

weisuan-Tuodi LTDL-2025-WB

weisuan-Tuodi DC Light Sensor Switch Instruction Manual

Brand: weisuan-Tuodi | Model: LTDL-2025-WB

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your weisuan-Tuodi DC Light Sensor Switch. This device is designed for automatic control of lighting and other electronic equipment based on ambient light levels, offering convenience and energy efficiency.

2. SAFETY INFORMATION

Please read and understand all safety instructions before installing or operating the device. Failure to do so may result in electric shock, fire, or other hazards.

- Ensure stable DC 6V-24V voltage input. Using 5V DC may affect product stability and performance.
- When using 24V voltage, the working current should not exceed 6A to prevent damage to the switch. The maximum rated current is 5A.
- For the 'Night working version' of the switch connected to LEDs, ensure the light emitted by the LED does not shine directly on the sensor after activation. This can cause the switch to continuously cycle ON and OFF.
- This product is a pure light sensor switch and does not incorporate a body (PIR) motion sensor.
- Always disconnect power from the circuit before performing any installation, wiring, or maintenance procedures.
- Do not expose the unit to extreme temperatures, high humidity, or direct water immersion.

3. PRODUCT OVERVIEW

The weisuan-Tuodi Light Sensor Switch is designed to automatically control connected DC devices by detecting ambient light levels. It features a compact design with integrated input and output cables for easy installation.

3.1. Components

- **Light Sensor Module:** The main unit containing the light-sensitive element.
- **DC Input Cable:** Connects to the DC power source (male connector).
- **DC Output Cable:** Connects to the device being controlled (female connector).

3.2. Product Views



Figure 3.2.1: The weisuan-Tuodi DC Light Sensor Switch, showing the sensor dome and the input/output DC cables with labels.



Figure 3.2.2: Top-down view of the weisuan-Tuodi DC Light Sensor Switch, highlighting the sensor dome and the input/output cables.



Figure 3.2.3: Rear view of the weisuan-Tuodi DC Light Sensor Switch, showing the model number LTDL-2025 and voltage/current ratings.



Figure 3.2.4: Close-up view of the input and output cables of the weisuan-Tuodi DC Light Sensor Switch, with clear 'INPUT' and 'OUTPUT' labels.

4. SPECIFICATIONS

Parameter	Value
Model Number	LTDL-2025-WB
Working Voltage	DC 6V-24V
Current Rating	5 Amps
Sensor Method	Light Sensor
Light Detecting Threshold	18LM (±2 Lumens)
Cord Length	0.3 Meters

Parameter	Value
Dimensions (LxWxH)	48 x 25 x 14 mm
Net Weight	29 grams
Operation Mode	ON-OFF
Connector Type	5.5*2.1mm Plug
Mounting Type	Wall Mount
Actuator Type	Light Sensor
Material	Aluminum
International Protection Rating	IP54

5. SETUP AND INSTALLATION

Follow these steps to properly install your DC Light Sensor Switch.

5.1. Wiring Diagram

The sensor switch connects in-line between your DC power source and the device you wish to control.

DC Power Source (6V-24V) → Sensor Input Cable → Sensor Output Cable → Controlled Device (e.g., LED Strip, Camera, Motor)

5.2. Installation Steps

- Choose Location:** Identify the desired location for the sensor. Ensure it receives appropriate ambient light for its intended operation (Day-ON/Night-OFF or Night-ON/Day-OFF). Avoid locations where external light sources (like the controlled device's light) might directly interfere with the sensor.
- Connect Input:** Connect the DC power source (6V-24V) to the *Input* cable of the sensor switch. The input cable typically has a male DC connector.
- Connect Output:** Connect the *Output* cable of the sensor switch to your LED strip light, camera, motor, or other electronic equipment. The output cable typically has a female DC connector.
- Secure Sensor:** Secure the sensor switch in place using the integrated mounting hole if necessary. Ensure the sensor dome is unobstructed.
- Power On:** Power on the DC power source.
- Test Functionality:** Test the switch's functionality by adjusting ambient light conditions around the sensor.

5.3. Installation Demonstration Video

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Video 5.3.1: A demonstration of the Day-ON; Night OFF Light Sensor Switch in operation, tested with a COB LED strip. This video illustrates how the sensor reacts to changes in ambient light to control the connected LED.

6. OPERATING INSTRUCTIONS

The weisuan-Tuodi Light Sensor Switch operates automatically based on the ambient light level detected by its sensor. The threshold for activation is approximately 18 Lumens (LM).

6.1. Day-ON; Night-OFF Version

- **ON Condition:** The switch is ON when the ambient light level is greater than 18LM (during the day or in sufficient light).
- **OFF Condition:** The switch is OFF when the ambient light level is less than 18LM (at night or in low light).

6.2. Night-ON; Day-OFF Version

- **ON Condition:** The switch is ON when the ambient light level is less than 18LM (in low light or at night).
- **OFF Condition:** The switch is OFF when the ambient light level is greater than 18LM (during the day or in sufficient light).

6.3. Light Detection Threshold

The sensor is calibrated to activate or deactivate at approximately 18 Lumens. This threshold ensures reliable operation in typical indoor and outdoor lighting conditions.

7. MAINTENANCE

The weisuan-Tuodi DC Light Sensor Switch requires minimal maintenance to ensure optimal performance and longevity.

- **Cleaning:** Periodically clean the sensor lens with a soft, dry cloth to remove any dust, dirt, or obstructions that might interfere with accurate light detection. Do not use abrasive cleaners or solvents.
- **Connection Check:** Regularly inspect all cable connections to ensure they are secure and free from damage. Loose connections can lead to intermittent operation or device malfunction.
- **Environmental Protection:** While the unit has an IP54 rating, avoid exposing it to extreme temperatures, direct water immersion, or harsh chemicals to prolong its lifespan.

8. TROUBLESHOOTING

If you encounter issues with your weisuan-Tuodi DC Light Sensor Switch, refer to the table below for common problems and their solutions.

Problem	Solution
Switch not turning ON/OFF as expected.	◦ Verify that you have the correct version (Day-ON/Night-OFF or Night-ON/Day-OFF) installed for your specific application. ◦ Check the ambient light levels around the sensor. Ensure they are above or below the 18LM threshold as required by your switch version. ◦ For the 'Night working version', ensure no external light source (especially the connected LED itself) is directly illuminating the sensor after activation, as this can cause rapid cycling. ◦ Ensure the sensor lens is clean and unobstructed.
Connected device not receiving power.	◦ Check that the input voltage (DC 6V-24V) is stable and within the specified range. ◦ Ensure the current draw of the connected device does not exceed the switch's rated current of 5A (or 6A for 24V systems). ◦ Verify all cable connections are secure and properly seated.

Problem	Solution
Intermittent operation or flickering.	◦ Ensure a stable voltage input to the switch. Fluctuations can cause erratic behavior. ◦ Check for any flickering light sources (e.g., faulty bulbs, unstable power) near the sensor that might cause rapid switching. ◦ Ensure the sensor is not exposed to rapid changes in light, such as shadows passing over it frequently.

9. WARRANTY AND SUPPORT

For warranty information, technical assistance, or any questions regarding your weisuan-Tuodi DC Light Sensor Switch, please contact weisuan-Tuodi customer service.

- **Contact Information:** Refer to your product packaging or the retailer's website for the most current customer service contact details.
- **Information Needed:** When contacting support, please have your product model number (LTDL-2025-WB) and proof of purchase (e.g., order number, purchase date) readily available.

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