

Orno CR-211/12-24V

ORNO CR-211/12-24V Mini Motion Sensor for LED Lights

User Manual

INTRODUCTION

The ORNO CR-211/12-24V is a compact infrared (PIR) motion sensor designed for automatic control of LED lighting or other electrical devices. It features a 360-degree detection angle, a built-in twilight sensor, and adjustable time and light intensity settings, making it ideal for energy-saving applications in both private and professional environments. This manual provides detailed instructions for safe installation, operation, and maintenance of your device.

PRODUCT FEATURES

- **Wide Voltage Compatibility:** Operates with 12-24V DC power supplies, suitable for various low-voltage applications.
- **360-Degree Detection:** Provides comprehensive coverage, detecting motion from all directions.
- **Integrated Twilight Sensor:** Activates the sensor only when ambient light falls below a set threshold, optimizing energy use.
- **Adjustable Timer:** Allows customization of the illumination duration from 5 seconds to 8 minutes after motion detection.
- **Adjustable Light Sensitivity (LUX):** Set the ambient light level (10 or 2000 lux) at which the sensor becomes active.
- **LED Compatible:** Designed to work with all types of LED light sources, requiring a minimum load of 1W.
- **Compact Design:** Miniaturized sensor head for discreet installation.

SAFETY INFORMATION

Please read these safety instructions carefully before installation and operation. Failure to follow these instructions may result in electric shock, fire, or other hazards.

- Installation must be performed by a qualified electrician in accordance with local electrical codes and regulations.
- Ensure the power supply is disconnected before performing any installation, maintenance, or troubleshooting.
- This device is designed for 12-24V DC systems only. Connecting it to a higher voltage (e.g., 230V AC) will damage the unit and pose a safety risk.
- Do not exceed the maximum load capacity of 60-120W.
- The device has an IP20 protection rating, meaning it is protected against solid objects larger than 12.5mm but has no protection against water. Do not install in wet or damp locations.

- Keep the sensor away from heat sources, direct sunlight, and strong air currents (e.g., from air conditioners) to prevent false triggers.

PACKAGE CONTENTS

Verify that all components are present and undamaged:

- 1x ORNO CR-211/12-24V Mini Motion Sensor unit
- Instruction Manual (this document)

SETUP AND INSTALLATION

The ORNO CR-211/12-24V motion sensor is designed for discreet installation. The main control unit can be hidden, while the small sensor head is exposed for detection.

Mounting

1. Choose a suitable location for the sensor head. It should be free from obstructions and positioned to cover the desired detection area.
2. Drill a mounting hole with a diameter of **Ø12mm** for the sensor head.
3. Insert the sensor head into the drilled hole.
4. Secure the main control unit in a hidden, dry location, ensuring proper ventilation. The unit is suitable for surface mounting.

Wiring Diagram

Refer to the diagram below for correct wiring. Ensure the power supply is off before connecting any wires.



Image: The ORNO CR-211/12-24V motion sensor showing the main unit, the external sensor head, and the input/output wiring. The red and blue wires are typically for power input, and the brown and blue wires for load output.

- **Input (Power Supply 12-24V DC):** Connect the positive (+) lead of your 12-24V DC power supply to the appropriate input terminal (often marked with a '+' or red wire). Connect the negative (-) lead to the corresponding terminal (often marked with a '-' or blue wire).
- **Output (Load Connection):** Connect your LED lighting or other electrical device to the output terminals. Ensure the load's

voltage and wattage are compatible with the sensor's specifications (12-24V DC, 60-120W max).

After wiring, restore power and proceed to the operating instructions and adjustments.

OPERATING INSTRUCTIONS

Once installed and powered, the sensor will operate according to its settings. When motion is detected within its 360-degree field of view and the ambient light level is below the set LUX threshold, the connected load (e.g., LED lights) will turn on for the duration set by the timer.

The sensor uses passive infrared (PIR) technology to detect changes in infrared radiation caused by moving objects (like people or animals). For optimal performance, ensure the sensor lens is clean and unobstructed.

