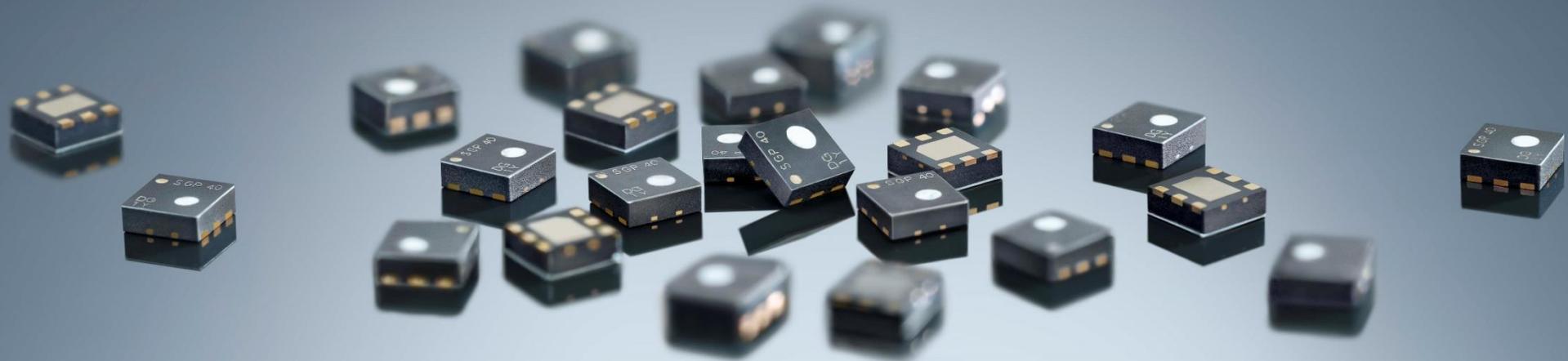


# SEK-SVM4x – Quick Start Guide

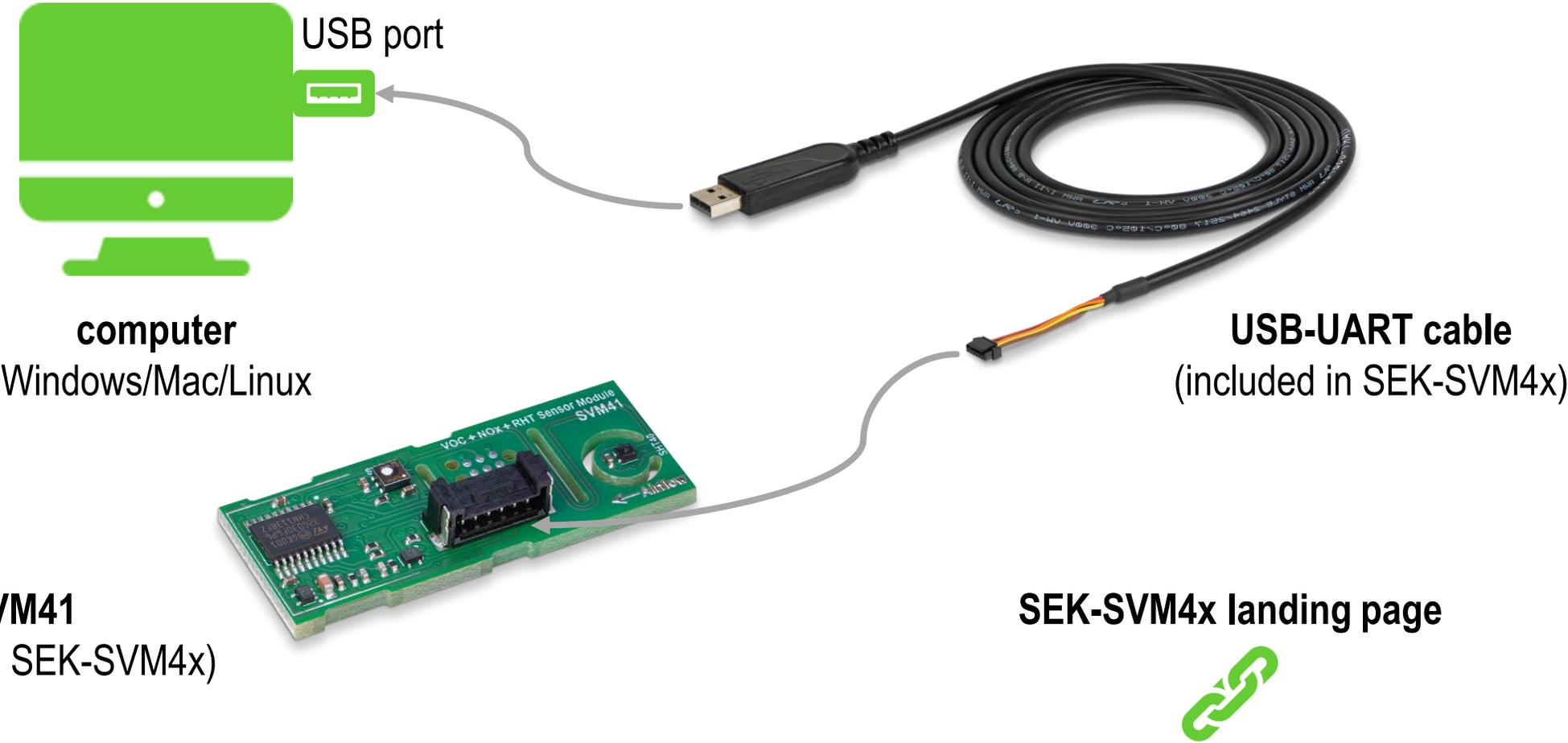
Version 1.0  
Stäfa, October 2021



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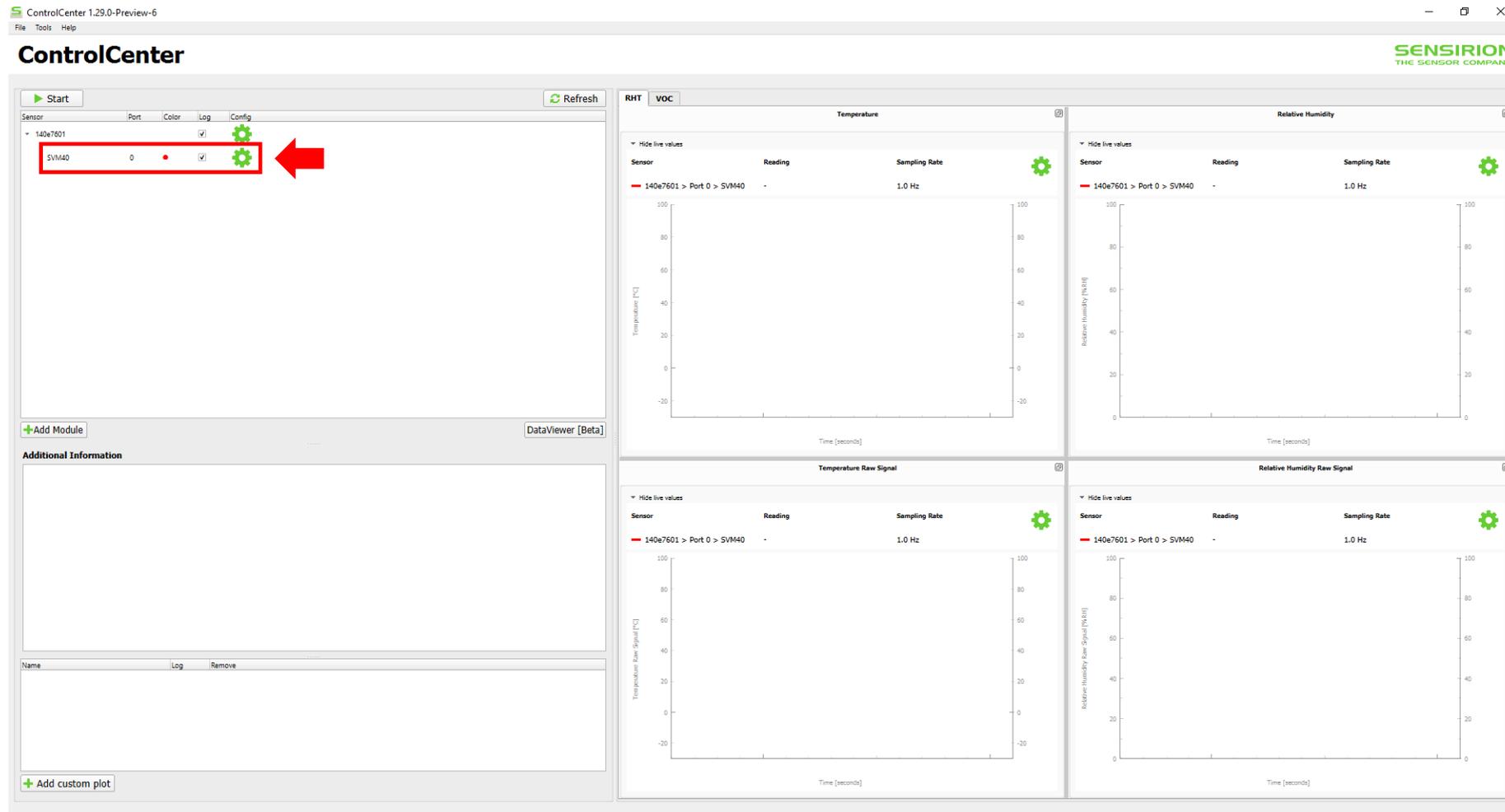
1. Connecting your SVM41 to a computer
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# Connecting your SVM41 to a computer



