

TSPDC24100 TRANSFORMER



INSTALLATION GUIDE

ABBA LIGHTING USA

TSPDC24100

TRANSFORMER



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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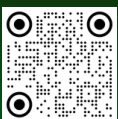


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WARNING

TO REDUCE THE RISK OF FIRE OR INJURY TO PERSONS:

- ✓ 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.
- ✓ Fixture(s) must be installed in accordance with all local codes and ordinances.
- ✓ Do not instal within 10 feet of a pool, spa or fountain
- ✓ **DO NOT DISASSEMBLE**
- ✓ To ensure proper functionality and safety, it is important to refrain from connecting two or more transformers in parallel. It is advised to maintain individual electrical circuits for each transformer rather than attempting to combine their outputs. By adhering to this guideline, you can prevent potential complications and optimize the performance of each transformer.
- ✓ For optimal performance and safety, it is recommended not to utilize this device in conjunction with a dimmer switch. Avoid connecting the device to any dimming mechanism as it may lead to undesirable consequences or malfunctioning. It is advisable to operate the device without the use of a dimmer to ensure its intended functionality and prevent any potential risks.
- ✓ To ensure the highest level of safety, it is recommended to directly plug the transformer into a Ground Fault Circuit Interrupter (GFCI) outlet. By utilizing a GFCI outlet, you enhance protection against electrical shocks and minimize the risk of electrical hazards.
- ✓ To maintain optimal performance and safety, it is strongly advised against using an extension cord with this device. It is recommended to directly connect the device to a properly grounded power outlet. Using an extension cord may introduce electrical inefficiencies, increase the risk of overheating, or compromise the device's functionality. It is best to avoid extension cords and ensure a direct and secure power connection for the device.



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It is important to note that the maximum output capacity of this transformer is 100 Watts. To ensure safe and optimal operation, it is crucial to avoid exceeding this specified limit. Overloading the transformer by drawing power beyond its maximum capacity can lead to overheating, reduced efficiency, and potential damage to the device. It is highly advised to carefully monitor the power requirements of your equipment and ensure they fall within the specified limits of the transformer to maintain its performance and longevity.

WARRANTY

- We stand behind the quality of our product and offer a 3 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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PRODUCT OVERVIEW

TSDCT24100 – 24V DC LED Driver / Power Supply

High-Efficiency • 100W Capacity • Stable Low-Voltage Output • Optimized for LED Applications

The TSDCT24100 from Abba Lighting USA is a high-performance 24V DC LED driver designed to power low-voltage LED fixtures with precision, safety, and reliability. Engineered with advanced circuitry and durable housing, this driver ensures stable, flicker-free illumination, making it an essential component in both residential and commercial LED lighting systems.

With its 100-watt capacity, the TSDCT24100 is powerful enough to support multiple fixtures while maintaining consistent voltage regulation across the load. This protects your LEDs from premature failure due to surges or voltage fluctuations and guarantees long-term system performance. Whether used in landscape lighting, step and deck illumination, strip lighting, or architectural accent projects, this driver provides the dependable backbone for any professional lighting installation.

24V DC CONSTANT OUTPUT

Provides smooth, reliable power delivery, eliminating flicker and ensuring optimal LED performance.

100W POWER CAPACITY

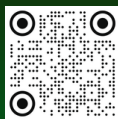
Sufficient to run multiple fixtures on a single driver, maximizing efficiency and reducing installation complexity.



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DURABLE HOUSING

Built for long-lasting performance, protecting internal components from dust and external factors.

ENERGY-EFFICIENT DESIGN

Reduces wasted energy while extending the lifespan of connected fixtures.

SHORT-CIRCUIT AND OVERLOAD PROTECTION

Safeguards LEDs and wiring from system faults, ensuring safety and durability.

VERSATILE COMPATIBILITY

Perfectly suited for powering LED strips, rope lights, path lights, step lights, wall lights, and other low-voltage systems.

LOW-PROFILE, COMPACT BUILD

Easy to install in tight spaces, junction boxes, or concealed housings.



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 Specification	 Details
Model	TSDCT24100
Input Voltage	120V AC (standard household input)
Output Voltage	24V DC
Maximum Load	100W
Material / Housing	Comercial grade plastic
Protections	Short-circuit, overload, and over-temperature protection
Applications	LED strips, rope lights, step lights, path lights, wall lights



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IDEAL APPLICATIONS

- Landscape Lighting Systems – Powers path lights, wall lights, and accent fixtures with reliable performance.
- Architectural Installations – Perfect for indoor/outdoor accents, under-cabinet lighting, and stair illumination.
- Step & Deck Lighting – Maintains safety and ambiance in outdoor living spaces with dependable 12V DC output.
- Commercial & Residential Projects – Equally suited for large-scale projects or small home installations requiring efficiency and reliability.



