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**DEWENWILS DTC-1800W**

# DEWENWILS Digital Temperature Controller DTC-1800W User Manual

Model: DTC-1800W

## 1. Introduction

The DEWENWILS Digital Temperature Controller DTC-1800W is a versatile and heavy-duty thermostat outlet plug designed for precise temperature management. It features a clear VA display and supports both heating and cooling modes, along with cyclic timing and countdown functions. This device is suitable for various applications requiring accurate temperature control, such as greenhouses, incubators, home brewing setups, reptile enclosures, and small refrigeration units. The included 120mm waterproof exhaust fan enhances its utility for cooling and ventilation projects.




Figure 1: DEWENWILS Digital Temperature Controller with included 120mm Exhaust Fan.

## 2. Safety Information

- Read all instructions carefully before use.
- Ensure the device is properly grounded.
- Do not exceed the maximum power rating of 15A/1800W.
- Avoid exposing the main controller unit to water or extreme humidity, except for the waterproof sensor probe and fan.
- Keep out of reach of children.
- Unplug the device from the power outlet before cleaning or performing any maintenance.

## 3. Package Contents

- 1 x DEWENWILS Digital Temperature Controller
- 1 x Temperature Sensor Probe

- 1 x 120mm Heavy-Duty Aluminum Exhaust Fan with Power Plug Cord
- 2 x Metal Grilles for Fan
- 1 x Mounting Screw Set for Fan
- 1 x User Manual

## 4. Product Overview and Features

The controller features a VA display for clear readings and intuitive buttons for setting various parameters. The included fan is designed for durability and performance in humid environments.

### 4.1 Controller Components




Figure 2: Overview of the Digital Temperature Controller's buttons and display.

- **VA Display:** Self-illuminating font for clear readings in various lighting conditions.
- **Measured Temperature:** Displays the current temperature detected by the probe.
- **Start Temperature (ON):** The temperature at which the connected device will activate.
- **Stop Temperature (OFF):** The temperature at which the connected device will deactivate.
- **SET Button:** Used to enter setting mode and confirm selections.
- **FUN Button:** Used to cycle through different functions/modes.

- **UP/DOWN Buttons:** Used to adjust temperature values and timer settings.
- **Max. 1800W Outlet:** Standard US outlet for connecting heating or cooling devices.

### 4.2 Key Features




Figure 3: Visual representation of the controller's practical functions.

- **Wide Temperature Control Range:** -40°F to 210°F (-40°C to 99°C) with 0.1°F/°C precision.
- **Dual Modes:** Supports both heating and cooling applications.

- **Cyclic Timing (F01):** Set the device to work for a specified duration, then turn off for another duration, and repeat.
- **Countdown ON (F02):** Device turns on after a set countdown period.
- **Countdown OFF (F03):** Device turns off after a set countdown period.
- **Countdown ON/OFF (F04):** Device turns on after a set period, works for a set period, then turns off.
- **Temperature Calibration:** Allows for fine-tuning the temperature reading for accuracy.
- **Brown-out Memory:** Retains settings in case of power loss.
- **Waterproof Sensor Probe:** Durable probe for use in various environments.
- **Waterproof Exhaust Fan:** Designed for high humidity environments, anti-rust and anti-moisture.




Figure 4: The controller offers a wide temperature control range from -40°F to 210°F.




Figure 5: The heavy-duty aluminum fan housing is impact-resistant and flame-resistant.




Figure 6: The fan features dual ball bearings for maximum airflow at minimum noise levels and a long lifespan of up to 50,000 hours.