# Get ControlCenter software...

Download the recent version of ControlCenter for Windows, Mac, or Linux and install it. When launching the software, you should see the SVM41 appearing in the list of connected sensors.



# ...and start using it

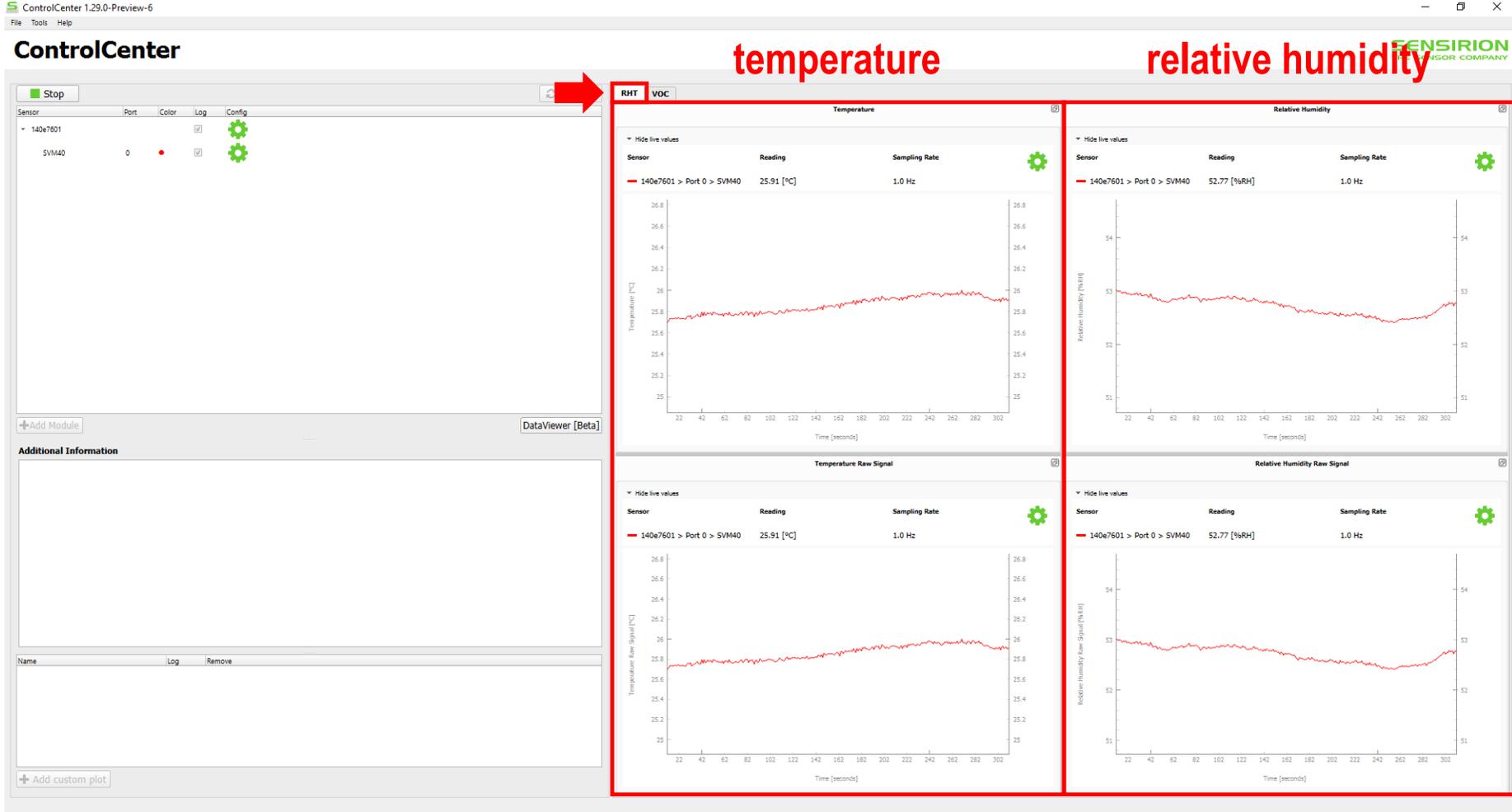
Now you are good to go for starting your first measurement by pressing the *Start* button.

