

SENTINEL™

REMOTE LAMP INDICATOR

INSTALLATION & OPERATION



ATLANTIC **U** **ULTRAVIOLET**
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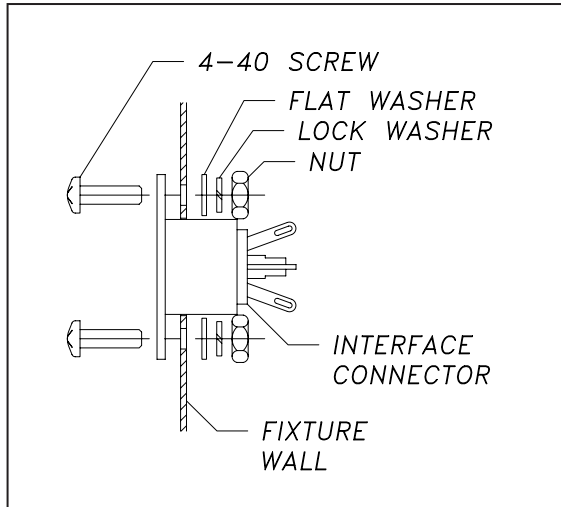
Extensive Product Information Available at:

www.ultraviolet.com

Owner's Manual

7. Remove wire nuts and separate the lamp sensor(s) from the wire leads of the interface connector. Set wire nuts and lamp sensor(s) aside in a safe place, where they can be easily found when reassembling the wiring harness.
8. Carefully slide the body of the interface connector into the fixture through the 19/32" diameter hole in the fixture wall, take care not to damage the attached wiring when mounting the connector. Align the mounting holes of the connector with the 1/8" diameter holes in the fixture wall. Secure the connector using the supplied No. 4 hardware. See Figure 5 - Interface Connector Mounting.

Figure 5 - Interface Connector Mounting



9. Locate the ballast associated with the lamp 1. Locate blue wire from ballast and follow back to wire nut, which connects ballast wire to lamp socket. Remove wire nut and separate wires. Insert blue wire, from ballast, through the center of lamp sensor 1 and wrap a minimum of 1 turn around lamp sensor. Reconnect ballast wire to lamp socket and reattach wire nut.
10. Connect black wire of sensor 1 to the green wire of the interface connector, twist wire conductors clockwise, install wire nut. NOTE: Twisting wires together counter-clockwise could cause wires to separate when installing wire nut. For magnetic sensors, connect white wire of lamp sensor 1 to the white wire of the interface connector. For electronic sensors, connect the second black wire of lamp sensor 1 to the white wire of the interface connector. See Figure 6 - Lamp Sensor Wiring Diagram.
11. Repeat steps 9 and 10 for remaining lamp sensors;
 - a. Connect black wire of lamp sensor 2 to the orange wire of the interface connector.
 - b. Connect black wire of lamp sensor 3 to the black wire of the interface connector.
 - c. Connect black wire of lamp sensor 4 to the red wire of the interface connector.
 - d. Connect all common white wires, black wires for electronic sensors, to the white wire of the interface connector. Install wire nuts.

BASIC OPERATION

The SENTINEL™ Remote Lamp Indicator monitors lamp operation of ultraviolet fixtures, and can be mounted up to 25 feet from the fixture. The SENTINEL™ Remote Lamp Indicator is available in 1, 2, and 4 lamp configurations, to be compatible with the lamp arrangement of various ultraviolet fixtures, whether manufactured by Atlantic Ultraviolet Corporation or other ultraviolet fixture manufacturers.

The SENTINEL™ Remote Lamp Indicator may be added to any fixture already in service with minimal rework, to the fixture, to accommodate the SENTINEL™ interface connector and lamp sensors.

The SENTINEL™ interface connector and sensors are installed by the Factory when purchased with the ultraviolet fixture. Simply mount the SENTINEL™ Remote Lamp Indicator within 25 feet of the fixture and connect the data cable.

Once installed, the SENTINEL™ lamp sensors detect current flow from the ballast(s) to the lamp(s) sending a signal back to the SENTINEL™ where the corresponding LED indicator is illuminated, providing positive indication of lamp operation. LED's, which are not lit or are dimly lit, indicate faulty lamps or ballasts.

The SENTINEL™ Remote Lamp Indicator will operate on either 120 Volt 50/60 Hertz or 220-240 Volt 50/60 Hertz fixtures, using either magnetic or electronic ballasts.

INSPECTION

1. Remove the SENTINEL™ Remote Lamp Indicator from the shipping carton. Inspect all component parts for damage. Do not install the SENTINEL™ if there is damage to any of the component parts.
2. The SENTINEL™ Remote Lamp Indicator includes:
 - The SENTINEL™ Remote Lamp Indicator with attached 25 foot data cable; 1, 2 or 4 lamp configuration
 - Lamp Sensor Wiring Harness ¹, with installed:
 - Lamp Sensor(s) ²,
 - 5 position DIN Connector, Pre-Wired with No. 4 mounting hardware
 - Wire Nuts (Blue)
 - Wire Nuts (Grey)
 - Installation Instructions

¹ Provided for installation if the fixture is already in service.

