

ELECTRIC ACTUATOR



Xiamen Sanli Plastics Piping CO.,LTD
Xiamen Sanideng Plastics Industry CO.,LTD

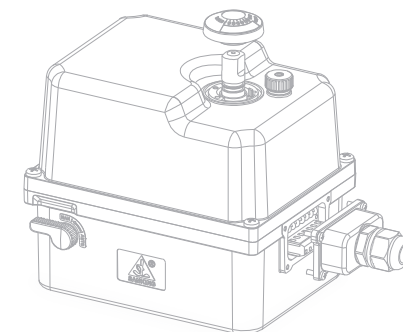
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OPERATION MANUAL

Version 2019.7

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Please Carefully
Read This Brochure

Notice

The equipment has dangerous voltage during use.
If do not follow the brochure, it will cause personal injury.Only qualified operators can use the equipment.
Operators must read and follow this manual
Safety operations are based on right transport and storage, correct mechanical assembly, installation, operation and maintenance.

SANKING keeps the right to amend and explain for this manual.

Function Summary

1: Innovation

- (1). Adjust the corresponding mechanical gear according to the opening degree (see details on Adjustment of Opening Degree and Mechanical Gear) to ensure the stability of the opening.
- (2). Add the alarm signal, the first time to find valve or actuator abnormal.

2: Refinement

- (1). Outer instructive marks are coated with ink after molding, which can make sure the performance even if ink is faded out in serious environment.
- (2). Design of sealing is as per design standard of valves, O-rings are added in the seams, and 2-layer O-rings are added in the rotating shaft.

EA-A6 protection level IP67 is certified by SGS ;
EA-A7 and EA-A8 protection level IP66 are certified by SGS.

- (3). Junction box is designed outside and free from dismantling upper wiring. The connection between junction box and body is assembled with O-ring, and terminal end of wires are glued to prevent steam and protect internal parts so as to enhance service life.
- (4). Plastic casing pass impact and acid-base tests, and raw materials meet SGS as well, safe to use.

3: Feature

- (1). Assembly of actuators and valves meets EN ISO 5211 standard.

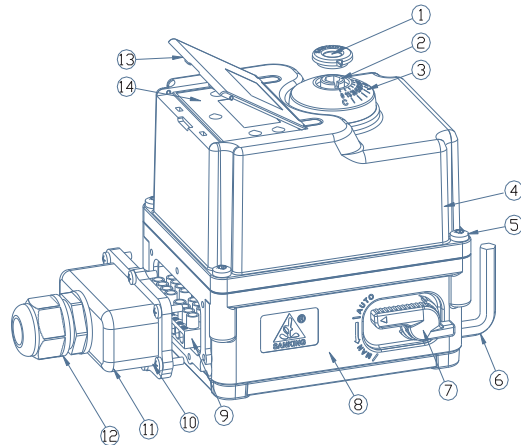
- (2). Outer stainless steel parts are good anti-corrosive.
- (3). High reduction ratio, low power consumption and big moment of force.
- (4). The speed of opening is stable, which can prevent water hammer and increase life span of fittings.
- (5). The maintenance period is 1 year or operation more than 15000 times (whichever comes first).

4: Particular Designs

- (1). Aesthetics element is integrated into the design of industrial products, more comfortable vision.

Parts' Name & Materials

EA-A6 (intelligent type) Surface, Parts & Materials
EA-A6 (switching type) has no item 13,14



