Smart Irrigation APP: A Scenario-Based Application Guide

Function 1: Duration Control

This is basically a **"Countdown Timer"**. Use this when you need to water immediately for a specific time or test your equipment. You just tell the App: "How long?" and "How wide to open?" It shuts off automatically when done, so you don't need to wait and watch.

1. When to use?

- **Scenario A：Emergency Watering**
  - It’s hotter than expected! You walk through the field and see crops wilting. You need to give them a quick 20-minute drink immediately to save them.
- **Scenario B：Maintenance & Testing**
  - You just repaired a pipe or installed a new sprinkler. You want to run the water for just 2 minutes to check for leaks and see if it sprays correctly.
- **Scenario C：Gentle Watering**
  - Your new seedlings are fragile. You don't want 100% full pressure blasting them. You only want to open the valve to 30% for a gentle flow.

2. How to use?

Step 1: Access

- Open the App, go to **[Device Management]**, click on the specific valve, and select **[Duration Control]**.

Step 2: Set Parameters (Key Step)

1. **Valve Opening:** Slide the bar. Set to 100% for normal watering, or 30-50% for delicate seedlings.
2. **Duration:** Set how long you want to water (e.g., 20 mins).

Step 3: Start & Stop

- Click **[Start]**. The valve will open and automatically close when the time is up.
- If you need to stop early (e.g., you see a leak), just click **[Close]**, and it stops immediately.

💡 Pro Tip:

> Note: This is a one-time task. If you want the system to water automatically every day at the same time, please use the "Schedule" function instead.

Function 2:： Volume Control

Don't guess the time; measure the amount.

Think of this like pumping gas at a station. You don't ask for "2 minutes of gas"; you ask for "50 Liters". Whether the water pressure is high or low, this function guarantees your crops get the exact amount of water they need.

⚠️ Prerequisite:

Please note, this feature is only available for devices equipped with a Flow Sensor.

1. When to use?

- **Scenario A：Precision Fertigation**
  - Your fertilizer recipe calls for "500 Liters of water per kg of fertilizer". Guessing the time is risky. With Volume Control, you set exactly 500L, ensuring the perfect concentration to avoid burning your crops.

2. How to use?

Step 1: Access

- Go to **[Device Details]** and select **[Volume Control]**.

Step 2: Set Parameters (Key Step)

1. **Irrigation Volume:** Enter the total amount of water you want (e.g., 500 Liters or 1 m^3).
2. **Valve Opening:** This is a pro tip!
   - Set to **100%** if you want to finish watering **quickly**.
   - Set to **40-50%** if you want a **slower flow** (to help the soil absorb water better without runoff).

Step 3: Start & Monitor

- Click **[Start]**. The system begins counting.

- The valve will automatically close once the flow meter reaches your set target (e.g., 500L).
- You can watch the real-time flow rate and progress on the App.

Function 3:：Cycle & Soak / Loop Control

Tell the customer: Plants need to eat slowly, just like people.

Standard watering is like force-feeding a huge meal at once (causing runoff or root rot). Cycle Control is "Small, Frequent Meals": Water a little, wait for it to soak in, then water again.

1. When to use?

- **Scenario A：Clay Soil or Slopes**
  - If you have clay soil (absorbs slowly) or hillsides, water tends to run off. If you water for 1 hour straight, maybe only the first 15 mins soak in, and the rest just flows away.
  - **Solution:** Use Cycle Control. Water 10 mins, wait 20 mins (let it soak), water 10 mins again. **Stop runoff immediately.**
- **Scenario B：Seedlings & Rooting**
  - Roots need oxygen to breathe. If the soil is constantly soggy, roots suffocate (Root Rot). This feature creates a "Wet-Dry" cycle, allowing roots to drink water AND breathe air. This promotes healthy, white roots.
- **Scenario C：Cooling & Humidity**
  - Too hot in the greenhouse? Set it to "Spray 1 minute, Wait 10 minutes" on repeat to cool down the air without flooding the soil.

2. How to use?

Step 1: Access

- Go to **[Device Details]** and select **[Cycle Control]**.

Step 2: Set Parameters (Key Step)

1. **Valve Opening:** Let"s say 100%.
2. **Irrigation Duration (Run Time):** How long to water each time? (Keep it short, e.g., 5 mins).

3. **Interval Duration (Soak Time):** How long to wait between watering? (Give the soil time to drink, e.g., 15 mins).
4. **Cycle Counts:** How many times to repeat? (e.g., 5 times).

Step 3: Start

- Click **[Start]**. The device will automatically run the "On-Off-On-Off" sequence until the cycles are finished.

💡 Pro Tip:

> Our data shows this feature saves 30% water (zero runoff) and reduces Root Rot by 50%. It is the healthiest way to water your plants.

Function 4:：Schedule Control

Tell the customer: This is your "Electronic Employee".

Set it once, and it works automatically every day or week. Whether you are sleeping, traveling, or on vacation, it executes the task perfectly. It's more reliable than a human worker—if you tell it to open 50%, it opens exactly 50%.

1. When to use?

- **Scenario A：The "Golden Hour" for Watering**
  - We know the best time to water is **4:00 AM - 6:00 AM** (low evaporation, better absorption). But who wants to wake up at 4 AM every day? Use Schedule Control to let the system do the work while you enjoy your sleep.
- **Scenario B：Vacation & Travel**
  - Going away for a few days? Worried if your workers will forget to water? Set the schedule on your phone for "Unmanned Operation." Wherever you are, you can check your phone to confirm the job is done.

