

# 433 MHz Ultraviolet (UV) Sensor

Model: 001U21

## USER'S MANUAL

Congratulations on your purchasing this New UV sensor. This unique product was designed for everyday use at home or office and it is a definite asset of great use. To fully benefit from all the features and understand the correct operation of this product, please read this manual thoroughly.

### FUNCTIONS OF THE WIRELESS UV SENSOR

This UV sensor is a precision instrument that detects Ultraviolet (UV) radiation at wavelengths of 260 to 400 nanometers and transmit the data continuously to bring you the latest weather information displayed on the LCD of the receiving unit. This product adopts wireless 433 MHz technology, which can transmit data below a distance of 30 meters (100 feet) in open space.

### FEATURES: WIRELESS UV SENSOR

#### A. Main sensor casing

The white colored UV-resistant casing with ventilation slots shields the sensor unit from thermal radiation and provides a path for convection cooling of the body, minimizing heating of the sensor internally.

#### B. LENS

Provides a weather-tight seal and excellent cosine response.

#### C. DETECTOR

The semiconductor diode, with the filter, responds only to radiation in the region of interest.

#### D. LED INDICATOR

Flashes when data transmission is made.

#### E. TX Button

Press once to transmit data manually. Hold for about 3 seconds to clear the original ID code and start Re-registration with the receiving unit.

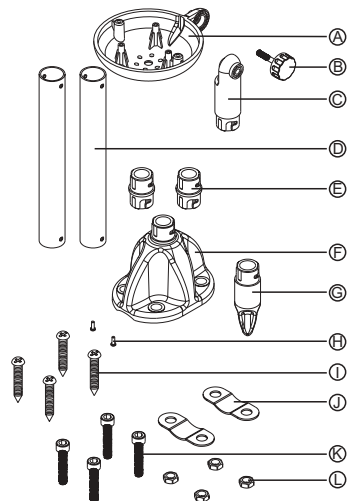
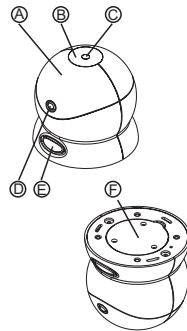
#### F. BATTERY COMPARTMENT

Accommodates 3 AA-size batteries.

### MOUNTING HARDWARE

Please make sure you have all components listed below before mounting.

- A. Detachable bracket for the UV sensor.
- B. One plastic screw nut for hinge installation
- C. One plastic pole which enables the installation and leveling of the sensor.
- D. Two Aluminium poles.
- E. Two plastic connectors.
- F. One plastic stand.
- G. One plastic tip.
- H. Two screws for fixing the UV sensor onto the bracket
- I. Four stainless steel screws for stand.
- J. Two metal mounting plates.
- K. Four stainless steel screws for mounting plates.
- L. Four hex nuts for mounting plates



### TOOLS AND MATERIALS NEEDED

You may need some of the following tools and materials in order to complete your installation. Please be sure you have everything required before beginning.

1. Medium Phillips screwdriver
2. Center punch or nail (if mounting on wood surface)

### GETTING STARTED

This wireless UV sensor was designed for easy set up. For best operation, the following steps are required to be done in the proper sequence.

1. INSERT BATTERIES FOR THE MAIN RECEIVING UNIT BEFORE DOING SO FOR THE UV SENSOR.
2. THE RECEIVING UNIT CANNOT BE PROGRAMMED MANUALLY UNTIL THE WIRELESS REMOTE SENSOR UNIT REGISTRATION PROCEDURE HAS BEEN COMPLETED.
3. POSITION THE WIRELESS UV SENSOR AND THE MAIN RECEIVING UNIT WITHIN EFFECTIVE TRANSMISSION RANGE, WHICH IN USUAL CIRCUMSTANCES, IS 100 FEET/30 METERS.

### BATTERY INSTALLATION FOR THE RECEIVING UNIT

Please refer to the user's manual supplied with your receiving unit.

### WIRELESS REMOTE UNIT REGISTRATION PROCEDURE

Within 3 minutes of setting up the main units activates the sensor as follows:

1. Click open the battery cover located at the back of the sensor unit.
2. Insert 3 pieces AA-size batteries according to the + and - polarity marks inside the battery compartment.
3. After the batteries are inserted, the light will blink, indicating that the sensor unit is automatically transmitting readings to the receiving unit.
4. If the transmission is successful, the display of the receiving unit will show a new channel number, the UV index and face icon. If not, you can also press once "TX" button on the UV sensor to send the signal manually to the receiving unit.

#### Note:

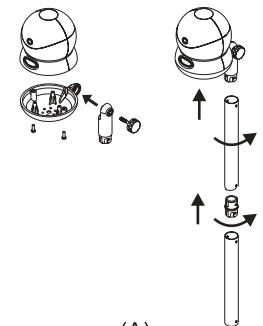
- When the low battery indicator of the UV channel appears on the receiving unit, hold the CHANNEL button for 3 seconds to clear the old channel ID and enter new RF registration mode, the dash icon "---" will flash and follow the above 4 steps to replace the batteries. (The battery replacement methods varies with different receiving units, please refer to the user manual supplied with your purchased unit for final procedure).
5. At normal mode, if there is no change on the UV index, the transmission time is between 1.5~4.0 minutes. And if the UV index change equals or is more than 1, then it would automatically transmit in 30 seconds later.
  6. Important note that once a channel is assigned to UV sensor, you can only change it by removing the batteries or resetting the unit.

