

Conductivity Sensor Calibration Steps and Precautions

The calibration of conductivity sensors is similar to that of dissolved oxygen sensors: support one point and two-point calibration. The user calibrates by modifying the values of K and B. One-point calibration changes the value of K, and two-point calibration needs to change the values of K and B.

Before calibration, please clean the inside of the small holes at the front of the sensor with clean water and the included cleaning brush.

The following two-point calibration is used as an example to illustrate the calibration of the conductivity sensor.

1. Prepare a low concentration (concentration close to 0ms/cm but not 0ms/cm, for example 1ms/cm) conductivity standard solution (note that due to the limitation of the internal calculation formula of the sensor, the concentration value of the standard solution cannot be 0ms/cm).
2. Prepare a high concentration conductivity standard solution. e.g. 50ms/cm.

Method 1: Calibration with communication protocol

Step 1: Change the calibration parameter K of the sensor to 1 and B to 0

Refer to the communication protocol to modify. Note that the values of K and B must be written to the sensor at the same time, otherwise it will cause an error.

Step 2: Calibrate user calibration parameters K and B

1. Place the sensor in the prepared low concentration conductivity standard solution and wait for the sensor reading to stabilize. Record the measured value of the sensor as A, and the value of the low-concentration conductivity standard solution as E.
2. Wipe the sensor clean, put it into the prepared high-concentration conductivity standard solution, and wait for the sensor reading to stabilize. Record the measured value of the sensor as C, and the value of high-concentration conductivity standard solution as D.

Note: Put the conductivity sensor into the standard solution, the small holes at the front of the sensor is easy to be filled with air, please shake the sensor in the standard solution until the air bubbles in the small holes are completely discharged.

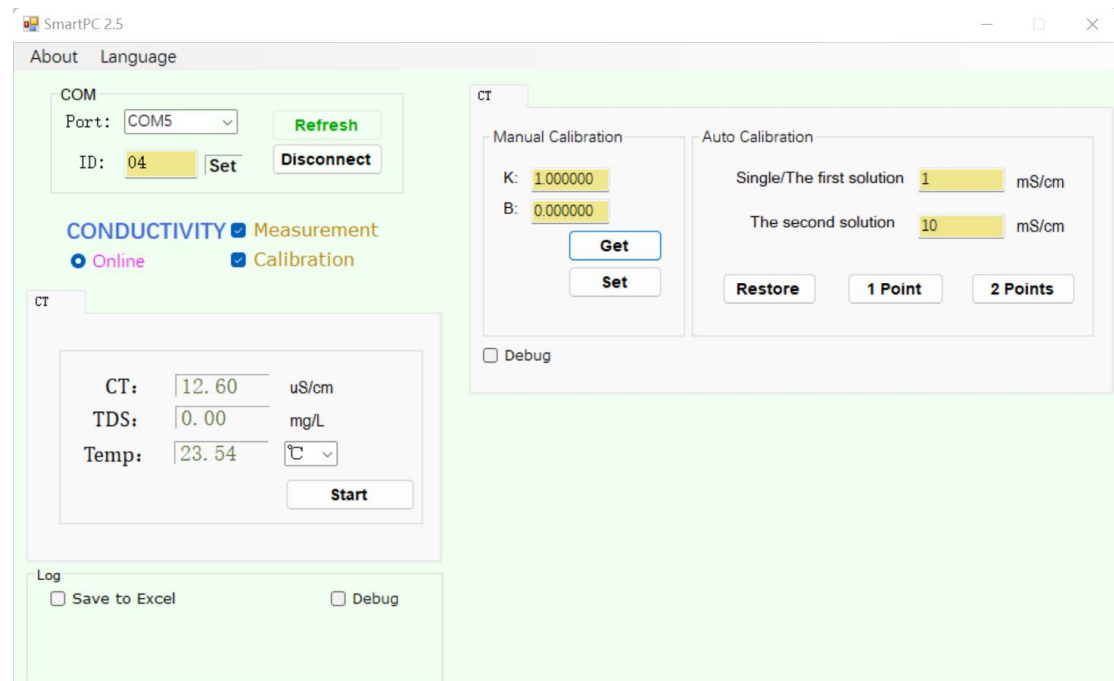
Calculate the values of K and B according to the following formulas:

$$K = (E - D) / (A - C)$$

$$B = E - K * A$$

3. Write the calculated K and B values to the sensor.

Method 2: Use software to calibrate



The software can read the relevant data of the sensor and calibrate the sensor. The customer only needs to operate according to the software prompt, the software will automatically calculate K and B and write to the sensor.