



## **SuperCap Return Failsafe Actuator**

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## Introduction

Our **SuperCap Fail-Safe Actuator** is specifically designed for applications requiring **emergency valve operation** in the event of a **sudden power loss**. Utilizing supercapacitor energy storage, the actuator continuously charges during normal AC power supply operation and functions like a standard on-off actuator, fully opening or closing the valve as needed. In the event of a power failure, it automatically executes a pre-configured fail-safe action, ensuring the valve moves to its designated fully open or fully closed position. This advanced technology enhances safety and reliability, providing critical protection for life, assets, and infrastructure.

## Key Features of AOITEC Supercapacitor Return Actuators

### > Dual Functionality

Can be used as a standard on-off actuator for normal operation, with the ability to remain in fully open or fully closed positions.

### > Emergency Operation

In a power outage, the actuator follows pre-set configurations to automatically open or close the valve, ensuring safety and preventing hazards.

### > Superior to Spring-Return Actuators

SuperCap actuators provide stable torque output, compact design and cost-effective solution, making them a more practical alternative.

### > High-Performance Motor

Equipped with a BLDC (brushless DC) motor, ensuring exceptional durability, efficiency, and long service life.

### > Energy Efficiency

When idle, the actuator consumes only 3W of power, making it environmentally friendly and energy-saving.

### > Ultra-Wide Voltage Compatibility

Supports a broad voltage range (AC18V – AC260V), offering convenience for various power supply conditions.

### > Reliable SuperCap Energy Storage

Uses supercapacitors for energy storage, ensuring high reliability without failure from overcharging or deep discharge.

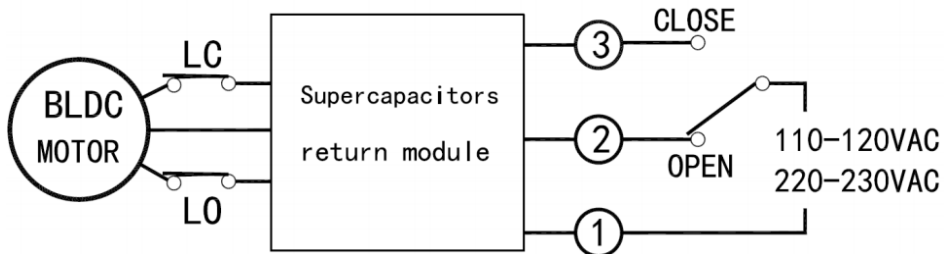
### > Extended Lifespan

Supercapacitors have an exceptionally long service life and high cycle count, significantly reducing maintenance.

## Instructions and Reminders for Use

### Wiring Setup:

The wiring method remains consistent with the configuration below, ensuring ease of installation.



### Special Notes:

1. On initial power-up after wiring, operation may take several seconds—this is normal, not a malfunction.
2. Customers can choose between two power outage modes when placing an order:
  1. **Default Option:** Valve closes during a power outage.
  2. **Alternate Option:** Valve opens during a power outage.

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