

**J3CS Smart Electric Actuator Function: POWER OPEN - POWER CLOSE , STAYS PUT ON POWER FAILURE**

Note: J3 Actuator  
(superseded by J3CS)



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

Type: E3013HS

Electric actuator fitted via mounting kit



DN50-100 2" - 4"

**Main J3 Smart electric actuator features:**

- LED light for continual visual actuator status feedback.
- Fully weatherproof smart industrial actuator, CE marked.
- Multi-voltage capable actuator , EU manufactured by J+J.
- 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.

**Applications:**

The E3010HS 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.

**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.

<b>Specifications:</b>	
Actuator housing	UV Protected Polyamide
IP Rating	IP65 (J3) or IP67 (J3C)
Actuator temp limits	-20 to +70°C
Assembly temp limits	E3013HS +60°C
Valve body	uPVC
Valve ball	uPVC
Valve seats	PTFE with EPDM seals
Valve Pressure rating	UTI 2" 16 bar at +20C 2 1/2" - 3" 10 bar
Valve temp limits	0 to +60°C
Size range	1/2" to 3"

**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.

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## J3CS ON - OFF ELECTRIC ACTUATOR

Power open, power close, stays put on loss of external power.

### 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 J3CS Actuator

J3CS fails to pre-set position using our BSR (Battery 'Spring Return' system which creates an alternate power supply should the external power fail.

### Modulating J3CS Actuator

Movement of the J3CS actuator is proportional to an input control signal, typically 4-20mA or 0-10V, by installing our DPS (Digital Positioning System) user friendly plug and play kit. There are options for how the J3CS modulating reacts to loss of the control signal, 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

### Failsafe Modulating J3CS Actuator

Failsafe modulating by installing the J+J BSR (Battery 'Spring Return') plug and play kit, operates functionally as a modulating electric actuator as described above, but will fail as per the DPS setting on loss of external power, 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

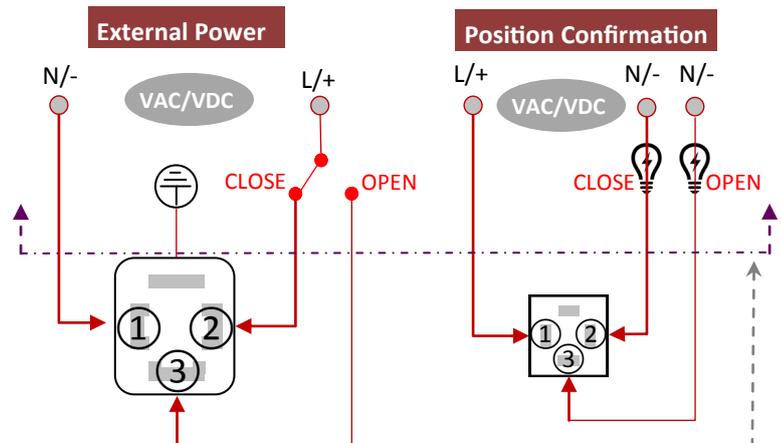
### How this electric 1/4 turn valve works (on-off):

Electrically operated valves are driven by a motor and gearbox. On receipt of a continuous voltage signal the motor runs and, via a gearbox in the J+J smart electric actuator, rotates the valve stem. The motor stops at the desired position (usually 0° or 90°) by internal cams striking micro-switches. The smart valve actuator remains in this position, with the voltage still applied continuously, until switched and a continuous voltage reversing signal is applied, which runs the motor in the opposite direction, reversing the rotation until separate set of internal cams strike separate set of micro-switches

## Electrical Connection - Wiring of DIN Plugs

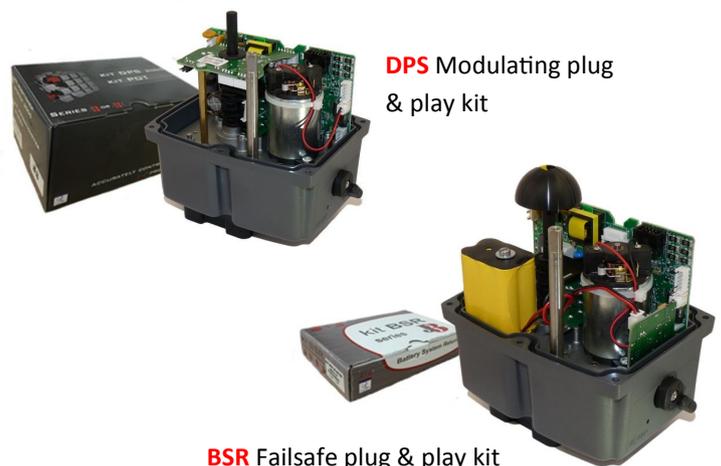
In J+J electric actuators all electrical connections are made externally using the external DIN plugs supplied with the actuator. There is no need to remove the valve actuator's cover to connect electrically. There are no terminals internally to connect to.

