

## DETECTION AND ACTIVATION

### Urinals (EL-1500 Sensor)

When the Sensor detects a user, a slowly flashing red light appears in the Sensor window. After eight (8) to ten (10) seconds, the light flashes rapidly to indicate that the Sensor is armed. When the Sensor no longer detects a user, the Sensor immediately activates the solenoid valve.

### Water Closets (EL-1500-L Sensor)

Detection and activation are the same as for the Urinal EL-1500 Sensor shown above except when the Sensor no longer detects a user, the Sensor activates the solenoid valve after a three (3) second delay.

The EL-1500 urinal and EL-1500-L closet self adaptive Sensors are equipped with a "Sentinel Flush" feature. These units automatically activate the solenoid every twenty-four (24) hours after the last use.

### Lavatories (EL-1500-LL and EL-1500-LL-T Sensors)

When the Sensor detects a user, a slowly flashing red light appears in the Sensor window. After two (2) seconds, the light flashes rapidly and the Sensor immediately activates the solenoid valve to begin water flow. The solenoid valve remains open as long as the user is detected and for two (2) seconds after the user is no longer detected. The EL-1500-LL-T Sensor is set to activate the solenoid for a maximum of thirty (30) seconds before automatically shutting off.

For information concerning troubleshooting Sloan OPTIMA and Royal Flushometer valves, consult our Repair and Maintenance Guides or contact your local Sloan Representative.

If further assistance is required, please contact the Sloan Valve Company Installation Engineering Department at 847-671-4300.

**NOTICE:** The information contained in this document is subject to change without notice.

## SLOAN EL-1500 SERIES SELF ADAPTIVE OPTIMA® SENSOR

The EL-1500 Series OPTIMA Sensor represents the most advanced technology used in any sensor operated plumbing product available today. The EL-1500 Series replaces the older EL-150 Series Sensors that have been used with Sloan OPTIMA plumbing products for over fifteen years.

### ABOUT THE SLOAN EL-1500 SERIES OPTIMA® SENSOR

The EL-1500 Series OPTIMA Sensor is the first sensor used with a plumbing product that "thinks." An EL-1500 Sensor adapts itself to its environment. The Sensor self adjusts its own range setting based on what it "sees" in front of it, and therefore needs no manual range adjustment. It automatically compensates for the depth and reflectivity of the opposite wall or stall door and for the ambient lighting conditions of the rest room. Additionally, each sensor uses a visible red light that flashes to indicate detection of a user or problems with the electrical connection. The EL-1500 urinal and EL-1500-L closet Sensors incorporate a Sentinel Flush (an automatic flush every 24 hours after fixture's last use). This feature helps to maintain a fresh and filled fixture even when the fixture is not used for a long period of time.

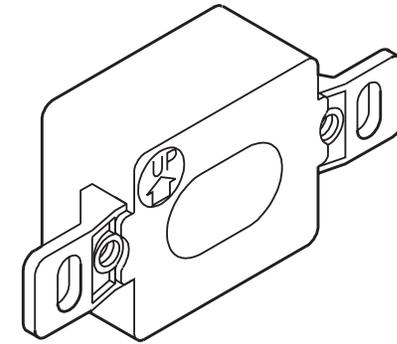
**SLOAN VALVE COMPANY**  
10500 Seymour Avenue • Franklin Park, IL 60131  
Phone: 800-9-VALVE-9 or 847-671-4300  
Fax: 800-447-8329 or 847-671-4380  
<http://www.sloanvalve.com>

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# SLOAN® OPTIMA® INSTALLATION INSTRUCTIONS SENSOR REPLACEMENT KITS

Use to Replace Sloan EL-1500 and EL-150 Series Optima Sensors



**EL-1500**  
**Urinal Sensor**  
(Code no. 3305620)

**EL-1500-L**  
**Water Closet Sensor**  
(Code no. 3305621)

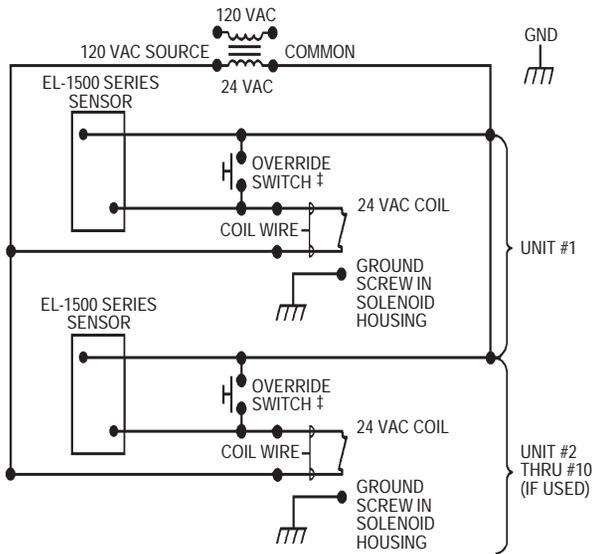
**EL-1500-LL**  
**Lavatory Sensor**  
(Code no. 3305622)

