

99T Serial software User Manual

Ver. 1.0

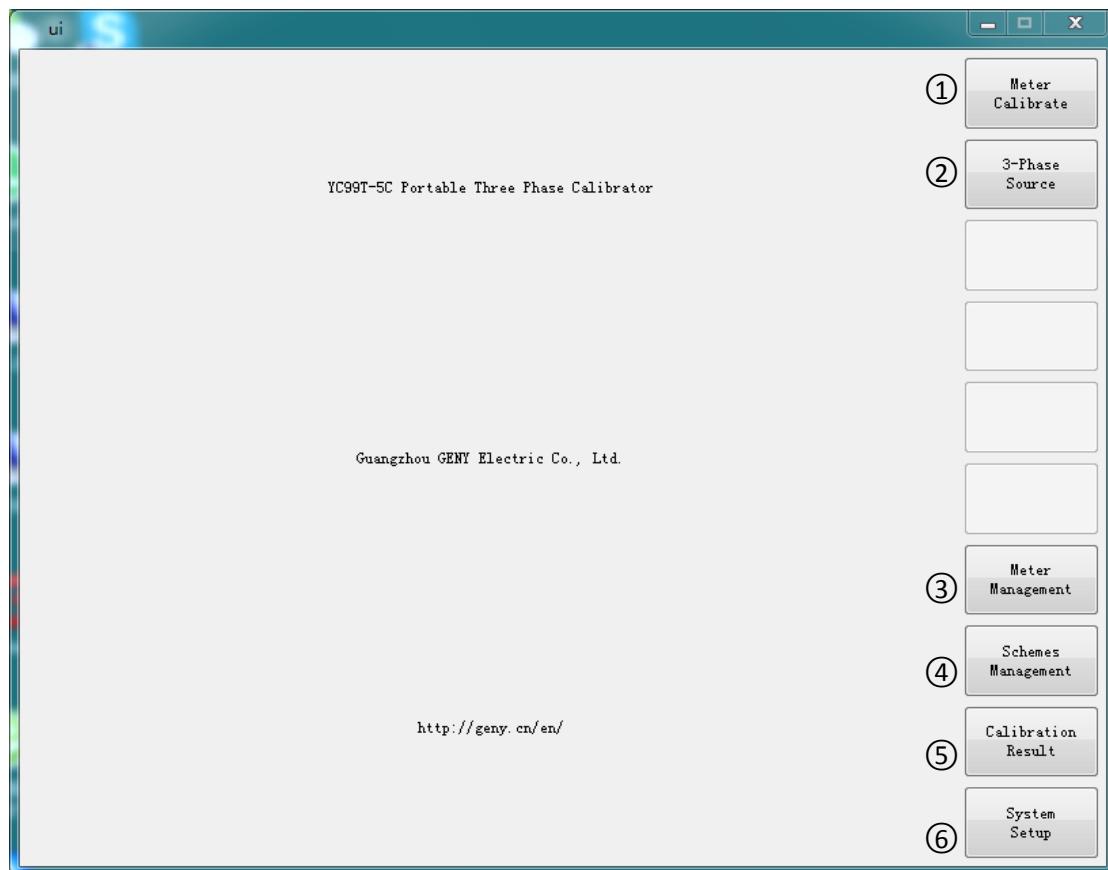
Date: 06/06/2019

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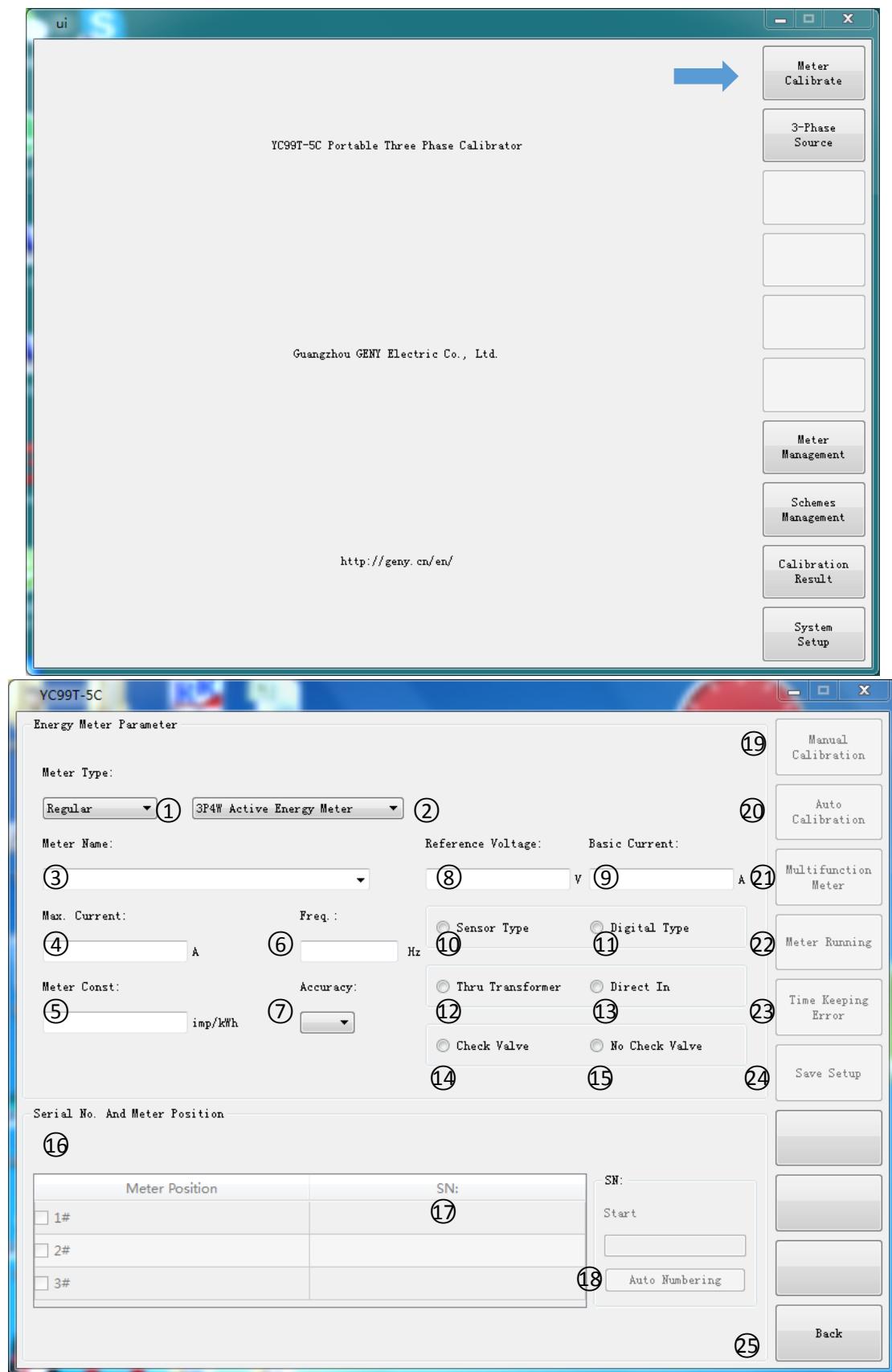
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1. Main interface