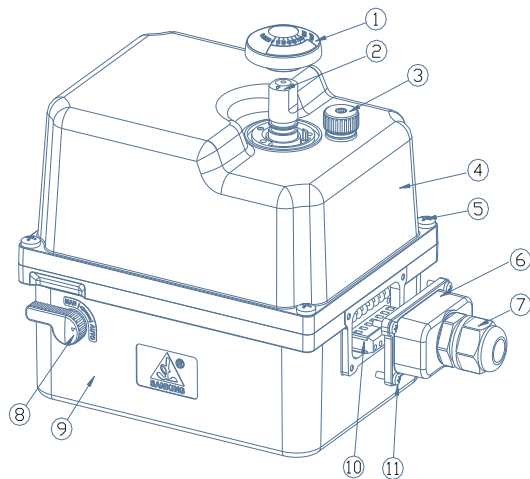
Item	Parts	Materials
1	Pointer	ABS
2	Index Plate	PVC
3	Chief Axis	SUS304
4	Upper Cover	ABS
5	Tapping Screw	SUS304
6	Hex key	Cr-V
7	Clutch Shaft	PA6
8	Lower Cover	PA66+30%GF
9	Terminal Blocks	PBT+30%GF
10	Tapping Screw	SUS304
11	Terminal Box	PA66+30%GF
12	Cable Joint	PA6
13	Buttons Cover	PP
14	Face-plate	EBG1803M4914VHB

Characteristic Parameter & Model Selection

Model Item	EA-A6(intelligent type)		EA-A6(Switching type)	
Power Source	24VDC	220V±15%AC	24V AC/DC	220V±15%AC
Output Torque	35N.m		35N.m	
Running Time	14S		14S	11S
Rated Power	20W		20W	
Running Current	Rated 0.8A,Maximum 1.6A		Rated 0.8A,Maximum 1.6A	
Signal line output	RS485/ 4-20MA/0-10V/1-5V (Intelligent)			
	Open to the designated location/Close to the designated location/Alerting signal(Switching)			
Rotation Angle	0°~ 90°			
Open Degree Range	15°~ 90°			
Ambient Temperature	-15℃ ~ 60℃			
Weight	1.0kg	1.1kg	1.0kg	1.1kg
Assembly Flange	① F05-M6 ② F03-M5			
Chief Axis Hole Size	① 14X14 ② 11X11 ③ 9X9			
Cable Connector type	① M16/φ6~10 ② M22/φ10~14			

Parts' Name & Materials

EA-A7 Surface, Parts & Materials



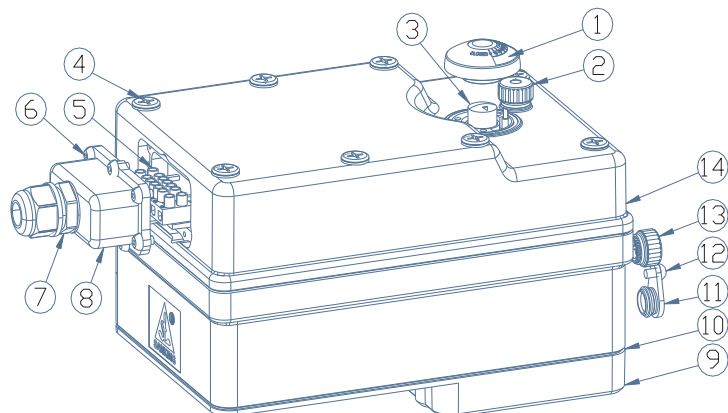
Item	Parts	Materials
1	Index Plate	PVC
2	Chief Axis	SUS304
3	Open degree adjusting knob	PA6
4	Upper Cover	ABS
5	Tapping Screw	SUS304
6	Terminal Box	PA66+30%GF
7	Cable Joint	PA6
8	Clutch Shaft	PA6
9	Lower Cover	PA66+30%GF
10	Terminal Blocks	PBT+30%GF
11	Tapping Screw	SUS304

Characteristic Parameter & Model Selection

Model Item	EA-A7(Switching type)	
Power Source	24VAC/DC	220V±15%AC
Output Torque	100N.m	
Running Time	18S	
Rated Power	35W	
Running Current	Rated 1.6A,Maximum 3.2A	
Signal line output	Open to the designated location/Close to the designated location/Alerting signal	
Rotation Angle	0°~ 90°	
Open Degree Range	15°~ 90°	
Ambient Temperature	-15℃ ~ 60℃	
Weight	2.8kg	
Assembly Flange	① F07-M8 ② F05-M6	
Chief Axis Hole Size	① 22X22 ② 19X19 ③ 17X17	
Cable Connector type	① M16/φ6~10 ② M22/φ10~14	

