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› MALIIGAZA SP32 Motion Sensor LED Stair Controller User Manual

MALIIGAZA KLA-STEP-SP32

MALIIGAZA SP32 Motion Sensor LED Stair Controller User Manual

Model: KLA-STEP-SP32 | Brand: MALIIGAZA

1. INTRODUCTION

The MALIIGAZA SP32 is a 32-channel PIR motion sensor LED stair controller designed for dynamic staircase lighting. It provides automatic stair lighting with running flow effects for indoor stairway step lights. This intelligent controller features PIR sensors that activate lighting when movement is detected and deactivate it when no presence is sensed. A daylight sensor prevents the system from operating during daylight hours, optimizing energy use.

The controller supports up to 32 steps of dynamic lighting and is compatible with SPI LED strips for lateral flow or color-changing effects. Users can adjust brightness, speed, delay time, and side strip colors. An OLED display and 5-button interface simplify setup and operation, eliminating complex procedures.

Multiple light modes are available, including flowing, chasing, trailing, wave, and single step, with adjustable brightness and speed settings.

2. PACKAGE CONTENTS

Please verify that all items listed below are included in your package:

- 1x LED Controller (MALIIGAZA SP32)
- 2x PIR Sensors
- 2x Extension Cables (5m each)
- 1x Daylight Sensor
- 1x User Manual

Note: Power supply and LED strips are NOT included and must be purchased separately.

Package Overview

SP32 Stair Light Controller	2pcs PIR Sesor
2pcs 5m Extension cord	1pcs Daylight Sensor
Other accessories	