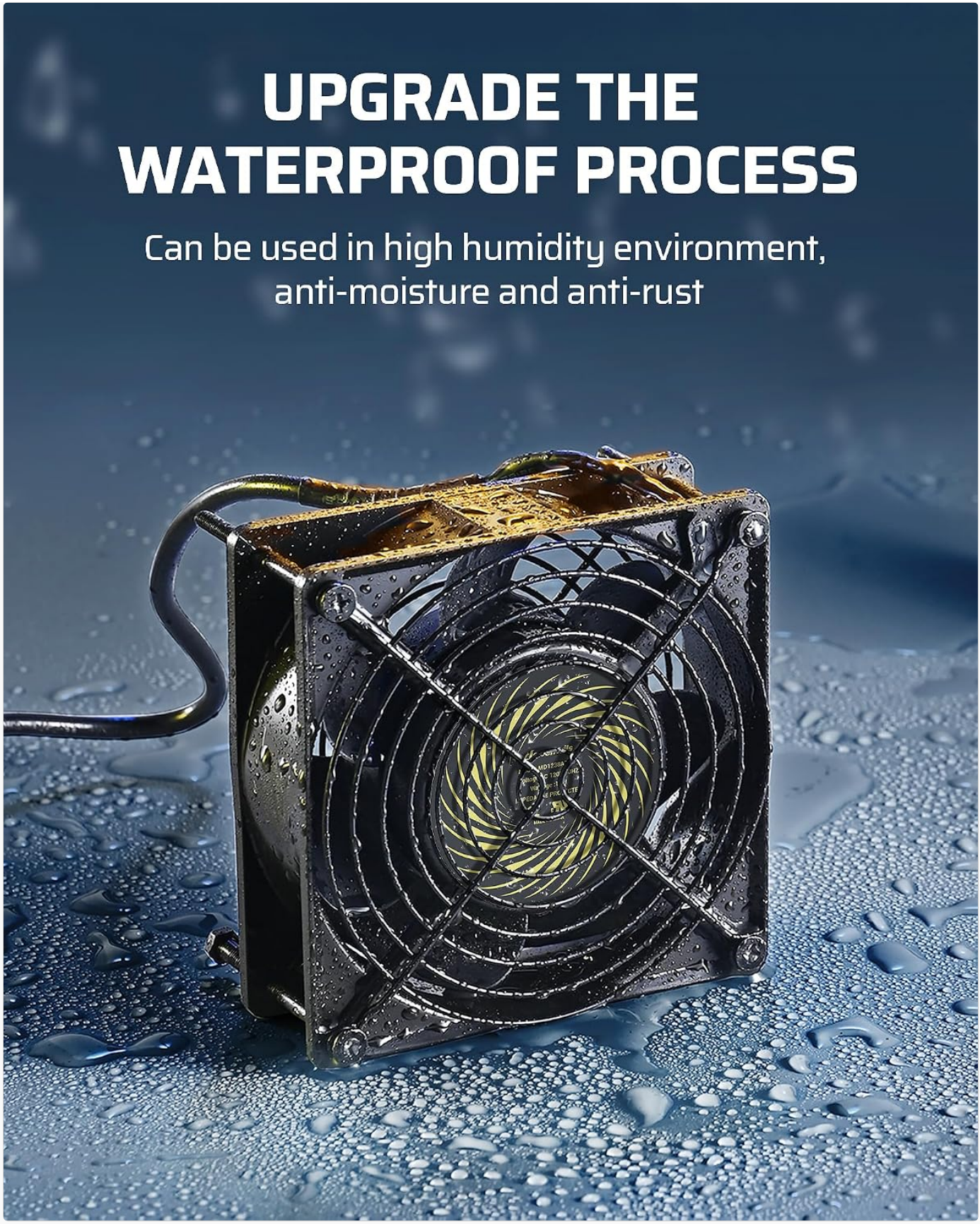



Figure 7: Internal parts and blades of the fan are coated with waterproof paint, making it resistant to water damage and suitable for high humidity environments.

## 5. Setup

1. **Unpack:** Carefully remove all components from the packaging.
2. **Connect Sensor:** Plug the temperature sensor probe into the designated port on the top of the controller.
3. **Position Sensor:** Place the sensor probe in the area where temperature needs to be monitored and controlled (e.g.,

inside a greenhouse, terrarium, or near plants).

4. **Plug in Controller:** Insert the temperature controller into a standard 120V AC power outlet. The display will light up.
5. **Connect Device:** Plug your heating or cooling device (e.g., heater, fan) into the outlet on the front of the temperature controller.
6. **Fan Installation (Optional):** If using the included exhaust fan, mount it in the desired location using the provided metal grilles and mounting screws. Plug the fan's power cord into the controller's outlet or a separate power source if not controlled by the thermostat.




Figure 8: The controller is suitable for various applications including aquariums, home brewing, reptile enclosures, and attic fans.

## 6. Operating Instructions

### 6.1 Setting Temperature (Heating/Cooling Mode)

1. **Power On:** Ensure the controller is plugged in. The display will show the current measured temperature.
2. **Set Start Temperature:** Press and hold the **SET** button until the "Start Temperature" value flashes. Use the **UP** or

**DOWN** buttons to adjust the desired start temperature. Press **SET** again to confirm.

3. **Set Stop Temperature:** After setting the start temperature, the "Stop Temperature" value will flash. Use the **UP** or **DOWN** buttons to adjust the desired stop temperature. Press **SET** again to confirm.
4. **Mode Selection:** The controller automatically determines heating or cooling mode based on your set start and stop temperatures. If the start temperature is lower than the stop temperature, it's in heating mode. If the start temperature is higher than the stop temperature, it's in cooling mode.

