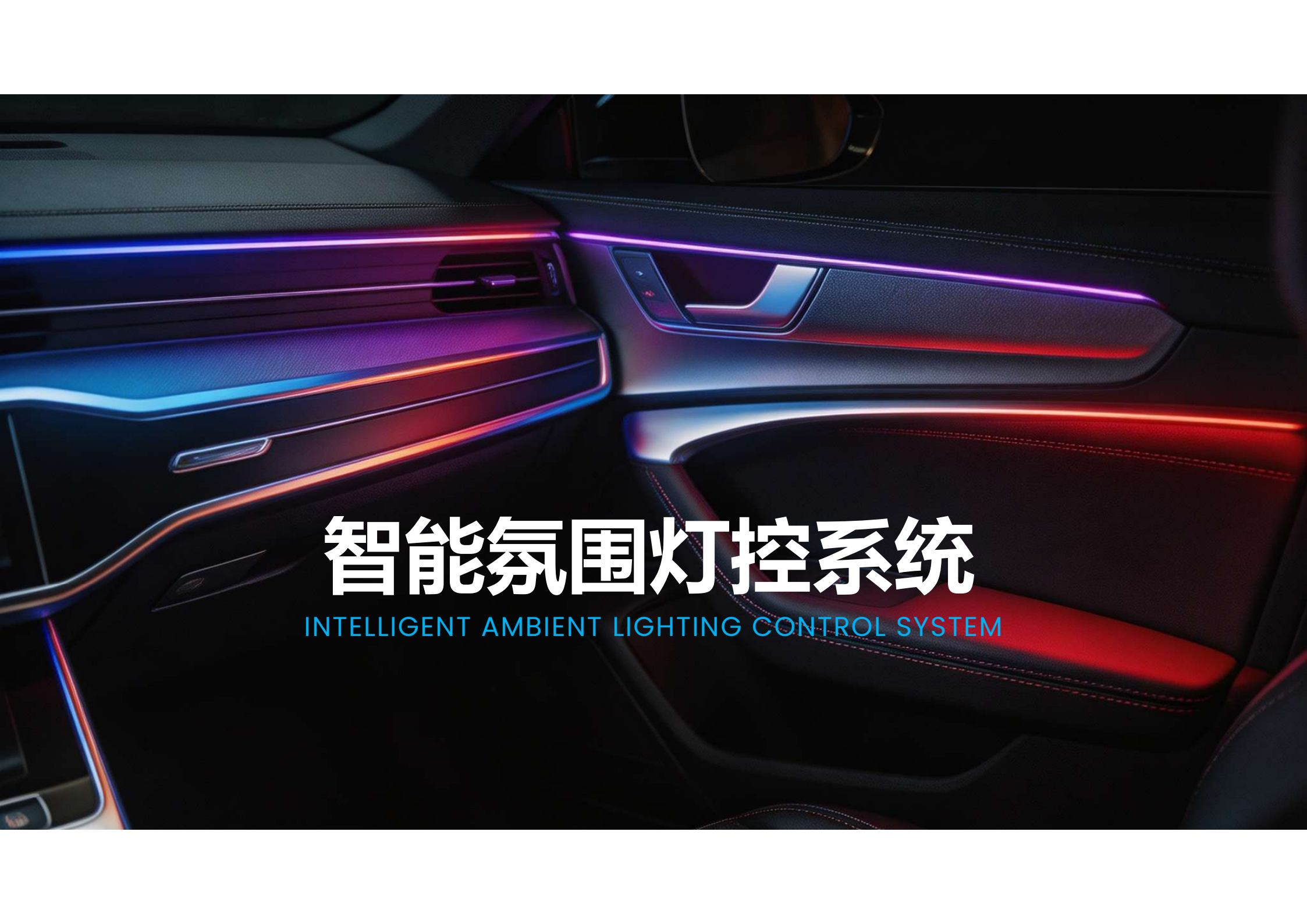




智能氛围灯控系统

INTELLIGENT AMBIENT LIGHTING CONTROL SYSTEM

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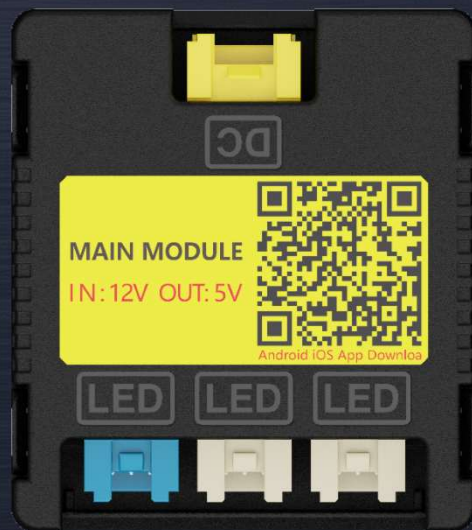
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产品规格 PRODUCT SPECIFICATION



Compact Design • High Efficiency • Wide Compatibility



产品名称/ Name

GQ-FWD-Q1



输入电压/ Input:**5-16V**

输出电压/ Output:**4.3V**



输出电流/ Out:**1.5A**

工作电流/ Op:**< 2A**



转换效率/ Eff: **> 85%**

产品尺寸/ Size:**55×49×13mm**



控制方式/ Control

APP + 物理按键(Buttons)



温/湿度: -40~+105°C | 10-95%RH

Wide temp range operation

核心技术 CORE TECHNOLOGY



蓝牙无线组网

本汽车氛围灯集成控制驱动系统采用蓝牙无线组网技术，支持多通道独立控制，主控可联动多子控，实现全域无线组网，免穿线安装。

Bluetooth Wireless Networking: This system utilizes Bluetooth technology, supporting multi-channel independent control and full-domain wireless networking, eliminating the need for wiring.



RGB独立控制

支持呼吸、渐变、律动等多种动态模式，提供7色及64色丰富色彩选择，分区1、分区2可根据需求独立选择与控制，满足个性化场景。

Independent RGB Control: Supports breathing, gradient, rhythm modes with 7/64 colors, and independent control for Zone 1 & 2.



RGB+幻彩混合

实现RGB与幻彩模式在指定区域的混合运行，支持呼吸、渐变等多种模式与多色彩选择，分区独立控制，丰富灯光层次与视觉体验。

