

TSDIM24160

TRANSFORMER/DIMMER SWITCH



INSTALLATION GUIDE

ABBA LIGHTING USA

Thank you for choosing our high-quality product. To ensure the best possible experience, please take a moment to carefully read and follow all instructions before assembly, installation, and use. Doing so will not only guarantee proper function and safety but also help you maximize the full potential of this exceptional product. We truly appreciate your business and are honored to be your trusted provider of top-notch products!



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WARNING

TO REDUCE THE RISK OF FIRE OR INJURY TO PERSONS:

- ✓ Please exercise caution when using the lamp, as it tends to HEAT up rapidly. We recommend taking necessary safety measures to ensure optimal usage.
- ✓ For your safety, please refrain from touching the HOT lens, guard, or enclosure. We recommend waiting for the product to cool down before handling it.
- ✓ To prevent any fire hazards, please ensure that the lamp is kept away from materials that may easily catch fire. We appreciate your cooperation in maintaining a safe and secure environment.
- ✓ For safety reasons, we recommend that only a qualified professional install this electrical product.
- ✓ Before attempting to install this unit, ensure all power connections are off for your own safety.

WARRANTY

- We stand behind the quality of our product and offer a 2 year warranty. Kindly ensure that you keep the proof of purchase as it will be required for any warranty claims.
- Warranty will be void if there is any damage due to improper usage or modification to the fixture.
- Failure to comply with the instruction in this manual may increase the risk of damage or injury and will void warranty.



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DO NOT INSTALL WITHIN 10 FEET OF A POOL, SPA OR FOUNTAIN

TSDIM24 – 160W 24V Dimmable Switch Transformer

The TSDIM24 160W 24V is a high-performance dimmable switch transformer engineered to power modern low-voltage lighting systems with precision, safety, and reliability. Designed for environments requiring stable 24-volt output and smooth brightness control, ideal for both residential and commercial installations. The TSDIM24 delivers exceptional flexibility for a wide range of LED lighting applications.

24V Low-Voltage Output

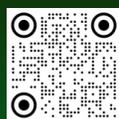
Provides a clean, regulated 24V output, ideal for LED strip lighting, step lights, linear fixtures, wall grazers, architectural accents, and any lighting system requiring stable 24-volt power.

Built-In Dimmable Switching

Integrated dimming capability allows smooth, precise brightness adjustment directly from the transformer – eliminating the need for external dimmers or complicated control interfaces.

120V AC Input

Designed for standard household and commercial line-voltage input, ensuring compatibility with typical 120V AC electrical feeds.



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Ideal Applications

Residential Lighting

- LED strip lighting
- Stair and step lights
- Cove and under-cabinet lighting
- Architectural accents
- Modern linear lighting systems

Commercial Environments

- Retail display lighting
- Restaurant ambiance lighting
- Lobby or corridor architectural lighting
- Hotel room and hallway low-voltage LEDs

Architectural & Specialty Lighting

- Feature lighting for walls and façades
- Cove, slot, and trimless linear profiles
- Cabinet and millwork-integrated lighting
- Multi-zone LED runs requiring separate dimming control



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Installation Notes & Best Practices

Pair with 24V LED systems only — ensure all fixtures match the transformer's output voltage.

Use proper low-voltage wiring methods to maintain compliance and safety.

Keep wiring lengths optimized to minimize voltage drop in large or complex lighting layouts.

For multi-zone lighting output for independent dimming and power balance.



