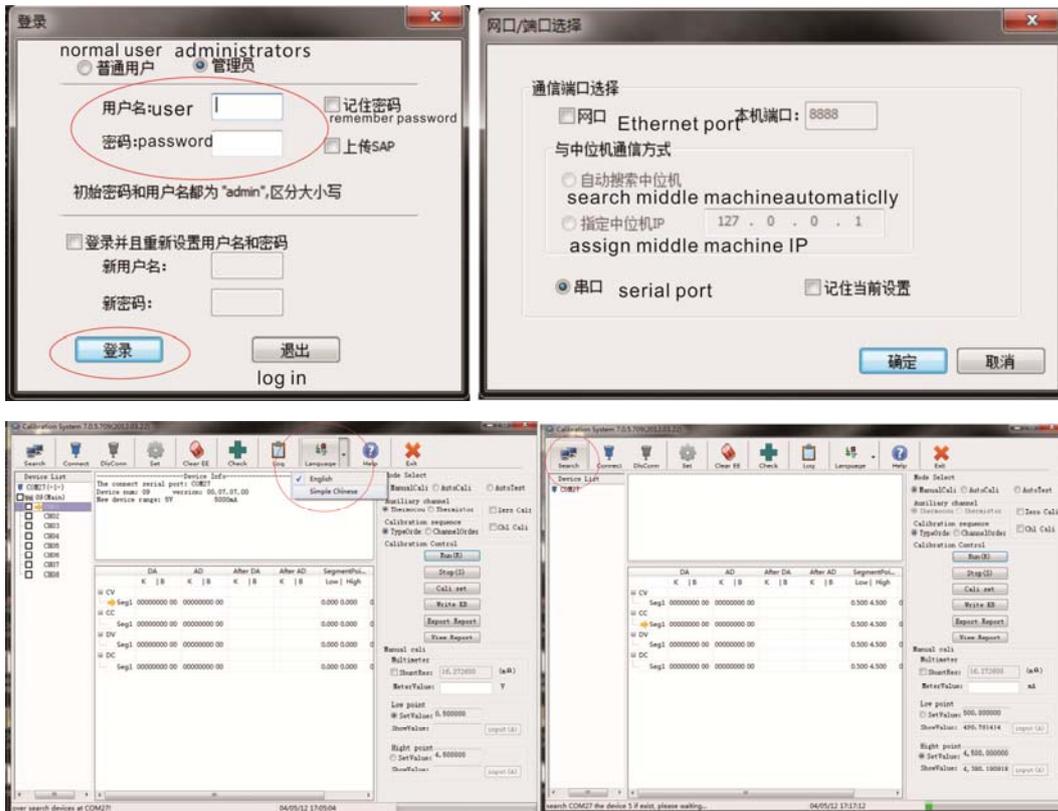


Neware calibration Software User Guide

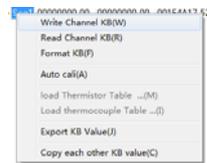
Calibration

Prepare:

- Connect the machine to computer with Ethernet port(Ethernet version) or Serial port(serial port version).
- Power on the machine, make sure the “BTS-TC” is shut down already and then execute the calibration software “BTS-Calibration” (**These two can not run simultaneously**).
- Wait until the computer finds the machine and displays the machine’s information. (If the computer can not find it automatically, click “search”)



Right click the channel-read channel KB(R) before calibrate.



1. Firstly, let's do the **Charge Voltage Calibration**:

a. Please load the proper resistance for calibrating voltage in terms of the different resistance in distinct model of the BTS:

- Resistance $\geq (2\sim 10) \times \text{Full Scale Voltage (V)} / \text{Full Scale Current (A)}$
- Power of Resistance $\geq \text{Full Scale Voltage(V)}^2 / \text{Resistance } (\Omega)$

b. connect as below:

Always let the probes of the multimeter well contact the channel when measuring.



Step1. Select the right device and right channel under “device list”

Step2. Select the CV-Seg1 to calibrate Charge voltage.

Step3. Click “Run”, you will see the dynamic measuring information under BTS information, and “Display value” is under “Set value”.

*Set value: is the voltage at which you are calibrating (How to change it will be discussed later).

*Show value: is the voltage measured by the machine.

Step4. Use a multimeter (here we use FLUKE 187) to measure the voltage of the resistance, input the readout after “Multimeter Value”.

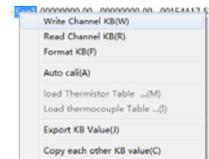
Step5. click “Input”.

Step6. Again click “Run”, the machine will be calibrated at the second measuring point.

Step7. Again input the multimeter readout after “Multimeter Value”.

Step8. click “input”

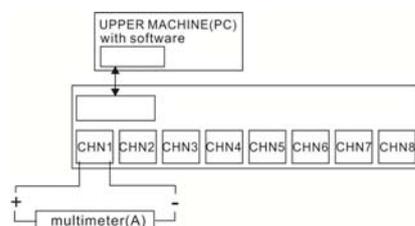
Finish Channel 1 charge voltage calibration. You can right click “CV-Seg1” and click ‘write channel KB(w)’ to save the KB for CV calibration first, or you can wait until finish 4 type calibrate, then right click CHN1 and click ‘write channel KB(w)’ to save the KB for channel 1.