RGB + Magic Color Mixing: Allows RGB & Magic Color modes to work together in designated areas, with independent zone controls for richer effects.

核心技术 CORE TECHNOLOGY

全幻彩模式

全幻彩模式提供200多种样式，可任意选择搭配，打造专属光影效果。

Full Magic Color Mode: Offers over 200 styles for arbitrary selection and combination.

智能开关控制

支持全车、前排、后排、迎宾、预警及氛围灯的独立开关控制，便捷随心。

Intelligent On/Off Control: Supports on/off control for All, Front, Rear, Welcome, Warning, and Ambient Light.

驱动设置

APP可智能对四门驱动进行定位选择，同时支持OTA远程升级，功能持续迭代。

Driver Settings: The APP can intelligently select positioning for four doors and supports OTA upgrades.

控制设置

RGB/幻彩/律动模式支持1-9档速度调节；全局及分区亮度支持10-100档调节。

Control Settings: Supports speed (1-9 levels) & brightness (10-100 levels) adjustments for modes/zones.

参数设置

主副控驱动LED光源灯数可在8-300灯范围内自由调节，灵活适配不同像素点需求。

Parameter Settings: LED light count adjustable from 8 to 300 to fit different pixel requirements.

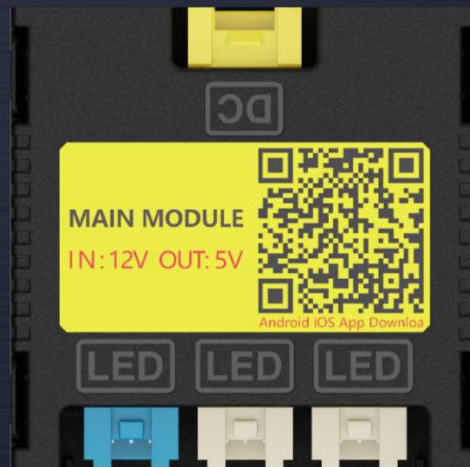
背景设置

支持对一级及二级页面进行背景桌面的个性化选择与设定，打造专属APP界面。

Background Settings: Allows personalized selection of background wallpapers for a customized interface.

