

Smart Wi-Fi Sprinkler Controller User Manual

Welcome to Smart Watering

Thank you for choosing our FK-06X Wi-Fi-enabled smart sprinkler controller!

Beautiful, well-maintained lawns are no longer confined to parks or stadiums. Many of us enjoy relaxing in our backyards, sipping a refreshing drink, and taking in the vibrant greenery of our lawns. But how can you ensure your lawn stays lush and healthy, even during the scorching summer heat?

With our smart sprinkler controller, you can fully automate your irrigation system, and water your lawn the smart way - anytime, from anywhere in the world. It is the ultimate solution for effortless lawn care, keeping your yard thriving and beautiful no matter the season.

User guide

Smart Sprinkler Controller FK-06X

Read before use

This document contains important technical and safety information about the device, its safe use and installation. Before beginning the installation, please read carefully and entirely this guide and any other documents accompanying the device. Failure to follow the installation procedures could lead to malfunction, danger to your health and life, violation of the law or refusal of legal and/or commercial guarantee (if any). HANGZHOU FRANKEVER ELECTRONIC CO. Ltd. is not responsible for any loss or damage in case of incorrect installation or improper operation of this device due to failure to follow the user and safety instructions in this guide.

Safety Information

WARNING! Danger of electrocution. Mounting/installation of the Controller has to be performed with caution, by a qualified electrician!

WARNING! Install the Controller only when unplugged.

WARNING! Before making changes in the existing wire configuration, turn off the Controller, unplug it from the power, and ensure there is no voltage on the wires or the Controller!

CAUTION! Use the Controller only with a power grid and appliances which comply with all applicable regulations!

CAUTION! Use the Controller only with the original accompanying equipment.

CAUTION! Do not use the Controller if it has been damaged or shows any signs of defect, and contact your dealer for assistance!

CAUTION! Do not use the accompanying AC adapter if it, or its power cord, have been damaged or show signs of malfunction or defect, and contact your dealer for assistance!

CAUTION! Connect the Controller only in the way shown in these instructions. Any other method could cause damage and/or injury!

CAUTION! Do not use wires with damaged insulation, or defective wires!

CAUTION! Do not attempt to service or repair the Controller yourself!

CAUTION! When connecting the Controller to the power grid, ensure the plug and the wall outlet are not wet or damp!

CAUTION! Do not handle the Controller, the AC adapter, or any other electrical equipment if your hands or feet are wet!

CAUTION! Intended for indoor use only!

CAUTION! Do not use the Controller in a damp environment and avoid water splashing.

CAUTION! Do not install the Controller where it can get wet!

CAUTION! Protect the Controller from dirt!

CAUTION! Do not drill through the front or back cover.

CAUTION! Do not allow children to play with the device buttons or with wires or other equipment connected to the Controller!

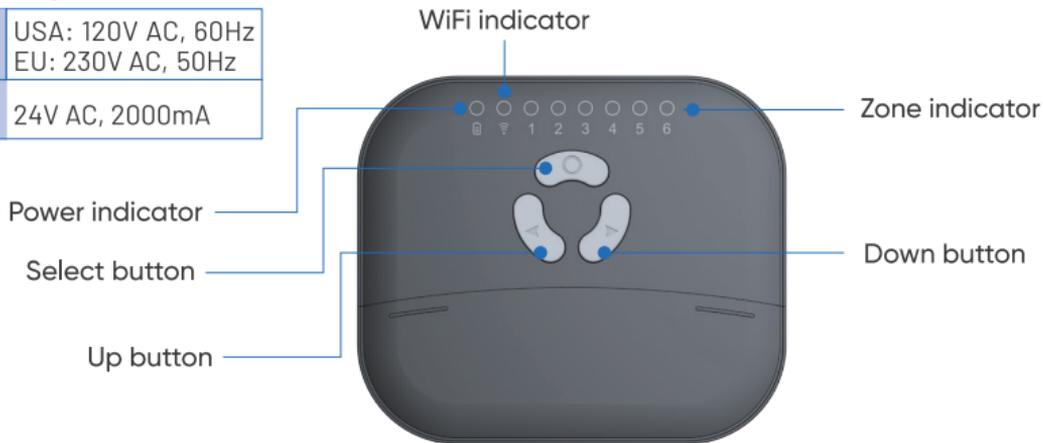
RECOMMENDATION! Keep these instructions for future reference.

