
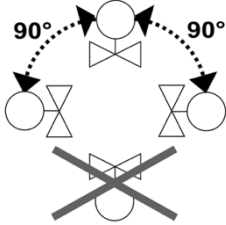

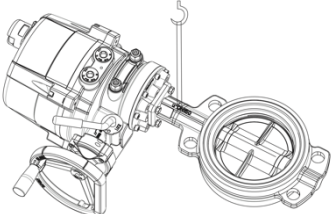
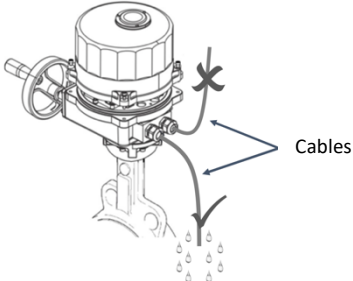
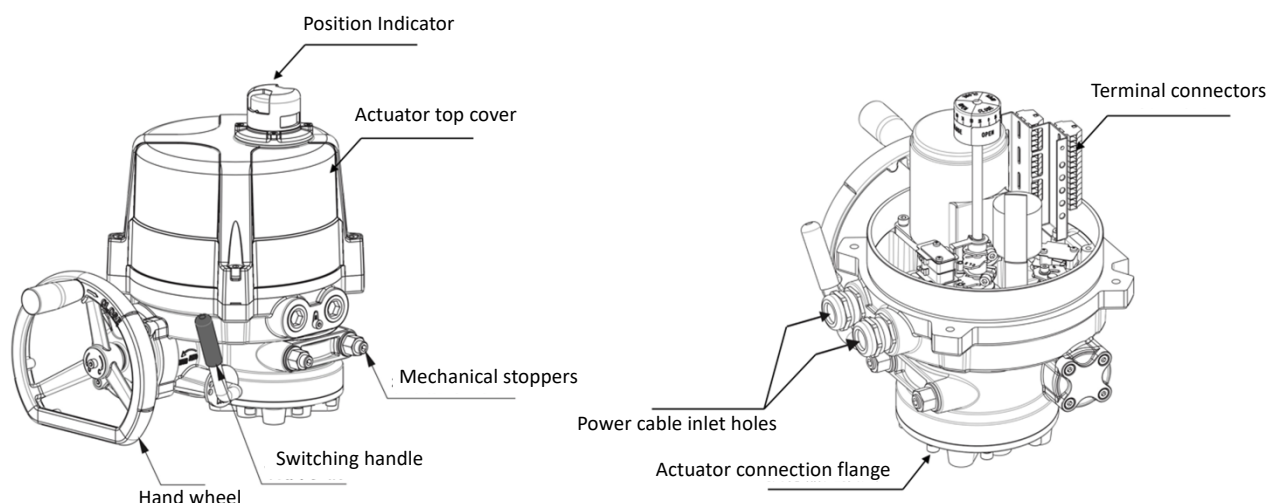


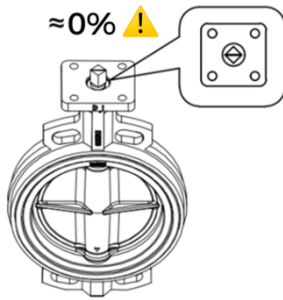
1. Precautions

	 <p>Horizontal or vertical installation, it is strictly forbidden to reverse!</p>	 <ul style="list-style-type: none"> • The operation of this equipment must at all times comply with regulations and restrictions designed for the safety of persons and property! • The device is not allowed to be used outside of the specified application area, especially on aircraft. • The device should only be installed by properly trained personnel. • The equipment installation process must comply with local laws and regulations or regulations issued by the authorities. • Valves must comply with all local and currently applicable laws and regulations when disposed of at the end of life and are not allowed to be disposed of as household waste. • According to the law, some parts may require special handling because they may cause harm to the ecological environment.
 <p>Pay attention to safety when hoisting up</p>	 <p>Connect the cables according to the specifications</p>	