### 6.2 Using Timing Modes (F01, F02, F03, F04)

The controller offers various timing functions for automated operation.

1. **Access Timing Modes:** Press the **FUN** button repeatedly to cycle through the different modes (F01, F02, F03, F04).
2. **Set Timing Parameters:** Once in the desired timing mode (e.g., F01 for Cyclic Time Mode), press and hold the **SET** button. The time values will flash. Use the **UP** or **DOWN** buttons to adjust the time (minutes/hours) as required. Press **SET** to confirm each value.
3. **Activate Timing:** After setting the parameters, press the **FUN** button to start the timing function.

Video 1: Demonstration of setting temperature and using the sensor probe. This video illustrates how to set the start and stop temperatures and shows the sensor reacting to changes in heat, such as body temperature. It also highlights the device's broad application for temperature control in various settings like greenhouses, terrariums, and home brewing.

Video 2: Quick overview of the thermostat's features and applications. This video briefly showcases the LCD display, temperature control modes, and various uses in environments like greenhouses, aquariums, and for breeding.

Video 3: Demonstration of setting cyclic time mode (F01) and countdown modes (F02, F03, F04). This video provides a concise visual guide on how to adjust timing parameters for different operational cycles.

Video 4: Detailed guide on setting temperature control modes, cyclic time, countdown, and temperature calibration. This video offers a more in-depth look at the device's functionalities, including how to lock/unlock buttons and restore factory settings.

### 6.3 Temperature Calibration

If the measured temperature is inaccurate, you can calibrate the sensor:

1. Unplug the device from the power outlet.
2. While holding down the **MODE** button, plug the device back into the power outlet.
3. The display will show a calibration value. Use the **UP** or **DOWN** buttons to adjust the offset (e.g., +0.5°C if it reads 0.5°C too low).
4. Press **SET** to confirm the calibration.

### 6.4 Key Lock/Unlock

To prevent accidental changes to settings:

- **Lock:** Press and hold the **MODE** and **SET** buttons simultaneously for 3-5 seconds until a lock icon appears on the display.
- **Unlock:** Press and hold the **MODE** and **SET** buttons simultaneously for 3-5 seconds until the lock icon disappears.

### 6.5 Restore Factory Settings

To reset the device to its original factory settings:

1. Unplug the device from the power outlet.
2. Locate the small reset hole (often near the sensor port or on the side).
3. Using a small, pointed object (like a paperclip or the provided stick), press and hold the reset button inside the hole for

approximately 10 seconds while plugging the device back into the power outlet.

4. Release the button. The device will reset to its default settings.

## 7. Maintenance

- **Cleaning:** Wipe the controller with a dry, soft cloth. Do not use abrasive cleaners or immerse the unit in water.
- **Sensor Care:** The sensor probe is waterproof; however, avoid bending or damaging the cable.
- **Fan Cleaning:** Periodically clean dust and debris from the fan blades and grilles to ensure optimal airflow and performance.
- **Storage:** Store the device in a cool, dry place when not in use.

## 8. Troubleshooting

- **Device not powering on:** Ensure the controller is securely plugged into a live power outlet. Check the power outlet with another device.
- **Inaccurate temperature reading:** Perform a temperature calibration as described in Section 6.3. Ensure the sensor probe is correctly positioned and not damaged.
- **Connected device not turning on/off:** Verify that the start and stop temperatures are set correctly for your desired heating or cooling mode. Check if the key lock is activated (Section 6.4). Ensure the connected device is functional and properly plugged into the controller's outlet.
- **Fan not operating:** Check the fan's power connection. Ensure the fan is not obstructed and its power cord is securely plugged into the controller or its dedicated power source.
- **Settings not saving:** The device has brown-out memory. If settings are not retained after a power cycle, try restoring factory settings (Section 6.5) and re-entering your desired parameters.

## 9. Specifications

- **Input Voltage:** 120VAC 60Hz
- **Max Power Rating:** 15A Max. 1800W
- **Temperature Control Range:** -40°F to 210°F (-40°C to 99°C)
- **Display Accuracy:** 0.1°F / 0.1°C
- **Sensor Type:** NTC (Waterproof)
- **Fan Size:** 120mm
- **Fan Bearings:** Dual ball bearings
- **Fan Lifespan:** Up to 50,000 hours

## 10. Warranty and Support

For warranty information or technical support, please refer to the product packaging or contact DEWENWILS customer service directly. Keep your purchase receipt for warranty claims.

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