

# Moodmetric® User Guide

2020-3-4

V7AC\_2



**MOODMETRIC**

MANAGE STRESS BETTER

Moodmetric Measurement is the simplest way to  
manage stress and recovery

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# Product

Product: the Moodmetric smart ring

Trademark: Moodmetric ©

Reference: V7AC\_2

**MADE IN FINLAND**

# Getting started

With the help of the quick start guide below, you will be able to start using your Moodmetric ring immediately. To ensure that you get most out of all the features, it is advised to read the entire User Guide.

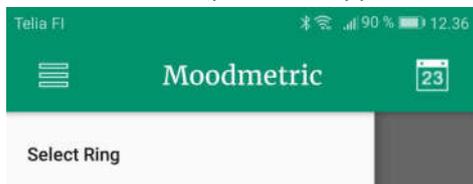
# Quick start

## 1. Download the app

- Get the app for free from AppStore or Google Play

## 2. Connect the ring

- Wear the ring
- Go to the menu (press the upper left corner)



- Tap "Select ring". Your ring code should now appear.
- Choose the ring and then tap "Connect" from the bottom left corner  
(If your ring code does not appear, check that your device Bluetooth is on, and the ring is charged)

## 3. Calibrate

- Select the ring as above. Tap "Calibrate" from the bottom right corner.
- Return back to the main screen.

## 4. All set! You can now

- Follow the Moodmetric level and the real time curve
- Use the ring off-line and check the daily diagram when convenient. You can make Diary entries and get a score your level e.g. during a relaxation practice

## Charging

- Charge the ring from its micro-USB port
- **Never wear the ring while charging.**
- If the ring is heated under any circumstance, remove from power source immediately and contact [info@moodmetric.com](mailto:info@moodmetric.com).



## About Moodmetric

Moodmetric services include the Moodmetric smart ring (available for purchase at the Moodmetric web shop), the Moodmetric iOS and Android app. Moodmetric also provides a cloud service. For organizations and health care professionals we offer group and single measurement services, training and lectures.

The Moodmetric measurement tells about the sympathetic nervous system activation - the fight-or-flight response. High activation indicates positive or negative stress, low in turn relaxation and calmness. The Moodmetric measurement is intended for a long term and continuous follow-up on stress and recovery levels and shows clearly the impact of emotional and cognitive stress on the overall load.

## Contents of the package

1. The Moodmetric smart ring



2. A charger cable with micro-USB (ring end) and USB ports (for computer)



3. The Moodmetric app is free to download from AppStore and GooglePlay

## Contact information

Vigofere Oy

HealthHub

Biokatu 6

33520 Tampere

Finland

info@moodmetric.com

<https://www.moodmetric.com/contact/>



## Limitations and suggestions

Please read the following recommendations carefully before beginning to use

### Important notice! Special considerations

The Moodmetric ring is meant for recreational purposes only. Moodmetric's products are not medical devices and should not be used to diagnose or treat any medical conditions. Moodmetric's products are not authorized for use as critical components in life support devices or systems. Moodmetric does not guarantee the wellbeing of the user. Data provided by the Moodmetric smart ring is dependent on the personal characteristics of the user. There is some variation between users, so Moodmetric does not take responsibility when comparing data between different users. Compare recent data only to the history of the same user.

The use of the Moodmetric smart ring is safe for most people; there are no known serious side effects. However, there are few cases in which the Moodmetric ring should only be used with the prior approval and monitoring of a medical or health-care professional, and certain conditions under which the Moodmetric ring should not be used at all.

- Persons suffering from any serious physical or medical condition— including epilepsy, brain injury, cardiac arrhythmia or other heart disorders—or those using a pacemaker are encouraged to consult with a medical professional before beginning use.
- Children or minors should use only with prior parental consent and monitoring.
- If your fingers swell excessively, it is not advised to use the Moodmetric ring, in order for it not to become lodged on your finger. Should this happen, you can add a drop of soap between finger and the ring to help to slide it off.