Product Specifications

Input/Output Rating of the Controller:	24V AC, 2000mA
Operating temperature and humidity:	-10°C ~ 55°C, 10% ~ 90% RH, non-condensing
Size (HxWxD):	96x112x28 mm / 3.78x4.41x1.10 in
Weight:	126 g / 4.44 oz
Shell material:	Plastic
Color:	Black
Mounting:	Wall-mounted

Adapter Specifications

Input	USA: 120V AC, 60Hz EU: 230V AC, 50Hz
Output	24V AC, 2000mA



Installation

Prerequisites

You need the following to set up your Smart Sprinkler Controller:

- Wi-Fi Network: 2.4GHz
- Mobile device with iOS or Android
- Wire stripper
- Drill
- Phillips Screwdriver #1

Select a location

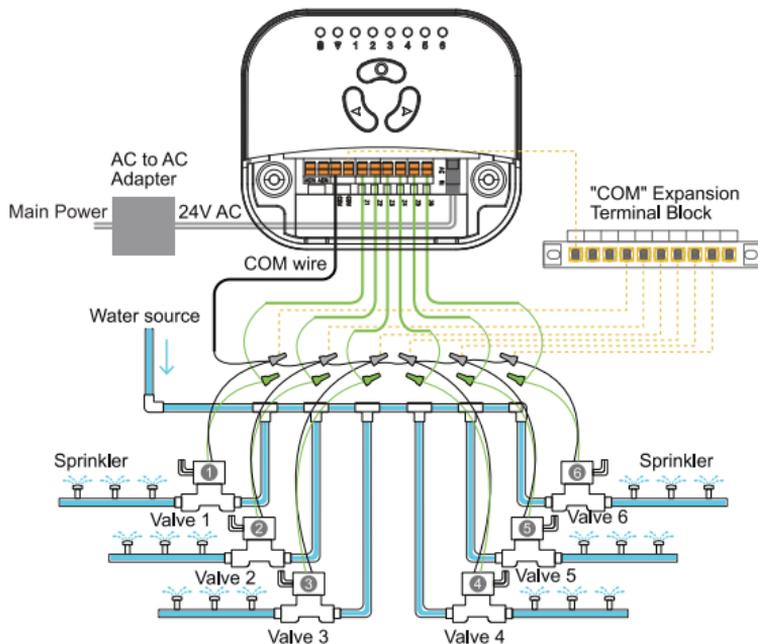
Choose a location near power and away from direct sunlight. This location should have a good Wi-Fi signal. You can check the Wi-Fi signal strength with a smartphone; the Wi-Fi indicator should show two or more bars for sufficient signal strength.

Connect valve wires



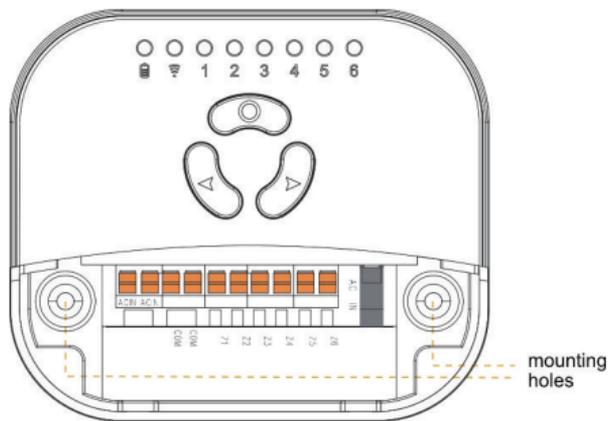
To connect a valve to the Controller, attach one of the valve's wires to a "Common" (COM) terminal, and the other wire to a numbered terminal, as shown in the picture below.

ATTENTION: To prevent damaging the controller, connect only one valve to each terminal.



Mount the Controller

The holes for mounting the Controller can be seen after removing the cover (see picture below).



After selecting the spot for the Controller, drill holes into the wall and use the screws included in the packaging to mount the Controller.

Power on the Controller

Insert the power connector into the controller's power port, plug the AC adapter into a wall outlet.

