

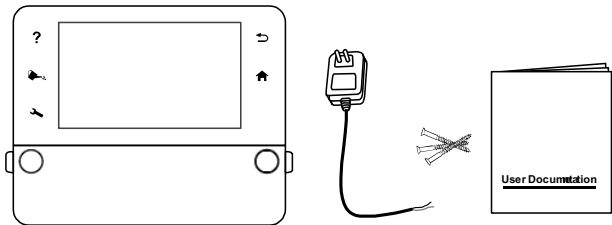


RainMachine Touch HD-12  
Quick-Start Guide

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# Inside the Box



RainMachine device (front view)

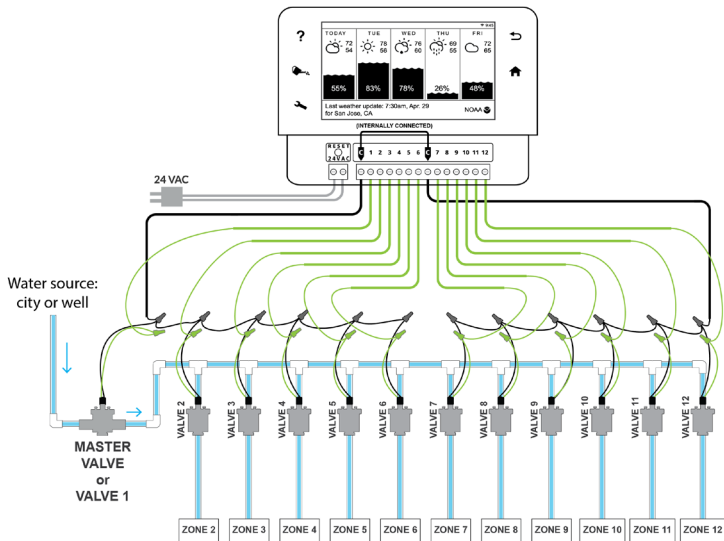
24VAC power adapter (cable 1.5m length)

2 drywalls screws & mini screwdriver

User documentation

Visit us at [www.rainmachine.com](http://www.rainmachine.com) for support and to browse our Knowledgebase or contact our team.

# Wiring Diagram



# Initial Setup

**Tip:** Take a photo of your old timer wiring for reference!  
For an installation video please visit our RainMachine YouTube channel

## 1. Fastening unit

- Using the 2 provided drywall screws and template card, fasten the unit to the wall at 4 to 5 feet high, or eye level.

## 2. Electrical

- Insert your valve wires to the terminal blocks and tighten screws to secure (screw driver included).
- You can use any or both of the “C” terminals as common.

## 3. Power Up

- Connect the power leads to the terminals marked “24VAC” and plug transformer into AC wall socket.

The system will boot up and will enter in the initial setup mode.

# Hardware Installation

Once RainMachine has entered the Initial Setup mode, Follow the on-screen installation steps to configure your Wi-Fi network, location, and create remote access login account.

Some tips:

- Be sure you are connecting to your home network and not an unfamiliar open network nearby.
- Enter your exact home address for the most precise weather forecasts. Entering a city or ZIP code only will reduce the accuracy of the weather data.
- Be sure to confirm your verification email! Without this step, remote access will not work.

With your remote access email and password confirmed, download the RainMachine App from the app store. After launching the app, select the **3 Lines Menu** in the upper left, and then **Remote Access**. This is where you will add your email and password.

# How It Works

## Weather Adaptive Watering

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The RainMachine will dynamically adjust watering duration (e.g. Roses, 5 minutes) using Evapotranspiration calculations based on weather data such as forecasted temperature, wind, rain and humidity, sun exposure, etc. In short, we follow natural environmental conditions, and when necessary we decrease or increase water output.

When compared with regular timer controllers with fixed watering duration, the RainMachine allows you to save water and maintain healthy plants.