Parts' Name & Materials

EA-A8 Surface, Parts & Materials



Item	Parts	Materials
1	Index Plate	PVC
2	Open degree adjusting knob	PA6
3	Chief Axis	SUS304
4	Plug	PA66+30%GF
5	Terminal Blocks	PBT+30%GF
6	Tapping Screw	SUS304
7	Cable Joint	PA6
8	Terminal Box	PA66+30%GF
9	Base	Zinc alloy
10	Sealing Washer	EPDM
11	Manual Sealed Cap	EPDM
12	Tapping Screw	SUS304
13	Manual adjusting knob	PA6
14	Upper Cover	ABS

Characteristic Parameter & Model Selection

Model Item	EA-A8(Switching type)	
Power Source	24VAC/DC	220V±15%AC
Output Torque	200N.m	
Running Time	16S	
Rated Power	45W	
Running Current	Rated 1.8A,Maximum 4.5A	
Signal line output	Open to the designated location/Close to the designated location/Alerting signal	
Rotation Angle	0°~ 90°	
Open Degree Range	15°~ 90°	
Ambient Temperature	-15℃ ~ 60℃	
Weight	5.2kg	
Assembly Flange	① F10-M10 ② F12-M10	
Chief Axis Hole Size	① 22X22 ② 19X19 ③ 17X17	
Cable Connector type	① M16/φ6~10 ② M22/φ10~14	

Model Selection

Model/Power Specifications - Output torque - Assembly Flange - Chief Axis Hole Size - Cable Connector type

Standard Configuration:

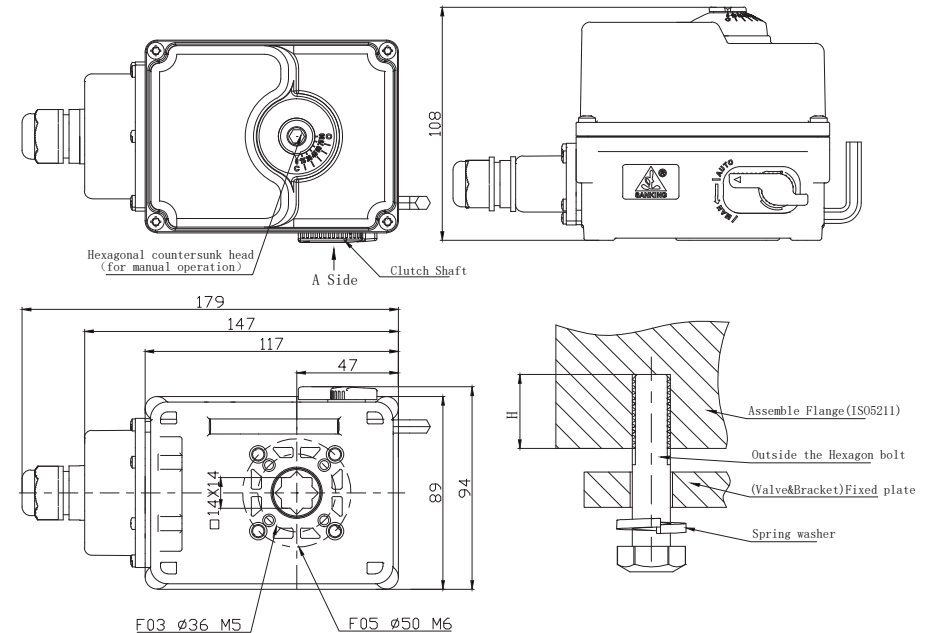
1. Opening degree adjustment($15^{\circ} \sim 90^{\circ}$)
2. Mechanical overload protection
3. Manual control
4. Alarm, status signal output
5. Overload/Overheat protection(Fuse fast recovery)
6. Hex Key(EA-A6)
7. Z type Hex Key(EA-A8)

Selective Configuration:

1. Stainless steel bracket & adapter
2. Monkey wrench(EA-A7)
3. Cable conductor
4. Other special requirements can be customized

