H-Tronic 110990

H-Tronic 110990 TDR 2004 Temperature Controller User Manual

Model: 110990

1. Product Overview

The H-Tronic 110990 TDR 2004 is a differential temperature controller designed for precise temperature regulation in various applications. This device ensures accurate monitoring and control of temperature differences, making it suitable for systems requiring specific thermal management.

Image 1.1: H-Tronic 110990 TDR 2004 Differential Temperature Controller. This image shows the front view of the temperature controller unit.

Key Features:

- Precise differential temperature control.
- Robust construction for reliable operation.
- Easy integration into existing systems.

2. Safety Instructions

Please read these safety instructions carefully before operating the device. Failure to follow these instructions may result in electric shock, fire, or damage to the product.

- **Electrical Safety:** Ensure the device is connected to a power source that matches the specified voltage and frequency. Disconnect power before performing any installation or maintenance.
- **Installation:** Installation should only be performed by qualified personnel in accordance with local electrical codes and regulations.
- **Environment:** Do not expose the device to moisture, extreme temperatures, or corrosive environments.
- **Handling:** Handle the device with care. Avoid dropping or subjecting it to strong impacts.

- **Repairs:** Do not attempt to repair the device yourself. Refer all servicing to qualified service personnel.

3. Package Contents

Verify that all items are present in the package upon unboxing:

- 1x H-Tronic 110990 TDR 2004 Differential Temperature Controller unit
- 1x User Manual (this document)
- *Note: Temperature sensors and connecting cables are typically sold separately unless specified.*

4. Setup and Installation

Proper installation is crucial for the optimal performance and safety of the H-Tronic 110990 TDR 2004. Consult a qualified electrician if you are unsure about any steps.

4.1 Mounting the Device

1. Choose a suitable location that is dry, well-ventilated, and free from excessive vibrations or direct sunlight.
2. Ensure adequate space around the unit for ventilation and access to terminals.
3. Mount the controller securely using appropriate screws and mounting hardware (not included).

4.2 Electrical Connections

WARNING: Disconnect all power before making any electrical connections.

1. Identify the power input terminals on the device. Connect the main power supply according to the wiring diagram provided in the device's internal documentation or on the unit itself.
2. Connect the temperature sensors (e.g., NTC, PT1000, depending on model compatibility) to the designated sensor input terminals. Ensure correct polarity if applicable.
3. Connect the controlled load (e.g., pump, heater, fan) to the relay output terminals. Observe the maximum switching capacity of the relay.
4. Double-check all connections for tightness and correct wiring before applying power.

Image 4.1: Example of the H-Tronic 110990 TDR 2004's connection terminals. This image illustrates the various input and output terminals for power, sensors, and controlled devices.

5. Operating Instructions

This section provides general guidance on operating your H-Tronic 110990 TDR 2004. Specific menu navigation and parameter settings may vary; refer to the detailed programming guide (if supplied separately) for advanced configurations.

5.1 Initial Power-Up

1. After ensuring all connections are secure, apply power to the device.
2. The display should illuminate, showing current temperature readings or a startup sequence.

5.2 Setting Temperature Parameters

The TDR 2004 is a differential temperature controller, meaning it controls based on the temperature difference between two points (e.g., collector and storage tank in a solar thermal system).

- **Differential ON (ΔT_ON):** This parameter sets the temperature difference at which the relay will switch ON (e.g., pump starts).
- **Differential OFF (ΔT_OFF):** This parameter sets the temperature difference at which the relay will switch OFF (e.g., pump stops).
- **Maximum Temperature (T_MAX):** An upper limit for one of the sensors, often used for safety or to prevent overheating.
- **Minimum Temperature (T_MIN):** A lower limit for one of the sensors, often used for frost protection.

Use the navigation buttons (usually UP, DOWN, SET/MENU) on the device to access and adjust these parameters. Consult the device's display and button layout for specific instructions.

5.3 Monitoring

The display typically shows the current temperatures from the connected sensors and the status of the relay output (ON/OFF).

6. Maintenance

The H-Tronic 110990 TDR 2004 is designed for low maintenance. Regular checks can help ensure its longevity and reliable operation.

- **Cleaning:** Periodically clean the exterior of the device with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Connections:** Annually check all electrical connections for tightness and signs of corrosion.
- **Ventilation:** Ensure that ventilation openings are not obstructed to prevent overheating.
- **Sensor Check:** Periodically verify the accuracy of your temperature sensors if possible, or check for physical damage to the sensor cables.

WARNING: Always disconnect power before performing any maintenance.

7. Troubleshooting

If you encounter issues with your H-Tronic 110990 TDR 2004, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device does not power on.	No power supply; incorrect wiring; faulty fuse.	Check power connection; verify wiring; replace fuse if necessary (by qualified personnel).
Incorrect temperature readings.	Faulty sensor; incorrect sensor type selected; poor sensor connection.	Check sensor wiring; replace sensor; ensure correct sensor type is configured in settings.

Problem	Possible Cause	Solution
Relay does not switch ON/OFF as expected.	Incorrect ΔT_ON/ΔT_OFF settings; load exceeding relay capacity; faulty relay.	Review and adjust differential temperature settings; check load specifications; contact support if relay is suspected faulty.
Display shows error message.	Sensor error; internal fault.	Refer to the device's specific error code list (if available); check sensor connections; contact support.

If the problem persists after attempting these solutions, please contact H-Tronic customer support.

8. Technical Specifications

Manufacturer	H-Tronic
Model Number	110990
Product Type	Differential Temperature Controller
Power Type	Manual Force Powered (*Note: This likely refers to the control mechanism, not the primary power source. The device requires electrical power.*)
Power (Max Load)	1000 Watts
Package Dimensions	16.8 x 12.6 x 7.4 cm
Weight	500 Grams
Included Components	1 piece (Controller unit)
Batteries Required	No
Batteries Included	No
ASIN	B003A5TC4W

9. Warranty and Customer Support

9.1 Warranty Information

H-Tronic products are manufactured to high-quality standards. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official H-Tronic website. Keep your proof of purchase for warranty claims.

9.2 Customer Support

If you have any questions, require technical assistance, or need to report a problem with your H-Tronic 110990 TDR 2004, please contact H-Tronic customer support through their official channels. Contact information can typically be found on the manufacturer's website or on the product packaging.
For further information, you may visit theH-Tronic official website.