

**J3CS Smart Electric Actuator Function: FAILSAFE MODULATING CONTROL, FAILS SAFE ON POWER FAILURE**

**Type: E4716S**

Electric actuator fitted via mounting kit



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

**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 (valve is not WRAS approved), oil, air and most non-corrosive media, subject to compatibility with wetted parts in contact with media.

Electrical 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 valve actuator may be required.

Maximum working temperature of a direct mounted assembly is +70C. For higher working temperatures , consider models that have a mounting kit or TSM stem extension between the valve and actuator which uses air cooling to dissipate the rising heat from the valve away from the actuator. Should the J3CS smart actuator see more than +70C it will malfunction.

<b>Specifications:</b>	
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	E4715S +130°C
Valve body	CF8M (Cast 316SS)
Valve ball	316SS
Valve seats	RPTFE
Valve Pressure rating	ANSI Class 150
Valve temp limits	-20 to +190°C
Size range	1" to 4"

**Ball valve information:**

Full bore 3 way ball valve, flanged ASA150, all stainless steel construction, end connections are flanged ASA150 (ASA300 available on request).

3 Way stainless steel ball valves are used to change the direction of flow as opposed to 2 way ball valves which simply isolate the flow. These 3 way ball valves are available with either L port or T port flow.

L port ball valves simply divert the flow from the centre port to either of the outlet ports whereas T port ball valves can be configured to either divert the flow, or have all 3 ports connected allowing the media to mix.

**3 Way ball valves –flow patterns:**



L Port – diverting



T Port – mixing



T Port – diverting

**J3CS Smart Electric Actuator Function: FAILSAFE MODULATING CONTROL, FAILS SAFE ON POWER FAILURE**

**J3CS FAILSAFE 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:**

With external 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.

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.

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.

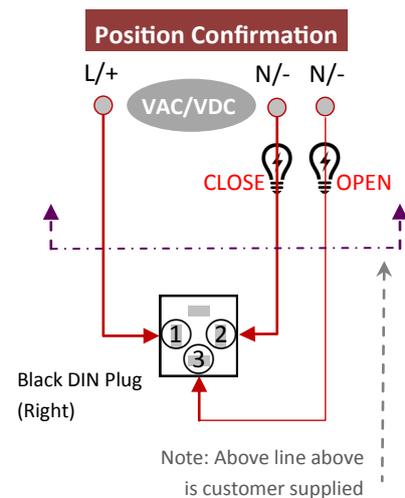
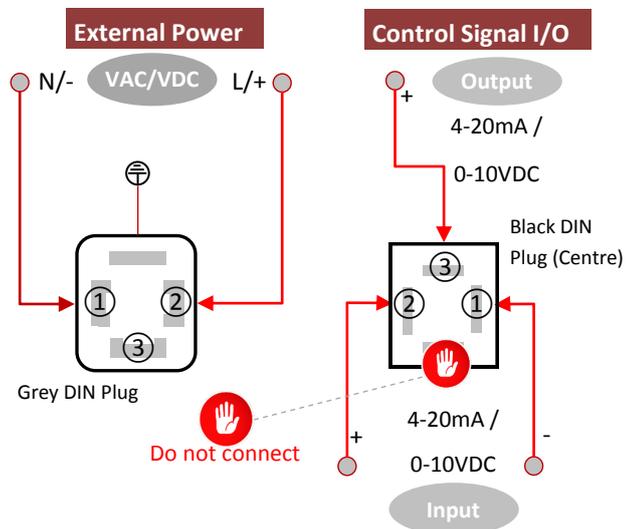
The advantage this gives is that the actuator will fail to either the open or closed position, depending on how the DPS positioner is configured, in the event of an external power failure.

The BSR failsafe system comprises of an industrial rechargeable NiCad battery and a PCB containing a trickle charger and control circuitry.

Whilst generally the J3CS failsafe modulating electric actuators are supplied with the BSR failsafe and DPS modulating kits pre-installed and function tested by J+J, the BSR and DPS kits can be supplied to be installed by the user into an on-off J3CS as they are very user friendly, simple to install and are plug and play. The DPS is self calibrating so no complex set-up procedure is necessary.

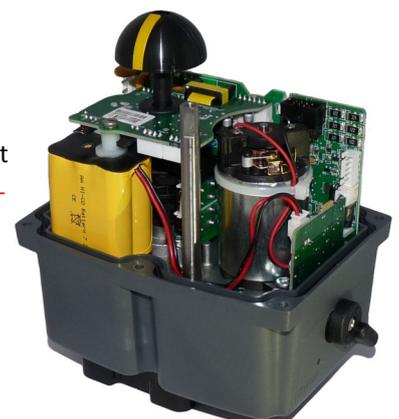
This is a very Smart Red Box.

**J3CS FAILSAFE 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 pre-installed to create failsafe modulating function.**

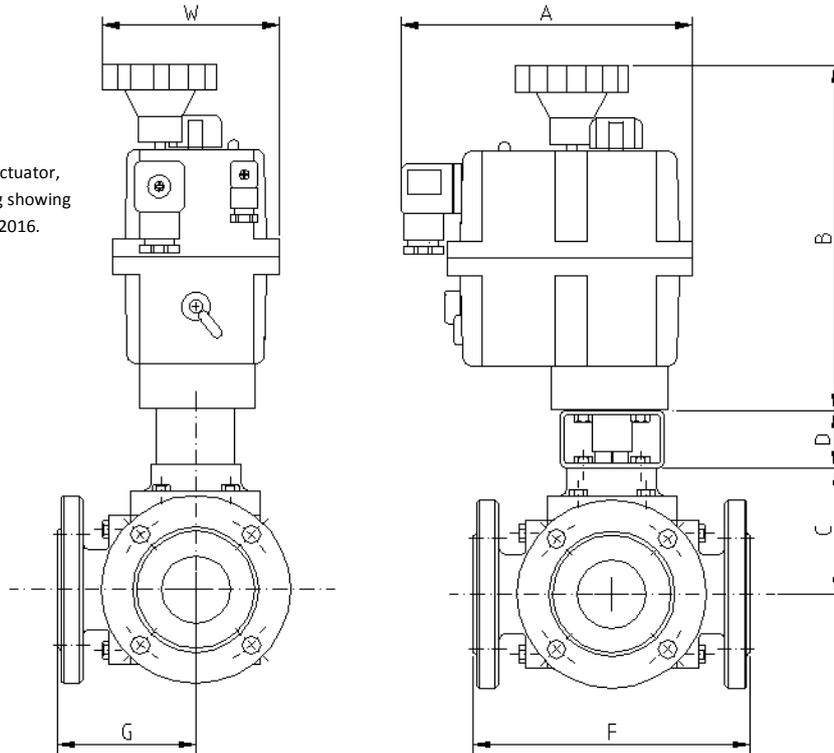


J3CS Smart Electric Actuator Function: **FAILSAFE MODULATING CONTROL, FAILS SAFE ON POWER FAILURE**

**Typical Dimensions:**

Type: **E4716S** 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.



E4716S Dimensions remain unchanged for all versions							
- on-off, failsafe, modulating & failsafe modulating							
	Model	A	D	F	H	W	Kilos
1"	20	177	50	180	291	110	12
1 1/2"	35	177	50	200	331	110	15
2"	35	177	50	220	331	110	19
2 1/2"	*140	235	70	250	414	214	33
3"	*140	235	70	250	429	214	35
4"	*300	235	70	340	439	214	52