接口定义 INTERFACE DEFINITION

主控模块
Main Controller



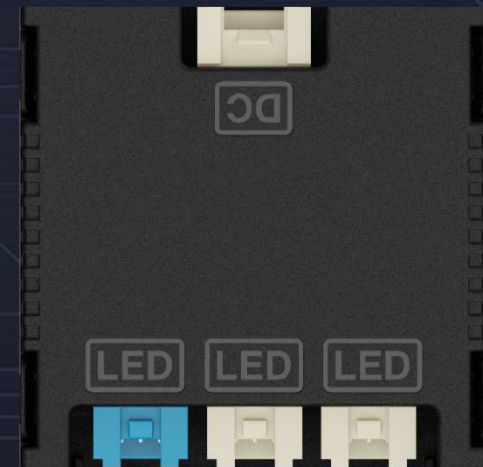
HY2.0-4P:黄色、米色线为主副控电源输出。

Yellow and beige wires are for main and sub-controller power output.

HY2.0-3P:蓝色线接 LED 刀片灯条；米色线为拉手灯、储物灯、脚底灯电源输出。

The blue wire connects to the LED blade light strip; the beige wire is for power output to handle lights, storage lights, and footwell lights.

子控模块
Sub Controller



HY2.0-4P:黄色、米色线为主副控电源输出。

Yellow and beige wires are for main and sub-controller power output.

HY2.0-3P:蓝色线接 LED 刀片灯条；米色线为拉手灯、储物灯、脚底灯电源输出。

The blue wire connects to the LED blade light strip; the beige wire is for power output to handle lights, storage lights, and footwell lights.

APP说明 APP INTRODUCTION

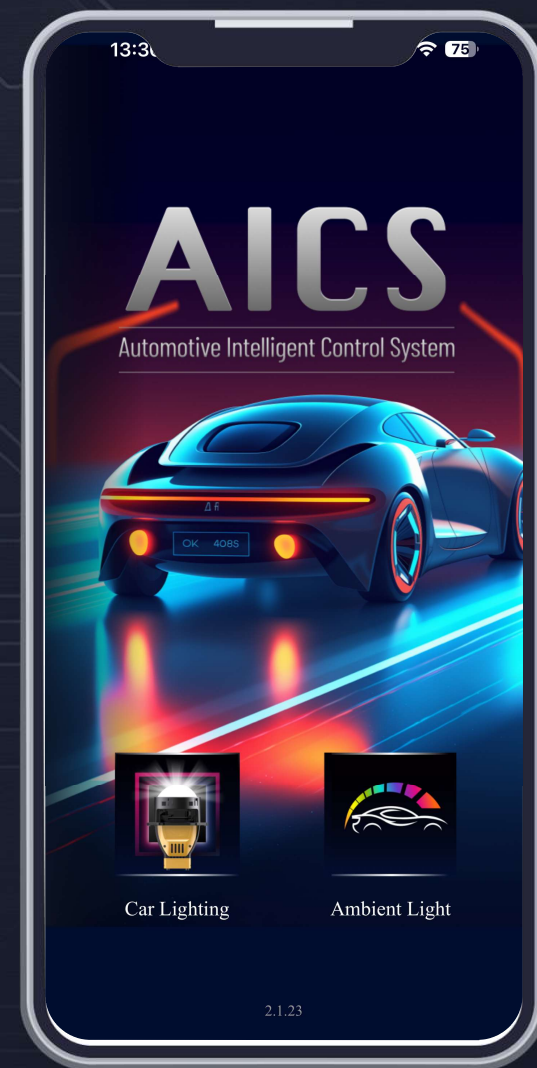
应用程序选择

Application Selection

系统入口 · 场景选择

显示应用程序选择界面，这是用户进入系统控制的第一步。界面提供“Car Lighting”（车载灯光）与“Ambient Light”（氛围灯光）两种模式，用户可根据实际场景灵活切换，实现不同的智能灯光控制需求。

Displays the application selection interface where users can choose between "Car Lighting" or "Ambient Light". This is the first step for users to enter the system control, providing an intuitive and streamlined user experience.



