Ultraviolet Sunlight Meter

FAST • ACCURATE • EFFECTIVE

Owner's Manual

UV HAWK™

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V030110

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INTRODUCTION

Overview of the UV HAWK™

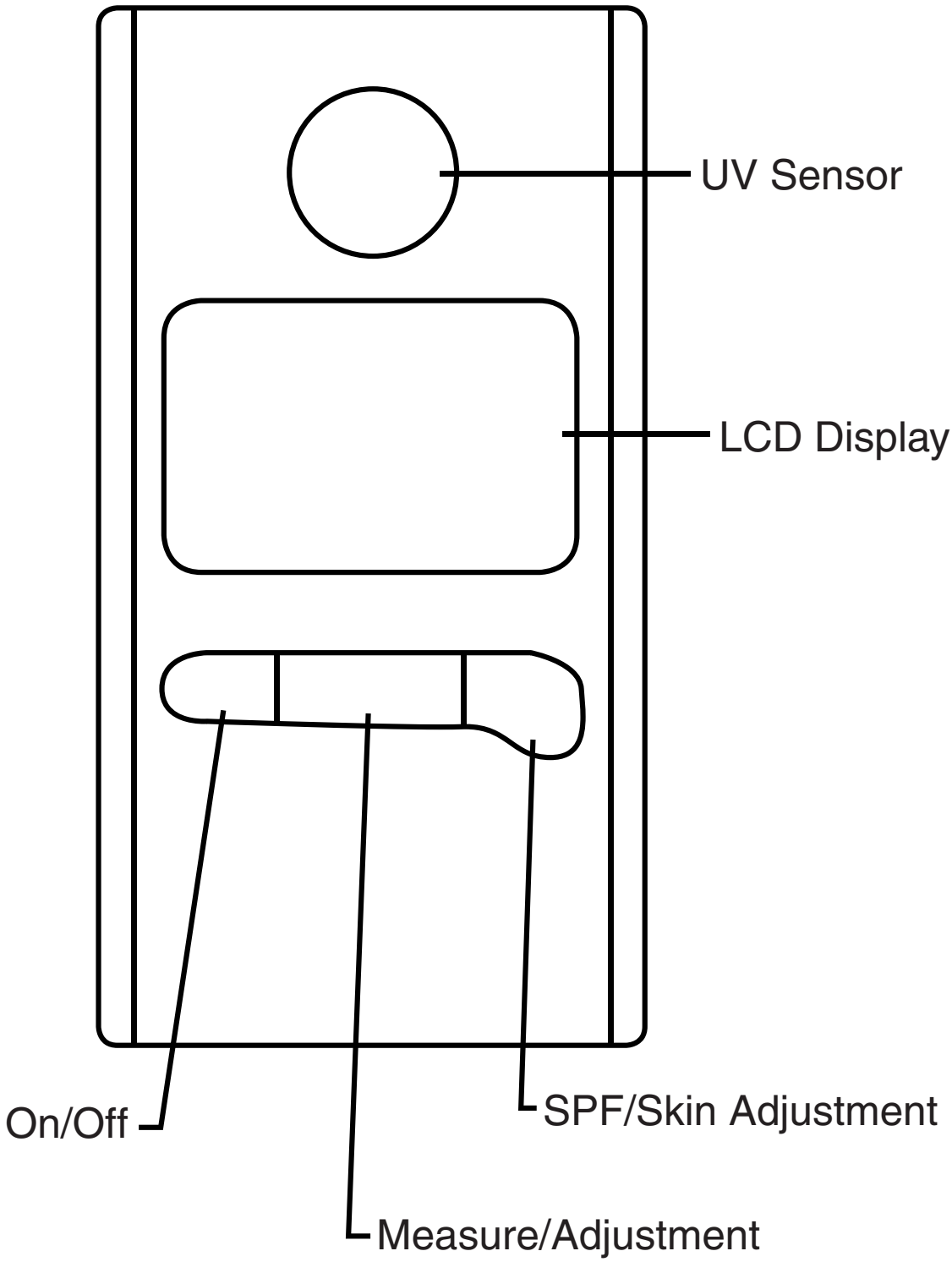
The UV HAWK™ is a device that measures the intensity of ultraviolet (UV) light and displays the results in the UV Index Scale. The higher the UV Index the greater the amount of potentially skin damaging UV light. The UV HAWK™ operates on a single CR2016 cell battery.

What is Ultraviolet Light and Why Should I Test for It?

UV light cannot be seen by the human eye. Three types of UV light exist. UVA, UVB and UVC. Typically the ozone layer only allows UVA light to pass through, but as ozone conditions have deteriorated over time it is thought that the amount of UVB passing through the ozone is increasing.

Exposure to UV light is increasing worldwide with the destruction of our protective ozone layer. It is estimated that 90% of UV radiation is of the common UVA type, which can pass through window glass. UVA type is thought to cause tanning and winkles. UVB type exposure may depend on ozone quality and is typically highest at midday. UVB type does not penetrate window glass and is associated with sunburn and may be more dangerous. UVC type may be mostly absorbed in the ozone but is of high concern for the future as ozone conditions deteriorate. Several studies show that UV light has been linked to increases of several diseases such as skin cancer, immune suppression, and cataracts. Skin cancer occurrences in particular have been increasing at an alarming rate and it is thought that this could be in part due to the effects of increasing UV radiation passing through our atmosphere.