The screenshot displays the ControlCenter 1.29.0-Preview-6 software interface. The title bar shows the application name and version. The main window is divided into several sections:

- ControlCenter Header:** Includes the application name, version, and the SENSIRION logo.
- Start Button:** A green button with a play icon, highlighted by a red box and a red arrow.
- Sensor Configuration Table:** A table with columns for Sensor, Port, Color, Log, and Config. It lists a sensor named '140e7601' with a sub-entry 'SVM40'.
- Data Viewer [Beta]:** A section for displaying data, currently empty.
- Additional Information:** A section for additional details, currently empty.
- Live Data Plots:** Four plots arranged in a 2x2 grid, each showing live data for Temperature and Relative Humidity. The top row shows smoothed data, and the bottom row shows raw signals. Each plot includes a table with columns for Sensor, Reading, and Sampling Rate.

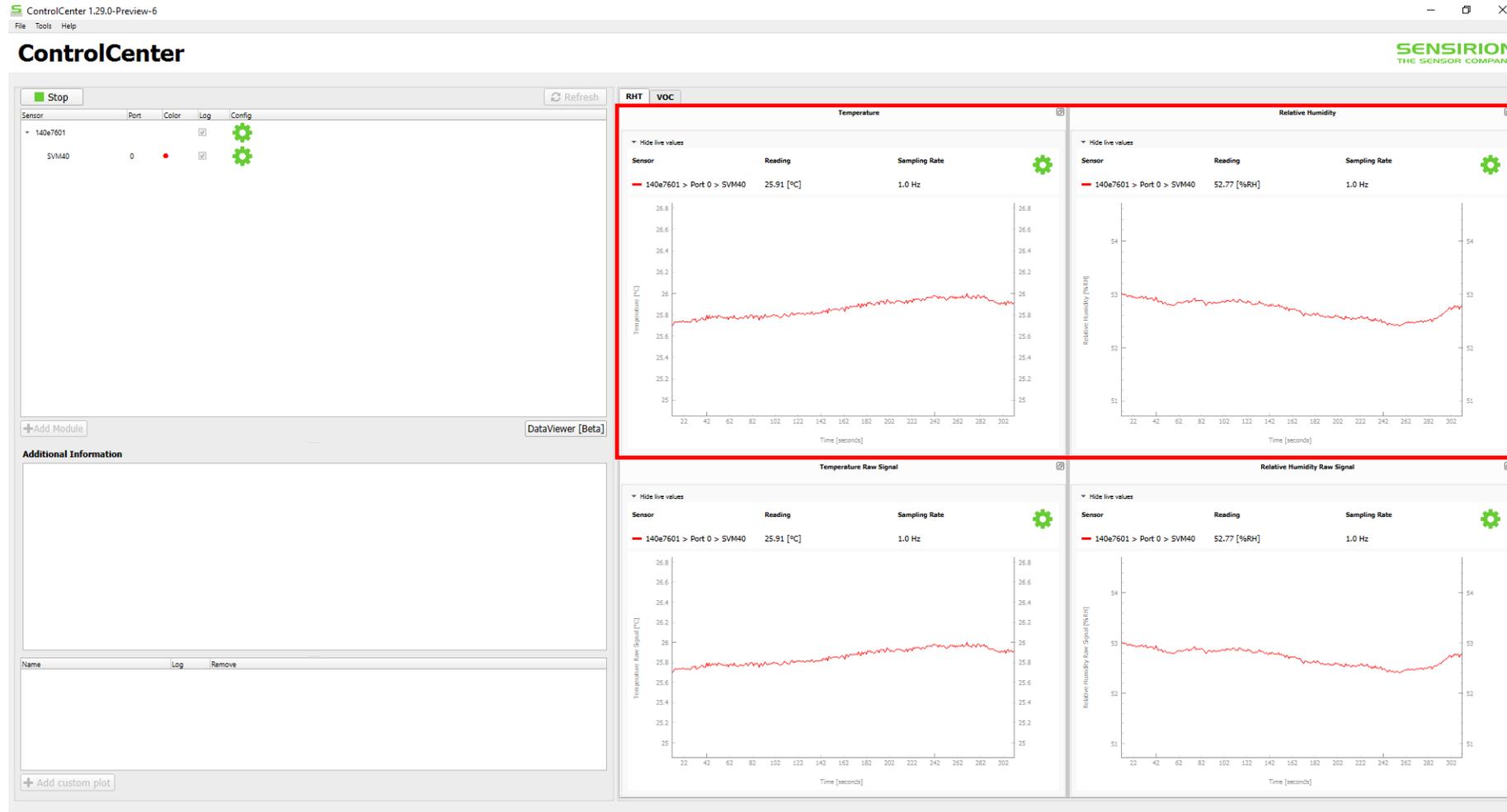
# Measuring RHT

The results of temperature (left panels) and humidity (right panels) are displayed under the tab “RHT”.