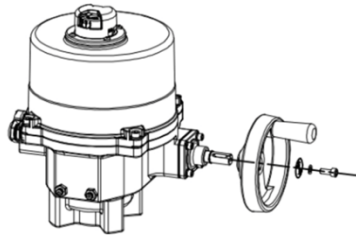
2. Actuator structure diagram



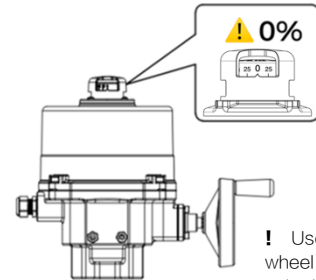
3. Valve connection



1

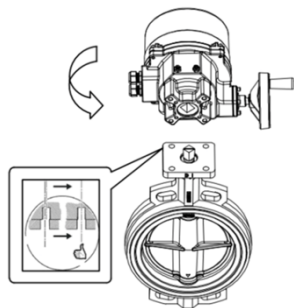


2



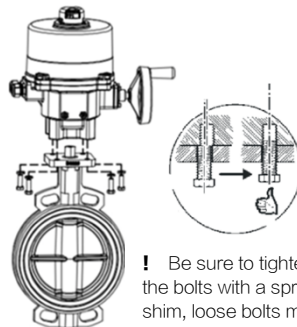
3

! Use the hand wheel to turn the actuator in the closed position



4

! Place the actuator on the valve and fine-tune the hand wheel to align the flange



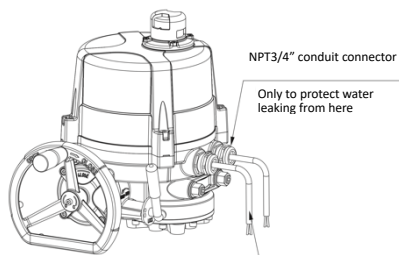
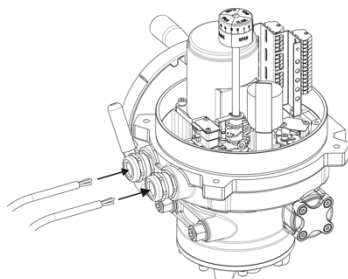
5

! Be sure to tighten the bolts with a spring shim, loose bolts may cause position feedback failure when the actuator is in place