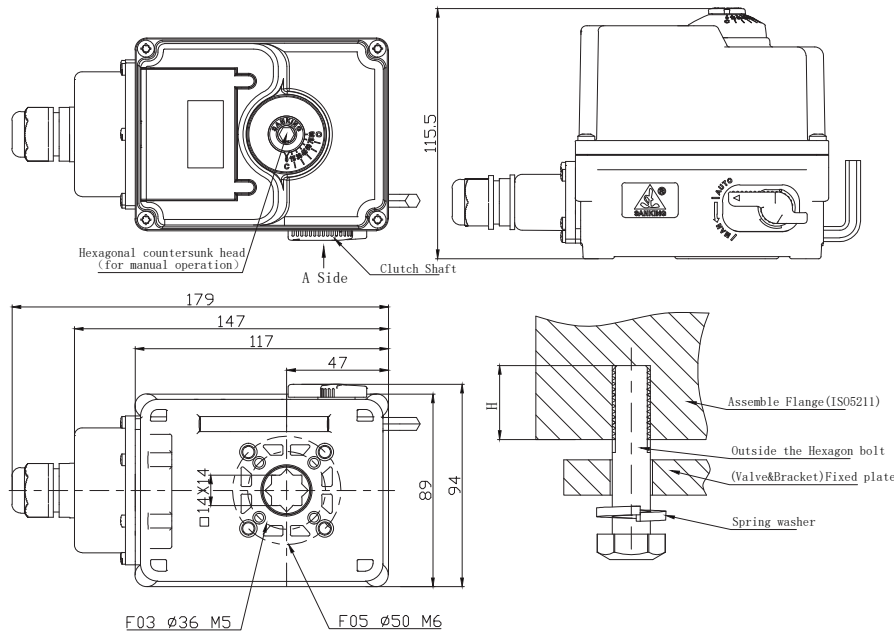
Outline Size & Installation Instructions

EA-A6(Switching type) Appearance and Outline size



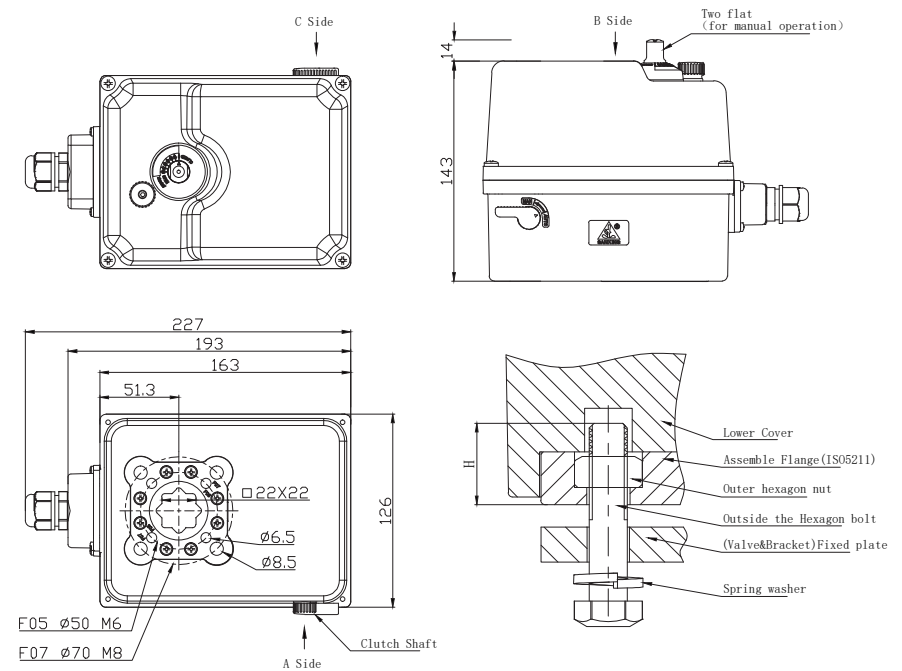
- H is the dimension of hexagon bolt to install flange, installation to be in strict accordance with the following dimensions:
When using F03&F05, $7\text{mm} \leq H \leq 12\text{mm}$;
- The pipeline and actuator exist the possibility of vibration, bolt fastens should with spring washer.
- Using the hex key for manual operation, rotation space of the wrench needed to be considered when installing.
- The size of Chief Axis hole is 14x14, you can 9x9 or 11x11 according to the body axis size.

