



## UVRReport™ – Multi-Purpose UV-C Radiometric Monitor

### BENEFITS

- Large 1/2-in. direct digital LCD display
- Simple sensor installation; up to 100 feet away
- Exclusive integral lamp-life timer
- One-button reset for instant calibration
- Digital display of lamp output performance and runtime
- Additional lamp output status indicators in green, yellow and red LEDs
- Normally closed (NC) / normally open (NO) relays for lights, alarms, or signals
- Convenient RJ-11 (telephone plug) cabling
- 24-VAC power options:
  - Hardwire terminal
  - Adaptor jack

*The UVRReport™ UV-C radiometric monitor is the first affordable, multi-functional UV monitor available for UV-C lamp installations in HVAC systems. It features an exclusive resettable timer to display lamp run-time hours and it monitors UV lamp performance from initial installation to lamp change-out. In addition to the 1/2-inch-high digital display, UVRReport also provides green, yellow and red LED indicator lights to alert operators of go / no-go lamp status. The digital readout displays can toggle between the percentage of “initial” lamp output or lamp run-time using a simple pushbutton. The UVRReport monitor also provides NO/NC (5-Amp) relay switching to permit remote operation of alarms, lamps, and other devices, or to provide a signal to a building management system when lamp performance drops below 50%.*

### Application

The UVRReport sensor is typically installed facing the lamps, from a distance of 3 to 10 inches. The monitor can be mounted up to 100 ft away from the sensor—in temperatures of 122°F (50°C) or less and a relative humidity of not more than 90%. An 8 foot high-performance sensor cable with male RJ-11 plugs is included. The monitor is equipped with a 24-VAC terminal block and includes a jack for a 24-VAC adaptor (not included). An integral NO/NC relay terminal block provides for 5-Amp switching of alarms, indicator lamps, or for controlling other devices. The relay can also be used to signal building operators through the use of a building management system.

REPRESENTED BY:

# UVR

## UV RESOURCES

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## SPECIFICATIONS

The *UVReport™* is factory assembled and tested. It consists of a housing, LCD readout, LED indicator lights, pushbutton display toggle, pushbutton reset, NC/NO hardwire terminal block, 24-VAC adaptor jack, 24-VAC power jack, RJ-11 sensor cable jack, and an 8-foot sensor cable with male RJ-11 plugs.

**HOUSING** – The *UVReport* housing is constructed of high performance industrial grade plastic impregnated with carbon-black for structural integrity and UV-C exposure resistance. Mounting holes facilitate easy installation.

**LCD READOUT** – Highly visible 1/2-inch high numbers provide a direct-digital indication of lamp performance in percent of rated output and real-time hours of lamp operation.

**RESET** – Pushbutton reset at lamp change-out sets the lamp performance value to 100% and the lamp-life timer to zero (0) hours.

**DISPLAY SWITCH** – Toggles the LCD readout between lamp performance in percent of rated output or real-time hours of lamp operation.

**LED INDICATORS** – Green, yellow and red LED status lights indicate measured lamp performance as >70% output, 50% to 70% output, and 50% output or below, respectively.

**SENSOR JACK** – A female RJ-11 jack accommodates the male RJ-11 sensor plug and cable.

**TERMINAL BLOCK** – The terminal block features screw-down electrical clamping for NO, NC and C (common), and 24-VAC power-in connections using solid or stranded wire.

