

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



Type: E2206S

Electric actuator direct mounted



Type: E2216S

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.

JJ 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 valve actuator sizing as a larger output electrical 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.

Typical KV Values

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
KV	6.8	6.8	12.8	29.1	47.8	72.6	106.8	213.7	273.3	495.3	871.1

Kv = m³ per hour with a 1 bar pressure drop across the valve

CV = US gallons per hour with a 1psi pressure drop across the valve Cv = Kv / 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	E2206S +70°C Direct mounted
	E2216S +130°C Mounted via kit
	E2226S +100°C Mounted via ext'n
Valve body	CF8M (Cast 316SS)
Valve ball	316SS
Valve seats	PTFE
Valve Pressure rating	UTI 2" 64 bar at ambient temp
Valve temp limits	-20 to +200°C
Size range	1/4" to 4"

Ball valve information:

Full bore 2 piece construction, providing full unrestricted flow and a very low pressure drop across the valve. Designed for automation with integrally cast ISO5211 actuator mounting platform. Turning the ball through 90° fully opens the valve, turning back through 90° fully closes the valve and isolates the flow. End connections are threaded BSP female. NPT ends available as an option.

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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.

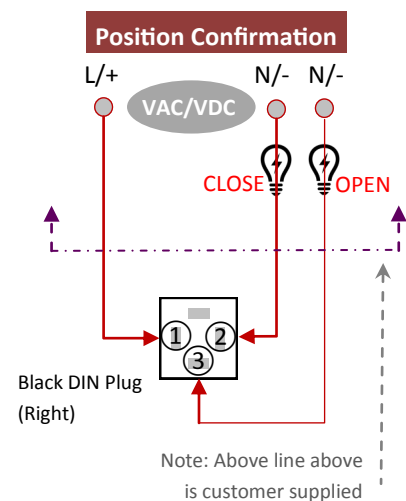
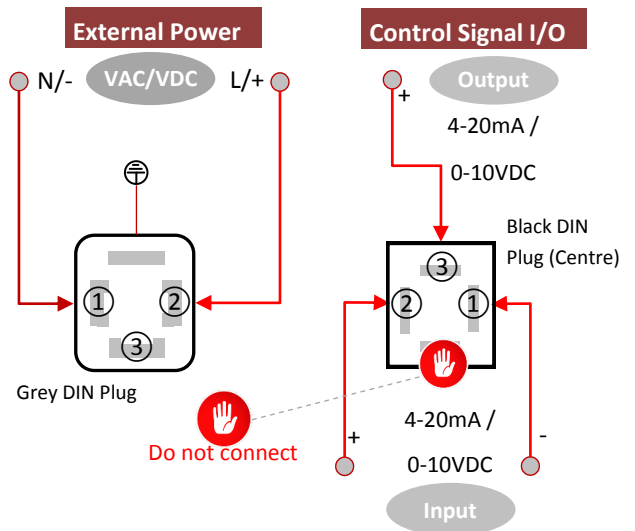
The advantage this gives is that the actuator will fail to either the open or closed position, depending on how the DPS positioner is configured, in the event of an external power failure.

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



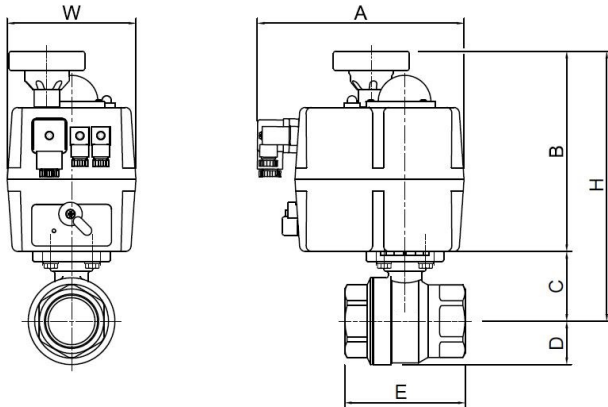
In J+J electric actuators all electrical connections are made externally using the external DIN plugs supplied with the actuator. There is no need to remove the valve actuator's cover to connect electrically. There are no terminals internally to connect to.



BSR Failsafe plug & play kit pre-installed to create fail-safe modulating function.

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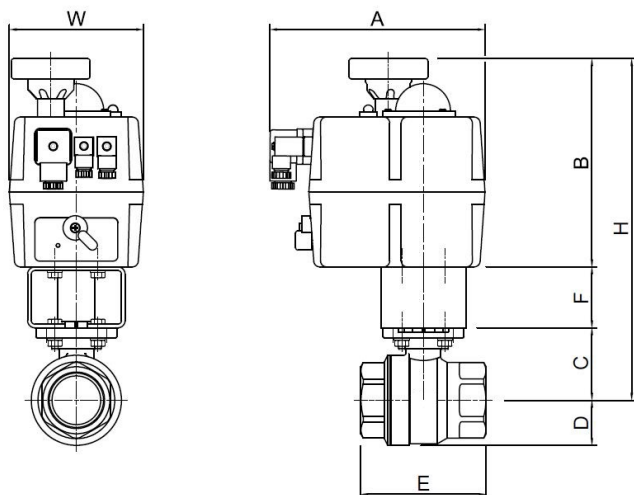
Type: **E2206S** Actuator direct mounted to valve



Typical Dimensions:

E2206S Dimensions remain unchanged for all versions						
- On-off, failsafe, modulating and failsafe modulating						
	Model	A	E	H	W	Kilos
≤1/2"	20	177	65	210	110	2.1
3/4"	20	177	75	218	110	2.2
1"	20	177	88	228	110	2.6
1 1/4"	20	177	102	232	110	3.0
1 1/2"	35	177	110	249	110	4.4
2"	35	177	125	257	110	5.4
2 1/2"	55	177	161	305	110	9.4
3"	85	177	178	314	110	12.4

Type: **E2216S** Actuator fitted to valve via a bracket and drive adapter



E2216S Dimensions remain unchanged for all versions							
- on-off, failsafe, modulating & failsafe modulating							
	Model	A	F	E	H	W	Kilos
≤1/2"	20	177	50	65	260	110	2.3
3/4"	20	177	50	75	268	110	2.4
1"	20	177	50	88	278	110	2.8
1 1/4"	20	177	50	102	282	110	3.2
1 1/2"	35	177	50	110	299	110	4.6
2"	35	177	50	125	307	110	5.6
2 1/2"	55	177	50	161	355	110	9.6
3"	85	177	50	178	364	110	12.6

Type: **E2226S** Actuator fitted to valve via a tubular stem extension

E2226S Dimensions remain unchanged for all versions							
- on-off, failsafe, modulating & failsafe modulating							
	Model	A	E	F	H	W	Kilos
≤1/2"	20	177		65		110	
3/4"	20	177		75		110	
1"	20	177		88		110	
1 1/4"	20	177		102		110	
1 1/2"	35	177		110		110	
2"	35	177		125		110	
2 1/2"	55	177		161		110	
3"	85	177		178		110	