Maclean MCE242

Maclean MCE242 Infrared Motion Detector Switch Instruction Manual

Model: MCE242

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your Maclean MCE242 Infrared Motion Detector Switch. This device is designed to automatically control LED lighting based on motion detection and ambient light conditions, offering convenience and energy efficiency. Please read this manual thoroughly before use to ensure proper function and safety.

2. Safety Information

- Ensure the power supply is disconnected before installation or maintenance.
- This device is designed for DC 12V power sources only. Do not connect to AC power.
- The maximum rated load is 60W. Do not exceed this limit to prevent damage to the device or connected lighting.
- Installation should be performed by a qualified electrician if you are unsure about electrical wiring.
- Avoid installing the sensor near heat sources, air conditioning vents, or in direct sunlight, as this may affect detection accuracy.
- The device is rated IP20, meaning it is protected against solid objects over 12.5mm but has no protection against water. Do not expose to moisture or water.

3. Product Overview

The Maclean MCE242 is a compact infrared motion detector switch specifically designed for use with LED strips. It features adjustable settings for detection time and brightness, allowing for customized lighting control.



Figure 1: Top view of the Maclean MCE242 Infrared Motion Detector Switch, showing the dome sensor and input/output cables.



Figure 2: Side view of the Maclean MCE242, highlighting the adjustment dials for time delay and brightness.

Key Features:

- **Infrared Motion Detection:** Detects movement within a 120° angle and up to 10 meters.
- **Twilight Sensor:** Integrates a day/night detection function to operate only in low light conditions if desired.
- **Adjustable Time Delay:** Set the illumination duration to 30s, 120s, or 360s after motion ceases.
- **Brightness Control:** Continuously adjust the output brightness from 10% to 100%.
- **Compact Design:** Small form factor for discreet installation.

4. Specifications

Parameter	Value
Power Source	DC 12V
Detection Angle	120°
Detection Distance	Max. 10 m
Protection Type	IP20
Rated Load	Max. 60 W

Parameter	Value
Brightness Adjustment	10% to 100% (Continuous)
Power Consumption	Approx. 0.5 W
Time Delay Settings	30s, 120s, 360s
Dimensions (L x W x H)	13 x 5 x 4 cm
Weight	60 grams
Operating Temperature	Up to 40°C
Certification	CE
Compatible Devices	LED Strips

5. Setup and Installation

Follow these steps to install your Maclean MCE242 motion detector switch:

1. **Prepare the Installation Area:** Choose a location where the sensor can cover the desired detection area without obstruction. Ensure the surface is clean and dry.
2. **Disconnect Power:** Before making any electrical connections, ensure the 12V DC power supply is completely disconnected.
3. **Connect LED Strip:** Connect the output cable of the MCE242 (typically the male DC connector) to your 12V LED strip.
4. **Connect Power Supply:** Connect your 12V DC power supply to the input port of the MCE242 (typically the female DC jack).
5. **Secure the Device:** Use appropriate mounting hardware (not included) to secure the MCE242 in its chosen location. Ensure it is stable and the sensor dome is unobstructed.
6. **Restore Power:** Once all connections are secure and the device is mounted, restore power to the 12V DC power supply.



Figure 3: Bottom view of the Maclean MCE242, showing the product label with model number and specifications.

6. Operating Instructions

The Maclean MCE242 features two adjustable controls:

- **Time Delay Adjustment:** Use the switch labeled '30S', '120S', '360S' to select how long the LED lights remain on after motion is no longer detected.
- **Brightness Adjustment:** Use the rotary dial labeled '10%' to '100%' to set the desired output brightness of the connected LED strip. This allows for continuous adjustment.

The integrated twilight sensor will activate the motion detection function only when the ambient light falls below a certain threshold. This ensures the lights do not turn on unnecessarily during daylight hours.

7. Maintenance

- **Cleaning:** Gently wipe the sensor dome and device housing with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Inspection:** Periodically check the cables and connections for any signs of wear or damage.
- **Environment:** Ensure the operating environment remains within the specified temperature and humidity ranges.

8. Troubleshooting

Problem	Possible Cause	Solution
Lights do not turn on with motion.	No power, incorrect wiring, sensor obstructed, ambient light too high, faulty sensor.	Check power connections. Verify wiring. Ensure sensor dome is clear. Test in darker conditions (the sensor may only activate if ambient light is low, e.g., below 30 lux). Replace if faulty.
Lights stay on continuously.	Constant motion in detection area, faulty sensor.	Ensure no continuous motion is present. Adjust sensor placement. If problem persists, the sensor may be faulty.
Lights flicker or are too dim/bright.	Incorrect brightness setting, unstable power supply, exceeding max load.	Adjust the brightness dial. Ensure a stable 12V DC power supply. Verify total wattage of LED strips does not exceed 60W.
Detection range is poor.	Obstructions, incorrect mounting height/angle, environmental factors.	Clear any obstructions. Adjust sensor position for optimal coverage. Avoid placing near heat sources or strong air currents.

9. Warranty and Support

Maclean products are designed for reliability and performance. For warranty information, please refer to the terms and conditions provided at the point of purchase or contact your retailer. If you encounter any issues not covered in this manual, please contact Maclean customer support or your product supplier for assistance.

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