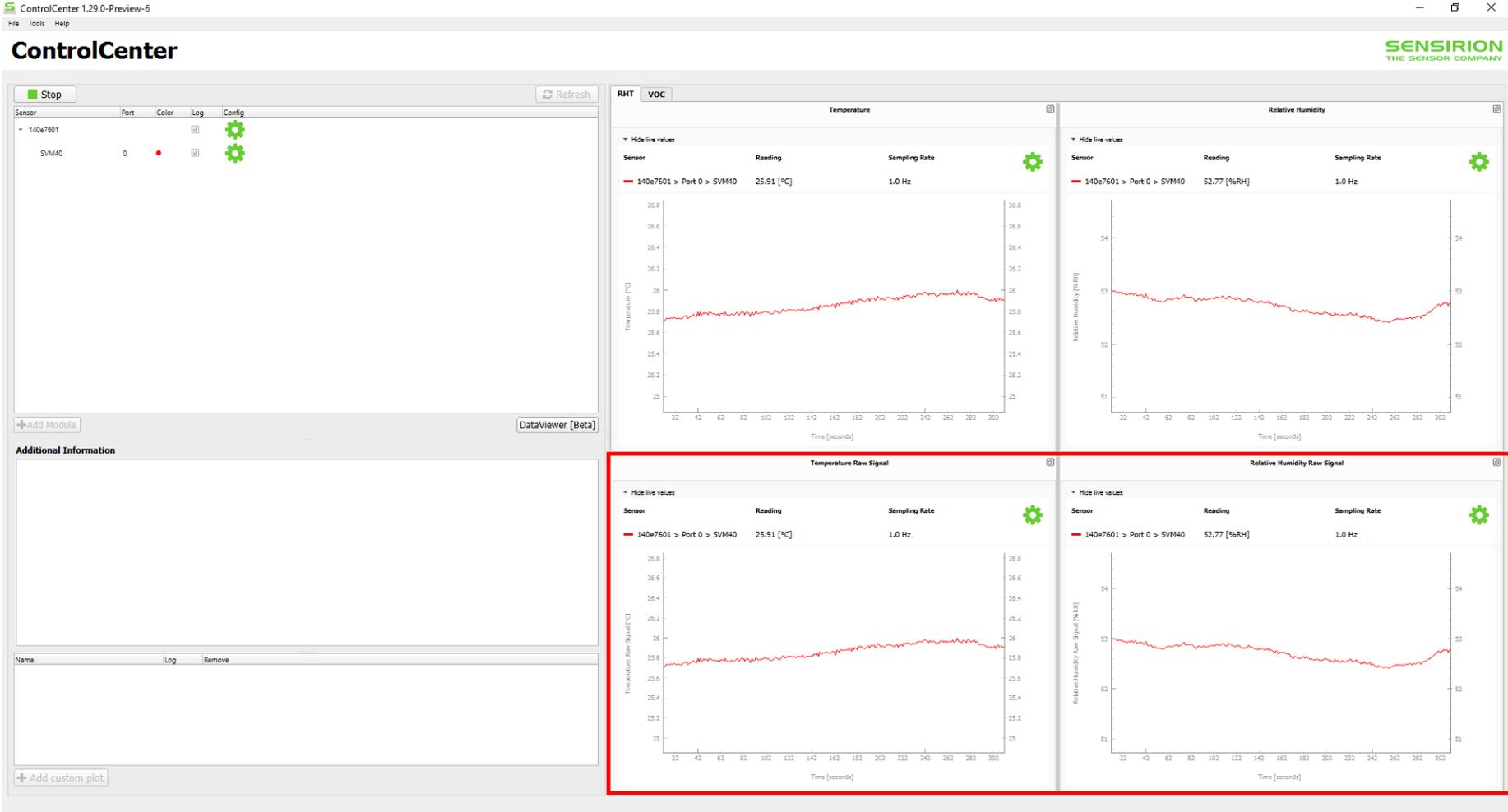
# Measuring RHT

The upper panels show the values including temperature compensation. This is used, e.g., to compensate self-heating effects by the PCB. The temperature offset used for this compensation can be adjusted (see later).



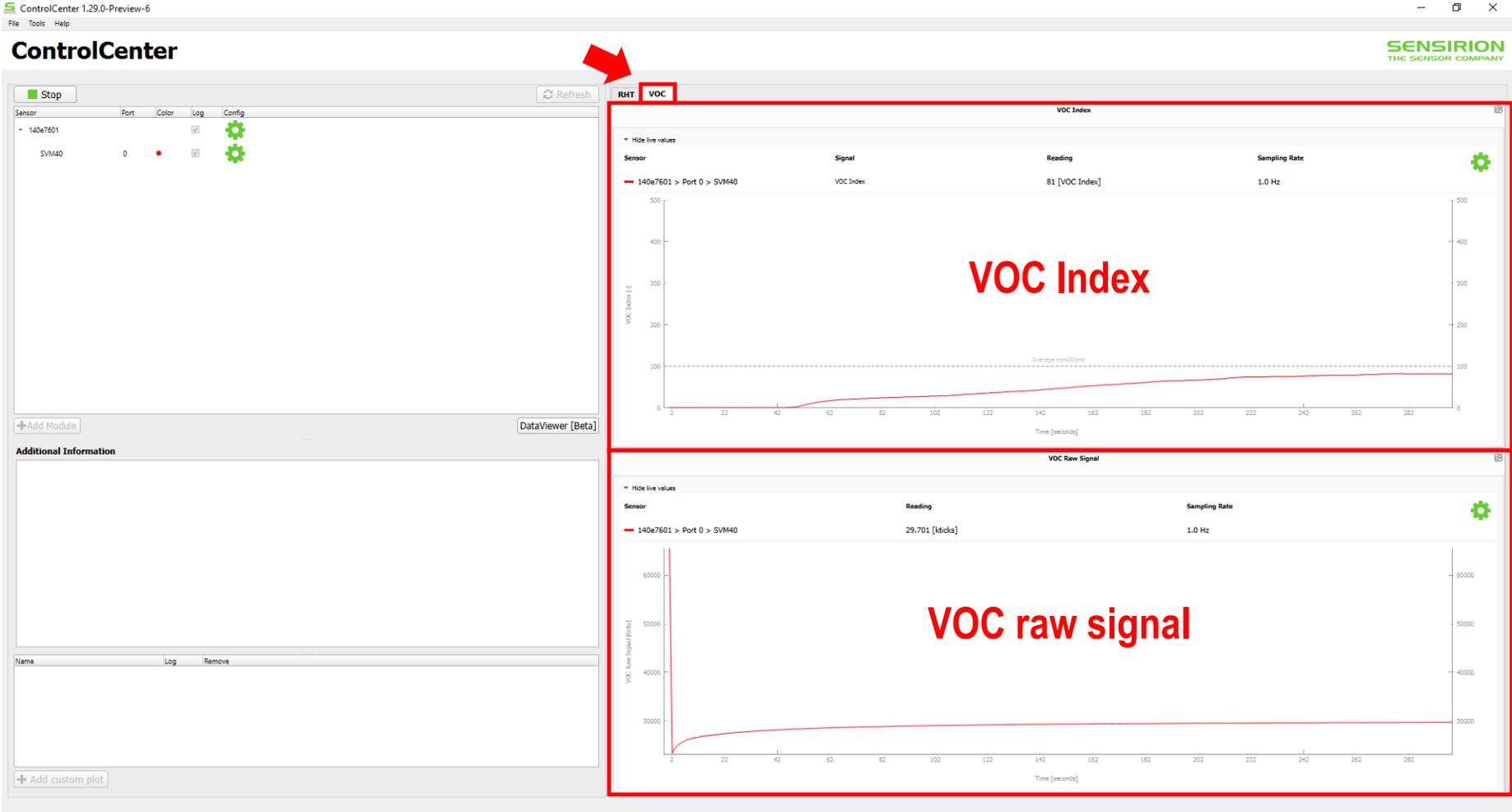
# Measuring RHT

The lower panels show the values without any compensation.



