



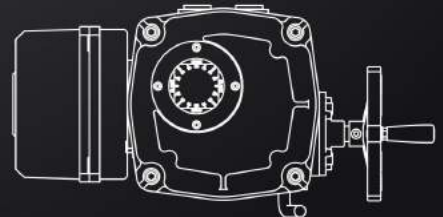
**WARNING**  
When installing actuators in the field, ensure that each actuator has its own independent control contact, such as a single pole, double throw switch. Actuators wired in parallel with a single switching contact will not operate properly and may significantly degrade the unit.  
The damaging effect of water in the actuator can be extensive. In an assembled actuator, the only entrance path for water is the conduit connection. To prevent voiding the actuator warranty, it is recommended that a potting box, filled with the appropriate compound, be installed adjacent to the conduit entry.

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**ELECTRIC ACTUATOR**  
MODEL: OHQ-060  
RATED CURRENT: 15A  
OPERATING TIME: 150000  
100% DUTY

**OHQ**

**ELECTRIC ACTUATOR**  
Intelligent Process Control  
*Build A Quality*





- << 手动操作 (离合器系统)**  
Manual operation (Clutching 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/Auto convert to handle and handwheel used for emergency manual operation
  - Powered, handle will automatically reset to auto operation



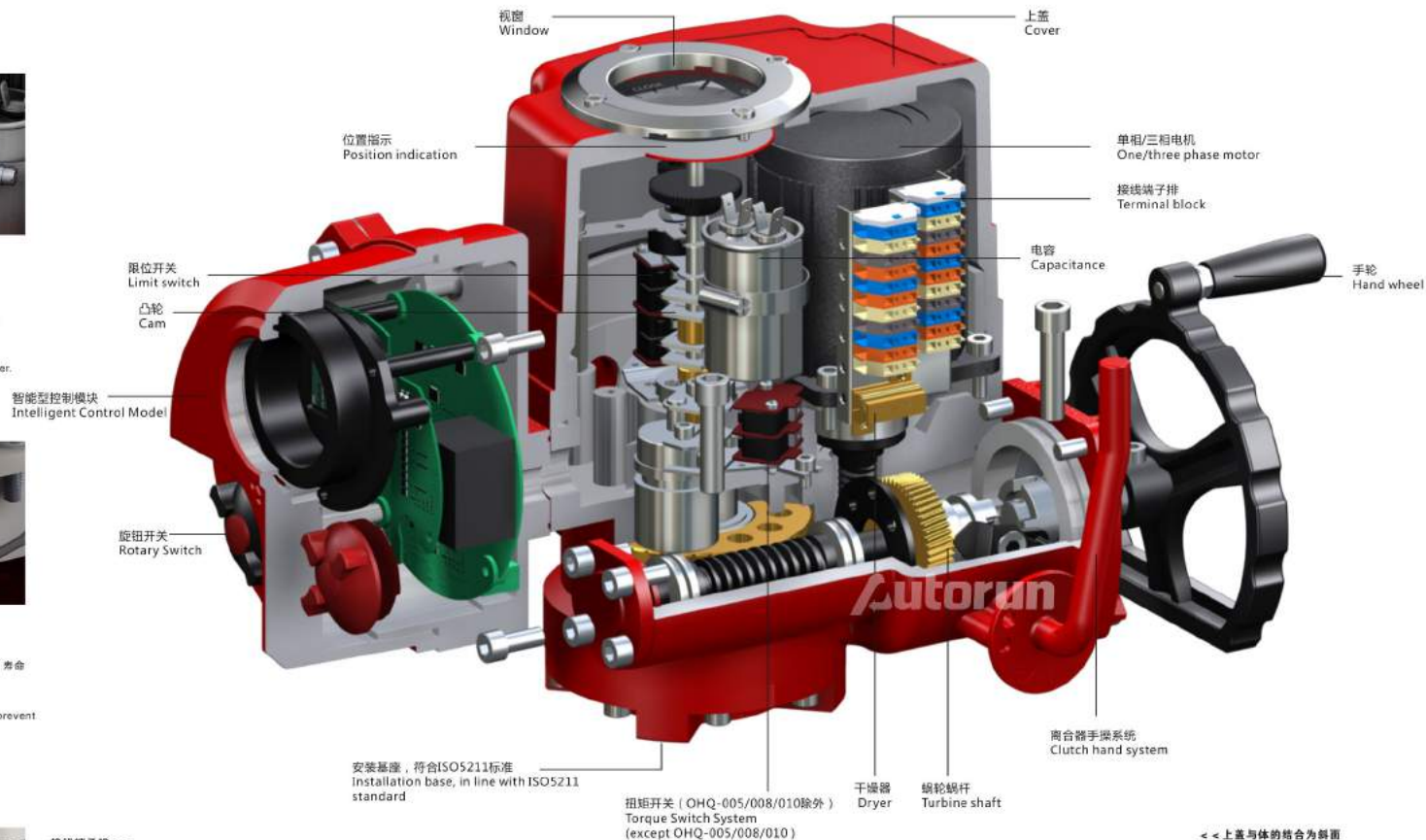
- 凸轮及限位开关 >>**  
Cam and limit switch
- 由两个螺丝在上表面固定, 设置简单
  - 每个凸轮可单独设置
  - 一旦设置完成, 每个凸轮会永远保持在此位置
  - Tighten with two screws and simple setting
  - Each cam can be set separately
  - Once set, each cam will be on the position forever.