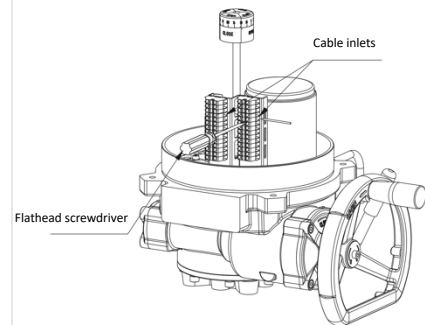


6

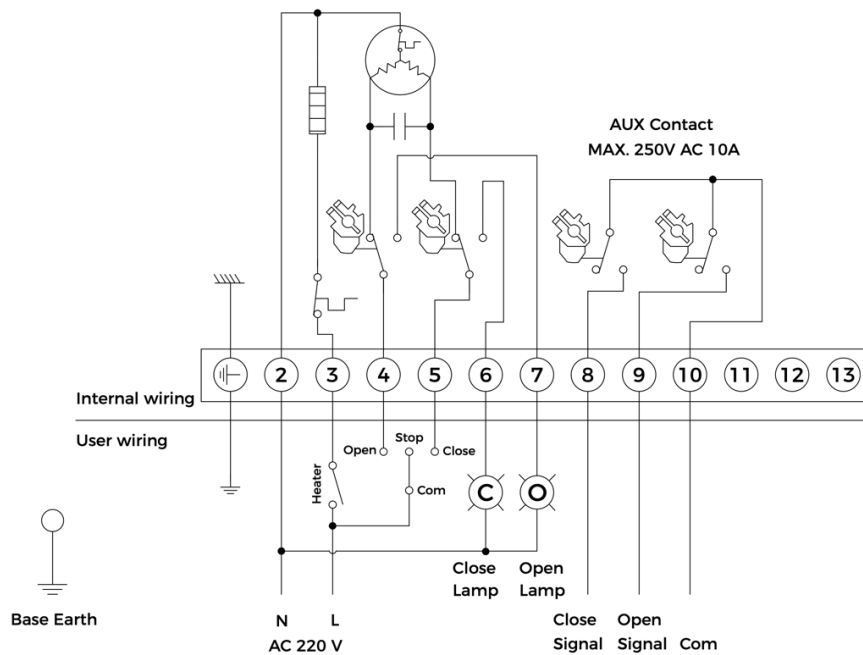
4. Wiring diagram



To ensure water proof function, please select proper size of power cables

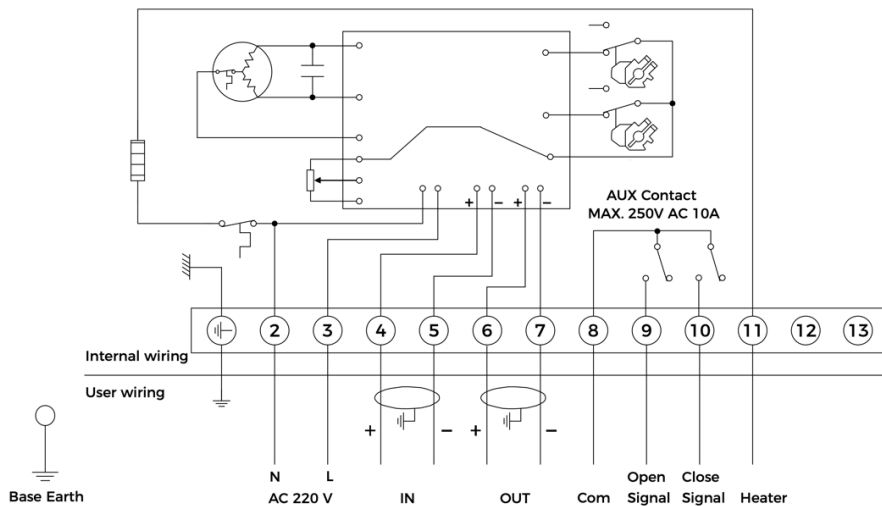
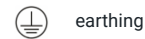


- Please route the power cable and signal cable separately.
- Please choose a cable that is suitable for the inner diameter of the waterproof connector to prevent moisture from entering the actuator from the cable joint and damaging the internal parts.
- After the wiring is completed, it needs to be reviewed, and after confirming that it is correct, cover the actuator wiring cover and tighten the bolts.
- Once wiring is complete, be sure to lock the actuator cable glands to prevent water from entering.
- Make sure the wiring is correct before you can connect the power, short circuits and incorrect wiring can cause permanent damage to the actuator!
- Please pay attention to the switch indication, please do not use brute force on the hand wheel/handle when exceeding the fully open and full off position, so as not to cause damage to the actuator mechanism!



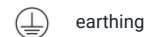
920-230-60...100-S2 open/close actuator wiring

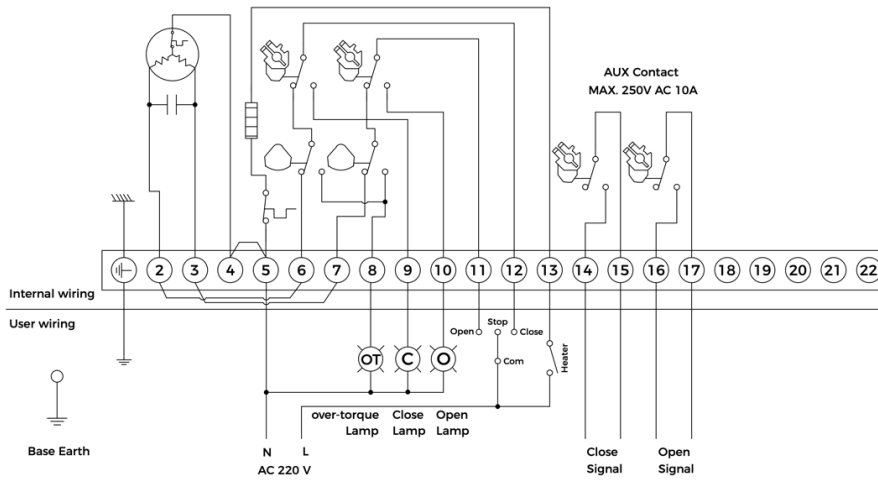
- 2 System Neutral Line (N)
- 3 Heater
- 4 Control signal (open) 220 VAC
- 5 Control signal (close) 220 VAC
- 6 "Closed" indicator
- 7 "Open" indicator
- 8 Dry contact auxiliary switch
- 9 Dry contact auxiliary switch
- 10 Dry contact auxiliary switch