For a full explanation of how it works visit our Knowledgebase at [www.rainmachine.com](http://www.rainmachine.com)

## Creating Your First Program

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In order to enable automatic watering, you need to setup at least one program:

1. From the RainMachine app, go to **Settings > Programs > Add New Program**
2. Label your program. Example: “Rose Garden”
3. Select a **Frequency**: how often the program runs
4. Select a **Start Time**: when the program starts
5. Input a base watering duration<sup>1</sup> (Custom or Suggested) for each zone in this program
6. Save

<sup>1</sup>Base Watering Duration – duration of watering required for each zone, during a regular summer day. Example: Rose Garden, 5 minutes. The RainMachine will constantly adjust this duration based on weather conditions (temperature, rain, humidity, wind) and the time of year (based on sun exposure and daylight hours). See next page for details.



## Custom vs Suggested Duration

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Watering durations for each programmed zone can be set by:

1. **Custom duration:** The user sets a desired watering duration for a *typical summer day*.
2. **Suggested duration:** calculated from the properties of your zone (soil type, plant type, sun exposure and location) for a *typical summer day*.

The RainMachine will then adjust these durations based on three choices: **live weather**, **seasonal adjustments**, or **“do not adjust”**.

For example, hot days require more water, cool days require less, and on rainy days it may not water at all achieving substantial water savings

## Program Properties

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**Adjust watering Duration based on weather:** When enabled, the base watering duration will be adjusted daily based on weather.

**Rain Restriction:** Do not water if Rain exceeds a certain amount. Use this if you absolutely don't want any watering activity during rain over a certain amount.

**Cycle and Soak:** splits the base watering runtime into multiple cycles separated by soak times. This feature improves watering efficiency by allowing time for the soil to absorb water and thus avoid runoff.

**Delay between zones:** sets the amount of time between two consecutive zones in a program, to accommodate specific irrigation systems. (Example: extra time to fill up water tanks or to build up water pressure).

## Manually Watering Zones

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From RainMachine app, go to Zones and tap on the play button, and select a desired duration.

Alternatively, From the RainMachine device, touch the UP/DOWN touch buttons to select the zone number and start watering by pressing the watering can. Default is 5 minutes.

*NOTE: The duration defaults to 5 minutes, but it can be changed and saved from the RainMachine app. Manual watering does not affect any scheduled programs.*

## Zone Properties & Master Valve

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To modify zone properties, tap Edit

Note: If you have a master valve or a pump, Zone 1 can be re-assigned as a Master Valve.

**Weather and seasonal adjustments.** Select Live Weather or Seasonal Adjustments for your zone. If both options are disabled, the RainMachine will not adjust watering durations.

**Soil Type, Slope and Exposure:** Different soil types have different water retention properties; clay soils tend to experience runoff, while loamy soils may hold water for a long duration. The amount of water content held in the soil is referred to as **Field Capacity**.

**Sun Exposure** directly affects the evaporation rate (more sun requires more water). **Slope** increases runoff.

**Vegetation Type:** Different **vegetation and plant types** require different amounts of water. The RainMachine algorithm uses different variables associated with each type of vegetation to make accurate water consumption calculations.

**Sprinkler Head Type:** Sprinkler head type determines the flow rate of a zone, or how much water a sprinkler can deliver to your plants over a given duration. Certain head types have high flow rates, and can irrigate your yard quickly, while other types are slower.

## Dashboard

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The dashboard screen allows you to view past and future weather and water consumption statistics. Tap or swipe left/ right on each graph to view detailed info.

**Weather Chart** shows you weather status with high temperatures and rain amount for each day.

**Programs Chart** shows the output of watering for that respective program. Each program has a graph showing you both recorded and forecasted water output.

Using the **Week/Month/Year** tabs you can change the timespan of the Dashboard graphs. **Settings > Dashboard** allows you to toggle various graphs.