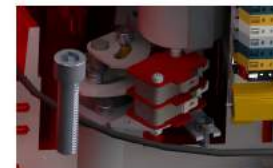
- << 干燥器**  
Space heater
- 7~10W, 由陶瓷制成, 采用金属外壳散热快, 寿命长同时作为恒温调节器调节温度, 防止过热
  - 没有漏电的危险
  - 7~10W, ceramic housing with thermostat to prevent overheat comparing with set temperature
  - Without risk of electricity leakage.



- 接线端子排 >>**  
Terminal block
- 有足够的端子, 使用户使用方便, 最多为22个
  - 能保证紧固, 牢固的电线连接
  - 端子长度: 8~9mm (2.5mm<sup>2</sup>)
  - 端子尺寸: 10 x 22 x 32mm
  - Enough terminal for customer's convenience (Max 22 points)
  - Proven reliability and tight wiring connection
  - Terminal length: 8~9mm (2.5mm<sup>2</sup>)
  - Terminal dimension: 10 x 22 x 32mm.



- 视窗上的两个小槽 >>**  
Two slots on window glass
- 视窗盖上有两个小槽, 便于雨水排出, 且视为凸锁不积水, 更宜观察
- 流水很严重的雨水可能会影响视窗的密封
  - 这样两个小槽就可防止上面的问题发生
  - Two slots on the window covers and convex are convenient for draining and observing, and ensure the well sealing of the cover.



- 扭矩开关 >>**  
Torque switch
- 扭矩开关可防止由于过载引起的电机及其他内部电子元件应过热对内部元件的损伤
  - 一旦扭矩开关起作用, 执行器应立即停止动作
  - Torque switch protect motor and internal electric components from overheat caused by overload of valve.
  - If torque works, the actuator stop at once.



- << 防锈螺栓**  
Anti-rust bolt
- 上盖螺栓为专门设计, 保养及安装时不会脱落
  - 所有外部螺栓为不锈钢材质, 不会生锈
  - Cover bolts are specially designed to prevent falling down during maintenance or installation.
  - All external bolts are stainless steel for rust prevention.

- << 上盖与体的结合为斜面**  
Inclined plane
- 其他执行器由于上盖和体的结合面是垂直的, 这样由于此处的公差很小, 卸下上盖很不容易
  - OHQ执行器此处设计为3°的斜面, 解决了这个问题, 尽管公差依然很小, 但是卸下上盖就很简单了
  - For other actuators, it is hard to take off cover because of little tolerance when the interface between cover and body is vertical.
  - For OHQ actuators, it is easy to take off cover as small tolerance, the design of interface is 3 degree inclined plane.



## 概述 Summary

OHQ系列防爆电动执行器用于控制阀门和其他类似产品的0°-270°旋转，如蝶阀，球阀，阻尼器，挡板阀，旋塞阀，百叶窗阀等。广泛应用于石油，化工，水处理，船舶，造纸，电厂，供暖，轻工等行业。可由380V / 220V / 110V交流电源或24V / 110V直流电源驱动，输入4-20mA电流信号或0-10V直流电压信号作为控制信号。将阀门移动到正确的位置，实现自动控制，其最大输出扭矩为2000N·M。（CE认证和防爆证书）。

OHQ Series Explosion-proof electric actuator is used for controlling 0°-270° rotation of the valves and other similar products, such as butterfly valve, ball valve, damper, flapper valve, plug valve, louver valve and so on. It widely applies to petroleum, chemical, water treatment, shipping, paper making, power plant, heating, light industry and other industries. It can be driven by 380V/220V/110V AC power or 24V/110V DC power, inputs 4-20mA current signal or 0-10V DC voltage signal as control signal. It moves the valve to the right position, and achieves automatic control, its maximum output torque is 2000N·M. (CE and explosion-proof certificates approved).

## 性能特点 Performance Feature

### 1. 壳体 — 指该盖由硬质铝合金制成，具有阳极氧化处理和聚酯粉末涂层。高耐腐蚀，防水等级为IP67。IP68和防爆型是可选的。

Actuator Cover—The cover is made of hard aluminum alloy with anodize treatment and polyester powder coating. It is highly corrosion-resistant and waterproof level is IP67. IP68 and explosion-proof type is optional.

