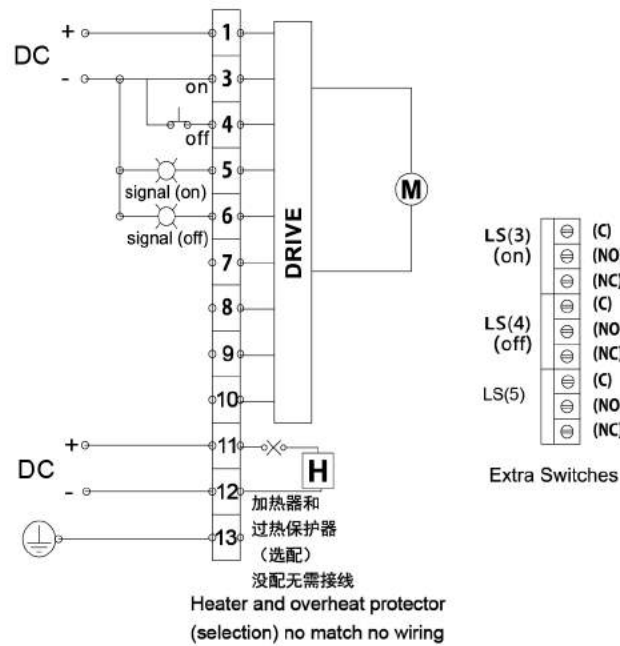


特殊电压可定制 Special voltage can be customized

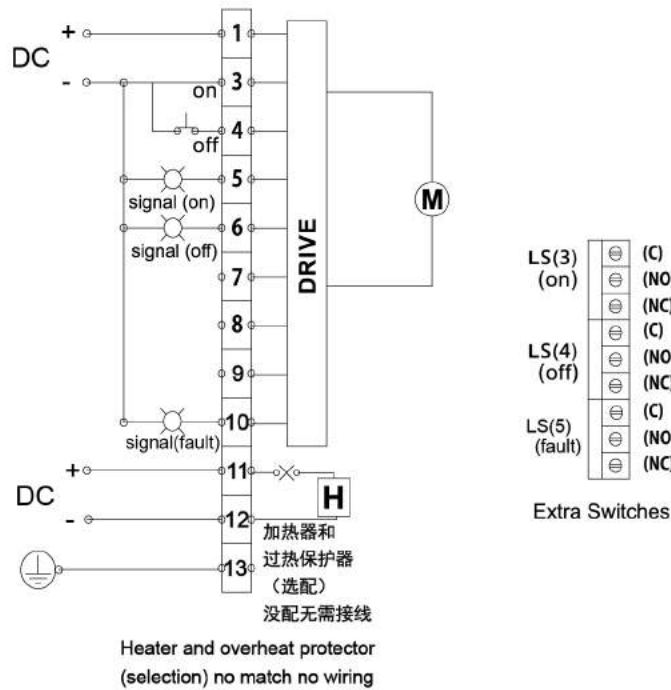
接线图

Wiring diagram

3、QT-10 DC24V（开关型） ON/OFF Type



4、QT-15~200 DC24V（开关型） ON/OFF Type



特殊电压可定制 Special voltage can be customized

调节型 Modulating type



- 产品特点 Product features
- 电气输入说明 Electrical input description
- 安装说明 Installation instructions
- 接线图 Wiring diagram
- 注意事项 Matters needing attention

产品特点

Product features

- 1、调节型可安装在QT-10~QT-200电动执行器上，可依据电流信号来控制阀门开度。
The adjustable type can be installed on the QT-10~QT-200 electric actuator, and the valve opening can be controlled according to the current signal.
- 2、所有功能均独立操作，无需进入菜单。
All functions are operated independently, without the need to enter the menu
- 3、远程信号和阀位信号可查询。死区可自适应，避免震荡。
Remote signal and valve position signal can be inquired. The dead zone can be adapted to avoid concussion.
- 4、自动标定，操作简单。Automatic calibration, simple operation.
- 5、故障自诊断与保护。 Fault diagnosis and protection.

