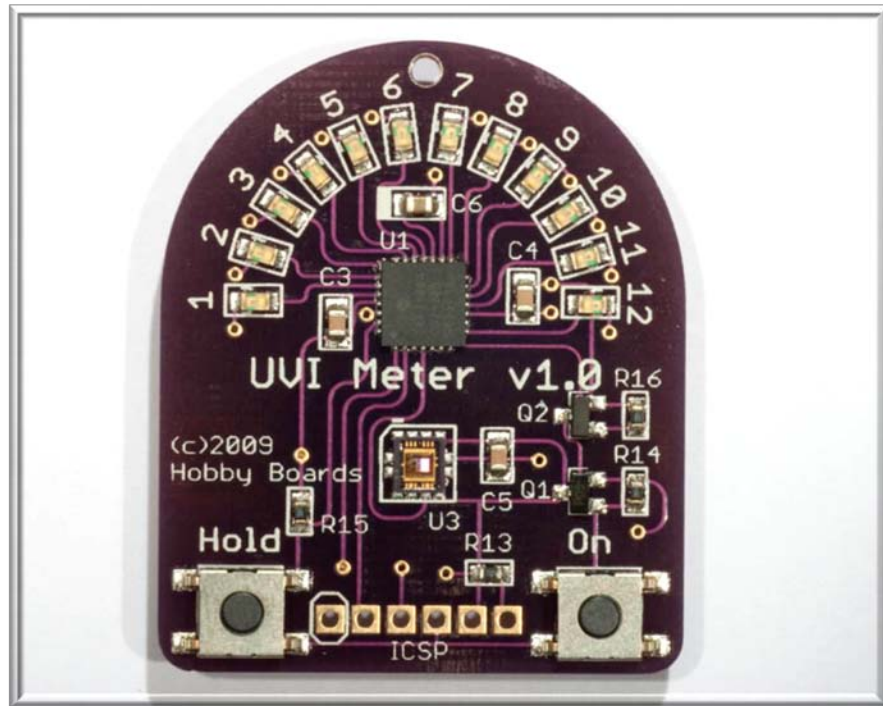




**HOBBY
BOARDS**
Complete 1-Wire Solutions



UV Index Meter (Handheld)

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Thank you for your interest in Hobby Boards' Handheld UV Index Meter. We are confident that this device will perform for you for years to come.

Description

Hobby Boards' handheld UV Index Meter allows you to monitor this important environmental element without requiring a connection to your 1-Wire network. Take this handy device with you to the beach, the soccer field, or whenever you are out in the sun – and keep tabs on how much UV exposure you're really getting!

This device detects and measures UV radiation in both the UVA and UVB spectrum, with peak detection at a wavelength of approximately 365 nm. It will detect both direct and reflected UV, and the directions below will help you locate your device in order to maximize the accuracy of its reading. The device reports results as a UV Index (standard scale 1-12) shown on the on-board LED display.

Contents of kit

- UV Index Meter
- CR2032 battery

Optional

- Lanyard, key ring, carabineer, etc. – for handy carrying

Technical Specs

Sensor

- UV sensor has maximum sensitivity at a wavelength of 365nm. It has an effective range of 280nm to 400 nm (thus detecting both UVA and UVB).
- UV Index Meter will report a UV Index from 0-12, with a resolution of 1 and an accuracy of +/- 0.5.
- UV sensor has a cosine response, within the acceptance angle of $\pm 65^\circ$.
- Operating temperature of the UV sensor is 0° to 70° Celsius.

Power Requirements

- The handheld UV Index Meter requires a CR2032 battery, which is included in your shipment.

Installation

Assembly

1. Unpack all parts and verify against the contents of kit listed above.

Operation

Using your handheld UV Index Meter

Using your handheld UV Index Meter is very simple.

1. Orient your UV Index Meter with the curved end up. There will be a set of numbered LEDs at the top of the board; these display the UV Index. There will also be two buttons in the bottom corners of the device, labeled "On" and "Hold".
 2. To get an accurate UV reading, you should first orient your device correctly.
 - a. The UV Index Meter should be held level, with the sensor (located on the front surface of the board) pointed directly towards the sky.
 - b. Do not cover the sensor! Glass and many other transparent materials will still block UV, so be sure any covering you use is UV-transparent.
 - c. In order to obtain the best reading of both direct and reflected UV, the device should be held away from obstructions, with a clear view of the sky. Holding your UV Index Meter under a porch, under a shade tree, or next to a building or trees will provide an accurate reading for that specific location but will not give you the best read of ambient UV levels.
 3. Push the lower right button on your UV Index Meter, labeled "On". The unit will perform an LED test. Following this startup test, the UV Index Meter will start sampling UV and will display the UV Index by lighting up the appropriate labeled LED. (Note that if there is no UV, no LED will light up.) The unit will stay on for 10 seconds and will continually update the UV reading during that time.
 - a. The short display time and relatively low LED light level were designed to maximize battery life.
 - b. Should you wish to freeze the reading displayed, push the right "On" button as above, and allow the reading to display. Then push and hold the left hand "Hold" button, which freezes the display of the last reading time until you release the "Hold" button, or until the device shuts off. This will also allow you to shade the device with your hand if the display is difficult to read in bright light, without affecting the ambient UV reading.
- Note: the UV sensor must not be exposed to the elements for extended periods of time, and should never be used in the rain. When not in use it should be kept in a dry, safe location. If

you chose to use a protective case, note that it must have a UV-transparent lens over the sensor (glass is not UV transparent) in order for the UV Index Meter to function properly.

- Note: indoors, and in low light or shady places, none of the LEDs will light up (since there is no UV to detect). This is normal behavior, and does not mean that the unit is not working. Take the device outside in a sunny location to verify that it is working correctly.

Cool, largely irrelevant feature – how many times did you push that button?

We added this feature for our own QA purposes, in order to test battery life. We can't imagine why you would need to know how many times you activated your UV Index Meter, but then again you never know – data is data, after all, and should you want this bit of trivia here's how you get it.

1. Push and hold the “Hold” button. While continuing to hold down the “Hold” button, push the “On” button. Both buttons can then be released. The LED will display first one and then another binary number to indicate the count. Each number is displayed for 5 seconds.
2. The sequential display shows a 16-bit binary count, as follows:

First display: lower 12 bits <i>LED 1-12 -> binary bits 0-11</i>												Second display: upper 4 bits <i>LED 1-4 -> binary bits 12-15</i>											
1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
11	10	9	8	7	6	5	4	3	2	1	0	15	14	13	12	-	-	-	-	-	-	-	-

For example, if the shaded cells below represent a lit LED:

First display: lower 12 bits <i>LED 1-12 -> binary bits 0-11</i>												Second display: upper 4 bits <i>LED 1-4 -> binary bits 12-15</i>											
1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
11	10	9	8	7	6	5	4	3	2	1	0	15	14	13	12	-	-	-	-	-	-	-	-
1	0	0	0	0	1	0	0	0	1	1	0	-	-	-	1	-	-	-	-	-	-	-	-

This indicates that the unit has been activated 1100001000110 (binary) times, or 6214 (decimal) times.

Battery Replacement

Your battery should last a good long while. If and when it does need replacement, here's how:

1. Gently pull the battery out of its holder, spreading the tabs as needed.
2. Replace with a new CR2032 battery. The writing on the battery should face out.

Software Requirements

None