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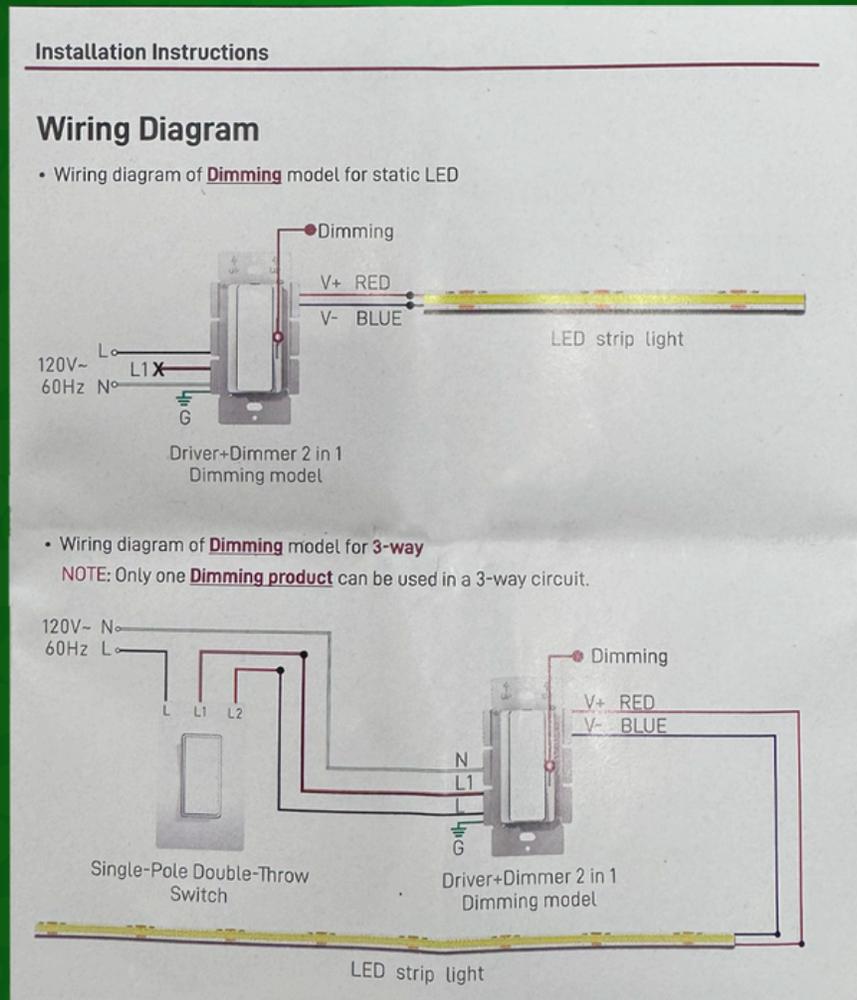


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STEP-BY-STEP INSTALLATION INSTRUCTIONS



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Installation Instructions

SAFETY & WARNINGS

- Install in accordance with national and local electrical code regulations.
 - This product is intended to be installed and serviced by a qualified, licensed electrician.
 - Only use copper wiring. Use wires rated for at least 194°F (90°C) and certified for use with external connection of electrical equipment.
 - Ensure applicable wire is installed between driver, fixture, and any controls in-between. When choosing wire, factor in voltage drop, amperage rating, and type (in-wall rated, wet location rated, etc.). Inadequate wire installation could overheat wires, and cause fire.
 - Do not install in environment where excessive heat may exist (ex. close proximity to fireplace, etc.) See Ambient Temperature ratings.
 - Do not modify product beyond instructions or warranty will be void.
 - Actual color may vary from what is pictured on this sheet and other print materials due to the limitations of photographic processes.
 - We reserve the right to modify and improve the design of our fixtures without prior notice. We cannot guarantee to match existing installed fixtures for subsequent orders or replacements in regards to product appearance, CCT, or lumen output.
 - 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.
- The face panel is not replaceable



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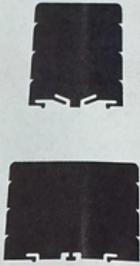
STEP-BY-STEP INSTALLATION INSTRUCTIONS

Installation Instructions

Provided accessories



LED Driver+Dimmer 2 in 1



Barrier



Mounting Screw (X2)



Wire Nut (X8)

Tools For Install



Flat-head screwdriver



Phillips-head screwdriver



Pliers



Wire Strippers



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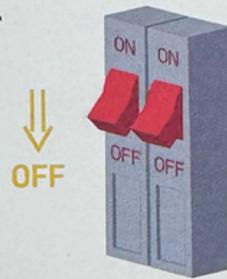
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STEP-BY-STEP INSTALLATION INSTRUCTIONS

1. Turn Power Off at Circuit Breaker

- SHOCK HAZARD!
- May result in serious injury or death. Turn power OFF at circuit breaker prior to installation.



