

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



Type: E1105S

Electric actuator direct mounted



Type: E1115S

Electric actuator fitted via kit

Main J3CS Smart Modulating electric actuator features:

- Power On LED light
- LED light for continual visual actuator status feedback.
- Fully weatherproof smart industrial actuator.
- Multi-voltage 24-240V capable actuator with auto sensing.
- Range of input control signal options, output signal provided.
- 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.

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	E1105S +70°C Direct mounted
	E1115S +95°C Mounted via kit
	E1125S +95C Mounted via ext'n
Valve body	Nickel plated brass
Valve ball	Chrome plated brass
Valve seats	PTFE
Valve Pressure rating	UTI 2" 40 bar at ambient temp
Valve temp limits	-20 to +95°C
Size range	1/2" to 2"

Applications:

Potable water, oil, air and most non-corrosive media, subject to compatibility with wetted parts in contact with media. This assembly is NOT recommended for use on steam.

Valve 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), please call to check the actuator sizing as a larger output electric 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 the JJ electric 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.

Ball valve information:

Full bore 2 piece construction, providing full unrestricted flow and a very low pressure drop across the valve. Approved in the UK for use on potable water by WRAS. 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.



Typical Kv Values

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Kv	16.3	29.5	43	89	230	265

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

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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:

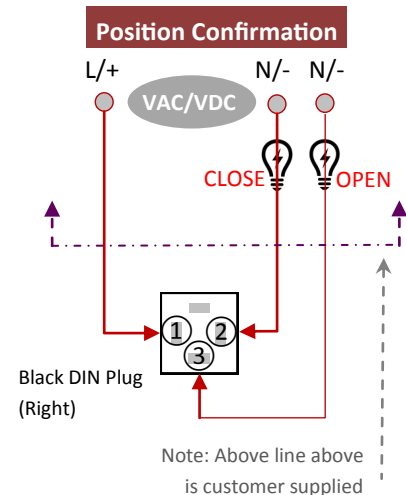
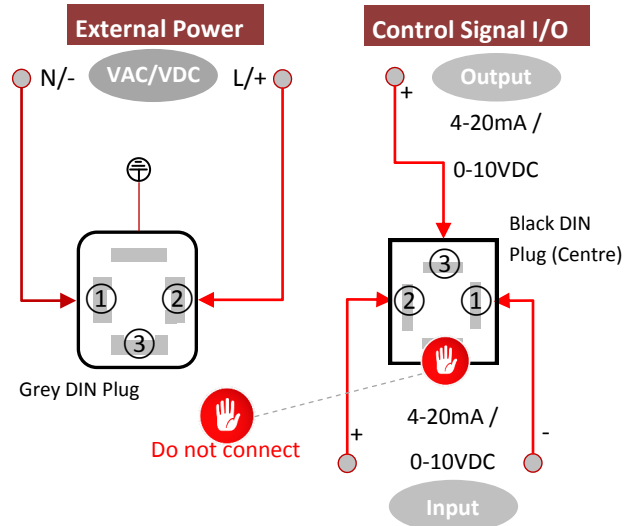
Failsafe Modulating J3CS Actuator

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.

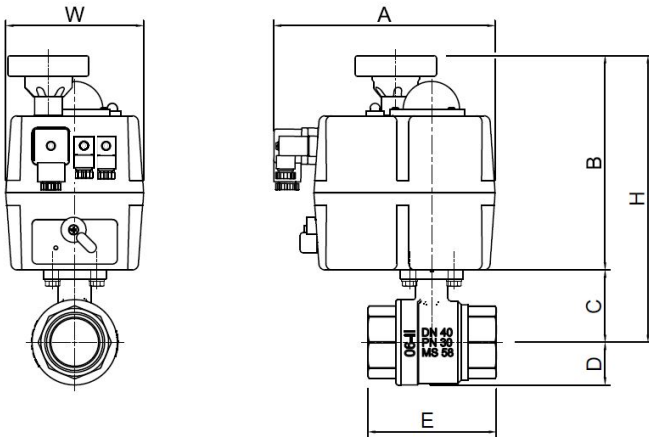


BSR Failsafe plug & play kit can be added to create **failsafe modulating** function.

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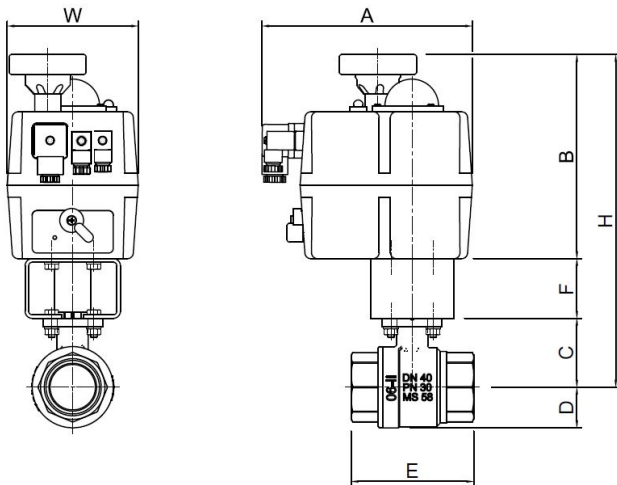
Typical Dimensions:

Type: E1105S Actuator direct mounted to valve



E1105S Dimensions remain unchanged for all versions						
- On-off, failsafe, modulating and failsafe modulating						
	Model	A	E	H	W	Kilos
1/2"	20	177	59	202	110	1.8
3/4"	20	177	69	208	110	1.9
1"	20	177	83	212	110	2.2
1 1/4"	20	177	94	218	110	2.5
1 1/2"	20	177	102	229	110	2.9
2"	20	177	124	237	110	3.7

Type: E1115S Actuator fitted to valve via a bracket and drive adapter



E1115S Dimensions remain unchanged for all versions							
- on-off, failsafe, modulating & failsafe modulating							
	Model	A	F	E	H	W	Kilos
1/2"	20	177	50	59	252	110	2.0
3/4"	20	177	50	69	258	110	2.1
1"	20	177	50	83	262	110	2.4
1 1/4"	20	177	50	94	268	110	2.7
1 1/2"	20	177	50	102	279	110	3.1
2"	20	177	50	124	287	110	3.9

Type: E1125S Actuator fitted to valve via a tubular stem extension

Awaiting details, call for information

E1125S Dimensions remain unchanged for all versions							
- on-off, failsafe, modulating & failsafe modulating							
	Model	A	E	F	H	W	Kilos
1/2"	20	177		59		110	
3/4"	20	177		69		110	
1"	20	177		83		110	
1 1/4"	20	177		94		110	
1 1/2"	20	177		102		110	
2"	20	177		124		110	