EA-A6(intelligent type)Appearance and Outline size



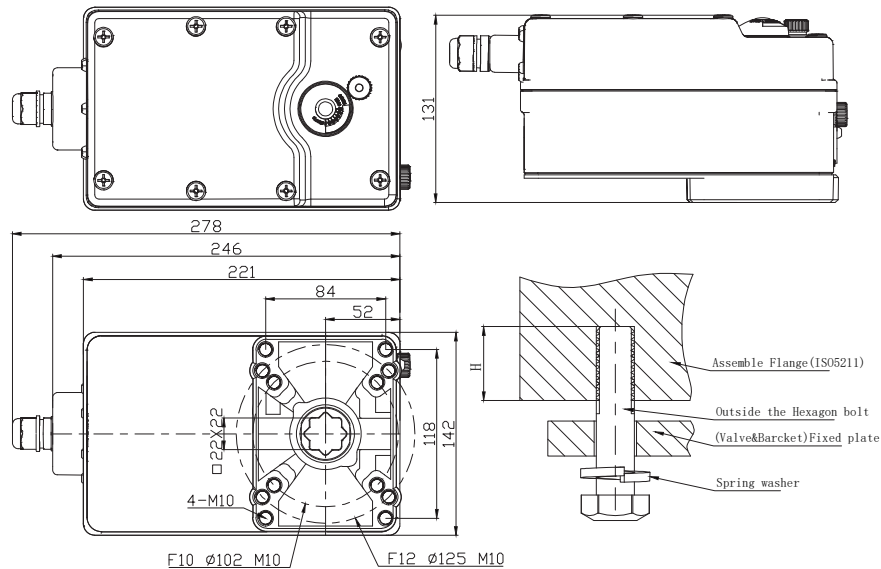
- H is the dimension of hexagon bolt to install flange, installation to be in strict accordance with the following dimensions:
When using F03&F05, $7\text{mm} \leq H \leq 12\text{mm}$;
- The pipeline and actuator exist the possibility of vibration, bolt fastens should with spring washer.
- Using the hex key for manual operation, rotation space of the wrench needed to be considered when installing.
- The size of Chief Axis hole is 14x14, you can 9x9 or 11x11 according to the body axis size.

EA-A7(Switching type)Appearance and Outline size



- H is the dimension of hexagon bolt to install flange, installation to be in strict accordance with the following dimensions:When using F05&F07&F10& F12, $10\text{mm} \leq H \leq 16\text{mm}$.
- The pipeline and actuator exist the possibility of vibration, bolt fastens should with spring washer.
- Using the hex key for manual operation, rotation space of the wrench needed to be considered when installing.
- The size of Chief Axis hole is 22x22, you can choose the 17x17 or 19x19 according to the body axis size.

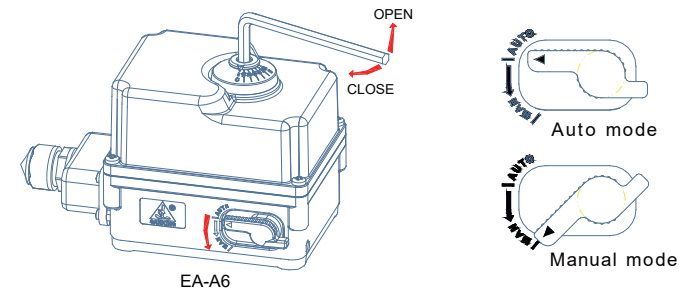
EA-A8(Switching type) Appearance and Outline size