1. **Meter Calibration:** For Auto-calibration and Manual calibration of energy meter.
2. **3-Phase Source:** Work as a standard power source.
3. **Meter Management:** Manage energy meter information and creating new meter type.
4. **Schemes Management:** Manage auto calibration plan.
5. **Calibration Result:** View the test result and upload or export.
6. **System Setup:** 99T system basic parameter setup.

2. Meter Calibrate

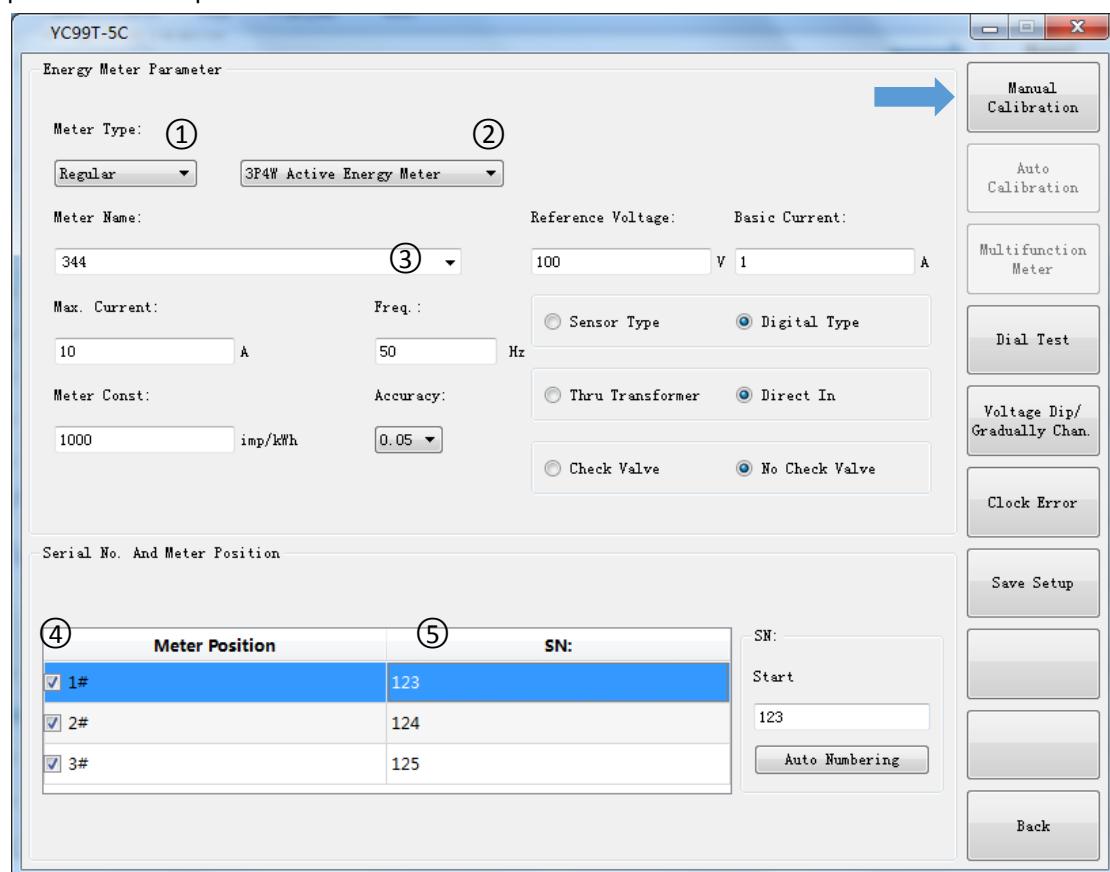


1. **Meter type:** Regular/Multi function
2. **Wiring mode:** 3P4W Active Energy Meter/ 3P3W Active Energy Meter/ Single Phase Energy meter/ 3P4W Reactive Energy Meter/ 3P3W Reactive Energy Meter/ 2P60° Reactive Energy Meter/ 2P90° Reactive Energy Meter/ 3P90° Reactive Energy Meter/ 3P4W Comp Meter/ 3P3W Comp Meter.
3. **Meter Name:** Select the saved meter name.
4. **Max. Current:** 0.00000~120A.
5. **Meter Const:** 10~200000. When Meter Type select “com meter”, will have active constant and reactive constant.(imp/kWh and imp/kvarh)
6. **Freq:** 40-70Hz
7. **Accuracy:** Have to be the same as [calibration scheme](#) accuracy. Otherwise Auto-calibration function would not be activated. When Meter Type select “com meter”, will have active accuracy and reactive accuracy.
8. **Reference Voltage:** Rated voltage (L-N voltage in 3P4W meter).
9. **Basic Current:** Ib.
10. **Sensor type:** LED pulse sensor.
11. **Digital type:** Crocodile clip, Red clip for Active energy, Yellow clip for Reactive energy, Black for ground. Three channels the ground is sharing. Provide DC 4.36V.
12. **Thru Transformer:** To notify the meter is whole current or transformer type
13. **Direct In:** Direct connection to meter.
14. **Check Valve:** Disk on mechanical meter unable to reverse spin
15. **No Check Valve:** Disk on mechanical meter can reverse spin.
16. **Serial No. And Meter Position:** 1#, 2#, 3# for select meter position.
17. **SN:** Input meter SN on each meter position separately. Have to press “Save setup” first before input.
18. **SN Auto Numbering:** Input the SN of first meter below the “Start” windows and press Auto numbering. The next two meter will automatically have SN sequence of first meter.
19. **Manual Calibration:** Manually selecting voltage, current by %, power factor, phase, pulse ring for energy error test. Also with starting test and creeping test.
20. **Auto calibration:** Auto calibration of preset calibration plan. Accuracy has to be the same as selected [calibration scheme](#).
21. **Multifunction Meter:** Voltage Temporary Decline and Voltage Gradually Change setting.
22. **Meter Running:** Dial test, voltage dip/interruption test.
23. **Time Keeping Error:** Clock Error
24. **Save Setup: Save:** After creating a new meter, need to save the setup, otherwise calibration function won’t be activated.
25. **Back:** Back to the [Main interface](#).

