**Saved from manuals.plus.**
**Open the live page for links to other documents and user manuals.**



## HomeSoGood AMR4A0HQUTUS

# Digital Thermostat W3230 Module User Manual

Model: AMR4A0HQUTUS | Brand: HomeSoGood

## 1. Introduction

The HomeSoGood W3230 Digital Thermostat Module is a versatile temperature control instrument designed for a wide range of applications. Featuring a clear LED display, it allows for precise temperature measurement and control, supporting both heating and cooling modes. Its robust design ensures reliable performance in various environments.




Figure 1: Front view of the W3230 Digital Thermostat Module, showing the LED display for PV (Process Value) and SV (Set Value), along with control buttons (Up, Set, Down, Restart) and an OUT indicator light.

## 2. Key Features

- **Digital Display:** Clear LED display for easy readability of current and set temperatures.
- **Wide Temperature Range:** Capable of controlling temperatures from -55°C to 120°C.
- **Dual Mode Control:** Supports both heating (H) and cooling (C) modes.
- **High Precision:** Control accuracy of 0.1°C.
- **Parameter Memory:** All parameter settings are saved automatically after a short circuit or power loss.
- **Relay Output:** Equipped with a relay for controlling external heating or cooling devices.

- **Temperature Calibration:** Allows for calibration of temperature readings to ensure accuracy.
- **Compact Design:** Mini temperature controller with dimensions of 79mm x 43mm x 26mm.
- **Versatile Applications:** Suitable for domestic freezers, water tanks, refrigerators, industrial chillers, steamers, and other temperature-controlled systems.

## 3. Specifications

| Parameter | Value |
|---|---|
| Type | Digital Thermostat Module |
| Model Number | AMR4A0HQUTUS |
| Temperature Control Range | -55°C to 120°C (-67°F to 248°F) |
| Control Precision | 0.1°C |
| Input Voltage Options | DC 12V, DC 24V, AC 110-220V (model dependent) |
| Relay Current | 10A/250V (AC), 20A/12V (DC) |
| Sensor Type | NTC 10K (Waterproof probe) |
| Sensor Wire Length | 1 meter |
| Dimensions (L*W*H) | 79mm x 43mm x 26mm (3.11 x 1.69 x 1.02 inches) |
| Cutting Size for Installation | 73mm x 39mm (2.87 x 1.54 inches) |
| Environmental Requirements | Temperature: -10°C to 60°C; Humidity: 20% to 85% RH |
| Material | ABS |
| Weight | Approximately 1.76 ounces (50g) |




Figure 2: Rear view of the W3230 module, displaying the product label with power input options (110-220V, 12V, 24V, 5V), relay specifications, temperature range, and accuracy, along with the terminal block for connections.

## 4. Setup and Installation

Proper wiring is crucial for the safe and correct operation of the W3230 thermostat module. Ensure the power supply matches the voltage version of your module (DC 12V, DC 24V, or AC 110-220V). Always disconnect power before making any connections.

### 4.1 Wiring for AC 110-220V Models

For modules designed for AC 110-220V input, connect the power supply and load as shown in the diagram below. VCC and GND are for power input, while S1 and S2 are for the temperature sensor. The load end connects to the device being controlled (e.g., heater, cooler).