Using your Controller with Shelly Smart Control app

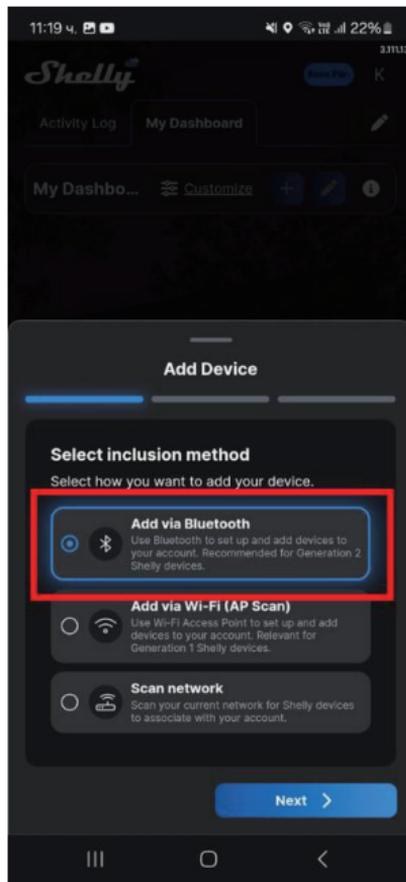
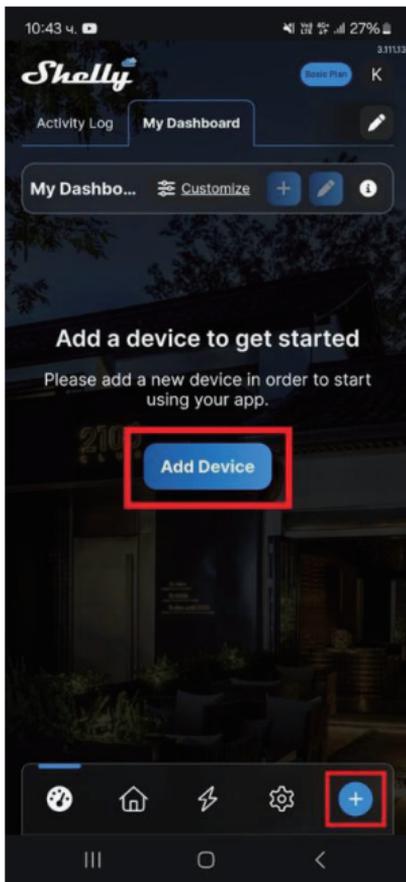
Download Shelly Smart Control Application

Scan the QR code or download Shelly Smart Control application from Apple App Store or Google Play Store.

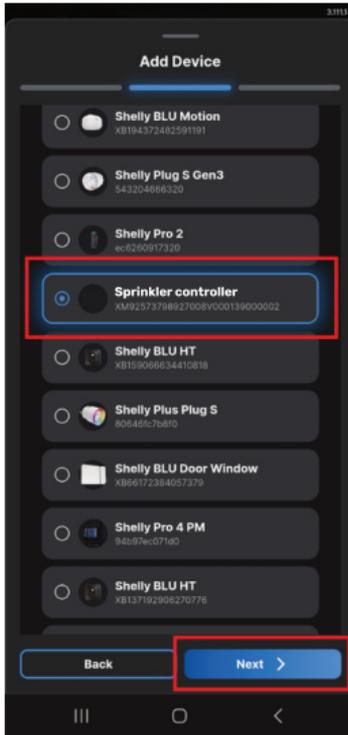


Add your device to Shelly Smart Control

1. Open your Shelly Smart Control app.
2. Tap on the Add Device button if this is the first device you are adding or, if you already have devices added to your account, tap on the plus sign at the bottom right corner of the screen.
3. Select the option "Add via Bluetooth" and press Next.



4. Enter your Wi-Fi network credentials and press Next.



5. Wait until the process is completed. This might take several minutes.

6. Change the Device name and select a room to add it to.

Main Control Tab

1. Manual Zone Control:

Turn irrigation zones on or off with ease for immediate adjustments as needed for maintenance or testing.

2. Active Sequence Information: Monitor the Active Sequence to see which watering sequence is currently active on the device. This allows you to track the specific sequence that is currently running.

3. Temperature Data (Requires Weather API enabled):

Access the current temperature to help optimize irrigation decisions.

