



Ultravation UVC Monitor Radiometer User Manual

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Ultravation®

Ultravation UVC Monitor Radiometer



Specifications:

- Power supply: 24VAC, 50-60Hz or 24VDC, 0.35A

- Data logging analog output: 0VDC = 0% intensity, 10VDC = 100% UV intensity
- Maximum accumulated days counter: 999 days

Product Information

The Radiometer model 67\$.POJUPS is proudly designed and made in the USA. It features a high intensity, alphanumeric display that is easily readable in various light conditions. The unit comes with a multi-function Single MODE button for intuitive operation, a 3 color LED indicator, an audible alarm buzzer, and a UV sensor. The metal housing of the sensor ensures durability compared to plastic housings. Additionally, it offers data logging capabilities, analog output voltage (optional), and factory programmable UV thresholds.

Product Usage Instructions

Software, Screens, and Operation

- **Screen 1:** Upon powering up the unit, the software revision will be displayed for about 5 seconds. Pressing the MODE button will advance to the next screen.
- **Screen 2:** The default screen displays the percentage of UV light detected compared to the baseline. For example, P73 indicates the measured intensity is at 73% of the maximum
 • et intensity of 100%.
- **Screen 3:** This screen shows the absolute intensity measurement.
- **Screen 4:** Displays the number of days elapsed since the baseline reset.
- **Screen 5:** By holding down the MODE key for more than 3 seconds, you can reset the lamp percentage reading to 100% and days elapsed to 0.
- **Screen 6:** Indicates whether the beeper is enabled or disabled. To change states, hold down the MODE button for more than 3 seconds.

FAQ:

- **Q: How should I reset the baseline measurements on the Radiometer?**

A: To reset the baseline measurements, hold down the MODE key for more than 3 seconds until the screen displays "done." This action resets the lamp percentage reading to 100% and days elapsed to 0.

WARNING

All power should be turned off prior to installation. Never expose eyes or skin to UV light from any source. Wear gloves, glasses/face shield per ANSI Z87.1 and coverall exposed skin. The UV lamp(s) should not be touched without gloves.

Please read this entire instruction manual before starting installation.

Product

The UVCMonitor is an advanced, state of the art, UV Radiometer.

Included

- Controller

- UV Sensor
- Interface Cable
- User Manual

Features

4 digit, high intensity, alphanumeric display is easily readable in high light conditions.

- Multi-function Single MODE button is very intuitive to operate
- 3 color LED indicator.
- Audible Alarm Buzzer.
- UV sensor supplied
- Metal housing of the sensor lasts a lifetime as opposed to (UV-vulnerable) plastic housing
- Data Logger Analog Output Voltage (optional)
- Factory programmable UV thresholds (NRE fee may apply)

Specs

- Power supply: 24VAC, 50-60Hz or 24VDC, 0.35A Dry contact output (Maximum) : 1A – 250VAC resistive loads. Data logging analog output: 0VDC = 0% intensity, 10VDC = 100% UV intensity. Operating temperature: 0-50°C (120°F)
- Maximum intensity range: 20,000 jW/cm².
- Maximum accumulated days counter: 999 days. 1

Dimensions

- Width: 3.75" (9.5cm)
- Length: 2.5" (6.2cm)
- Height: 1.125" (3.8cm)

Software, Screens and Operation

1. Screen 1

Upon powering up the unit, the software revision will be displayed for about 5 seconds. If the "MODE" button is depressed the screen will stop showing the revision and jump to the next screen.

SCREEN #1: r1-6 (Revision 1. 6)

If the optional data logging is installed, after the revision the unit will scroll "data logger."

2. Screen 2

Next, the unit will advance to the default screen to indicate "Pxyz" where "P" equals the percentage of UV light detected as referenced to the baseline* and "xyz represents the value of "P." See instructions for SCREEN #5 to learn how to set the baseline.

For example: SCREEN #2: "P73" (the measured intensity is at 73% of the maximum set intensity of 100g)

3. Screen 3

Tapping the "MODE" key once more will advance the unit to SCREEN #3. SCREEN #3 will scroll "Intensity

xxxx" to indicate absolute UV measured intensity times 10, in W/cm' where "xxxx" is the value of measured intensity in W/cm' x 10. For example: SCREEN #3: "Intensity 1234" (the absolute measured intensity is 1234 x 10 – 12,340 pW/cm) .