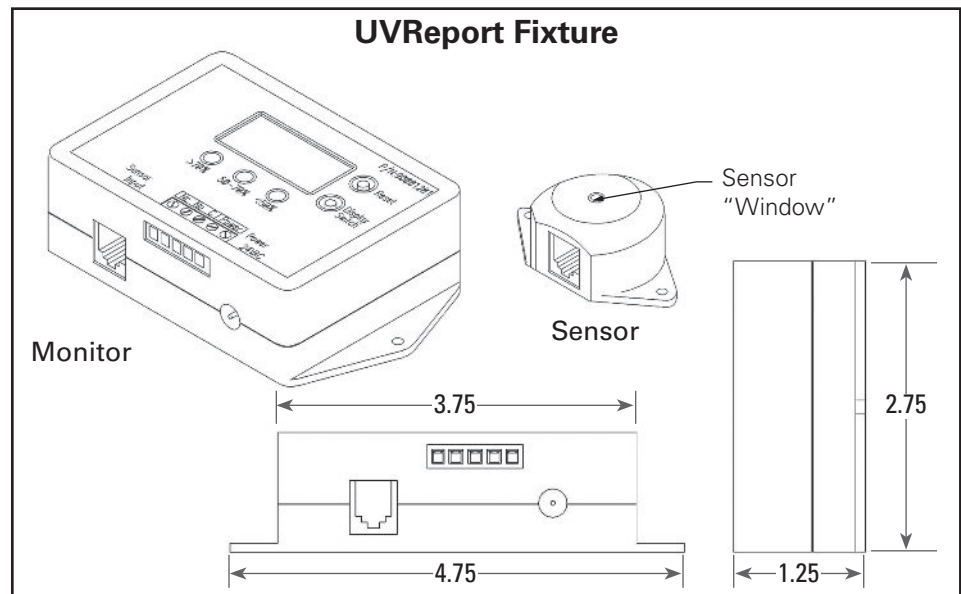
**SENSOR CABLE** – The cable is carbon-black impregnated 26-AWG, 4-wire line, rated at 300-VDC in temperatures up to 122°F (50°C). It is 8-ft in length and has male RJ-11 plugs on each end.

**UV SENSOR** – The sensor is constructed of high performance industrial grade plastic impregnated with carbon-black for structural integrity and the ability to withstand exposure to UV-C energy. It is equipped with a female RJ-11 jack, two mounting holes, and includes

mounting screws. It detects and converts UV-C energy of 240–400 nm to an electric signal that is translated by the monitor into a digital readout of “percent output” on the LCD display and drives the indicator LEDs.

**MONITOR DIMENSIONS** – 4.75-in. L x 2.75-in. W x 1.25-in. D.

**LCD DISPLAY** – UV-C relative irradiance value in percent and UV lamp run-time in hours.



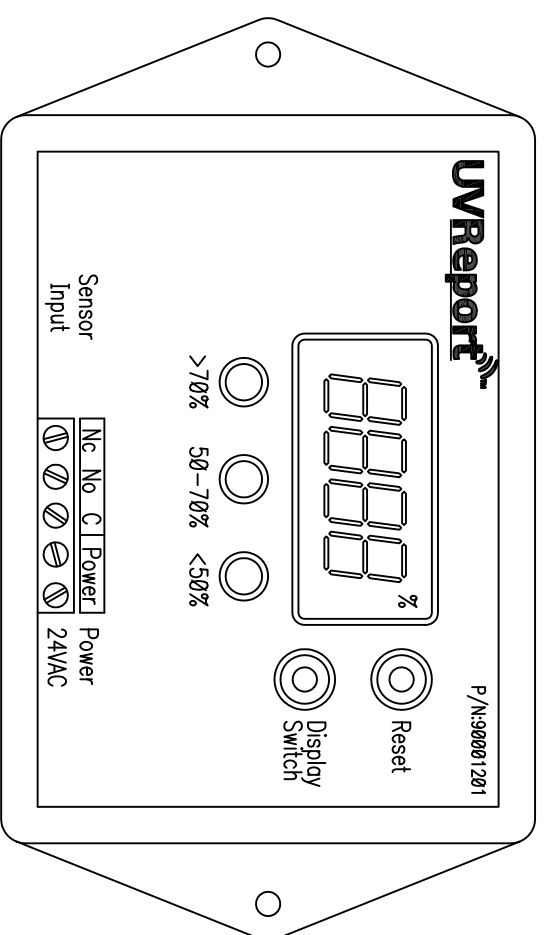
## ORDERING INFORMATION

Model #	P/N	Description	Electrical	Weight
UVR-24V UVM	90001201	UVReport™ UV-C Monitor – 24 VAC with Sensor	24 VAC 50 Hz/60 Hz	0.25 lbs