2. How to use?

Step 1：Create a Schedule

1. Go to **[Device Details]**, select **[Schedule]**, and tap the **"+"** button at the bottom right.
2. **Start Time:** e.g., 06:00.

3. **Frequency (Cycle):** Every day? Or Mon/Wed/Fri?
4. **Key Settings:**
    - **Duration:** How long ?
    - **Valve Opening:** Set 100% for full flow
5. Tap **"Save"**.

Step 2：Manage Schedules

- **Start/Stop:** See the task in the list? Tap **[Start]** to activate it. Tap **[Stop]** to pause it (e.g., on rainy days when you don't need auto-watering).
- **Delete:** If the season is over and you don't need this schedule anymore, just tap **[Delete]** .

💡 Pro Tip:

> You can create multiple tasks. For example: Task A is "Water 1 hour at 6 AM"; Task B is "Top up 20 mins at 5 PM". Combine them like building blocks to fit your farm's needs.

Function 5:：Group Control

Don't manage your farm valve by valve; manage it by Zones or Crops.

If you have 5 fields of tomatoes, you don't need to set the task 5 times. Put these 5 valves into a "Group". One click, and they all start working together. Be the Commander, not the busy worker.

1. When to use?

- **Scenario A：Managing Same Crops**
    - You have 3 scattered fields all growing corn. Turning them on one by one is tedious and easy to forget. Create a "Corn Group". Click once, and all corn fields get watered instantly.
- **Scenario B：Matching Pump Capacity**
    - If your pump is powerful, opening just 1 valve is wasteful and might damage pipes due to high pressure. But if you open all valves, the pressure drops too low.

- The Solution: Use Group Control to open exactly 5 valves at a time. This balances the pressure perfectly—maximizing pump efficiency while ensuring every sprinkler works well.

2. How to use?

⚠️ **Preparation:**

- Before using Group Control, you must assign your devices to specific **"Fields"** or **"Zones"** in the App. If a device isn't assigned to a field, you won't be able to select it.

Step 1：Create a Group

1. Go to **[Group Task]**, tap **"+"**.
2. **Add Devices:** Check all the valves you want in this group.
3. **Select Valve Angle:** Here you can adjust the opening percentage for *each* valve individually (Remember the tip about balancing pressure?).

Step 2：Execute

- Once created, tap **[Execute Immediately]**. All valves in this group will open simultaneously.
- To stop, tap **[End]**. The whole group closes at once.

Function 6:：Rotational / Sequence Irrigation

Think of this as a "Relay Race".

If your pump isn't strong enough to water the whole farm at once, let the zones "Queue Up".

Zone 1 finishes and closes -> Zone 2 opens immediately... until the whole farm is watered. The system handles the handovers automatically.

1. When to use?

- **Scenario A：Large Fields - Low Pressure Model**
  - You have a huge field (e.g., 100 hectares) but only one small pump. If you open all valves at once, the pressure drops to zero, and nothing gets watered.
  - **Solution:** Use Rotational Irrigation. Divide the field into 10 zones. The system acts as a traffic controller: Zone 1 first, then Zone 2... It takes longer, but it ensures every

> plant gets enough water pressure, and you don't need to run around turning valves.

2. How to use?

1. **Task Name:** Name it (e.g., Whole Farm Rotation).
2. **Device Type:** All Devices or Plot Devices
3. **Pump Selection:** Select which pump is supplying the water (Vital for the system to turn the pump on/off automatically)./ If no water pump is linked, you can skip this selection.

1. Tap **[Add Sequence]**.
2. **Add Devices:** Add the valves for "Zone A" first.
3. **Set Duration/Pressure:** How long for Zone A? What pressure?
4. Repeat to add "Zone B", "Zone C", etc.
5. Tap **[Save]**.

Start & Monitor

- Once started, you'll see a real-time progress bar on the App: Who is watering now? What is the pipe pressure? If there is a clog or leak, the App will send you an immediate **Fault Warning**.

💡 Pro Tip:

> Once you create a "Rotational Task", it's saved forever. Next time you need to water the whole farm, just hit the "Start" button. No need to set it up again every day.

Function 7:： Managing Rotational Tasks

(Start, Pause, Resume & Edit)

Think of this like your TV Remote.

You can "Play" (Start) anytime. If interruptions occur, hit "Pause" and then "Resume" later. It won't start from the beginning; it picks up exactly where it left off. This ensures no double-watering and no missed spots.

1. How to use?

Step 1：Starting a Task

Select a task from the list.

- **Immediate Start:** Like a manual switch. Tap it, and it runs now.
- **Scheduled Start:** Set a time (e.g., 8:00 AM tomorrow), and it will run automatically then.

Step 2：Emergency Control

- **Pause:** While running, tap this. Valves close, but the **progress is saved**.
- **Resume:** Tap again to finish the remaining time.
- **End:** While running, tap this to stop completely. Progress resets to zero.

Step 3：Maintenance

- **Delete:** When the season is over and you don't need this group anymore, tap [Delete] (make sure the task is **Idle/Stopped** first).

💡 Pro Tip:

> **Do not** click "End" if you only want to pause temporarily.
>
> - **Pause** = Take a break, continue later (No double watering).
> - **End** = Clock out, restart from zero next time (Risk of double watering the first few zones).