# Sensors Monitor

Download

This applet displays and monitors the values of many computer sensors concerning

- **Temperatures** (from CPU, GPU, Power Supply, Disks)
- **Fan Speed**
- **Voltages**
- **Intrusions**.

It notifies you with color changes when a value reaches or exceeds its limit.

It uses values from the `sensors` command. (See lm-sensors.)

Any suggestion to improve this *Sensors@claudiux* applet is welcome.

## Benefits

- Allows simultaneous display and monitoring of values from multiple sensors, including sensors of the same type. (For example: 2 temperatures, 3 voltages, 1 fan speed, 1 intrusion detector can be displayed in the panel.) The number of values displayed in the panel depends only on the size that you can or want to allow to this applet.
- This applet's tooltip can display sensor values and limits, including those that are not displayed in the panel. The number of sensors you can display in the tooltip depends only on the height of your desktop.
- All values are displayed in your local format.
- The settings offer a wide range of display options, as well as the ability to choose the color of each sensor if you wish.
- The menu of this applet gives you direct access to the different kinds of settings, and contains useful shortcuts.
- Avoids wasted processor time and memory leaks.

## Dependencies

This applet needs 4 packages:

- *lm-sensors* to get the sensor values.
- *xsensors* to display these values in an independent graphical interface.
- *fonts-symbola* that contains some symbols used by this applet.
- *smartmontools* that provides `smartctl` to read disk temperature.

***Sensors@claudiux*** *helps you to install these packages, if any.*

## Install

### From Cinnamon Settings (recommended)

Just go to `System Settings > Applets` then

1. In the just opened window, in Download tab, search this applet with the keyword **Sensors** and download it.
2. Go to the *Manage* tab of the same window, click on this applet then add it to Cinnamon.
3. Open the settings of this applet and configure it as you want.

### From the Cinnamon Spices website

Download the package containing the latest version of this applet and extract the contents into `~/.local/share/cinnamon/applets`. Then go to `System Settings > Applets` and run the 2-3 steps above.

## Settings

There are five tabs in settings:

- General
- Temperature
- Fan
- Voltage
- Intrusion

All these tabs are directly accessible from the menu of this applet.

## FAQ

### How to display the temperature of each of my disks?

#### Internal disks

Try to load the **drivetemp** module:

sudo modprobe drivetemp

If that give you a valid result running *sensors*, add **drivetemp** into the list of modules to load at startup of your computer:

echo "drivetemp" | sudo tee -a /etc/modules

#### External disks (on USB port)

The *smartmontools* package must be installed. The command `which smartctl` must return: */usr/sbin/smartctl*

You must be a member of the *sudo* or *wheel* group. Verify using the `groups` command.

In the **Temperature** tab of this applet settings, click on the button *Make disk temperature user-readable* (You'll be asked to enter your password.)

Alternatively, run the commands:

echo "%sudo ALL = NOPASSWD:NOLOG_INPUT:NOLOG_OUTPUT:NOMAIL: /usr/sbin/smartctl" | sudo tee "/etc/sudoers.d/smartctl"

echo "%wheel ALL = NOPASSWD:NOLOG_INPUT:NOLOG_OUTPUT:NOMAIL: /usr/sbin/smartctl" | sudo tee -a "/etc/sudoers.d/smartctl"

Then, log out and log in your session.

## How to display Nvidia video card temperature?

The applet will now automatically detect the existence of the *nvidia-smi* tool version 550.107.02 or higher, test to ensure that the tool is compatible, and if so will present the **Nvidia GPU** temperature sensors. The applet will log an *info* entry if the tool is found and works, or an *error* entry if the tools is found and fails.

The *nvidia-smi* tool is part of the Nvidia closed source drivers, and only supports "NVIDIA's Tesla, Quadro, GRID and GeForce devices from Fermi and higher architecture families".

(While the tool does report fan speed, it does so as a percentage so is not compatible with the fan speed features of the applet.)