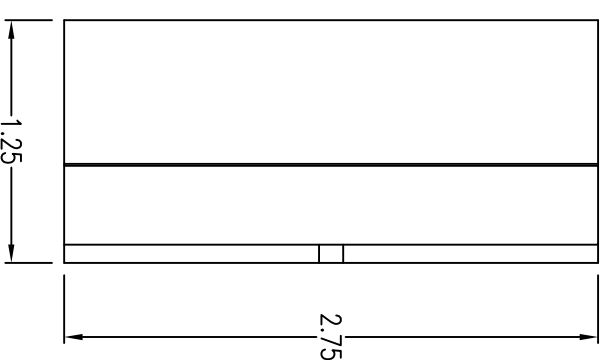
The UVR website contains tools that let you select, specify, and/or purchase complete UV-C systems. You'll also find valuable content that will help simplify installation, operation, and maintenance of UV-C systems. For more information, go to [www.uvrresources.com](http://www.uvrresources.com)

Specifications subject to change without notice.

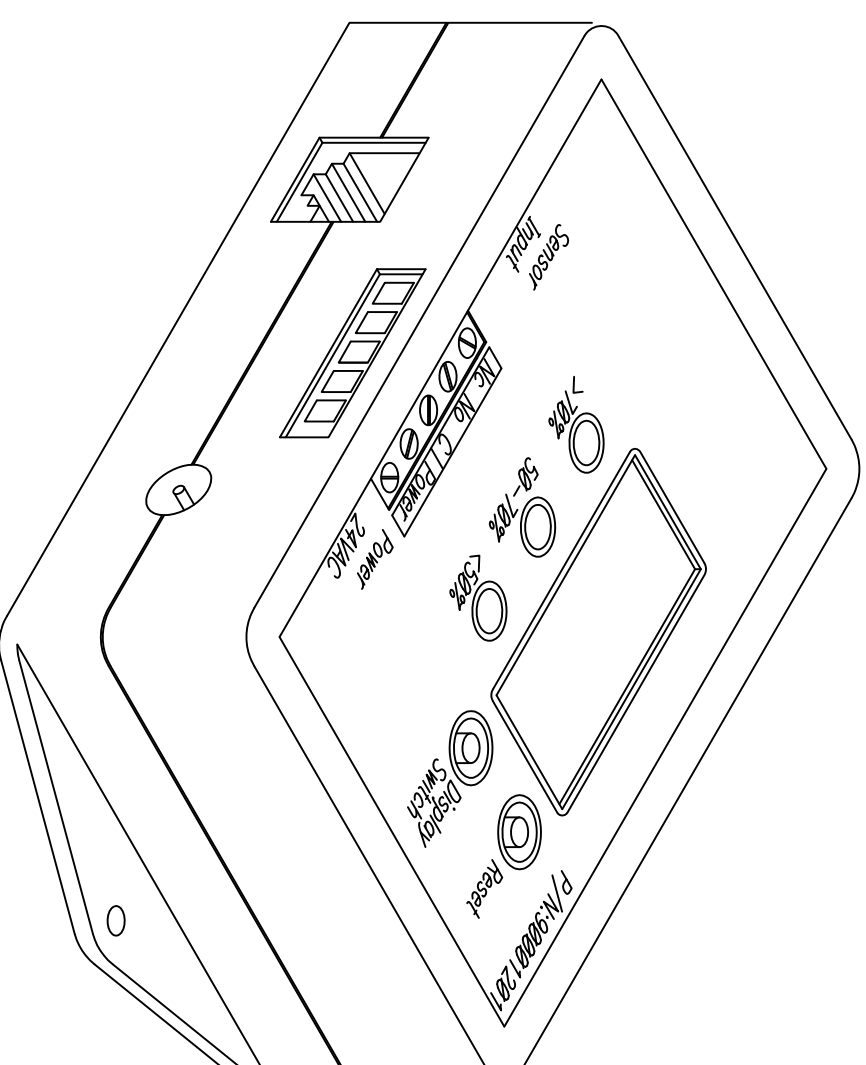
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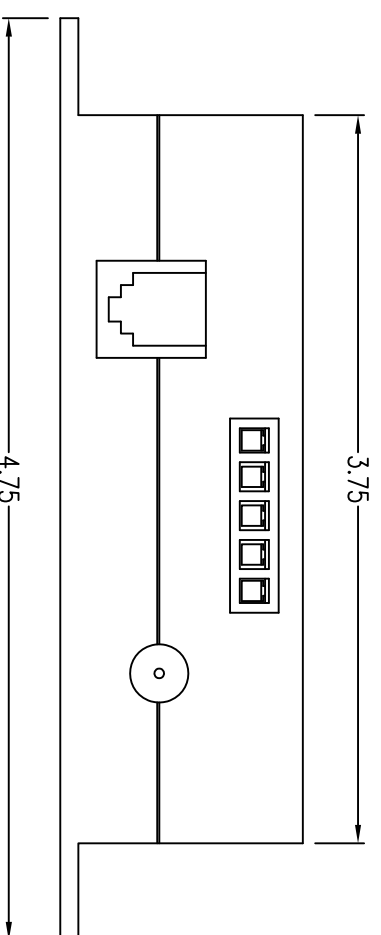
FRONT VIEW