² The quantity of the lamp sensors supplied will vary depending on the lamp configuration of the ultraviolet fixture.

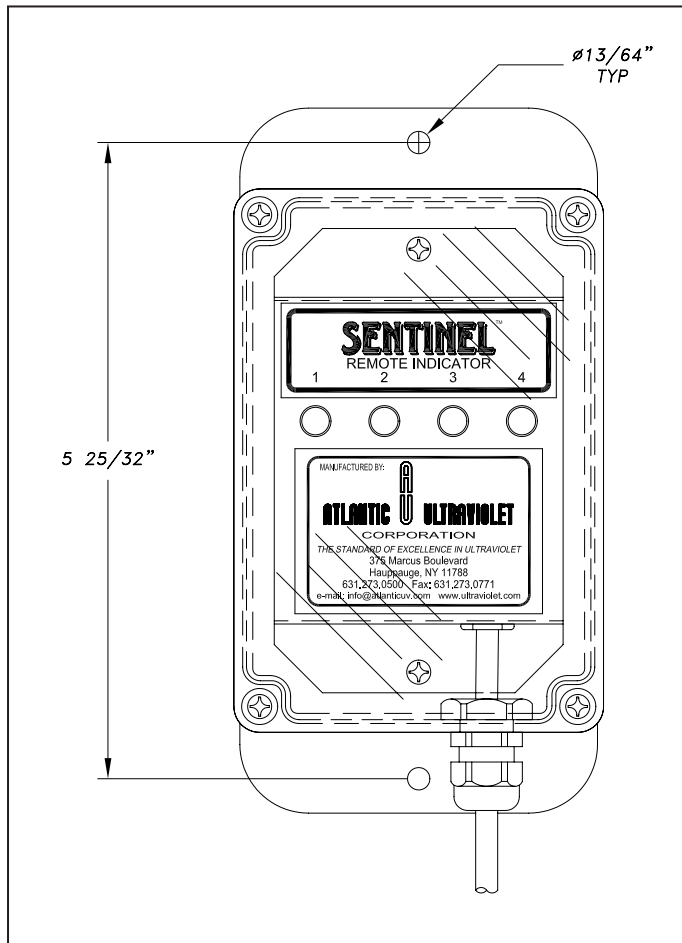
INSTALLATION

To guard against injury, basic safety precautions should be observed, including the following:

1. Read and follow all safety warnings and instructions in the fixture's Instruction Manual.
2. Always disconnect power to the fixture before performing any service.
3. **⚠ WARNING: Avoid exposure to direct or strongly reflected germicidal ultraviolet rays. Germicidal ultraviolet rays are harmful to the eyes and skin.**

- The SENTINEL™ Remote Lamp Indicator enclosure is a NEMA 4x type, made from impact resistant polycarbonate, with a clear impact resistant polycarbonate cover. The SENTINEL™ mounting brackets are made from stainless steel, type 304. The attached data cable exits the enclosure through a liquid tight strain relief.
- The SENTINEL™ Remote Lamp Indicator attaches to, and receives feedback from, the ultraviolet fixture by an attached 25-foot data cable.
- The SENTINEL™ should be mounted vertically to a secure, flat surface. The method used to mount the SENTINEL™ will depend on the surface selected. The SENTINEL™ mounts using two 13/64" diameter holes on 5-25/32" centers. The SENTINEL™ mounting holes can accommodate up to No. 8 hardware.

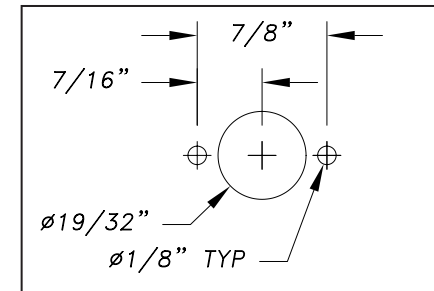
Figure 1 - SENTINEL™ Remote Lamp Indicator



All installations of the SENTINEL™ Lamp Sensor Wiring Harness, into pre-existing ultraviolet fixtures, require a certain amount of rework. The amount of rework required will be dependent on the design and construction of the ultraviolet fixture involved. These are the recommended instructions for the basic rework. Questions that are not specifically answered by these instructions should be directed to the Factory.

1. Observe all safety warnings and instructions in the fixture's Instruction Manual. Shut down power to the fixture, and disconnect fixture from utility power source.
2. Open fixture. Following the instructions in the fixture's manual, remove the ultraviolet lamps. Locate lamp ballast(s). Examine the fixture's installation; look for an accessible area to mount the SENTINEL™ interface connector, near the ballast(s), which does not interfere with any internal components of the fixture.
3. Using drill pattern provided, see Figure 2 - Interface Connector Drill Pattern; carefully mark the connector's location. Check location for any obstructions and for tool clearances required for mounting the connector. When satisfied with the connector's location, use a center punch to mark the centers of each of the required holes.