4. Screen 4

Tapping the "MODE" key once more will advance the unit to SCREEN #4. SCREEN #4 will display "dxyz" to indicate the number of days elapsed since the baseline* reset where "d" signifies days and "xyz" is the measured value of days elapsed.

For example: SCREEN #4: "d321" (the lamp has been used for 321 days since the baseline* reset).

5. Screen 5

Tapping the "MODE" key once more will advance the unit to SCREEN #5. SCREEN #5 will scroll "Hold To Reset". By holding down the "MODE" key for more than 3 seconds the radiometer will reset the lamp percentage's reading to 100% and days elapsed to 0. *This is to reset the baseline of all measurements with the exception of the absolute intensity measurement (SCREEN #3). 3

For example: SCREEN #5: "Hold To Reset". After the baseline is reset by holding down the "MODE" key for more than 3 seconds, the screen will display "done". When the screen changes to "done", indicating that the baseline was reset SCREEN #2 (percentage) will show 100 (%) and SCREEN #4 (days) will show 0 (days).

6. Screen 6

Tapping the "MODE" key once more will advance the unit to SCREEN #6. SCREEN #6 will scroll either "beeper enabled" or "beeper disabled" depending on the last saved state of the alarm buzzer. To change between states, hold down the "MODE" button while in this screen for more than 3 seconds. "Beeper enabled": When the beeper is enabled the radiometer will beep when the "MODE" key is pressed and also when the measured lamp percentage is lower than YyY%, where "YYY%" equals a factory programmed threshold. "Beeper disabled": When the beeper is disabled the unit will not beep during alarms, but will continue to beep on key presses. For example: SCREEN #6: "beeper enabled" or "beeper disabled" The state of the beeper (enabled/disabled) is saved in non-volatile memory and will not be affected by a loss of power.

Error Screens

The following scrolling screens will indicate abnormal operations of the radiometer. The radiometer will revert to normal operation once the problem is corrected:

1. Connect Sensor" – a proper sensor is not attached to the radiometer. To correct this error check that the sensor is properly plugged into the unit
2. Sensor Saturated" – the sensor detects UV intensity greater than 21,300 uW/cm'. To correct this error move the sensor to a more suitable distance from the UV source being measured.

Factory Programmable Thresholds

- Thresholds are expressed by measured lamp percentage. aa%:
- Green LED threshold bb%:
- Yellow LED threshold cc%:
- Blinking RED LED threshold YYY%
- Buzzer threshold LED color indication: Green: > aa% of the UV irradiance Yellow: aa – 1% to bb% of the UV irradiance Red
- < bb% of the UV irradiance Blinking RED :

- < cc% Default thresholds: LED color indication: Green:
- 75% – 100% UV Intensity Yellow: 60% – 74% UV Intensity Red: 40% – 59% UV Intensity Alarm: 0% – 39% UV Intensity

Data logging output (optional)

If this option is installed, a linearized analog voltage is output with the following end points: 0%= 0 volts + 00 olos
100% = 10 Volts + 500 mVolts

The data logging voltage will be set according to the baseline reset procedure outlined above.

Mounting the Sensor

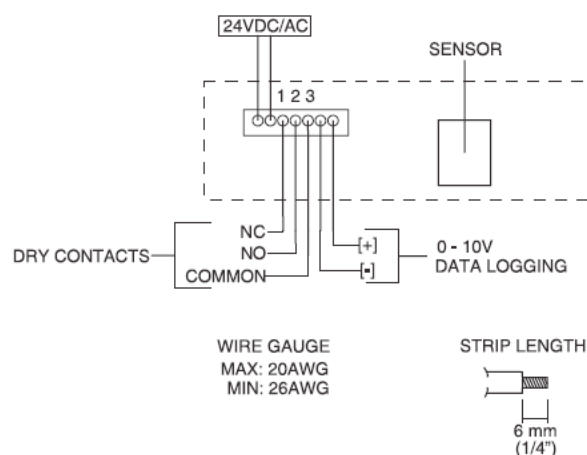
The UV sensor must be mounted facing the lamp(s), approximately 3-10" (8-25 cm) away from the lamp(s). If the radiometer displays "Sensor Saturated" – the sensor has detected UV intensity greater than 21,300 W/cm?. Move the sensor away from the lamps until this condition is resolved. Using two screws, mount the sensor on a at, clean surface where no water will drip directly on the sensor. For optimal performance be sure to keep the sensor clean. To clean the recommend using a cotton swab and isopropyl alcohol with compressed air.

