

Intermatic K4021C

Intermatic K4021C 120-Volt Thermal Photocontrol Instruction Manual

Model: K4021C

1. INTRODUCTION

The Intermatic K4021C is a 120-Volt fixed position thermal photocontrol designed for automatic control of outdoor lighting. This device senses ambient light levels to turn lights on at dusk and off at dawn, providing energy efficiency and convenience. It is suitable for both commercial and residential applications, including standard outlet boxes, post lamps, and wall packs.

Important Note: This photocontrol is **NOT FOR LED APPLICATIONS**.

2. SAFETY INFORMATION

WARNING: Risk of Electric Shock. Disconnect power at the circuit breaker or fuse box before installation or servicing. Installation should be performed by a qualified electrician in accordance with all national and local electrical codes.

- Ensure the power supply matches the device's voltage rating (120 Volts).
- Do not exceed the maximum load ratings: 8.3 Amps, 1800 Watts for Tungsten; 15 Amps, 1000 VA for Magnetic Ballast.
- Protect wiring from sharp edges and abrasion.
- Ensure all connections are secure and properly insulated.

3. INSTALLATION INSTRUCTIONS

The K4021C photocontrol is designed for easy integration into various lighting fixtures. It features a 3/8-inch-18 threaded side mounting with a locking nut and washer gasket for secure installation. The unit comes with 9-inch leads for wiring connections.

3.1 Mounting

1. Choose a mounting location where the photocontrol's sensor will receive unobstructed natural light during the day and will not be affected by artificial light sources at night (e.g., nearby streetlights, windows).

2. Drill a suitable hole (if not already present) for the 3/8-inch-18 threaded nipple.
3. Insert the threaded nipple of the photocontrol through the mounting hole.
4. Secure the photocontrol using the provided locking nut and washer gasket. Ensure a tight seal to prevent moisture ingress.

