

## **VZTORQUE Generation 1 Failsafe actuator Installation and operations manual**

See Page 2 of this document to verify if your board matches the board pictured.

If it doesn't match, then refer to Generation 2 Failsafe Installation and Operations Manual.

### **Warning:**

※The charging voltage of FSR is not to be less than 23VDC and not more than 28VDC. Suggested charging voltage is 24VDC~26VDC.

## **1. FSR unit installation**

### **1.1 First Use**

Users only need to open the XP J-box cover, as shown in the figure below.

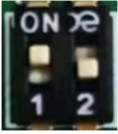
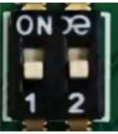
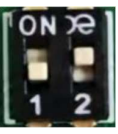


※First loosen the hexagonal socket screw (M4X4) , then open the cover.

### **1.2 Connect the battery pack to the control board**

## **2. Fail position settings**

## 2.1 Dial instructions

Switch A or B			
Situation	1	2	3

Number 1/2/3 just refer a situation for switch A and B. For example, when you



set the switch as, we call it situation 1.

## 2.2 Setting

When external power is off, the actuator fail position can be set as below.

	SET-1:back to full open position.	SET-2: keep current position	SET-3: back to full close position
A	1	1	1
B	1	2	3
After power off	Fail Open	Fail Last	Fail Close



It means that when you want to fail open when power off, you should set

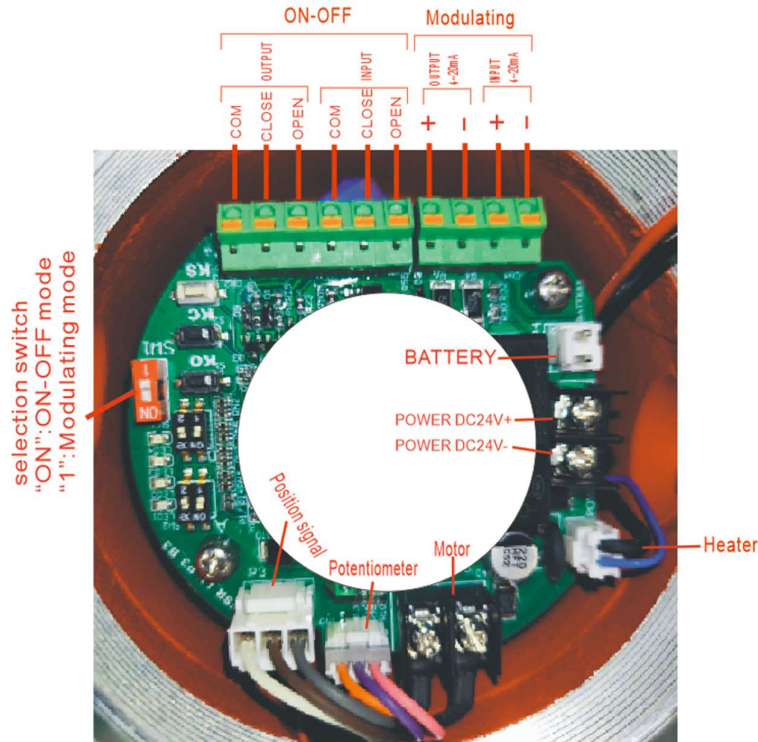


switch A and B both in 1 situation, like. And if you want to fail close when power off, you should set switch A in situation 1, and switch B in situation 3



※When switch A is in 2, it is in setting situation, the change in switch B is effective. After finishing setting for switch B, switch A should return to 1.

### 3. Introduction of Control Board Functions.



#### ① Button:

- **KO:** In set condition (the select switch A = 2), actuator will operate in opening direction when the button is pressed and the motor will stop when the button is released. To set the Full-open position press buttons KS and KO at the same time.

- **KC:** In set condition (the select switch A = 2), actuator will operate in closing direction when the button is pressed and the motor will stop when the button is released. To set the Full-close position, press buttons KS and KC at the same time.

- **KS:** Sets the open or closed position when pushed at the same time as KO and KC.