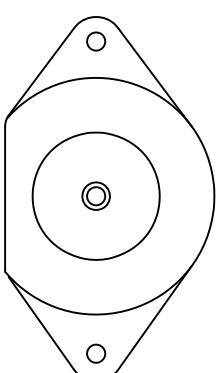
END VIEW



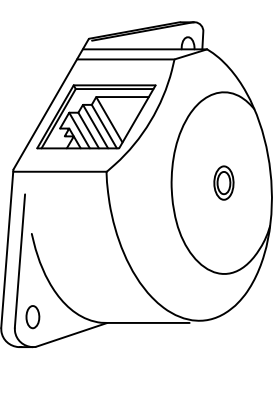
ISOMETRIC VIEW



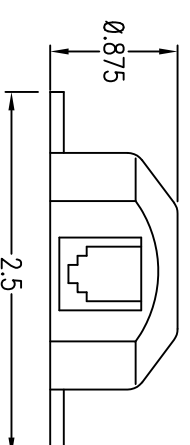
SIDE VIEW



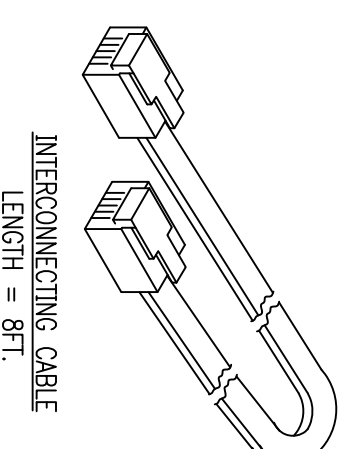
FRONT VIEW - SENSOR



ISOMETRIC VIEW - SENSOR



SIDE VIEW - SENSOR



INTERCONNECTING CABLE  
LENGTH = 8 FT.

Rev	Date	Description
A	5/26/11	ADDED SENSOR DETAILS
0	5/2/11	FIRST ISSUE

**UVR**  
UV RESOURCES

Description: UVREPORT

P/N: 90001201

Rev:	Date:	Dwg No.:	Page:
A	4/27/11	UVREPORT	1 of 1

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# UVReport™

## Instruction & Operation Manual

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### General

The *UVReport* is a radiometer designed to provide: two “relative” indications of lamp output, actual lamp run-time and relay switching. The two UV indicators are: (1) a direct LCD readout that displays percent of initial lamp output and (2) relative status LED lights of Green, Yellow and Red. The LCD will also display actual lamp run-time hours, by pushbutton. A NO/NC relay is also provided to signal or to switch on devices such as an audible and/or visual alarm, etc.

### HVAC Radiometers

UV-C lamp output in HVAC applications is affected by air temperature and velocity, and by reflectivity. Sensor and lamp cleanliness and/or the age of the lamps also affect readings.

To obtain repeatable readings, lamp measurements must be taken under the same conditions as when the meter was last calibrated. As an example, the temperature and velocity must be as close to the same parameters as the initial conditions. Reset only when they are the same.

Useful UV-C lamp life is 9,000 hours (or 1 year of constant operation). As the lamp ages, UV output will decrease. Once the measured lamps output drops below 70% of its initial reading, lamp replacement is considered necessary. At 50% it is considered a must.

