

**J3CS Smart Electric Actuator Function: POWER OPEN POWER CLOSE , STAYS PUT ON POWER FAILURE**



Note: Image shows J3 actuator, awaiting updated image showing the J3CS, released in late 2016.

Type: **E2913S**  
Electric actuator fitted via kit



**Main J3CS Smart electric actuator features:**

- LED light for continual visual actuator status feedback.
- Fully weatherproof smart industrial actuator.
- Multi-voltage 24-240V capable actuator.
- All external electrical connections, no need to remove cover .
- Selectable manual override facility.
- Thermostatic anti-condensation heater.
- Electronic torque limiter.
- End of travel switches for remote open/ closed indication.
- CE marked.
- EU manufactured by J+J.

**Applications:**

Water, oil, air and many corrosive medias, subject to compatibility with wetted parts in contact with media.

J3CS Electric actuators sized on a maximum differential pressure of 10 bar wet service, operated at least once per day. If the intended duty differs from these parameters or is dry (air or gas), call to check JJ actuator sizing as a larger output electric actuator may be required.

Maximum working temperature of a direct mounted assembly is +130C. For higher working temperatures , contact us for options on mounting kit height, which uses air cooling to dissipate the rising heat from the valve away from the actuator. The taller the kit, the higher the working temperature. Should the J3CS smart actuator see more than +70C it will malfunction.

Specifications:	
Actuator housing	UV Protected Polyamide
Supply voltage range	24-240V AC or DC
IP Rating	IP67
Actuator temp limits	-20 to +70°C
Assembly temp limits	E2913S +130°C
Valve body	316 S11 to NACE
Valve ball	316 S11 to NACE
Valve seats	PVDF (x2)
Valve Pressure rating	UTI 2" 414 bar at max +150°C
Valve temp limits	-20 to +150°C
Size range	1/4" to 1"

**Ball valve information:**

Block body 3 piece 2 seat 3 way diverting ball valve. High quality parts produced, assembled and tested in the UK. These valves have a special configuration of stem to allow them to be used with electric actuators. End connections are threaded BSP female. NPT ends available as an option. Turning the ball through 90° fully opens the valve, turning back through 90° fully closes the valve and isolates the flow.

As standard 316 stainless steel construction is offered, but other materials, including super duplex, hasteloy, incoloy, 6M0, titanium and monel are available on request. Certs to EN 10204 3.1b.



**Flow path: 'L' port (diverting) only**



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## J3CS ON OFF ELECTRIC ACTUATOR

Power open, power close, stays put on loss of external power.

### How this electric 1/4 turn valve works (on-off):

Electrically operated valves are driven by a motor and gearbox. On receipt of a continuous voltage signal the motor runs and, via a gearbox in the J+J smart electric actuator, rotates the valve stem. The motor stops at the desired position (usually 0° or 90°) by internal cams striking micro-switches. The smart valve actuator remains in this position, with the voltage still applied continuously, until switched and a continuous voltage reversing signal is applied, which runs the motor in the opposite direction, reversing the rotation until separate set of internal cams strike separate set of micro-switches.

### Options:

It is possible to change the J3CS actuator's function by installing user friendly pug and play function conversion kits. These will provide the following alternative functions:

### Failsafe J3CS Actuator

J3CS fails to pre-set position using our BSR (Battery 'Spring Return' system which creates an alternate power supply should the external power fail.

### Modulating J3CS Actuator

Movement of the J3CS actuator is proportional to an input control signal, typically 4-20mA or 0-10V, by installing our DPS (Digital Positioning System) user friendly plug and play kit. There are options for how the J3CS modulating reacts to loss of the control signal, but it will stay put on loss of external power.

Configuration options:

- 1) Closes on loss of control signal
- 2) Opens on loss of control signal
- 3) Stays put on loss of control signal

### Failsafe Modulating J3CS Actuator

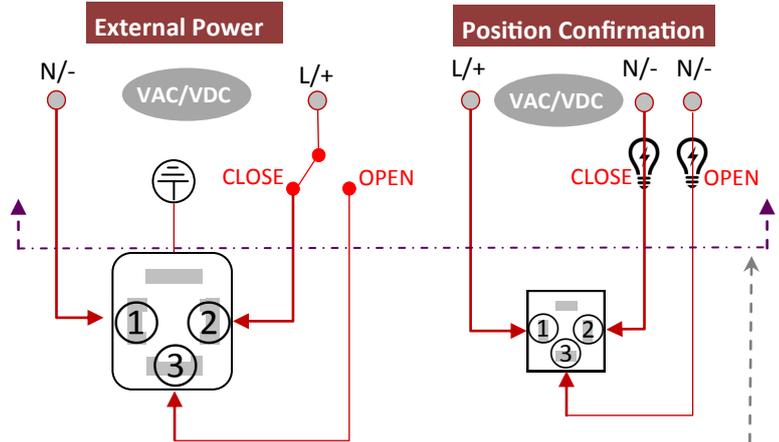
Failsafe modulating by installing the J+J BSR (Battery 'Spring Return') plug and play kit, operates functionally as a modulating electric actuator as described above, but will fail as per the DPS setting on loss of external power, as follows:

