

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



Type: E1105ES

Electric actuator direct mounted



Type: E1115ES

Electric actuator fitted via kit

Main J3 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 most non-corrosive media, subject to compatibility with wetted parts in contact with media. Not for use on potable water & 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 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 the smart electric valve actuator which uses air cooling to dissipate the rising heat from the ball valve away from the actuator. 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	E1105ES +70°C
	E1115ES +120°C
	E1125ES +100C
Valve body	Nickel plated brass
Valve ball	Chrome plated brass
Valve seats	PTFE
Valve Pressure rating	UTI 1" 40 bar at ambient temp
	To 2 1/2" 30 bar at ambient temp
	3" 25 bar at ambient temp
Valve temp limits	-20 to +120°C
Size range	1/4" to 3"

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.

Typical Kv Values

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
Kv	16.3	29.5	43	89	230	265	540	873

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

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. These will provide the following alternative functions:

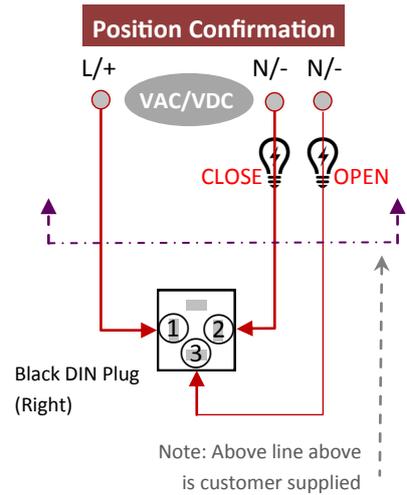
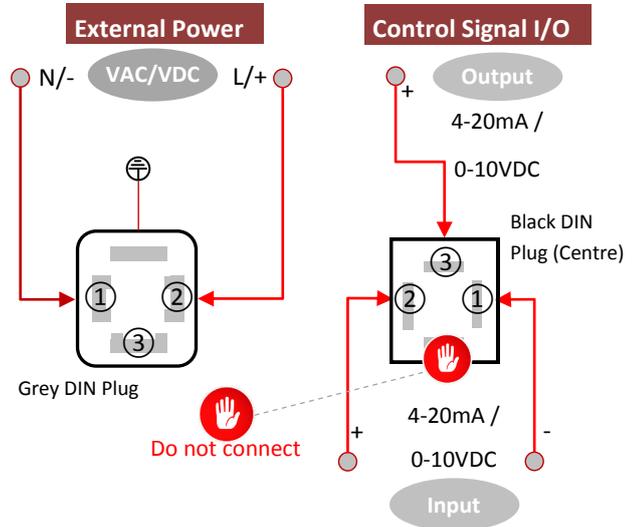
Failsafe Modulating J3CS Actuator

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

Configuration options:

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

J3CS MODULATING WIRING

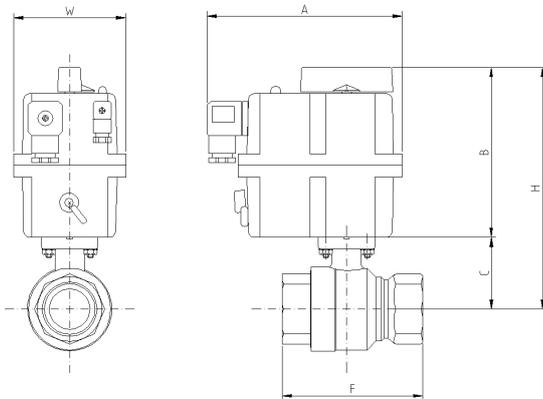


In J+J electric actuators all electrical connections are made externally using the external DIN plugs supplied with the actuator. There is no need to remove the valve actuator's cover to connect electrically. There are no terminals internally to connect to.



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

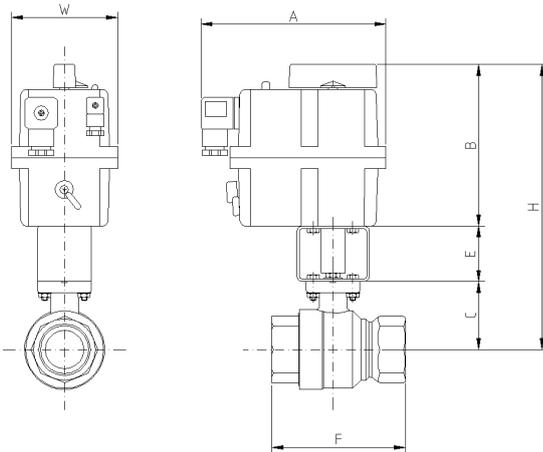
Type: **E1105ES** Actuator direct mounted to valve



Typical Dimensions:

E1105ES Dimensions remain unchanged for all versions						
- On-off, failsafe, modulating and failsafe modulating						
	Model	A	F	H	W	Kilos
≤1/2"	20	177	65	178	110	1.9
3/4"	20	177	75	181	110	1.9
1"	20	177	86	185	110	2.2
1 1/4"	20	177	95	190	110	2.6
1 1/2"	20	177	101	206	110	3.2
2"	20	177	121	213	110	4.2
2 1/2"	35	177	165	220	110	5.8
3"	35	177	188	271	110	7.9

Type: **E1115ES** Actuator fitted to valve via a bracket and drive adapt-



E1115ES Dimensions remain unchanged for all versions							
- on-off, failsafe, modulating & failsafe modulating							
	Model	A	E	F	H	W	Kilos
≤1/2"	20	177	50	65	228	110	2.1
3/4"	20	177	50	75	231	110	2.1
1"	20	177	50	86	235	110	2.4
1 1/4"	20	177	50	95	240	110	2.8
1 1/2"	20	177	50	101	256	110	3.4
2"	20	177	50	121	263	110	4.4
2 1/2"	35	177	50	165	270	110	6.0
3"	35	177	50	188	321	110	8.1

Type: **E1125ES** Actuator fitted to valve via a tubular stem extension

E1125ES 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		86		110	
1 1/4"	20	177		95		110	
1 1/2"	20	177		101		110	
2"	20	177		121		110	
2 1/2"	35	177		165		110	
3"	35	177		188		110	

Call for details