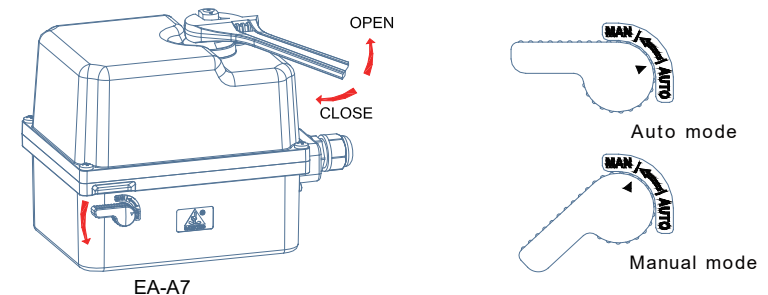
- H is the dimension of hexagon bolt to install flange, installation to be in strict accordance with the following dimensions: When using F05&F07&F10& F12, $10\text{mm} \leq H \leq 16\text{mm}$.
- The pipeline and actuator exist the possibility of vibration, bolt fastens should with spring washer.
- Using the hex key for manual operation, rotation space of the wrench needed to be considered when installing.
- The size of Chief Axis hole is 22x22, you can choose the 17x17 or 19x19 according to the body axis size.

Manual Operation

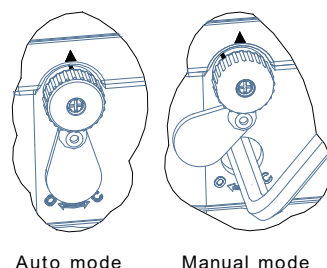
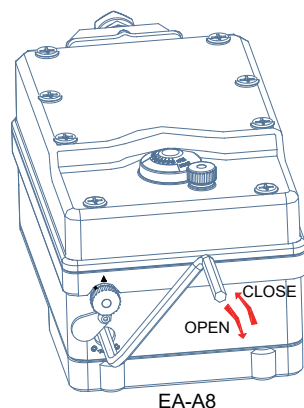
- Step1:** Turn the clutch shaft counterclockwise to the manual position "MAN" and hold.
- Step2:** Put the hex key into hexagonal countersunk head, Clockwise rotation is CLOSE, Counterclockwise rotation is OPEN.
- Step3:** Release the clutch shaft, the shaft will be returns itself, the arrow is pointing to the automatic position "AUTO"



- Step1:** Turn the clutch shaft counterclockwise to the manual position "MAN" and hold.
- Step2:** Insert the monkey wrench in the two flat, Clockwise rotation is CLOSE, Counterclockwise rotation is OPEN.
- Step3:** Release the clutch shaft, the shaft will be returns itself, the arrow is pointing to the automatic position "AUTO"



- Step1:** Step 1: Open the sealing cover and adjusting knob;
Step2: Insert hex key and press in while turning adjustment knob around 45°;
Step3: Rotating hex key, clockwise is OPEN, Counterclockwise is CLOSE;
Step4: After manual operation, the sealing cover and adjusting knob should be put back in place.

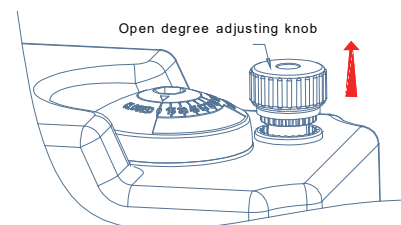


- Lengthened the sleeve cannot be used to rotate the Chief Axis, if the rotation resistance abnormal, please check valve and actuator whether the failure.
- Observe Chief Axis arrow's position of opening instruction cap when rotation Chief Axis.
- Improper operation may cause abnormal actuator.

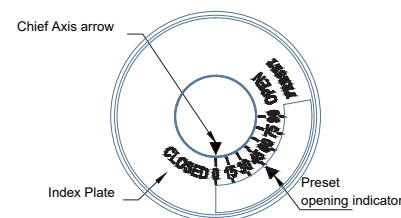
Adjustment of Opening Degree and Mechanical Gear

Notice: The following open adjustment instructions are for use only EA-A7, EA-A8

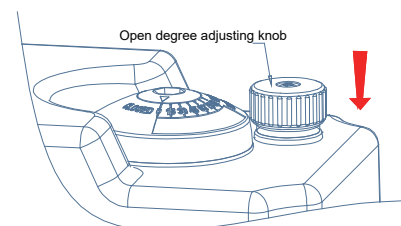
- Step1:** Adjust the preset opening in the following order.
 Example: desired position (45° open)