The weather API uses the internet connection to refresh the data and always works with the information of the temperatures for the last 6 hours.

4. Rainfall last 24h (Requires Weather API enabled):

Check the average precipitation over the past 24 hours and determine if the system needs to be adjusted based on the recent rainfall.

Input/Output Rating of the Controller:	
rpc	The zone has been turned on/off via application.
sequence	The zone stopped because a Sequence had been activated.
timer	The watering time is over.
manual	The zone was turned on/off manually.
limit	The zone was stopped because the limit of enabled zones had been reached.
settings	The zone has been stopped because of a change in the settings.
init	The Controller has just been turned on so there are no previous data for the system.



Irrigation Zone Settings Tab

In the Irrigation Zone Settings, you can customize each irrigation zone.

1. Name: Edit the name of each irrigation zone for easy identification and organization (e.g., "Front Lawn" or "Vegetable Garden").
2. Duration: How long a zone will be watered.
3. Water Amount: Water quantity used by the connected watering device for one minute.



Irrigation Sequences Tab

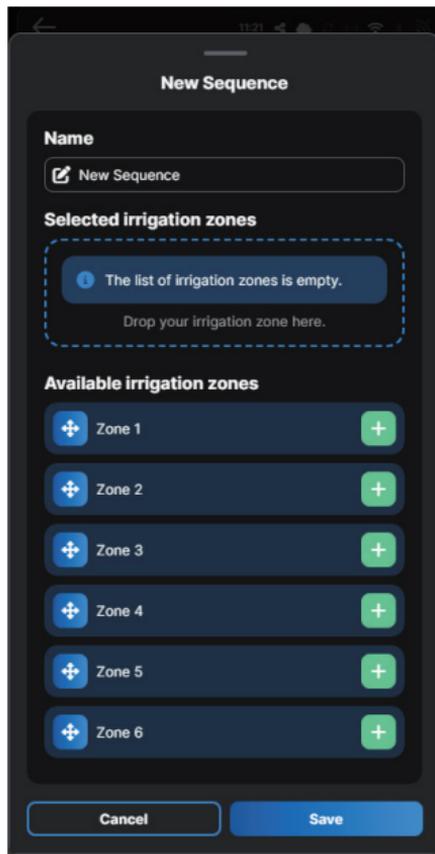
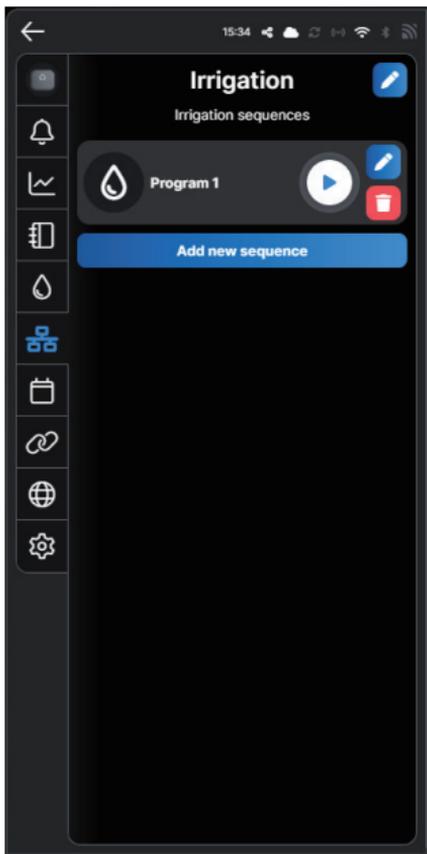
In the Irrigation Sequences tab, you can create, edit, or modify irrigation sequences. These sequences determine the order in which different zones are watered.

The watering sequence work is influenced by the Limit Enabled Zones setting (see Settings Tab section). The number of zones being watered at the same time is limited to what is configured in the Limit Enabled Zones setting.

Example: A Sequence of three zones is started, and the Limit Enabled Zones is set to two. Two zones of the Sequence will be watered simultaneously, and the third zone's watering can start only after one of them ended.

Note: If an Irrigation Sequence is running, starting another Zone's watering manually or making changes into the watering settings, terminates the Sequence.

Note: If a power outage occurs during the irrigation process, it will not be reactivated automatically after the power is restored.



