

# Electric Actuator Instruction

## The Installation are following

1. Be careful not to impact when you mounting.
2. Make sure the right input voltage.
3. Check whether the contact connection is correct and make sure to fasten the screw of the terminal contact, then you can power up.
4. Series connection or parallel connection with other circuit of electric source is prohibited. (If parallel connection is necessary, please refer to the illustration)
5. Only under power off situation is operating the manual handle wheel allowed.
6. Please clean the internal pipe neatly before installing.
7. Please add fuse at the electric source of terminal in the control room when connecting to avoid contact error causing burning out of electric circuit.

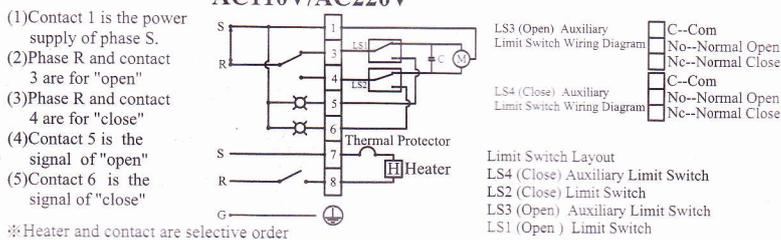
## Caution

1. Keep away from gas or the area with explosive chemicals to avoid dangers.
2. Please turn off the electric actuator when manually operating or repairing to avoid dangers.
3. After wiring and distribution, please check whether the O-ring of waterproof advice is hooked up or not. Then, lock up the outside cover and fasten the screw of cable gland to prevent from dust and rain penetration.
4. Do not directly install under completely vacuum environment.
5. If it is necessary to open or close more than two electric actuators at the same time, please connect them separately and individually. The capacitors are not allowed to be connected in series or in parallel, since they will interrupt with each other. Please additionally mount relay respectively and control the actuator individually.
6. When manually operating, in series UM-1~UM-3, please use wrench with 8mm open degree and the length cannot over 10cm.
7. When the valve is locked up tightly, it is not allowed to manually operate it or to use strong force to turn it, preventing from damaging the internal spare parts of the machine.
8. When operating manually, please pay attention to the position indicator. It should not exceed the capacity to avoid damage the internal spare parts of the machine. (Ex: If it is electric actuator with modulating, the variable resistor (VR) will damage.)
9. The standard electric actuator acts (open and close) 5 minutes within the limit of one time. (Special speed is not in this case.)
10. Please add feedback signal to make sure the operation is steady under fixed speed. If the signal is not showing out normally, please check up the problem.
11. When operating the lever handle, please turn off the switch to prevent danger or breaking down of inner parts of the actuator. When operating the lever handle, first, push the handle inward to engage the clutch and then you can turn the wheel to open or close. From products UM3-1 to UM-12, all are composed with position baffle with limited travel. When using the lever handle, please notice the range of opening according to the signal or the plate, not to make the indicator exceed the capacity or use violence to turn it or the of inner parts will be wrecked.

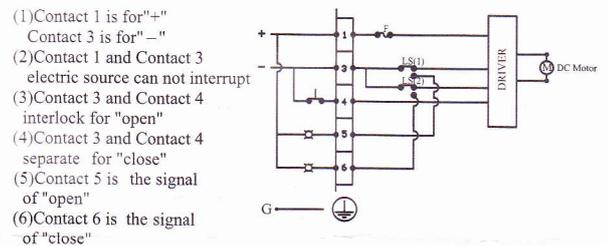
## INSTRUCTION POINTS:

1. AC VOLTAGE: motor with overheat protection device. (If the valve is stuck by impurity, the mechanical structure will not damage and motor will not burn)
2. DC VOLTAGE: If the internal of the valve is stuck by impurity, the mechanical structure will not damage and motor will not burn. (current rise fuse over load. although the fuse burn cause break, the motor still can be protected)
3. The director display valve open and close condition. O=open C=close
4. The standard device with two limit switch. If necessary customer can install up to four limit switch (selective order)
5. waterproof level: IP67

### The instruction of the connection AC110V/AC220V



### DC-12、DC-24 SERIES(PC BOARD)



## ※Electric Actuator Characteristics

Model	UM-1		UM-2-5/7		UM-2-1		UM-3			UM3-1			UM-4		UM-5		UM-6			
	10W		15W		15W		15W	25W	40W	60W	25W	40W	60W	25W	40W	60W	60W			
90° Rotation switching time(sec)	1	5	10	1	10	10	10	17	1	8	1	1	1	8	1	1	20	30	30	30
Torque values(±5%) (Kgf-cm)	80	214	362	132	432	500	700	450	350	1562	405	460	350	1562	405	460	2500	3320	4873	6081

### ※Electric Actuator Characteristics

※Formula For Ball Valve: Torque 0-1000 kgf-cm x 1.5X/Torque 0-10000 kgf-cm x 1.3X

※Formula For Butterfly Valve: Torque 0-1000 kgf-cm x 1.5X/Torque 0-10000 kgf-cm x 1.3X

### Installation Notice:

When connecting pipes, please pay attention to the bigger thread side of the valve, use the pipe wrench (or spanner) to make it stable at the original fixed point

so that while simultaneously turning the pipe, the seal of the valve body won't be twisted too tightly causing valve body to work unsmoothly.

**If unnecessary please do not dismantle electric actuator & valve to avoid the position disorder.  
If the position has moved , please adjust refer to the instruction of the drawing as follows:**

**UM-1(ISO 5211)**

**Cam Acting Illustration**  
Adjustable Tools:Hexangular Wrench(2.0Hx1)  
LS2 (A) Close      LS1 (B) Open

**Cam Acting Explanation**

- 1.The cam is fixed on the main transmission shaft.
- 2.Turn the transmission shaft clockwise is closing the valve, when touching the limited switch (A),the action of closing stops.
- 3.Turn the transmission shaft counterclockwise is opening the vale, when touching the limited switch (B) ,the action of opening stops.

