

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



Type: **EJ3-1103S**

J3CS Electric actuator direct mounted



Type: **EJ3-1113S**

J3CS Electric actuator fitted via kit

Main J3C-S Smart On-Off 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.
- 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, 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.

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 | EJ3-1103S +70°C Act direct mounted |
| | EJ3-1113S +95°C Act via mounting kit |
| Valve body | Nickel plated brass |
| Valve ball | Chrome plated brass |
| Valve seats | PTFE |
| Valve Pressure rating | UT1 2" 40 bar at ambient temp |
| Valve temp limits | -20 to +95°C |
| Size range | 1/2" to 2" |

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

J3C-S ON OFF ELECTRIC ACTUATOR

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

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.

Options:

It is possible to change the J3C-S actuator's function by installing user friendly pug and play function conversion kits. These will provide the following alternative functions:

Failsafe J3C-S Actuator

J3C-S fails to pre-set position using our BSR (Battery 'Spring Return' system which creates an alternate power supply should the external power fail.

Modulating J3C-S Actuator

Movement of the J3C-S 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 J3C-S Actuator

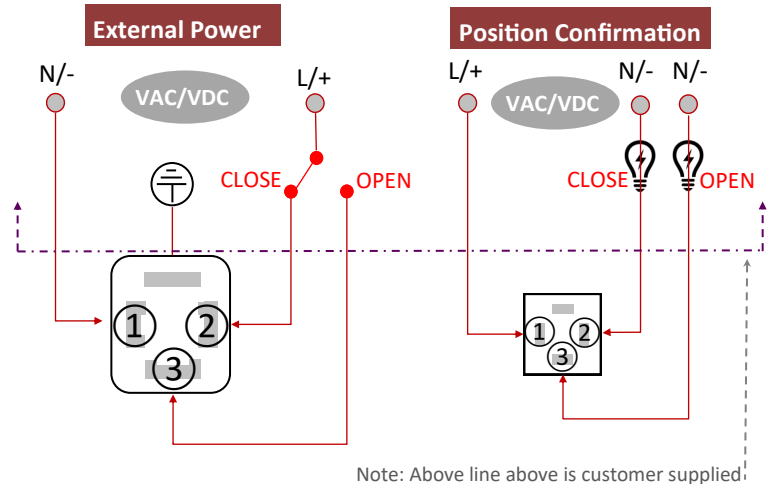
Failsafe modulating by installing the J+J BSR (Battery 'Spring Return') plug and play kit, operates functionally as a modulating electric actuator as described above, but will fail as per the DPS setting on loss of external power, as follows:

Configuration options:

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

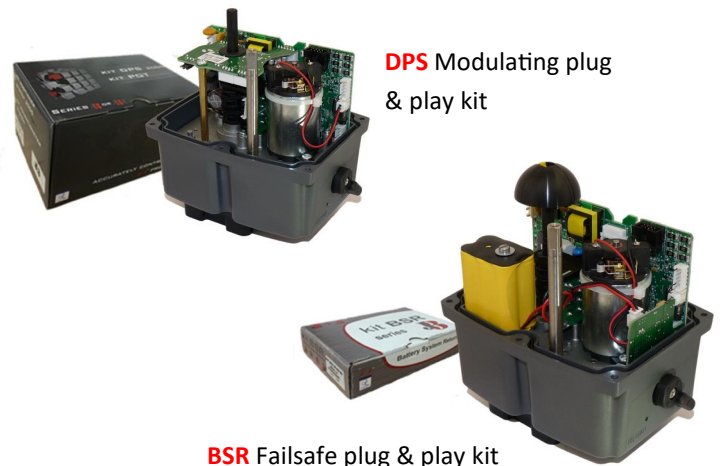
Electrical Connection - Wiring of DIN Plugs

J3C-S ON-OFF & FAILSAFE WIRING (Same connection for either)



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.