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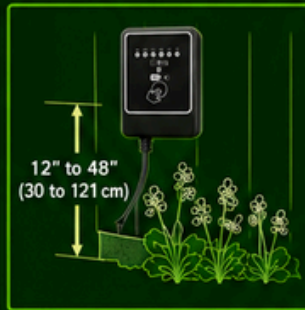
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1. Find a Location for the Transformer



1.1 Outdoor use, weatherproof.



1.2 Install the transformer 12" to 48" (30 to 121 cm) above grade where the controls are visible and accessible.

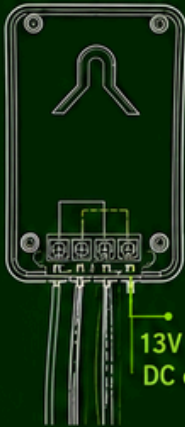


1.3 AUTO mode only: Do not install behind shrubs. Obstructions can affect the photocell and interfere with dusk-to-dawn operation.

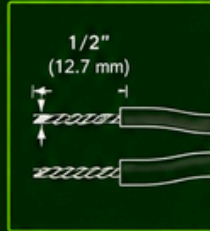


1.4 AUTO mode only: Do not install too close to nighttime light sources. Excess light can prevent proper photocell operation.

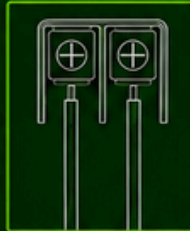
2. Connect Cable to Transformer



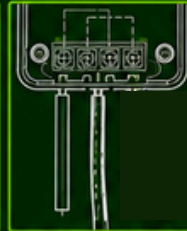
13V or 24V
DC output



2.1 Remove 1/2" (12.7 mm) of insulation from both landscape wires and twist the ends.



2.2 Remove the bottom plate for easier access. Insert the wires under each terminal plate and tighten the screws securely.



2.3 Gently pull the landscape wire to verify the connection is secure.



2.4 Verify that no loose wire strands are exposed.

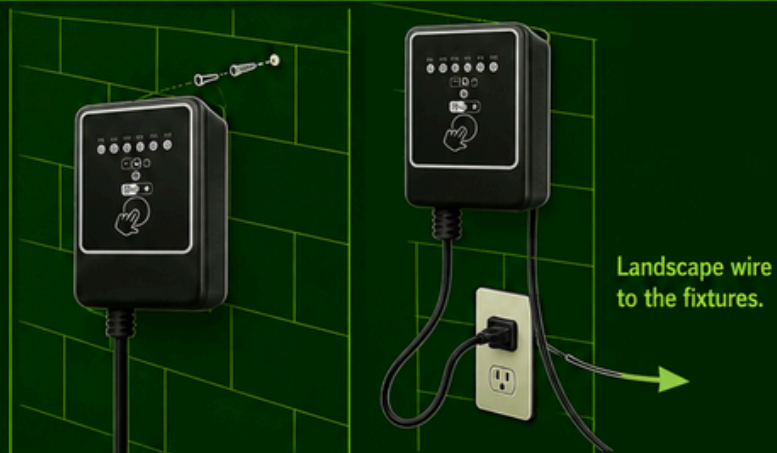


2.5 Replace the bottom plate and close the front panel.

3. Mount the Transformer

Insert a screw in a wall near an electrical outlet and mount the transformer.

Note: Use an outdoor, weather-resistant screw suitable for the mounting surface (masonry screw for concrete or brick, wood screw for wood siding). Minimum screw size: SAE #4 / Metric M3. The fastener must support the weight of the transformer.



Landscape wire
to the fixtures.



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4. Run the Landscape Wire (Not Included)

Run the landscape wire from the transformer to each light without cutting it whenever possible. Do not run the landscape wire within 10 feet (3 m) of a pool, spa, or fountain. If the landscape wire is too long, cut it with a cable cutter.

Protect the landscape wire by routing it close to the fixture or along a building, deck, or fence. Use cable suitable for low-voltage landscape lighting.

See the chart below for recommended cable gauges.

* Suitable cable should be sized according to the table and should be Type SPT-2W.

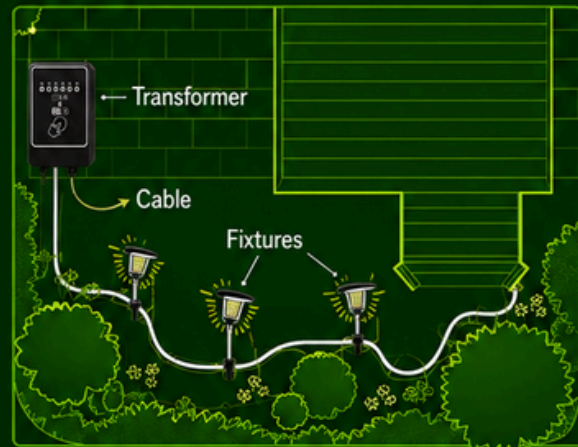


Illustration of fixtures is for example only.