2.1. Manual Calibration

Add meter in the [Meter management](#) interface, then go back to this interface to select the related Meter type① and Wiring mode②, Meter name③. The other parameter will show automatically. Selecting meter position④ and input meter SN⑤, then press “Manual Calibration” to carry out [Error Test](#).

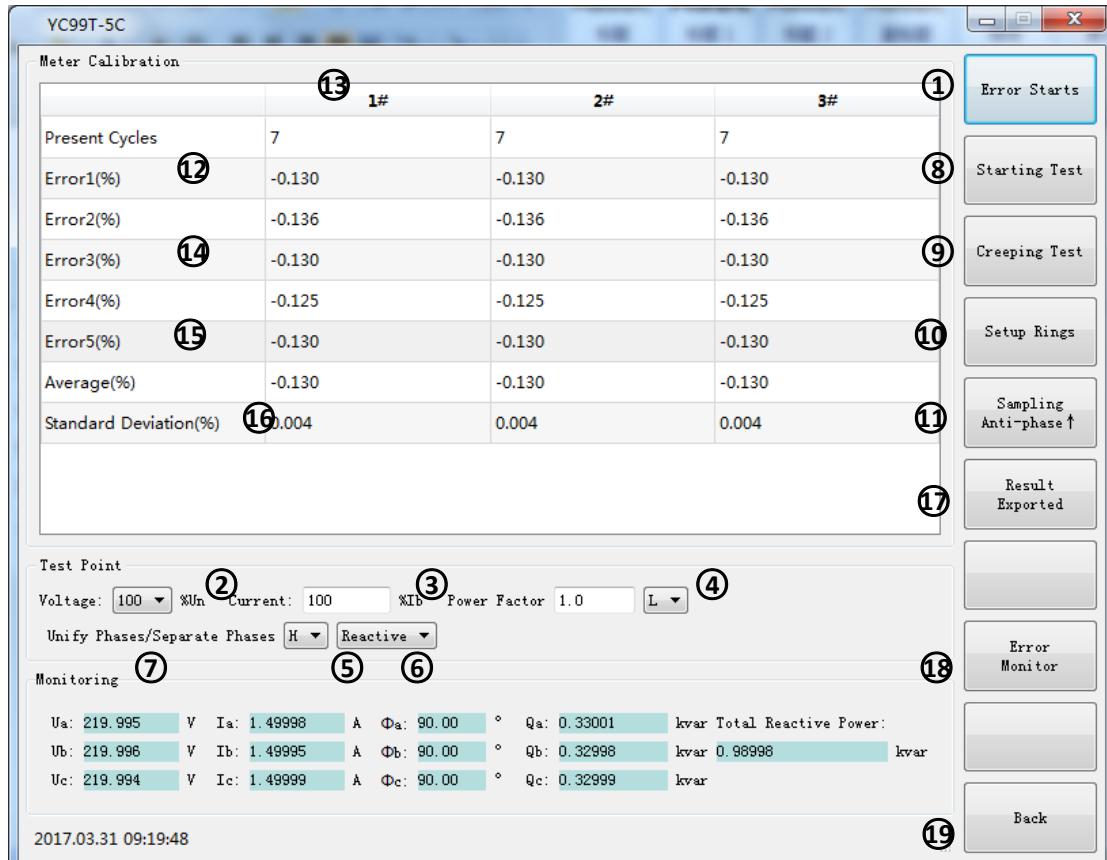
Also the user can create a new meter type in this interface by input all meter parameter and then press “Save Setup”.



2.1.1. Error Test

Setting test current in Ib%③, Setup Rings⑧, then power up the power source and press Error Starts①. Power source will start to output current and voltage and showing pulse that pick up from the meter at the Present Cycles⑩ area.

In the test process, user can change Voltage in %, Power Factor at any time.



Power up: Before pressing “Error start”, need to press machine key board panel green key “Start” to power up the power source. Or press external key board “F2”.

Power down: Press machine key board panel red key “Stop” to power down the power source at any time. Or press external key board “F3”. Any of those key can stop the error test.

1. **Error start/stop:** Start/Stop the manual calibration.
2. **Voltage:** Select calibration voltage Un by % from 80~120%, can change at any time during the test.
3. **Current:** Setting calibration current Ib by % from 0.00001%~Imax. Have to power down and power up again to activate the current setting during the test.
4. **Power Factor:** Setting calibration power factor L/C, can change at any time during the test.
5. **Unify Phases/ Separate Phases:** H (unity output), A/B/C (unbalance output), can change at any time during the test.
6. **Active/Reactive:** Only available at comp meter type, can change at any time during the test.
7. **Monitoring:** Current, voltage, phase position, power and total energy real time display.
8. **Starting Test:** With minimal starting current and range voltage.
9. **Creeping Test:** With maximum voltage (120%) and extremely small current.
10. **Setup Rings:** Setup pulse circle from 1~255.

- 11. Sampling/ Anti-phase ↑ :** Negative or positive pulse, can change at any time during the test.
- 12. Present Cycles:** Display the detected pulse from tested meter.
- 13. 1#, 2#, 3#:** Meter position
- 14. Error1(%),Error2(%),Error3(%),Error4(%),Error5(%):** Show the last 5 error in real time.
- 15. Average:** Average from Error 1 to Error 5.

16. Standard deviation: $\sigma = \sqrt{\frac{1}{N} \sum_{i=1}^N (x_i - \mu)^2}$, it was calculated by the last 5 error.

- 17. Result Exported:** Save result.
- 18. Error Monitor:** Monitoring error in Chart and Trend Chart form and energy parameter.
- 19. Back:** Back to [Meter Calibrate](#) interface.

