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BTF-LIGHTING FCOB-24V-720L-W-IP30-SPI

BTF-LIGHTING FCOB WS2811 IC RGB COB LED Strip User Manual

MODEL: FCOB-24V-720L-W-IP30-SPI

1. Introduction

This manual provides comprehensive instructions for the BTF-LIGHTING FCOB WS2811 IC RGB COB LED Strip. This flexible, high-density LED strip is designed for various indoor decorative lighting applications, offering vibrant, uniform, and addressable color effects. Please read this manual thoroughly before installation and operation to ensure proper use and longevity of the product.



Image 1.1: BTF-LIGHTING FCOB WS2811 IC RGB COB LED Strip and included accessories.

2. Product Features

- **Addressable LED Grouping:** Features DC24V, 720 LEDs per meter, with 20 ICs per meter. Each WS2811 IC chip controls 36 LEDs, allowing for precise and dynamic lighting patterns. The high LED density ensures brighter and more uniform light output compared to lower density strips.
- **Ultra Bright and Uniform Illumination:** Utilizes Flip Chip On Board (FCOB) technology, providing a continuous, dot-free light line. This design ensures consistent brightness and color across the strip, eliminating dark spots often seen in traditional SMD LED strips.
- **Stunning Lighting Effects:** Capable of producing 16 million different colors through RGB mixing. The integrated WS2811 IC chip enables diverse dynamic lighting effects such as colorful curtain-up, flowing water, raindrop, and jump flash when paired with a compatible controller.
- **Cuttable and Re-attachable Design:** The flexible strip can be cut at designated marks, located every 1.96 inches (50mm), allowing for custom lengths. It features a 12mm width and includes 3-PIN connectors (one male, one female) for easy series connection.
- **Enhanced Durability:** Constructed with a real double-layer copper PCB board for superior electronic conductivity and efficient heat dissipation, contributing to a lifespan exceeding 65,000 hours.
- **Wide Application:** Ideal for various indoor decoration scenarios including living rooms, hallways, bedrooms,

kitchens, accent lighting, cabinet lighting, stairs, mirrors, and DIY backlighting projects.



Image 2.1: Comparison illustrating the higher LED and IC density of BTF-LIGHTING strips for more uniform and dynamic effects.

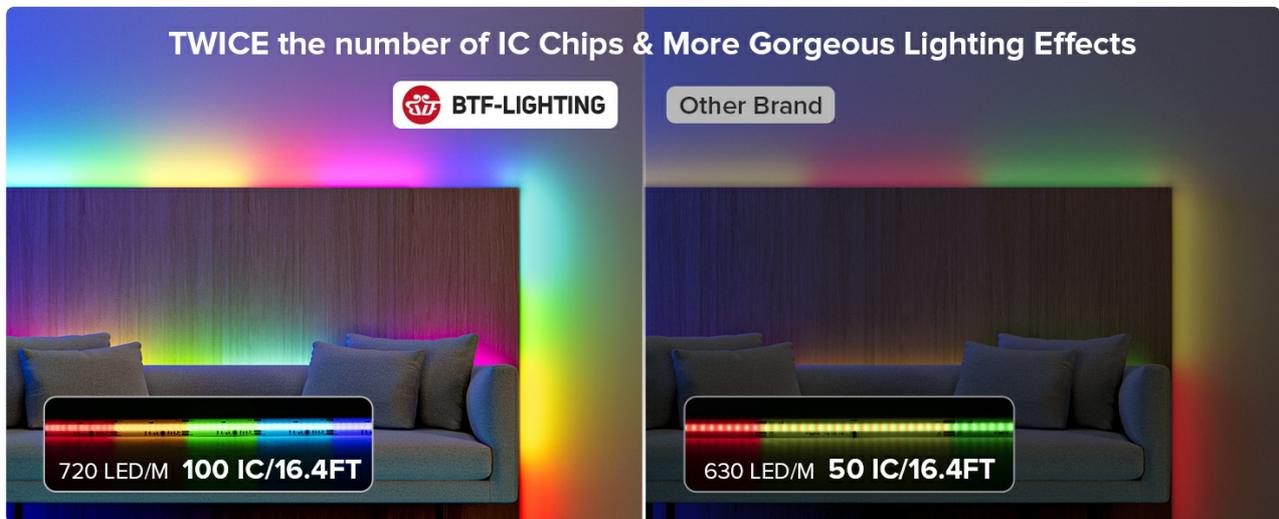


Image 2.2: FCOB LED strips offer a wider 180-degree beam angle for broader, more even light distribution compared to 120-degree SMD strips.

