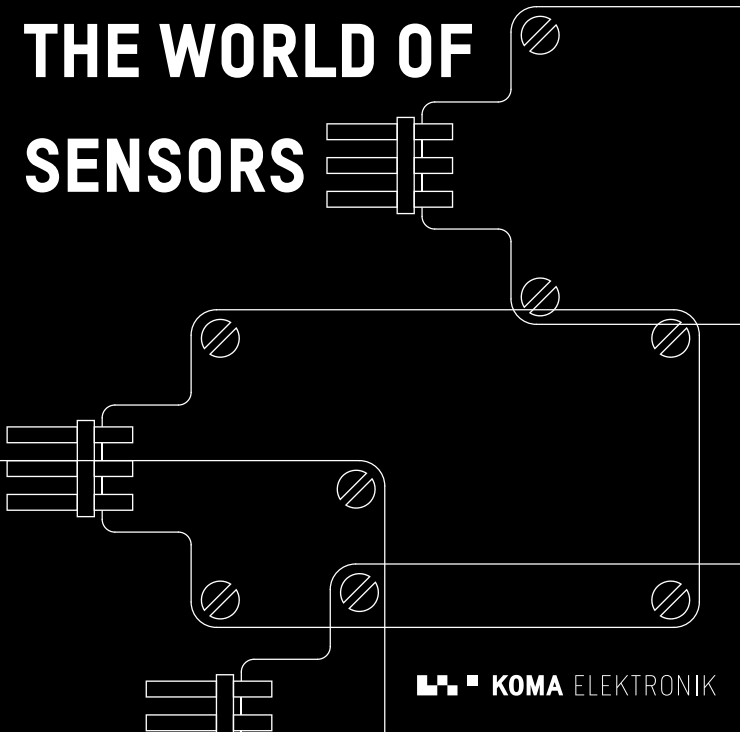


# THE WORLD OF SENSORS



# THE WORLD OF SENSORS

**Your environment shapes your creativity and influences your life's canvas; surround yourself with inspiration, and watch your imagination flourish.**

With our sensors you reap a plethora of ever-present sources and signals. While often paid little attention to, the environment in which you let your creativity manifest, has a great effect on your work.

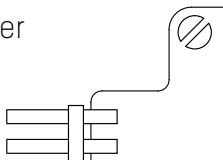
**Now you have tools to let that environment flow directly into your sound.**

## SENSOR PACK A

- Light Sensor
- Button & Jack
- Electret Microphone
- Ball Switch
- Temperature Sensor

## SENSOR PACK B

- Capacitive Touch
- Accelerometer
- Micro Sequencer
- Linear Softpot



With our sensors we have created a line of small but powerful tools to bring new life into your creative process.

**Ambient signals** such as light or heat can now be part of your live or studio setup. **Physical interaction** sensors create a more direct connection between you and your setup. **Generative sensors** help you create patterns and rhythms on the go.

Whether you're a seasoned performer or a budding enthusiast, our sensors offer endless possibilities to enhance your musical journey. **Dive into a world where your surroundings become instruments**, and let your creativity soar to new heights with every touch, movement, and ambient signal.



1



2



# LEGEND



**ANALOG IN** \_ This symbol means the sensor is perfect to create continuous modulation. Your resulting signal is an “out of the box” CV.



**SWITCH IN** \_ These sensors will send out a trigger or gate, which you can further process on the sensor interface.

While some sensors work best with one of the two, we encourage experimentation. Some sensors also have several modes that might be used with different inputs.

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## THREE GROUPS OF SENSORS

First type acts as a **generator**.



**GENERATOR**

**Physical sensors** require actions from persons or interaction with a body.



**PHYSICAL**

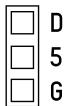
**Ambient sensors** look for changes in the space around you.