2.1.2. Staring test

The screenshot shows the 'VC99T-5C' software interface with the 'Meter Calibration' window open. The window contains a table of calibration data for three meter positions (1#, 2#, 3#) and various error parameters. Below the table are sections for 'Test Point' settings and 'Monitoring' data. On the right side, there is a vertical stack of buttons labeled 'Error Starts', 'Starting Test' (which has a blue arrow pointing to it), 'Creeping Test', 'Setup Rings', 'Sampling Anti-phase ↑', 'Result Exported', 'Error Monitor', and 'Back'. At the bottom left, the date and time are displayed as '2017.03.31 09:19:48'.

	1#	2#	3#
Present Cycles	7	7	7
Error1(%)	-0.130	-0.130	-0.130
Error2(%)	-0.136	-0.136	-0.136
Error3(%)	-0.130	-0.130	-0.130
Error4(%)	-0.125	-0.125	-0.125
Error5(%)	-0.130	-0.130	-0.130
Average(%)	-0.130	-0.130	-0.130
Standard Deviation(%)	0.004	0.004	0.004

Test Point

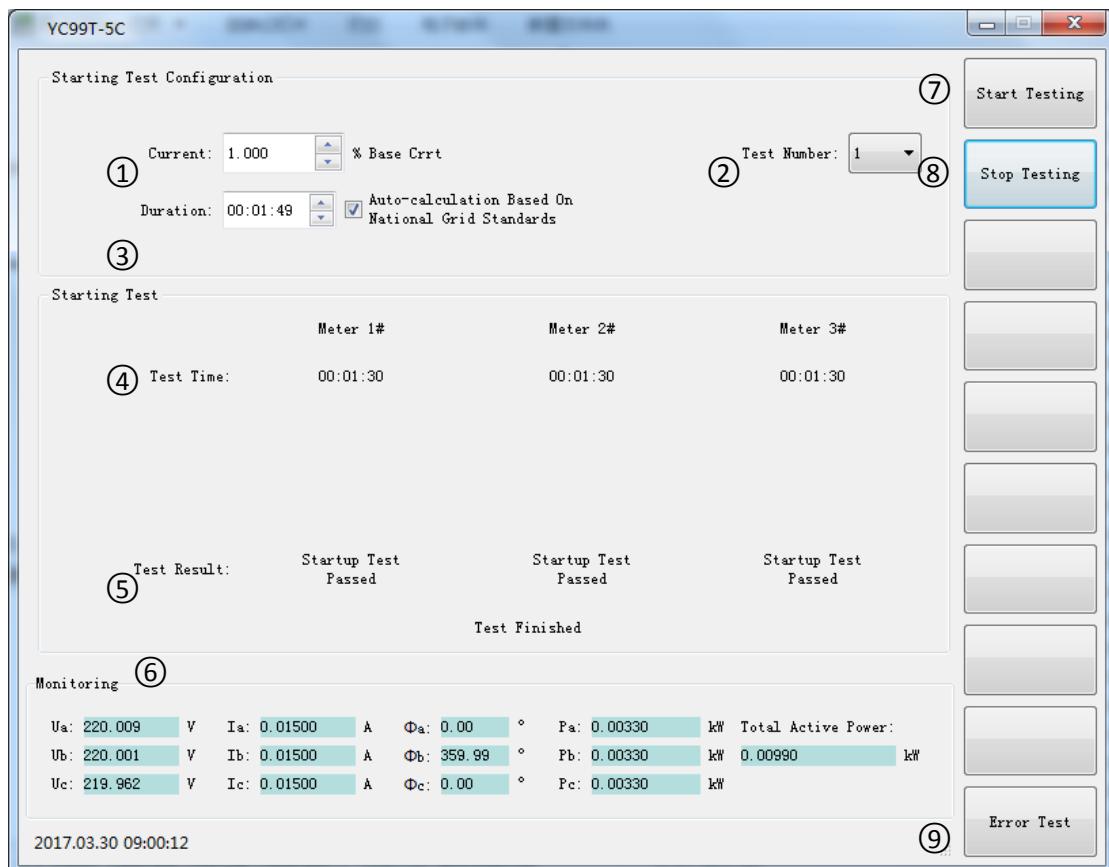
Voltage: 100 %Un Current: 100 %Ib Power Factor 1.0 L

Unify Phases/Separate Phases H Reactive

Monitoring

Ua: 219.995 V Ia: 1.49998 A Φa: 90.00 ° Qa: 0.33001 kvar Total Reactive Power: 0.98998 kvar
 Ub: 219.996 V Ib: 1.49995 A Φb: 90.00 ° Qb: 0.32998 kvar 0.98998 kvar
 Uc: 219.994 V Ic: 1.49999 A Φc: 90.00 ° Qc: 0.32999 kvar

2017.03.31 09:19:48



- Starting Current:** Starting test current in lb% from 0.001~9%.
- Test Number:** Repeat test time.
- Duration:** Auto-calculated after select the Auto-calculation Base on National Grid Standard.
- Test time:** Showing test time clock.
- Test Result:** Showing test result and test progress.
- Monitoring:** Current, voltage, phase position, power and total energy real time display.
- Starting Test:** Press green color “Start” button on machine front panel or external key board “F2”, then to press “Start Test” to begin testing.
- Stop Test:** To stop the test, but the power source still hold voltage, need to press red color “Stop” button on the machine front panel or external key board “F3”. If press “Stop Test” in the middle of test, test will stop immediately with no test result.
- Error test:** Back to [Error Test](#) interface.

Setting Current in lb%①, test time③ will be auto calculated base on National Grid Standard. Test Number② can select from 1 to 3, it represent the repeat time of test time.

Test Result⑤ indicated as Seeking Black Mark, Testing, and showing test result of Passed or Failed.