920C-230-60...100-S2 modulating actuator wiring

- 2 System Neutral Line (N)
- 3 System Live Wire (L) AC 230V
- 4 Control Signal 4–20 mA / 0(2)–10 VDC
- 5 Signal Return
- 6 Position Feedback 4–20 mA / 0(2)–10 VDC
- 7 Signal Return
- 8 Dry contact auxiliary switch
- 9 Dry contact auxiliary switch
- 10 Dry contact auxiliary switch
- 11 Heater

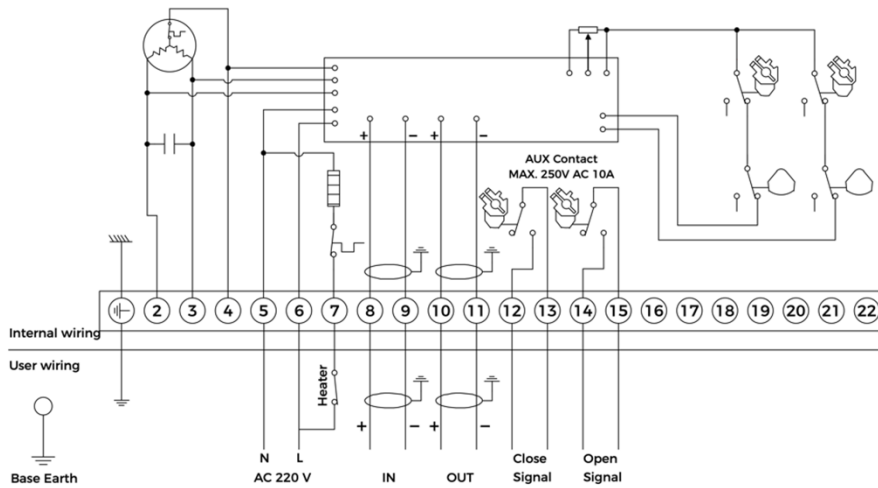




920-230-160...8K-S2 Open/close actuator wiring

- 5 System Neutral Line (N)
- 8 Over torque indicator
- 9 "Close" indicator
- 10 "Open" indicator
- 11 Control signal (open) 230 VAC
- 12 Control signal (close) 230 VAC
- 13 Heater
- 14 Dry contact auxiliary switch
- 15 Dry contact auxiliary switch
- 16 Dry contact auxiliary switch
- 17 Dry contact auxiliary switch