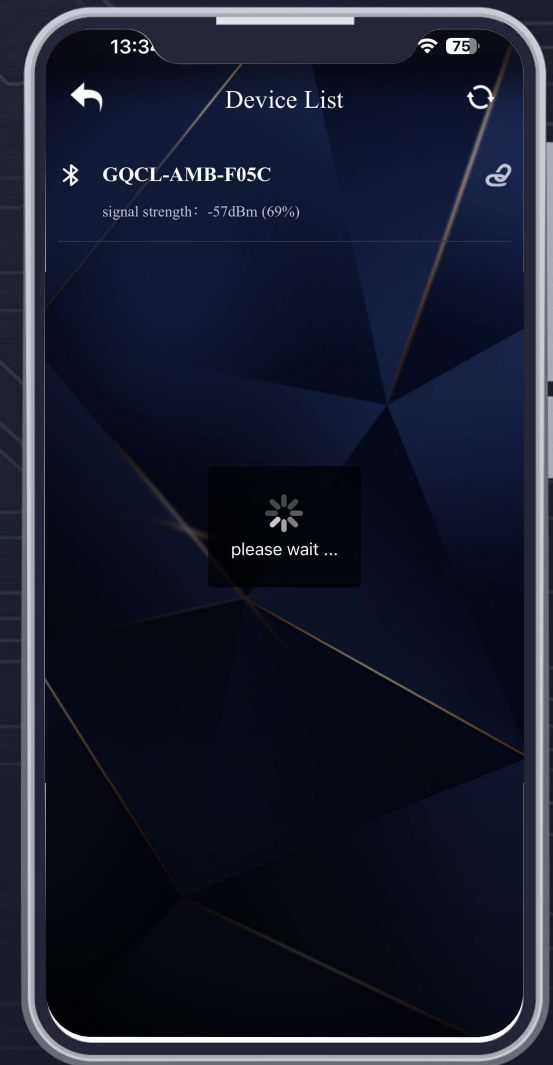
APP说明 APP INTRODUCTION

搜索设备蓝牙连接

Device Search & Bluetooth Connection

进入应用后，系统将自动扫描并展示附近处于配对状态的蓝牙设备列表。界面清晰展示设备名称与信号强度，用户只需在列表中找到目标设备（如 GQ-FWD-Q1）并点击，即可快速发起连接，建立稳定的通讯链路，无需记忆复杂的配对码。

After launching the app, the system automatically scans and displays a list of nearby Bluetooth devices in pairing mode. The interface clearly shows device names and signal strength. Users simply find the target device (e.g., GQ-FWD-Q1) in the list and tap to initiate a connection, establishing a stable communication link without the need to remember complex pairing codes.



