

Smart Wi-Fi Sprinkler Controller User Manual

POWERED BY

Shelly

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.

Smart Sprinkler Controller FK-06X

User guide

Safety information

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.

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!

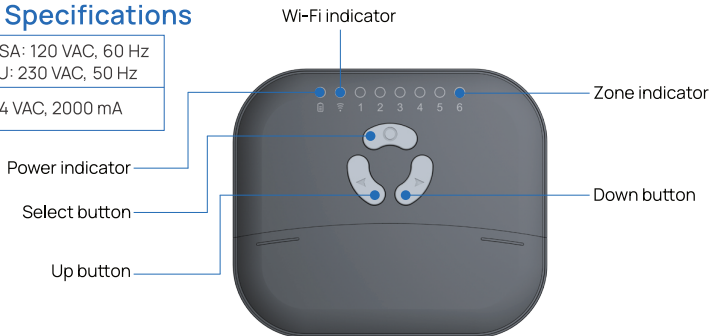
RECOMMENDATION! Keep these instructions for future reference.

Controller Specifications and overview

Input/Output Rating of the Controller:	24 VAC, 2000 mA
Operating temperature and humidity:	-10°C to 55°C, 10% to 90% RH, non-condensing
Size (H x W x D):	96 x 112 x 28 mm / 3.78 x 4.41 x 1.10 in
Weight:	126 g / 4.44 oz
Shell material:	Plastic
Color:	Black
Mounting:	Wall-mounted

Adapter Specifications

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



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.

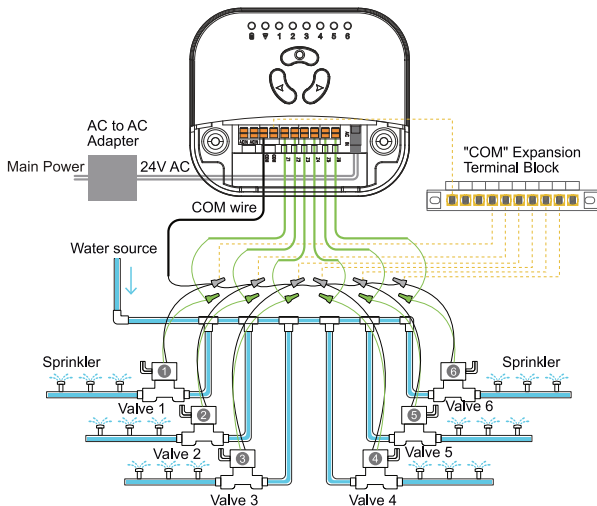
Connect valve wires

Remove the cover by pressing it down and sliding it downward, as shown in the illustration.



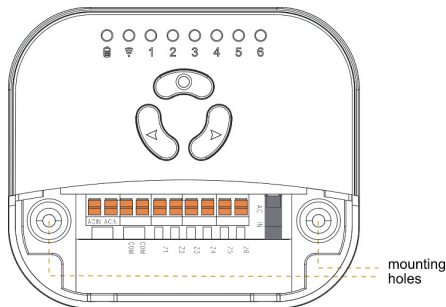
To connect a valve to the Controller, attach one of the valve's wires to a "Common" (COM) terminal, and the other wire to a numbered terminal, as shown in the picture below.

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

1. Insert the power connector into the controller's power port
2. Plug the AC adapter into a wall outlet.

Using your Controller with Shelly Smart Control app

The device can be controlled and monitored remotely by using the Shelly Smart Control mobile application. To install the mobile application, scan the QR code below, or search for “Shelly Smart Control” in App Store, Google Play, or AppGallery to install.

The mobile application is free of charge, and you need to create a free account to use it.



Add your device to Shelly Smart Control

1. Open your Shelly Smart Control app.
2. Tap on the on the plus sign at the bottom right corner of the screen.
3. Select Add via Bluetooth.
4. Tap Next to continue; a list of supported devices appears.
5. Select the device you want to add and tap Next.
6. Enter your Wi-Fi credentials and tap Add device.
7. Wait until your app finishes adding the device; it might take a few minutes. After the process is completed, a success message appears.
8. Enter a name for your device and select its picture; tap Next.
9. Select a room for the device to be added to or create a new one by tapping the Add room button.
10. Tap Save. The device has been added to your account.

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.

Zone state information:	
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.

Note: The zone state information is visible only in the embedded web interface. See **Local-only operation** for more details.

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 atmospheric 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 atmospheric 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

Every Shelly device provides a local web interface for control and configuration through a standard web browser on a computer or smartphone, without requiring an internet connection. The only requirement is that your browser is connected to the Access point (AP) of your Powered by Shelly device.

Access the device directly over its Wi-Fi access point.

When powered on, all Powered by Shelly devices create their own Wi-Fi network also known as an Access point. The name of this network includes the model of your device along with a unique identifier.

To access the web interface:

1. On your computer or smartphone, search for the Wi-Fi network named DeviceName-XXXXXXXXXX, where DeviceName is the device model and XXXXXXXXXXXX is a unique combination of letters and numbers identifying your device.
2. Connect to this Wi-Fi network.
3. Open your web browser and enter `http://192.168.33.1`
4. You are redirected to the device's local web interface.

Note: If you choose to perform a factory reset via the local web interface, the device will be restored to its original factory settings. However, unlike performing a factory reset through the mobile application, this method does not remove the device from your user account.

Date/Time related settings

To adjust its internal clock, before using any setting related to date or time, e.g. Schedules and time-dependent actions, the Controller must be powered on, 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 at the current zone flashes rapidly. When the desired zone indicator turns on, press SELECT button to confirm. The zone is turned on.
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.
Start watering multiple zones simultaneously	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 for all zones	Hold the DOWN button for about 2s. Irrigation in all zones stop.
Access point and Bluetooth re-activation	Hold down the SELECT button until you hear 2 beeps. Access point and Bluetooth are activated.

Troubleshooting

Problem	Possible cause	Possible solution
Connection issues.	Wi-Fi signal.	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.
	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 ELECTTRONIC 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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Disposal and recycling

Do not dispose of the product in household waste. Recycle the product to prevent environmental and health damage and to promote resource conservation. Dispose of the product at an appropriate waste collection point at your own responsibility.

Resellers, from which the Device was purchased, are required to accept Waste Electrical and Electronic Equipment (WEEE) free of charge for proper disposal.

Some electronic products may store personal data. The user is responsible for deleting this data before disposing of the Device. For deletion, reset the device to its factory settings.

FCC warning

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by the manufacturer could void your authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm (7.87 in) between the radiator and your body.



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