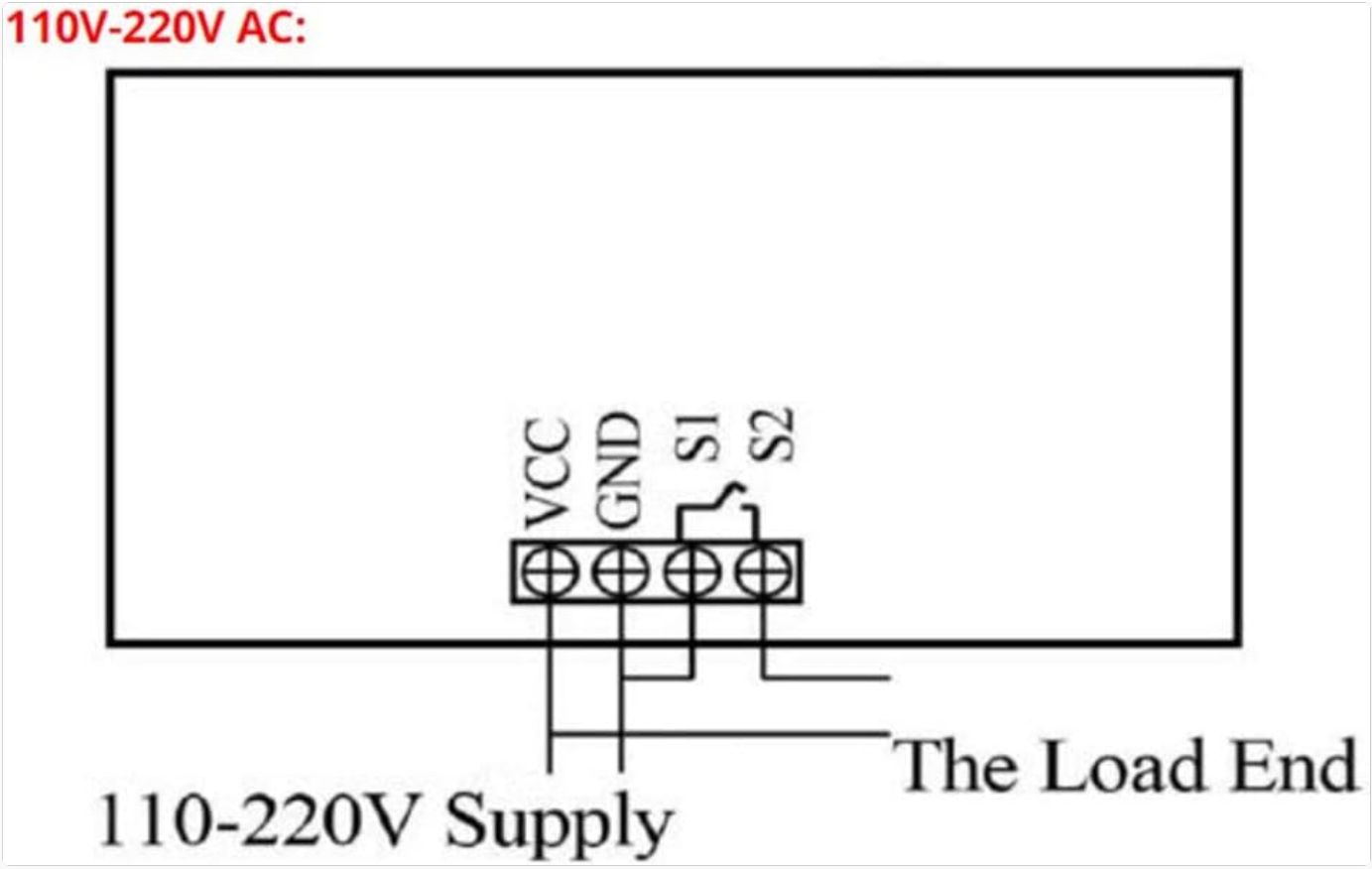



Figure 3: Wiring diagram for the AC 110-220V version of the W3230 thermostat. It illustrates connecting the 110-220V AC supply to the VCC and GND terminals, and the load to the "Load End" terminals, with the sensor connected to S1 and S2.

## 4.2 Wiring for DC 12V / 24V Models

For modules designed for DC 12V or DC 24V input, connect the positive (+) and negative (-) terminals of your DC power supply to VCC and GND respectively. The load connects to the "Load End" terminals. The temperature sensor connects to S1 and S2.