## Contents

The *UVReport* kit is comprised of a Controller, UV sensor and an 8-foot cable.

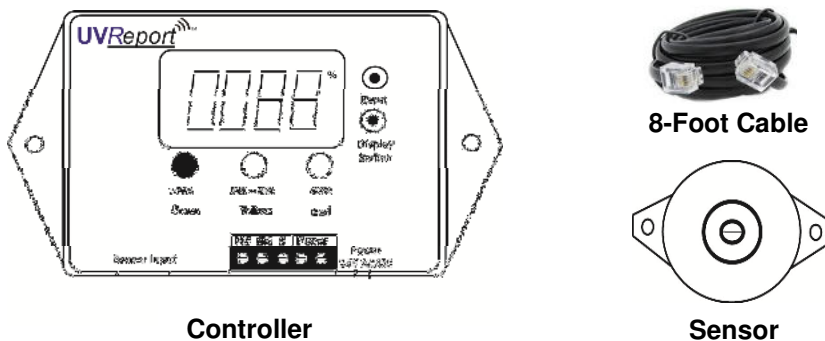


Figure.1

## Function

### UV Sensor:

UV irradiance is detected and measured by the Sensor. Light energy is converted into an electric signal, which is digitally and graphically indicated in two ways by the Controller.

### Controller:

The Controller provides a: Digital Liquid-Crystal-Display (LCD), graphical Green, Yellow and Red LED lights, resettable hours of lamp operation, and low output switching (i.e. alarm).

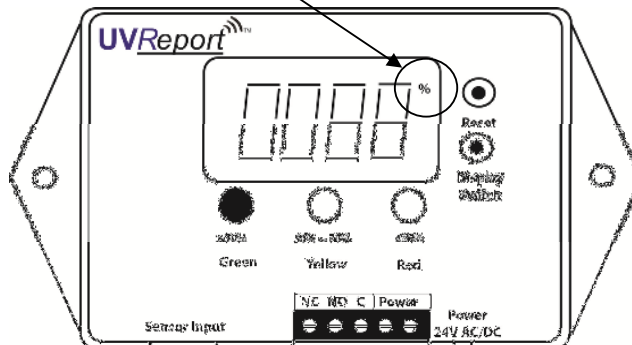
When the relative value of UV measured is less than 50% of the initial value, the Red LED will flash and the relay will actuate, indicating that the UV lamp(s) must be changed. When relamping is performed, the top button next to the LCD Display is depressed to “Reset” the “relative output” to 100% and the hour counter to “zero”. The bottom button next to the display is used to switch the display between “relative UV outputs” or “hours counter” (see below).

### Cable:

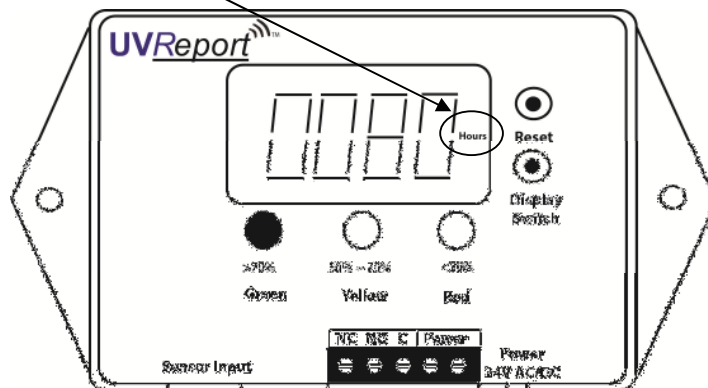
The 8-foot (flat) cable connects the UV sensor to the Controller.

### LCD display:

1. Relative UV irradiance in percent



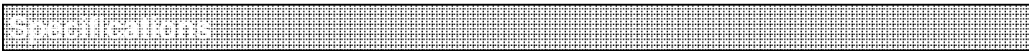
2. UV lamp run-time in hours



**LED indicators:**

LED Color	Percent of initial UV irradiance
Green	>70%
Yellow	50%~70%
Red (alarm)	<50%

Note: When UV irradiance is less than 50%, the “red” LED will flash and the Relay will actuate.