Mounting the Controller

- The controller should be mounted outside of the air handling unit. Mount in an area with a temperature less than 50°C and 90% RH. Mount on a at, clean surface within the range of the cable. Use two or three screws to mount the controller by using the keyholes in the back of the controller.
- Connect the sensor to the output port of the controller using the supplied cable
- Connect power to the controller

Note: Using any cable other than the supplied cable may ruin the unit and will void warranty

Electrical Connections



WARNING

Incorrect wiring will damage the unit and void the warranty. Make sure to double check all connections before powering on the unit.

To remove a wire from the terminal block, insert a small head screwdriver above the terminal and gently pull out the wire.



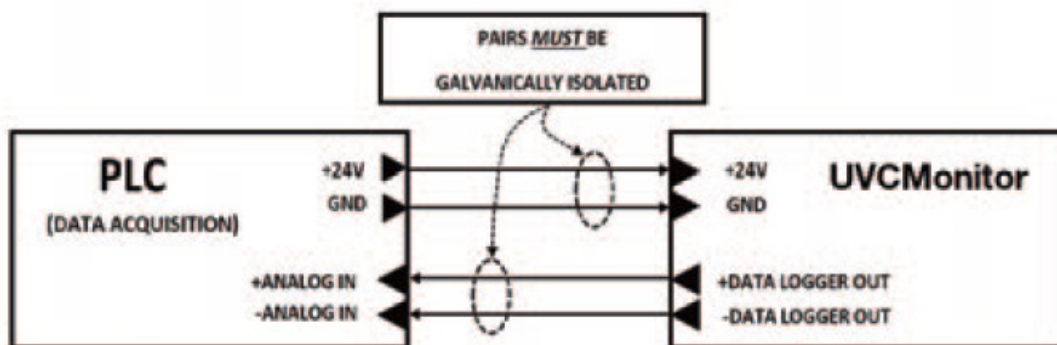
Dry Contact Output

Under normal operating conditions, the relay is energized. This means that a power failure will trigger an alarm when the dry contacts are used. This is purposely done so a power failure in the UV room can be monitored and signaled.

Warranty

Ultravation warrants to the original buyer that the Radiometer shall be free from defects in material or workmanship under normal use and service for one year. The warranty is contingent upon proper use of the Radiometer 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 Ultravation specifications including the use of any cable other than the supplied interface cable. This warranty does not cover any labor or subsequent damage incurred as the result of a Radiometer failure or indirectly arising from the design, construction, installation, servicing or operation of the Radiometer. Buyer must provide proof of purchase. Buyer shall not return to Ultravation any allegedly defective goods without Ultravation prior written authorization. It is recommended to replace the UV sensor every 2 years when the radiometer is being used for high-intensity applications. All specifications subject to change due to a continuous program of improvement

IMPORTANT NOTE ON 0-10V DATALOGGER CONNECTION




Because of the variable supply voltage range accepted by the UVCMonitor radiometer (10-30VAC 50/60Hz, or DC), the power supplied to the unit **MUST** be galvanically isolated (floating) from the GROUND AND OUTPUT connections of the data logging channel. For this reason, all UVCMonitor radiometers are supplied with their own floating, universal power supply. If the use of an external power source is required during installation, the installer **MUST** make sure that there is no electrical continuity between BOTH power supply leads supplying power to the radiometer and the datalogging input channel

FAILURE TO DO SO WILL CREATE A GROUND LOOP THAT WILL DAMAGE THE RADIOMETER BEYOND REPAIR. GROUND LOOP- INDUCED FAILURES WILL NOT BE COVERED UNDER THE MANUFACTURER'S WARRANTY. For example, if the installation requires a PLC to supply power to the radiometer (normally +24VDC) while monitoring the datalogging channel via, for example, a PLC analog input, galvanic isolation **MUST** be maintained between the power feed and the analog input channel(s) of the PLC. Most reputable PLCs allow (via jumper) separation of grounds of the auxiliary power supply output and the analog input terminals of the PLC

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Documents / Resources

	<p>Ultravation UVC Monitor Radiometer [pdf] User Manual</p> <p>67 .POJUPS, UVC Monitor Radiometer, UVC Radiometer, UVC Monitor, Monitor, Monitor Radio meter</p>
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References

- [User Manual](#)

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