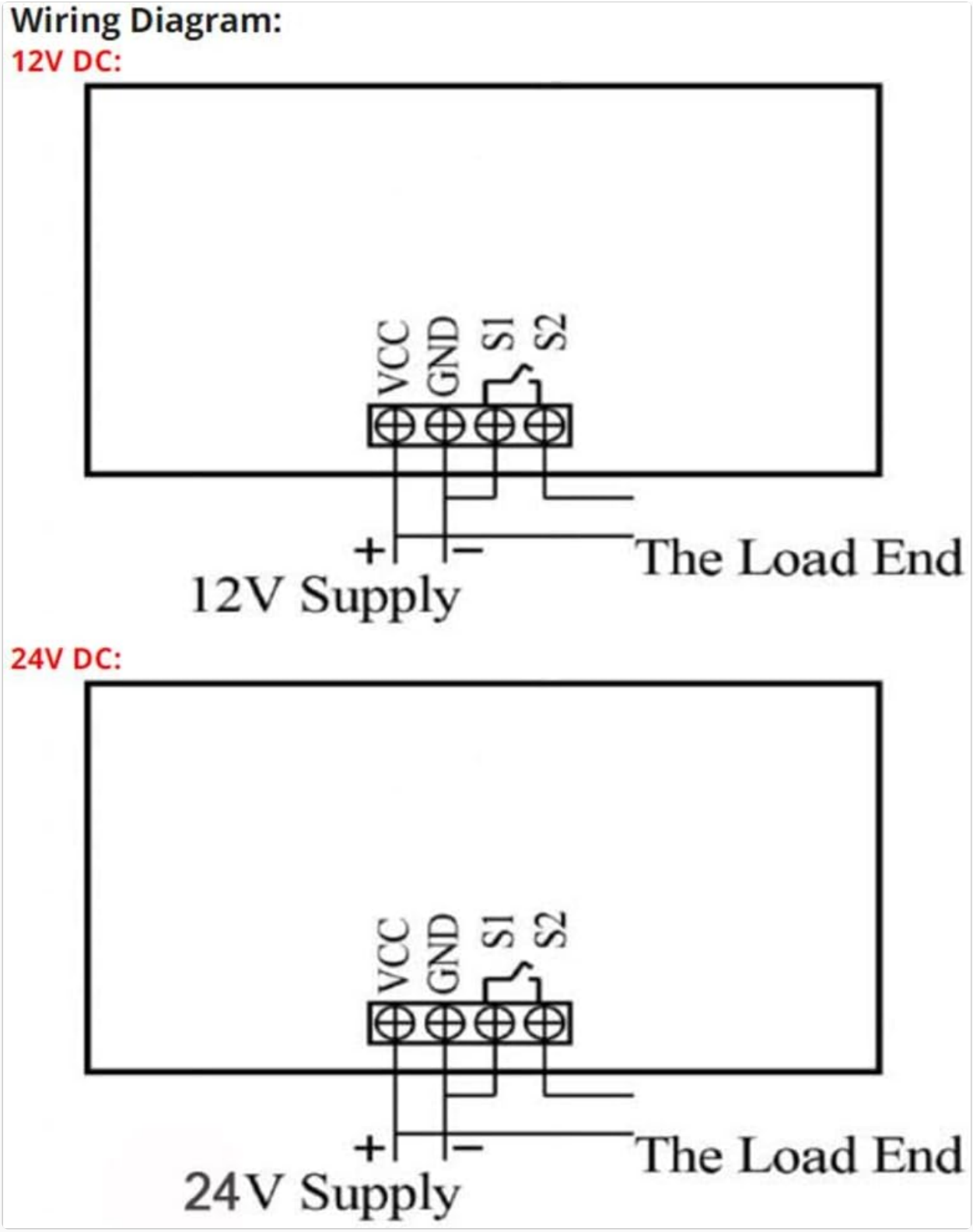



Figure 4: Wiring diagrams for both 12V DC and 24V DC versions of the W3230 thermostat. Each diagram shows the positive (+) and negative (-) terminals of the DC supply connected to VCC and GND, respectively, with the load connected to the "Load End" and the sensor to S1 and S2.

