

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

Note: J3 Actuator (superseded by J3CS)



DN15-40 1/2" - 1 1/2"

Type: E3016HS

Electric actuator fitted via mounting kit



Note: J3 Actuator (superseded by J3CS)

DN50-100 2" - 4"

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:

The 3010H is well suited in water, food and general service applications, and is used extensively around the world in water, irrigation, swimming pools, foodstuffs and general service applications. Can be used with potable water (but not WRAS approved in the UK), and many 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 (eg: some solvents) call to check actuator sizing as a larger output actuator may be required.

Maximum working temperature of this assembly is +60C. For temperatures in excess of this please contact us - we may still be able to offer a plastic valve, say PVDF or cPVC, depending upon the working temperature required, and the working pressure.

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	E3016HS +60°C
Valve body	uPVC
Valve ball	uPVC
Valve seats	PTFE with EPDM seals
Valve Pressure rating	UT1 2" 16 bar at +20C 2 1/2" - 3" 10 bar
Valve temp limits	0 to +60°C
Size range	1/2" to 3"

PVC information:

PVC is odourless and tasteless and is used in many applications such as water processing, conveying potable water and food processing.. It has good chemical resistance and resists most solutions of acids, alkalis and salts, and also solvents that can be diluted with water.

It is not resistant to aromatic and chlorinated carbons.

PVC is not suitable in applications where the installation can see negative ambient temperatures, and care must be taken when working above 20C as the allowable working pressure drops significantly as the working temperature increases.

Ball valve information:

The 3010H is an economy, mass produced PVC ball valve.

The double union design allows the centre section to quickly and easily be removed for replacing the seats and seals. These economy PVC ball valves have a blow-out proof ball & stem. Standard seals are EPDM but Viton (FKM) is available.

Automation is made quick and easy when using the manufacturers' purpose designed mounting kit that is usually available from stock.

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:

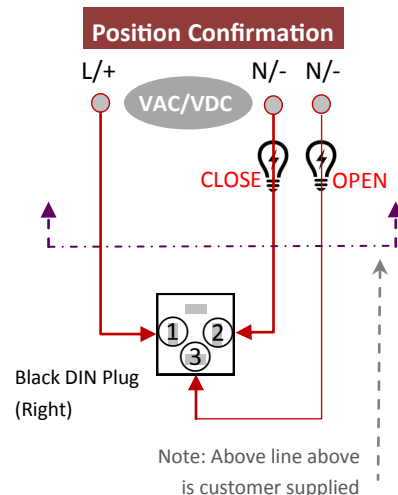
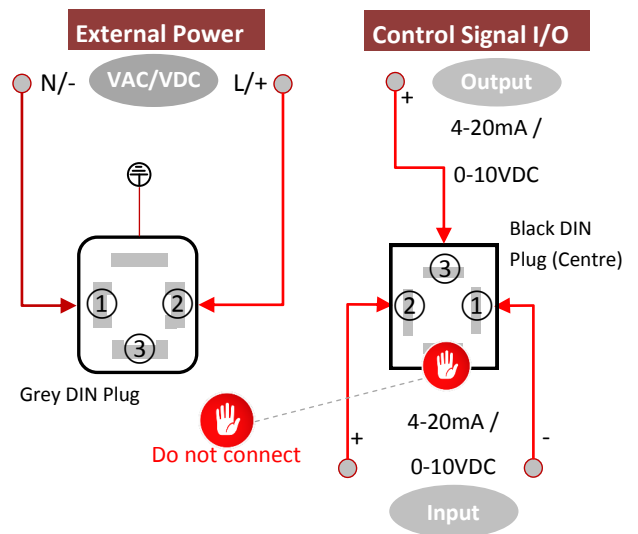
Failsafe Modulating J3CS Actuator

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.

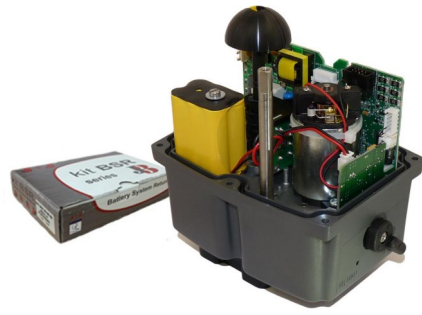
The advantage this gives is that the actuator will fail to either the open or closed position, depending on how the DPS positioner is configured, in the event of an external power failure.