COMPONENTS DIAGRAM



OPERATION

Operating Instructions

1. Make sure the UV sensor lens is clean.
2. Press On/Off button for 2-3 seconds and unit will power on.
3. Hold the unit so that the sensor is directly exposed to sunlight. Note: the unit will not measure UVB light through glass or other transparent materials.
4. Press the Measure/Adjust Button for 2 seconds until you see the sun icon flashing. (Fig 1). Note: the UVI and Temperature Icons will also flash at this time. Release the button and wait 3 seconds. When the sun icon disappears, the unit displays the UV Index.
5. The unit will 1) automatically display a count down until an alarm will sound to remind the user to take action to decrease risk of sunburn; 2) Display the % of maximum suggested sun exposure to avoid sunburn (Fig. 3). Note: Every 6 seconds, the unit will alternate between showing the time remaining until maximum sun exposure and the % of maximum exposure limit you have reached.
6. Press button for 2-3 seconds to turn off the unit when not in use.

Fig. 1

%

UVI	SPF	SKIN	°C
4	25	2	25

Fig. 2

1:45%

UVI	SPF	SKIN	°C
4	25	2	25

Fig. 3

100%

UVI	SPF	SKIN	°C
4	25	2	25

Adjusting the SPF (Sun Protection Factor)

Purpose: By adjusting the SPF setting, you can determine your maximum exposure when factoring in the strength of your sun block lotion. To use this feature, follow these instructions:

1. Press the SPF/Skin button once to put the unit into SPF Adjustment Mode. Note: the SPF letters will flash when the unit is in SPF Adjustment Mode.
2. Press the Meas./Adj. button to adjust the SPF setting from 0-100 to match the SPF # on your sun block lotion.
3. Press the SPF/Skin button twice to exit SPF Adjustment Mode. Note: The readings of this device will only correspond to the areas with SPF lotion properly applied.

Adjusting the Skin Tone Setting

Purpose: By adjusting the Skin Tone Setting, you can factor in your approximate skin tone level to get a more accurate estimate of your sunburn exposure limits. To use this feature, follow these instructions:

1. Press the SPF/Skin button twice to put the unit into Skin Tone Adjustment Mode. Note: the SKIN letters will flash when the unit is in Skin Tone Adjustment Mode.
2. Press the Meas./Adj. button to adjust the skin tone from 1 to 4. (See Skin Tone Setting Chart to estimate the correct skin tone setting).
3. Press the SPF/Skin button once to exit the Skin Tone Adjustment Mode.

Skin Tone Setting Chart

Natural Skin Color	Tanning History	Suggested Skin Tone Setting
Pale or milky, white alabaster	Typically get sunburned with peeling when exposed to sun with little or no tan.	Setting 1
Very little brown, sometimes freckles	Typically get burned with pink or red areas. However, sometimes user does get a light brown tan.	Setting 2
Light brown or olive, distinctly pigmented	Sometimes get sunburns but user typically tans at a moderate rate.	Setting 3
Darker brown or black	Rarely gets sunburned and typically tans at a rapid rate.	Setting 4

Adjusting the Ambient Temperature Scale

This unit contains a built in thermometer, it can be adjusted between Fahrenheit (F) and Celsius (C) as follows:

1. Press and hold the Meas./Adj. button for 2 seconds until you see the sun icon flashing.
2. Press the SPF/Skin button to toggle between Fahrenheit and Celsius.

Understanding the Results

The unit displays its UV measurement in the Ultraviolet Index (UVI) Scale. The UVI, developed by the World Health Organization (WHO), is described as follows:

The UVI is a simple measure of the UV radiation level at the Earth's surface. It has been designed to indicate the potential for adverse health effects and to encourage people to protect themselves. The values of the Index range from zero upward and the higher the index value, the greater the potential for damage to the skin and eye, and the less time it takes for harm to occur.

While the levels of UV radiation vary during the day, they reach a maximum around mid-day. The UVI is usually presented as a forecast of the maximum amount of UV radiation expected to reach the Earth's surface at solar noon. In countries close to the equator, the UVI can reach up to 20. Summer-time values in Northern latitudes rarely exceed 8.1

1. www.who.int

UV Index and Protective Actions

The Environmental Protection Agency (EPA) has also prepared detailed information on the UV Index and suggests the following protective actions based on the UV Index:

Exposure Category	UV Index	Protective Actions[2]
Low	0, 1, 2	A UV Index reading of 2 or less means low danger from the sun's UV rays for the average person. Wear sunglasses on bright days. In winter, reflections off the snow can nearly double UV strength. If you burn easily, cover up and use sunscreen.
Moderate	3, 4, 5	A UV Index reading of 3 to 5 means moderate risk of harm from unprotected sun exposure. Take precautions, such as covering up, if you will be outside. Stay in shade near midday when the sun is strongest.
High	6, 7	A UV Index reading of 6 to 7 means high risk of harm from unprotected sun exposure. Apply a sunscreen with a SPF of at least 15. Wear a wide-brim hat and sunglasses to protect your eyes. Protection against sunburn is needed. Reduce time in the sun between 10 a.m. and 4 p.m. Cover up, wear a hat and sunglasses, and use sunscreen.