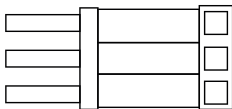
**AMBIENT**

# PLUG-IN

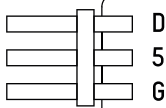
## Interface



## Cable



## Sensor

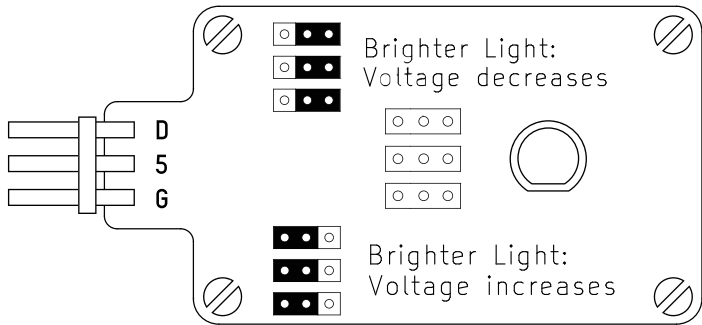


Every sensor comes with a three-pin connector. **It is important to connect the sensor the correct way to avoid damage to it.**

On the sensor interface there are markings that must match the markings on the sensor. The “D - 5 - G” connection labels must end up at “D - 5 - G”.

**Use the color coding on the cable to guide you to the correct orientation.**

# LIGHT SENSOR



Why not listen to light?

\_\_\_\_\_



The light sensor does just what it sounds like: it responds to light.

It tweaks the output voltage based on the brightness of the ambient light. This sensor captures the full spectrum of colors, similar to your eyes, with a focus on the green and yellow hues.

You can choose the direction of the voltage change by adjusting the three jumpers on the board.

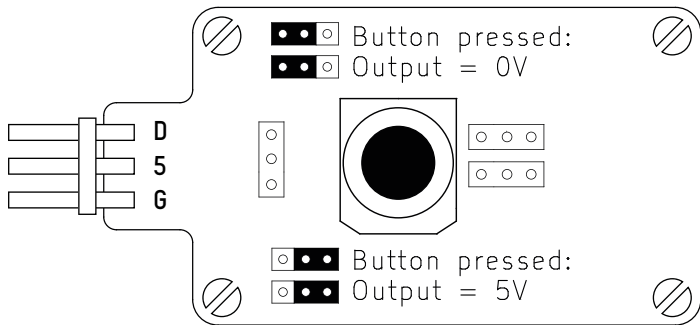


Jumpers on **RIGHT** side, the voltage **INCREASES** with more light



Jumpers on **LEFT** side, the voltage **DECREASES** with more light

# BUTTON & JACK



Any signal is a good signal!





Think of this as a handy tool rather than a sensor. It lets you use a small pushbutton or any CV signal as an additional signal source.

Switch between the two modes -the button or a jack signal - by adjusting the vertical jumper to the left.



Button



Jack

You can adjust the voltage polarity of the button by configuring the two horizontal jumpers.

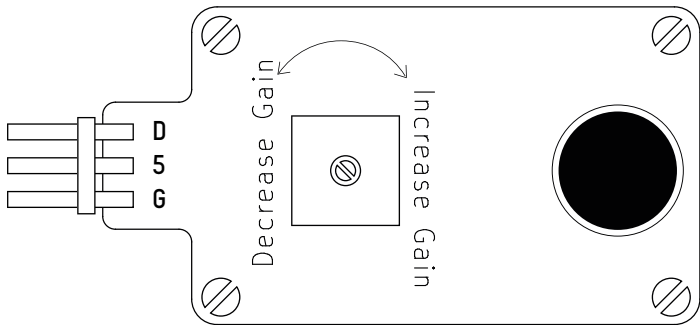


0V output  
when pressed



5V output  
when pressed

# ELECTRET MICROPHONE



Use sounds to modulate sounds.  
Soundception?!