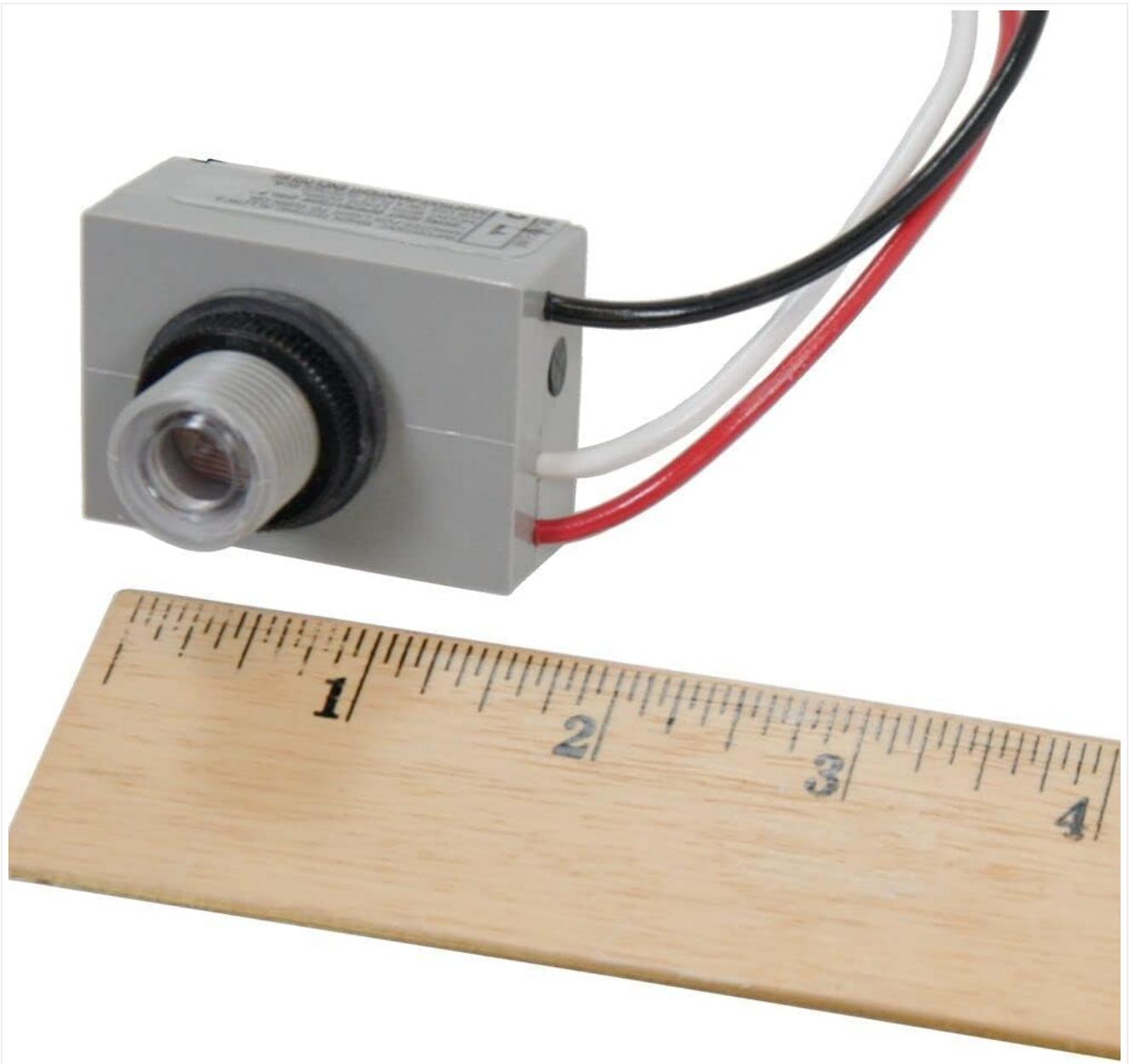


Figure 1: Angled view of the Intermatic K4021C photocontrol, highlighting the threaded nipple and locking nut for secure mounting.

3.2 Wiring

The K4021C photocontrol has three color-coded wire leads:

- **Black Wire:** Connect to the 120-Volt AC Line (Hot) input.
- **White Wire:** Connect to the Neutral wire.
- **Red Wire:** Connect to the Load (lighting fixture) input.

1. Ensure power is OFF at the circuit breaker before making any connections.
2. Connect the black wire of the photocontrol to the incoming 120-Volt AC Line (Hot) wire from the power source.
3. Connect the white wire of the photocontrol to the Neutral wire from the power source and to the Neutral wire of the lighting fixture.
4. Connect the red wire of the photocontrol to the Hot wire of the lighting fixture.

5. Secure all wire connections with appropriate wire nuts or connectors.
6. Carefully tuck all wires into the junction box or fixture, ensuring no wires are pinched.
7. Restore power and test the unit.



Figure 2: Front view of the Intermatic K4021C photocontrol, showing the black, white, and red wire leads for electrical connections.



Figure 3: Close-up of the Intermatic K4021C photocontrol, detailing the light sensor and wire connections.

4. OPERATION

The K4021C photocontrol operates automatically based on ambient light levels:

- **Activation ON (at Dusk):** The photocontrol will turn the connected lighting fixture ON when the ambient light level drops to approximately 1-5 footcandles.
- **Activation OFF (at Dawn):** The photocontrol will turn the connected lighting fixture OFF when the ambient light level rises to approximately 3-15 footcandles.

4.1 Delay Feature

This photocontrol incorporates a delay feature to prevent unwanted ON/OFF switching due to transient light changes, such as car headlights, lightning, or other temporary light sources. This ensures stable and reliable operation of your lighting system.

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Video 1: Official product overview video for the Intermatic K4021C Thermal Photocontrol, demonstrating its features and applications, including the dusk-to-dawn operation and delay feature.

5. MAINTENANCE

The Intermatic K4021C photocontrol is designed for maintenance-free operation. However, periodic inspection is recommended to ensure optimal performance:

- Keep the photocontrol's sensor lens clean and free from dirt, dust, or obstructions that could interfere with light sensing.
- Periodically check wiring connections for tightness and signs of corrosion.
- Ensure the photocontrol is securely mounted and not loose.

6. TROUBLESHOOTING

Problem	Possible Cause	Solution
Lights stay on during the day.	Sensor is obstructed or receiving insufficient light.	Clean the sensor lens. Relocate the photocontrol to an area with more direct natural light.
Lights do not turn on at night.	No power to the photocontrol; faulty wiring; sensor receiving too much artificial light.	Check circuit breaker. Verify wiring connections. Relocate the photocontrol away from artificial light sources.
Lights flicker or cycle ON/OFF rapidly.	Sensor is exposed to intermittent light sources (e.g., car headlights, reflections).	The built-in delay feature should mitigate this. If persistent, try to shield the sensor from transient light sources or relocate.
Photocontrol does not respond.	Unit failure; incorrect wiring.	Verify all wiring connections. If problem persists, the unit may need replacement.

7. SPECIFICATIONS

Feature	Specification
Model Number	K4021C
Operating Voltage	120 Volts AC

Feature	Specification
Current Rating	15 Amps
Tungsten Load	1800 Watts
Magnetic Ballast Load	1000 VA
Operation Mode	ON-OFF (Dusk-to-Dawn)
Contact Type	Normally Open
Connector Type	Clamp
Terminal	Button
Material	Polycarbonate
Wire Leads	9-Inch, #18 AWG
Mounting	3/8-Inch-18 NPSM Threaded Stem
Dimensions (L x W x H)	8 x 8 x 8 inches (Product Dimensions)
Item Weight	0.96 ounces
International Protection Rating	IP54
Compatible Devices	Fluorescent, HID, Incandescent
Color	White (Housing)

8. WARRANTY AND SUPPORT

This Intermatic K4021C photocontrol comes with a **5-Year Warranty** from the date of purchase. For warranty claims or technical support, please contact Intermatic customer service. Keep your proof of purchase for warranty validation.