2.1.3. Creeping test

VC99T-5C

Meter Calibration

	1#	2#	3#
Present Cycles	7	7	7
Error1(%)	-0.130	-0.130	-0.130
Error2(%)	-0.136	-0.136	-0.136
Error3(%)	-0.130	-0.130	-0.130
Error4(%)	-0.125	-0.125	-0.125
Error5(%)	-0.130	-0.130	-0.130
Average(%)	-0.130	-0.130	-0.130
Standard Deviation(%)	0.004	0.004	0.004

Test Point

Voltage: 100 %Un Current: 100 %Ib Power Factor 1.0 L

Unify Phases/Separate Phases H Reactive

Monitoring

Ua: 219.995 V Ia: 1.49998 A $\Phi_a: 90.00^\circ$ Qa: 0.33001 kvar Total Reactive Power: Ua: 219.995 V Ib: 1.49995 A $\Phi_b: 90.00^\circ$ Qb: 0.32998 kvar Ub: 219.996 V Uc: 219.994 V Ic: 1.49999 A $\Phi_c: 90.00^\circ$ Qc: 0.32999 kvar

2017.03.31 09:19:48

Buttons on the right:

- Error Starts
- Starting Test
- Creeping Test (highlighted)
- Setup Rings
- Sampling Anti-phase ↑
- Result Exported
- Error Monitor
- Back

VC99T-5C

Creeping Parameter Setup

① Creeping Voltage: 100.00 % Rated Vol.

② Current: 0.050 % Base Crrt

③ Duration: 00:01:00

Creeping Test

Meter 1#	Meter 2#	Meter 3#
④ Test Time: 00:01:00	00:01:00	00:01:00
⑤ Test Result: Creeping Test Passed	Creeping Test Passed	Creeping Test Passed

⑥ Monitoring

Ua: 220.005 V Ia: 0.00050 A $\Phi_a: 359.99^\circ$ Pa: 0.00011 kW Total Active Power: Ua: 220.005 V Ib: 0.00050 A $\Phi_b: 0.00^\circ$ Pb: 0.00011 kW 0.00033 kW Ua: 220.005 V Ic: 0.00050 A $\Phi_c: 0.01^\circ$ Pd: 0.00011 kW

2017.03.30 10:16:42

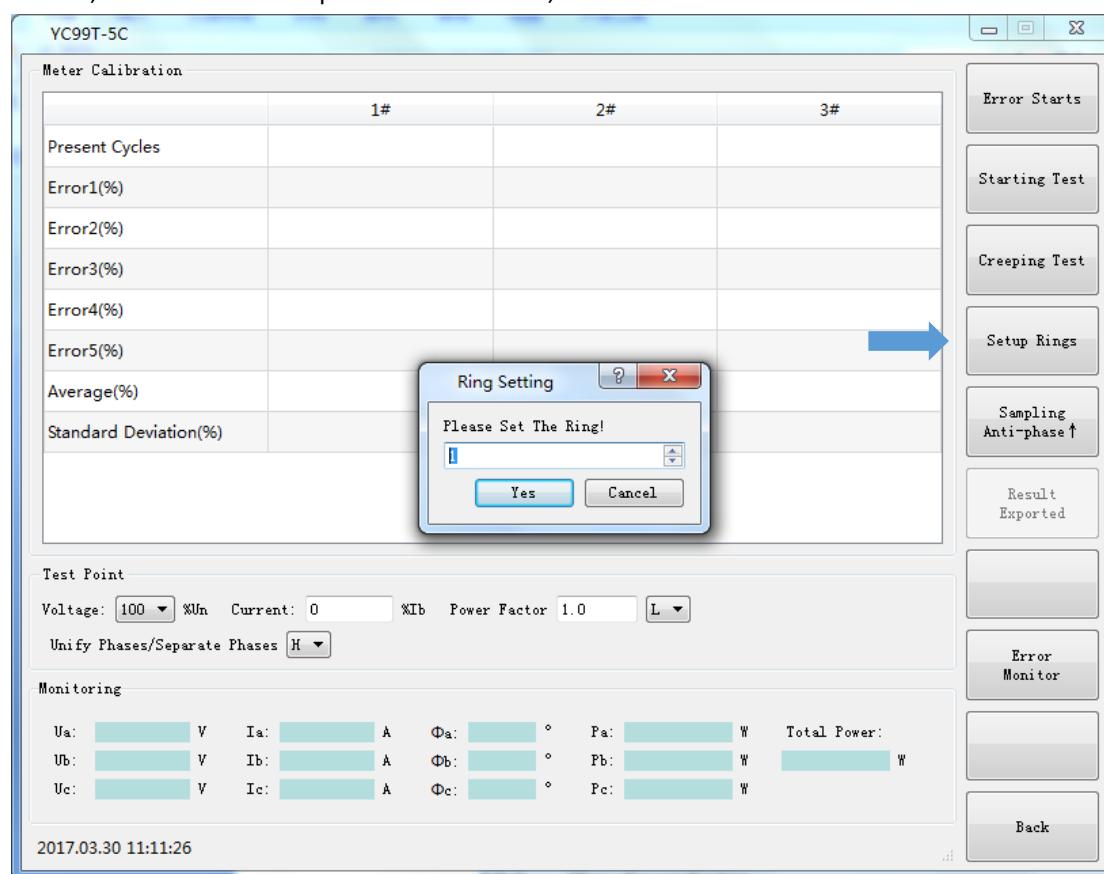
Buttons on the right:

- Start Testing
- Stop Testing (highlighted)
- Error Test
- ⑨

1. **Creeping Voltage:** Setting in Un% from 1~120%.
2. **Creeping Current:** Setting in Ib% from 0.001~9%.
3. **Duration:** Manually calculate and input.
4. **Test time:** Showing test time clock.
5. **Test Result:** Showing test result and test progress.
6. **Monitoring:** Current, voltage, phase position, power and total energy real time display.
7. **Starting Test:** Press green color "Start" button on machine front panel or external key board "F2", then to press "Start Test" to begin testing.
8. **Stop Test:** To stop the test, but the power source still hold voltage, need to press red color "Stop" button on the machine front panel or external key board "F3". If press "Stop Test" in the middle of test, test will stop immediately with no test result.
9. **Error test:** Back to [Error Test](#) interface.

2.1.4. Setup Rings(Pulse Circle)

Setup the Ring (Pulse circle) before click "Error Starts", setting from 1~255. At 100% Ib test current, recommend to set pulse circle to 2 or 3, whereas at 400% Ib set to 8 or 12.