2. Determine Location to Install Components



LED Driver+Dimmer 2 in 1



Fixture (Not Included)

3. Remove Existing Switch (if necessary)

- Remove trim plate and switch mounting screws.
- Pull switch from wall.
- Identify wires connected to switch and mark wires if desired.
- Disconnect wires from switch.



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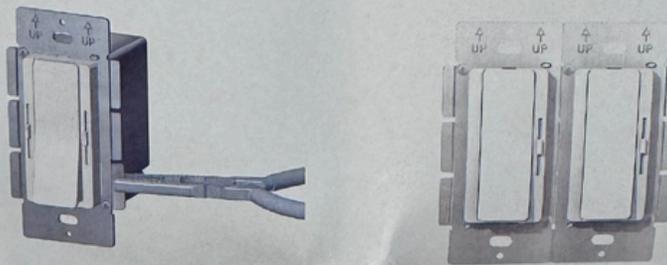
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STEP-BY-STEP INSTALLATION INSTRUCTIONS

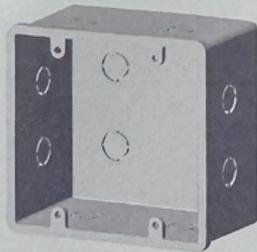
4. Adapt LED Driver and Dimmer (if necessary)

- It is required to break off dimmer fins when ganging multiple dimmers in same wall box.



NOTE: ZERO LOAD DERATING

Unlike standard high voltage AC controls, removing LED Driver and Dimmer Switch fins does not reduce the driver's maximum wattage rating.



Removable Partition (Not Included)



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STEP-BY-STEP INSTALLATION INSTRUCTIONS

Installation Instructions

5. Attach Voltage Partition (Barrier)

NOTE: NEC CODE 725.136

Class 1 and Class 2 circuits in same enclosure must be separated by a barrier unless Class 2 circuits conductors are installed in accordance with 725.41 Class 1 Circuits. For example, Non-Metallic (NM) cable is considered a Class 1 circuit conductor. Therefore, if both high voltage and low voltage are installed with NM cable then the voltage barrier is not required for installation.



Barrier A

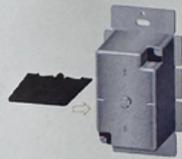
Separate high voltage and low voltage spaces



Barrier B

Rotatable, changes the direction of input and output lines, better utilizes space, and facilitates wiring and installation

• Barrier A installation method



① Align isolation plate A with the opening of the rotating column on the bottom shell.



② Push it in the direction of the arrow until the buckle is stuck on the outer wall of the rotating column.



③ The isolation plate can rotate left and right by a certain angle to adjust the space of the high and low pressure zones.



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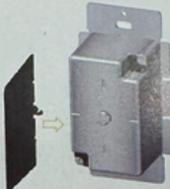
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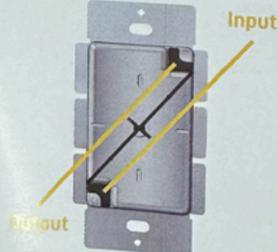
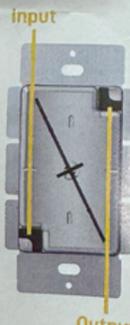
Installation Instructions

• Barrier B installation method



① Align isolation component B with the opening of the rotating column on the bottom shell.

② Push it in the direction of the arrow until the buckle clicks onto the outer wall of the rotating column.



③ Isolation plate B is designed to meet the requirements of different input lines in different regions and positions. The isolation plate can be rotated to achieve the wiring of input lines above or below.