- Ambient Temperature: ≤50
- Relative Humidity: <90%
- Supply Voltage: 24VAC/DC +/- 10% - 50/60Hz
- Power Consumption: <3 Watts
- Radiometric Range: 0-20,000μW/cm<sup>2</sup>
- Relay Contact: NO or NC
- Relay Capacity: 24Vac/5A, 30Vdc/5A

**Installation**

**UV Sensor:**

Using 2 screws (supplied), mount the Sensor, **cable connector down (must)** on a clean, flat surface **where no water will carry-over or drip directly on the Sensor plug or lens**. The lens must face the lamp(s) and be within 3 to 10 inches away. After mounting, make sure the lens is clean and dry. If necessary, gently wipe with a damp, lint free swab.

**Controller:**

Using 2 screws (supplied), level and mount the Controller within 8-feet of the sensor on a clean, flat surface outside the AHU where temperature and humidity are less than 110°F (43°C) & 90% RH. Using the 8-foot flat cable from the Sensor, connect the Sensor to the “Sensor Input” port of the Controller. At the labeled wiring block, connect clean 24Vac power to the “Power” screws. If using the NC/NO relay, connect the hot lead to the NC or NO screw and the neutral to “C”. The terminal block schematic is shown in Figure 2. The switching specifications are: DPDT relay, NO (normally open)/ NC (normally closed) - 24Vac / 5A or 30Vdc / 5A.

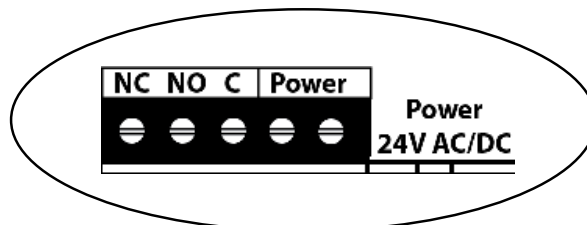
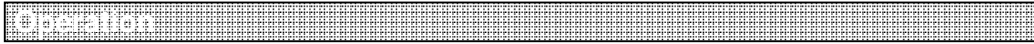


Figure.2





1. Apply power to the Controller from a clean 24V AC or DC power source.
2. Turn on the UV lamp system and allow the lamps to stabilize for 20 minutes.
3. Assure the Sensor lens is 3 – 10” from the lamp surface and facing the lamp(s). Press the “Reset” button for 3-4 seconds until the green-LED, lights. The system is now set to 100%. The Controller is now ready for use. Repeat this procedure each time the lamps are replaced. (Note: When first used and before the reset button is pushed, the LCD reading will be the “factory-set value” – push the reset button to obtain the real-time value of 100%).

## **Equipment Warranty**

UV Resources™ (UVR) warrants to the original buyer that its Products shall be free from defects in material or workmanship under normal use and service for the periods of time set forth below. This warranty is contingent upon proper use of Products and will not apply if adjustment, repair or parts replacement is required because of an accident, unusual physical, electrical or electro-mechanical stress, neglect, misuse, failure of electric power, humidity control, transportation, unauthorized repair actions, or not installed or maintained in accordance with UVRs’ specifications hereunder, or where Product serial numbers have been altered, defaced, or removed. UVRs’ obligation under this warranty shall not arise until the Purchaser of the Product returns the defective part to UVR. This warranty is limited to the repair and/or replacement of parts. This warranty does not cover any labor or subsequent damage incurred as the result of Product failure or indirectly arising from the design, construction, installation, servicing, or operation of Products. UVR and its resellers’ liability under this warranty shall in no event exceed the cost of goods sold under the original sale contract.

Under the conditions specified above, UV Resources warrants this Product for a period of one (1) year from date of purchase. Buyer must provide proof of purchase. This is UVRs’ sole warranty. No warranties are extended beyond those described herein and it is expressly agreed that this warranty will be in lieu of all warranties of fitness and merchantability. UVR neither assumes, nor authorizes any person to assume for it, any obligation in connection with the Products. Buyer shall not return to UVR any allegedly defective goods without UVRs’ prior written authorization. This warranty may not be assigned or transferred.



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