Vigofere Oy / Moodmetric make no implicit or overt claims for cure or treatment of any medical or psychological disorders. No expressed or implied medical claims are made for Moodmetric products. These products are not intended for use in relieving any medical or psychological condition.

## Battery and charger info

Your device has an internal, non-removable, rechargeable Li-Ion battery. Do not attempt to remove the battery, as you may damage the device.

The equipment shall be supplied from an specific external power source in compliance with the clause 2.5 of the standard IEC 61950-1.

### **Battery and charger safety**

To unplug a charger or an accessory, hold and pull the plug, not the cord. When your charger is not in use, unplug it. If left unused, a fully charged battery will lose its charge over time.

Normal device operating temperature is between -20° and 35° C / (-4° to 95° F). Charging temperature is between 5°C and 35°C (40° to 95° F). Extreme temperatures reduce the capacity and lifetime of the battery. A device with a hot or cold battery may not work temporarily.



Do not dispose of batteries in a fire as they may explode. Obey local regulations. Recycle when possible. Do not dispose as household waste.

Do not dismantle, cut, crush, bend, puncture, or otherwise damage the battery in any way. If a battery leaks, do not let liquid touch skin or eyes. If this happens, immediately flush the affected areas with water, or seek medical help. Do not modify, attempt to insert foreign objects into the battery, or immerse or expose it to water or other liquids. Batteries may explode if damaged.

Use the battery and charger for their intended purposes only. Improper use, or use of unapproved or incompatible batteries or chargers may present a risk of fire, explosion, or other hazard, and may invalidate any approval or warranty. If you believe the battery or charger is damaged, discontinue use, and contact [info@moodmetric.com](mailto:info@moodmetric.com). Never use a damaged battery or charger. Only use the charger indoors. Do not charge your device during a lightning storm.

Lack of use might result in the battery draining out and not charging optimally anymore. Make sure that if the ring is unused for more than 4 weeks, it is charged regularly, at least once a month.

## Other limitations

- **Do not charge the ring while wearing it**
- Charge only with wall adapters or computers that fulfill necessary electrical safety regulations
- Do not keep the ring on hot surface, do not heat the ring. Normal operating temperature is between -20° and 35° C / (-4° to 95° F). Charging temperature is between 5°C and 35°C (40° to 95° F).
- Do not immerse the ring in water, even though the ring is splash proof. If wet, dry with a towel or let dry in open space before use.
- Do not swallow
- Do not use in any other way than described in this instruction
- The band of the ring is detachable, it can be snapped back if detached. If any other part is loose or detached, do not use the ring any more, contact [info@moodmetric.com](mailto:info@moodmetric.com)
- The Moodmetric ring is not a toy. Keep away from small children and animals.
- Moodmetric / Vigofere Oy is not liable for any damage or injury caused by non-intended use of the Moodmetric ring or the charger cable.

## Where and when can I use the Moodmetric smart ring

- You can use the Moodmetric smart ring like any ring in your daily life. For an accurate reading, the ring should stay well in place, but not to be tight.
- The Moodmetric smart ring is well suited to measuring at home, at workplace, during a light exercise and while sleeping.
- The measurement might not be accurate, and the ring might be damaged while lifting heavy objects, gripping things very tightly or wearing heavy or tight gloves.



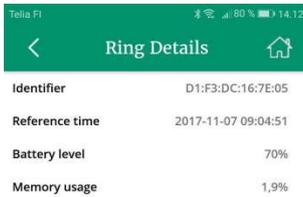
- The smart ring is splash proof but can not be immersed in water. Do not take a shower or swim with the ring.
- The ring can be worn in hot weather and sweating fingers do not interfere with the measurement. However, do not use the ring in heated spaces such as sauna or solarium.
- The reading might be intermittent, if your hands are very cold.

## Can several persons wear the same ring

The Moodmetric smart ring is intended primarily for personal use, and the Moodmetric algorithm learns the personal characteristics of the wearer. The longer the ring is used, the more accurate the reading is.

Several people can wear the same ring, but quick changing from one to another does not provide the most accurate data.