3. What's Included

The product package contains the following items:

- 1 x FCOB WS2811 IC RGB COB LED Strip (16.4FT / 5m)
- 1 x 3-PIN Male Connector
- 3 x Fixed Clips

Note: A power supply and a compatible controller are NOT included and must be purchased separately.

Parallel Connection Diagram

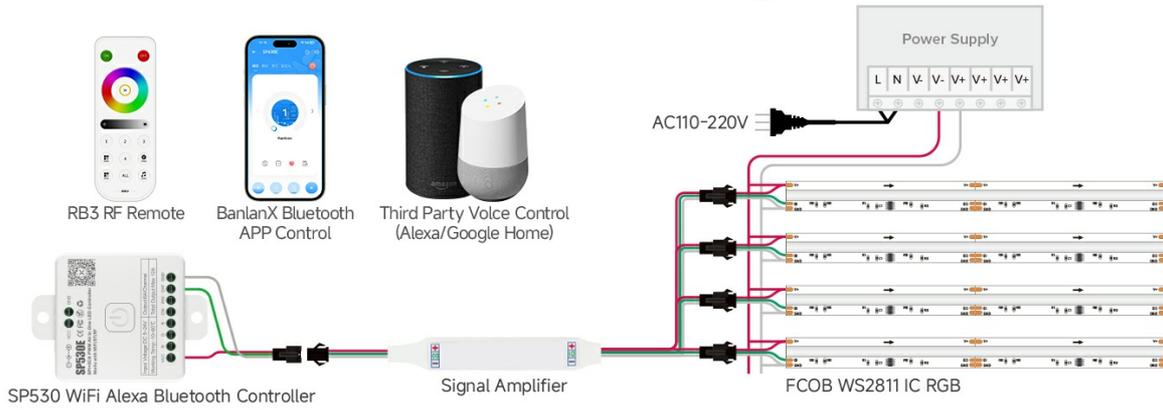


Image 3.1: Packaging and accessories for both new and previous versions of the LED strip.

4. Setup and Installation

4.1 Preparation

- Ensure the installation surface is thoroughly cleaned and dried before applying the LED strip.
- Verify that you have a compatible DC24V power supply and an addressable LED controller (e.g., SP630E, DR03W, SP611E, SP530E, Raspberry Pi, UNO R3, K-1000C) as these are not included.

4.2 Cutting the LED Strip

The LED strip can be cut to your desired length at the designated cut marks, which are spaced every 1.96 inches (50mm). Always cut along the indicated lines to avoid damaging the circuit.

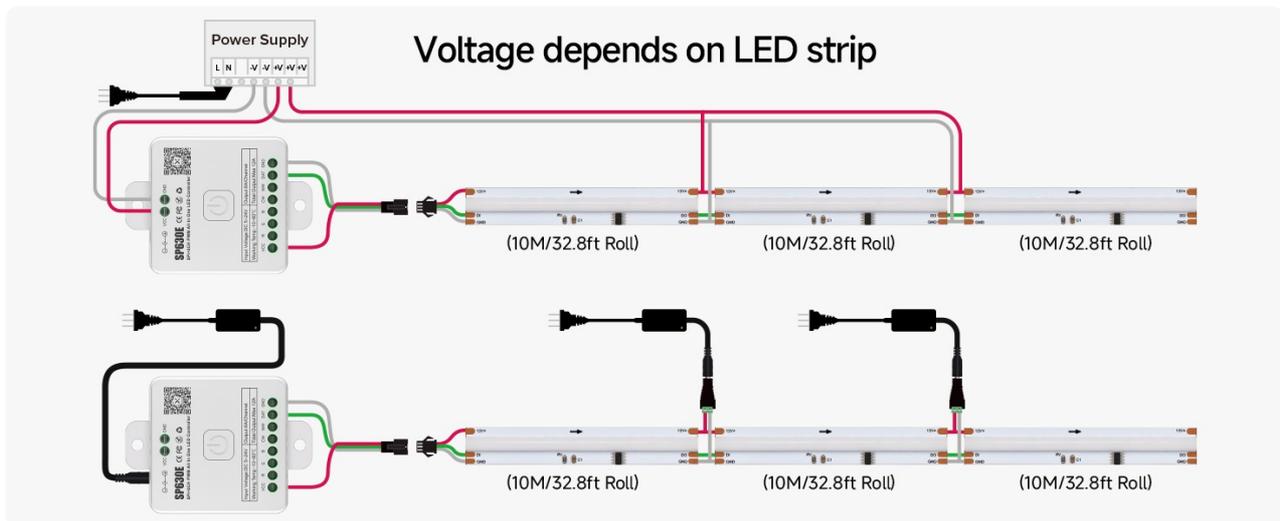


Image 4.1: The LED strip can be cut every 50mm (1.96 inches) at the marked points.