Settings Tab

In the Settings Tab, you can access all the available configuration options.

Key settings include:

1. Base Temperature: When the Base temperature is the same as the atmosphere temperature, the watering is done using the duration and water amount values set in the Irrigation Zone Settings tab. If the current temperature is different, these values are automatically adjusted by +/- 10% for every degree Celsius above or below the indicated Base Temperature, accordingly.

Note: If the atmosphere temperature is too low, leading to adjusted duration less than 36sec, the watering doesn't start.

2. Enable Weather API: Toggle the integration with a weather API service. When enabled, the system uses real-time weather data to optimize irrigation schedules, accounting for conditions like rain and temperature.

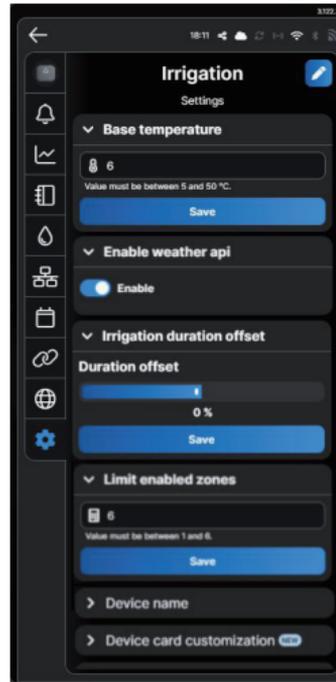
3. Irrigation Duration Offset: Adjust the watering times globally across all zones.

4. Limit Enabled Zones: Define the maximum number of zones that can be watered simultaneously.

Note: The default number for simultaneously watered zones is 2.

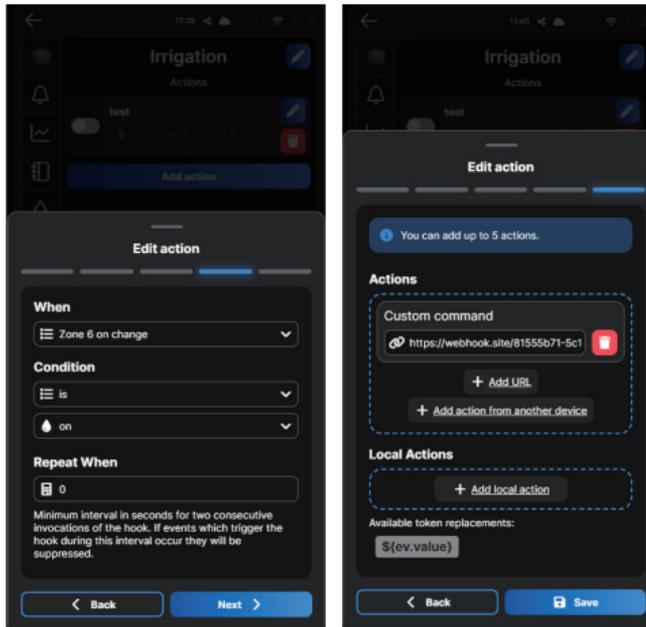
5. Geo location and time zone: Adjust the device location when started for the first time or after relocation.

6. Factory Reset: Erases all the changes made by the user, the device is removed from your account, and its settings are set to their factory state. After using this feature, the Controller has to be re-added to your Shelly Smart Control application.



Actions Tab

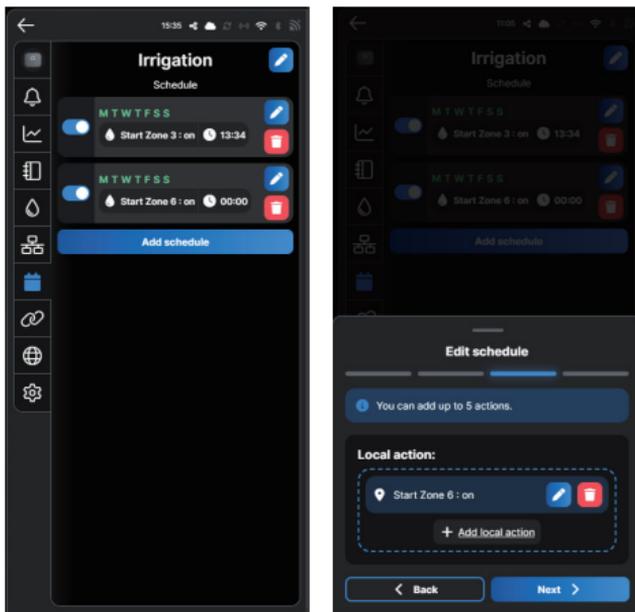
Here you may configure an interaction between the Controller and another device. Example: If you have a smart moisture sensor, you may connect it to the Controller, and configure it to send a signal to start watering when the soil moisture reaches a certain value.