**UM-2-5/7(ISO 5211)**

**Cam Acting Illustration**  
Adjustable Tools:Hexangular Wrench(2.0Hx1)  
LS2 (A) Close      LS1 (B) Open

**Cam Acting Explanation**

- 1.The cam is fixed on the main transmission shaft.
- 2.Turn the transmission shaft clockwise is closing the valve, when touching the limited switch (A),the action of closing stops.
- 3.Turn the transmission shaft counterclockwise is opening the vale, when touching the limited switch (B) ,the action of opening stops.

**UM2-1(ISO 5211)**

**Cam Acting Illustration**  
Adjustable Tools:Hexangular Wrench(2.0Hx1)  
LS2 (A) Close      LS1 (B) Open

**Cam Acting Explanation**

- 1.The cam is fixed on the main transmission shaft.
- 2.Turn the transmission shaft counterclockwise is closing the valve, when touching the limited switch (A),the action of closing stops.
- 3.Turn the transmission shaft clockwise is opening the vale, when touching the limited switch (B) ,the action of opening stops.

**UM-3(ISO 5211)**

After have completed for position fixing, please set switch arrow with the right position When valve open or valve close,switch arrow focus on O or C.

The limit switch fixing plate screw hole can be adjustable back and forth

**Cam Acting Illustration**  
Adjustable Tools:Hexangular Wrench(2.5Hx1)  
C (Close)      O (Open)

**Cam Acting Explanation**

- 1.The cam is fixed on the main transmission shaft.
- 2.Turn the transmission shaft clockwise is closing the valve, when touching the limited switch (A),the action of closing stops.
- 3.Turn the transmission shaft counterclockwise is opening the vale, when touching the limited switch (B) ,the action of opening stops.

**UM-3-1(ISO 5211)**

After have completed for position fixing, please set switch arrow with the right position When valve open or valve close,switch arrow focus on O or C.

The limit switch fixing plate screw hole can be adjustable back and forth

Travel position fixing screw(open)  
Travel position fixing screw(close)

**Caution**

- 1.Before adjusting the valve open degree, please make limited screw counterclockwise withdraw about 3cm.
- 2.After adjusting the position, please electrify one more time, if there is no problem, please continue adjusting by following step 3 and step 4.
- 3.When valve fully opens fasten the limited screw (open) clockwise until it touches the position baffle and then fasten the hex nut.
4. When valve is fully closes fasten the limited screw (close) clockwise until it touches the position baffle and then fasten the hex nut.

**Cam Acting Illustration**  
Adjustable Tools:Hexangular Wrench(2.5Hx1)  
C (Close)      O (Open)

**Cam Acting Explanation**

1. The cam is fixed on main transmission shaft.
2. Turn the transmission shaft clockwise is closing the valve,when touching the limited switch (A),the action of closing stops.
- 3.Turn the transmission shaft counterclockwise is opening the vale, when touching the limited switch (B) ,the action of opening stops.

**UM-4(ISO 5211)**

After have completed for position fixing, please set switch arrow with the right position When valve open or valve close,switch arrow focus on O or C.

The limit switch fixing plate screw hole can be adjustable back and forth

Travel position fixing screw(open)  
Travel position fixing screw(close)

**Caution**

- 1.Before adjusting the valve open degree, please make limited screw counterclockwise withdraw about 3cm.
- 2.After adjusting the position, please electrify one more time, if there is no problem, please continue adjusting by following step 3 and step 4.
- 3.When valve fully opens fasten the limited screw (open) clockwise until it touches the position baffle and then fasten the hex nut.
4. When valve is fully closes fasten the limited screw (close) clockwise until it touches the position baffle and then fasten the hex nut.

**Cam Acting Illustration**  
Adjustable Tools:Hexangular Wrench(2.5Hx1)  
C (Close)      O (Open)

**Cam Acting Explanation**

- 1.The cam is fixed on the main transmission shaft.
- 2.Turn the transmission shaft clockwise is closing the valve, when touching the limited switch (A),the action of closing stops.
- 3.Turn the transmission shaft counterclockwise is opening the vale, when touching the limited switch (B) ,the action of opening stops.

**UM5-UM6(ISO 5211)**

After have completed for position fixing, please set switch arrow with the right position When valve open or valve close,switch arrow focus on O or C.

The limit switch fixing plate screw hole can be adjustable back and forth

Travel position fixing screw(open)  
Travel position fixing screw(close)

**Caution**

- 1.Before adjusting the valve open degree, please make limited screw counterclockwise withdraw about 3cm.
- 2.After adjusting the position, please electrify one more time, if there is no problem, please continue adjusting by following step 3 and step 4.
- 3.When valve fully opens fasten the limited screw (open) clockwise until it touches the position baffle and then fasten the hex nut.
4. When valve is fully closes fasten the limited screw (close) clockwise until it touches the position baffle and then fasten the hex nut.

**Cam Acting Illustration**  
Adjustable Tools:Hexangular Wrench(2.5Hx1)  
C (Close)      O (Open)

**Cam Acting Explanation**

- 1.The cam is fixed on the main transmission shaft.
- 2.Turn the transmission shaft clockwise is closing the valve, when touching the limited switch (A),the action of closing stops.
- 3.Turn the transmission shaft counterclockwise is opening the vale, when touching the limited switch (B) ,the action of opening stops.