电气输入说明

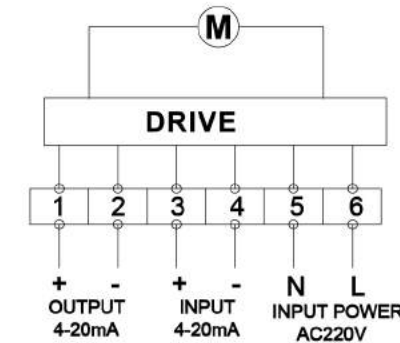
Electrical input description

- 1、常规电压: DC24V, AC110V/AC220V 50~60HZ。（特殊电压可定制）
Conventional voltage: DC24V, AC110V/AC220V 50~60HZ. (special voltage can be customized)
- 2、输入信号: 4~20mA。 Input signal: 4~20mA.
- 3、输出信号: 4~20mA。 Output signal: 4~20mA.
- 4、灵敏度: 0.5%。 Sensitivity: 0.5%.
- 5、精确度: 0.5%。 Accuracy: 0.5%.

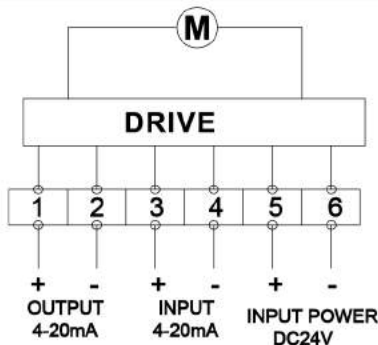
接线图

Wiring diagram

- 1、QT-10~200 AC220V （调节型）Modulating type



- 2、QT-10~200 DC24V （调节型）Modulating type



注意事项

Matters needing attention

- 1、为避免讯号相互干扰，请务必用屏蔽线使用于讯号传输，并与电源分开，勿缠绕一起。
In order to avoid interference between signals, be sure to use the shielded line for signal transmission, and separate from the power supply, do not wind together.
- 2、手动装置：
操作手动装置前应先关闭电源，以避免造成危险或是内部机件故障。操作把手轮手动装置时请先将把手轮往内推，使离合器接合，方可手动执行开关动作。使用手动时，请注意开度指示器之开度位置，请勿将指针超出范围及蛮力硬转，以免内部机件损坏。
Manual device:
The power supply should be shut down before operating the manual to avoid danger or internal machine failure. When the handwheel is operated, the hand wheel is pushed inside, the clutch is joined, and the switch can be executed manually. When using the manual, please pay attention to the opening position of the opening indicator. Do not turn the pointer beyond the scope and brute force to avoid the damage of the internal parts.
- 3、电动执行器禁止倒立安装。
The electric actuator is forbidden to stand upside down.
- 4、接线前请先详读接线方式并确认电压、温度、压力及流体种类是否正确。
Before the wiring, please specify the connection mode and confirm whether the voltage, temperature, pressure and the type of fluid are correct.
- 5、如电压不稳定，请加装稳压器。
If the voltage is unstable, please add a pressurizer.
- 6、接线或检修前，请务必关掉电源，以免发生危险。
Before wiring or repair, please be sure to turn off the power, so as not to be dangerous.
- 7、接线工作完成后，请将出线孔及上盖确实锁紧，以防止灰尘或雨水渗入。
After the wiring work is completed, please lock the outlet and upper cover to prevent the infiltration of dust or rain.
- 8、请注意执行器出线孔方向，以防止因人为因素使灰尘或雨水渗入。
Please pay attention to the direction of the outlet of the actuator to prevent the infiltration of dust or rain.
- 9、每只执行器内部均含有地线接点，请务必接上。
Each actuator contains a ground line contact, please be sure to connect.
- 10、非防爆型产品不可安装于危险区域(例：爆炸性气体)以及完全真空的空间环境里。
Non explosion-proof products can not be installed in dangerous areas (for example: explosive gas) and in the space environment of complete vacuum.
- 11、为了避免静电干扰影响产品功能，请勿徒手或让金属工具触碰到PCB板上之任何零件。
In order to avoid the impact of static interference on product function, do not touch or let metal tools touch any parts on the PCB board.