When requesting help with this feature, please include the output of `nvidia-smi -L` as well as any entries in the '~/.xsession-errors' file related to 'Nvidia SMI'.

*Many thanks to @JEleniel for her contribution!*

## My PC has several temperature sensors and their values are different. Why and which one to choose?

Example:

- CPUTIN = CPU Temperature Index
- AUXTIN = Auxiliary Temperature Index
- SYSTIN = System Temperature Index

AUXTIN is the Power Supply temperature sensor (if there is one) while SYSTIN relates to Motherboard.

CPUTIN and CoreTemp are different. The temperatures they indicate are not from the same sensor. CoreTemp is the sensor on the processor while CPUTIN is the motherboard CPU temp sensor.

Coretemp gives the real temperature of each processor core (Core 0, Core 1, ...) and the real global temperature of the processor in Package.

There is a part of the `sensors` command output:

```
Package id 0:  +44.0°C  (high = +69.0°C, crit = +75.0°C)
Core 0:        +43.0°C  (high = +69.0°C, crit = +75.0°C)
Core 1:        +42.0°C  (high = +69.0°C, crit = +75.0°C)
Core 2:        +40.0°C  (high = +69.0°C, crit = +75.0°C)
```

```
Core 3:         +40.0°C  (high = +69.0°C, crit = +75.0°C)
[...]
CPUTIN:          +49.0°C  (high = +80.0°C, hyst = +75.0°C)
                          (crit low = +127.0°C, crit = +127.0°C)
```

The CPUTIN value can be "polluted" by the temperature of the motherboard (SYSTIN).

So, in this case, choose the *Package id 0* value to display the temperature of the CPU.

## In settings, no sensor appears in certain tabs.

There are different reasons:

1. The kernel modules driving these sensors are not started. Beware of too recent hardware / motherboard.
2. The module is successfully started but it returns a zero value and you have checked the *Show only strictly positive values* box. Example: Your computer is fanless, so no fan is present to send data to the fan sensor.
3. Your sensor is wrong or not connected.
4. Your `/etc/sensors3.conf` file (or any .conf file in `/etc/sensors.d`) must be configured for your chip. Search if a configuration file already exists. Once config file is installed, reboot the computer.

## Some values seem to be wrong

Your `/etc/sensors3.conf` file must be configured for your chip. Search if a configuration file already exists.

Since version 3.0.0 of this applet, you can specify certain limit values and a formula to correct the values returned by a sensor. This is often much simpler than having to modify the `/etc/sensors3.conf` file. The correct values and the formula will be found in the documentation of your chipset.

## My computer seems to have very few sensors

Try the `sensors-detect` command with root rights (`sudo sensors-detect`). See `man sensors-detect` for more information.

If you have specific hardware, try to put into the `/etc/sensors.d/` folder (with root rights) at least one of these .conf files.

## How to report an issue or make a feature request?

1. Click on the "Issues" button at the top of this page and open a "New issue".
2. Start the title with: **Sensors@claudiux:** . This title must contain a very short description of the issue (or feature request).
3. Mention me in the text: @claudiux.
4. Indicate the version numbers of Cinnamon (command: `cinnamon --version` in a terminal), of sensors (command: `sensors -v` in a terminal)

and of this applet (visible by opening its menu).
5. Open the General tab of settings of this applet, click on the button "Example of sensor values from this computer", copy all the content of the just opened window and paste it between two triple-backquotes in the text of the issue.
6. Open a terminal and execute the command: `sensors -j`. (If it does not work, try `sensors -u`.) Copy/paste the output in the text of the issue, also between triple-backquotes.
7. Describe your problem in as much detail as possible. Thank you.

# Contributing

Any contribution or translation is welcome!

## Contributors

- @JEleniel: support for NVidia video cards.
- @G4Zz0L1: support for Cinnamon 6.8.

# Translations

Status of translations

*Thank you very much to all of these translators!*

# Thank the author

If you think this Cinnamon applet is useful, then please take the time to log in with your Github account and click on the star at the top of this page. It really encourages me!

Claudiux (@claudiux)