When changing the user, reset the data of the previous wearer by tapping Calibrate:



After this, allow the next user to wear the ring at least for 15 minutes, to have a valid measurement.



## Using the Moodmetric smart ring

Read this chapter to have the best benefit of your ring and app.

### Wearing the smart ring

The ring can be worn like a normal ring. It should fit well, but not to be tight.

You can wear the ring on any finger, but the best contact is achieved from fore, middle or index finger. If you have big hands, also the little finger works well.

Try to find a spot where the ring does not move much. The measurement is interrupted every time the skin contact is lost.

The measurement point is underneath your finger, where the density of sweat glands is the greatest. The ring might not get a good contact, if you turn it upside down so that the stone is on your palm side.

Tip: if your finger is very bony, and the ring does not stay well in place, you can try and wear another ring below the Moodmetric ring. This might support the ring to stay in proper position.

To get the most out of your Moodmetric ring and its data, use the ring continuously, day and night. You can also use the ring for a set time period.

Note: if the ring is unused for long periods, make sure to charge it at least once a month.

### Indicator LEDs

A green indicator LED should blink once when inserting to finger: device is now working and recording and the battery is charged. When the device is removed from finger or when the contact with the skin is lost, the green indicator LED blinks twice.



When the battery is low, the red indicator LED starts to blink periodically. If worn with a low battery for extended periods, corruption of recorded data may occur. When the battery is empty, the red indicator LED blinks twice and the ring will shut down. Charge before using.

When the charge plug is inserted, an orange light will appear until battery is full. Take the charger off when the orange light shuts off. If the orange light does not light up when the power plug is inserted and the plug is powered, this means the battery is already full and no need to charge, or the temperature is outside the allowed charging temperature window 5°C to 35°C (40° to 95° F).

Orange LED blinking while charging might indicate a faulty battery. Do not use the ring, contact [info@moodmetric.com](mailto:info@moodmetric.com).





## The Moodmetric app

Download the app for free from the AppStore or GooglePlay. Search for Moodmetric and follow the instructions.

See the Quick Guide in the beginning of this document to pair your ring with the app. Once paired, you do not normally need to repeat it again; the app automatically recognizes your ring every time you open it.

Note: the ring records data the whole time it is being worn. You do not have to have the app open. You can download data from the ring when convenient, e.g. at the end of the day.

## The Moodmetric level

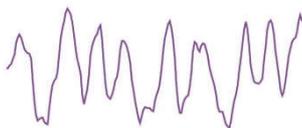
Moodmetric measures your alertness level. A simple reading tells whether you are experiencing stress/excitement or being calm. Note that the measurement can't tell whether your emotion positive or negative, only the intensity of it.

The measurement is shown on a scale from 1 to 100, named the MM Level (the Moodmetric level). On the app's main screen this number displays the stress level at a precise moment, and it updated continuously.

The raw measurement signal is equally presented real-time. This so called Scope displays single reaction equally real-time.



The Moodmetric Level



The Scope



The MM level describes the load you are experiencing. Low electrodermal activity (EDA) means that your mind is at peace. The more intense the feeling, the higher the EDA. The Moodmetric smart ring captures this biosignal and shows the stress/excitement level with the Moodmetric number.

The Moodmetric level ranges from 1 to 100. The in-built algorithm learns from the user and gives 100 to the highest experienced load and 1 to lowest. The MM level 100 means being extremely stressed, excited, anxious or frightened. At about 50 the mind is active while below 30 means being relaxed. Level 1 can be reached e.g. at deep sleep.



### How to interpret the Moodmetric level

0-20	Calm
21-40	Serene
41-60	Active
61-80	Worked up
81-100	Running high

Emotions on different intensity levels can be positive or negative. Moodmetric does not distinguish between them nor give an indication of which emotion the wearer is feeling.

### Some example situations of different levels

0-20	Sitting at peace, doing mindfulness exercise
21-40	Leafing through a paper, walking
41-60	Discussing, listening
61-80	Event at work with a slight pressure
81-100	Being stressed, being late, getting angry, being delighted

The Moodmetric smart ring helps in analyzing what are the stressors in life, and what bring energy and recovery.