### 2. 电机 — 全封闭式鼠笼式电机，体积小，扭矩大，惯性力小，F级绝缘等级。内部热保护开关避免损坏电机。

Motor—Fully enclosed squirrel-cage motor with small size, large torque, small inertia force and F class insulation rating. Internal hot protection switch avoids damaging of the motor.

### 3. 手动手轮 — 手轮设计安全可靠，省力省力。当执行器未通电时，将离合器拉到正确的位置后，可以用手轮操作。一旦通电，离合器将自动返回。

Manual Handwheel—The design of hand wheel is safe, reliable, labor-saving and small. When the actuator is not energized, it can be operated by hand wheel after pulling the clutch to the right position. Once energized, the clutch will return automatically.

### 4. 位置指示器 — 安装在中心轴上，用于观察阀门的位置。为了避免沉积和观察方便，它是由凸透镜设计的。

Position Indicator —Installed in the center axis for observing position of valve. To avoid ponding and observe conveniently, it is designed by Convex lens.

### 5. 加热器和恒温器 — 用于控制执行器内的温度，以避免内部潮湿

Heater and Thermostat—It is used for controlling temperature inside the actuator to avoid internal moisture because of changes of temperature and weather.

### 6. 限位开关 — 两机械和电子双限位。机械限位螺丝可调，安全可靠。

电子限位开关是由凸轮控制的SPDT。限位开关的位置可以通过简单的调整精确方便地设定。

Limit Switch—Mechanical and electronic double limit. Mechanical limit screw is adjustable, safe and reliable.

Electronic limit switch is SPDT controlled by the cam. Position of limit switch can be set accurately and conveniently by simple adjustment.

### 7. 扭矩开关 — 提供过载保护（OHQ 005/008/010除外），并且当阀门堵塞时，通过自动切断电源来避免阀门和执行器的损坏。（工厂设置，无需用户修改）

Torque Switch — It provides overload protection(Except type OHQ 005/008/010) and avoids damages to valve and actuator by cutting power supply automatically when the valve is jammed. (Set up factory, no need to modify by users)

### 8. 自锁 — 精密蜗轮蜗杆传动大扭矩，噪音低（最高50dB），使用寿命长。自锁功能可防止反转，确保稳定性和可靠性。高效润滑油在出厂前已经添加，不再需要添加。

Self-lock— Precise worm and worm gear transfer large torque efficiently with low noise(max. 50 dB) and long life. The self-lock function prevents inversion and insure stability and reliability. High-effective lubricant oil has been added ex-factory, it doesn't need to add any more.

### 9. 防脱螺栓 — 拆下盖子时，螺栓将附着在盖板上。所有外部螺栓均采用不锈钢制成。

Anti-off Bolt — The bolt will attach to the cover when removing the cover. All external bolts are made of stainless steel.

### 10. 安装 — 电动执行器底部的安装尺寸符合国际标准ISO5211和DIN3337。孔成四方形，易于通过线性或45°安装。执行器可以垂直或水平安装。

Installation — Installation size at the bottom of Electric Actuator meets international standard ISO5211 and DIN3337. The pores are ditetragon that it is easy to install by linear or 45°. The actuator can be installed vertically or horizontally.

### 11. 线路 — 电路控制电路符合单相或三相电源标准，布局合理紧凑。端子有效满足各种附加功能要求。

Circuit — Controlling circuit meets single-phase or three-phase power supply standard with reasonable and compact layout. Terminals meet various of additional functional requirements effectively.