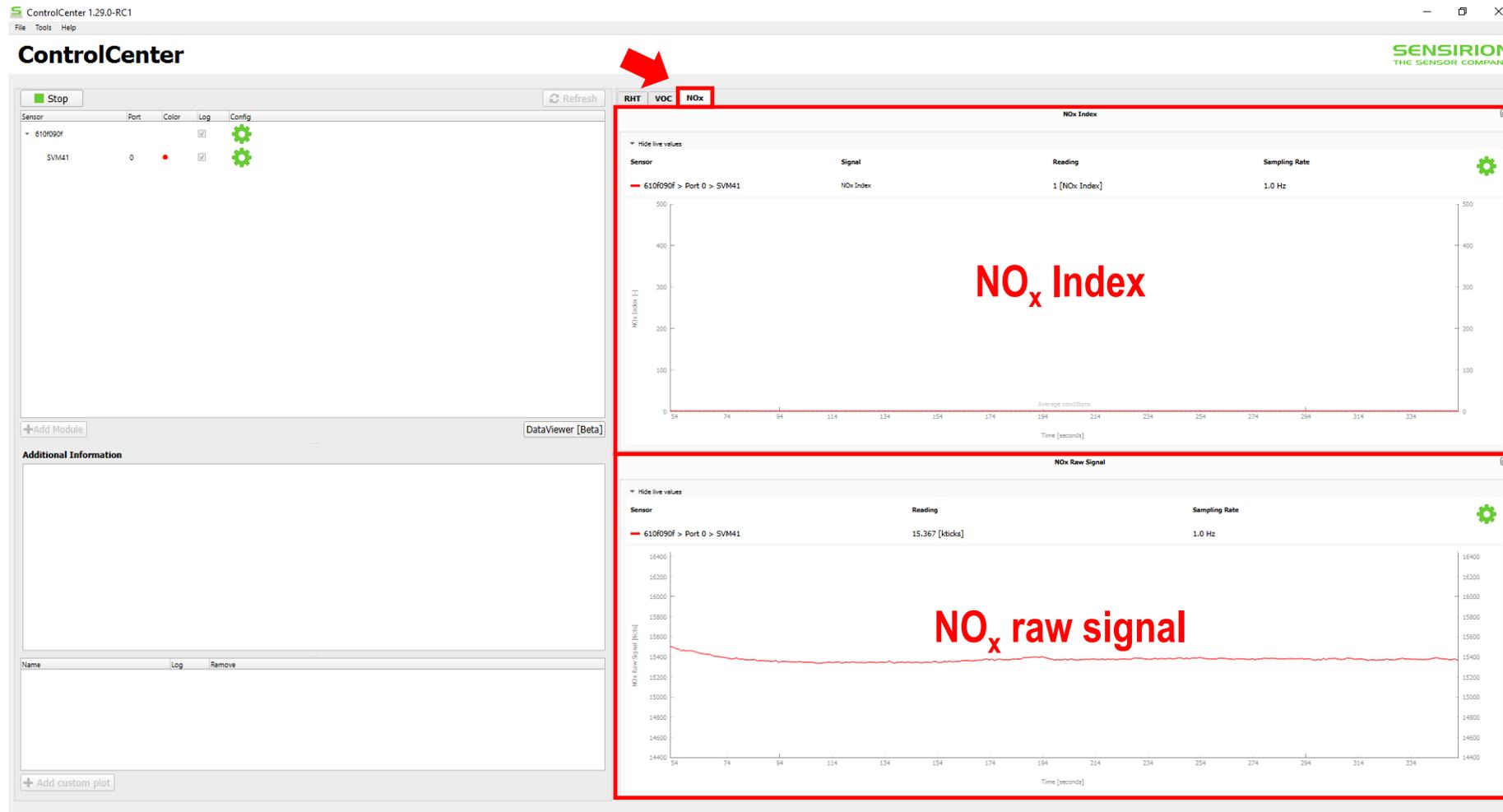
# Measuring VOC

The results of VOC are displayed under the tab “VOC”. The upper panel shows the processed VOC Index while the lower panel visualizes the VOC raw signal (i.e., resistance of the MOX layer).



