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BTF-LIGHTING FCOB-24V-480L-W-IP30

BTF-LIGHTING FCOB COB LED Strip Light User Manual

Model: FCOB-24V-480L-W-IP30
Brand: BTF-LIGHTING

1. Introduction

Thank you for choosing the BTF-LIGHTING FCOB COB LED Strip Light. This product is designed to provide high-density, super bright, and uniform blue lighting for various indoor applications. This manual provides essential information for the safe installation, operation, and maintenance of your LED strip light.



Image 1.1: Example of the perfect linear lighting effect in a bedroom setting.

The FCOB (Flip Chip On Board) technology ensures a spotless, uniform light output with 480 LEDs per meter, offering superior brightness and consistency compared to traditional LED strips. This 16.4-foot (5-meter) blue LED strip operates on DC24V and is rated IP30 for indoor use.

2. Safety Information

Please read all safety instructions carefully before installation and use.

- **UL Listed:** This BTF-LIGHTING LED strip carries UL certification, ensuring it meets recognized safety standards.
- **Voltage:** Use only with a compatible DC24V power supply. Connecting to an incorrect voltage can damage the strip and pose a safety risk.
- **Indoor Use Only:** This product has an IP30 rating, meaning it is non-waterproof. Do not expose it to water, moisture, or high humidity. Intended for indoor dry locations only.
- **Heat Dissipation:** The strip is engineered with a double-layer copper PCB for superior heat dissipation. Ensure the

strip is not covered or installed in an enclosed space without adequate ventilation to prevent overheating.

- **Electrical Safety:** All wiring should be performed by a qualified professional if you are unsure. Ensure power is disconnected before any installation or maintenance.
- **Cutting:** Only cut the LED strip at designated cutting marks to avoid damaging the circuit.



Image 2.1: UL Listed safety assurance for BTF-LIGHTING LED strips.

3. Package Contents

Please check the package for the following items:

- 1 x 16.4FT (5-meter) FCOB COB LED Strip Light (Blue, DC24V, IP30)

Note: *Power supply and controller are not included and must be purchased separately.*

4. Product Features

- **Ultra Bright and Uniform:** Features 480 LEDs/meter for a dense, spotless, and uniform blue light output.
- **High CRI90+:** Ensures accurate color rendering for vibrant and natural illumination.
- **Universal Compatibility:** Works with most standard dimming protocols including ELV, TRIAC, DMX, Dali, 0-10V, and RF controllers.
- **UL Listed:** Certified for safety and reliability.
- **Cuttable and Re-attachable:** Can be cut at designated solder points and reconnected using 2-core ribbon cables and connectors.
- **Easy Installation:** Equipped with strong 3M adhesive backing for simple peel-and-stick mounting.
- **Flexible Design:** The strip is highly flexible, allowing for versatile installation around corners and curves.



Image 4.1: Comparison of light uniformity and brightness.

5. Setup and Installation

5.1 Preparation

1. Unroll the LED strip and inspect it for any physical damage.
2. Ensure the installation surface is clean, dry, and smooth. Dust, grease, or uneven surfaces can compromise the adhesive.
3. Plan the layout and measure the required length of the LED strip.

5.2 Mounting

1. Peel off a small section of the protective backing from the 3M adhesive tape on the back of the LED strip.
2. Carefully press the exposed adhesive section onto the desired surface.
3. Continue peeling the backing and pressing the strip firmly along the installation path, ensuring good contact with the surface.
4. For added security, especially on textured surfaces or around corners, consider using mounting clips (not included).

5.3 Cutting and Reconnecting

The LED strip can be cut to your desired length at designated cutting marks, typically indicated by a copper pad or scissor icon. Ensure power is disconnected before cutting.

- **Cutting:** Use sharp scissors to cut precisely along the marked lines.
- **Reconnecting:** To reconnect cut sections or extend the strip, use 2-core ribbon cables and appropriate connectors (e.g., solderless connectors or by soldering directly to the copper pads). Ensure correct polarity (+ to + and - to -).