continued

Exposure Category	UV Index	Protective Actions[2]
Very High	8, 9, 10	A UV Index reading of 8 to 10 means very high risk of harm from unprotected sun exposure. Minimize sun exposure during midday hours; from 10 a.m. to 4 p.m. Protect yourself by liberally applying a sunscreen with an SPF of at least 15. Wear protective clothing and sunglasses to protect the eyes. Take extra precautions. Unprotected skin will be damaged and can burn quickly. Minimize sun exposure between 10 a.m. and 4 p.m. Otherwise, seek shade, cover up, wear a hat and sunglasses, and use sunscreen.
Extreme	11+	A UV Index reading of 11 or higher means extreme risk of harm from unprotected sun exposure. Try to avoid sun exposure during midday hours, from 10 a.m. to 4 p.m. Apply sunscreen with an SPF of at least 15 liberally every 2 hours. Take all precautions. Unprotected skin can burn in minutes. Beachgoers should know that white sand and other bright surfaces reflect UV and will increase UV exposure. Try to avoid sun exposure between 10 a.m. and 4 p.m. Seek shade, cover up, wear a hat and sunglasses, and use sunscreen.

2. www.epa.gov

Replacing the CR2016 Battery

Change the battery when the low battery icon on the unit is displayed as follows:

1. Remove the screw located on the top backside of the unit and pull the shell apart gently.
2. The battery will be located on the bottom portion of the interior of the unit. Slide the old battery out of the holder.
3. Replace with a new CR2016 battery with the positive side facing up and negative side facing down.
4. Snap the shell gently back in place and tighten the screw.

PRECAUTIONS

1. Clean the lens with a cotton swab or plain tissue before use.
2. Suggested storage temperature is 0-50° C.
3. This unit is not waterproof. Submersing the unit in water or getting it wet may result in permanent damage.
4. Do not rely solely on this device to determine your sun exposure limits. Always use caution and protective measures when having prolonged exposure to direct sunlight, including but not limited to, use of sun block lotion and protective clothing.

Specifications

UV Index Range:	0-15
SPF Range:	0-100
Skin Tone Options:	4
Temperature Scales:	C & F
Dimensions:	2.3 x 1.2 x 0.5 inches
Weight:	0.125 Pounds (2 ounces)
Power Source:	CR2016 Battery (included)
Storage Conditions:	0-50°C (32-122°F)

DISCLAIMER

Manufacturer and Q3I expressly disclaim any liability for incidental, special, or consequential damages of any nature when using this device. This device should only be used for gauging ultraviolet light intensity. This device is NOT designed for any clinical or medical applications. This device should only be used in accordance with the instructions and when obeying all precautions and warnings.

LIMITED WARRANTY

Manufacturer and Q3I warrant this device to be free from defects in workmanship or material under normal use for one year from the date of purchase. Manufacturer's obligations under this limited warranty are limited to replacing, adjusting, or repairing the unit if returned along with the proof of purchase. This warranty is void if the unit has been tampered with, maliciously damaged, or physically abused.

The enforceability of this warranty is limited to the original consumer purchaser and is not transferable to, or enforceable by, any subsequent owner. In the event of a defect, malfunction or other failure to conform to this warranty, Q3I will, at its sole discretion, repair or replace the unit at no charge. You are responsible for all shipping cost in connection with warranty service. This warranty commences on the date of retail purchase and shall be effective for a period of one year.

THERE ARE NO EXPRESS WARRANTIES COVERING THE UNIT OTHER THAN THOSE SET FORTH IN THIS WARRANTY. ALL IMPLIED WARRANTIES ARE LIMITED TO THE PERIOD OF THIS WARRANTY AND NO WARRANTIES, EXPRESS OR IMPLIED, EXTEND BEYOND THIS PERIOD. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

Manufacturer and Q3I will in no event be liable for any consequential, incidental, indirect or special damages (including, but not limited to, lost profits) arising out of or in connection with the use, misuse or function of the unit. Some states do not allow exclusion of limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

If you feel the device is not functioning properly, please review this manual, particularly the instructions. If you still feel warranty service is required, please follow the below instructions:

1. To obtain service during the warranty period, please call 319-334-3412 or email service@q3i.com to obtain a Return Authorization number and shipping instructions. Remember to return the device postage paid, insured and in suitable packaging.

2. For your own protection, obtain a proof of delivery receipt. Shipping costs are your responsibility.

3. You must enclose with the unit the following information:

    a. Your name, complete return address and written description of the problem (No PO Box please.)
    b. A telephone number where you can be reached during normal business hours.
    c. A copy of your dated sales receipt or invoice.

NOTES

Q3 INNOVATIONS

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UV HAWK™

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