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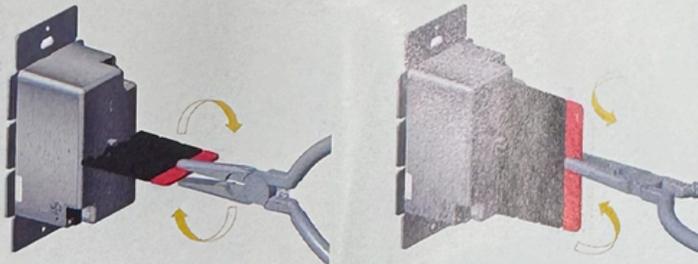
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STEP-BY-STEP INSTALLATION INSTRUCTIONS

Installation Instructions

• 5.1 Shallow Wall Boxes

For shallow boxes, barrier can be shortened. Grip with pliers. Bend back and forth until fin breaks off.



• 5.2 Extra Shallow Wall Boxes

• For extra shallow wall boxes it's acceptable to use the dimmer housing as a barrier. Tuck wires on top and bottom sides of dimmer housing.



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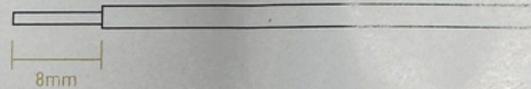
6. Wire Dimmer

NOTE: SPECIAL WIRING INSTRUCTIONS

Driver+Dimmer switch requires unique wiring steps. Read thoroughly.

• **6.1 Strip wires on driver**

For shallow boxes, barrier can be shortened. Grip with pliers, bend back and forth until fin breaks off.



• **6.2 Wire dimmer. Ensure Power is OFF**

1. Use included voltage partition when installed into a gang box.
2. Use wire rated for at least 300V.
3. Gang box and vertical partition must comply with UL514C article 6 requirements.



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STEP-BY-STEP INSTALLATION INSTRUCTIONS

Dimming Series

• V+(RED) :Low Voltage Output
• V-(BLUE) :Low Voltage Output
• GND (GREEN) :Ground
• L (BLACK) :120VAC Input
• N (WHITE) :120VAC Input
• L1 (RED/BLACK) :3-WAY Installation Only

7. Mount Driver+Dimmer Switch to Wallbox and Attach Trim plate

- Step 1: Fix the LED driver+dimmer switch on the wall with screws.
- Step 2: Fix the wallplate on the LED driver + dimmer switch

Trim plate (Not Included) LED Driver+Dimmer 2 in 1 Wall Box(Gang Box) (Not Included)



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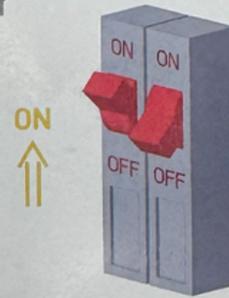
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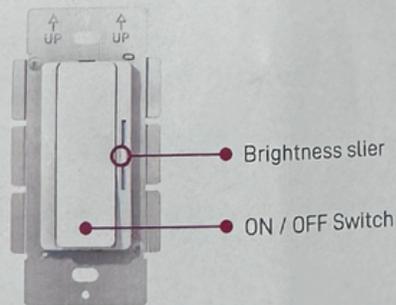
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STEP-BY-STEP INSTALLATION INSTRUCTIONS

8. Turn Power On at Circuit Breaker



9. Operation and Dimming



Dimming Series



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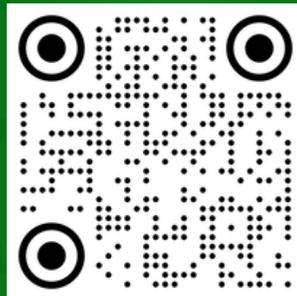
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SAFETY PRECAUTIONS

- Always wear appropriate safety gear, such as gloves and safety glasses, during installation.
- Ensure the mounting surface is capable of supporting the weight of both the bracket and the lighting fixture.

ADDITIONAL RESOURCES

For a detailed video tutorial on how to install, visit our YouTube channel and search for "TSDIM24 160 "



Please visit our website for more of our products.

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TRANSFORMER/DIMMER SWITCH