- ① Unplug the open degree adjusting knob



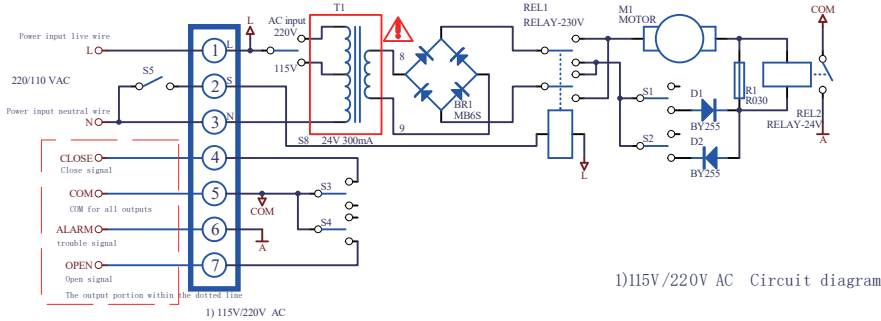
- ② Rotate the open degree adjustment knob and observe the preset opening indicator, and adjust the preset opening indicator to the required position (45°)



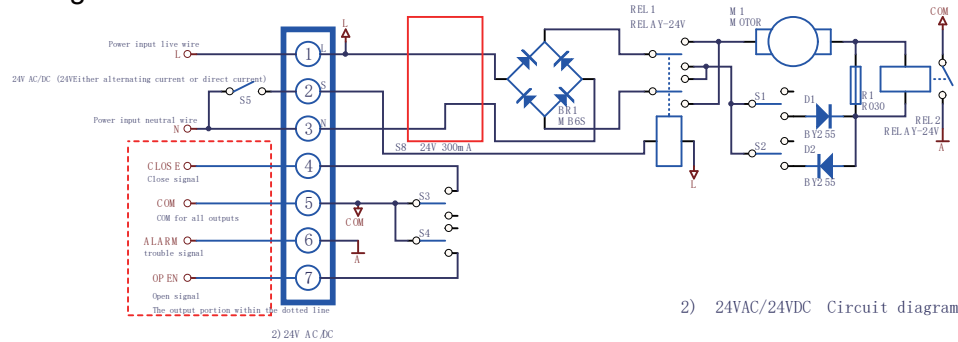
- ③ Press the open degree adjustment knob and make sure the knob cannot be rotated

Circuit Diagram & Wiring Instructions

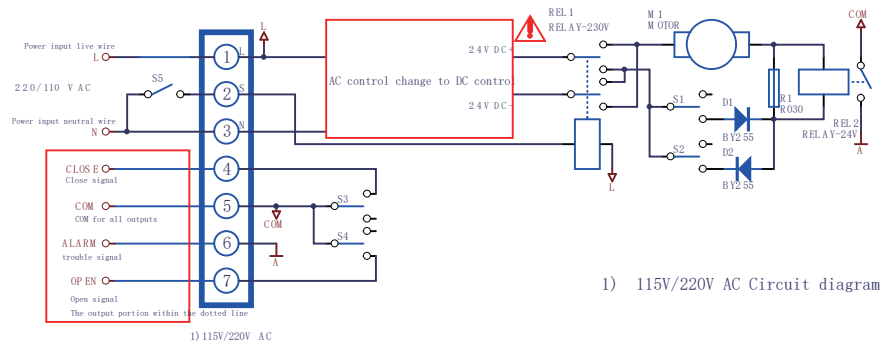
EA-A6/EA-A7(Switching type)220V AC circuit diagram