APP说明 APP INTRODUCTION

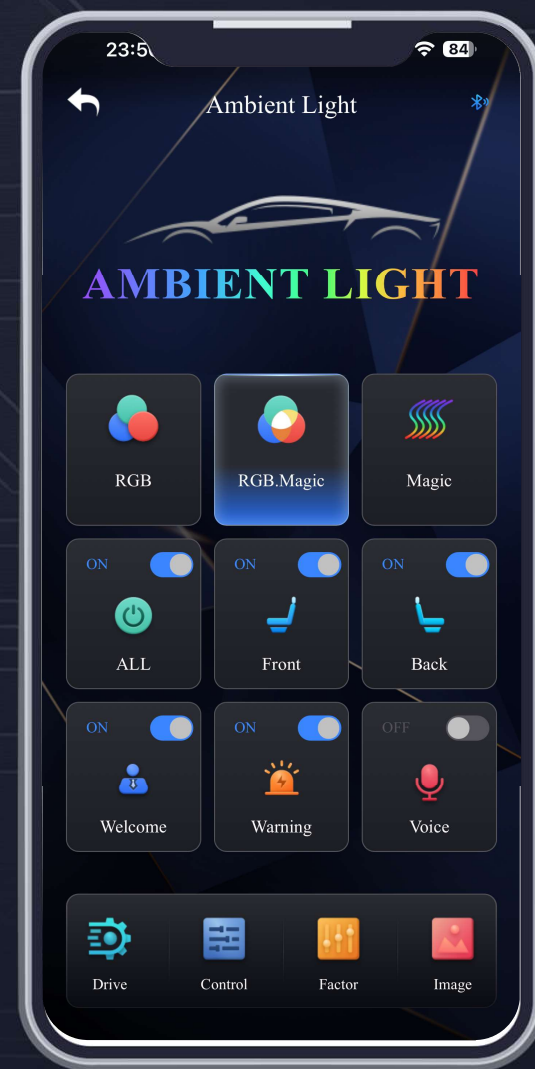
APP控制中心

APP Control Center

成功连接后，用户将进入APP的核心——**控制中心**，这是管理氛围灯所有功能的总入口。界面布局经过精心设计，直观易用。

顶部区域集中展示三种核心灯光模式的切换按钮：**RGB基础模式**、**RGB+幻彩模式**、**全幻彩模式**，方便用户快速切换灯光氛围；下方则排列了一排高频使用的快捷开关，支持一键控制全车、前排或后排灯光，以及迎宾、预警、语音控制等特色功能。

Upon successful connection, users enter the Control Center, the main hub for managing all functions of the ambient lighting system. The interface is clearly laid out for intuitive operation. It features top-section mode selections for RGB, RGB+Magic, and Full Magic lighting, plus shortcut switches below for one-tap control of All, Front, Back, Welcome, Warning, and Voice-Controlled lighting.



APP说明 APP INTRODUCTION



RGB控制页面 RGB Control Page

功能概览 · 多元化色彩与分区控制

集成直观的RGB全色域色盘，支持快速切换**7色**、**64色**等静态模式。同时提供**呼吸**、**渐变**、**音乐律动**等多种动态光影效果。用户可灵活选择对“全局”灯光，或独立的“分区1”、“分区2”进行精细化控制，满足不同场景的氛围需求。

Page Description

Provides a full-color RGB color picker, and preset static mode options such as 7-Color and 64-Color. It also includes dynamic lighting effects like Breathing, Gradient, and Music Rhythm Sync. The interface supports independent control for the entire system, Zone 1, or Zone 2, enabling users to create customized lighting schemes for diverse scenarios.

APP说明 APP INTRODUCTION



RGB+幻彩控制页面

RGB& Magic Control Page

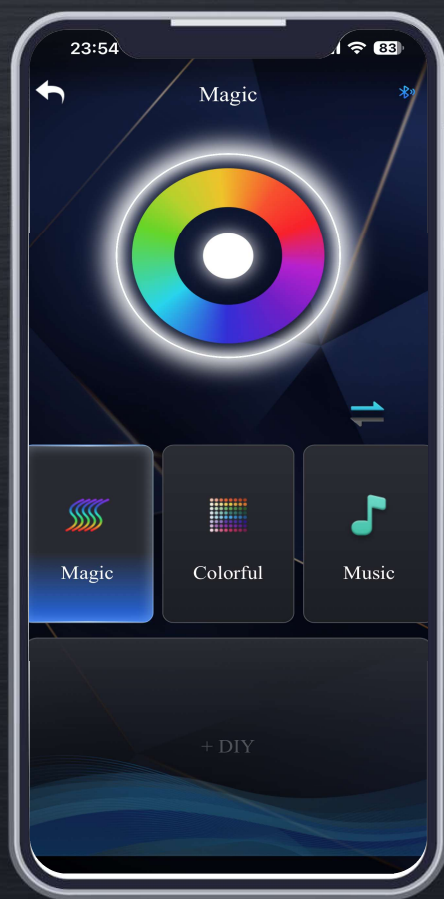
双重模式，随心掌控

此页面为用户提供了直观且强大的灯光控制体验，支持同时开启并调节“RGB静态模式”与“幻彩动态模式”。您可以自由组合出层次感丰富的灯光场景，既保留了个性化的色彩基调，又增添了流动的光影变幻。

APP Introduction - RGB & Magic Control

A unified control interface designed to seamlessly blend static RGB colors with dynamic Magic Color effects. This unique feature allows users to create layered lighting scenes by activating both modes simultaneously, ensuring a more immersive and visually stunning in-car atmosphere.