### 12. 智能模块 — 采用高度集成，低功耗的MCU和模拟电路控制板。由于全金属外部安装，电机热源和控制板有效分离，大大提高了软，硬件的抗干扰和耐热性。

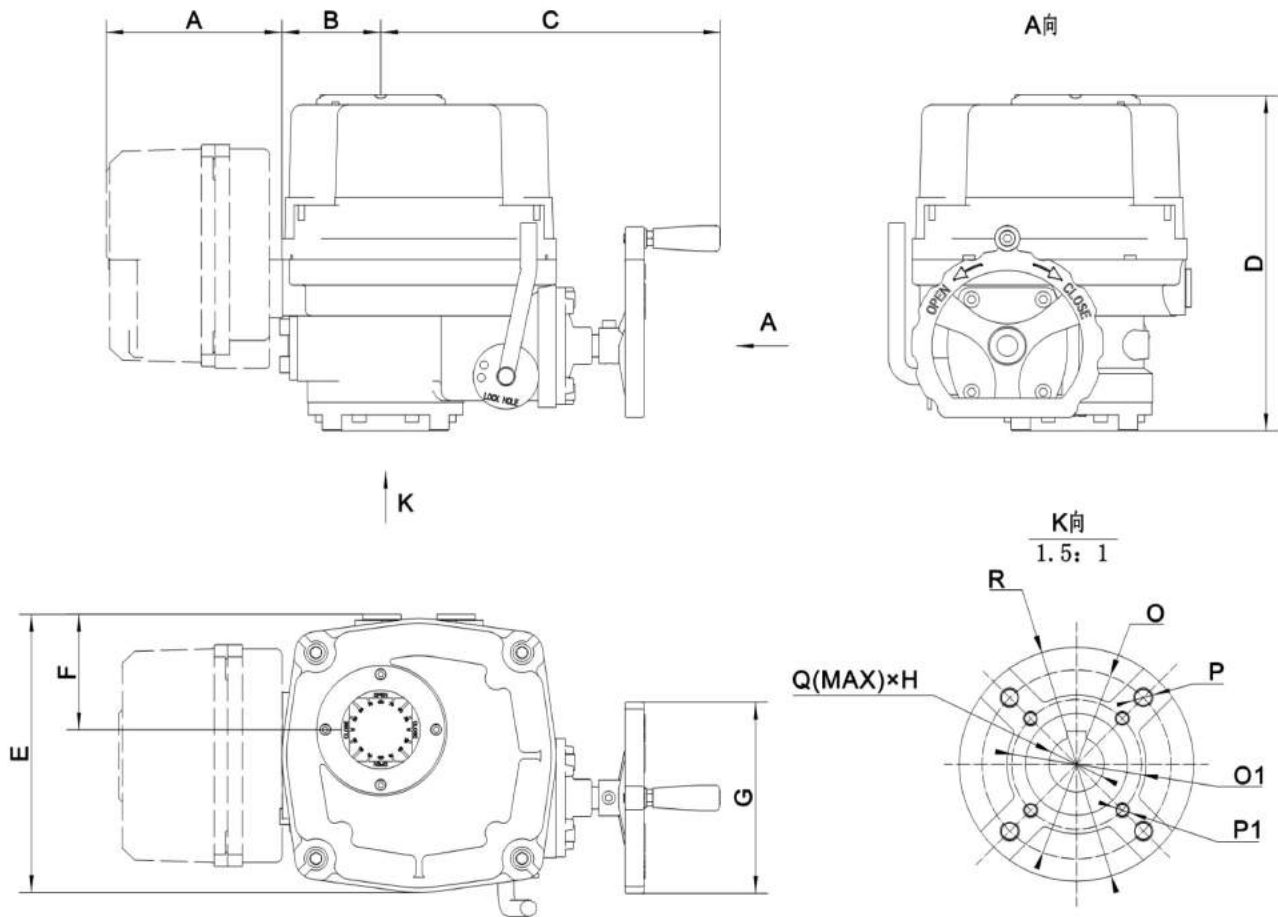
Intelligent Module — It adopts highly integrated and low consumption control plate with MCU and analog circuit. Because of all-metal external mounting, motor heat source and control plate are separated effectively, improving the anti-interference and heat resistance of software and hardware greatly.

### 13. 阀位数字显示 — 执行器打开和关闭期间，液晶显示屏上显示阀门位置的变化。

Display of Valve Position — During opening and closing of the actuator, the changes of valve position is displayed by big number on LCD screen.

### 14. 相序自动化调整 — 智能执行器自动连接到三相电源相序。

Automatic adjust of phase sequence — Intelligent actuator connects to 3 phase power supply phase sequence automatically.



## 外形及连接尺寸 Dimensions and Connection(mm)

| 型号 Model | A   | B   | C   | D   | E   | F   | G   | R   | O   | P     | O1  | P1    | Q×H深  |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-------|-------|
| OHQ-005  | 142 | 58  | 177 | 237 | 157 | 67  | 110 | 90  | 70  | 4-M8  | —   | —     | 20×40 |
| OHQ-008  | 142 | 58  | 177 | 237 | 157 | 67  | 110 | 90  | 70  | 4-M8  | —   | —     | 20×40 |
| OHQ-010  | 142 | 58  | 177 | 237 | 157 | 67  | 110 | 90  | 70  | 4-M8  | —   | —     | 20×40 |
| OHQ-015  | 142 | 80  | 275 | 272 | 227 | 94  | 155 | 125 | 102 | 4-M10 | 70  | 4-M8  | 22×45 |
| OHQ-020  | 142 | 80  | 275 | 272 | 227 | 94  | 155 | 125 | 102 | 4-M10 | 70  | 4-M8  | 22×45 |
| OHQ-030  | 142 | 82  | 276 | 289 | 243 | 96  | 155 | 150 | 125 | 4-M12 | 102 | 4-M10 | 35×55 |
| OHQ-060  | 142 | 82  | 276 | 289 | 243 | 96  | 155 | 150 | 125 | 4-M12 | 102 | 4-M10 | 35×55 |
| OHQ-080  | 142 | 115 | 288 | 331 | 276 | 103 | 205 | 180 | 140 | 4-M16 | 125 | 4-M12 | 45×70 |
| OHQ-120  | 142 | 115 | 288 | 331 | 276 | 103 | 205 | 180 | 140 | 4-M16 | 125 | 4-M12 | 45×70 |
| OHQ-200  | 142 | 115 | 288 | 331 | 276 | 103 | 205 | 180 | 140 | 4-M16 | 125 | 4-M12 | 45×70 |

