



Failsafe version 'BSR' Battery 'Spring Return'



Doc: J3/BSR/03/KW
Aug 2010

What it does and how it works

J+J's BSR system simply provides an alternative power supply to drive the electric actuator to a pre-set failsafe position in the event of a mains power failure. It has no mechanical springs, it uses internal battery power.



During normal operation the **J3**-BSR operates as a power open - power closed electric actuator, simultaneously maintaining the industrial re-chargeable battery



at full strength from an internal trickle charging system.

The main advantage of **J+J's** BSR system is that it is more competitively priced compared to mechanical spring return electric actuators, as the **J+J** failsafe actuator has no mechanical springs to compress, or solenoids to release them - the actuator is the same size as that for an on-off version. This offers massive savings compared to true mechanical spring return electric actuators.

The industrial battery is deliberately oversized and whilst not necessary, can provide many cycles at full load. This offers a degree of protection in the unlikely event that the battery degrades and loses some charge.

In the event of a mains failure, if not already in that position, an internal switch changes to immediately draw battery power to drive the actuator to the failsafe position.



Following a battery driven cycle the actuator will need to charge for a short period to replace the energy used in the battery cycle.

This is particularly relevant if you intend to use the **J3** -BSR like a solenoid, eg: energise open, fail close.

The BSR fits inside the **J3** electric actuator housing eliminating extra piggy-backed housings, making the **J3** failsafe actuator very compact and lightweight. It can be supplied as a retro-fittable kit containing all the parts needed to convert a standard on-off electric actuator.



Quick guide to the **J3** electric actuator standard features :

Highly visible LED light gives continuous actuator status indication.

J3 L - 12-24V AC/DC

J3 H - 80-240V AC/DC

Multi-voltage electric actuator with auto-voltage sensing:

*Torque output: range:
25~95Nm Break
20~80Nm Reseat*

*Electronic torque limiter
Protects against valve jams*

Anti-condensation heater

Manual override

All connections via external DIN plugs ~ no need to remove cover to connect

Volt free end of travel confirmation switches

IP65 weatherproof housing

CE marked

Traceable sequential serial numbering system

Optional failsafe kit (Battery Back-up) - actuator fails to safe position on power failure

Optional modulating kit with digital positioning system, either 0-10V or 4-20mA



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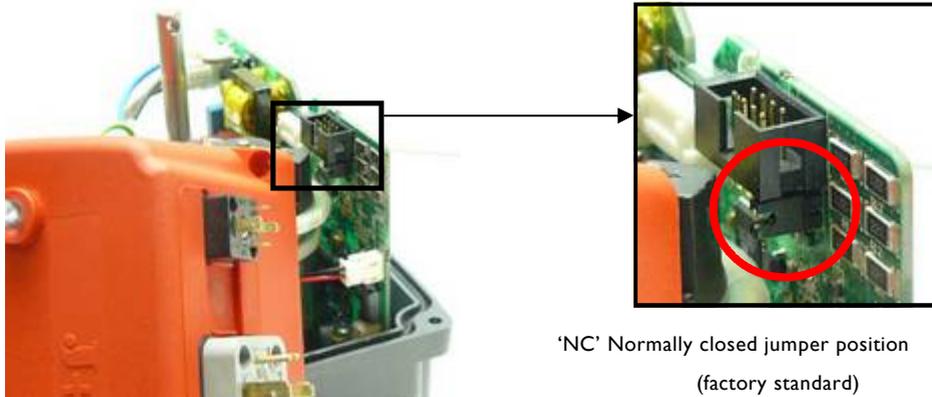
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Configuration

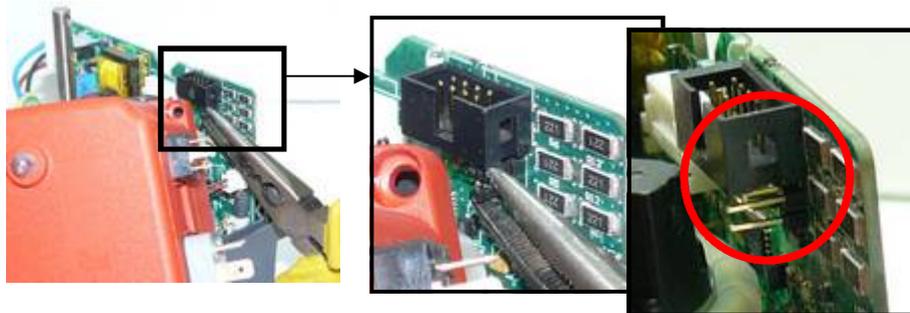
The **J3**-BSR is factory supplied to fail closed on mains failure (normally closed) but can be configured to fail open (normally open) simply by removing a jumper from the actuator PCB - see below.

A few seconds after a power cut, the **J3**'s LED will slowly flash and the actuator will be driven to the fail safe position, the LED will continue to flash on-off for 3 minutes - during this time the battery provides power to the **J3**'s internal circuitry and anti-condensation heater. At the end of these 3 minutes, if mains power has not been restored, the **J3** completely shuts down and the LED goes out.

On resumption of mains power, conditional that the control signal has not changed during the power outage, the actuator will reset to the position it saw at the moment of the power failure.



'NC' Normally closed jumper position
(factory standard)



'NO' Normally open jumper position
(jumper removed)

Charging data

	J3-20	J3-35	J3-55	J3-85	J3-140	J3-300
Initial minimum charge time BEFORE being put into service	36 hrs	36 hrs	36 hrs	36 hrs	Not in production	Not in production
Nominal capacity \pm 5%	800mA	800mA	800mA	800mA		
Battery consumption per Movement (W)	0.1	0.18	0.23			
Minimum recharge time after movement by battery	26 mins	26 mins	50 mins	65 mins		

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