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



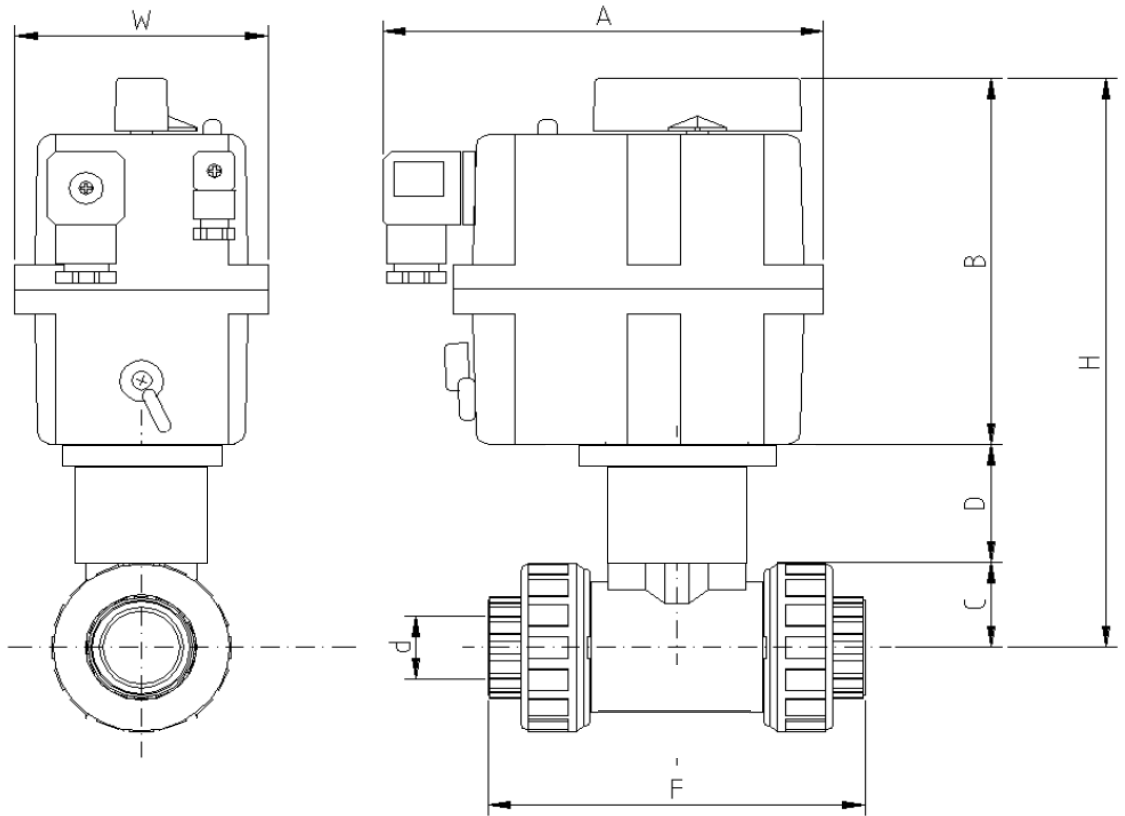
In J+J electric actuators all electrical connections are made externally using the external DIN plugs supplied with the actuator. There is no need to remove the valve actuator's cover to connect electrically. There are no terminals internally to connect to.



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

Typical Dimensions:

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



Type: **E3015HS** Actuator fitted to valve via the manufacturers' mounting

E3015HS Dimensions remain unchanged for all versions						
- on-off, failsafe, modulating & failsafe modulating						
	Model	A	d	F	H	W
≤1/2"	20	177	15	86	227	110
3/4"	20	177	20	94	232	110
1"	20	177	25	122	243	110
1 1/4"	20	177	32	131	265	110
1 1/2"	20	177	40	150	282	110
2"	20	177	50	177	390	110
2 1/2"	55	177	65	216	425	110
3"	55	177	80	257	450	110