

Wiring instructions

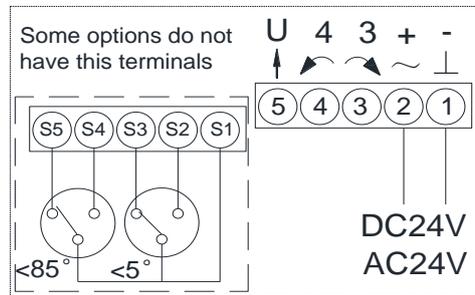
Note: The power supply should be OFF before installing the wiring.

The terminal is plug in terminal. When wiring, first pull out the plug from the socket on the PCB, connect the wires into the plug. Finally insert the plug into the terminal socket. Terminals are defined in Table 1 below. Since the product has many models, the actual wiring should be different according to the wiring diagram on the product.

Table 1: Terminals Description

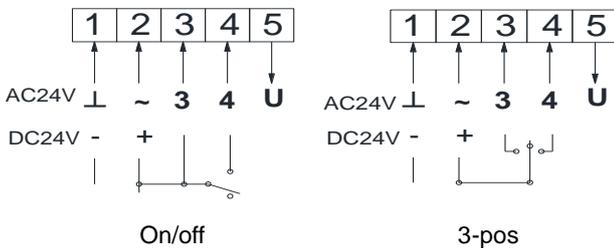
Terminals		RS485 model	3-pos model	0(2)-10V/4-20mA model	On/off model
№	Symbol				24VAC/VDC
1	⊥ -	Com	Com	Com	Com
2	~ +	Power	Power	Power	Power
3	↻	B	Clockwise	Input	Clockwise
4	↻	A	Counterclockwise	50%	Counterclockwise
5	→ U	---	---	Feedback	---

Wiring diagram

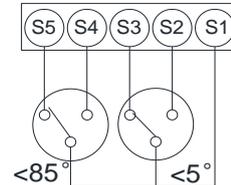


Terminal blocks

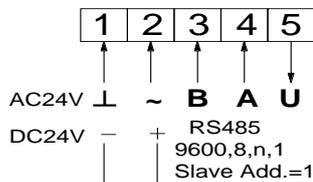
1. On/Off, 3-pos model



2. Built-in feedback switch



3. RS485 model



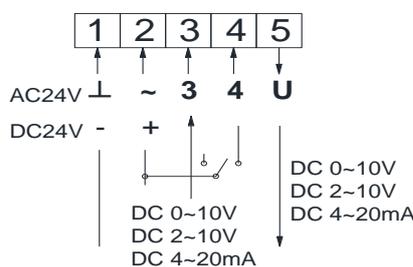
Terminal resistance: 120Ω

Terminal resistance: N/A(default)

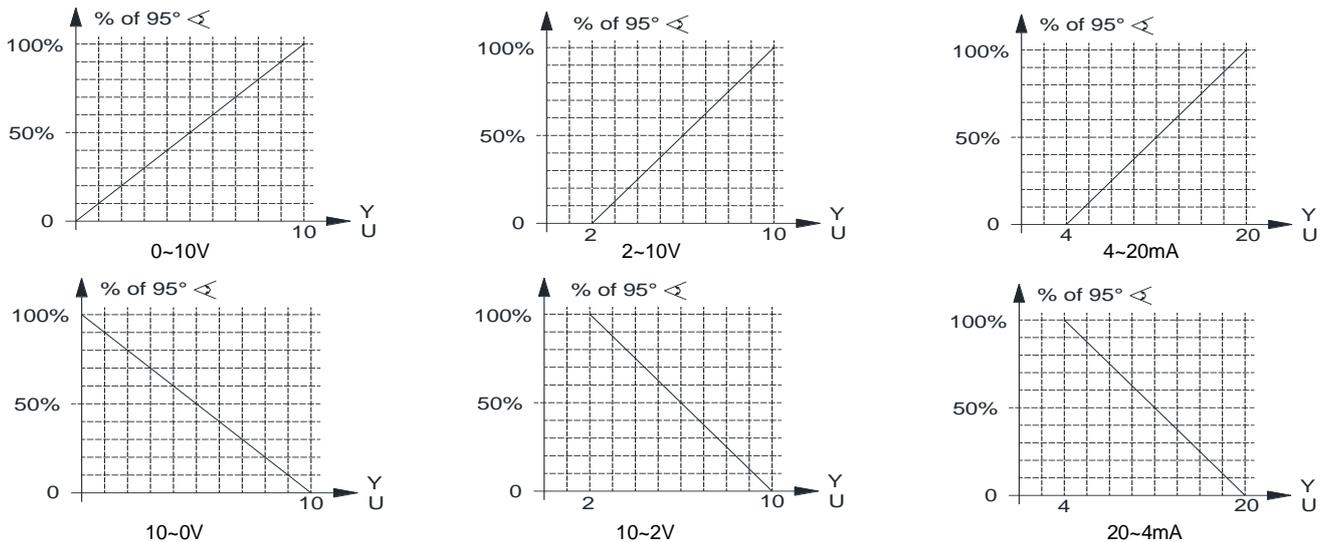
RS485 communication details refer to the "DA Damper Actuator MODBUS Communication Manual"