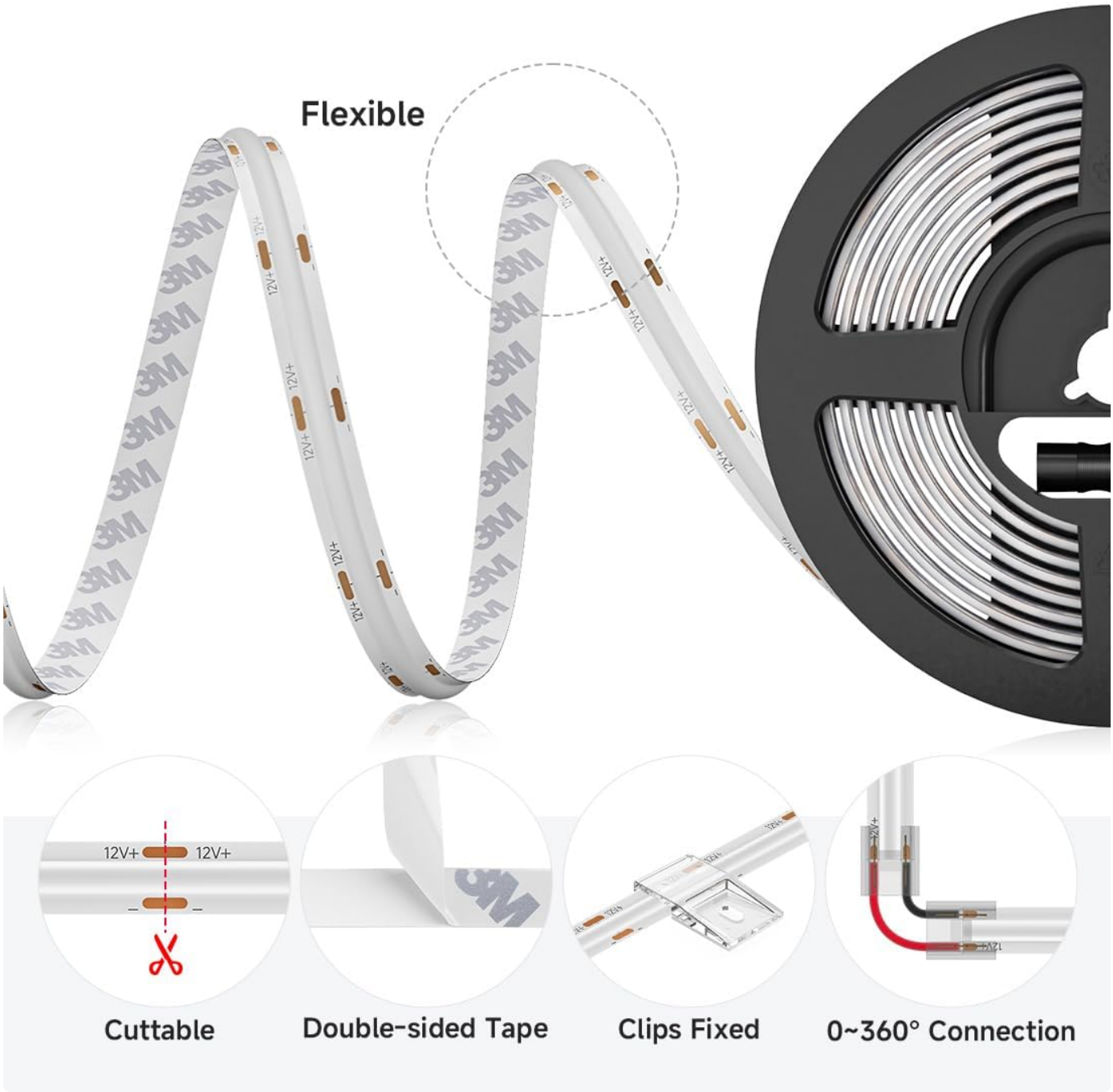


Image 5.1: Features for flexible installation, cutting, and connection.

5.4 Wiring Diagrams

The FCOB LED strip requires a DC24V power source. Depending on your setup, you can connect it in several ways:

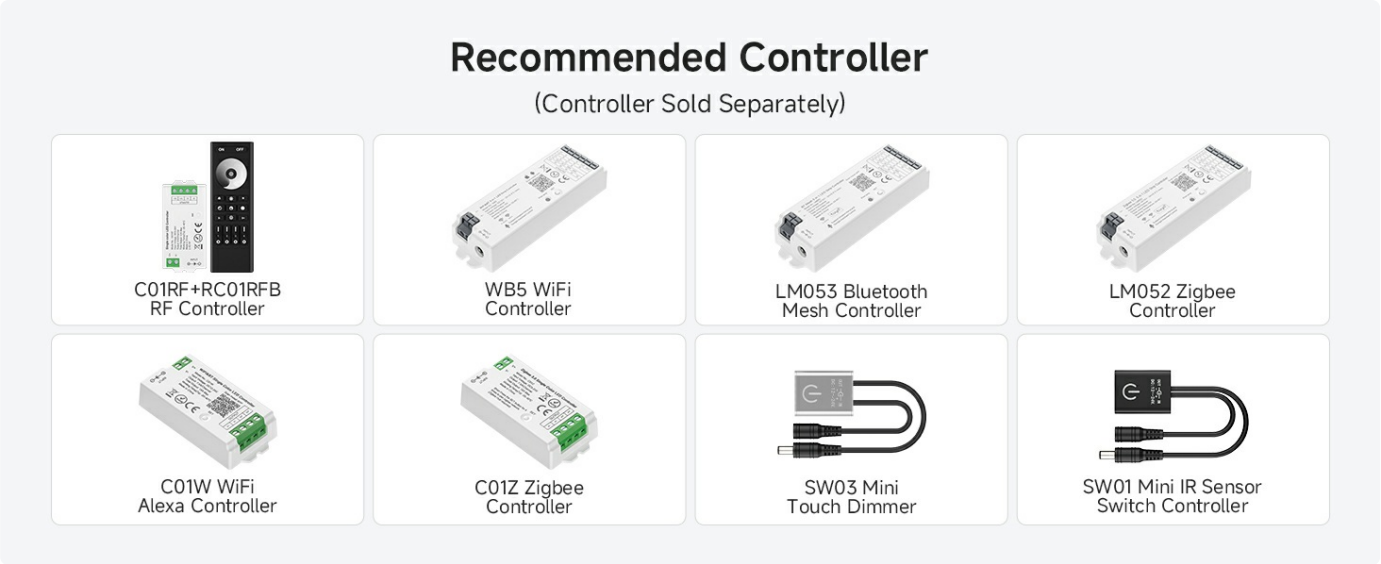


Image 5.2: Various wiring configurations for the LED strip.

- **Connect to Power Supply Directly:** AC 110-220V mains power connects to a DC24V power supply, which then connects to the LED strip. Ensure correct polarity (+ to + and - to -).
- **Connect to Triac Dimmable LED Driver:** AC 110-220V mains power connects to a Triac dimmer, which then connects to a dimmable LED driver. The LED driver then connects to the LED strip.
- **Work with Controller:** AC 110-220V mains power connects to a power adapter, which then connects to an LED controller. The controller then connects to the LED strip.

Important: *Always ensure the power supply/driver wattage is sufficient for the total length of the LED strip connected.*

6. Operation

Once properly installed and connected to a DC24V power supply, your LED strip light will illuminate. To control brightness or other effects, a compatible controller or dimmer is required (sold separately).

- **Brightness Control:** If using a dimmable LED driver or controller, refer to the specific instructions for that device to adjust the brightness.
- **Controller Compatibility:** This strip is compatible with a wide range of controllers using protocols like ELV, TRIAC, DMX, Dali, 0-10V, and RF.