**Important Safety Note: Ensure the power supply voltage matches the specific model of your W3230 thermostat. Incorrect voltage can damage the device.**

## 5. Operating Instructions

The W3230 thermostat features a simple interface for setting and controlling temperature. The upper LED display (PV) shows the current measured temperature, while the lower LED display (SV) shows the set temperature.

## 5.1 Setting the Temperature

1. **Power On:** Connect the module to the appropriate power supply. The display will show the current temperature.
2. **Enter Setting Mode:** Press the **SET** button once. The lower display (SV) will flash, indicating it's ready for temperature adjustment.
3. **Adjust Temperature:** Use the **UP (▲)** and **DOWN (▼)** buttons to set your desired temperature.
4. **Save Setting:** Press the **SET** button again to confirm and save the new temperature setting. The display will stop flashing and return to normal operation.

## 5.2 Advanced Parameter Settings (Code Table)

To access advanced settings, press and hold the **SET** button for approximately 3-5 seconds until the display shows "P0". Use the **UP (▲)** and **DOWN (▼)** buttons to navigate through the parameters (P0-P8). Press **SET** again to enter a specific parameter's setting, adjust with **UP (▲)** and **DOWN (▼)**, and press **SET** to save and exit that parameter. To exit the advanced setting mode, press and hold **SET** again, or wait for 10 seconds for it to automatically exit.

**Code table:**

| Code | Function | Set Range | Default |
|---|---|---|---|
| P0 | Heating/Cooling | H/C | C |
| P1 | Return Difference | 0.1-30 | 2 |
| P2 | Setting limits to the manimum | 120 | 120 |
| P3 | Setting limits to the minimum | -55 | -55 |
| P4 | Temp. Correction | -20 | 0 |
| P5 | Delay Start | 0-10min | 0 |
| P6 | Alarm Temp | -175 | OFF |
| P7 | Data locked | ON/OFF | OFF |
| P8 | Restore factory settings | ON/OFF | OFF |

Figure 5: The "Code table" illustrating the various programmable parameters (P0-P8) of the W3230 thermostat, their functions, adjustable ranges, and default values. This table is essential for advanced configuration.

| Code | Function | Set Range | Default |
|---|---|---|---|
| P0 | Heating/Cooling Mode | H/C | C (Cooling) |

| Code | Function | Set Range | Default |
|---|---|---|---|
| | **C (Cooling Mode):** When the measured temperature (PV) is higher than the set temperature (SV), the relay closes (OUT indicator on). When PV is lower than SV, the relay opens (OUT indicator off).<br>**H (Heating Mode):** When the measured temperature (PV) is lower than the set temperature (SV), the relay closes (OUT indicator on). When PV is higher than SV, the relay opens (OUT indicator off). | | |
| **P1** | Return Difference (Hysteresis) | 0.1-30 | 2 |
| | This parameter sets the temperature difference required for the relay to switch states, preventing rapid cycling. For example, if P0=H (Heating), SV=25°C, and P1=2°C: the relay turns on at 25°C and turns off at 27°C. If P0=C (Cooling), SV=25°C, and P1=2°C: the relay turns on at 25°C and turns off at 23°C. | | |
| **P2** | Setting Limits to the Maximum | -55 to 120 | 120 |
| | Sets the upper limit for the adjustable set temperature (SV). | | |
| **P3** | Setting Limits to the Minimum | -55 to 120 | -55 |
| | Sets the lower limit for the adjustable set temperature (SV). | | |
| **P4** | Temperature Correction | -20 to 20 | 0 |
| | Allows for fine-tuning the temperature reading. If the measured temperature is consistently off, you can adjust this value to correct it. For example, if the actual temperature is 25°C but the display shows 26°C, set P4 to -1. | | |
| **P5** | Delay Start Time | 0-10 min | 0 |
| | Sets a delay before the relay activates after the temperature condition is met. Useful for protecting compressors in refrigeration systems. | | |
| **P6** | High Temperature Alarm | -175 to 120 | OFF |
| | When the measured temperature exceeds this value, the display will flash "HHH" and an alarm will sound (if applicable). Set to OFF to disable. | | |
| **P7** | Data Locked | ON/OFF | OFF |
| | When set to ON, all parameter settings are locked and cannot be changed without unlocking. This prevents accidental modifications. | | |
| **P8** | Restore Factory Settings | ON/OFF | OFF |
| | Set to ON and press SET to restore all parameters to their default factory settings. | | |

