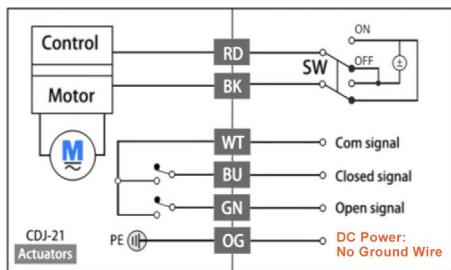


Thank you for purchasing your U.S. Solid USS-MSV Motorized Ball Valve. We are happy to have you as a customer! We want you to get the most out of your new equipment, so we have included a few pointers to get you started.

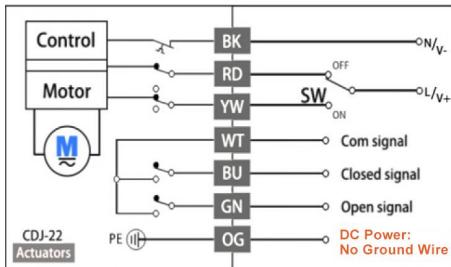
## WIRING SCHEMATICS

Our large-size UPVC electric 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 opening/closing status. 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).



### 2-WIRE REVERSE POLARITY (CDJ-21)

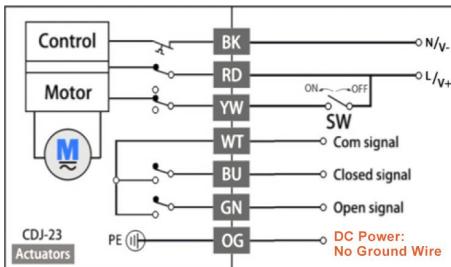
This wiring mode uses two power wires to control the valve's opening and closing. Reversing the polarity of the two wires switches the valve's operation direction: one polarity drives the valve to open, and the reversed polarity drives it to close. The signal feedback version adds three signal wires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

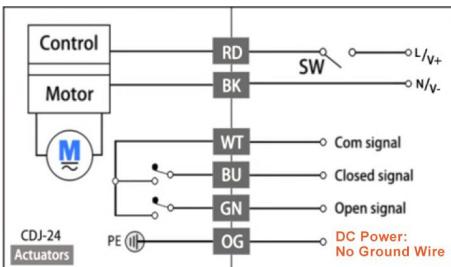
The signal feedback version adds three signal wires to feed back the valve's current state to the upper controller.



### 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)

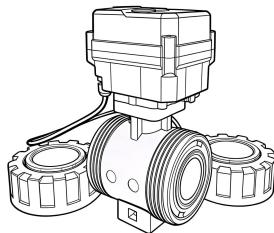
This mode features two control wires. When power is applied, the valve drives to the target position (open or close); when the power is cut off, the valve automatically resets to its initial position (usually the closed position) under the action of an internal spring. The signal feedback version adds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

WARNING- Please be careful of the following to help ensure your safety and optimal performance over time.

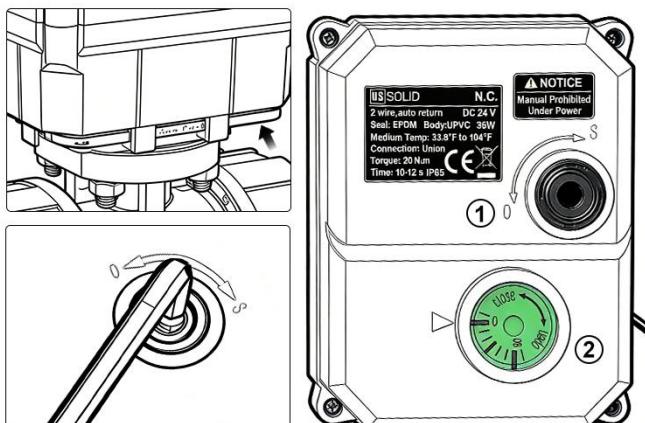
## CONNECTION



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, please contact our customer service.

## MANUAL FUNCTION



- 1) Power off 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.

## CONTACT

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

Email: [service@ussolid.com](mailto:service@ussolid.com)

Website: [www.ussolid.com](http://www.ussolid.com)



## SPECIFICATIONS

Actuator	CDJ-21	CDJ-22	CDJ-23	CDJ-24
Max.Power		15W		36W
Normal State		No NO/NC distinction		NC
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 + double union connection			
IP Rating	IP65			

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

## INSTRUCTIONS on ENVIRONMENTAL PROTECTION



At the end of its life cycle, please do not dispose of this equipment by throwing it in the usual trash can.

Instead, hand it over at a collection point for the recycling of electrical and electronic appliances. It does not contain dangerous nor toxic products for humans, but inadequate disposal could still damage the environment. The materials are recyclable as mentioned. By recycling material or through other forms or repurposing old appliances, you are making an important contribution to the protection of our environment. Please inquire with your local community authorities for the proper disposal location.