Technical User Manual 2022

SunSense Pro

Disclaimer

The SunSense Pro UV tracker and accompanying App is a tool to help you enjoy the sun responsibly during the day. It is designed by SunSense AS, Norway.

By using the SunSense Pro UV tracker and App, you acknowledge that you have read, understood, and accepted the terms and conditions in this disclaimer. For information on the privacy policy and GDPR compliance, please refer to the terms listed in the SunSense App.

The SunSense Pro UV tracker and App is not a replacement for public and/ or individual health advise concerning your sun behaviour. The SunSense Pro UV tracker and App should not be used for infants and young children below 3 years, as these should be kept out of direct sunlight. Use the SunSense Pro UV tracker and App to help plan your daily activity in the sun to reduce UV exposure and avoid skin damage.

The SunSense App uses the global/local forecast UV index available from the Danish Meteorological Institute (DMI)/EUMETSAT/O3MSAF and calculates via different algorithms a timeframe for you to stay in the sun (with or without a SPF sun protection applied). All UV index forecasts have inaccuracies because they are predictions.
The recommendation given by the app is based on your age, skin type, environment (i.e. beach or land), and your available SPF sun protection. In addition, your location – either obtained from the GPS software of your mobile phone or from information, which you provide – is used to plan your day in the sun. The SunSense App recommends you to seek shade, to wear sunglasses, clothes, or a wide-brim hat, based on your activity and applied SPF sun protection to reduce UV exposure. The SunSense App will remind you to reapply sunscreens depending on conditions and skin type.

Factors that can influence your personal UV exposure include, but are not limited to, number of hours in the sun and reflections from your surroundings can change during the day. The amount of sun protection applied can also be lower than recommended from the manufacturer. Thus, the recommendations given in the SunSense App should only be used as a guideline, and should not replace good sun behaviour. Also, how the UV tracker is attached to the body or clothes and its orientation relative the sun will influence the actual UV exposure readings. Dirt, and in particular sunscreen on the UV tracker sensor window can significantly influence the measurements negatively.

When used without the SunSense UV, the SunSense App does not measure the actual amount of accumulated UV radiation exposure. Use the SunSense UV tracker as directed to measure your actual and accumulated UV-exposure. Always follow the instructions for proper use of the SunSense UV tracker.
The SunSense App and SunSense UV trackers are not scientific instruments. They are health and fitness products and should not be used to diagnose, treat, or monitor any medical conditions.

SunSense AS do not accept any liability for any injury, loss, damage, or costs incurred, or any consequences resulting directly or indirectly by use of or the reliance on the information from the SunSense Pro UV tracker and the App.

FCC compliance statement

FCC ID: 2AZRL-SNSCBT
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause interference.
(2) This device must accept any interference, including interference that may cause undesired operation.

User Information acc. to FCC15.21
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Class B Statement for Digital Devices
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 cause harmful interference to radio or 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/television technician for help.

Introducing SunSense Pro

Take UV protection to the next level with the advanced SunSense Pro wearable UV-sensor with Bluetooth connectivity and a smartphone app.

Configure the app with your personal profile and skin type, and it how long you can stay in the sun conditions at your location and if necessary tell you when to apply sunscreen.
The app will display updated UV- and weather forecasts.
Multiple sensors can be connected to the same app and smartphone, and alarm levels are set individually. Easy access to user manuals and other information.
The sleek and convenient size of just 23×5 mm together with a variety of wearing accessories means the sensor device can be comfortably worn on a suitable place on body or clothing where it will track your accumulated UV-exposure during the day regardless of how you move in and out of the sun and shadow, shifting cloud conditions, pressing heat or cooling breeze. SunSense will tell you your actual exposure status and warn you whenever you approach your recommended maximum levels.

The Sunsense Pro device communicates with Android/iOS phones using Bluetooth Low Energy (BLE). Built in RGB LED will display UVI level by color flash pattern.

Main screen with accumulated UVI dose.

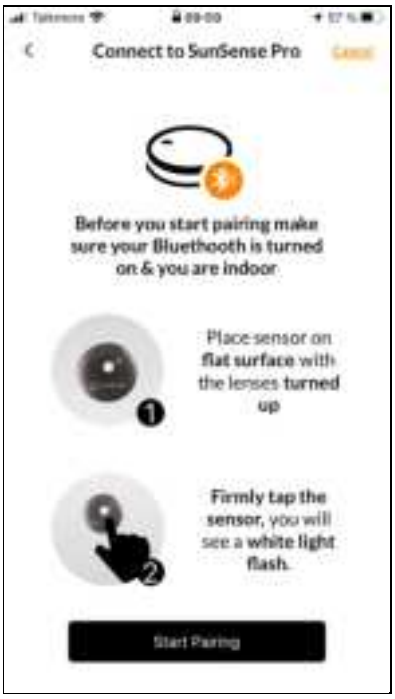
Sign up and Create User

1. Check that Bluetooth is enabled on your smart phone.
2. Download the SunSense app from Google Play or App Store
3. Sign up

Create an account.

