

WF96L WIFI Dual-Level Water Controller

Welcome to use our products. Please read this manual carefully before installation and use.

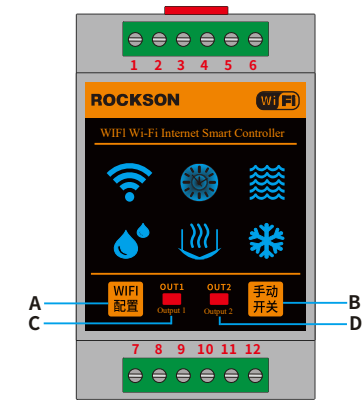
Product Features

The WF96L is a WIFI-enabled smart water level controller. With app-based configuration, it enables real-time monitoring, automatic water replenishment or drainage, and remote alarm alerts for high or low water levels.

The products are suitable for various water level control occasions, such as HVAC system, hot water engineering, boiler, municipal drainage, hydrological monitoring, etc.

WF96 L power supply adopts linear isolation transformer, internal high-performance dual processors, local control adopts 8 bit MCU, WIFI part adopts 32 bit MCU, strong anti-interference ability, suitable for all kinds of harsh industrial occasions , can ensure the controller stable, reliable, continuous work.

Control Panel Introduction



Key A: 1. Pair the controller with the app

Key B: 1. Manual switch control

C: WIFI configuration status indicator with one output channel

D: Dual-output status indicator

The relay remains on during engagement and turns off when disconnected. During configuration, terminal 2 flashes at 100% water level. Terminal 3: 75% water level

Terminal 4: 50% water level Terminal 5: 25% water level

Terminal 6: Common water level point

Terminal 7 and 8: one relay normally open output; Terminal 9 and 10: two relays normally open output

Terminal 11 and 12: Work voltage input, default 220V

Product Technical Parameters

Dimensions (mm)	89 (long) × 55 (wide) × 44 (high)
Installation method and dimensions (mm)	Standard 35mm guide rail installation
Power supply and power consumption	AC220V; <2W
Water level display	Level 5 water level display: 0%,25%,50%,75%,100%
Water level control range	Full water level: 25%,50%,75%,100%. Replenish water level: 25%,
Time limit	50%,75%,100%.0-720 minutes. Set in the APP with 5-minute steps.
Delay value on the path	0-30 seconds, the system remains inactive until reaching the preset water level. The timer starts and activates the relay when the preset time is reached.

Output	1. Two normally open relay outputs (digital signals); 2. The contact current capacity is 10A for resistive loads and 2A for inductive loads, with a control capacity of 2000W. Resistive loads, 500W motors, or pumps require AC contactors for
Relay life	higher capacity. The contactor must withstand 100,000 switching cycles.
Service environment	-10°C~50°C
Wireless standard	Wi-Fi 2.4GHZ B/G/N
Parameter memory	Set parameters to retain memory during power outages and operate offline

■ Features and Characteristics

- Remote output status and real-time water level feedback
- The device can operate independently without Wi-Fi and control water level on a single machine.
- The output can be remotely or manually controlled on-site (when the preset water level is not reached).
- Control drainage by opening high and closing low, or control water replenishment by opening low and closing high. You can also choose the time-limited control mode.
- Remote water level alarm push notification feature
- The APP displays the current water level, starts and stops the water level, and sets upper and lower limit alarm levels.
- Two outputs, one for water level control and one for dry burning prevention
- The primary account can share devices with others. A device can only be added to one primary account.

■ Device Installation Guide

■ Installation preparation:

- Search for "Tuya Smart" in the Android app store and download the app
- Search for "Tuya Smart" on the App Store and install the app on your iPhone.
- After installing the app, register an account with your phone or email.
- If you're using an Android phone, use the default font size to avoid cluttered display.