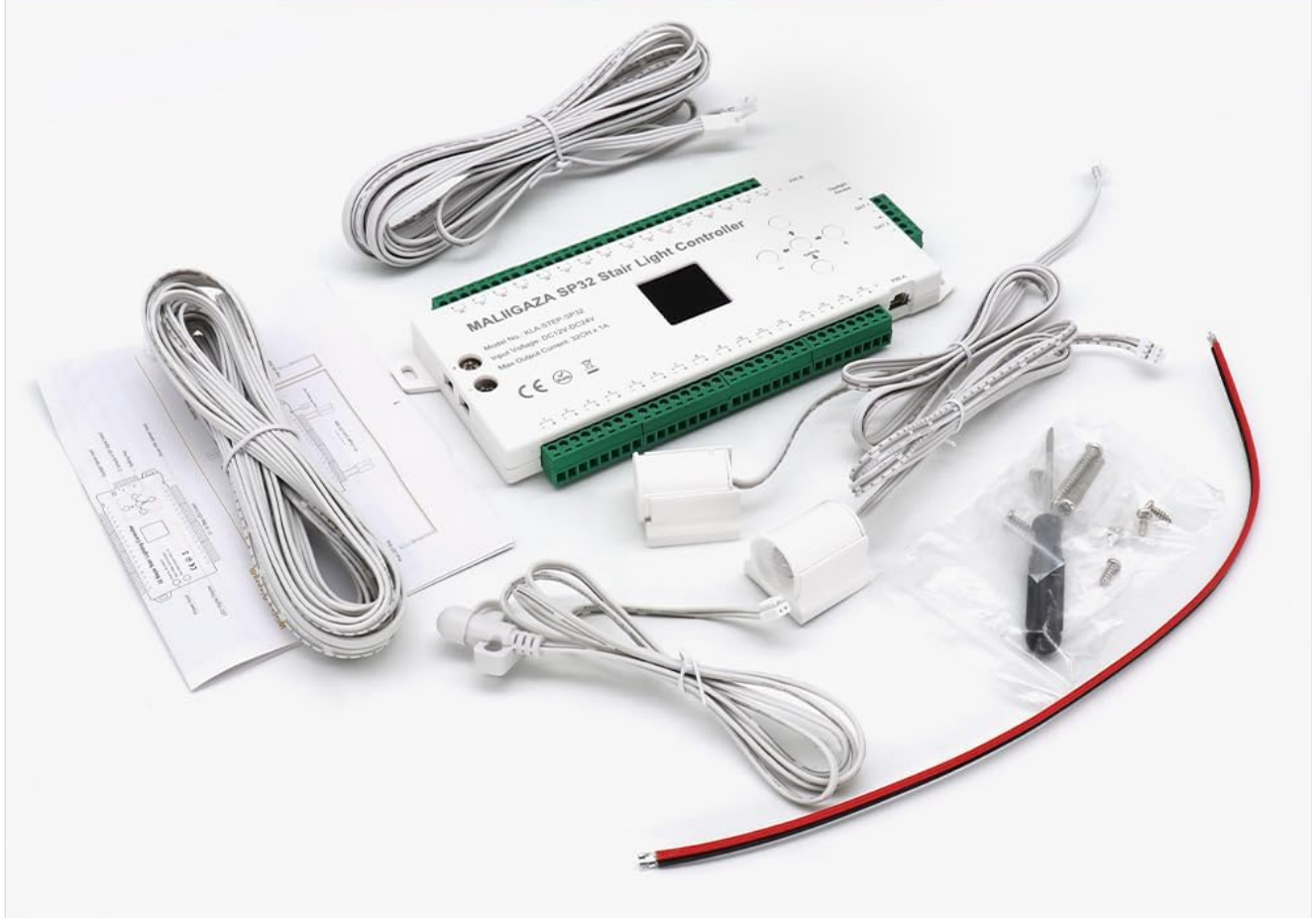


Figure 1: Package Overview showing the controller, PIR sensors, extension cables, and daylight sensor.

3. SAFETY INFORMATION

- Ensure the power supply voltage matches the voltage of the LED strips (e.g., 12V strips require a 12V power supply, 24V strips require a 24V power supply). Mismatching voltages can damage the LED strips.
- The power supply's capacity should be at least 80% higher than the total power consumption of all connected LED strips to ensure stable operation and longevity.
- Before powering on the system, carefully check all connections to ensure there are no short circuits.
- The system features an anti-leakage design for stable output and reliable use.

4. SETUP AND INSTALLATION

This section provides detailed instructions for wiring and installing your MALIIGAZA SP32 Stair Light Controller.

4.1. Wiring Diagram Overview

Installation Diagram

(LED Strips and Power Supply need to be purchased additionally!)

