

J3CS Smart Electric Actuator Function: **MODULATING CONTROL , STAYS PUT ON POWER FAILURE**



Type: E2815S

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:

Potable water (but not WRAS approved), oil, air and most non-corrosive media, subject to compatibility with wetted parts in contact with media.

Actuators sized on a maximum differential pressure of 10 bar wet service, operated at least once per day. If the intended duty is above this differential, or dry (air or gas) call to check actuator sizing as a larger output 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.

Typical CV Values

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
CV	7.5	7.5	7.5	12	32	46	80	105

CV = US gallons per hour with a 1psi pressure drop across the valve $K_v = C_v \times 0.86$

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	E2815S +130°C Mounted via kit
Valve body	316 S11 to NACE
Valve ball	316 S11 to NACE
Valve seats	PVDF
Valve Pressure rating	UTI 2" 414 bar at max +150°C
Valve temp limits	-20 to +150°C
Size range	1/4" to 2"

Ball valve information:

Block body 3 piece design. 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, 6MO, titanium and monel are available on request. Certs to EN 10204 3.1b.

J3CS MODULATING ELECTRIC ACTUATOR

The J3CS Modulating is used where the position of the actuator is required to be set by a control input signal. Unlike an on-off electric actuator, a modulating actuator will rarely travel from open to closed in one movement, it may only be required to alter its position by a few degrees. This is achieved by installing our DPS (Digital Positioning System) - installed by J+J when ordered as a modulating electric actuator.

How this electric 1/4 turn valve works (Modulating):

Power permanently connected, movement of the J3CS actuator is then proportional to an input signal, typically 4-20mA or 0-10V. The DPS processor continually compares the physical position of the J3CS output shaft to the input signal, and if a difference exists, controls the motor to eliminate the difference. An output signal is provided as standard. The reaction from the J3CS actuator to a loss of control signal can be set as below, 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

The DPS in the J3CS uses the latest magnetic position sensing technology which, when combined with digital processing, produces very accurate modulating control. This is a very Smart Red Box.

Options:

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

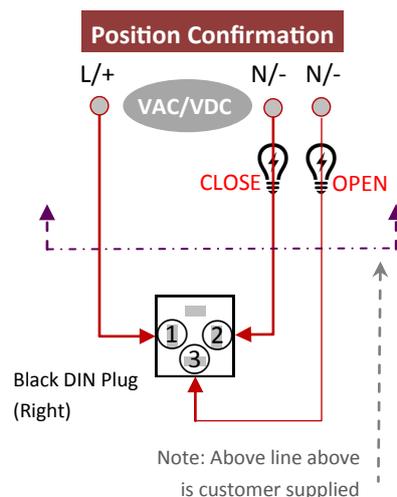
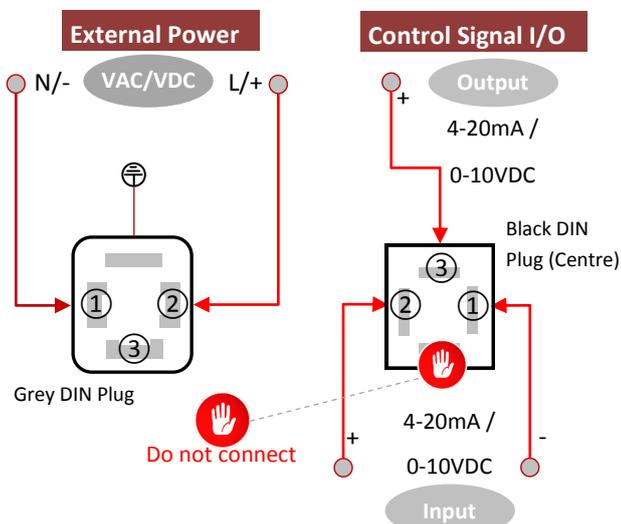
Failsafe Modulating J3CS Actuator

Adding the BSR (Battery 'Spring Return') plug and play function conversion kit to the J3CS modulating actuator, it becomes a J3CS failsafe modulating electric actuator.

The advantage this gives is that the actuator will fail to either the open or closed position, depending on how the DPS positioner is configured, in the event of an external power failure.

The BSR failsafe system comprises of an industrial rechargeable NiCad battery and a PCB containing a trickle charger and control circuitry. It can either be installed by J+J on original supply, or retro-fitted.

J3CS MODULATING WIRING



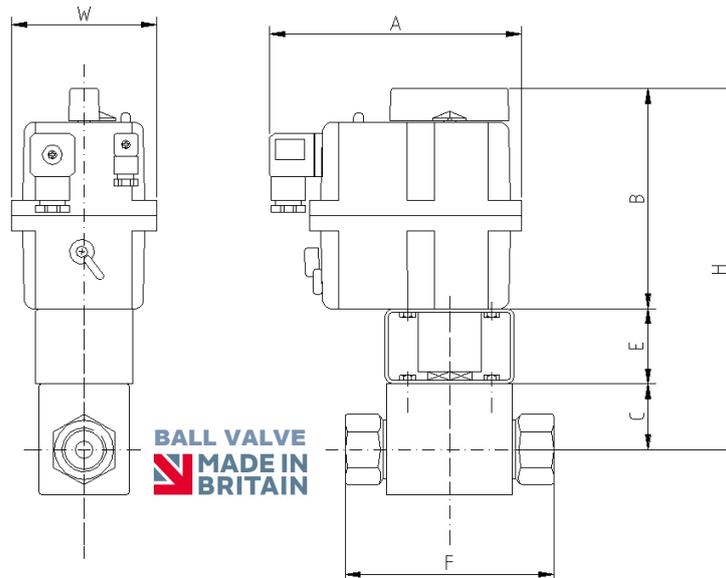
In J+J electric actuators all electrical connections are made externally using the external DIN plugs supplied with the actuator. There is no need to remove the valve actuator's cover to connect electrically. There are no terminals internally to connect to.



BSR Failsafe plug & play kit can be added to create **failsafe modulating** function.

Typical Dimensions:

Type: E2815S Actuator fitted to valve via a bracket and drive adapter


E2815S 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	2.4
1"	35	177	50	111	246	110	3.5
1 1/4"	35	177	50	121	252	110	3.8
1 1/2"	35	177	50	135	256	110	5.0
2"	35	177	50	160	262	110	5.5

Note: Block body UTI 1", thereafter from machined round bar.