## 6. Applications

The W3230 Digital Thermostat Module is suitable for a wide variety of temperature control applications, including but not limited to:

- Domestic freezers and refrigerators
- Water tanks and aquariums
- Industrial chillers and heating systems
- Steamers and incubators
- Laboratory temperature control
- Agricultural temperature regulation (e.g., greenhouses)
- HVAC systems




Figure 6: Examples of the W3230 thermostat module in use across different environments, including a laboratory, a commercial kitchen, an industrial facility, and a refrigeration unit, demonstrating its versatility.

## 7. Maintenance

The W3230 Digital Thermostat Module is designed for low maintenance. Follow these guidelines to ensure its longevity and accurate operation:

- **Cleaning:** Gently wipe the module's surface with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Sensor Care:** Ensure the temperature sensor probe is clean and free from debris. Avoid bending or damaging the sensor wire.
- **Environmental Conditions:** Operate the module within the specified environmental temperature (-10°C to 60°C) and humidity (20%-85% RH) ranges to prevent damage.
- **Wiring Inspection:** Periodically check all wiring connections to ensure they are secure and free from corrosion.
- **Power Supply:** Always use a stable power supply that matches the module's voltage requirements.

## 8. Troubleshooting

If you encounter issues with your W3230 Digital Thermostat Module, refer to the following common problems and solutions:

| Problem | Possible Cause | Solution |
|---|---|---|
| **Display shows "LLL"** | Sensor open circuit or temperature below measurement range. | Check sensor connection. Replace sensor if damaged. Ensure ambient temperature is within range. |
| **Display shows "HHH"** | Sensor short circuit or temperature above measurement range. Also, P6 (High Temperature Alarm) may be triggered. | Check sensor for short circuits. Replace sensor if damaged. Ensure ambient temperature is within range. Check P6 setting. |
| **Display shows "---"** | High temperature alarm triggered (P6). | Check the actual temperature. Adjust P6 setting or resolve the high temperature condition. |
| **Module not powering on** | Incorrect power supply voltage or loose wiring. | Verify power supply voltage matches module requirements. Check all power connections. |
| **Relay not activating/deactivating** | Incorrect P0 (Heating/Cooling) mode, P1 (Return Difference) setting, or wiring to load. | Check P0 and P1 settings. Verify load wiring. Ensure the load's power requirements are within the relay's capacity. |
| **Temperature reading inaccurate** | Sensor placement, P4 (Temperature Correction) setting, or faulty sensor. | Ensure sensor is placed correctly and not affected by external heat sources. Adjust P4 if needed. Replace sensor if suspected faulty. |
| **Cannot change settings** | P7 (Data Locked) is set to ON. | Enter advanced settings and set P7 to OFF. |

## 9. Warranty and Support

HomeSoGood products are manufactured with high-quality standards. For specific warranty information, please refer to the product packaging or contact your retailer. For technical support or inquiries, please visit the official HomeSoGood store on Amazon or contact their customer service directly.

**Visit the HomeSoGood Store on Amazon**

© 2023 HomeSoGood. All rights reserved.
This manual is for informational purposes only. Specifications are subject to change without notice.

## Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

**Name**

Anonymous

**Email**

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

**Question**

Example: How do I reset this device or fix this error?

**Details**

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

---

**Open the live page**

**https://manuals.plus/asin/B0BZD2QFW5**

More documents and user manuals: **https://manuals.plus/**