4.3 Connecting the LED Strip

The strip features 3-PIN connectors for data and power. Ensure correct polarity and data direction when connecting to your controller and power supply. Multiple strips can be connected in series or parallel, depending on your setup and power requirements.

- **Single End Connection:** Connect the female connector of the LED strip to the controller's output.
- **Dual End Connection:** For longer runs or to minimize voltage drop, connect power to both ends of the strip.

- **Series Connection:** Use the male and female connectors to extend the strip length.
- **Parallel Connection:** For larger installations, multiple strips can be connected in parallel to a single power supply and controller, often requiring a signal amplifier.



Image 4.2: Various installation methods including cutting, using clips, and different connection types.



Image 4.3: Detailed wiring diagram for connecting the LED strip, highlighting data input and addressable groups.

YOU MAY RECEIVE

<p>NEW EDITION</p>   <p>Upgraded Reel</p>		 <p>Upgraded Connectors</p>	 <p>General-Purpose Connectors</p>	<p>Product Accessories</p>   <p>USER MANUAL</p>
<p>Previous Version</p>   <p>Previous Version Reel</p>		 <p>3Pin-JST SM Connector</p>		<p>Product Accessories</p> 

Image 4.4: Example of a parallel connection setup for multiple LED strips.

4.4 Mounting

The LED strip comes with a strong self-adhesive backing for easy mounting. For additional security, especially on uneven surfaces or for long-term installations, use the provided fixed clips.

5. Operating Instructions

To operate the FCOB WS2811 IC RGB COB LED Strip, a compatible addressable LED controller is required (sold separately). These controllers allow you to select various static colors and dynamic lighting effects.

5.1 Controller Compatibility

The LED strip is compatible with a range of addressable LED controllers. Examples include:

- SP630E Bluetooth Controller
- DR03W+RC03RFB WiFi Alexa Controller
- SP611E Bluetooth Music Controller
- SP530E Bluetooth WiFi Alexa Controller
- DIY platforms like Raspberry Pi 3 and UNO R3
- Professional controllers like K-1000C