■ Add device to mobile app:

1. Connect the Wires According to the Wiring Diagram. After the First Power-On, Wait for Several Seconds. Indicator 1 Flashes Rapidly, and the Device Enters the WIFI Configuration Mode by Default.

Note: If the device has been added to the APP and requires reconfiguration, hold the configuration button while working until both indicator lights 1 and 2 flash rapidly, then release the button. This will activate the smart configuration mode. If the router is incompatible, press and hold the configuration button again until indicator lights 1 and 2 flash slowly, then proceed to compatibility mode configuration.

2. Open the app, tap the "+" icon in the top-right corner, and select "Any device".
3. Tap "Confirm Flashing Indicator" on the app
4. Select a Wi-Fi with a stable connection and enter the password. After confirming and entering the correct password, click OK.
4. 1. The device uses 2.4G WiFi communication protocol and does not support 5G WiFi signals.
4. 2 If the Network Hides or Filters MAC Addresses, Ask the Network Administrator to Modify the Settings in the Backend Before Adding the Device.
5. The App Automatically Starts Configuration. Add the Device When the Progress Bar Reaches 100%.
6. You Can Rename the Device After Adding It Successfully.

Note: After successful addition, the device will be automatically deleted from the current APP if you reconfigure it.

■ Appearance, Size, and Installation



(front elevation)



(lateral view)



(dorsal view)

■ Control Mode Introduction

Mode 1: Water Replenishment: When the water level **reaches or exceeds** the stop level, one output channel disconnects to halt water replenishment. When the water level reaches the start level, one output channel engages to initiate water replenishment. Two channels prevent dry burning: When the water level drops below 25% of the liquid level, the relay disconnects. When the water level **reaches or exceeds** 25% of the liquid level, the relay engages after a 15-second delay.

Mode 2: Pumping and Drainage: When the water level drops below the stop level, the first output is disconnected to halt pumping. When the water level reaches **or exceeds** the start level, the first output is activated to resume pumping. The second output serves as an alarm signal, which activates when the water level is $\leq$ the lower alarm limit or $\geq$ the upper limit.

Mode 3: Timed Water Replenishment: When the water level **reaches or exceeds** the stop level, the first output is de-energized to halt water replenishment. When the water level reaches the start level, the first output is energized to initiate replenishment while starting a timer. If water replenishment continues beyond the preset time limit, the system forcibly de-energizes the output to stop replenishment. The second output prevents dry burning: When the water level drops below 25%, the relay is de-energized. When the water level **reaches or exceeds** 25%, the relay is energized with a 15-second delay.

Mode 4: Time-Limited Pumping and Drainage: When the water level drops below the stop level, the first output channel disconnects to halt pumping. When the water level reaches or exceeds the **start level**, the first output channel engages to initiate pumping while starting a timer. If the system continues pumping after reaching the preset display value, the output is forcibly disconnected to stop the process. The second channel serves as an alarm output.

When the water level is $\leq$ the alarm lower limit or $\geq$ the upper limit, the solenoid is activated.

Delayed output: the relay does not act when the output judgment is true, but acts after a set delay value.

Factory default: water replenishment mode, start water level: 25%, stop water level: 100%, delay value: 0 seconds, alarm off, upper limit alarm value: 100%, lower limit alarm value: 0%.

■ Alarm Function

Note: To use the alarm feature, the corresponding push permission in the Tuya APP on your phone must be enabled. Otherwise, alarm push notifications will be blocked. A 30-second notification sound will play when alarm messages are pushed.

Principle: when the water level is higher than the alarm upper limit, the upper limit alarm information will be pushed, and when the water level is lower than the alarm lower limit, the lower limit alarm information will be pushed. Reasonable water level points can be set according to actual needs.