## The Moodmetric scope – The reaction curve

The Scope tells about the instantaneous reactions of the wearer. When a person feels something, the autonomous nervous system reacts and small changes can be measured from the skin.



The Moodmetric smart ring detects the changes that can be followed online with the smart phone app. All the reactions cause an upward jump on the Scope, the bigger the reaction, the higher the curve goes. The physical response delay is 1.5 seconds, so the jump is visible 1.5 seconds after something makes a person react.

The curve is normalized skin conductance, with auto-scaling.



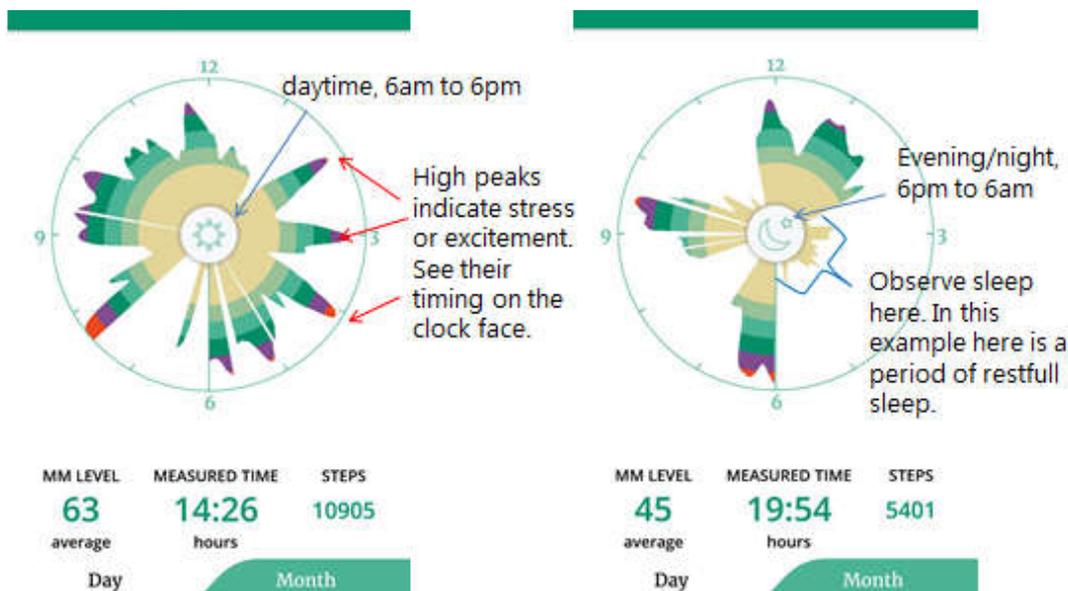
## Daily Diagram

The daily diagram is a visual presentation of the stress and recovery levels during the day. It shows stress and calmness on a clock face, starting from 6am till 6pm, and the same for the evening and night. Day and night view can be changed from the icon in the middle. Swiping left or right changes the days.

The daily diagram appears when downloading the data from the ring from the main screen calendar sign. It is also downloaded automatically every time when entering the Diary or Analytics screen.



The more intense the feeling (it can be joy, excitement, stress, anger etc.), the closer to the edge of the circle the figure reaches. The color also indicates the intensity ranging from calm yellow to green, purple and finally red.



**MM level** is the average Moodmetric number for a particular day (from 6am to the following 6am). It gives the possibility to follow the stress and recovery trends, if the ring is used regularly.

**Measured time** tells how long the ring has been used on a given day. The Moodmetric ring works also as a **step** counter.

The ring stores information for the daily diagram and it is downloaded from the ring to the diagram when pressing the calendar sign, or entering Diary or Analytics.



