Short user instruction of the Aquacolor biofilm sensor

Application
The event sensor is placed in a permanent or temporary water supply and measures the quality of drinking water. The sensor is equipped with a pressure sensor, a contactless temperature sensor and a spectrophotometric measurement.

The sensor makes it possible to:

- Check the water pressure in the piping, indicating if there is a large water consumption or leakage.
- Check if the water temperature is below 25 degrees Centigrade. This is important for preventing bacterial growth.
- Check if the water is contaminated with particles or with chromophores like algae and humic acids.

Warning: The sensor is feasible as early warning sensor to check the abovementioned parameters. It is not feasible to detect bacterial growth. The sensor can be used as an indication if piping needs to be flushed but never for checking if the drinking water is safe.

Installing the sensor
The sensor is fed through a USB cable that can be connected to a standard USB power supply (5V / 300 mA).

Monitoring the sensor using a smartphone
After taking the sensor in operation, you can connect to it through wifi using a laptop or smartphone. You can do this by connecting to the wifi network with ssid Event_Sensor and when prompted you type the password Event007.
You can now open a browser and type the following in the address bar: 192.168.4.1 or http://www.aquacolor.start. Adding this address to your favorites, facilitates quick future connections. After connecting, you'll see the sensor menu and the sensor output.

Monitoring of the sensor using a laptop
The real time data can also be logged on a computer or laptop. For this purpose, the sensor is connected to a USB port and monitored using a program for serial communication like PuTTY, Arduino IDE or you own script. The communication settings are: baud rate 9600, 8 data bits, no parity, 1 stop bit.
The data are send real time and row by row, resulting in a .csv file.
A data row example is: 0.98,22.97,94.31
This row means a water pressure of 0.98 bar, a water temperature of 22.97 degrees Celsius and a spectrophotometric water quality of 94.31%. In this water quality indication, 100% stands for pure water and 0% for dirty water.

Cloud service

We can also deliver a cloudservice for logging the data of one or multiple sensors. Also, we can provide you with an API so that the sensor can log data through our own cloudservice. Please contact us for a tailor made solution.

Changing the network name (ssid)

In case you use several sensors at the same farm, it can be convenient to change the network name of the sensors so that you can recognize them easily. Example: Sensor_piping_1 and Sensor_piping_2.
Example: In case you want to change the default network name into Sensor_piping_1 you type in the input field: newssidSensor_piping_1 and press send. If you now disconnect the power from the control-unit and switch it on again, the new setting will be activated.

Calibration of the biofilm sensor

The sensor is already calibrated ex works and plug and play.
At locations using naturally colored drinking water caused by the presence of humic acids in the water, the clean water value needs to be adjusted. For this purpose, a connection to the sensor is made and the sensor is filled with clean water. The sensor value is read and typed in the input field followed by pressing the send button. The result of this action is that the sensor reads 0 Volt when it is filled with clean water containing humic acids.

Points of attention during installation

1. Do not place the sensor in direct sunlight. This may cause substantial heating of the sensor housing which influences the contactless temperature measurement.
2. The sensor housing is waterproof and can be installed outside. In case you install the sensor outside, the USB connection must be sealed with a water tide silicone tape like Rescue tape.