注：虚线部分为模拟量控制盒，开关型无此尺寸。

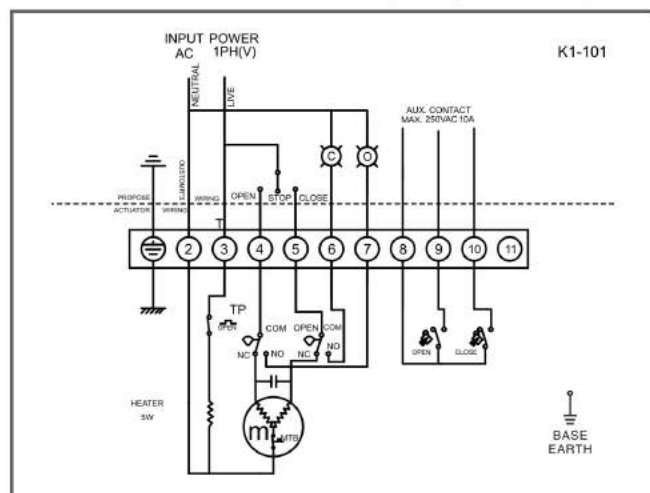
The part of broken line is used for quantity control box, On-Off model don't have this size

## 性能参数 Performance Parameter

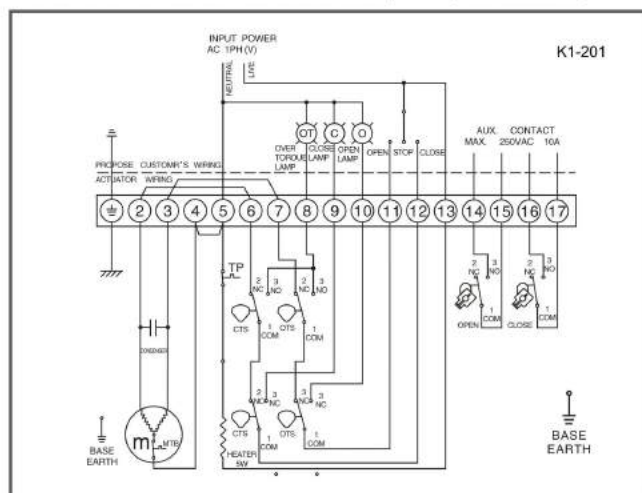
| 型号<br>Model | 最大输出扭矩<br>Max output torque | 工作时间<br>Operating time 60/50HZ | 最大孔径<br>MAX bore size | F级电机<br>F-class Motor | 额定电流 ( A ) 50Hz<br>Rated Current ( A ) 50HZ |      |                |      | 手轮<br>Handwheel | 重量<br>Weight |
|-------------|-----------------------------|--------------------------------|-----------------------|-----------------------|---------------------------------------------|------|----------------|------|-----------------|--------------|
|             |                             |                                |                       |                       | 单相 Single Phase                             |      | 三相 Three Phase |      |                 |              |
|             | N · M                       | 90°                            | mm                    | W                     | 110V                                        | 220V | 380V           | 440V | N               | kg           |
| OHQ-005     | 50                          | 18/22                          | Φ20                   | 20                    | 1.10                                        | 0.5  | 0.1            | N/A  | 10              | 7.5          |
| OHQ-008     | 80                          | 18/22                          | Φ20                   | 20                    | 1.10                                        | 0.5  | 0.1            | N/A  | 10              | 7.5          |
| OHQ-010     | 100                         | 18/22                          | Φ20                   | 20                    | 1.10                                        | 0.5  | 0.1            | N/A  | 10              | 7.5          |
| OHQ-015     | 150                         | 21/25                          | Φ22                   | 60                    | 1.65                                        | 0.85 | 0.4            | 0.30 | 11              | 17.3         |
| OHQ-020     | 200                         | 21/25                          | Φ22                   | 60                    | 1.6                                         | 0.85 | 0.4            | 0.30 | 11              | 17.3         |
| OHQ-030     | 300                         | 26/31                          | Φ35                   | 90                    | 1.85                                        | 1.2  | 0.64           | 0.34 | 13.5            | 22           |
| OHQ-060     | 600                         | 26/31                          | Φ35                   | 120                   | 3.65                                        | 1.6  | 0.78           | 0.59 | 13.5            | 23           |
| OHQ-080     | 800                         | 31/37                          | Φ45                   | 180                   | 4.10                                        | 2.5  | 1.35           | 0.79 | 16.5            | 29           |
| OHQ-120     | 1200                        | 31/37                          | Φ45                   | 180                   | 4.20                                        | 2.5  | 1.35           | 0.81 | 16.5            | 29           |
| OHQ-200     | 2000                        | 93/112                         | Φ65                   | 180                   | 4.10                                        | 2.5  | 1.35           | 0.79 | 49.5            | 75           |