## The Month view

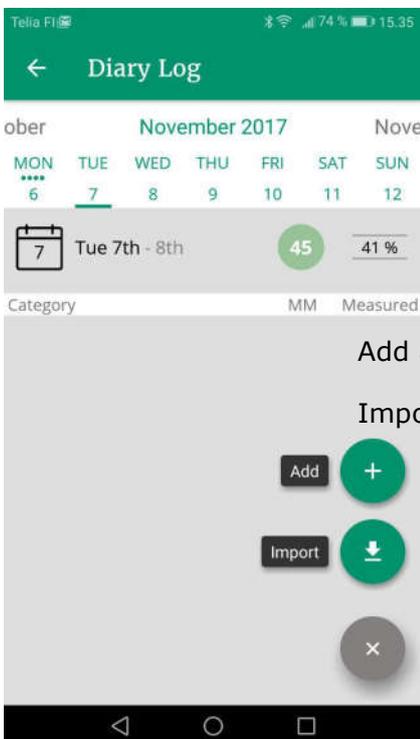


By tapping "Month" under the daily diagram can the Calendar be accessed. It gives the each day with your average intensity color.

The Moodmetric number level average is counted over the used hours. The combined amount of steps is shown in thousands as in the day view.

## Diary

The Diary feature lets the user to import items from the phone calendar, or to add own notes.



Add a new Diary entry

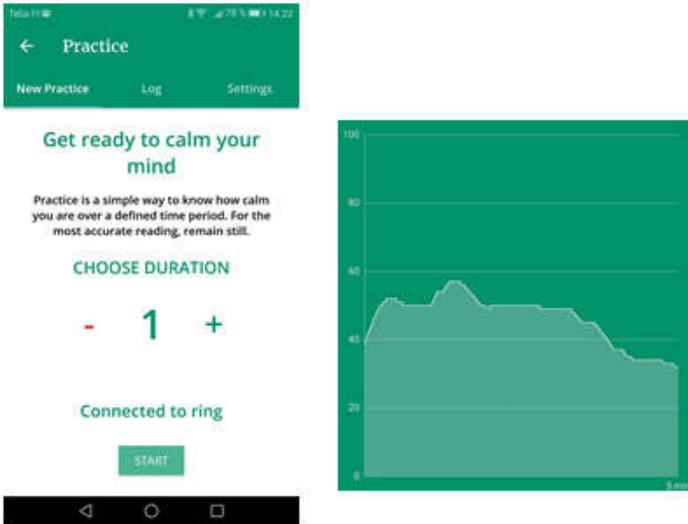
Import items from the phone calendar

The Moodmetric level for each calendar and diary item is counted automatically. The title, additional notes and experienced mood can be added manually. These can be updated or changed later.