earthing



920C-230-160...8K-S2 modulating actuator wiring

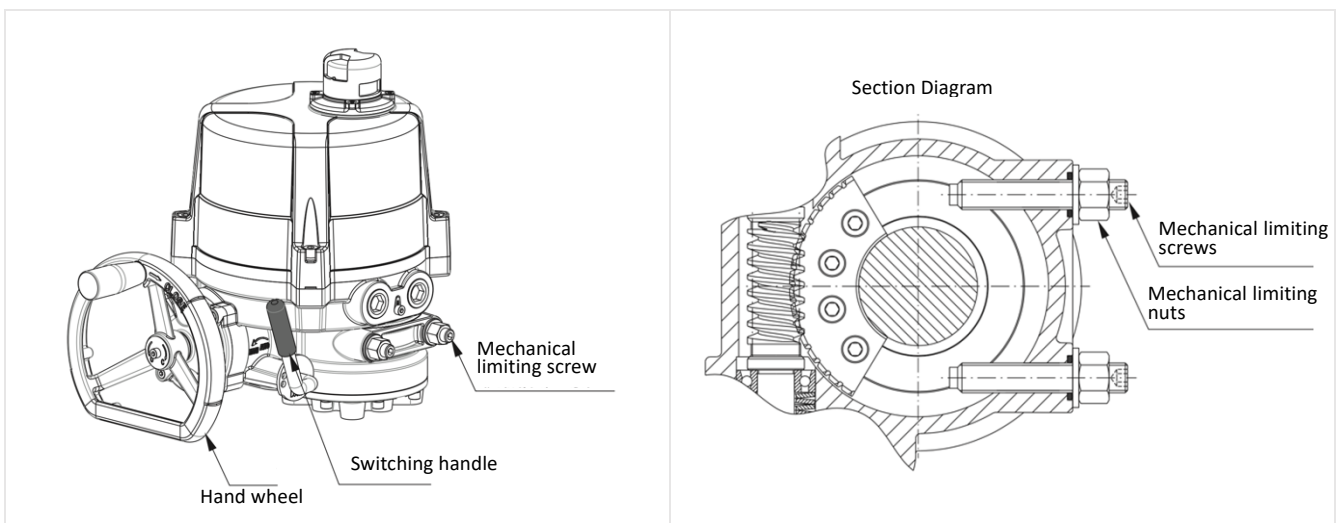
- 5 System Neutral Line (N)
- 6 System Live Wire (L) AC 230V
- 7 Heater
- 8 Control Signal 4-20 mA / 0(2)-10 VDC
- 9 Signal Return
- 10 Position Feedback 4-20 mA / 0(2)-10 VDC
- 11 Signal Return
- 12 Dry contact auxiliary switch
- 13 Dry contact auxiliary switch
- 14 Dry contact auxiliary switch
- 15 Dry contact auxiliary switch

earthing

5. Debugging instructions

5.1 Mechanical limit adjustment

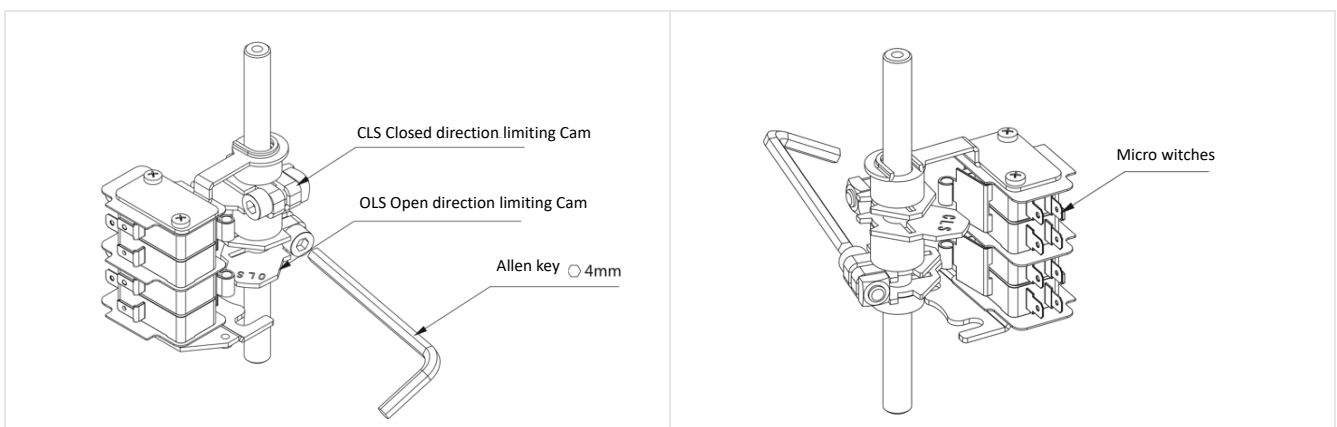
- The setting of the full-off position: loosen the mechanical limiting screw and the limiting nut, turn the hand wheel with the left hand and press down the switching handle with the right hand according to the direction of the arrow, so that the clutch inside the mechanism is meshed, so as to reach the manual function state (the switching handle automatically resets when powering on, without human interference), continue to rotate the hand wheel clockwise to make the actuator move to the full-off position, and then rotate the limiting screw. When it touches the internal sector worm gear, it stops rotating, then rotates twice in the opposite direction, and finally locks the nut. At this time, the mechanical limit position is set when the actuator is fully closed.
- Setting the fully open position: In the same way, rotate the hand wheel counterclockwise and follow the same steps.