Schedule Tab

Here you can create and modify schedules to automate irrigation processes. Example: Set an irrigation zone to start watering at a specific time every day, or only on specified days of the week.

Note: To work properly schedules, require the device internal clock to be synchronized, otherwise they might not be executed at the expected time.

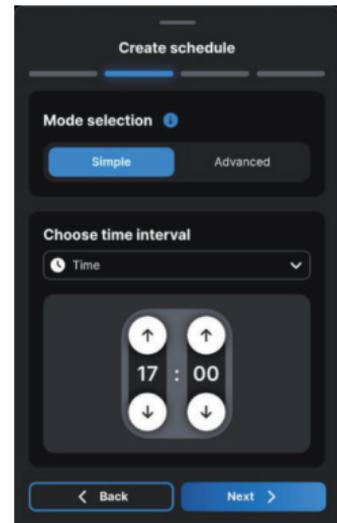
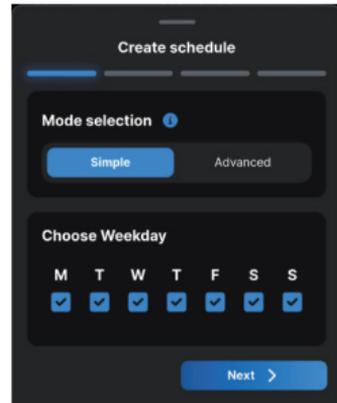


How to create a Schedule

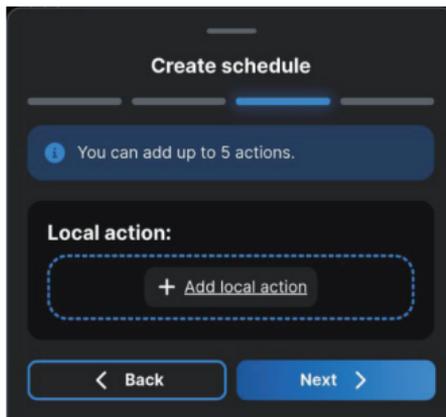
1. The Create Schedule menu has Simple and Advanced modes.

Use Simple mode to schedule tasks which will run on the same day every week, and the Advanced mode for tasks planned to run on a specific day every month, or during a specific month.

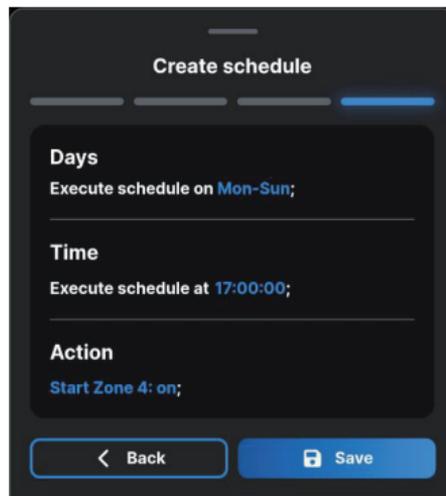
2. Choose time interval: Set the starting time for the tasks. Simple mode is more suitable for tasks which run once a day, and in the Advanced mode you may set a task to run several times during a specified period.