## 线路 Circuit Diagram

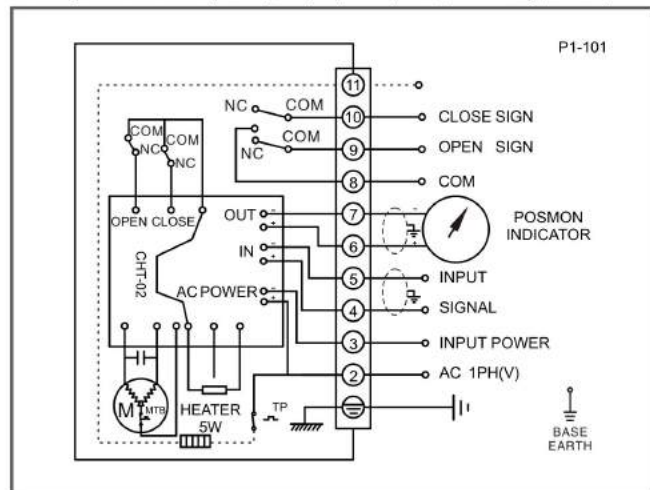
1.OHQ-005-010 110V/220V AC/50/60HZ, 1Ph (标准开关型)  
OHQ-005-010 110V/220V AC/50/60HZ, 1Ph (on/off mode)



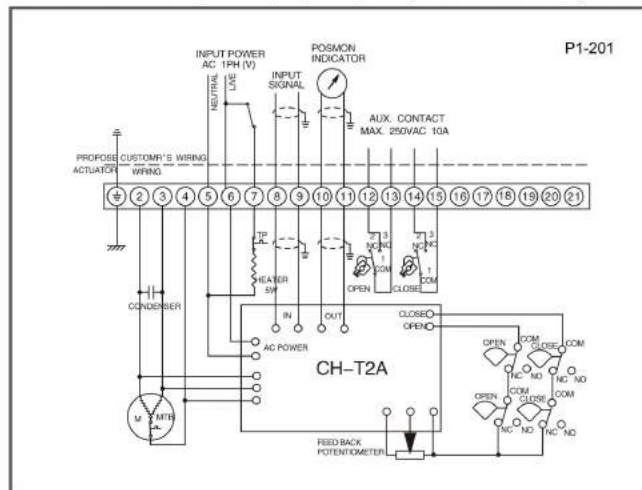
2.OHQ-015-200 110V/220V AC/50/60HZ, 1Ph (标准开关型)  
OHQ-015-200 110V/220V AC/50/60HZ, 1Ph (on/off mode)



3.OHQ-005-010 110V/220V/AC/50/60HZ,1PH (调节型)  
OHQ-005-010 110V/220V/AC/50/60HZ,1PH(modulating mode)

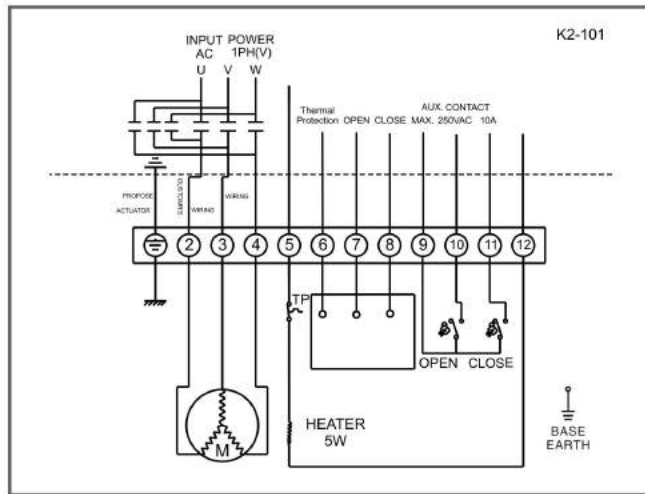


4.OHQ-015-200 110V/220V AC/50/60HZ,1Ph (调节带过力矩保护型)  
OHQ-015-200 110V/220V AC/50/60HZ, 1Ph (Standard modulating mode)