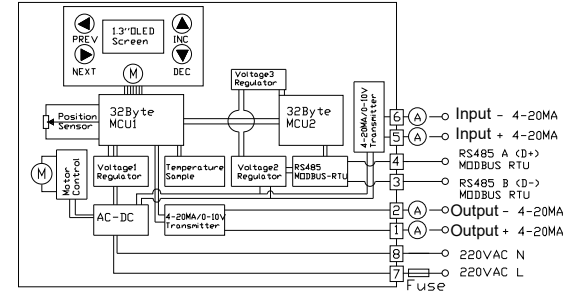
EA-A6/EA-A7/EA-A8(Switching type)24V AC/DC circuit diagram



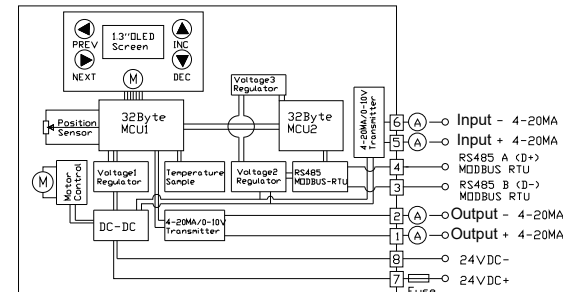
EA-A8(Switching type)220V AC circuit diagram



EA-A6(Intelligent type)220V AC circuit diagram



EA-A6(Intelligent type)24V DC circuit diagram



- Any electrical installation must be conducted by electrician or supervised by qualified engineers as per local electrical engineering.
- Before plug in, please confirm whether the input power voltage is consistent with the power voltage marked on the actuator nameplate.
- If more than two electric valves are needed to open or close synchronously, please install relays, one for each, not in series or in parallel.
- After wiring completion, check whether the O-ring falls off, lock the wiring cover, and fix the cable head screw lock it tight to avoid rain seep in
- When installing several actuators nearby, you can consider to choose a wiring cover with two cable heads, which can reduce the installation cost.

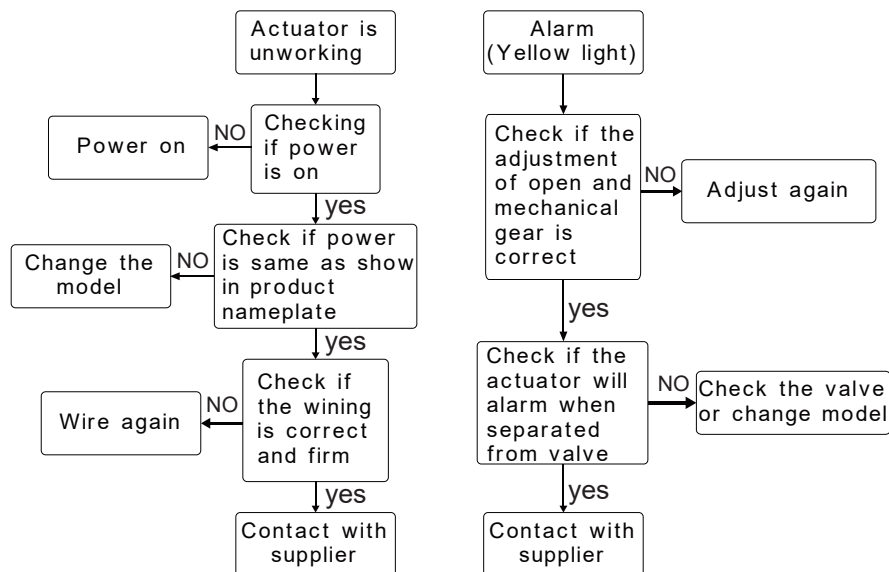
Debugging & maintenance



Manual operation and maintenance are prohibited when power is switched on

This product has passed the comprehensive debugging before leaving the factory, and the inspection of quality inspection personnel. When the valve cannot be fully closed or opened during the installation and debugging, the installation and connection shall be checked to see whether it is correct or not. If you have any questions, please contact us.

Simple fault inspection and treatment process;



Maintenance:

1. This product uses molybdenum-base grease which has long use life and good pressure resistance, so that it doesn't need add-oil.
2. If electric actuated valves are not used for a long period or scarce using, please at least operate actuator one time monthly.
3. Any other questions, please contact us.