2.1.5. Result Exported

YC99T-5C

	1#	2#	3#
Present Cycles	7	7	7
Error1(%)	-0.130	-0.130	-0.130
Error2(%)	-0.136	-0.136	-0.136
Error3(%)	-0.130	-0.130	-0.130
Error4(%)	-0.125	-0.125	-0.125
Error5(%)	-0.130	-0.130	-0.130
Average(%)	-0.130	-0.130	-0.130
Standard Deviation(%)	0.004	0.004	0.004

Error Starts

Starting Test

Creeping Test

Setup Rings

Sampling Anti-phase ↑

Result Exported (highlighted with a blue arrow)

Test Point

Voltage: 100 %Un Current: 100 %Ib Power Factor 1.0 L

Unify Phases/Separate Phases H Reactive

Monitoring

Ua: 219.995 V Ia: 1.49998 A Φ_a : 90.00 ° Qa: 0.33001 kvar Total Reactive Power: Ua: 219.995 V Ib: 1.49995 A Φ_b : 90.00 ° Qb: 0.32998 kvar 0.98998 kvar Uc: 219.994 V Ic: 1.49999 A Φ_c : 90.00 ° Qc: 0.32999 kvar

2017.03.31 09:19:48

ui

① Items	② Test Content	③ Test Requirement	④ Test Result	⑤
1 Error	H,1.0L,Ib	-0.5~+0.5, 1	0.027	⑥
2 Error(Reactive)	H,1.0L,Ib	-2~+2, 1	-0.108	
3 Starting Test	5%Ib	00:00:22	00:00:17	
4 Creeping	100%Un,0.003%Ib	00:00:05	00:00:05	
5 Visual Inspection			Qualified	
6 Insulation Resistance			400MΩ	

⑦

⑧

⑨

Visual Inspection ▾
Insulation Resistance (MΩ)
400
Withstand Voltage ▾

Delete Selected Results

Meter No.: 654365 ▾

Save Result

- Test Item:** Name of test, all tests will make a record in the form.
- Test content:** Parameter in the test point and test item.
- Test Requirement:** Time requirement and accuracy allowance.
- Test Result:** Error record and result.

5. **Visual inspection:** Done by the user manually by inspect the apparent of meter. Mainly for production purpose.
6. **Insulation Resistance($M\Omega$):** Insulation character of meter. Test by user manually by other test device and input the data by hand.
7. **Meter No:** Showing one meter test result at a time.
8. **Delete Test result:** Delete selected test result.
9. **Save Result:** Save the test result to data base. If the test is carry out by the PC, then the result will be save to the PC.

2.1.6. Error Monitor

Error Monitor displayed in Chart Form and Trend Chart Form.

The screenshot shows the YC99T-5C software interface with the following details:

- Meter Calibration:** A table showing error data for three meters (1#, 2#, 3#). The data includes Present Cycles (7), Error1(-0.130), Error2(-0.136), Error3(-0.130), Error4(-0.125), Error5(-0.130), Average(-0.130), and Standard Deviation(0.004).
- Test Point:** Settings for Voltage (100), Current (100), Power Factor (1.0), and Phase Selection (L). Options for Unify Phases/Separate Phases (H) and Reactive are also present.
- Monitoring:** Real-time monitoring data for three phases (Ua, Ub, Uc) including voltage (V), current (A), power factor (Φ), and reactive power (Q in kvar). Total reactive power is shown as 0.98998 kvar.
- Right Panel (Buttons):**
 - Error Starts
 - Starting Test
 - Creeping Test
 - Setup Rings
 - Sampling Anti-phase ↑
 - Result Exported
 - Error Monitor (highlighted with a blue arrow)
 - Back
- Bottom Left:** Date and time: 2017.03.31 09:19:48

2.1.6.1. Chart Form

394W Reactive, 220.000V, 1.500A, 90°, 50.00Hz 2017-03-31 09:36:09															
	Date Time	Error 1	Error 2	Error 3	P1	P2	P3	Psum	I1	I2	I3	U1	U2	U3	
1	2017-03-31 09:27:01	-0.124%	-0.124%	-0.124%	330.01	329.98	329.99	989.98	1.49999	1.49995	1.50000	219.996	219.996	219.994	
2	2017-03-31 09:27:10	(1)	(2)	(3)	330.01	329.98	329.98	989.99	1.49994	1.49999	1.49999	219.996	219.996	219.990	
3	2017-03-31 09:27:20	-0.129%	-0.129%	-0.129%	330.01	329.99	329.99	989.99	1.49998	1.49995	1.49999	219.996	219.999	219.994	
4	2017-03-31 09:27:29	-0.124%	-0.124%	-0.124%	330.01	329.98	329.99	989.98	1.49997	1.49994	1.49999	219.997	219.997	219.996	
5	2017-03-31 09:27:38	-0.130%	-0.130%	-0.130%	330.01	329.98	329.99	989.99	1.49998	1.49995	1.49999	219.997	219.997	219.995	
6	2017-03-31 09:27:48	-0.130%	-0.130%	-0.130%	330.01	329.98	329.99	989.98	1.49998	1.49995	1.49999	219.996	219.995	219.992	
7	2017-03-31 09:27:56	-0.124%	-0.124%	-0.124%	330.01	329.98	329.99	989.98	1.49998	1.49995	1.49999	219.996	219.995	219.993	
8	2017-03-31 09:28:05	-0.130%	-0.130%	-0.130%	330.01	329.98	329.99	989.98	1.49998	1.49995	1.49999	219.997	219.997	219.996	
9	2017-03-31 09:28:14	-0.129%	-0.129%	-0.129%	330.00	329.98	329.99	989.97	1.49998	1.49995	1.49999	219.994	219.997	219.992	
10	2017-03-31 09:28:23	-0.129%	-0.129%	-0.129%	330.01	329.99	329.99	989.99	1.49998	1.49995	1.50000	219.997	219.999	219.994	
11	2017-03-31 09:28:32	-0.135%	-0.135%	-0.135%	330.00	329.98	329.99	989.98	1.49998	1.49995	1.49999	219.994	219.996	219.993	
12	(7)	Average	-0.1285	-0.1285	-0.1285	330.01	329.98	329.99	989.98	1.49998	1.49995	1.49999	219.996	219.997	219.994
13	STDEV:	0.003357	0.003357	0.003357		0.00123%	0.00123%	0.00091%	0.00076%	0.00030%	0.00031%	0.00027%	0.00066%	0.00061%	0.00082%
14	Power Stabi:					0.00490%	0.00490%	0.00365%	0.00303%	0.00119%	0.00125%	0.00108%	0.00263%	0.00245%	0.00329%
15	Deviation:	-0.124	-0.124	-0.124											
16															
17															
18															
19															
20															
21	(8)	(9)	(10)	(11)	(12)	(13)									