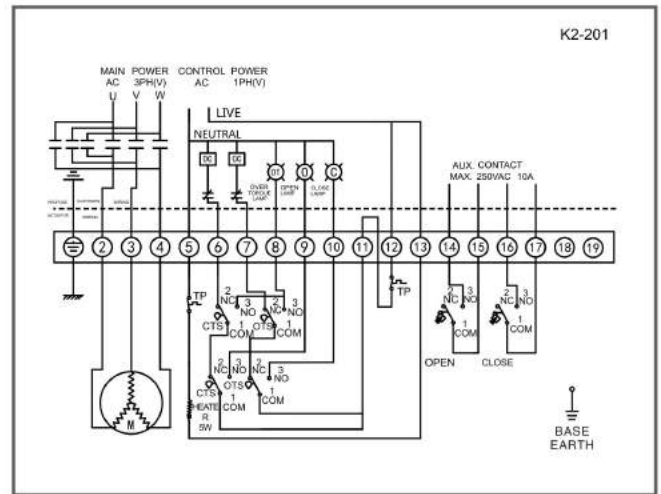
### 5.OHQ-05-010 380V/440V AC/50/60HZ, 3Ph ( 外置标准型 )

OHQ-05-010 380V/440V AC/50/60HZ, 3Ph ( External standard on/off modle )



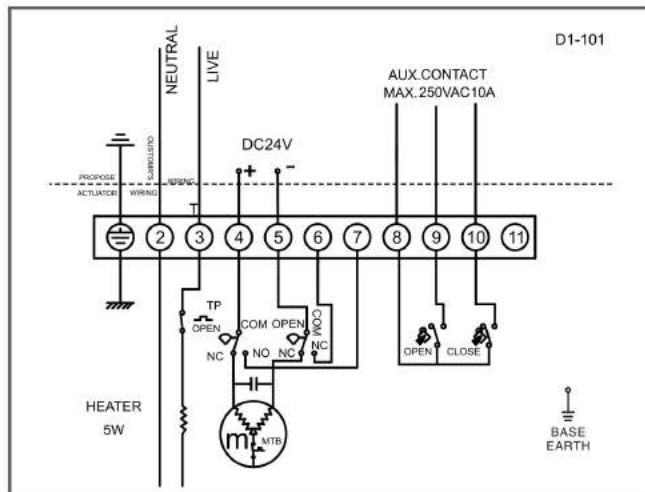
### 6.OHQ-015-200 380V/440V AC/50/60HZ, 3Ph ( 外置标准型 )

OHQ-015-200 380V/440V AC/50/60HZ, 3Ph ( External standard on/off modle )



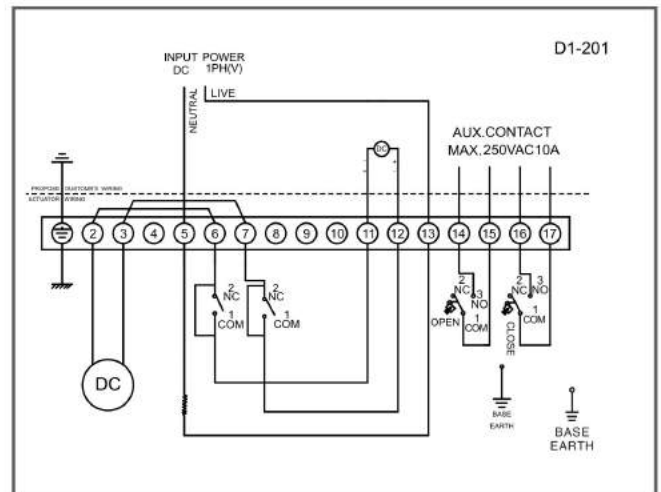
### 7.OHQ-015-010 24V/220V DC ( 标准开关型 )

OHQ-015-010 24V/220V DC ( on/off modle )



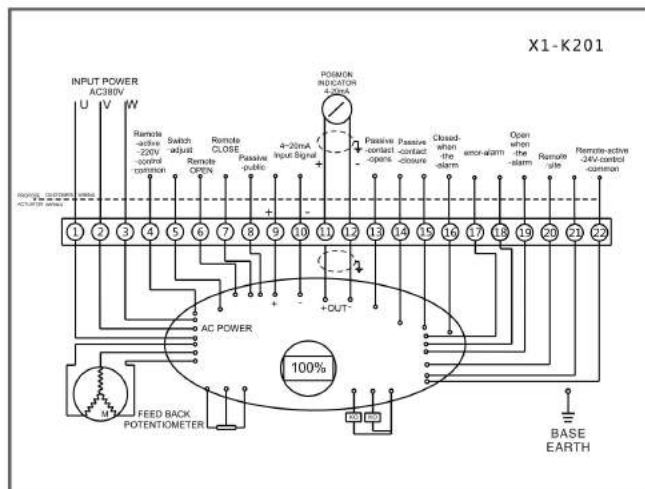
### 8.OHQ-015-200 24V/220V DC ( 标准开关型 )

