CONTIA TC420, TC421

CONTIA TC420/TC421 WiFi RGB Time Programmable LED Controller User Manual

Model: TC420, TC421

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of the CONTIA TC420 and TC421 WiFi RGB Time Programmable LED Controllers. These controllers are designed to manage LED lighting effects over time, offering customizable scheduling for various applications.

2. Product Overview

2.1 Key Features

- Time-programmable output for dynamic LED effects.
- Customizable schedule modes via host computer software.
- USB port for program download and clock synchronization.
- Controls up to five independent LED channels.
- Common anode connection method.
- Suitable for DC 12V-24V LED strips.
- Applications include plant lighting, advertising light boxes, stage lighting, and home decoration.

2.2 Package Contents

- 1 x CONTIA TC420/TC421 LED Time Controller
- 1 x User Manual (This document)
- 1 x USB Cable

2.3 Controller Appearance

Figure 1: Front view of the CONTIA TC420 (left) and TC421 (right) LED Time Programmable Controllers. Both models feature an LCD display, control buttons (Menu, Enter, Up, Down), and input/output terminals.

3. Specifications

Parameter	Value
Working Temperature	-20°C to 60°C
Power Supply Voltage	DC 12V-24V
Output Channels	5 channels (COMS open-drain output)
Maximum Load Current	4A per channel (Total 20A)
Connection Method	Common Anode
Dimensions (L x W x H)	120mm x 69mm x 24mm

4. Setup

4.1 Wiring Diagram

Ensure all power is disconnected before making any wiring connections. Incorrect wiring can damage the controller or LED strips.