APP说明 APP INTRODUCTION



全幻彩控制页面

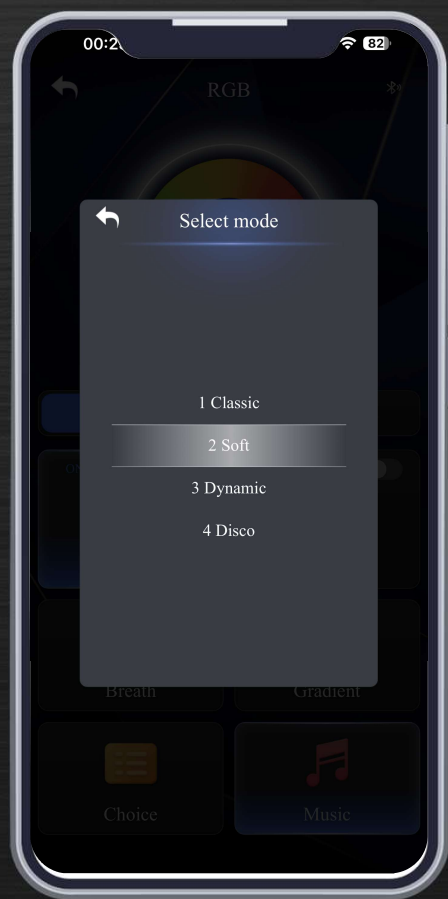
Magic Color Control Page

沉浸式灯光效果中心

专门用于控制全幻彩模式，汇集超过200种预设幻彩样式，提供丰富的色彩变换效果与音乐律动选项，满足从静谧氛围到派对狂欢的多元化场景需求。

Dedicated to controlling the full Magic Color mode, this page gathers more than 200 preset magic color styles. It provides a rich variety of color transformation effects and music rhythm options to meet diverse scene needs, from a quiet atmosphere to a party carnival.

APP说明 APP INTRODUCTION



RGB音乐律动弹窗

RGB Music Rhythm Popup

📌 功能描述 | Function Description

显示RGB音乐律动的模式选择弹窗，提供四种不同的灯光律动风格，通过差异化的闪烁频率与色彩逻辑，适配从舒缓到激烈的各类音乐场景。

Displays a popup for selecting RGB music rhythm modes, offering four different lighting styles with varied flash frequencies and color logic to match music from soothing to intense.

🎵 律动模式 | Rhythm Modes



经典Classic



柔和Soft

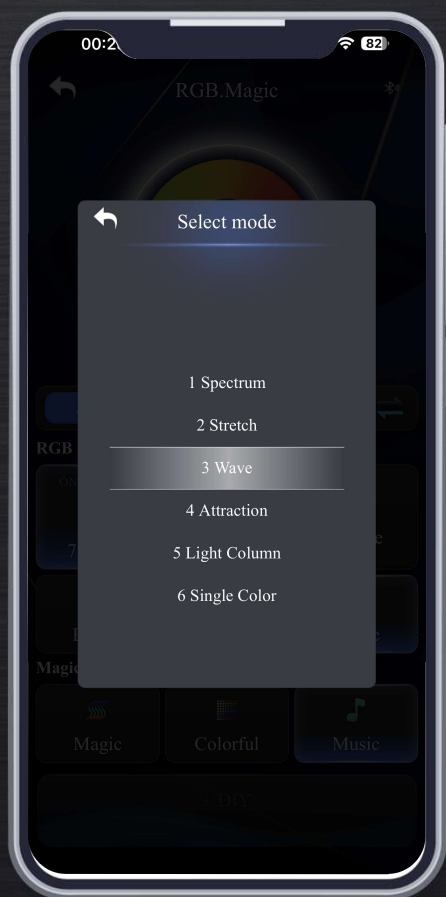


动感
Dynamic



迪斯科
Disco

APP说明 APP INTRODUCTION



幻彩音乐律动弹窗

Magic Color Music Rhythm Popup

多样化律动模式，随心切换视觉体验

通过模式选择弹窗，用户可以便捷地切换多种动态灯光效果。无论是跟随旋律流动的光谱、起伏的波浪，还是富有张力的拉伸与吸引效果，每种模式都精心调校，旨在完美呼应音乐的节奏与情感。