*NOTE: By pressing the upper right "Edit" button, you can rearrange the graphs order, or hide them from the Dashboard screen view.*

## Weather Data

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**Settings > Weather:** Weather data for your location is fetched several times per day from various weather sources such as NOAA (US) or MET.NO (Global). Default is NOAA for US and MET.NO only for EU and Global. If two or more weather data sources are used at the same time, the result will be an average of the two data sets.

We do not advise mixing multiple sources, for most applications NOAA is sufficient.

## Restrictions

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Restrictions are a set of rules the user can impose on the running programs. Specific time spans (**Days, Months, Hours**) where no watering takes place.

**Snooze:** This is a temporary restriction that skips programs for a set number of days.

**Freeze Protect:** Set a temperature threshold below which watering activity will be stopped. This is based on lowest forecasted temperature for the day, usually occurs at night.

**Hot Days:** Set a watering maximum based on percentage. During hot days increased watering might be required. Capping at 100% is default and allows you to save water.

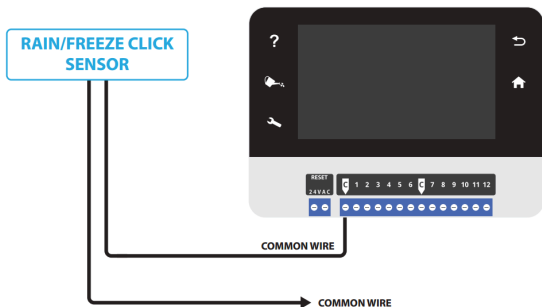


## Rain Sensor

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A regular rain/freeze click sensor (usually these sensors don't require any other power source and when they sense rain, they simply cut off the power going through the Common Wire to the watering zones).

To wire up the rain sensor to your Touch HD-12, you will need to wire the sensor wire in what is called “series” with the common wire from the valves and the common terminal.



## Sensitivity

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Sensitivity settings adjust the responsiveness to forecasted amounts of rain or wind. For example, buildings can provide blockage from wind, and as a result, wind has less impact on evaporation. Setting wind or rain sensitivity to zero eliminates their impact. Only change the default values if you have a good reason to do so. These are global settings and apply to all zones.

## Field Capacity

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**Field Capacity** is the amount of soil moisture or water content held in the soil after excess water has drained away, and is measured in inches. It is determined from **Soil Type**. Please be sure to set your soil type under zones.

# Troubleshooting

## Resetting Wi-Fi Settings and Password

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Should you need to change your Wi-Fi settings or if you forgot your RainMachine password please go to: <http://rainmachine.com/reset>

**Remote Access Issues:** If you cannot connect to your RainMachine while away from your home, please make you have validated your email. During setup time a validation email will be sent you. Go to Settings > System Settings > Remote Access to change or resend your confirmation.

**Wi-Fi signal strength:** Nothing will work if you are too far from your router. Please consider getting a Wi-Fi signal booster or relocate your WIFI Router or RainMachine.

For more support, please visit us at [www.rainmachine.com](http://www.rainmachine.com)

# Specifications

## Features

12 Zones, Weather Aware,  
Wi-Fi Irrigation Controller  
Forecast spatial resolution up to 1.5  
Km  
Evapotranspiration method: American  
Society of Civil Engineers (ASCE)  
Standardized  
Freeze control and heat wave  
protection  
EPA WaterSense<sup>SM</sup> certified  
iPhone and Android mobile apps

## Environmental

Indoors operating temp: -20C to 60C  
(-4F to 140F)  
To 85% relative humidity, non-  
condensing Indoor use only

## Mechanical

Dimensions: 115 x 115 x 27mm  
Weight: 170g

## Electrical

Wi-Fi: USB 802.11N, 2.4Ghz,  
US/Japan/EU.  
Wires: AWG 14- 22  
AC Input: 24VAC, 50/60Hz, 750mA  
(adapter included).  
Valve output (compatible with all  
24VAC irrigation valves): 24VAC,  
50/60Hz, max 10VA.  
Master valve: 24VAC, 50/60Hz.

## Certification

FCC, CE

## Warranty

1 Year standard warranty

## Legal & Warranty

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