■ Manual Function 1

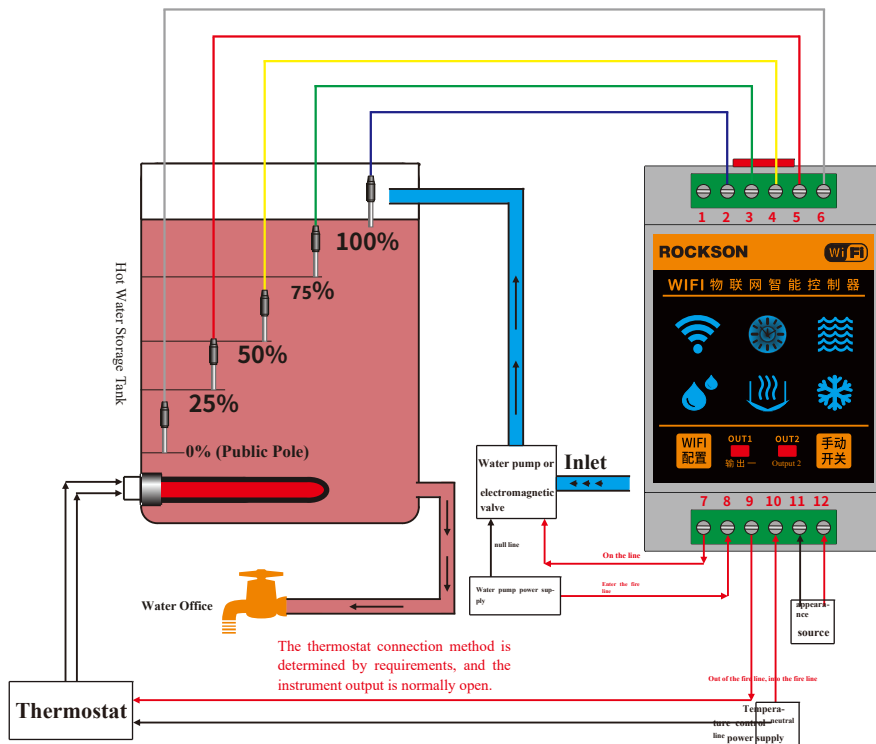
Manual activation: When the instrument has no output and the water level has not reached the stop level, press and hold the button to manually activate the water level control output. Once the stop level is reached, the relay will disconnect.

Manual shutdown: When the instrument has output and the water level has not reached the stop level, press the button for a short time to manually turn off the water level control output. Once the water level reaches the start level, the relay will engage.



Hookup

This is an upper water control example. For pumping or other uses, connect the wires as needed.



Terminal 2: 100% water level; Terminal 3: 75% water level; Terminal 4: 50% water level; Terminal 5: 25% water level; Terminal 6: Common water level point; Terminal 7 and 8: Normally open relay output
Terminal 9 and 10: Two normally open relay outputs. Terminal 11 and 12: Working voltage input (default 220V).
The instrument's power supply does not distinguish between neutral and live wires. For safety, the live wire should be controlled during output operation.

Set an example

When the water level gradually rises, the current water level is displayed as 0% when the water level is lower than 25% of the electrode, 25% when it exceeds 25% of the electrode, 50% when it exceeds 50% of the electrode, 75% when it exceeds 75% of the electrode, and 100% when it exceeds 100% of the electrode.

When the water level gradually drops, the current water level is displayed at 75% when the 100% electrode is removed, 50% when the 75% electrode is removed, 25% when the 50% electrode is removed, and 0% when the 25% electrode is removed.

Example: In the water supply mode, the stop water level is set at 100% and the start water level is set at 25%. The relay is engaged only when the water level is separated from the 25% electrode. At this time, the actual water level is displayed as 0%. When the water level exceeds the 100% electrode, the relay is disconnected. At this time, the water level is displayed as 100%.

In the pump mode, for example, the stop water level is set at 25% and the start water level is set at 100%. The relay is disconnected only when the water level is away from the 25% position, and the actual water level is displayed as 0%. When the water level exceeds the 100% electrode, the relay is engaged, and the water level is displayed as 100%.