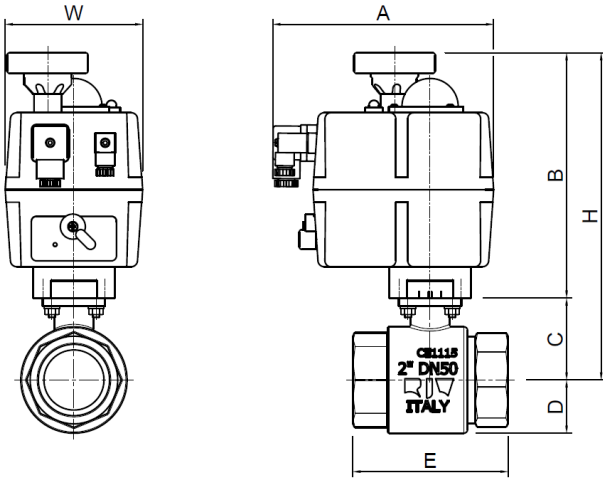
Optional Plug & Play Function Conversion Kits



Installing J+J Plug & Play function conversion kits

Failsafe and/or modulating function is quick and easy to achieve in the J3C-S smart electric actuator by the fitting of the user friendly failsafe and/or modulating plug & play function conversion kits to the standard on-off J3C-S 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 J3C-S smart electric actuators should the on-off function requirement (supplied as standard function), change.

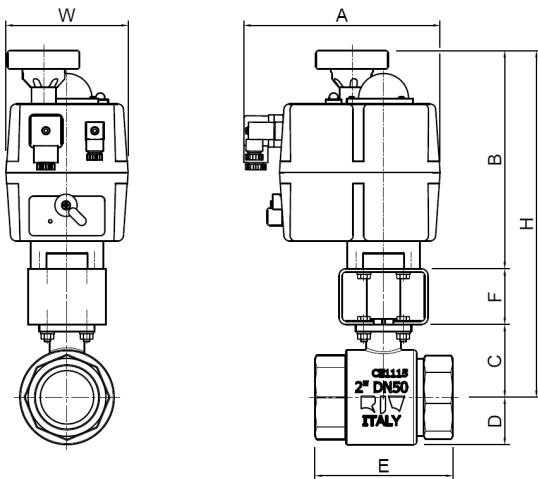
Type: **EJ3-1103S** Actuator direct mounted to valve



Typical Dimensions:

| EJ3-1103S Dimensions remain unchanged for all versions - On-off, failsafe, modulating and failsafe modulating | | | | | | |
|--|-------|-----|-----|-----|-----|-------|
| | Model | A | F | H | W | Kilos |
| 1/2" | 20 | 177 | 59 | 180 | 110 | 1.8 |
| 3/4" | 20 | 177 | 69 | 186 | 110 | 1.9 |
| 1" | 20 | 177 | 83 | 190 | 110 | 2.2 |
| 1 1/4" | 20 | 177 | 94 | 196 | 110 | 2.5 |
| 1 1/2" | 20 | 177 | 102 | 207 | 110 | 2.9 |
| 2" | 20 | 177 | 124 | 215 | 110 | 3.7 |

Type: **EJ3-1113S** Actuator fitted to valve via a bracket and drive adapter



| EJ3-1113S Dimensions remain unchanged for all versions - on-off, failsafe, modulating & failsafe modulating | | | | | | | |
|--|-------|-----|----|-----|-----|-----|-------|
| | Model | A | E | F | H | W | Kilos |
| 1/2" | 20 | 177 | 50 | 59 | 230 | 110 | 2.0 |
| 3/4" | 20 | 177 | 50 | 69 | 236 | 110 | 2.1 |
| 1" | 20 | 177 | 50 | 83 | 240 | 110 | 2.4 |
| 1 1/4" | 20 | 177 | 50 | 94 | 246 | 110 | 2.7 |
| 1 1/2" | 20 | 177 | 50 | 102 | 257 | 110 | 3.1 |
| 2" | 20 | 177 | 50 | 124 | 265 | 110 | 3.9 |

Type: **EJ3-1123S** Actuator fitted to valve via a tubular stem extension

Awaiting details, call for information

| EJ3-1123S 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 | |