1. Select you skin type directly or take the advanced skin type test (Fitzpatrick)

You are now ready to pair your sensor device.
Select "SunSense Pro" as the sensor type.



Follow the on-screen instructions for the pairing process.

Hold the phone with the flashing Camera flash over the sensor device. The sensor device will detect the flash and initiate pairing process.
Avoid doing the pairing process in direct sunlight.

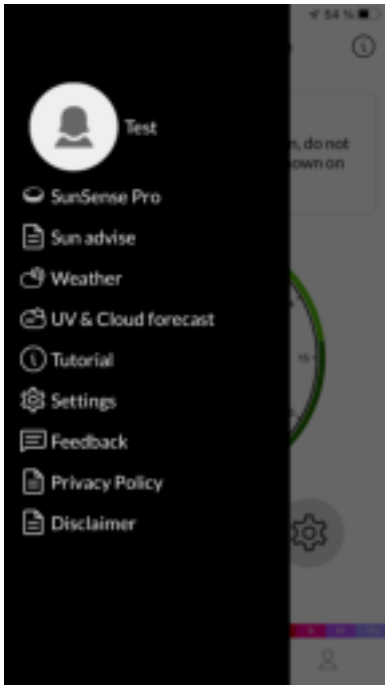
Your sensor device and phone are now paired and ready to use.

Verify your data on your user profile page. The process may take up to a minute depending on your phone and setup.

Set notification according to personal preferences.

Tutorial pages shows important information how to set correct sunscreen protection and other preference settings.

After Tutorial exit the main display will appear.
Main Display information when user settings are completed.
Below the Watch a horizontal scale will display instant UVI level – "Measured X.X UVI"



Menu structure.

Main Display

Location. Select this if you want to set a different location, or your current location is not displayed correctly

Notification window.

2 min UVI value readings. Bar length and color according to measured UV-level

Set preferences:

1. Tan level
2. Personal UV Sensitivity
3. Location (land, beach, water, snow)
4. Location (GPS or manual input)
5. UV forecast (clear sky or forecast)

Sensor status

Latest sensor UVI reading

Screen bar

1. Weather forecast
2. Sun Watch window (currently selected)
6. Current user

Select SPF level used

Current accumulated UV- Dose (% of personal calculated max dose before burn)

Weather forecast.

Use

To start the Pro, gently tap it once on a surface or with your finger nail. A short flash in the UV sensor eye indicates that the device is turned on. The UV sensor eye must not be covered in any way or come into contact with sunscreen.
In the SunSense app, you calculate your daily recommended maximum dose or UV radiation threshold, and you can control how much UV exposure you have at any time. When you open it, the app will take a few seconds to retrieve the last measurement from the Pro. The stronger the sun, the faster your accumulated UV dose will increase. When you approach your recommended daily maximum dose, an alert in the app will notify you of this.

Skin types and danger of sunburn

Skin types are divided into 5 categories:
Skin type 1:
Light, delicate skin. Often freckles, red or light blond hair. Will become light red, rarely or never tanned.

Skin type 2:
Light skin. Mostly light-blonde hair, but also dark-blonde may have skin
type 2. Becomes often red, but gradually tans.

Skin type 3:
Light to golden skin, blond or dark hair. Occasionally red, but always tanned eventually.

Skin type 4:
Golden to mid-brown skin, dark hair. Rarely red, tans lightly.

Skin type 5:
Dark skin, black hair. Will never turn red.

Remember:
How much UV radiation your skin can tolerate will vary from person to person and also your current tan level.
SunSense Pro can also be used even if you do not have your smartphone nearby, after
it has connected to a phone, and you have calculated your maximum dose for that day. To check your status, tap the Pro the UV sensor eye will light up as follows:

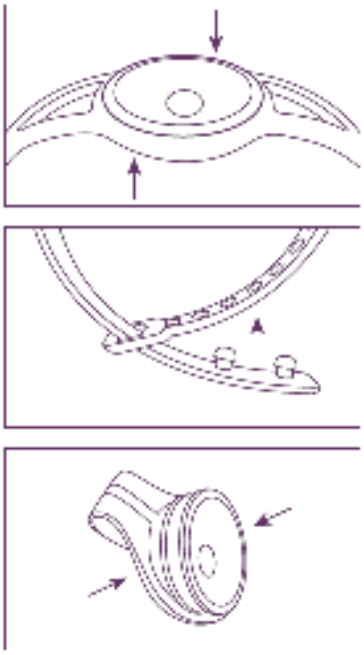
- Green 1 flash: Under 60% of the maximum dose
- Yellow 2 flashes: 60-90% of the maximum dose
- Red 3 flashes: Over 90% of the maximum dose

Important: In case of alarm in the app or red alert light, you should immediately wear clothes, find shade, or otherwise protect yourself. We recommend using sunscreen and protective clothing in combination with SunSense for optimal protection of your skin.