RS485 Termination Resistance DIP Switch J8 Instructions: Toggle to "ON", and the terminal resistance is 120Ω.

4. 0(2)-10V,4-20mA models



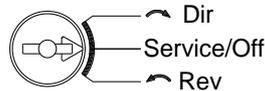
5. The control signal or feedback signal corresponds to the rotation angle



Running mode

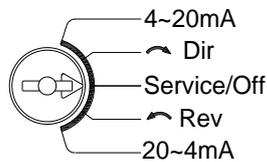
The function selection knob selects different running modes.

On/off, 3-pos models:



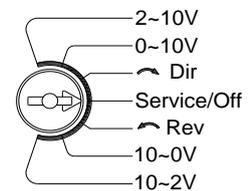
- ↻ Dir: clockwise
- Service/Off: Invalid control / service
- ↻ Rev: counterclockwise

4-20mA models:



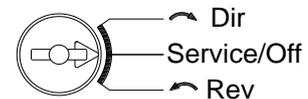
- 4~20mA: 4~20mA control
- ↻ Dir: clockwise
- Service/Off: Invalid control / service
- ↻ Rev: counterclockwise
- 20~4mA: 20~4mA control

0(2)-10V models:



- 2~10V: 2~10V control; 0~10V: 0~10V control
- ↻ Dir: clockwise
- Service/Off: Invalid control / service
- ↻ Rev: counterclockwise
- 10~0V: 10~0V control; 10~2V: 10~2V control

RS485 models:



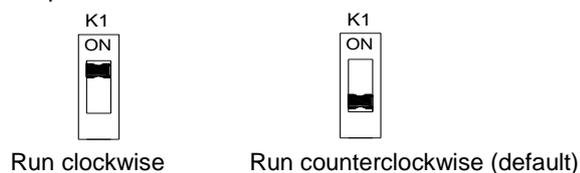
- ↻ Dir: clockwise
- Service/Off: Invalid control / service
- ↻ Rev: counterclockwise

Service/Off mode

In this mode, the direction of rotation and the control signal are no longer valid, manual operation is safe to do.

Fail-safe

Once the power is turned on, the fail-safe capacitors will be automatically charged. When the power loss, the actuator will be powered immediately by the capacitors and continues to run to the safe position set by the DIP switch K1 to ensure safety. Switch K1 to "ON", the actuator runs clockwise to the end point and then stops; Switch K1 to "OFF", the actuator runs counterclockwise to the end point and then stops.



Installation

Note:

- (1) It is strictly forbidden to press the manual button in the following cases:
 - A. The actuator is powered ON.
 - B. When the actuator is not running during power-on debugging and using, it is necessary to detect and eliminate the fault: the two U-shaped hoop nuts fixed with the damper shaft should be loosened before the manual button can be pressed to eliminate or confirm whether the actuator is faulty, or the torque is too small to drive the damper, or the damper shaft is stuck for some reasons.
- (2) During the installation or setting of the actuator, the gripping bracket can only be rotated when the power is off and the manual button is pressed.
- (3) This installation instruction is for the use of the round-shaft damper and open clockwise. Counterclockwise is opposite.