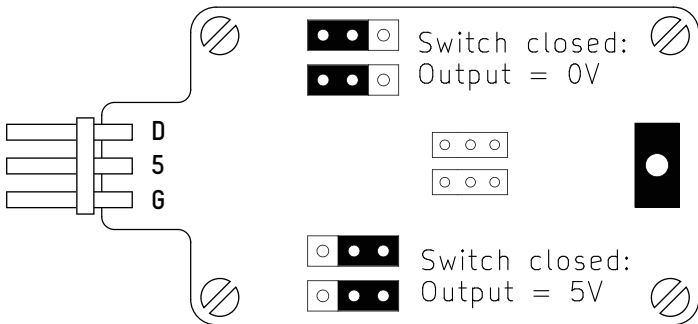


The electret microphone is your trusty companion for incorporating the sounds around you into your music as a **Control voltage (CV)** or **Sample source**.

Adjust the microphone's sensitivity with the small trimmer included on the board – just grab a small screwdriver and follow the markings. Begin by fine-tuning the sensitivity using the trimmer. Save the hefty volume control for the level pot on the analog signal interface for later adjustments.

**While our electret microphone excels at capturing the distinct character of environmental sounds in experimental setups, it's essential to note that its straightforward design introduces some natural noise.**

# BALL SWITCH



It's like a two-sided dice that you can roll over and over again.



Imagine a small bouncing ball inside a container that acts as a musical trigger – that’s the Ball Switch. It’s not your typical gyroscope; it’s more like a percussion shaker, adding a touch of rhythm to your setup.

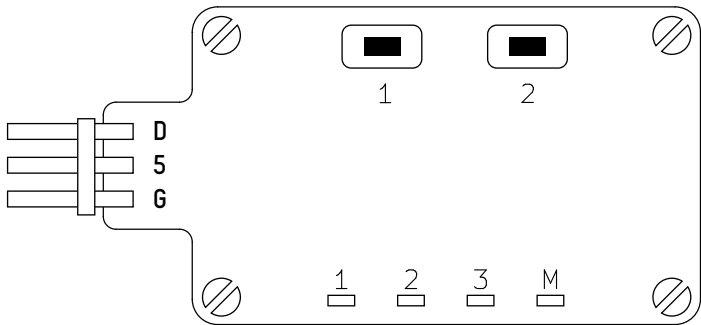
This quirky switch has two resting positions that determine its state. When the board lies flat with its bottom facing down, the **switch is OFF**. Flip it over so top faces up, and voila, the **switch is ON**.

You can invert the position of ON or OFF using the two jumpers on the board:

 Lies Flat  
 0V output

 Lies Flat  
 5V output



# TEMPERATURE SENSOR



Turn up the heat! And then something  
else with it!

\_\_\_\_\_



This sensor transforms air temperature into CV signals. Match the limit at the current temperature holding  1 for 3 seconds to set the lower limit and  2 to set the upper limit.

By default, the lower limit sits at 20°C, and the upper limit at 36°C. Maximum range goes from -55°C to +125°C.

It offers two modes for output, easily switchable by pressing both switches for 3 seconds.



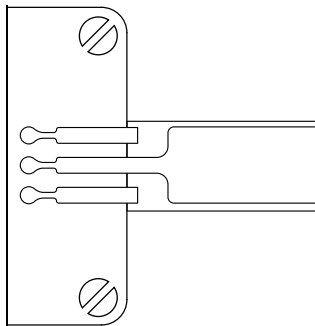
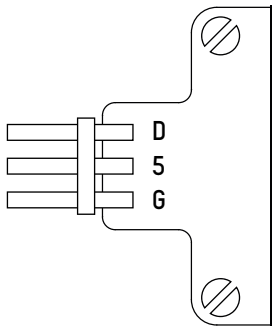
**CV MODE** Generates a continuous voltage (0 - 5V) based on temperature within limits. LED 1 blinks if the temperature goes out of limits.



**TRIGGER** Produces a trigger signal when the temperature goes beyond the upper limit LED 1 blinking for each trigger.

When LED M is **ON**, you are in trigger mode.

# LINEAR SOFTPOT



Linear action never fails to deliver!