ADJUSTMENTS

The ORNO CR-211/12-24V features DIP switches for adjusting the operating time and light sensitivity (LUX level). These switches are located on the main control unit.



Image: Side view of the sensor unit, highlighting the row of small red DIP switches used for configuration.

Time Adjustment

The timer determines how long the connected load remains active after motion is detected. The available settings are:

- 5 seconds
- 30 seconds
- 1 minute
- 3 minutes
- 5 minutes
- 8 minutes

Consult the markings next to the DIP switches on your device for the specific switch combinations corresponding to each time setting.

Light Sensitivity (LUX) Adjustment

The LUX setting determines the ambient light level at which the sensor will activate. This allows the sensor to only turn on lights when it's dark enough.

- **10 LUX:** The sensor will only activate in very dark conditions.
- **2000 LUX:** The sensor will activate in almost all lighting conditions (day and night).

Adjust the LUX setting using the designated DIP switch according to your preference. For example, set to 10 LUX if you only want lights to turn on at night.

MAINTENANCE

The ORNO CR-211/12-24V motion sensor requires minimal maintenance.

- **Cleaning:** Periodically wipe the sensor lens with a soft, dry cloth to remove dust or dirt that might interfere with detection. Do not use abrasive cleaners or solvents.
- **Inspection:** Regularly check the wiring connections to ensure they are secure and free from damage.
- **Environment:** Ensure the operating environment remains within the specified temperature range and free from excessive moisture.

TROUBLESHOOTING

If you experience issues with your motion sensor, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution
Lights do not turn on when motion is detected.	No power to the sensor. Incorrect wiring. LUX setting too high (sensor thinks it's daytime). Faulty LED light/load. Sensor lens obstructed.	Check power supply (12-24V DC). Verify wiring connections according to the diagram. Adjust LUX setting to 10 LUX for testing in dark conditions. Test the LED light/load independently. Clean the sensor lens and remove any obstructions.
Lights stay on constantly.	Continuous motion in detection area. Timer setting too long. Sensor malfunction.	Ensure no constant movement is triggering the sensor. Adjust the timer setting to a shorter duration. Disconnect power for a few minutes and reconnect to reset the sensor.
Sensor triggers too often or falsely.	Sensor positioned near heat sources or air currents. Detection range too wide.	Relocate the sensor away from heat vents, windows, or strong drafts. Consider adjusting the sensor's position to narrow the detection area if possible.
Incorrect voltage applied.	Connecting to 230V AC instead of 12-24V DC.	Immediately disconnect power. The device is likely damaged and requires replacement. This sensor is strictly for 12-24V DC.

SPECIFICATIONS

Detailed technical specifications for the ORNO CR-211/12-24V Mini Motion Sensor:

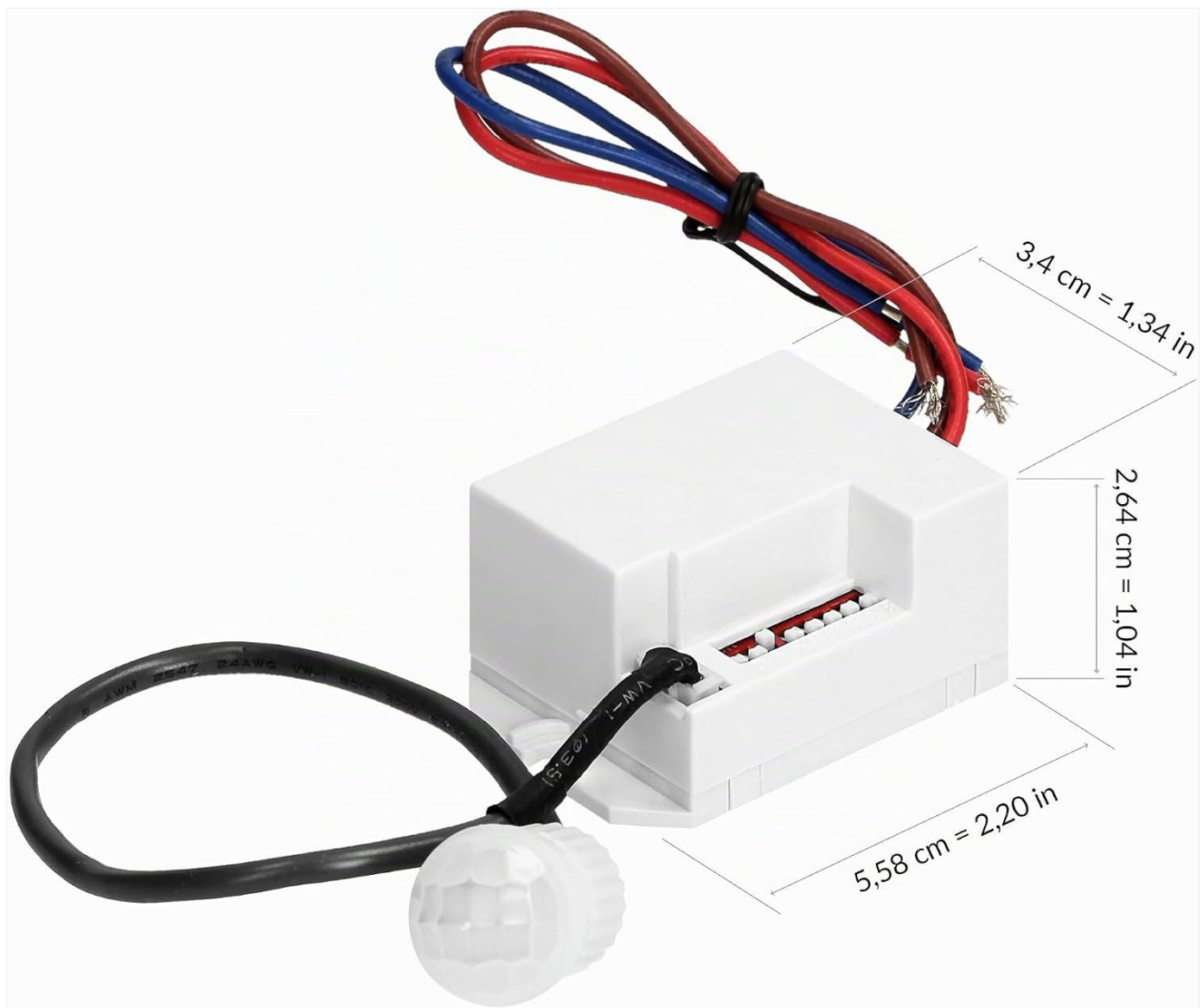


Image: Diagram illustrating the dimensions of the sensor unit and its external sensor head in both centimeters and inches.

- **Model:** CR-211/12-24V
- **Sensor Type:** Infrared (PIR)
- **Detection Angle:** 360 degrees
- **Detection Range:** Up to 3 meters (Ø 3m or 6m from description, but max range is 3m in specs)
- **Supply Voltage:** 12-24V DC
- **Maximum Load:** 60-120W
- **Minimum LED Load:** 1W
- **Protection Type:** IP20
- **Color:** White
- **Light Intensity Adjustment (LUX):** 10 LUX or 2000 LUX
- **Time Adjustment:** 5s, 30s, 1min, 3min, 5min, 8min
- **Mounting:** Wall mounting, Surface mounting
- **Sensor Head Mounting Hole:** Ø12mm
- **Sensor Dimensions (W/H/D):** 26.4 mm / 34 mm / 55.8 mm
- **Operating Temperature:** Up to 60°C
- **Weight:** 71 Grams

- **Compatible Devices:** LED lights

WARRANTY AND SUPPORT

ORNO products are designed for reliability and performance. This product comes with a standard manufacturer's warranty. Please refer to your purchase documentation or contact your retailer for specific warranty terms and conditions.

For technical support, troubleshooting assistance, or inquiries regarding your ORNO CR-211/12-24V motion sensor, please contact the retailer where you purchased the product or visit the official ORNO website for contact information.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question