智能型 Intelligent



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Electrical input description
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智能型简介

Intelligent profile

智能型接收DCS系统中PLC等控制器发出的开关量信号（无源干触点、有源24V、有源220V，点动保持可切换）或模拟量信号（DC4-20mA、0-10V等），直接驱动电动执行器开关动作或调节动作。输出DC4-20mA反馈电流和现场/远控状态指示触点。该组件集成了伺服控制单元、固态驱动单元、液晶显示单元、旋钮操作等单元和铝壳配套组装。本产品操作如傻瓜相机一样简单，保护功能完善。

In intelligent receiving DCS system, PLC and other controllers send switch signals (passive dry contacts, active 24V, active 220V, point to stay and switch) or analog signals (DC4-20mA, 0-10V, etc.), directly driving electric actuator's switch action or regulating action. Current and local / remote state feedback indicating contact output DC4-20mA. The component integrates the servo control unit, the solid-state drive unit, the liquid crystal display unit, the knob operation and so on, and the aluminum shell assembly. The operation of this product is as simple as a fool and camera, and the protection function is perfect.

产品特点

Product features

- 1、一键式智能调试。 one key type of intelligent debugging.
- 2、报警精确。 The alarm is accurate.
- 3、死区自适应,避免震荡。 The dead zone is adaptive to avoid concussion.
- 4、可加配遥控器。 It can be added to the remote control.
- 5、现场操作点动与保持自适应。
The operation point of the field and the self-adaptive.

电气输入说明

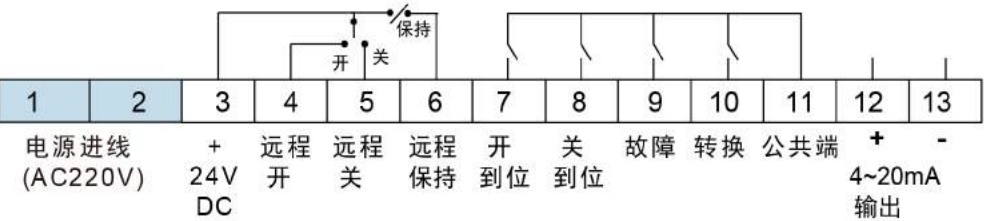
Electrical input description

- 1、常规电压: AC110V/AC220V/AC380V 50~60HZ。（特殊电压可定制）
Conventional voltage: AC110V/AC220V/AC380V 50~60HZ. (special voltage can be customized)
- 2、IP防护等级: IP67
IP protection grade: IP67
- 3、绝缘等级可达到F级。
The insulation grade can reach F level.
- 4、外壳采用压铸铝,强度高。
Outside the market by high strength casting aluminum.
- 5、开关型控制:开关量控制,输出有开关量和模拟量信号,带故障反馈(开关量)。
Switch type control: switch quantity control, output switch quantity and analog signal, with fault feedback (switch quantity).