Note: 920 series 60–600 type manual automatic switching needs to switch handle (power on has automatic reset function), 800–8K type does not need to switch handle

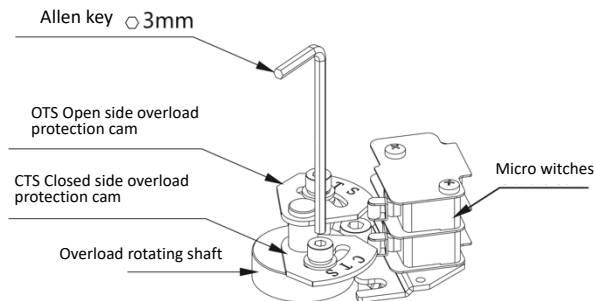
5.2 Electronic travel limit adjustment

- Full closing position setting: manually close the valve in place, loosen the limit cam in the direction of the switch, adjust it to the position that just depresses the limit switch, and then lock the limit cam, so as to adjust the position of the electrical limit when the actuator is fully closed.
- Fully open position setting: Refer to the above steps to set the same settings.



V1.05. 2025 Information is subject to change without prior notice

5.3 Adjustment of overload protection device (torque switch)



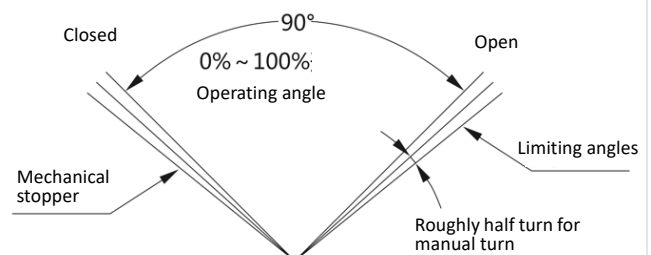
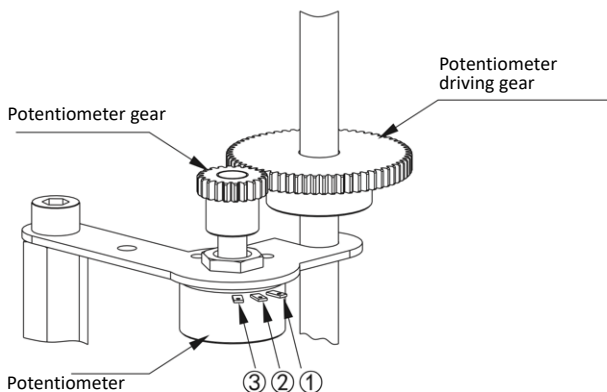
- Under normal working pressure conditions, adjust the overload cam to make it just in contact with the corresponding micro switch roller, but it cannot be pressed. When the torque required to open or close the valve is greater than the factory rated torque, the overload rotating shaft will rotate clockwise or counterclockwise, driving the overload cam above to press the micro switch to achieve the shutdown function and output a set of over torque indications, so as to achieve the function of protecting the electric valve.



Note: The overload protection device has been calibrated when leaving the factory, and in principle, it does not need to be adjusted again; If adjustments are required, the valves need to be adjusted under normal operating pressure conditions.

5.4 Potentiometer Adjustment

- Terminal definition: (2) terminal is connected to the potentiometer slide arm, (1) terminal is the open resistance reduction end, and (3) terminal is the closed resistance reduction end.
- Adjustment method: manually turn the valve to the fully open position (limit switch action), measure the resistance between (1)-(2) terminals; If the resistance value is not in the range of 40 Ω –65 Ω , the transmission gear on the potentiometer is adjusted to meet the standard. Attached figure: the left side is the potentiometer gear and terminal structure ((1)/(2)/(3)), and the right side is the valve opening range (0 %–100 %) and the limit point mark.