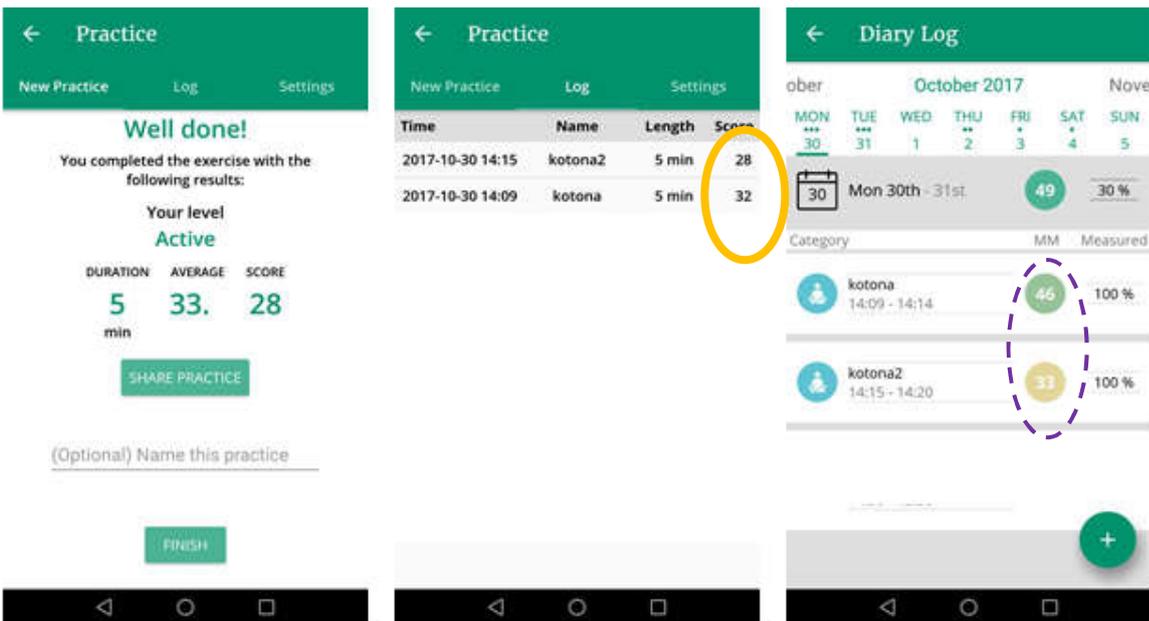
## Practice

The Practice feature is a rehearsal tracking how calm a person can get over a defined period of time. The program shows a real-time measurement as a curve and gives a score at the end.



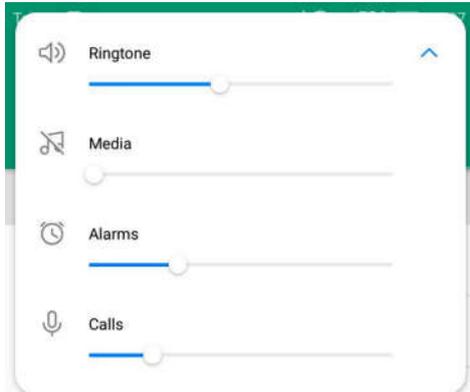
### How to use

- Set the desired length of the practice and press Start
- Once the time is up, you can see the duration, average and lowest level (Score) during this practice.
- All Practices are saved in the Practice Log with the Score.
- If the practice is 5 min or longer, it can be named and it will be automatically saved as a Diary entry. In the Diary entry, the average level is saved.





From **Practice Settings** you can select a background sound or turn them off. A start and end sound are always on, but you can turn also those off from your phone sound settings: Turn Media sounds completely off:



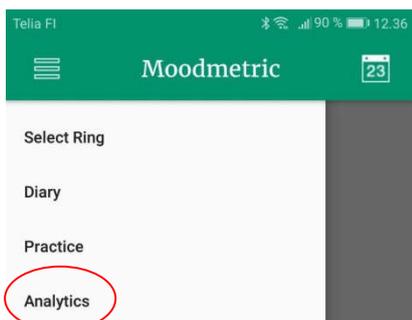
The ring measurement is very accurate and it needs a perfect skin contact when reading the lowest MM number levels. If you target at a score of 10 or below, you need to stay immobile during the practice.

### Examples

- Measure a mind-calming exercise
- Practise for a distressing event: Record the emotional level of your mind e.g. when practising a speech. Check the result and try to improve. Try to take e.g. a breathing exercise beforehand, to calm your mind.

## Analytics

You can enter the Analytics screen here:

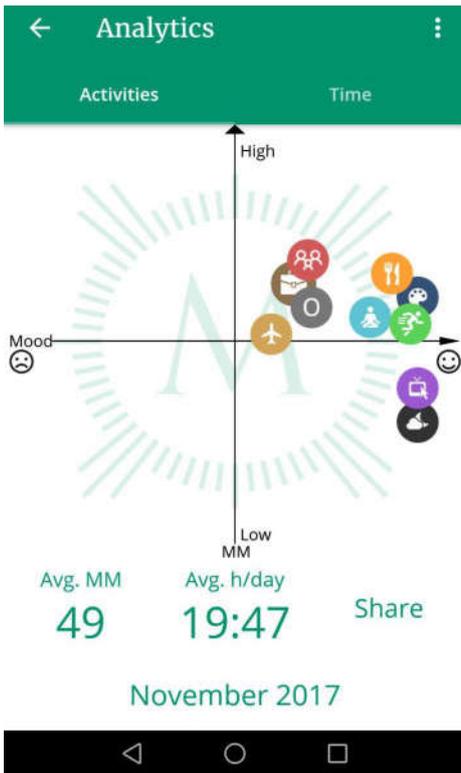


The Analytics feature gives you an overview per each calendar month. It has two screens: the quadrant plot and the month chart. You can move between the screens by swiping.