Combined wattage of all fixtures on line (in Watts)	Wire Gage (0-75')	Wire Gage (75'-150')	Wire Gage (150'-250')
0-60	16	16	14
60-120	16	14	12
120-180	14	12	12
180-240	12	12	Not recommended
240-300	12	Not recommended	Not recommended

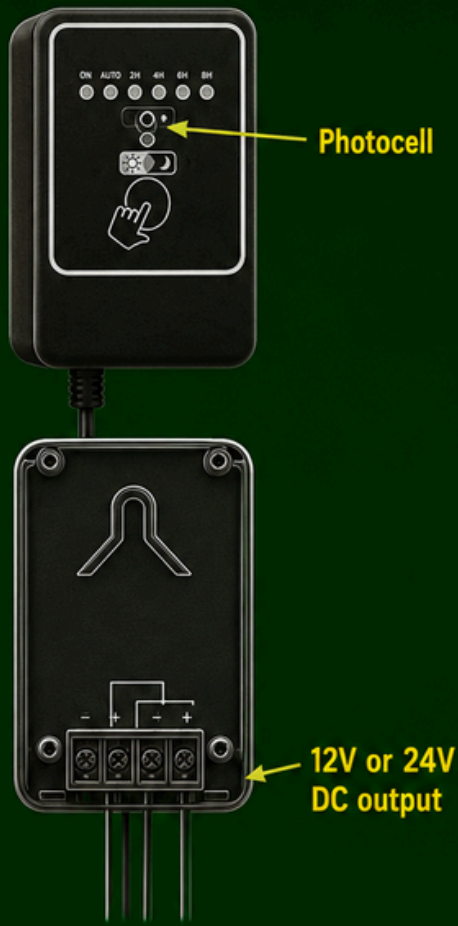
5. Power Up the Transformer

- Plug the transformer into a GFCI electrical receptacle.
- The default mode for this transformer is 'ON'. At this point, the fixtures will light up.



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6. How to Operate the Transformer Controls



Photocell

This component reacts to light conditions. It should not have direct contact with any other light sources. A 30-second delay may be experienced when light conditions change. To test the system during daytime, simply cover the photocell with black tape.



Working modes setting:

Press the circle button to select and set the modes.

- "ON" LED on:** Always on mode
- "ON" LED off:** Always off mode, or short circuit / overloaded
- "AUTO":** Photocell — from dusk to dawn working mode.
- "2H":** Light on at dusk and off after 2 hrs
- "4H":** Light on at dusk and off after 4 hrs
- "6H":** Light on at dusk and off after 6 hrs
- "8H":** Light on at dusk and off after 8 hrs



Display LEDs flickering: Major Overload or Short Circuit

If the LED display is flickering and utility voltage is still present, the transformer is likely overloaded. The overload protection will shut off the low-voltage output if the circuit is overloaded with too many fixtures. This may occur when the total wattage of all lights in the system exceeds 100 watts. The LED display may also flicker if there is a short circuit in the garden lighting system. A short circuit can occur if the secondary cable connecting the fixtures to the power supply is cut, or if the exposed wire ends touch a metal post or water. After the problem has been identified and corrected, restart the unit.



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7. Troubleshooting



1. All of the lights fail to work

- Check that the transformer power is on.
- Check if there is a loose connection at the transformer screw terminal.
- Check that the power switch is not in the OFF setting.



2. Only some lights work

- The problem may be the fixture connector or the light bulb.
- Check the connector to make sure the wire stabs have pierced both the landscape wire and the fixture wire.
- To check a light bulb, replace it temporarily with one from a working fixture. Be careful, as bulbs can become very hot. Handle bulbs with a soft cloth only.



3. The lights are 'ON' during the day

The power unit is in a dark area, which triggers the photocell to turn the lights on.



4. The lights do not switch 'ON' at dusk

The power unit is in an area where there is too much light at night.