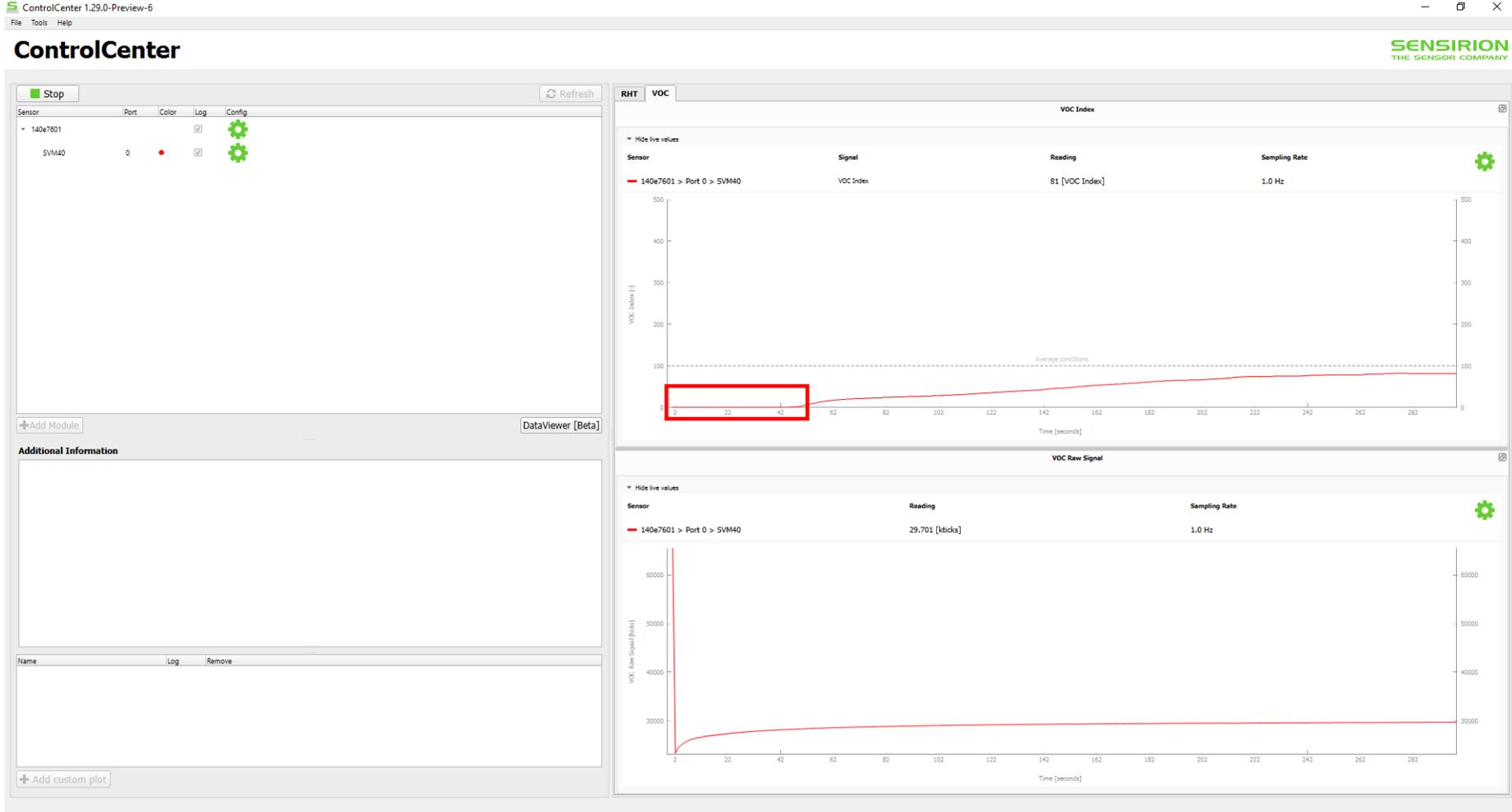
# Measuring NO<sub>x</sub>

The results of NO<sub>x</sub> are displayed under the tab “NOx”. The upper panel shows the processed NO<sub>x</sub> Index while the lower panel visualizes the NO<sub>x</sub> raw signal (*i.e.*, resistance of the MOX layer).



# Measuring VOC/NO<sub>x</sub>

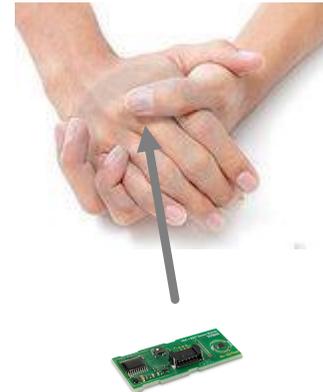
You may notice that upon each restart, the VOC/NO<sub>x</sub> Index output will be 0 for 45 s. This blackout time is normal and required by the sensor and Gas Index Algorithm to deliver first reliable data.



# Ready for some events?!

Try the following:

- Place the SVM41 on top of a glass filled with water (but do not let the SVM41 touch the water)  
→ How does it affect the RH signal?
- Hold the SVM41 between your closed hands  
→ How does it affect the T signal?
- Hold a text marker next to the SVM41 (preferably close to the SGP41 without touching it)  
→ How does it affect the gas signals?
- Exhale onto the SVM41  
→ How does it affect all signals?

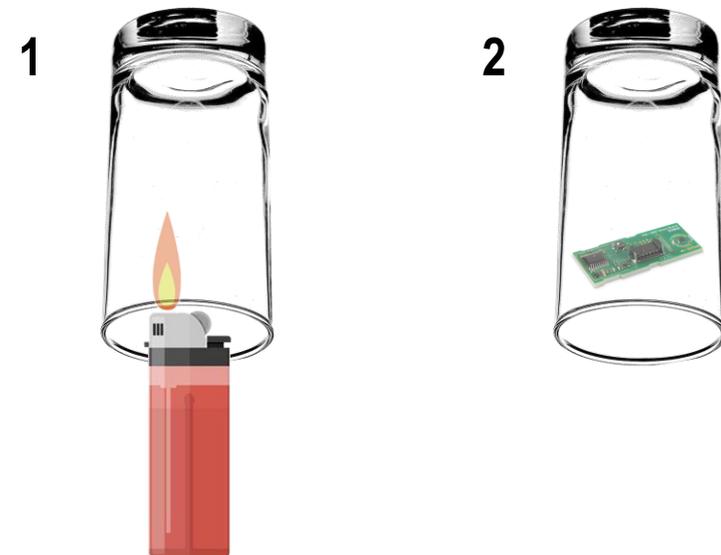


# Ready for some events?!

Try the following:

- Use a gas lighter without igniting the flame and hold a glass on top of it before putting the SVM41 into the glass. This will release VOC gas.  
→ How does it affect the VOC and the  $\text{NO}_x$  signals?
- Use a new glass and now ignite the flame, remove the lighter, and put the SVM41 into the glass. This will produce  $\text{NO}_x$ .  
→ How do the gas signals look like now?

**Caution: Use only temperature-resistant glass. Do not perform the test next to flammable products.**



# As you are an expert now you, may want to dig a little deeper

First, stop the measurement by clicking the *Stop* button (1). Subsequently, press on the gear wheel next to the SVM41 in the sensor list (2).