### The quadrant plot

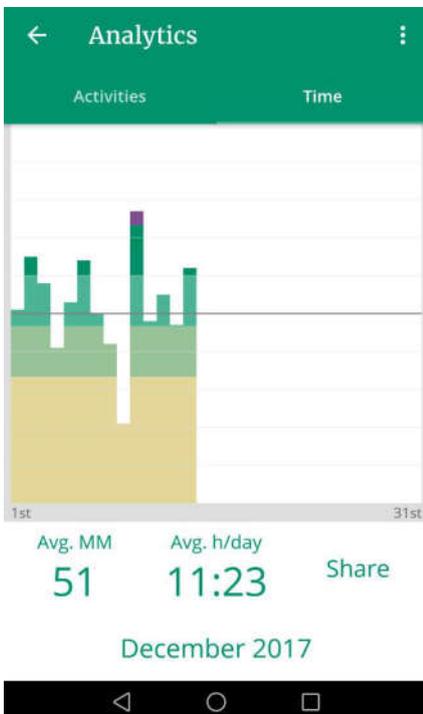
The quadrant plot illustrates each Diary category on two axis:

- The vertical axis shows the MM level from 1 to 100 per each category. The higher the balloon, the higher the stress level for that category on a given month.
- The horizontal axis shows the user defined mood: the more to the right the balloon, the more positive mood has been indicated



### The month chart

This screen shows the MM level for each day of the month



From the upper right corner menu you can get numerical values for illustrations on both screens.



## The Moodmetric measurement is based on the phenomenon of electrodermal activity

The Moodmetric smart ring measures electrodermal activity (EDA) of the skin. EDA is generated by activity of the sweat glands. The Moodmetric smart ring measures the palmar skin on the finger. The unconscious actions of the human body are regulated by the autonomous nervous system, which consists of the sympathetic and the parasympathetic part. The parasympathetic part controls the body's rest-and-digest functions and the sympathetic system controls the fight-or-flight reactions. The sweat glands are exclusively innervated by the sympathetic nervous system. This makes EDA an ideal measure for sympathetic activation. EDA is a very sensitive indication of emotional and cognitive stress, and is therefore an excellent tool for measuring stress e.g. in knowledge work.

The sweat glands are exclusively innervated by the sympathetic nervous system. This makes EDA an ideal measure for sympathetic activation. Electrodermal activity correlates to general emotional intensity, negative emotion, concern, and anxiety. The Moodmetric measurement indicates if something arouses the user, and inversely, whether the user is calm.

## Technical specifications

- The Moodmetric app is compatible with iOS and Android
- Contains Bluetooth Smart
- Operating range 5m
- Internal memory ~24 hours
- Battery lifetime ~ 4 days
- Lithium polymer battery, typical charging time approximately 2.5 hours
- Charging from the included USB cable
- Splash proof
- Laser cut stainless steel bands with copper and silver coating
- The Moodmetric ring comes in five sizes (inner diameter indicated in millimeters):  
XS / 16mm / US5.5, S / 17mm / US6.5, M / 18.5mm / US8.5, L / 20mm / US10, XL / 21.5mm / US12

## Warranty and safety

Always follow the instructions and warnings closely.  
Read all instructions in this user manual carefully before using the product.  
Do not open the device; there are no serviceable parts inside.

The Moodmetric ring and the charger cable: 1 year warranty. The warranty period begins from the date of purchase.

The warranty covers only product damage resulting from normal usage of the product, and does not cover damage due to accidents, cosmetic defects arising from wear and tear, incidental loss, normal deterioration of the battery lifetime or damage due to usage that does not conform to instructions provided in the product user guide. You may be required to present a proof of purchase when you make a warranty claim.