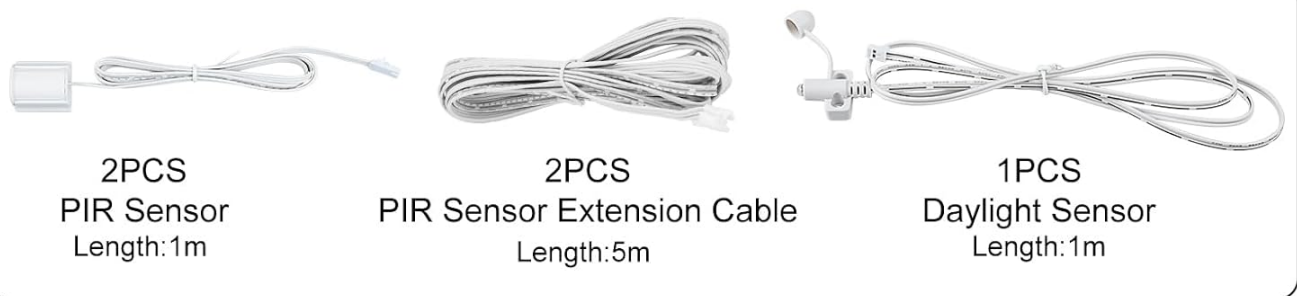
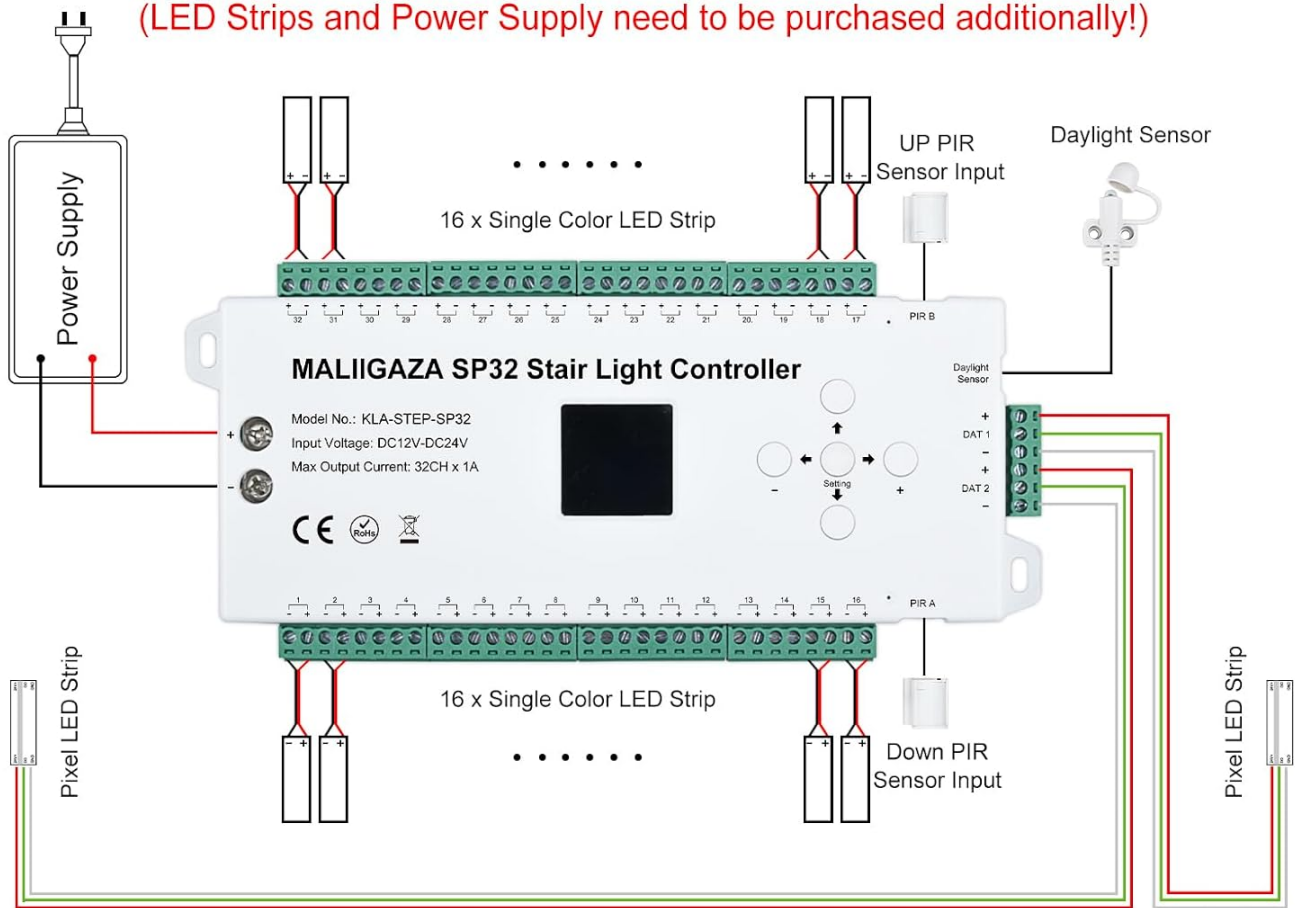


Figure 2: General Installation Diagram for the MALIIGAZA SP32 controller, showing connections for LED strips, PIR sensors, and daylight sensor.

4.2. Connecting PWM LED Strips (Step Lights)

The controller supports up to 32 channels for PWM LED strips, typically used for individual step lighting. Connect each step's LED strip to the corresponding terminal on the controller (1-32). Ensure correct polarity (positive to positive, negative to negative).