### NOTE ON WIRELESS UV SENSOR LOCATION

1. Locate UV sensor in an open area to attain a maximum of 100 feet (30 meters) transmission distance. Actual transmission distance can be reduced by interference from building, obstruction or a screen between the UV sensor and the receiving unit.
2. Select an appropriate location where you desire to measure the UV intensity.

#### Note:

To get the maximum mid-day sunlight, you should avoid placing the UV sensor in the shades. For measuring where the immediate effect on human health is healthful, this is recommended to mount the UV sensor such that its axis is aligned with the sun's rays at solar noon. This maximizes the mid-day readings and provides what is probably a more accurate measurement of the UV that people are exposed to. The angle-adjustable bracket was designed for this purpose.



(A)

## TYPICAL STANDARD INSTALLATION

The illustration (A) shows typical standard UV installation.

## WARNING

Before mounting the device to any wall or ground surface, double check with your local government or construction agents to avoid drilling to any hidden electricity cables or gas pipes. The damage might be dangerous.

## MOUNTING THE STAND ON A WOOD SURFACE

(Before attaching to the aluminum pole)

Secure the stand to the mounting surface by driving the screws into the appropriate holes. Please refer to the illustration (B).

## MOUNTING THE STAND TO THE POLE

(Before attaching to the aluminum pole)

Secure the stand to the mounting object (Such as metal pole) by driving the screws through the stand's holes to the metal plates and then attach with hex nuts. Please refer to the illustration (C).

## MOUNTING TO THE SOIL

First attach the plastic tip to the aluminum pole by rotating clockwise and then insert into the soil. Please refer to the illustration (D).

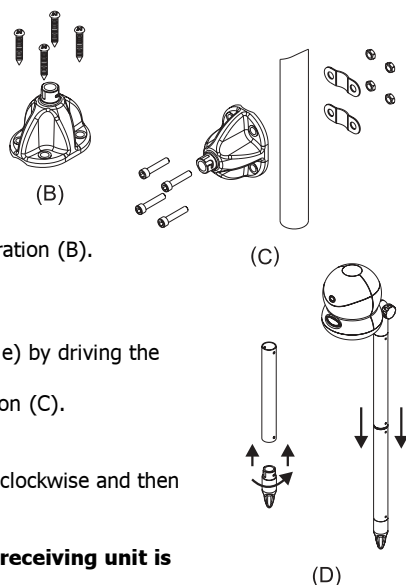
## TROUBLE SHOOTING FOR LOSTING SIGNALS (If the receiving unit is available)

If without obvious reasons the display for UV channel suddenly goes (---) dash check:

1. The wireless UV sensor is still in place
2. The batteries of both the receiving and the remote unit. Replace them as necessary.
3. The transmission is within range and the path is clear of obstacles and interferences. Shorten the distance when necessary.
4. Signal from other household devices, such as bell, home security system and entry controls, which may cause interference and temporary reception failure. This is normal and it doesn't affect the general performance of the product. The transmission and reception of UV reading will resume once the interference recedes.

## MAINTENANCE

1. In view of safe operation, alterations to this device are strictly prohibited.
2. Avoid touching the small transparent lens on the top of this UV sensor. Any oil on this surface will degrade the sensitivity of the sensor. To remove any oil present, clean the lens with a clean swab and ethyl (denatured) alcohol. Do not use rubbing alcohol.
3. Do not immerse the unit into water. If the unit comes in contact with water, dry it immediately with a soft lint-free cloth.
4. Do not clean the unit with abrasive or corrosive materials. Abrasive cleaning may scratch the plastic parts and corrode the electronic circuit.
5. Do not subject the unit to excessive force, shock, dust, temperature or humidity. Such treatment may result in malfunction, a shorter electronic life span, damaged batteries, or distorted parts.
6. Do not tamper with the unit's internal components. Doing so will terminate the unit's warranty and may cause damage. The unit contains no user-serviceable parts.
7. Do not leave used-up batteries in the units (even leak proof batteries) as these may corrode and release chemicals, which may damage this product and also be dangerous to health.
8. Inserting batteries in an incorrect polarity will cause damage to this product. Do not mix new and old batteries, as old ones may leak.
9. Do not dispose of new or used batteries to fire due to dangers of explosion or release of dangerous chemicals.



10. This product is not to be use for medical purposes or for public information.
11. Read this instruction manual thoroughly before operating the unit.

## CAUTION

1. The above content is subject to change without prior notice.
2. The information printed in this manual may be different from the actual results because of printing limitations.
3. The manufacturer and its suppliers hold no responsibility to you or no any other person for any damage expenses, lost profits, or any other claim arisen by improper handling, misuse or failure to comply with the correct use of this product as described in this instruction manual.

**NOTE: During the electrostatic discharge, the device may malfunction. Please press the RESET key to return to normal operation.**

MEASURING SPECTRAL RESPONSE:	260nm to 400nm
RF TRANSMISSION FREQUENCY:	433MHz
OPERATION TEMPERATURE:	14°F to 140°F ( -10°C to 60°C)
OUTPUT INFORMATION (UV INDEX)	
RANGE:	0 TO 11 (DISPLAYED IN RECEIVING UNITS)
RESOLUTION:	1 INDEX

"Modifications not authorized by the manufacturer may void users authority to operate this device"

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does not cause harmful interference to radio television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures;

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.