You can go to channel 2, to calibrate the charge voltage of channel 2.

2. Let's do **Charge Current Calibration**:

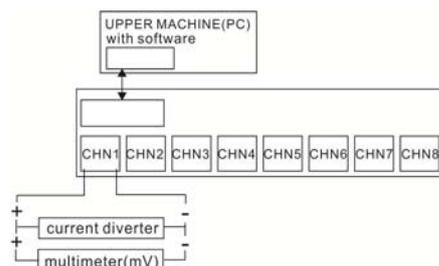
If device current don't reach 3A, connect as below:



Full current of 6-1/2 multimeter usually can reach to 3A; you may use a **current diverter** if higher current needed, please:

In series connect the channel and the diverter, use multimeter to measure the voltage of the diverter, and get the current by the formula:

$$I = \text{Voltage of diverter} / \text{Resistance of diverter}$$



Step1. Select the right device and right channel under “device list”

Step2. Select the CV-Seg1 to calibrate Charge voltage.

Step3. Click “Run”, the machine will be calibrated at the first measuring point.

Step4. Use a multimeter (here we use FLUKE 187) to measure the current, input the measure current after “Multimeter Value”.

Step5. click “Input”.

Step6. Again click “Run”, the machine will be calibrated at the second measuring point.

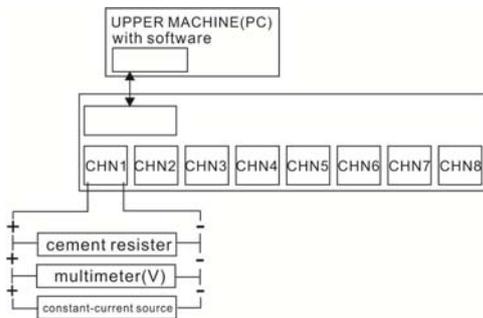
Step7. Again input the measured current after “Multimeter Value”.

Step8. click “input”

Finish Channel 1 charge current calibration.

Right click “CC-Seg1” and click ‘write channel KB(w)’ to save the KB for CC calibration. You can go to channel 2, to calibrate the charge current of channel 2.

3. Let's do discharge Voltage Calibration:



- Resistance $\geq (2\sim 10) \times \text{Full Scale Voltage (V)} / \text{Full Scale Current (A)}$
- Power of Resistance $\geq \text{Full Scale Voltage(V)}^2 / \text{Resistance } (\Omega)$
- Range of Constant-current source $\geq \text{Full Scale Current (A)}$

Constant-current source have to execute two workstep, step current are 10% and 90% of Full Scale Current (A) of the device.

Step1. Select the right device and right channel under “device list”

Step2. Select the DV-Seg1 to calibrate discharge voltage.

Step3. Click “Run”, the machine will be calibrated at the first measuring point.

Step4. Use a multimeter (here we use FLUKE 187) to measure the voltage of the resistance, input the readout after “Multimeter Value”.

Step5. Click “Input”.

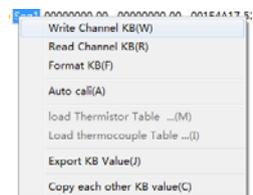
Step6. Again click “Run”, the machine will be calibrated at the second measuring point.

Step7. Again input the voltage of the resistance, input the readout after “Multimeter Value”.

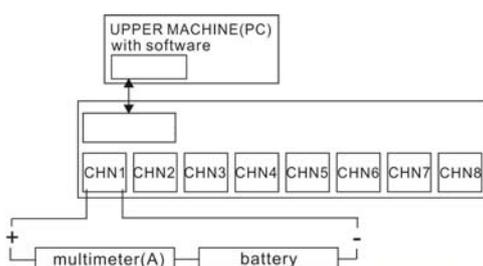
Right click “DV-Seg1” and click ‘write channel KB(w)’ to save the KB for DV calibration.

You can go to channel 2, to calibrate the discharge voltage of channel 2.

- If you don't have condition to do DV calibrate, you can right click DV and click ‘copy each other KB value’ to cope the CV calibrate KB to DV calibrate KB.



4. Let's do discharge Current Calibration:



Step1.Select the right device and right channel under “device list”
Step2.Select the DC-Seg1 to calibrate Discharge current.
Step3.Click “Run”, the machine will be calibrated at the first measuring point.
Step4.Use a multimeter(here we use FLUKE 187) to measure the current, input the measure current after “Multimeter Value”.
Step5.click “Input”.
Step6.Again click “Run”, the machine will be calibrated at the second measuring point.
Step7.Again input the multimeter readout after “Multimeter Value”.
Step8.click “input”
right click “DC-Seg1”and click ‘write channel KB(w)’to save the KB for DC calibration

Remark:

Whenever you calibrate the machine, make sure your **calibrator** (like multimeter) is certified by the related association like NIST, CE.

“Clear EEPROM” will erase all the information of machine, if not reset properly, the machine would fail to run, please do not use this function if you are not familiar with machine.