Figure 3: MALIIGAZA SP32 controller with connected PIR sensors, daylight sensor, and PWM LED strips for step lighting.

4.3. Connecting SPI LED Strips (Flow/Color Lights)

For lateral flow lighting or color effects, connect SPI LED strips to the dedicated DAT1 and DAT2 ports. Each port supports up to 400 pixels. Ensure the voltage of the SPI LED strips matches your power supply.

4.4. Sensor Connections

- **PIR Sensors:** Connect the two PIR sensors (PIR A and PIR B) to their respective inputs on the controller. PIR A is typically for the bottom of the stairs, and PIR B for the top. Use the provided extension cables if needed.
- **Daylight Sensor:** Connect the daylight sensor to its designated port. This sensor prevents the lights from activating during the day.

4.5. Power Supply Connection

Connect your DC12V-DC24V power supply to the controller's input terminals. Ensure the power supply's voltage matches your LED strips and its wattage capacity is sufficient (at least 80% greater than the total LED strip wattage).

4.6. Optional Panel Switch

An optional panel switch can be integrated for manual control. When using a panel switch, the daylight sensor and PIR sensors will not function. The panel switch allows for ON/OFF control and brightness adjustment (10 levels for short press, 2-100% for long press).

PANEL SWITCH (OPTIONAL)