Figure 2 - Interface Connector Drill Pattern



4. Using an electric variable speed drill with a 1/8" drill bit, slowly drill through the material, at the center marks.
5. Repeat step 4 using a 19/32" drill bit, drilling through the center 1/8" hole. Smooth any rough edges with a file, if necessary. NOTE: Be sure to remove all metal filings and/or fragments from inside the fixture.
6. The Lamp Sensor Wiring Harness consists of a 5-position interface connector and 1, 2, or 4 lamp sensors, with associated wire nuts. The harness is pre-assembled at the Factory, and must be disassembled to mount into the fixture. Take time to familiarize yourself with the harness. The wiring harnesses for magnetic and electronic ballast are effectively the same, except for the lamp sensors.
 - a. Lamp sensors for use with magnetic ballasts; are more "rounded" with one black and one white wire exiting from the base of the sensor. See Figure 3 - Magnetic Sensor.
 - b. Lamp sensors for use with electronic ballasts; are slightly smaller, more "square" with two black wires attached to the base of the sensor. See Figure 4 - Electronic Sensor.

Figure 3 - Magnetic Sensor

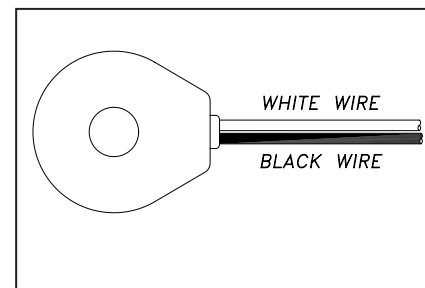


Figure 4 - Electronic Sensor

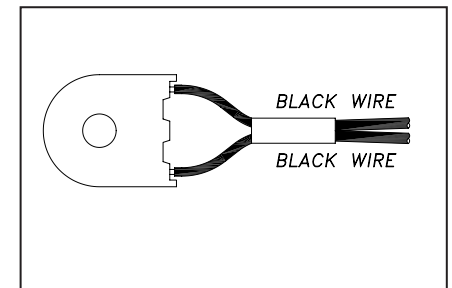
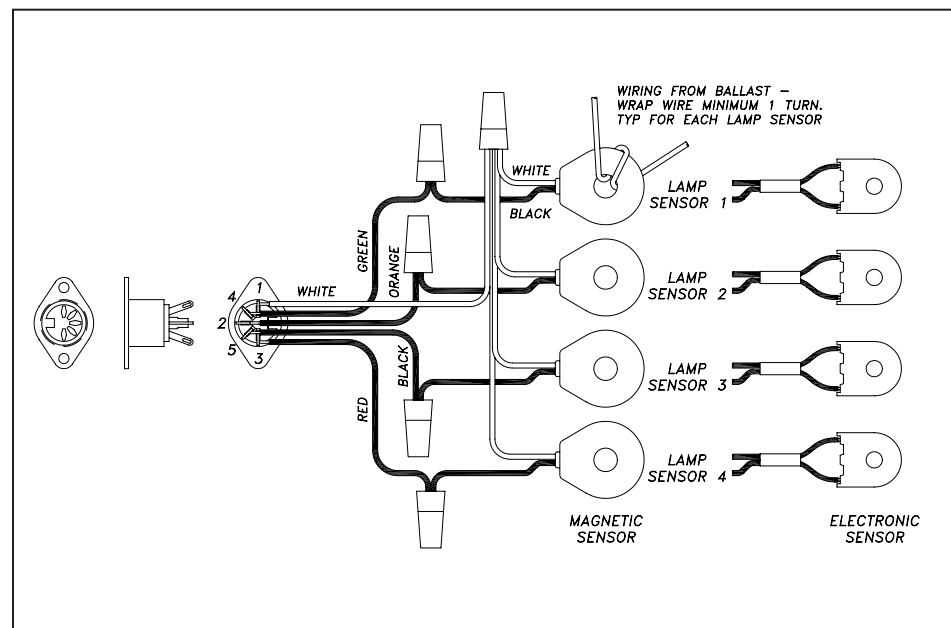


TABLE OF CONTENTS

BASIC OPERATION	3
INSPECTION	3
INSTALLATION	3
SENTINEL™ REMOTE LAMP INDICATOR	4
LAMP SENSOR WIRING HARNESS	5 - 7

Figure 6 - Lamp Sensor Wiring Diagram



- Reinstall any components, which may have been removed for wiring harness installation. Take care not to damage any wiring when reassembling the fixture. Following the instructions in the fixture's manual, reinstall the ultraviolet lamps.
- Close fixture. Connect SENTINEL™ data cable to the interface connector. Reconnect the fixture to utility power source and restore power to the fixture. The SENTINEL™ LED indicators should light, indicating that all lamps are operating. LED indicators, which are not lit or are dimly lit, indicate faulty lamps or ballasts.

These instructions generally describe the installation and operation of the SENTINEL™ Remote Lamp Indicator. Questions that are not specifically answered by these instructions should be directed to the Factory.

Atlantic Ultraviolet Corporation takes all possible precautions when packaging equipment to prevent damage. Carefully inspect and report all damage. Do not install damaged equipment. Follow all instructions on any labels or tags. Carefully inspect all packing materials before discarding to prevent the loss of accessories, mounting hardware, spare parts or instructions.