How to wear it

Different activities can lead to very uneven sun exposure of the body and therefore the device should be attached close to where your skin is most exposed. It is recommended to place SunSense Pro on the body so that it has the same angle to the sun as the most exposed skin areas. Use bracelets, flexible strap or clip depending on what is most convenient for the activity you are performing. Waterproof up to 1 meter. (eller down to 1m)?

The device can easily be used with different clips, straps etc.



To insert the device: Insert it into the bottom of the clip or strap and press it in place with your thumb.
To remove the device: Place a thumb on each side of the back of the clip (labeled "Push out") and push the device out of the clip.
Remember: To achieve the most accurate measurement, it's important that your SunSense Pro "sees" the sun all the time.

Power saving and storage

After 6 hours without sunlight, Pro turns off automatically. Store the device in a dark place when not in use. If exposed to vibrations the battery may drain unnecessarily over time as this can turn the device on. With occasional use the battery typically has a duration of 2-4 years depending on usage.

IMPORTANT
Be extra careful if:
- You can’t get tanned or tanned without burning when you are in the sun
- You are sunburned
- You have or have previously had skin cancer, or you have a family history of skin cancer
- You have a lot of freckles
- You have a large number of or abnormal moles or pigment spots
- You have natural red hair
- You had frequent, severe sunburns in childhood
- You use medication that increase the sensitivity to sunlight (photosensitizing)
- You have a medical condition making your skin more sensitive to sunlight

Battery Replacement

SunSense Pro is equipped with a replaceable CR2032 Lithium Battery.

Open the Pro device using the tools included. Clamp each of them to the upper and lower cover and rotate CCW until bottom cover can be removed using fingers only.

When done, pry out and remove the battery using finger nail or sharp non-metallic object. Replace the CR2032 Battery. Note polarity.

Before reassembling the Bottom Cover, make sure the inserted battery is flush and level with the edge of threaded plastic part into which it is inserted.

Place Bottom Cover over the Battery and rotate it by the fingers Clockwilse ~360 deg until a resistance is felt. From this point, attached the tool again and continue Clockwise rotation 45-60 deg until you feel a firm resistance from the threads.

Note: Do not rotate beyond 60 deg as this can permanently damage the plastic part treads. If the handles of the plastic tools are pressed to contact each other, then too much force is applied.

Technical Data Sheet

Item	User Function	Specification	Details
Type	Wearable	Outdoor	+ Water resistant
Input	Tap activation	10G	Min tap interval for consecutive taps: 800ms
	Manual Power On	One Tap	
	Manual Power Off	6 taps (interval 200-800msec)	
	Auto Power Off	1. 6 hours after last measured UVI >0.1 2. 15 hours after Manual Power on	
	Ambient Light sensor	Max 10000 LUX (550nm)	
	UVA/B sensor	250-390nm erythemal weighted CIE (UVI)	Angular response: +/-90 deg.
Output	RGB Led indicator	Tri-Color RGB LED 1. White flash: Power on 2. Green-Yellow-Red flash upon tap: accumulated UVI dose relative calculated personal max 3. Blue/Red flash FW update 4. Blue flash – "Locate sensor device"	Min LUX = xxx Max 100msec Max 100msec Max 100msec Max 100 msec - 1 min
RF Communication	BT communication with App on phone/Pad	BLE Maximum of 1 paired device per phone/app	Typical Range 5-10m
Other			
Power, battery	Battery power	Lithium – Replaceable, CR2032. Lithium, 280mAh	Lifetime 1500-4000use hours depending on configuration and UV-level
Accessories	Clips, straps	Wriststraps size S and L. Flex-strap. Attachment Clip for cloths/cap or eq.	Color: Black. Straps material: TPSiV. Clip material POM+TPE
UV histogram recording	Full-day UVI export data	Included data: Time: hh-mm-ss UVI: X.XX (average over 2min) Data stored in device since power on. Downloaded to App/phone upon connection and App request. Same data as graphic histogram.	File name includes MAC (android), UUID (iOS) + Date: yyyy-mm-dd Average readings over 2 min for each data point.
Physical data			
Diameter		24,31 mm	
Thickness		8.31 mm	
Weight		7,1 gram	
Material		Aluminum Housing	Black anodized
Water proof		IP68, 1m	

Drop		Min 100g, 1m drop height	Hard surface – tile floor
Regulatory		EMC and Safety Radio Equipment Directive (RED) 2014/53/EU	