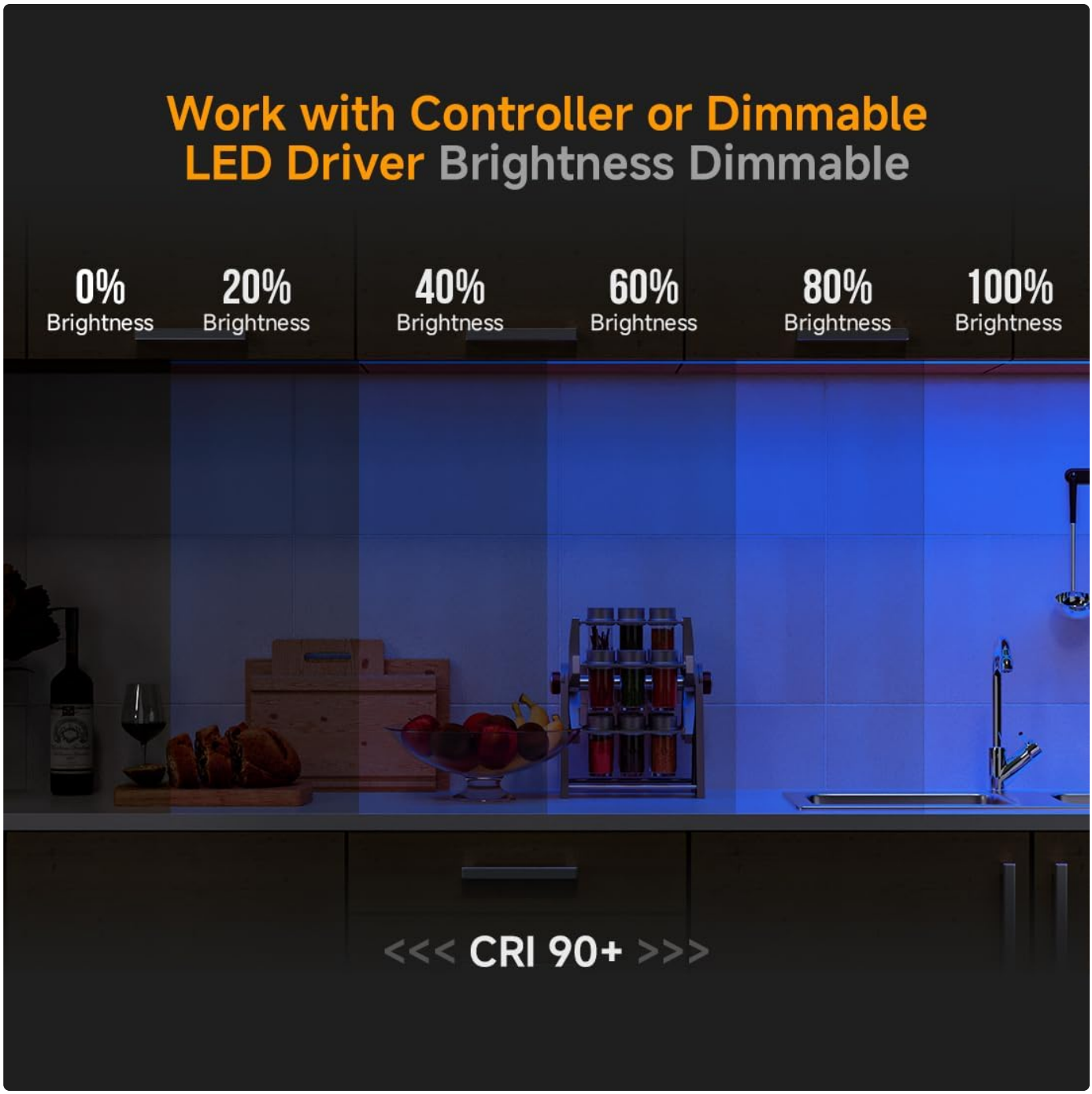


Image 6.1: Brightness dimming capability from 0% to 100%.

7. Maintenance

- **Cleaning:** Gently wipe the LED strip with a soft, dry cloth to remove dust. Do not use abrasive cleaners or solvents. Ensure the strip is powered off before cleaning.
- **Moisture:** As an IP30 rated product, avoid any contact with liquids. If the strip accidentally gets wet, disconnect power immediately and allow it to dry completely before attempting to use it again.
- **Inspection:** Periodically check the strip and connections for any signs of damage or wear.

8. Troubleshooting

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
LED strip does not light up	No power, incorrect voltage, incorrect polarity, faulty connection, faulty power supply/controller.	Check power supply connection and ensure it's plugged in. Verify power supply output is DC24V. Check all wiring for correct polarity (+ to + and - to -). Inspect connections for looseness or damage. Test power supply/controller if possible.
Uneven brightness or flickering	Insufficient power supply, voltage drop over long runs, loose connection, faulty controller/dimmer.	Ensure power supply wattage is adequate for the total strip length. For very long runs, consider injecting power at multiple points. Check all connections. Test with a different controller/dimmer if available.
Adhesive not holding	Surface not clean/dry/smooth, environmental factors (temperature/humidity).	Ensure surface is thoroughly cleaned and dried before application. For textured or difficult surfaces, use additional mounting clips or a stronger adhesive.
Part of the strip is not lighting up	Damage to the strip, faulty connection at a cut point.	Inspect the non-working section for physical damage. Check connections at any cut or joint points within that section.

9. Specifications

Feature	Detail
Model Number	FCOB-24V-480L-W-IP30
Color	Blue
Length	16.4 feet (5 meters)
Voltage	DC24V
LED Type	FCOB (Flip Chip On Board)
LEDs per Meter	480
CRI	90+
Width	8mm
Ingress Protection (IP) Rating	IP30 (Non-waterproof, Indoor Use Only)
Material	Copper (PCB)
Special Features	UL Listed, Cuttable, Linkable, Energy Efficient, No Dark Spot, Uniform Light
Connectivity Protocols	ELV, TRIAC, DMX, Dali, 0-10V, RF

10. Warranty and Support

BTF-LIGHTING provides dedicated customer support for DIY design assistance, installation help, troubleshooting, and after-sales warranty service. If you encounter any issues or have questions regarding your FCOB COB LED Strip Light,

please contact BTF-LIGHTING customer service.
For more information and products, visit the official BTF-LIGHTING Store:BTF-LIGHTING Store

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