1. The specifications of the connecting shaft that the actuator can adapt to are shown in Fig.1 below.
2. As shown in Fig.2 and 5, manually rotate the actuator clamping bracket counterclockwise to the 0-scale position, install it on the damper shaft (damper closed status), and tighten the U-hoop nut.
3. As shown in Fig.3, the mounting bracket assists fixation: press the manual button, synchronously rotate the clamping bracket and damper clockwise to the horizontal position, and insert the bracket.
4. As shown in Fig.4, press the manual button, manually rotate the clamping bracket counterclockwise to the 0-scale position, and tighten the two nuts of the U-shaped hoop with a preload force of no less than 9Nm to reliably hold the damper shaft.
5. Mechanical limit setting (choose whether to use it according to actual needs): The following is the method of adjusting the left (0-scale) limit angle. The right limit angle adjustment method is reversed. As shown in Fig.5, the 0-scale position of the housing scale mark is the max. angle of operation on the left side of the actuator. Manually rotate the clamping bracket, and the angle between the left edge arrow and the 0-tick mark (the single scale on the clamping bracket is 3.5°, and 5° on the housing.) is the angle at which the rotation stroke on the left side of the actuator is reduced. After determining the required control angle, loosen the screw of the fixing block assembly at the angle of the right angle of the clamping bracket, move the assembly together, and ensure that the side of the square nut below it is close to the side wall of the housing groove (if it is not tight, after locking the screw, the square nut will interfere with the housing during the operation of the actuator), and then lock the component screw with a force of no less than 5Nm.
6. As shown in Fig.6, the position indicator is loaded into the waist hole of the clamping bracket, and the face circle of the indicator is rotated so that the position indicated by it is at a certain angle to the damper as a reference.
7. Electrical connection: as shown in Fig.6, loosen the terminal cover screw, pull out the terminal cover downward, and complete the electrical connection according to the wiring diagram. Cable entry from the PG9 in the corresponding position. Note that the outer diameter of the cable should match the gland, which should be tightened to maintain sealing performance.

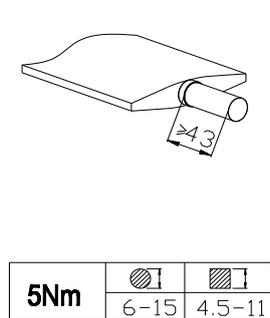


Fig.1

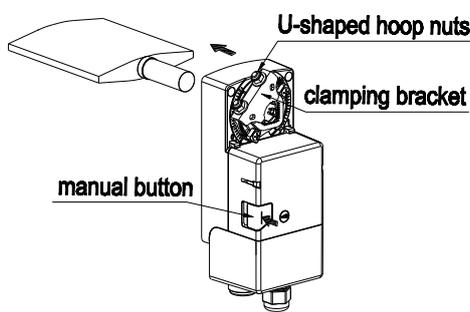


Fig.2

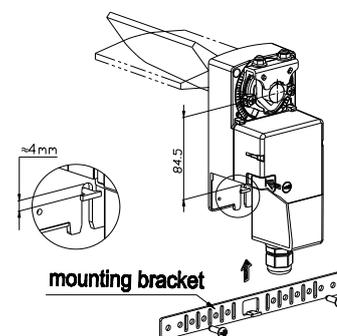


Fig.3

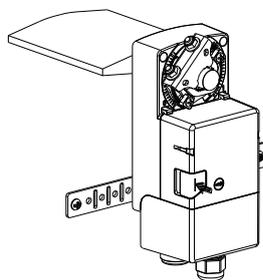


Fig.4

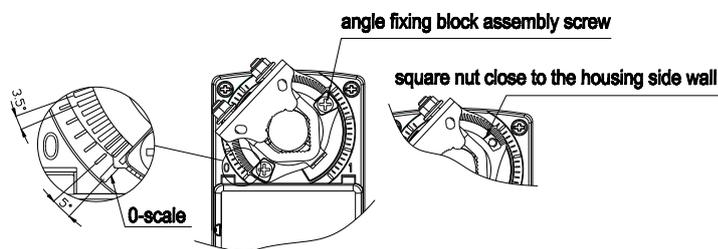


Fig.5

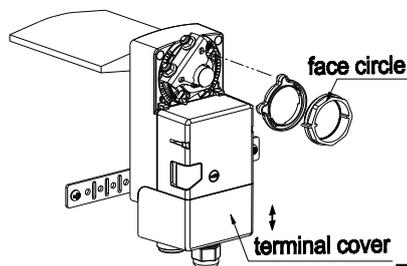
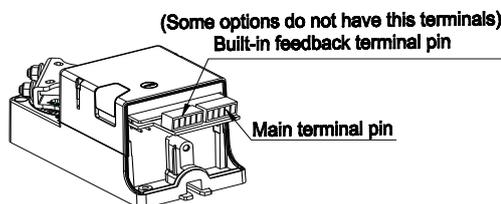


Fig.6



Warranty

During warranty period, if failed, the product can be returned for repairing or replacing after confirmed normal operation.