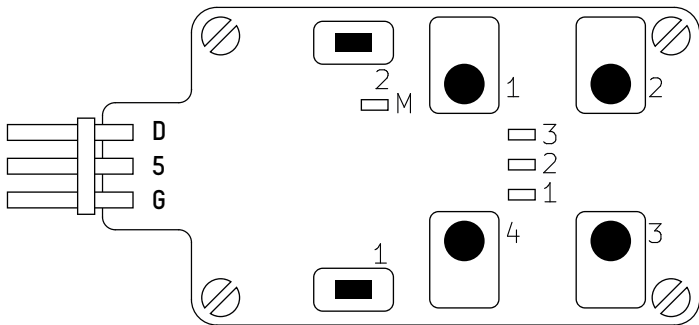
The linear softpot functions much like a fader on a mixer. Each position along its length corresponds to a specific voltage level.

The end closest to the sensor board equals 0V, while the opposite end gives you 5V.

Similar to a fader on a mixer, the linear softpot will maintain its voltage setting after being adjusted.

**Keep in mind that due to its mechanical nature, the softpot might occasionally dip to a slightly lower value after being touched. So, handle it with care for the best results!**




# CAPACITIVE TOUCH





Banana rock, Cucumber Swing,  
Avocado Samba!




This sensor turns everyday conductive objects into CV generators and triggers.

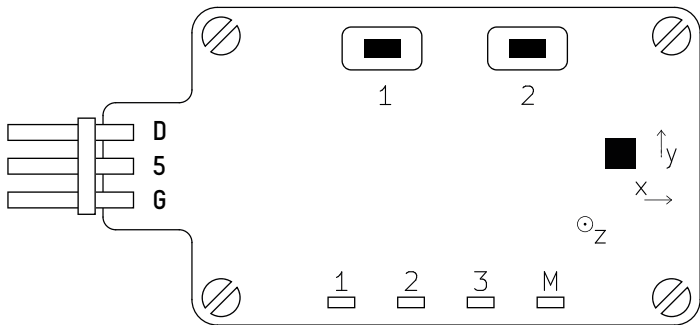
The board features four pads, each assigned a specific voltage. To adjust a pad voltage, hold the pad and use  2 to increase or  1 to decrease. Once you set the desired voltages, you can attach conductive objects, such as a cucumber. Note that attaching a new object will require a recalibration. To recalibrate, press  2 for 3 seconds.

You can switch between two modes by pressing  1 for 3s.

**Momentary Mode (  M ON):** Assigned voltage is active only when the corresponding pad is touched.

**Steady Mode (  M OFF):** Output voltage of a pad remains until a new pad is touched.

# ACCELEROMETER



Gestures, movement and the good ol' motorcycle mode!





This board measures acceleration along three axes to generate unique CV signals and triggers.

For **proper initialization and calibration**, lay the board flat on the table when connecting power. It performs initial measurements to set up the tap detector.

This versatile board offers three distinct modes:

- **Tap Detector, CV Output** (Mode LED **OFF**)
- **Tap Detector, Trigger Out.** (Mode LED **Dimmed**)
- **Motorcycle Mode** (Mode LED **ON**)

Upon startup, the board defaults to the 'Tap Detector with CV Output' mode.

To switch the modes, hold both  1 &  2 for about 3 seconds.

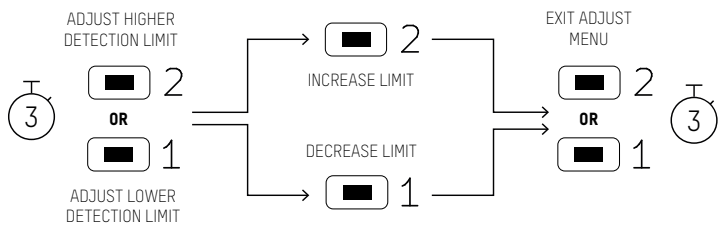
The functionality of the two switches varies depending on the active mode:

## Tap Detector

(Trigger & CV Output)

In this mode you can place the sensor in a table, it will detect every tap or touch given on a table.

See below on how to adjust both higher and lower detection limits:




Entering menus and adjustments are confirmed by LEDs blinking


## Motorcycle Mode:

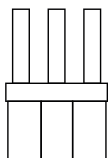
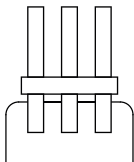
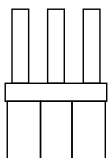
Here, the board generates a continuous voltage proportional to its roll angle, mimicking a motorcycle throttle handle.