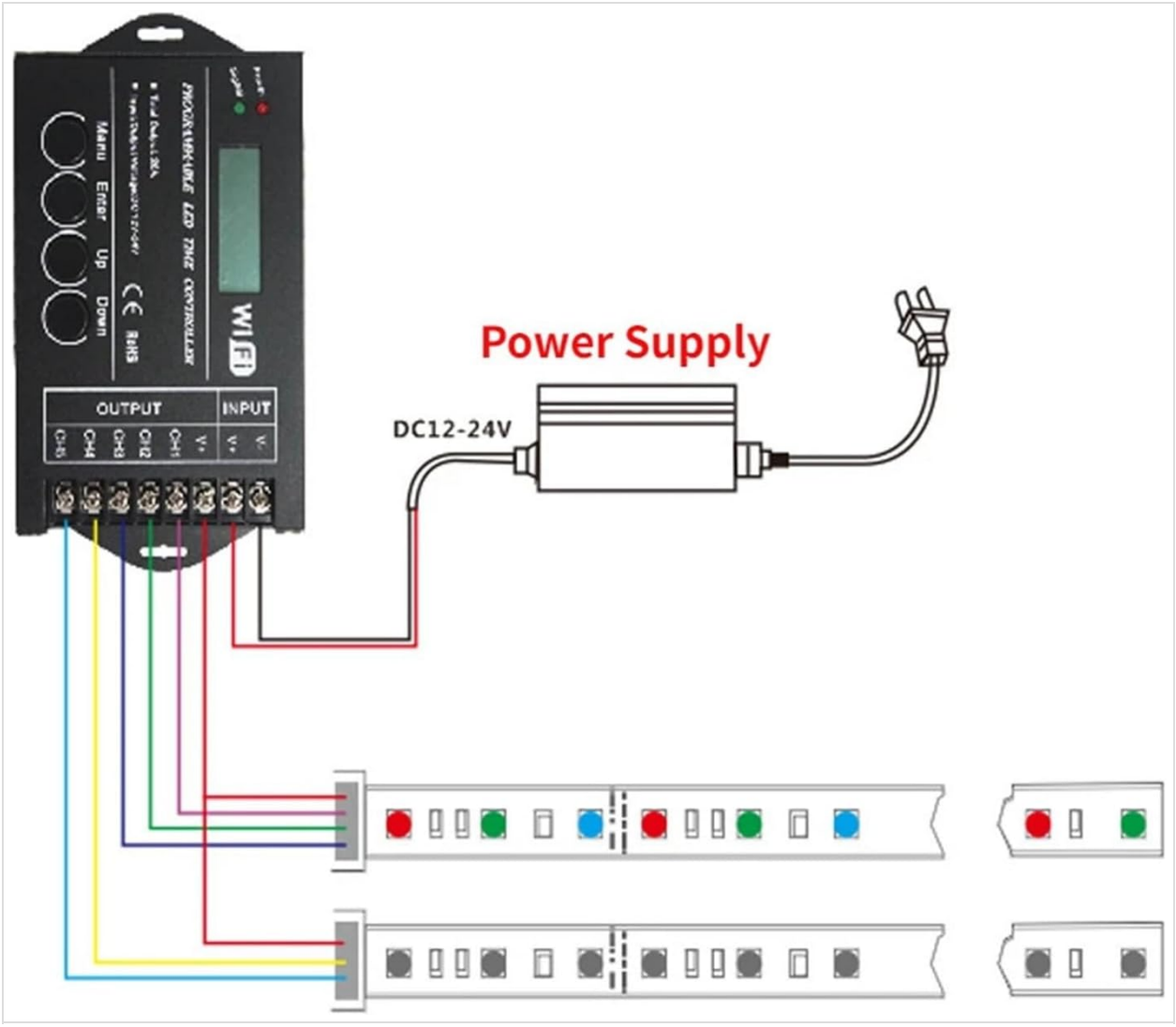

Figure 2: Wiring diagram illustrating the connection of the CONTIA LED controller to a DC 12V-24V power supply and multiple LED light strips. The power supply connects to the controller's input, and the LED strips connect to the controller's output channels (CH1-CH5) and common anode (V+).

1. Connect the DC 12V-24V power supply to the controller's **INPUT** terminals (V+ and V-). Ensure correct polarity.
2. Connect the common anode (V+) of your LED strips to the **V+** terminal in the controller's **OUTPUT** section.
3. Connect the individual color channels (e.g., R, G, B, W) of your LED strips to the corresponding output channels (CH1, CH2, CH3, CH4, CH5) on the controller. For RGB strips, typically CH1=R, CH2=G, CH3=B. For RGBW, CH4=W.
4. Verify all connections are secure before applying power.

4.2 Port Identification

Figure 3: Detailed view of the CONTIA LED controller's connection ports. The top left shows the USB port for PC connection and the power input port. The bottom right shows the screw terminals for the 5 output channels (CH1-CH5) and the common anode (V+).

- **Power Input:** Connects to the DC 12V-24V power supply.
- **USB Port:** Used to connect the controller to a computer for programming and clock synchronization.
- **Output Terminals (CH1-CH5, V+):** Connect to the LED light strips. V+ is the common anode.

5. Operating Instructions

5.1 Host Computer Software

The CONTIA LED controller requires dedicated host computer software for programming custom lighting schedules. This software allows users to:

- Create and edit custom lighting schedules.
- Set the controller's internal clock (synchronized with the host computer).
- Preview the programmed lighting effects.
- Download schedules to the controller via the USB port.

Please refer to the software's specific documentation for detailed instructions on its usage. The software typically does not have a "delete" function for modes; instead, deleting a mode will make its name display space blank.

5.2 Controller Buttons

The controller features several buttons for basic operation and menu navigation:

- **Menu:** Accesses the main menu or navigates back.
- **Enter:** Confirms selections or enters sub-menus.
- **Up:** Navigates up through menu options or increases values.
- **Down:** Navigates down through menu options or decreases values.

These buttons allow for basic adjustments and viewing of current settings directly on the controller's display.

6. Maintenance

- Keep the controller in a dry environment, away from moisture and extreme temperatures.
- Clean the device with a soft, dry cloth. Do not use liquid cleaners or solvents.
- Ensure proper ventilation around the controller to prevent overheating.
- Regularly check wiring connections for security and integrity.

7. Troubleshooting

- **No Power:**
  - Check the power supply connection and ensure it is providing the correct DC 12V-24V voltage.
  - Verify the power adapter is plugged into a working outlet.
- **LEDs Not Lighting Up:**
  - Confirm all LED strip connections (V+, CH1-CH5) are correct and secure.
  - Ensure the LED strips themselves are functional.
  - Check the programmed schedule to ensure the output channels are set to be active.
- **Controller Not Responding to Software:**
  - Ensure the USB cable is securely connected to both the controller and the computer.
  - Verify that the correct driver for the USB port is installed on your computer.
  - Restart the host computer software and/or the controller.
- **Incorrect Lighting Effects:**
  - Review your programmed schedule in the host computer software for any errors.
  - Ensure the schedule was successfully downloaded to the controller.

8. Warranty and Support

For warranty information and technical support, please contact your retailer or the manufacturer directly. Keep your purchase receipt as proof of purchase.
Manufacturer: CONTIA
Model: TC420, TC421

Related Documents - TC420, TC421

	TC421 With WIFI Time Programmable Controller: Upper Machine Instructions Instructions for operating the TC421 With WIFI time programmable controller, covering software setup, project creation, mode configuration, and file management.
	4K UHD PTZ Camera User Manual Comprehensive user manual for the Zowietek 4K UHD PTZ Camera, detailing installation, features, technical specifications, remote control operations, network configuration, and troubleshooting guidance.