3. Local action: Specify the task(s) to be run. A schedule cannot be created without specifying at least one task.

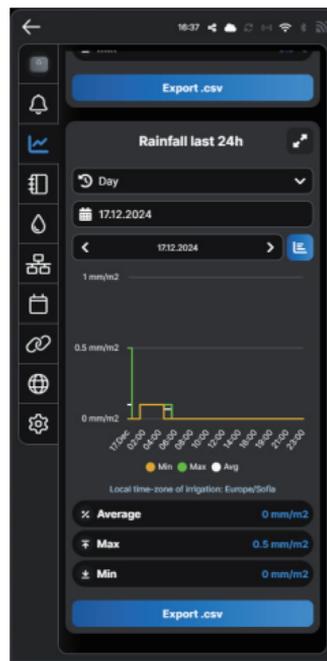


4. Review, and tap Save if the information is correct.



Charts Tab

In the Charts tab, you can view historical data on average temperatures and rainfall recorded by the Controller. Use the drop-down menu to adjust the chart's time frame to analyze the data by day, week, or month. Additionally, you can download the data as a CSV file for further analysis.



Local Only Operation

Web Interface

The Device has an embedded web interface to monitor, control, and adjust its settings. The web interface is accessible at <http://192.168.33.1> when connected directly to the Device access point or at its IP address when accessed from the same network.

How to access the embedded web interface:

1. Search for a network with a name similar to Irrigation-[number] among the available Wi-Fi networks and connect to it.
2. Enter the device's IP address: <http://192.168.33.1>
3. You should see the device's embedded interface which looks similar to the mobile application.

Note: If you accidentally disabled the device's Wi-Fi network you can enable it from Settings tab here.

Date/Time related settings

To adjust its internal clock, before using any setting related to date or time, e.g. Schedules and time-depending actions, the Controller must be powered on and connected to a Wi-Fi network. Afterwards, the Wi-Fi connection may be terminated, if necessary, but then it's recommended to keep the Controller turned on, to keep the proper time-tracking.

Without Wi-Fi connection, the internal clock resets when the Controller is turned off and needs to be resynchronized by reconnecting the device to the network.

Note: It is recommended to keep the Controller connected to the Wi-Fi network so the clock can be automatically resynchronized after an event of power outage.

Manual Operation

The full functionalities of the controller are available via Shelly Smart Control app, but some basic actions can be performed manually on the Controller (buttons are described in Product Specification section).

Action	How to:
Turn a watering zone ON	Press UP or DOWN button to browse the watering zones. The zone indicator of the current zone flashes rapidly. When the desired zone indicator turns on, press SELECT button to confirm. The zone is turned on and its indicator light is stable.
Turn a watering zone OFF	Press UP or DOWN button to reach the desired zone and press the SELECT button to confirm. The zone is turned off and the indicator light turns-off.
Start watering all zones	Hold the UP button for about 2s to start the watering. (for 2 zones by default, or the number set in Limit Enabled Zones).
Cancel watering all zones	Hold the DOWN button for about 2s.
Network reset	Hold down the SELECT button until you hear 2 beeps.

Troubleshooting

Problem	Possible cause	Possible solution
Connection issues	Wi-Fi signal strength is low.	Verifying with your phone, the Wi-Fi signal should be at least 2 bars of strength at the location of the controller. If it is not, try relocating the Wi-Fi router so it is closer and does not have as much interference, or use a Wi-Fi range extender to boost the signal strength.
	The App shows that the controller is offline and the Wi-Fi indicator on the Controller is blinking.	Check your local network. Are the other connected devices working properly? Try to re-connect the controller to your Wi-Fi router.
	Failed to connect the controller to Wi-Fi network	Make sure that the Wi-Fi network is 2.4GHz.
Programmed schedules and manual watering functions don't start	Water source is not supplying water.	Verify there isn't a disruption to the main water line, and all other water supply lines are open and functioning properly
	The wiring is loose or not properly connected.	Check that all the wiring is correctly and tightly connected.

Problem	Possible cause	Possible solution
Programmed schedules and manual watering functions don't start	Valve wires are corroded or damaged.	Check the valve wiring for damage and replace it if necessary. Check the wiring connections and replace them with watertight splice connectors if necessary.
	Date/time is not set correctly / not connected to Wi-Fi & Internet.	Connect your controller to Wi-Fi with a stable internet connection to synchronize the time information on the device. Schedules are not active when the date/time is not set correctly

EU Declaration of Conformity

Hereby, HANGZHOU FRANKEVER ELECTRONIC CO. Ltd declares that the Smart Sprinkler Controller is in compliance with Directive 2014/53/EU, 2011/65/EU. The full text of the EU Declaration of Conformity is available at the following internet address: shelly.link/frankever-ssc-doc.

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et ses
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