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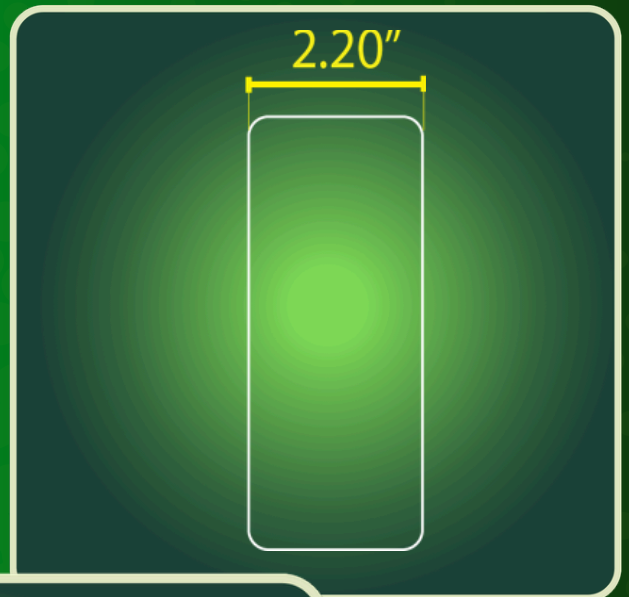
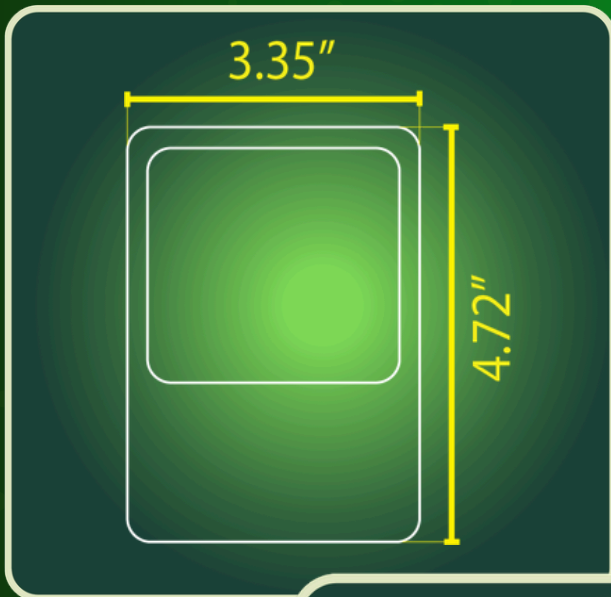


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When selecting the cable gauge, consider the distance between the transformer and the lighting fixtures. It is crucial to choose an appropriate gauge to ensure efficient power transmission and minimize voltage drop.

Please note that this chart provides general recommendations, and it is essential to consider specific factors such as the power requirements of your lighting system and any local electrical codes or regulations that may apply. Consulting with a qualified electrician can provide further guidance and ensure the proper selection of cable gauges for your specific installation.

HOW TO CHOOSE THE RIGHT LOW VOLTAGE WIRE:

Feet	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
40	16	16	16	16	16	16	16	14	14	12	12	12	12	12	12	12	12	12	10	10
60	16	16	16	16	16	16	14	14	14	12	12	12	12	12	12	12	12	10	10	8
80	16	16	16	16	14	14	14	14	14	12	12	12	12	10	10	10	10	10	10	8
100	16	16	14	14	14	14	14	12	12	12	10	10	10	10	10	10	10	8	8	8
120	12	12	12	12	12	12	12	12	12	10	10	10	10	10	10	8	8	8	8	8
140	12	12	12	12	12	12	12	12	10	10	10	10	10	8	8	8	8	8	8	8
160	12	12	12	12	12	12	12	10	10	10	10	8	8	8	8	8	8	8	8	8
180	12	12	12	12	12	12	10	10	10	10	8	8	8	8	8	8	8	8	8	8
200	12	12	12	12	12	12	10	10	10	8	8	8	8	8	8	8	8	8	8	8
220	12	12	12	12	12	10	10	10	8	8	8	8	8	8	8	8	8	8	8	8
240	12	12	12	12	10	10	10	8	8	8	8	8	8	8	8	8	8	8	8	8
260	12	12	12	12	10	10	10	8	8	8	8	8	8	8	8	8	8	8	8	8
280	12	12	12	10	10	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8
300	12	12	12	10	10	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8
320	12	12	10	10	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
340	12	12	10	10	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
360	12	10	10	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

1. LOWER GAUGE WIRES ARE THICKER AND CONTAIN MORE COPPER. THEY HAVE A GREATER CURRENT CARRYING CAPACITY FOR LONG RUNS

2. ITS BEST TO NOT EXCEED MORE THAN 80% OF YOUR LANDSCAPE WIRE CURRENT CAPACITY TO ENSURE THERE IS NO VOLTAGE DROP

EXAMPLE: IF YOUR TOTAL WATTAGE OF YOUR LANDSCAPE LIGHTS IS 40 WATTS, THEN YOU CAN RUN 200 FEET OF 12 GAUGE WIRE WITHOUT VOLTAGE DROP.



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