OHQ-015-200 24V/220V DC ( on/off modle )



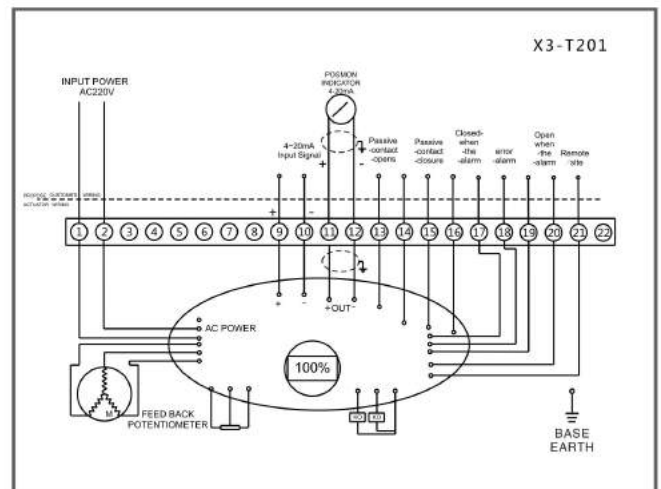
### 9.OHQ-005-200 380V/460V AC/50/60HZ ( 智能一体化开关型 )

OHQ-005-200 380V/460V AC/50/60HZ ( Intelligent integration on/off model )



### 10.OHQ-005-200 220V/110V AC/50/60HZ ( 智能一体化调节型 )

OHQ-005-200 220V/110V AC/50/60HZ ( Intelligent integration modulating model )



## 标准技术参数 Standard Technical Parameter

| 外壳<br>Actuator body                                    | 防水等级IP67<br>Waterproof level IP67                                                              | 可选: IP68 防爆<br>Optional: IP68, explosion-proof |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------|
| 电机<br>Motor                                            | 鼠笼式异步电动机<br>Squirrel-cage Asynchronous Motor                                                   |                                                |
| 限位开关<br>Limit Switch                                   | 1开/1关, SPDT, 250V AC, 10A<br>1 Close&1 Open, SPDT, 250VAC 10A                                  |                                                |
| 辅助开关组<br>Auxiliary Switch Set                          | 1开/1关, SPDT, 250V AC, 10A<br>1 Close&1 Open, SPDT, 250VAC 10A                                  |                                                |
| 扭矩开关<br>Torque Switch                                  | 1开/1关, SPDT, 250V AC, 10A<br>1 Close&1 Open, SPDT, 250VAC 10A                                  | 除OHQ-005/008/010<br>Except OHQ-005/008/010     |
| 行程<br>Stroke                                           | 90°±10°                                                                                        | 可选择0°- 270°<br>Optional: 0°- 270°              |
| 故障保护/工作温度<br>Failure Protection /Operating Temperature | 内部热保护, 打开115°C±5°C /关闭97°C±5°C<br>Internal thermal protection, Open 115°C±5°C /Close 97°C ±5°C |                                                |
| 指示器<br>Indicator                                       | 连续的位置指示<br>Continuous position indicator                                                       |                                                |
| 手动操作<br>Manual Operate                                 | 机械手柄, 可用手轮来操作<br>Mechanical clutch, operate with handwheel                                     |                                                |
| 自锁装置<br>Self-lock Device                               | 涡轮、蜗杆机构提供自锁<br>Self-lock by worm and worm gear                                                 |                                                |
| 机械限位<br>Mechanical Limit                               | 2个外部调整<br>External adjusting bolts (2 piece)                                                   |                                                |
| 加热器和恒温器<br>Heater and Thermostat                       | 7-10W (110/220V AC)                                                                            |                                                |
| 接线孔<br>Connecting hole                                 | PF 3/4" (2个)<br>PF 3/4" (2 pieces)                                                             |                                                |
| 环境温度<br>Ambient Temperature                            | -20°C~+70°C                                                                                    |                                                |
| 润滑<br>Lubrication                                      | 铝基润滑脂 (EP型)<br>Aluminum-base grease (EP type)                                                  |                                                |
| 材料<br>Material                                         | 钢、铝合金、铝青铜、聚碳酸酯<br>Steel, Aluminum alloy, Aluminum bronze, Polycarbonate                        |                                                |
| 环境湿度<br>Ambient Humidity                               | 最大90% RH<br>Max 90% RH                                                                         |                                                |
| 抗震性能<br>Anti-vibration                                 | X Y Z 10g, 0.2~34HZ, 30minutes<br>X Y Z 10g, 0.2~34HZ, 30minutes                               |                                                |
| 外表涂层<br>External Coating                               | 干粉、环氧聚酯<br>Dry powder, Epoxy polyester                                                         |                                                |



**Autorun®**

**浙江欧德隆自控阀门有限公司**

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