Output Point: 394W Reactive, 220.000V, 1.500A, 90°, 50.00Hz Lock Scrollbar Error Number: 15 Setting Save Results To Excel Pause Error Curve

- Date Time:** Test day and time of each result, updating at real time.
- Error 1, Error2, Error 3:** 1, 2, 3 are representing the meter position.
- P1, P2, P3:** Power of phase A, B, C.
- Psum:** Sum up Power of phase A, B, C.
- I1, I2, I3:** Current of phase A, B, C.
- U1, U2, U3:** Voltage of phase A, B, C.
- Average:** Average error in the latest 5 error.
- STDEV:** Standard deviation.[equation](#)
- Power Stabi:** Power stability.[equation](#)
- Deviation:** [Equation](#)
- Output Point:** Present test point.
- Lock Scrollbar:** When selected, scrollbar will be lock to the last error.
- Error Number Setting:** Number of error to display, when press “Pause”, then the value can be reset.
- Save Results To Excel:** Save the report to excel format.
- Pause/Restart:** Reset the error number.
- Error Curve:** Show in 2.1.6.2. Error Curve(Trend Chart form)

2.1.6.2. Error Curve(Trend Chart form)



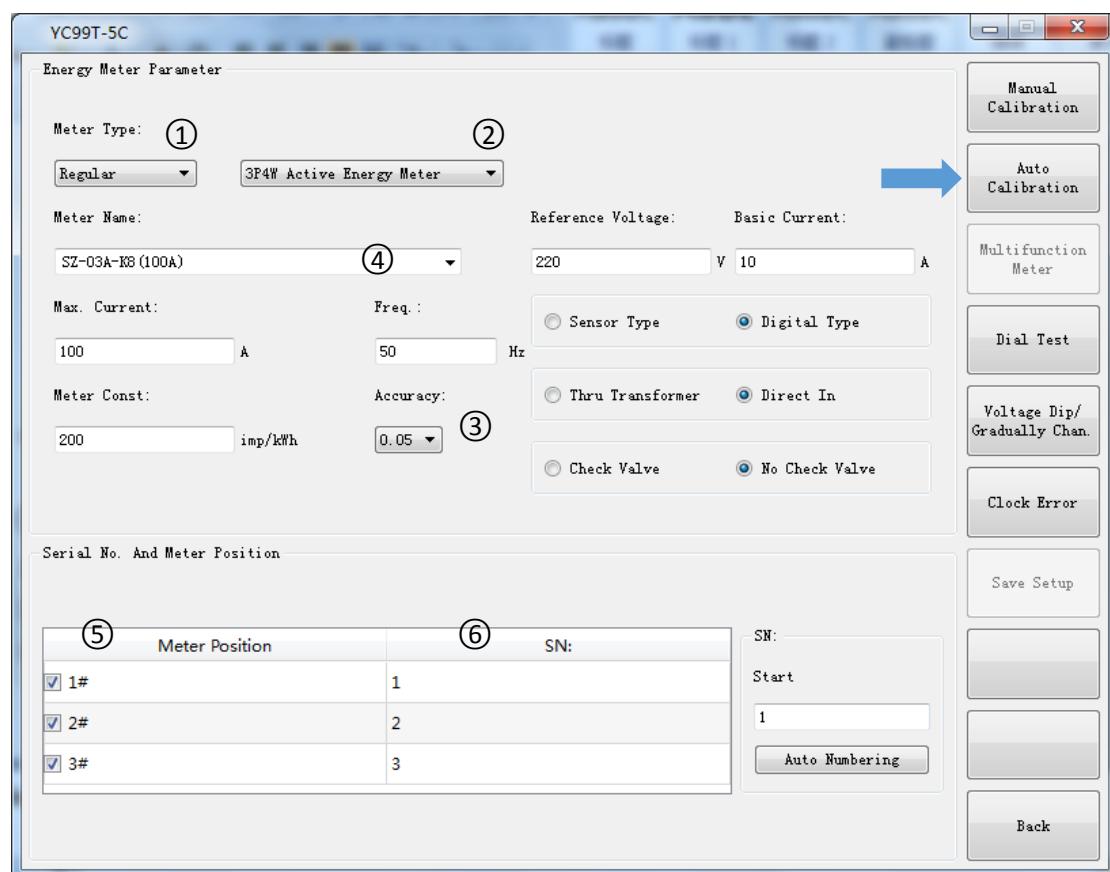
1. **Meter 0 Error ID(0~96):** Meter position 1, error from 1~96 trend chart.
2. **Meter 1 Error ID(0~96):** Meter position 2, error from 1~96 trend chart.
3. **Meter 2 Error ID(0~96):** Meter position 3, error from 1~96 trend chart.
4. **Error Range:** Definition of trend chart x-axis.
5. **Ratio:** Definition of trend chart y-axis.
6. **Error Number:** Number of Error included in the chart. Scale of y-axis.
7. **Meter:** Display error at one meter by a time or three meter together.
8. **Save as PNG images:** Save trend chart to PNG format images file.
9. **Set The Background Color:** Customize the back ground color.
10. **Restart:** Refresh the trend chart data.
11. **Continue:** Freeze/Continue the trend chart update.
12. **Error Monitor:** Back to [Chart Form](#) interface.

2.2. Auto calibration

2.2.1. Start auto calibration

Different to [Manual Calibration](#), Auto calibration require a calibration scheme, referring to [Schemes Management](#). Adding meter at the [Meter management](#) interface, then back to Meter calibrate interface as below picture to select the Meter type① and Wiring mode②. And then select Accuracy③. And then select Meter name④. The other parameter will show automatically as,. Selecting meter position⑤ and input meter SN⑥, then press “Auto Calibration” to carry out [Error Test](#).