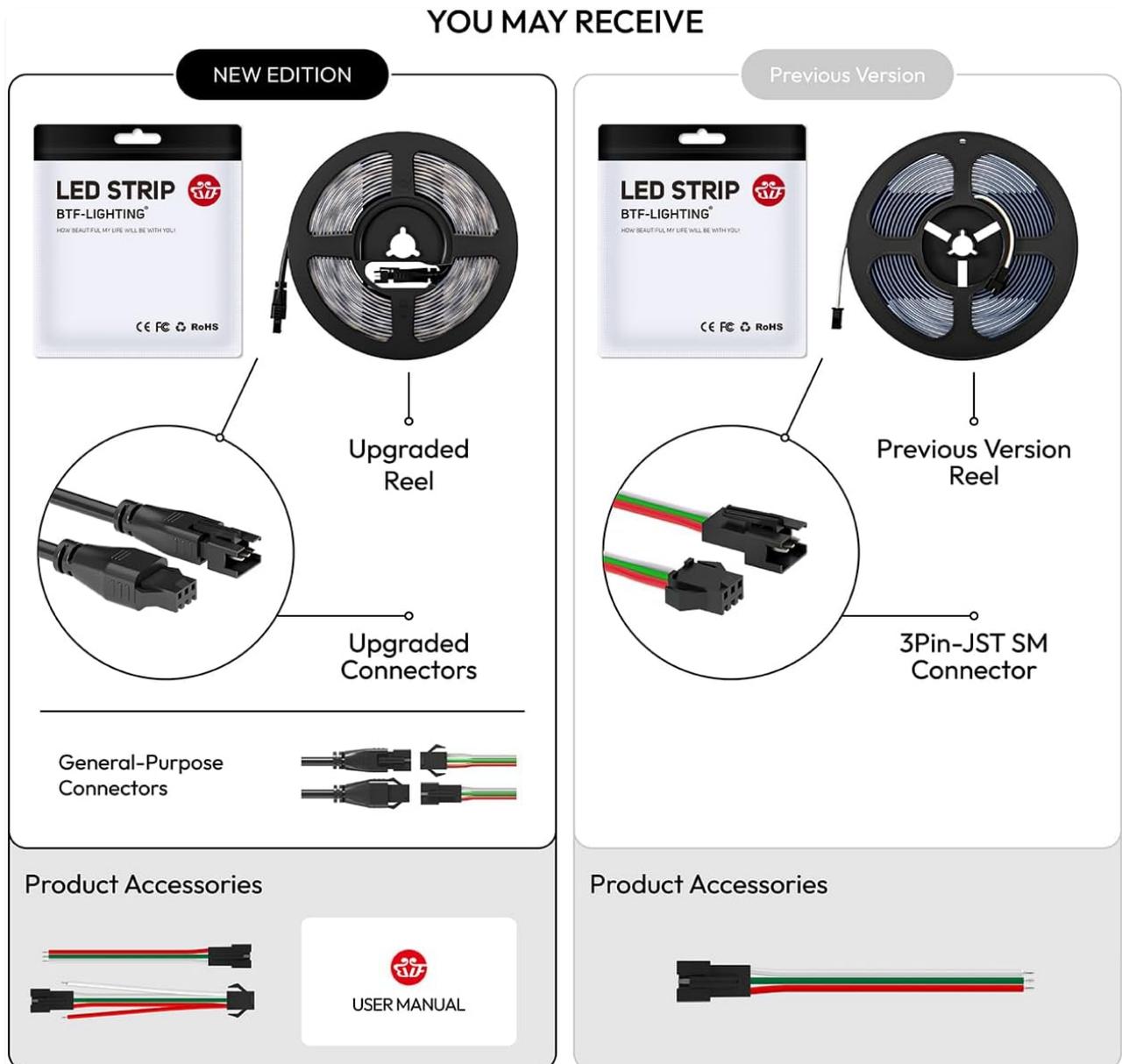


Image 5.1: Examples of compatible controllers (sold separately) for the LED strip.

5.2 Selecting Lighting Effects

Once connected to a controller, you can use the controller's interface (e.g., mobile app, remote control) to:

- Choose from 16 million static colors.
- Activate various dynamic effects such as chasing, flowing water, or rainbow patterns.
- Adjust brightness and speed of dynamic effects.
- Utilize app or voice control features if supported by your chosen controller.



Image 5.2: Examples of the LED strip in various indoor settings, demonstrating its versatile lighting capabilities.

6. Specifications

Feature	Specification
Brand	BTF-LIGHTING
Model Number	FCOB-24V-720L-W-IP30-SPI

Color	White PCB, RGB Light
Voltage	DC24V
LED Density	720 LEDs/meter
IC Quantity	20 ICs/meter (1 WS2811 IC drives 36 LEDs)
Strip Length	16.4 Feet (5 meters)
Strip Width	12mm
Cut Mark Interval	1.96 inches (50mm)
Wattage	70 Watts (Maximum Compatible)
Special Feature	Addressable FCOB LED, Chasing LED Strip, Uniform Rainbow Color, WS2811 IC Chip
Indoor/Outdoor Usage	Indoor use only
Average Life	65,000+ Hours
Material	Plastic, Double-layer Copper PCB
Included Components	3-PIN male connector, Fixed Clips

7. Troubleshooting

If you encounter issues with your LED strip, please refer to the following common troubleshooting steps:

- **No Light or Intermittent Flashing:**

- Ensure the DC24V power supply is correctly connected and providing adequate power.
- Verify all connections (power, data, ground) are secure and correctly polarized.
- Check if the controller is functioning correctly and is compatible with WS2811 ICs.
- Inspect the strip for any physical damage or incorrect cuts.

- **Uneven Brightness or Dark Spots:**

- Confirm that the power supply is sufficient for the entire length of the strip. Voltage drop can occur over long distances; consider dual-end power injection or a more powerful supply.
- Ensure the LED density (720 LEDs/m) is appropriate for your desired uniformity.

- **Incorrect Colors or Effects:**

- Verify that your controller settings match the WS2811 IC type and the correct color order (e.g., RGB, GRB).
- Check the data input direction on the strip (indicated by arrows).

- **Strip Not Responding to Controller:**

- Ensure the controller is properly paired or connected to the LED strip.

- Confirm the controller's output voltage matches the strip's requirement (DC24V).

8. Warranty and Support

BTF-LIGHTING provides a 12-month worry-free warranty for this product. For any questions, technical assistance, or warranty claims, please contact our 24/7 customer service. We are committed to providing support and ensuring your satisfaction.

For further assistance, please visit the official BTF-LIGHTING store or contact customer support through your purchase platform.

Related Documents - FCOB-24V-720L-W-IP30-SPI

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<p>Multilingual Index</p> <p>English----- P.01 Deutsch----- P.14 Español----- P.26 Français----- P.38 Italiano----- P.50 日本語----- P.62 Nederlands----- P.74</p>	<p>BTF-LIGHTING FCOB PWM RGBW LED Strip User's Manual</p> <p>User's manual for the BTF-LIGHTING FCOB PWM RGBW LED Strip, detailing product parameters, precautions, controller compatibility, and installation instructions for versatile lighting applications.</p>