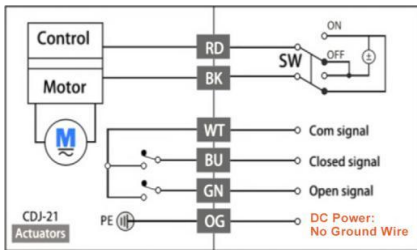


WIRING SCHEMATICS

Our UPVC electric 3-way ball valve series offers two configuration options: basic version (without signal feedback) and signal feedback version. The basic version is available in four wiring modes to meet different control needs. The signal feedback version adds three signal wires on the basis of the basic version, enabling real-time feedback of the valve's ON/OFF status — with ON and OFF each representing a different flow path. We offer L-type and T-type configurations (T-type has two options: T1 and T2). The wiring diagrams provided below are for the signal feedback version. For the basic version without signal feedback, simply ignore the signal wire connections shown in the diagrams. Wire Color Coding: The following abbreviations are used for wire colors: BK (Black), RD (Red), YW (Yellow), WT (White), BU (Blue), GN (Green), and OG (Orange).

Note1: Auto-return functionality is exclusive to model CDJ24. All other wiring modes are non-resetting types.

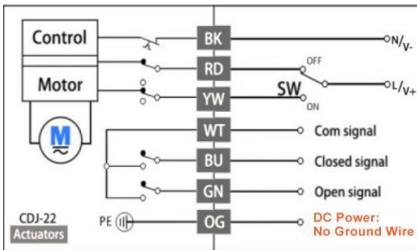
Note2: For valve control lines and feedback signal lines, separate power supplies are required.



2-WIRE REVERSE POLARITY (CDJ-21)

This wiring mode uses two power wires to control the valve's opening and closing. Reversing the polarity of the two wires switches the valve's operation direction: one polarity drives the valve to open, and the reversed polarity drives it to close.

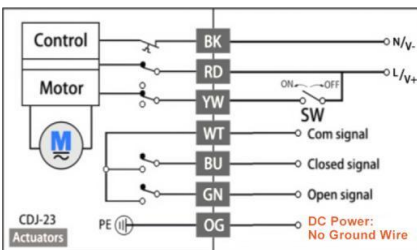
The signal feedback version adds three signal wires to feed back the valve's current state to the upper controller.



3-WIRE (2-POINT) CONTROL (CDJ-22)

This mode uses three wires: one common wire, one open-control wire, and one close-control wire. Energizing the open-control wire drives the valve to open, while energizing the close-control wire drives it to close. The valve stays in the current position when power is removed.

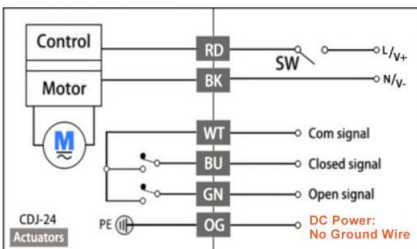
The signal feedback version adds three signal wires to feed back the valve's current state to the upper controller.



3-WIRE (1-POINT) CONTROL (CDJ-23)

This wiring configuration includes one common wire, one constant power wire and one control wire. Energizing the control wire drives the valve to complete a single action (either opening or closing, pre-set according to requirements). The valve remains in the current position after power is cut off.

The signal feedback version adds three signal wires to feed back the valve's current state to the upper controller.



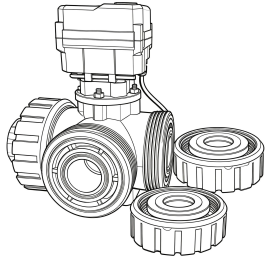
2-WIRE AUTO RETURN (CDJ-24)

This mode features two control wires. When power is applied, the valve drives to the target position (open or close); when the power is cut off, the valve automatically resets to its initial position (usually the closed position) under the action of an internal spring.

The signal feedback version adds three signal wires to feed back the valve's current state to the upper controller.

This auto-return ball valve requires a min. power-on duration of 60 seconds ($\geq 60s$). This step is mandatory on first commissioning or after prolonged power cut to ensure reliable auto-reset performance. If the valve does not actuate within a short time after power-on, this may be caused by not performing this operation rather than a valve malfunction.

CONNECTION



These larger valves feature a unique US standard socket end + double union connection — enabling exceptional ease of installation and maintenance with a simple solvent cement bond, unlike threaded NPT or BSPP (G) connections.

*For alternative connection standards (e.g., NPT or G thread),

please contact our customer service.

SPECIFICATIONS

Actuator	CDJ-21	CDJ-22	CDJ-23	CDJ-24
Max.Power	15W			36W
Flow Type	L-type and T-type (T1/T2)			
Normal State	No NO/NC distinction			
Max.Torque	20 Nm			
Voltage	DC 24V			
Seal Material	EPDM		FPM	
Body Material	UPVC		CPVC	
Medium Temp	33.8°F to 104°F		33.8°F to 176°F	
Ambient Temp	33.8°F to 131°F		33.8°F to 194°F	
Open/Close	10-12 s			
Max.Pressure	1.6 MPa			
Connect	US standard socket end + union connection			
IP Rating	IP65			

CONTACT

If you have any questions or concerns, please contact us or visit our website for help.

Email: service@ussolid.com

Website: www.ussolid.com



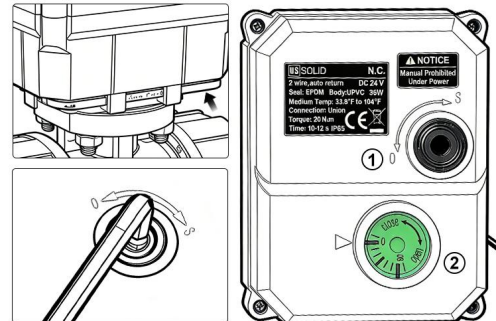
INSTRUCTIONS on ENVIRONMENTAL PROTECTION



At end of life, do not discard with household waste. Dispose of at an e-waste collection point. Contains no toxic substances, but improper disposal harms the environment. Materials

recyclable. Contact local authorities for disposal locations.

MANUAL FUNCTION



1) Power off before manual operation. For the Auto-return model CDJ24, wait at least one minute after power-off for capacitor discharge before manual operation.

2) Insert the hexagonal wrench (included at the actuator bottom) into "①" and turn to open/close. "O"=Open, "S"=Close.

3) "②" is the indicator window. External arrow pointing to "0" means fully closed; pointing to "90" means fully open.

4) Valve adjustment is complete only when fully open or fully closed. Stop operation if any abnormality occurs.

FLOW TYPE

This 3-way electric ball valve is available in three flow path configurations: L-type, T-type T1, and T-type T2. The diagrams below illustrate the corresponding flow path for each configuration when the valve is in the ON and OFF positions. Note that ON and OFF each correspond to a different flow path. For wiring instructions specific to your model, please refer to the Wiring Schematics section. The connection (e.g., C-B) means the two ports are open, not a fixed flow direction.