### J3CS ON-OFF & FAILSAFE WIRING (Same connection for either)



Note: Above line above is customer supplied.

### Optional Plug & Play Function Conversion Kits



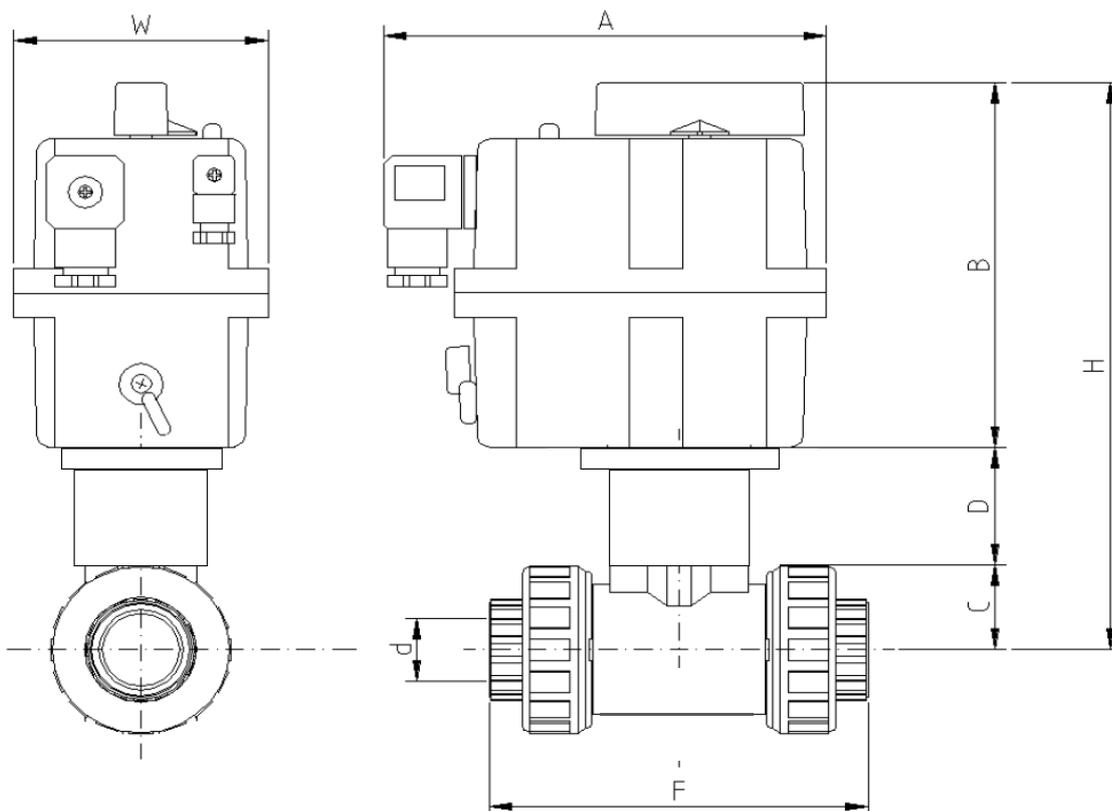
### Installing J+J Plug & Play function conversion kits

Failsafe and/or modulating function is quick and easy to achieve in the J3CS smart electric actuator by the fitting of the user friendly failsafe and/or modulating plug & play function conversion kits to the standard on-off J3CS smart valve actuator. When actuated valves are ordered with failsafe, modulating or failsafe modulating function, J+J install and test the plug and play function conversion kits. They can however be easily retro-fitted to J3CS smart electric actuators should the on-off function requirement (supplied as standard function), change.

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**Typical Dimensions:**

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



Type: E3013H Actuator fitted to valve via the manufacturers' mounting kit

E3013H 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