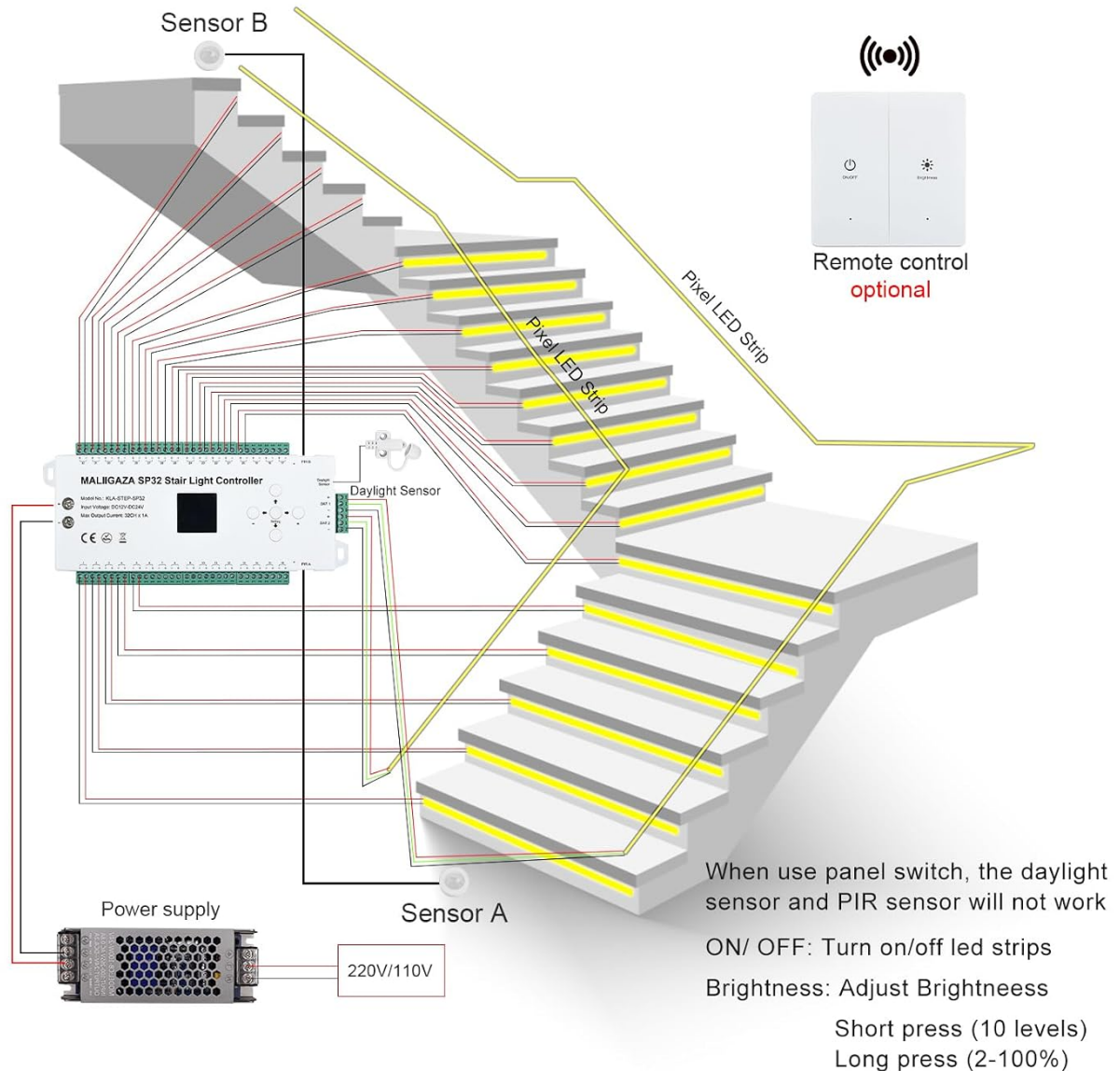


Figure 4: Wiring diagram for an optional panel switch, which provides manual control over the lighting system.

4.7. Installation Video Guide

For a visual guide on installation and basic operation, please refer to the official instruction video:

Video 1: Instructions for MALIIGAZA Motion Sensor LED Stair Controller. This video demonstrates the wiring process and initial setup steps.

5. OPERATING MODES

The MALIIGAZA SP32 controller offers various lighting modes to suit different preferences:

- **White Step Mode:** Individual steps light up in sequence with white light.
- **White Step + Color Flow Mode:** Individual steps light up with white light, while side SPI strips display a flowing color effect.
- **White Step + White Flow Mode:** Individual steps light up with white light, while side SPI strips display a flowing white light effect.
- **Color Step Mode:** Individual steps light up in sequence with various colors (requires complex wiring with RGB SPI LED strips for each step, generally not recommended for simplicity).

Brightness and speed are adjustable for most modes.

