

PHOTO-EYE SENSOR CELL LENS 14750404

INSTALL INSTRUCTIONS

Replaces MPNs: 14750404, 12055908, 19050196

Before Installing

- **ALWAYS** unplug the unit before beginning any work
 - Allow the unit to cool completely if recently used
 - Work in a well-lit area with proper tools
 - Ensure there are no pellets in the hopper assembly
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Installation Steps

1. Unplug the stove.
2. Clear the hopper of pellets to access the Photo-Eye sensor compartment inside the hopper.
3. With a socket wrench, remove the central nut holding the photo eye compartment cover plate, and loosen the 2 nuts on the side of the cover enough to free the cover plate.
4. Gently remove the cover plate from the hopper.
 - keep note of how the wires are folded in when removing the plate, the new sensor wiring will need to be put in the same way.
5. Disconnect the wires between the photo eye and stove.
6. Remove the old photo-cell eye from the sensor.
7. Connect the new photo-cell eye to the sensor.
8. Carefully unscrew and remove the photo eye lens bracket and lens from inside the compartment to inspect and clean the lens.
 - The lens should be clear enough for the photo eye to detect the flame through the lens. If the lens is warped, burned, or damaged, consider replacing the lens before installing the photo-eye sensor.

9. Once inspected, cleaned, or replaced, carefully reinstall the photo-eye lens and lens bracket into the compartment with hex nuts.
10. Connect the photo-eye sensor wires to the stove wires.
11. Carefully install the photo-eye sensor and cover plate back onto the hopper. Ensure the wires are folded and oriented in the same way as the previous sensor. Fasten the cover plate back in place with hex nuts.

Startup Sequence for Auto-Ignition using a Photo-Eye for “Proof-of-Fire”

1. All controllers are equipped with a startup timer fault delay of 14 minutes, 15 seconds. If the photo-eye does not detect flame (Fire Dominance Scheme) within this allotted time, the green fault light will flash and all power to components will be cut.
2. When the power is turned “ON”, either by pressing the power button or initiated by a thermostat, fuel will feed at a 100% rate (constant feed) for 1 minute, 50 seconds with a feed trim setting of “0”. Feed trim settings range from 1:26 to 2:14, depending upon desired range, +4 to -4 respectively.
3. Combustion fan starts (startup default medium range). Any change to settings are visible on the indicator but will not take effect until “Proof-of-fire”.
4. Room blower starts (startup default medium range) Any change to settings are visible on the indicator but will not take effect until “Proof-of-fire”.
5. The igniter is powered “ON”, line voltage.
6. At 3 minutes, the control board sends a 5-volt signal to photo-eye. When the cell detects light from the fire (fire dominance scheme), a 2.4-volt signal is created by the photocell which closes the solenoid in the photo-eye circuit and returns the 5-volt signal back to the control board, “Proof-of-fire” achieved.
7. If “Proof-of-fire” is not achieved at 4 minutes, a 2nd supplemental fuel feed is initiated for 30 seconds. At 6 minutes, if “Proof-of-fire” is not achieved a 3rd supplemental fuel feed is initiated for 30 seconds.

8. If the Photo-Eye loses sight control for more than 3 minutes, 15 seconds at any time or if the controller is powered off, "SHUTDOWN" is initiated.
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Post-Installation Check

- Verify all connections are secure
 - Ensure all wiring is not in proximity of moving parts
 - Test motor operation before closing panels
 - Check for any unusual noises or vibrations
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Support

If you encounter any issues during installation, consult your owner's manual or contact technical support via our [contact form](#).