Car Interior Ambient Led Controller User Manual

SP31E is a highly specialized LED controller designed specifically for LED decorations within the vehicle cabin. It's independently developed brand-new visual APP interface is tailored for automotive styling, providing users with an exceptional lighting atmosphere experience and convenient operation.

Controller Description

1.Product Features

- **Visual APP Interface**: Intuitive and user-friendly user experience
- **Precise Lighting Effects**: Delivers lighting effects tailored to users' needs
- **Supports Automatic Firmware Upgrades**: Remote firmware updates ensure optimal performance of lighting effects
- **No Need to Distinguish Between Models/Versions**: Simplifies product management and facilitates system operation
- **Lamp Voltage Compatibility**: Supports various voltage requirements of different lamp types
- **Whole Vehicle Control Capability**: Enables control of all Partitioned zones
- **SPI+PWM Dual Lamps**: Achieves a wider range of lighting effects
- **Various Optional Control Methods**: Satisfies the atmosphere needs in different settings
- **Equipped with Cloud Management Cloud**: Ensures the stability and security of the cloud platform
- **Cutting off the power supply to the lighting fixtures**: Reduces energy consumption and extends lifespan
- **Supports Lamp Color Calibration**: Achieves uniform color across various lighting fixtures
- **Password Management Function**: Enhances the system's security

2.Controller Optional Combination Methods

Serial Number	Configuration Method	Controller Combination Method
Method 1	Whole Vehicle Configuration	Central Control *1 + Doors *4
Method 2	Central Control Configuration + Door Configuration	Central Control *1
Method 3	Doors Standalone Configuration	Doors *4

Notes:

1.Each central control controller can control: Central Control Light SPI + Footwell Light PWM.
2.Each door controller can control: 1 Door Light SPI + 1 Storage Light PWM.

APP User Instructions

1.APP Download Instructions

Method 1: Scan the QR code on the left to download and install.
Method 2: Search for "Ambient" in the App Store or Google Play to download and install.
(Compatible with iOS 13 and above, Android 4.4 and above systems)

2.APP Connection to Controller Process

1 Adding the First

Click the "+" in the top-right corner of the APP homepage, select "Add vehicle" and the name of the controller you need to add from the search list.

When there are multiple controllable vehicles and controllable devices will be found, they need to be selected one by one sequentially.

2 Create a New Vehicle

When adding for the first time, you need to create a new vehicle first, enter the vehicle name, and click save to complete the vehicle creation.

3 Select the Installation Area for the First Controller

The light strip controlled by the controller being added will flash in white quickly, indicating the installation area corresponding to the APP, select the area corresponding to the actual installation area (ensure the correct installation area based on the light prompt).

Light front door

After successful addition, you will directly enter the control interface. The controller you just added will be automatically set as the default, and a "D" identifier will be displayed in front of the area name.

4 Adding the Second Controller

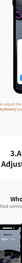
Return to the homepage and add the second controller following the steps mentioned above.

Then select the vehicle that has already been created.

5 Select the corresponding installation location on the APP's interface based on the area according to the actual installation position (based on the light prompt).

Apart from the first controller added as the master controller by default, all other controllers, upon successful addition, will be considered sub-controllers. Sub-controllers can be assigned to areas, ensure the area in the APP interface matches the actual location of the controller.

Add all vehicle controllers following the above method.



6 After successful addition, you will re-enter the control interface.

You can adjust the lighting effects through **[Dynamic]**, **[Solid]**, **[Rhythmic]** based on the vehicle's whole or partitioned location.

3.APP Vehicle Light Adjustment Instructions

Whole Vehicle Mode

Unified control of the entire vehicle's lighting

You can control the lighting by switching between **[All]**, **[Whole]**, **[Area]**, and Whole - **[Area]**.

Areas Mode

Independent control of vehicle area lighting

You can independently control partition lighting by switching C_P , FW , DM, SG.

4.APP Settings Instructions

1. **Rename:** Allows modification of the vehicle name.
2. **Device:** Use can select the vehicle controller to delete the device or upgrade its firmware.
3. **Color Calibration:** Select the corresponding position of the lamp for color calibration, preventing issues like inaccurate light colors.
4. **Device Password:** Management of the car light's security password.

Controller Parameters

1.Controller Ports and Parameters

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Note: Four types of lamp voltage combinations are available for selection.

Input Power DC12V	Working Current 15mA
Lamp Type SPI type lamps: Three-channel RGB color mapping; conventional single-line zero-code driven lamps PWM type lamps: 3CH PWM PCM lamps	
SPI Lamp Voltage 5V or 12V (optional)	PWM Lamp Voltage 5V or 12V (optional)
PI Lamp Power Switch Cuts off the power supply to the lamps when turned off	Maximum Total Output Current MAX 2A (Total current for SPI+PWM lamps)
Port Power Output 5V@A-CC/CV	Enclosure Dimensions 64mm*52mm*15mm

FCC Caution:
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception,which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.
To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum distance between 20cm the radiator your body.Use only the supplied antenna.