4 WORKING MODES

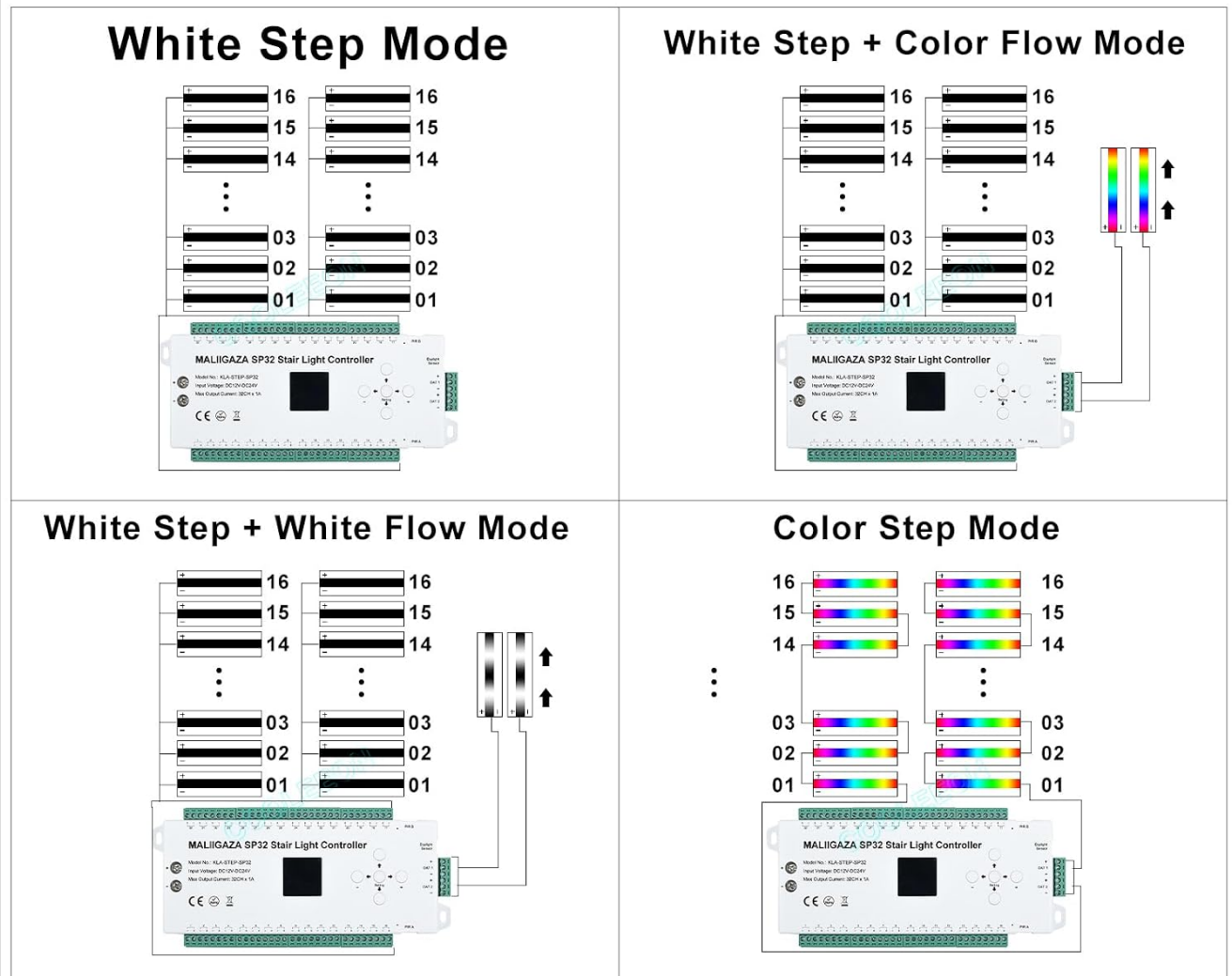


Figure 5: Visual representation of the four primary working modes available on the SP32 controller.

6. OPERATION AND SETTINGS

The controller features an OLED display and five buttons for navigation and configuration.

6.1. Button Operations

- **"Left" (-):** Short press to decrease value by 1. Long press to automatically decrease. In running interface, long press switches step function ON/OFF.
- **"Right" (+):** Short press to increase value by 1. Long press to automatically increase. In running interface, long press switches flow function ON/OFF.
- **"Up" (↑):** Press to move parameter up. Short press in running interface adjusts Brightness (+).
- **"Down" (↓):** Press to move parameter down. Short press in running interface adjusts Brightness (-).
- **"Setting":** Long press to enter parameter settings. Short press to navigate to the next mode/setting. Long press to save changes.

To change turn on modes: Press "Setting" and "Left" key together in the running interface. To change turn off

modes: Press "Setting" and "Right" key together in the running interface.

To match an upstairs panel: Long press "Setting" and "UP" together. To match a downstairs panel: Long press "Setting" and "Down" together.



Figure 6: Diagram illustrating the function of each button on the controller's interface.

6.2. Step Mode Configuration

Long press "Setting" to enter Step Mode configuration. Use "Up" and "Down" to select parameters, and "Left" and "Right" to adjust values. Short press "Setting" to move to the next parameter. Long press "Setting" to save all changes.