5.5 Position Indication Adjustment

First, close the valve to the correct position, disassemble the 3D window guard and the 3D transparent shield, loosen the 3D indicator post with an Allen wrench, rotate and adjust it to the correct position, lock it, and then resume installation in turn (Fig. 1). Close the valve to the correct position, disassemble the Top cover, loosen the indicator plate with a Phillips screwdriver, rotate and adjust to the correct position, lock it, and then resume the installation in turn (Fig 2).

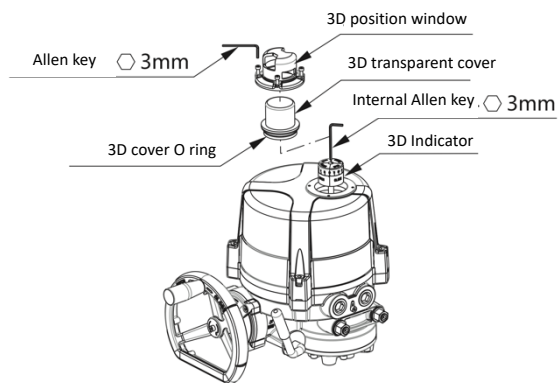


Fig. 1

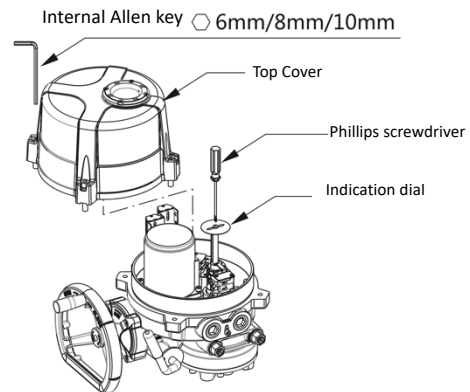
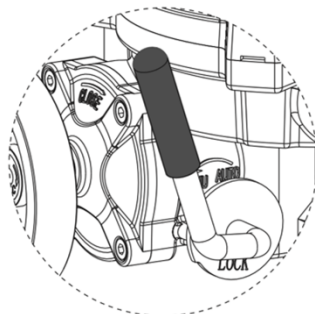


Fig. 2

6. Test operation of the actuator

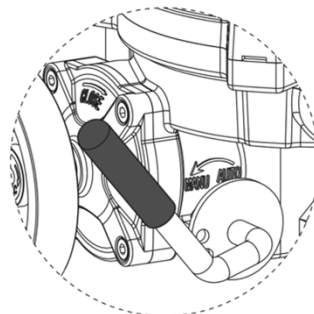
6.1 Manual Operation

- When performing manual operation, the power supply must be cut off first. The left hand turns the hand wheel, and at the same time the right hand presses the direction of the arrow, presses down to switch the handle, so that the clutch inside the mechanism is engaged, so as to reach the manual function state (the switch handle automatically resets when the power is on, without human interference), and continues to rotate clockwise or counterclockwise (the opening can be observed through the window).



**Not allowed to operate when
Power is connected**

! WARNING



**Operation available when Power
is disconnected**

Note:

- When the manual switch is in place, excessive force should be avoided. Because of the mechanical limit stops, excessive rotation can cause damage.
- 920 series 60...600 type manual automatic switching needs to switch handle (power on has automatic reset function), 800...8K type no switch handle.

6.2 Electrical Operation

- Before electric operation, manually operate to confirm whether the actuator opening window and valve angle opening or closing are consistent.
- Confirm again whether the wiring is correct (wiring in strict accordance with the wiring diagram issued by the manufacturer).
- After confirming that the above status is correct, the electric operation can be started.

Note:

- It is forbidden to change the internal wiring of the actuator.
- Check whether the wiring diagram, power supply, and input and output signals are correct before use.
- FOR OTHER DETAILS OR SPECIAL SPECIFICATIONS, PLEASE CONTACT GRUNER.