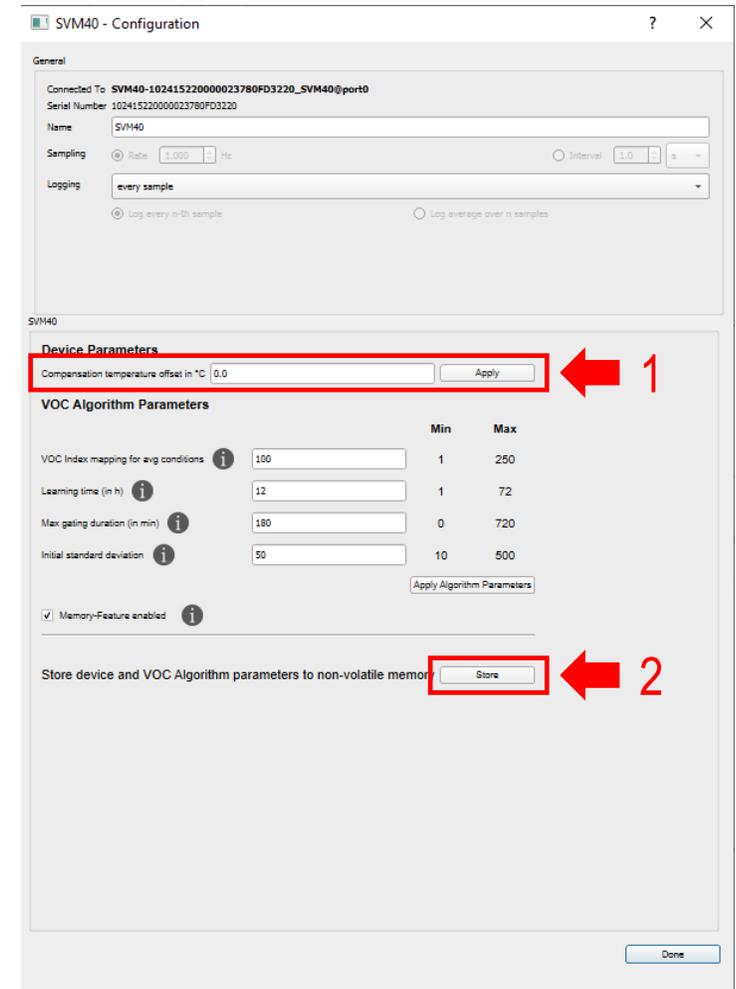
The screenshot displays the ControlCenter 1.29.0-Preview-6 interface. On the left, the 'Sensor' list shows '140e7601' expanded to reveal 'SVM40'. A red box labeled '1' highlights the 'Stop' button at the top left. Another red box labeled '2' highlights the gear icon next to 'SVM40'. The right side of the interface features two data plots. The top plot, titled 'VOC Index', shows a red line graph of VOC Index (I) over time (seconds), with a reading of 81 [VOC Index] and a sampling rate of 1.0 Hz. The bottom plot, titled 'VOC Raw Signal', shows a red line graph of VOC Raw Signal (bits) over time (seconds), with a reading of 29.701 [kicks] and a sampling rate of 1.0 Hz. The Sensirion logo is visible in the top right corner.

# Changing the temperature offset

You can change the temperature offset by entering a new value under the *Device Parameters* section and subsequently pressing the *Apply* button (1).

You can check if such compensation is needed by comparing the temperature raw value of the SVM41 with the temperature measured by an SHT on an FPCB (e.g., from a SEK-SHTxx) when placing both next to each other. The difference between both sensors is the temperature offset.

If you want the temperature offset to be saved permanently on the SVM41 press the *Store* button at the bottom (2).



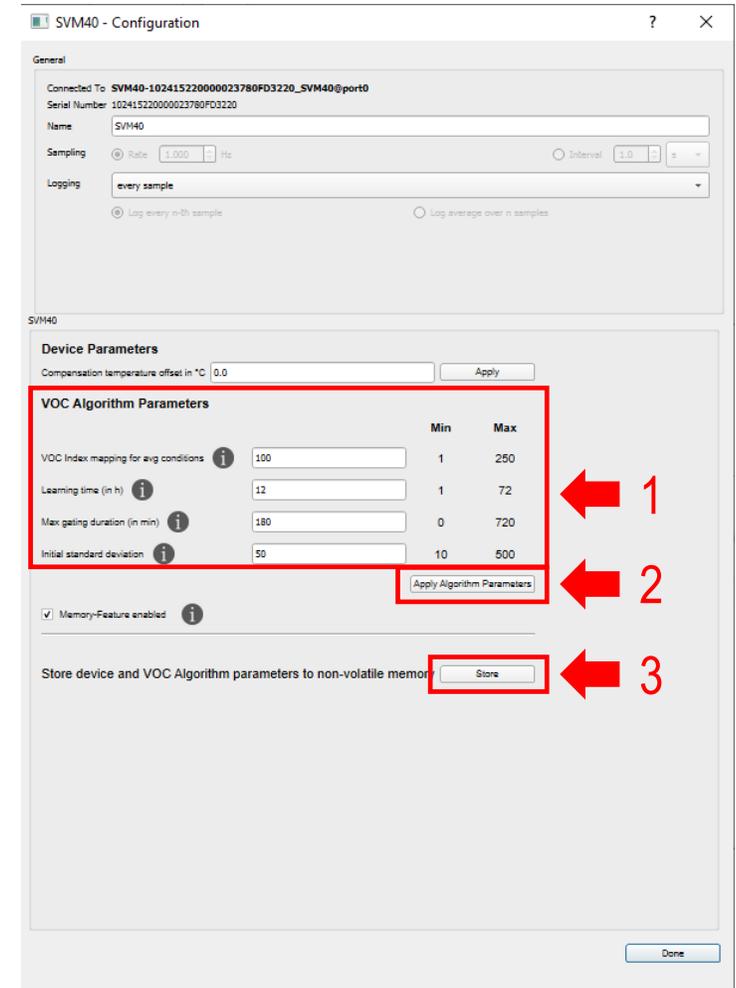
# Set the tuning parameters for the VOC/NO<sub>x</sub> Index

There are six different parameters which can be set by the user to influence the behavior of the Gas Index Algorithm. For each parameter, you can place the cursor on top of the **i** icon to receive more information about it (incl. default values in case you forget).

Enter the values in the fields keeping them within *Min* and *Max* ranges (1). Feel free to play with the parameters; you cannot destroy anything. Confirm the settings by pressing the *Apply Algorithm Parameters* button (2).

If you want the tuning parameters to be saved permanently on the SVM41 press the *Store* button at the bottom (3).

For more information, please, consult the application note *Sensirion's VOC Index for Indoor Air Applications*.