#### ② Select switch:

- **A:** Select the modes for positive interaction and counteractive of input signal

and set state, the corresponding function with the direction of arrow is (A points to 1 at ex-factory):

1—positive interaction      2—set state      3—counteractive

It means that you can set the full open and full close position with its corresponding input signal. For example, usually set input 20mA signal as full open position. Counteractive means set input 20mA signal as full close position.

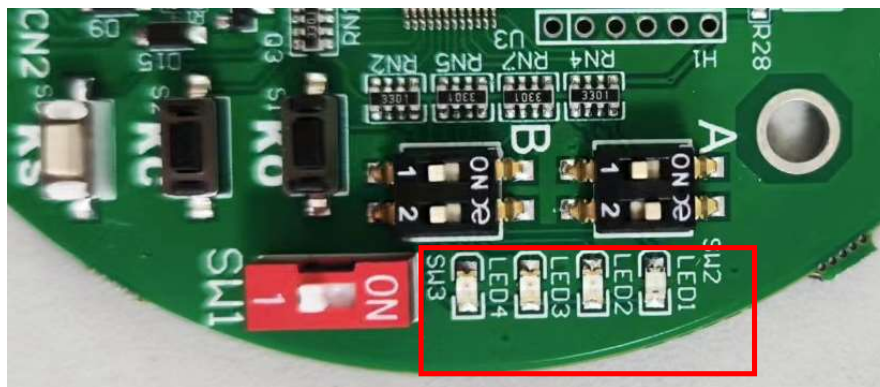
●B: Select the process mode when input signal lose efficacy or power off, the corresponding function with the direction of arrow is (A points to 2 at ex-factory):

1—valve is in Full-open position      2—valve is in normal position

3— valve is in Full-close position

This situation is for signal loss or power loss.

③Indicator lamp:



●LED1: Green indicator lamp shows power, the power indicator lamp lights up when connecting terminals DC24- and DC24V+ of control board with power;

●LED2: Red indicator lamp shows malfunction of input signal failure, this lamp lights up when input signal is lost.

●LED3: Red indicator lamp shows malfunction of position inspection circuit, this lamp lights up when the lead of opening potentiometer is open or short or damaged.

- LED4: Red indicator lamp shows when actuator fails to move.

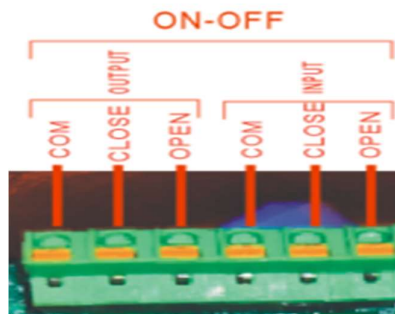
## FSR Operation Manual for ON-OFF electric actuator

### 1. Selection switch setting

ON-OFF mode: Select the switch at the position in the diagram.



### 2. Function Description of Wiring Terminals



#### 2.1 OUTPUT:

2.1.1 Terminal com is common terminal as passive contact.

2.1.2 When it is at “close” operation position, terminal close will output the “full-close signal”. At the same time, terminal com and terminal close are connected.

2.1.3 When it is at “open” operation position, terminal open will output the “full-open signal”. At the same time, terminal com and terminal open are connected.

#### 2.2 INPUT:

External control of opening and closing of actuator.

2.2.1 The connection between terminal com and terminal close is for the operation of “close”

2.2.2 The connection between terminal com and terminal open is for the operation of “open”

## FSR Operation Manual for Modulating electric actuator

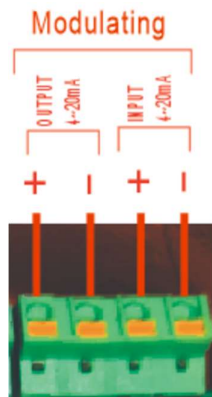
### 1. Selection switch setting

**Modulating mode:** Select the switch at the position in the diagram.



### 2. INPUT and OUTPUT

After the external DC24V power supply is connected, input 4-20mA signal to control the operation of the electric actuator until specified. Simultaneously, it will output 4~20mA position feedback signal. Wire terminals as shown in the diagram.



-----END-----