光谱 Spectrum

吸引 Attraction

光柱 Light Column

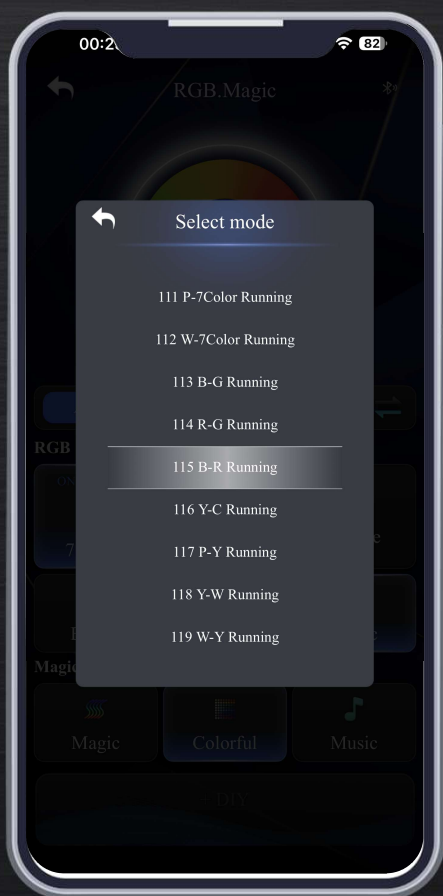
单色 Single Color

波浪 Wave

拉伸 Stretch

Displays a popup for selecting Magic Color music rhythm modes, including Spectrum, Stretch, Wave, Attraction, Light Column, Single Color, etc. These dynamic visual effects synchronize with the beat and melody of music, creating an immersive audio-visual experience.

APP说明 APP INTRODUCTION



幻彩模式选择弹窗

Magic Color Mode Selection Popup



丰富的预设模式列表

弹窗集中展示了APP内置的全部幻彩灯光方案，用户可直观浏览并一键切换。除基础的单色静态外，更提供了**七彩跑马**、**蓝绿跑马**、**蓝红跑马**等多种色彩与动态结合的预设效果，满足不同场景下的个性化需求。



Displays an extensive list of Magic Color modes, allowing users to browse all preset lighting schemes in one place. It supports various dynamic effects including **P-7-Color Running**, **B-G-Running**, **B-R-Running** etc., enabling one-click switching for different lighting ambiances.

APP说明 APP INTRODUCTION



驱动设置页面 Driver Settings Page

页面描述

允许用户对车辆四门（前左、前右、后左、后右）的驱动进行定位选择和子设备配对。此功能是系统完成初始化配置的关键步骤，通过直观的界面，让用户能轻松将软件逻辑与硬件物理位置一一对应。

Page Description

Allows users to select the positioning for the drivers of the vehicle's four doors (LF-Door, RF-Door, LR-Door, RR-Door) and pair sub-devices. This feature is a critical step for the system to complete its initial configuration, enabling users to easily map software logic to hardware physical locations via an intuitive interface.

APP说明 APP INTRODUCTION



控制设置页面 Control Settings Page



页面功能描述

提供了丰富且直观的灯光参数调节功能，支持用户对灯光效果进行精细化控制。通过直观的滑块交互，用户可自由设定**RGB变换速度**与**幻彩模式速度**，以匹配不同的氛围节奏；还可调整音乐律动的**节拍敏感度**，让灯光随音乐实时律动。此外，系统支持将灯光分为“全局、分区1、分区2”进行独立的**亮度调节**，满足复杂的个性化场景需求。

Provides detailed adjustment sliders for a wide range of lighting parameters. Users can freely set the RGB and Magic effect speeds to match different moods, and adjust the music tempo sensitivity to synchronize the lighting with the rhythm of the music in real-time. Furthermore, it supports independent brightness control for "All, Zone 1, and Zone 2", enabling flexible customization for various scenarios.