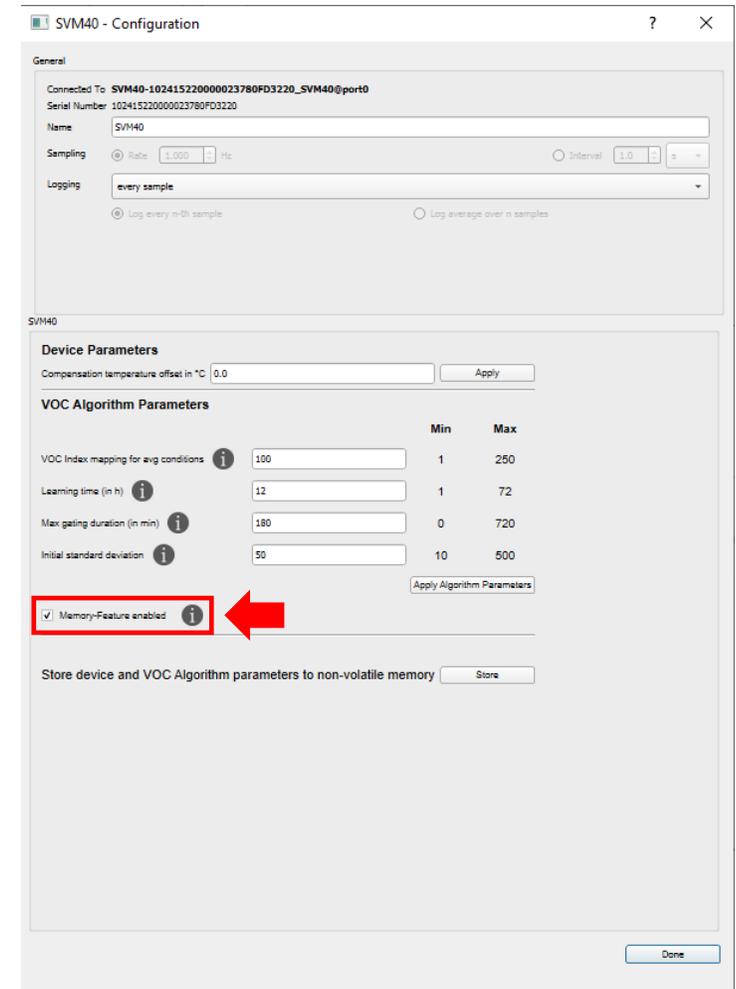


# Using the memory feature for the VOC Index

After restart, the VOC Algorithm on the SVM41 normally forgets everything which had been previously learned.

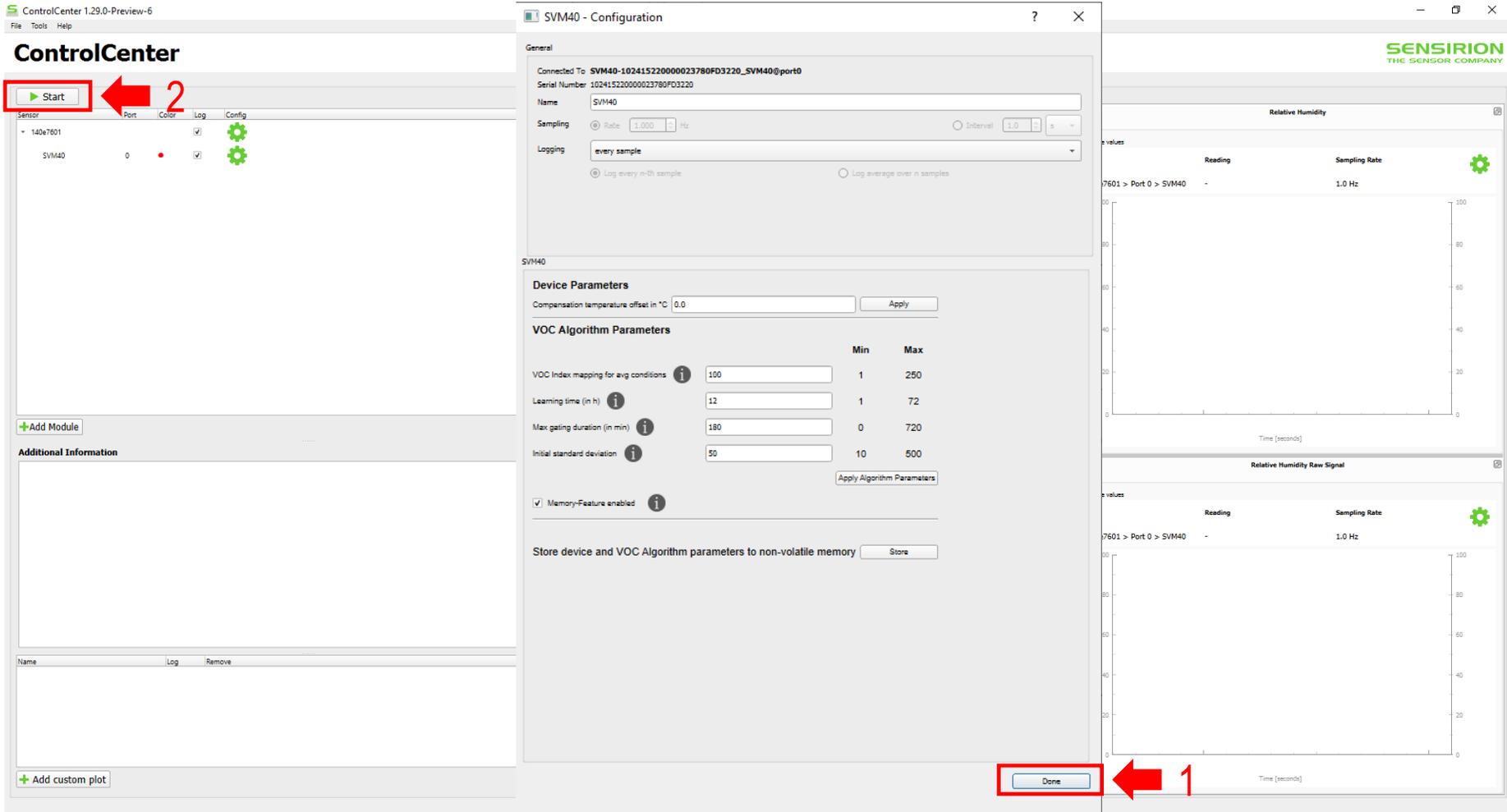
By checking the box next to *Memory-Feature enabled*, the VOC Algorithm remembers previous data and avoids the situation that the algorithm needs to learn from scratch.

Note: this feature must only be used for short interruptions ( $\leq 10$  min). For more information, please, consult the application note *Sensirion's VOC Index for Indoor Air Applications*. This feature is only available for the VOC Index and not for the  $\text{NO}_x$  Index.



# Restarting the SVM41 with the new parameters

Press the *Done* button (1). The configuration window will close automatically. Subsequently, press the *Start* button in the main window (2). All set parameters will now be applied for the new measurement.



# SENSIRION

[www.sensirion.com](http://www.sensirion.com)