- **Step:** 1-32 steps
- **Brightness (Bri):** 2-100%
- **Speed:** 0.1-2 seconds (0.05s per level)
- **Time Delay:** 10 levels (5s, 10s, 20s, 30s, 45s, 1M, 3M, 5M, 10M, OFF)

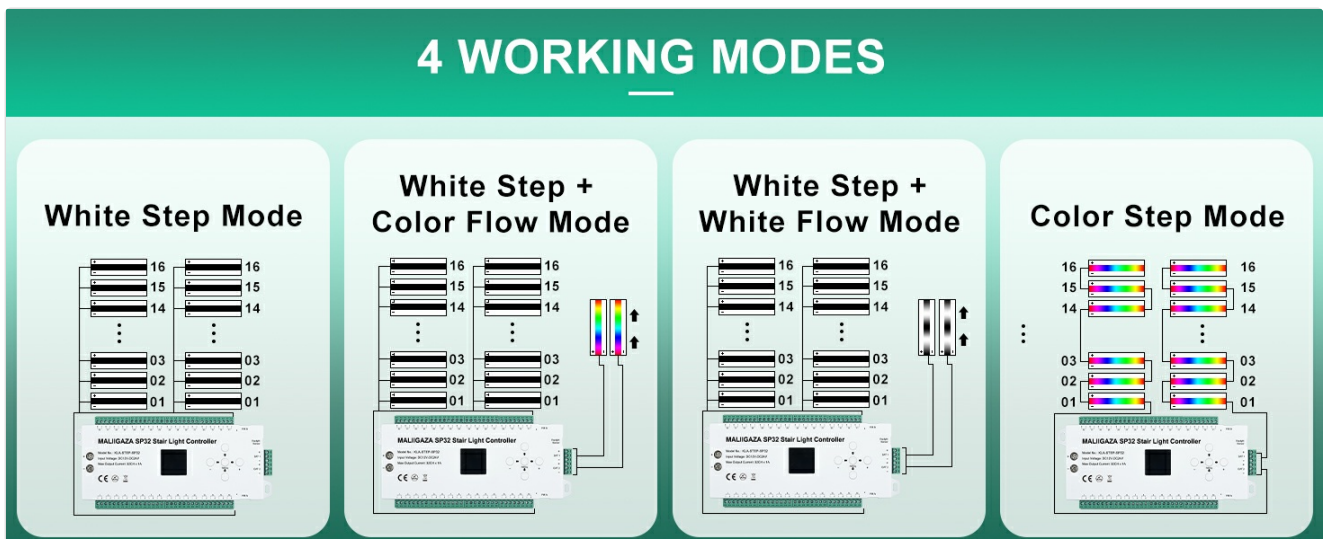


Figure 7: OLED display showing Step Mode configuration options.

6.3. Pixel Mode Configuration (for SPI Strips)

This mode allows configuration of SPI LED strips for flow effects.

- **Pixel Quantity:** 2-400 pixels
- **Channel:** 1-5 CH (1CH/single color, 2CH/CCT, 3CH/RGB, 4CH/RGBW, 5CH/RGBWW)

- **Brightness:** 2-100%
- **Color:** 12 types (Red, Orange, Yellow, Green, Cyan, Blue, Purple, White, Color Jump, Color Gradient, Color Chase, DIY)
- **Sort:** 6 sorts (RGB, RBG, GRB, GBR, BRG, BGR)

Key Operations

1. "Left-": short press to decrease by 1, long press to automatically decrease (Long press this key in the running interface to switch the step function on and off)
2. "Setting": long press to enter parameters setting
3. "Right+": short press to increase by 1, long press to automatically increase (Long press this key in the running interface to switch the flow function on and off)
4. "UP": press to move the parameter up (Short Press this key in the running interface to adjust Brightness+)
5. "Down": press to move the parameter down (Short Press this key in the running interface to adjust Brightness-)
6. Press "Setting" and "Left-" key together in the running interface to change the turn on modes
7. Press "Setting" and "RightV+*" key together in the running interface to change the turn off modes
8. Long press "Setting" and "UP" together to match upstairs panel
9. Long press "Setting" and "Down" together to match downstairs panel

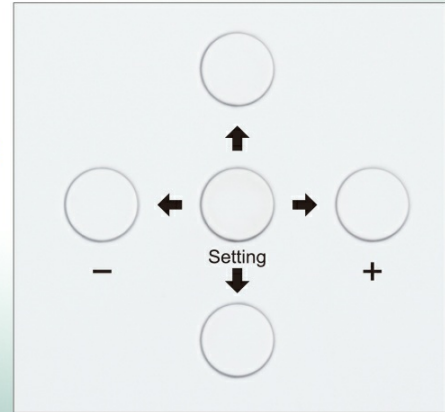


Figure 8: OLED display showing Pixel Mode configuration options for SPI LED strips.