Turning the board towards you increases the output voltage, and the opposite decreases it.

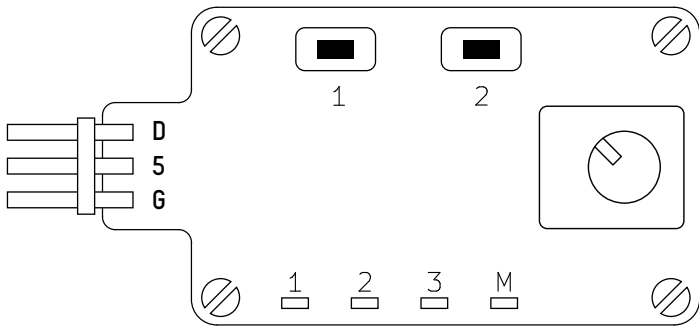
The voltage output follows the current angle of the board in relation to minimum and maximum angles.

Press  1 to set the current angle as the minimum angle. LED 2 will confirm the adjustment.

Press  2 to set the current angle as the maximum angle. LED 3 will confirm the adjustment.



# MICRO SEQUENCER



The smallest sequencer in the galaxy.



\_\_\_\_\_













Use this board to generate CV signals sequencer style! This board has three different modes:

- **Stepped Random Voltage** (M LED, OFF)
- **Step Sequencer** (M LED, Dimmed)
- **Euclidian Trigger Sequencer** (M LED, ON)




The Board powers up in the “Stepped Random Voltage” mode. To switch between the different modes, hold  1 &  2 for about 3 seconds.

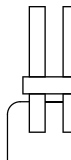
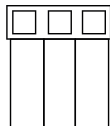
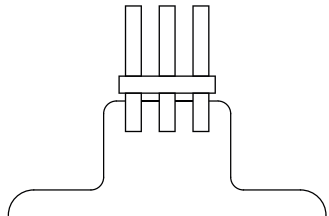
## **Stepped Random Voltage**

The potentiometer controls the length of each random step. Adjust the lower limit pressing  1 for 3 seconds, then decrease the lower limit by pressing  1, increase it by pressing  2. Press  1 for 3 seconds again to exit.





To adjust the upper limit of the random voltage, press for 3 seconds  2. Decrease the upper limit by pressing  1, increase it by pressing  2. Press  2 for 3 seconds again to exit the adjustment mode.





## Step Sequencer

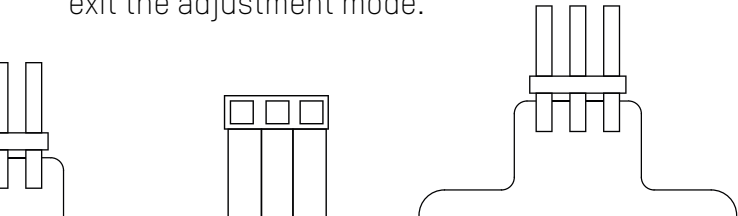
The potentiometer sets the speed, and you enter record mode by holding  1 for 3 seconds. Use the potentiometer to set the voltage of the current step, record by pressing  2, and repeat for additional steps. When LED 1 blinks upon pressing, you've reached the maximum number of 16 steps. Exit the record mode by holding  1 for 3 seconds. (Max. 16 steps)



## Euclidean Trigger Sequencer

Control the speed with the potentiometer. Adjust the overall length of the sequence by pressing  1 for 3 seconds. To decrease the length of the sequence by one step press  1, to increase it by one step, press  2. Press  1 for 3 seconds again to exit the adjustment mode. (Max. 16 steps)

To adjust the number of triggers per sequence press  2 for 3 seconds. Press  1 to decrease the number of triggers, press  2 to increase it. Press  2 for 3 seconds again to exit the adjustment mode.



## DIDN'T FIND YOUR SENSOR IN THIS MANUAL? ...



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