**EL-1500-LL-T**  
**Lavatory Sensor**  
with 30 Second Time Out  
(Code no. 3305623)



ELSENS I.I. — Rev. 1 (10/98)  
Code No. 0816196

**NOTE:** A MAXIMUM OF TEN (10) SENSOR FLUSHOMETER OR THREE (3) LAVATORY FAUCET UNITS CAN OPERATE FROM ONE (1) SLOAN EL-154 TRANSFORMER. CLASS 2 UL LISTED, 48 VA (MIN.) AT 24 VAC, PLATE MOUNTED.

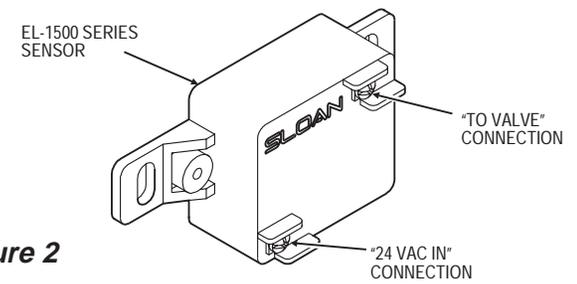


‡ OVERRIDE SWITCH USED WITH WATER CLOSETS ONLY.

**Figure 1**  
**WIRING DIAGRAM**

## INSTALLATION AND REPLACEMENT

1. Disconnect 24 VAC power supply at the transformer or the fuse box.
2. Remove the Cover Plate and old Sensor from the wall installation. Use a 5/64" hex wrench to remove the Cover Plate Screws.
3. Connect one 24 VAC lead to the Sensor terminal labeled "24 VAC IN." (See Figure 2.)
  - On an old three-wire EL-150 series Sensor, this wire was connected to the BLACK Sensor lead.
  - On an old four-wire EL-150 series Sensor, this wire was connected to the BROWN Sensor lead.
4. Connect one Solenoid lead to the Sensor terminal labeled "TO VALVE." (See Figure 2.)
  - On an old three-wire or four-wire EL-150 series Sensor, this wire was connected to the RED Sensor lead.
5. Connect the remaining 24 VAC lead to the remaining Solenoid lead.
  - On an old three-wire EL-150 series Sensor, these wires were connected to the WHITE Sensor lead.
  - On an old four-wire EL-150 series Sensor, these wires were connected to the YELLOW and BLUE (or in very early models, the inner BROWN) Sensor leads.
6. On Water Closet installations only, connect the Override Button (shown as the Override Switch in Figure 1 Wiring Diagram) parallel to the EL-1500-L Sensor.
7. The illustration of the Sensor on the front cover of these installation instructions shows an orientation arrow on the Lens side of the Sensor. Reinstall the Sensor with the arrow pointing UP. Replace the Cover Plate and tighten the Cover Plate Screws.
8. Reconnect the 24 VAC power supply at the transformer or the fuse box.



**Figure 2**

## START-UP MODE

The self adaptive sensor automatically adapts to the surrounding environment when 24 volt supply is activated. No manual adjustments are required.

Start-up mode will take approximately five (5) minutes to complete its cycle and is important that no non-permanent target is present at this time. A continuous red light visible in sensor window indicates sensor is in the start-up mode. If the red light is flashing, this indicates that the sensor is picking up a target. Unless this target is a permanent fixture in the sensor's environment (i.e., a wall or stall door), it must be removed from the view of the sensor. If this target is permanent, the sensor will adapt itself around this target. In this case, the start-up mode may take up to ten (10) minutes. When the start-up cycle is completed, there will be no light visible in the sensor window.

**Note:** If the 24 volt power supply is ever interrupted for longer than fifteen (15) seconds, the start-up mode automatically begins when power is restored.

Incorrect wiring or a short in the 24 volt power supply is indicated by a continuous warning signal seen in the Sensor window. The visible red light flashes an "SOS" signal: three (3) slow, three (3) fast, three (3) slow flashes.