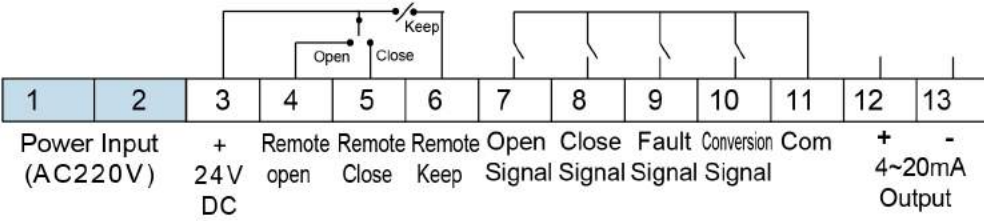
接线图

Wiring diagram

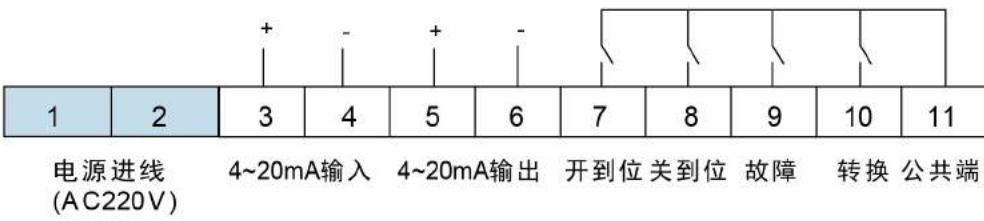
1、QT-10~200 AC220V（一体化开关型）



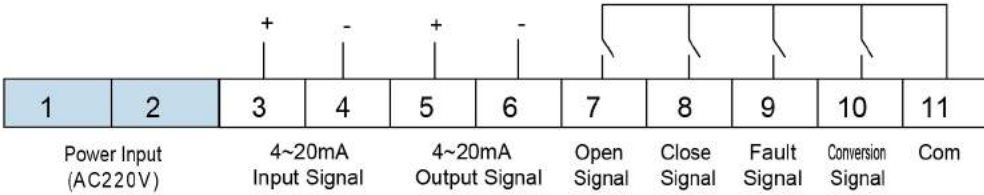
QT-10~200 AC220V（Integrated switch type）



2、QT-10~200 AC220V（一体化调节型）



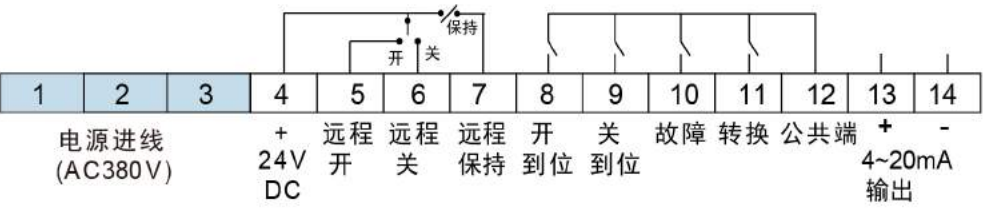
QT-10~200 AC220V（Integrated regulation type）



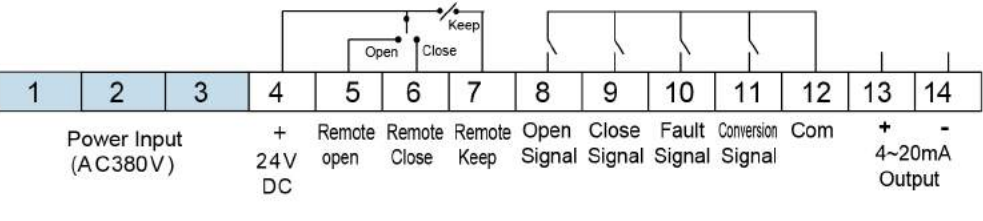
接线图

Wiring diagram

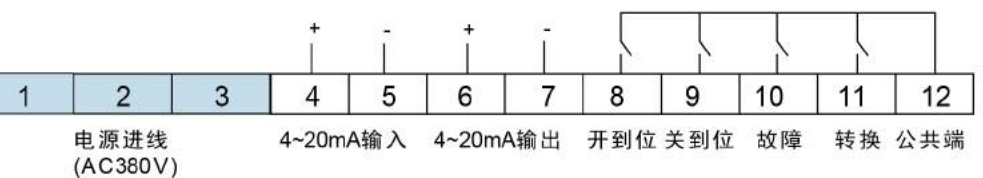
3、QT-10~200 AC380V（一体化开关型）



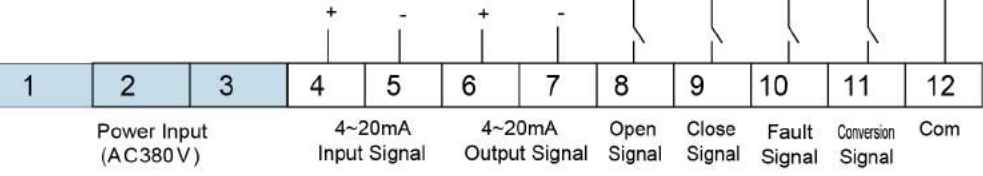
QT-10~200 AC380V（Integrated switch type）



4、QT-10~200 AC380V（一体化调节型）



QT-10~200 AC380V（Integrated regulation type）



特殊电压可定做
Special voltage can be customized