Configuration options:

- 1) Closes on loss of control signal, or on loss of external power
- 2) Opens on loss of control signal, or on loss of external power
- 3) Stays put on loss of control signal

## Electrical Connection - Wiring of DIN Plugs

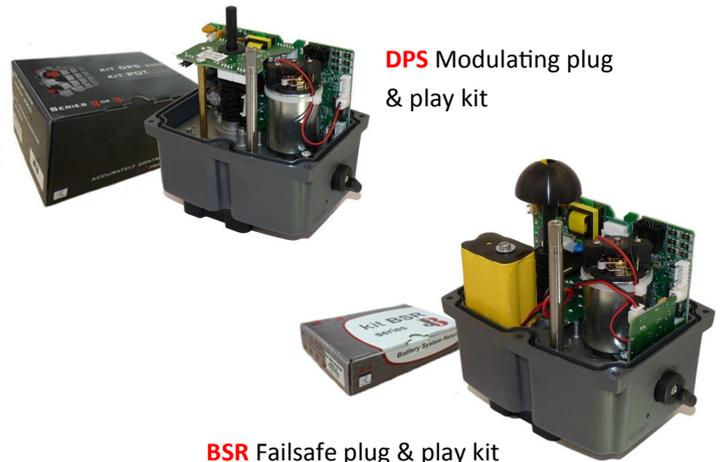
### J3CS ON-OFF & FAILSAFE WIRING (Same connection for either)



Note: Above line above is customer supplied

In J+J electric actuators all electrical connections are made externally using the external DIN plugs supplied with the actuator. There is no need to remove the valve actuator's cover to connect electrically. There are no terminals internally to connect to.

### Optional Plug & Play Function Conversion Kits



### Installing J+J Plug & Play function conversion kits

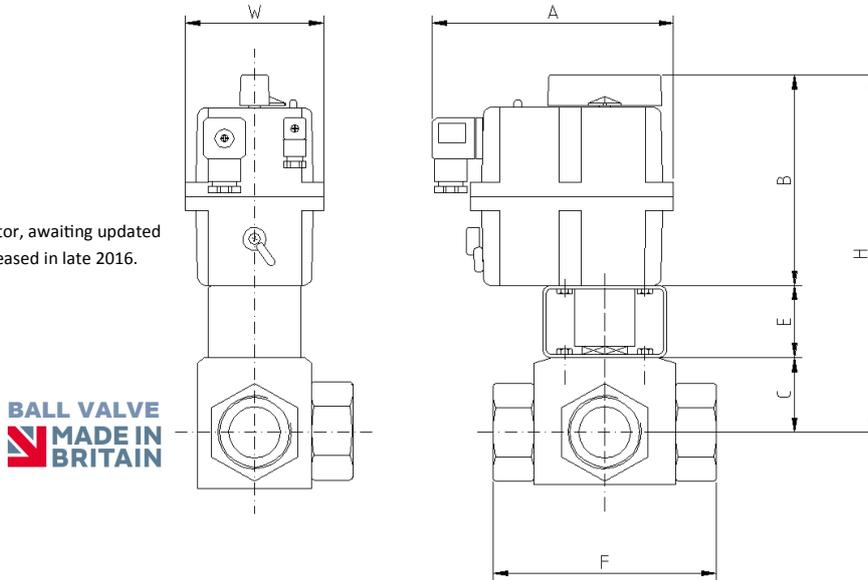
Failsafe and/or modulating function is quick and easy to achieve in the J3CS smart electric actuator by the fitting of the user friendly failsafe and/or modulating plug & play function conversion kits to the standard on-off J3CS smart valve actuator. When actuated valves are ordered with failsafe, modulating or failsafe modulating function, J+J install and test the plug and play function conversion kits. They can however be easily retro-fitted to J3CS smart electric actuators should the on-off

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**Typical Dimensions:**

Type: **E2913S** Actuator fitted to valve via a bracket and drive adapter

Note: Drawing shows J3 actuator, awaiting updated drawing showing the J3CS, released in late 2016.



Note: Available with bottom entry style valve, details on request.

E2913S Dimensions remain unchanged for all versions							
- on-off, failsafe, modulating & failsafe modulating							
	Model	A	E	F	H	W	Kilos
1/4"	20	177	50	71	215	110	2.2
3/8"	20	177	50	77	215	110	2.2
1/2"	20	177	50	85	215	110	2.3
3/4"	20	177	50	90	218	110	2.6
1"	35	177	50	111	246	110	3.7