6.4. System Settings

Configure general system parameters:

- **Font Color:** 64 types
- **Background Color:** 64 types
- **CDS (Daylight Sensor Sensitivity):** 8 levels (5, 15, 30, 50, 75, 100, 150, OFF). With sufficient ambient light, the PIR sensor will not turn on the light if CDS is active. The digital value after '/' is the current detected LUX value.
- **Temperature:** 45-95°C (If operating temperature is too high, the controller will reduce light brightness).
- **Language:** Chinese / English
- **Restore Defaults:** NO / YES

1. Step Mode



1. Step: 1-32 steps
2. Brightness: 2-100%
3. Speed: 0.1-2S (0.05s per level)
4. Time Delay: 10 levels (5S, 10s, 20S, 30S, 45S, 1M, 3M, 5M, 10M, OFF)

Long press "setting" key to enter step mode, Use "up and down" key to select the parameters that you want to adjust, and use "left and right" key to add and subtract. Short press "setting" key to enter next mode; long press "setting" key to save all.

Figure 9: OLED display showing System Configuration options.

6.5. Channel Settings

This setting allows individual control over each channel (step). Use "Left" or "Right" to choose a step, and "Down" to

set it to ON, BAD (broken), or OFF. Long press "Setting" to save.



Figure 10: OLED display showing Channel Configuration options for individual step control.

7. MAINTENANCE

To ensure optimal performance and longevity of your MALIIGAZA SP32 Stair Light Controller:

- Keep the controller and sensors clean and free from dust. Use a soft, dry cloth for cleaning.
- Avoid exposing the unit to excessive moisture or extreme temperatures.
- Regularly check wiring connections for any signs of wear or looseness.
- Do not attempt to open or repair the controller yourself, as this may void the warranty and pose a safety risk.

8. TROUBLESHOOTING

- **Lights not turning on:** Check all power connections, ensure the power supply is functioning, and verify that the PIR sensors and daylight sensor are correctly connected and not obstructed. Check the CDS setting in System Settings.
- **Incorrect lighting behavior:** Review the configuration settings for Step Mode and Pixel Mode to ensure they match your desired effects.
- **OLED Display Inoperable:** If the OLED display does not show any information or appears dead, ensure the controller is receiving power. If the issue persists, contact customer support.
- **LED Strips Damaged/Not Working:** Always ensure the power supply voltage precisely matches the voltage requirements of your LED strips. Connecting a 12V strip to a 24V power supply (or vice-versa) will damage the strips.
- **System Overheating:** The controller has a temperature monitoring feature. If the operating temperature exceeds 95°C, the controller will reduce light brightness. Ensure adequate ventilation around the controller and power supply.

9. SPECIFICATIONS

Feature	Detail
Model Number	KLA-STEP-SP32
Brand	MALIIGAZA
Input Voltage	DC12V-DC24V
Max Output Current	32CH x 1A
Material	Plastic
Display Type	OLED
Operating Temperature	0.03 (This value seems incorrect or incomplete from source data, typically a range is provided)
Included Components	1x LED Controller, 2x PIR Sensors, 2x Extension Cables, 1x Daylight Sensor
Color	Black

10. WARRANTY AND SUPPORT

MALIIGAZA is committed to providing quality products and customer satisfaction. For any installation assistance, troubleshooting, or after-sales service, please contact MALIIGAZA customer support. We offer 24-hour support to address your needs.

For more information about MALIIGAZA products, visit the official [MALIIGAZA Store on Amazon](#).

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