APP说明 APP INTRODUCTION

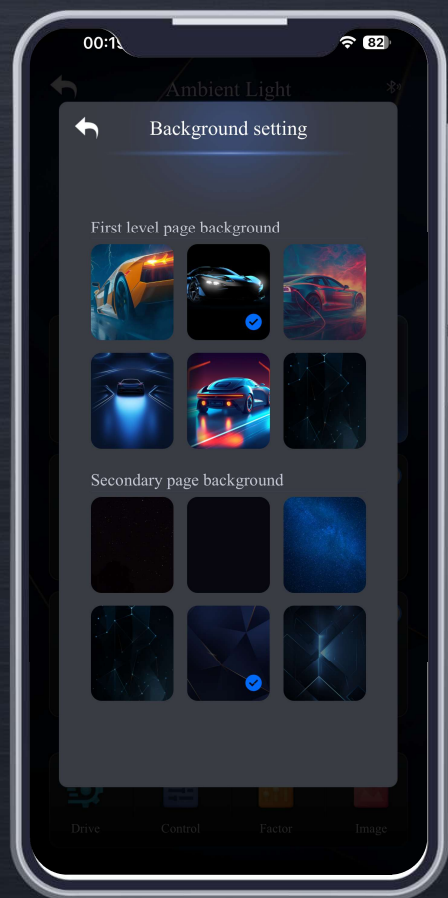


参数设置页面 Factor Settings Page

允许用户对中控、四门以及最多4个子设备的LED灯珠数量进行详细设置。通过精准配置灯珠数量，确保灯光动态效果的完美呈现，适配不同车型与个性化改装方案，是实现灯光控制标准化与个性化的关键一环。

Page Description: Allows users to set the number of LED lights in detail for the Central Control Unit, four car doors, and up to 4 sub-devices. Correctly setting the number of LED beads is the premise to ensure that all lighting effects, especially dynamic effects such as chasing RGB lighting, can be perfectly displayed.

APP说明 APP INTRODUCTION



背景设置页面

Background Setting Page



个性化背景定制

允许用户根据个人喜好，自由选择并设置 APP 一级页面与二级页面的背景图片，打造独一无二的视觉风格，让每一次打开都充满新鲜感。

Page Description: Allows users to personalize the background images for the first-level and secondary pages. Customize your own style and make every opening fresh.

质量标准 QUALITY STANDARDS



FLAME RETARDANT

等级标准: **UL94 V-2**



DUST & WATER PROOF

防护等级: **IP40**



EMC COMPLIANCE

ISO 7637-2 · FCC ID+IC
CE-RED · RoHS

质保周期 WARRANTY PERIOD



保修服务Warranty Service

本产品自购买当日起，享有**12个月**免费保修服务。

保修期内，凡经检测确认为非人为因素造成的质量故障，我们将为您提供免费维修或新品更换服务，保障您的权益与使用体验。

This product comes with a 12-month free warranty from the date of purchase. During the warranty period, non-human-induced quality failures are eligible for free repair or replacement.



免责范围Exclusions

① **人为损坏**：摔落、碰撞、进水、私自拆解或改装产品等人为操作不当导致的故障。

Damage caused by dropping, water ingress, unauthorized disassembly, etc.

② **操作失误**：未按照产品说明书进行规范安装、调试或操作引发的异常。

Failures caused by improper installation or operation not in accordance with manual.

③ **外部原因**：车辆原车电路电压异常、短路等非产品本身原因造成的控制器损毁。

Controller damage caused by abnormalities in the vehicle's original circuit.

附加说明 ADDITIONAL NOTES



专业安装

本通用汽车氛围灯智能控制系统，需由专业人员进行安装与驱动调试，以确保功能与安全。

Professional Installation: This system requires installation and driver debugging by professional personnel to ensure function and safety.



技术支持

使用过程中若遇故障或操作问题，可随时联系官方售后客服，获取全天候专业技术支持。

Technical Support: If you encounter malfunctions or operational issues, please contact the official after-sales customer service for professional technical support.



感谢语

感谢您选择本产品，对我们的信赖与支持，是我们不断前行的动力。祝您使用体验愉快！

Gratitude: Thank you for choosing our product, your trust and support are our motivation to move forward. We wish you a pleasant user experience!

FCC Warning:

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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.