

SUPER CHARGE YOUR AVA FAILSAFE ACTUATOR



- Super Capacitor Failsafe actuators
- Preferred method of achieving Failsafe compared to Battery Back Up
- Capacitor charges whilst actuator has power applied
- Super Capacitor charge % is displayed on screen for Smart Actuators
- Want to know more? Click on the link to visit Wikipedia for more technical information about Super Capacitor Technology: <https://en.wikipedia.org/wiki/Supercapacitor>

Version 001: 13/10/22 subject to change without notice

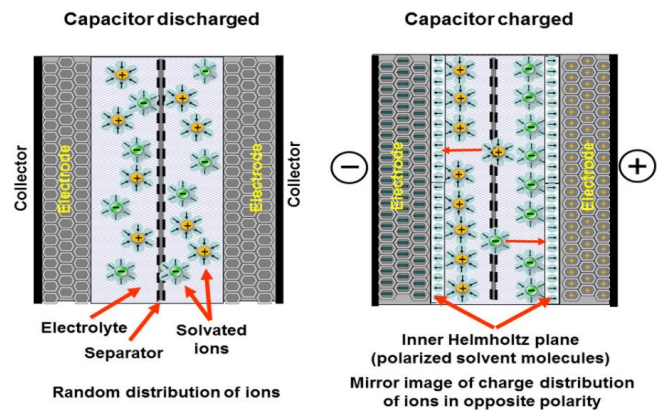
OVERVIEW OF HOW OUR FAILSAFE ACTUATORS WORK:

One of the most commonly asked questions we are asked is how do we achieve our Failsafe functionality? Where possible, consultants and engineers would want a Mechanical Spring Return method, however this is often very expensive, not available for smaller torque outputs and by design, can be very heavy. In recent years, many manufacturers have opted for a Battery Back Up, using a lithium battery pack. However this has disadvantages, not to mention a natural concern of whether or not the actuator will have enough charge when the power is removed, would you be comfortable having a battery as your safety device? How would I know if the battery is working or not? Can I ship my actuator on a plane if it has a Lithium battery?

The solution, Super Capacitor. A tried and tested component used in a wide range of applications and industries and is considered a safe and reliable method of failsafe technology. We install an additional PCB to convert an ON OFF or MODULATING actuator to have the ability to fail open, fail closed or in Smart Actuators, fail to a 3rd position. The PCB contains a number of capacitors, sized specifically to suit the torque requirement of that specific actuator. The capacitors are sized accordingly to not only ensure the should the power be lost that the actuator will fail to your desired position, but have enough charge that in the case of the Smart actuators, the SmartMenu including Local Control is accessible and powered. This means if the power is lost, you can still locally control the actuator. This is also very helpful for commissioning when power is not always available

It is important to note that as is standard with use of Super Capacitors, the capacitor only offers full output for a limited amount of time, once the charge is less than 50%, the capacitor will discharge its remaining charge quickly and lose its power. Failsafe actuators should always have power applied where possible to ensure you maintain a full charge.

Note that a failsafe actuator can be operated like a solenoid valve, power open, remove to capacitor close. You just need to ensure that enough time is left between the operations. **Important to note that we cannot offer Hi Speed Failsafe actuators.** The hi speed operation doesn't ensure sufficient charge time.

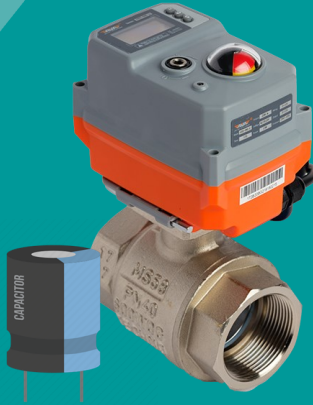


Frequently Asked Questions relating to Failsafe Actuators

How long to charge?	Around 30 seconds to 1 minute out of the box. See User Guide for more information about this.
Life Expectancy ?	Super Capacitors have life time rating, the super capacitor will always work when charged
Can I set to Fail Open?	Basic actuators are ordered specific FO/FC. Smart series can be set via SmartMenu. FC is default.

English version. Available in Spanish





WIRING OPTIONS FOR FAILSAFE ACTUATORS

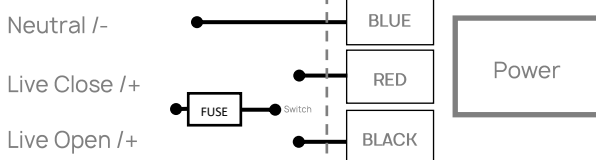
- Super Capacitor Failsafe actuators
- We can offer Failsafe On Off actuators and Failsafe Modulating
- Currently we cannot offer Hi Speed actuators with Failsafe
- Our Failsafe actuators can be used as either 2 wire or 3 wire.
- Want to know more? Click on the link to visit Wikipedia for more technical information about Super Capacitor Technology: <https://en.wikipedia.org/wiki/Supercapacitor>

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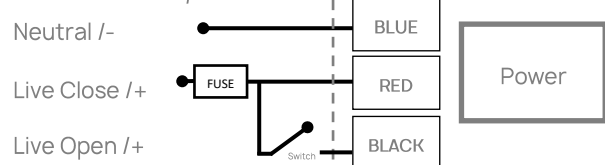
Wiring Options for our Failsafe actuators:

Power Open / Power Close SPDT 3 wire:	Power open, power close, on power loss actuator will fail open / close via capacitors.
Power Open / Power Close SPST 3 wire:	Power open, power close, on power loss actuator will fail open / close via capacitors.
Power Open/Capacitor Close 2wire:	Power open, remove power to close via internal capacitors.
Power Close/Capacitor Close 2 wire:	Power close, remove power to open via internal capacitors.

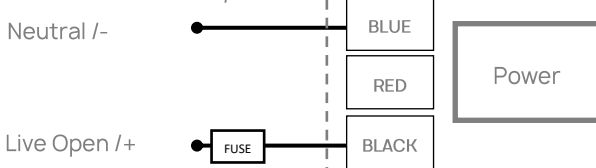
1. SPDT 3 wire Option:



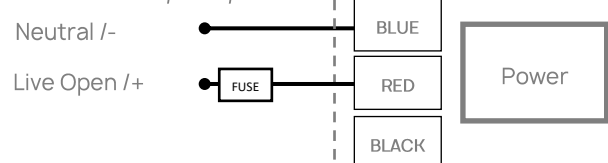
2. SPST 3 wire Option:



3. 2 wire Fail Close Option:



4. 2 wire Fail Open Option:



Warning. you must always ensure power is applied wherever possible to charge the capacitors and allow enough time after the capacitor discharges to charge once again. This is usually no more than 30 seconds. Cannot be used continually without charge between operations.

Recommendations when first powering our Failsafe actuators:

Basic Series (no screen)	When first powered, actuators will open (if fail closed). The moment you apply power, the capacitor is charging. Before removing power, wait an initial time of 30 seconds. This is the approx. time needed for the capacitor to charge when first powered. The capacitor will be empty and needs an initial charge time. Basic actuators cannot show the charge %.
Smart Series (with screen)	As above however the screen shows the charge %. You can also set via Firmware a minimum charge % required before the actuator is operational if required.

English version. Available in Spanish