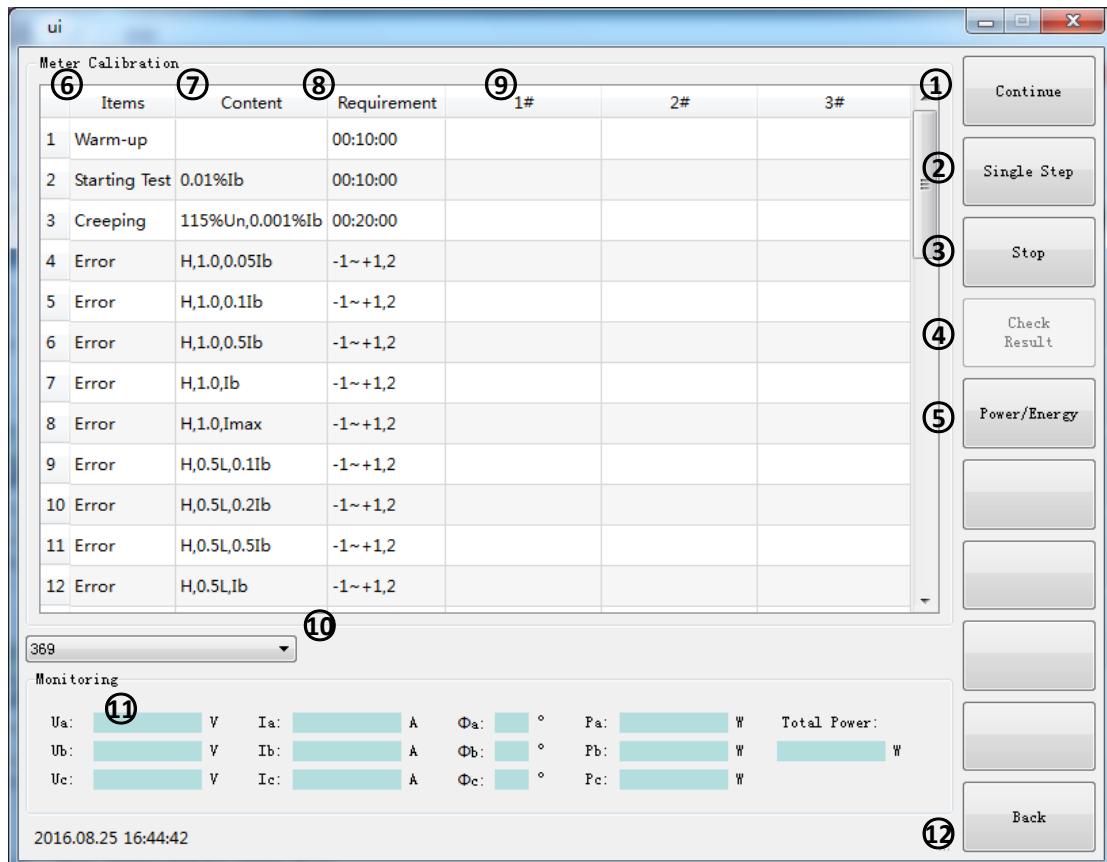
Remark: User can create a new meter type in this interface directly by input meter name and all meter parameter and then press “Save Setup”. **To notice that the newly created meter must have same Accuracy③ as Calibration scheme, otherwise “Auto Calibration” function button can't be activated.**



This interface introduction can refer to [2. Meter Calibration](#)

Before continue the test, need to power up the power source first.

After finish all the test item, power source will automatically power down.



Power up: Before pressing Continue, need to press machine key board panel green key "Start" to power up the power source. Or press external key board "F2".

Power down: Press machine key board panel red key "Stop" to power down the power source at any time. Or press external key board "F3"

1. **Continue:** Start auto calibration.
2. **Single Step:** To carry out the test on single test item.
3. **Stop:** Stop the auto calibration.
4. **Check Result:** Check the test result, referring to [2.1.5. Result export](#)
5. **Power/Energy:** Change the Monitoring from Power to energy accumulation.
6. **Items:** Test item.
7. **Content:** Test point.
8. **Requirement:** Allowance error limit and test time.
9. **1#, 2#, 3#:** Meter position 1, 2, 3.
10. **Back:** Back to [Energy Meter Parameter](#) page. Need to power down the power source first.
11. **Monitoring:** Real time displaying the output value.
12. **Back:** Back to Auto calibration interface.

Remark: the pulse circle of each test point is default as 2 and can be set by the user. The number of error sample is 1, could not be change.

2.2.2. Checking test result

Press 'check result' go error checking page, and then press 'Save result' button to save the test result.

The screenshot shows the YC99T-5C software interface. At the top, there is a menu bar with 'File', 'Edit', 'View', 'Test', 'Analysis', 'Help', and 'Exit'. Below the menu is a toolbar with icons for 'New', 'Open', 'Save', 'Print', 'Copy', 'Paste', 'Delete', 'Find', 'Replace', 'Select All', 'Lock ScrollBar', and 'Run'. A status bar at the bottom shows 'Run 30' and 'Save Results To Excel'.

The main window contains a table with columns: Items, Test Content, Test Requirement, Result 1, Result 2, Result 3, Result 4, and a dropdown menu. The table rows show various error types and their results. To the right of the table are dropdown menus for 'Visual Inspection' (set to 'Insulation Resistance (MQ)') and 'Withstand Voltage'.

Below the table, there is a section for power parameters: Ua: 0.000 V, Ia: 0.00000 A, Φa: 0.00 °, Pa: 0.00000 kW, Total Active Power: 0.00000 kW; Ub: 0.000 V, Ib: 0.00000 A, Φb: 0.00 °, Pb: 0.00000 kW, 0.00000 kW; Uc: 0.000 V, Ic: 0.00000 A, Φc: 0.00 °, Pc: 0.00000 kW, kW. There is also a 'Delete Selected Results' button.

At the bottom left, it says 'Meter No.: 11'. On the right, there is a 'Save Result' button and a 'Back' button. The date and time '2019.06.06 13:18:13' are displayed at the bottom left.

2.2.3. Exporting test time log to excel format

Press 'error record' button go to error time log page. Press 'Save result to excel' will generate a excel format file.

The screenshot shows the 'Error Record' table. It has columns: Date Time, Items, Test Content, Error(%) Deviation(%) and Error(%) Deviation(%). The table lists 34 entries from June 6, 2019, at 12:19:12 to June 6, 2019, at 12:47:34. Each entry shows an error type (e.g., Error, Error, Error, etc.) and its corresponding percentage values.

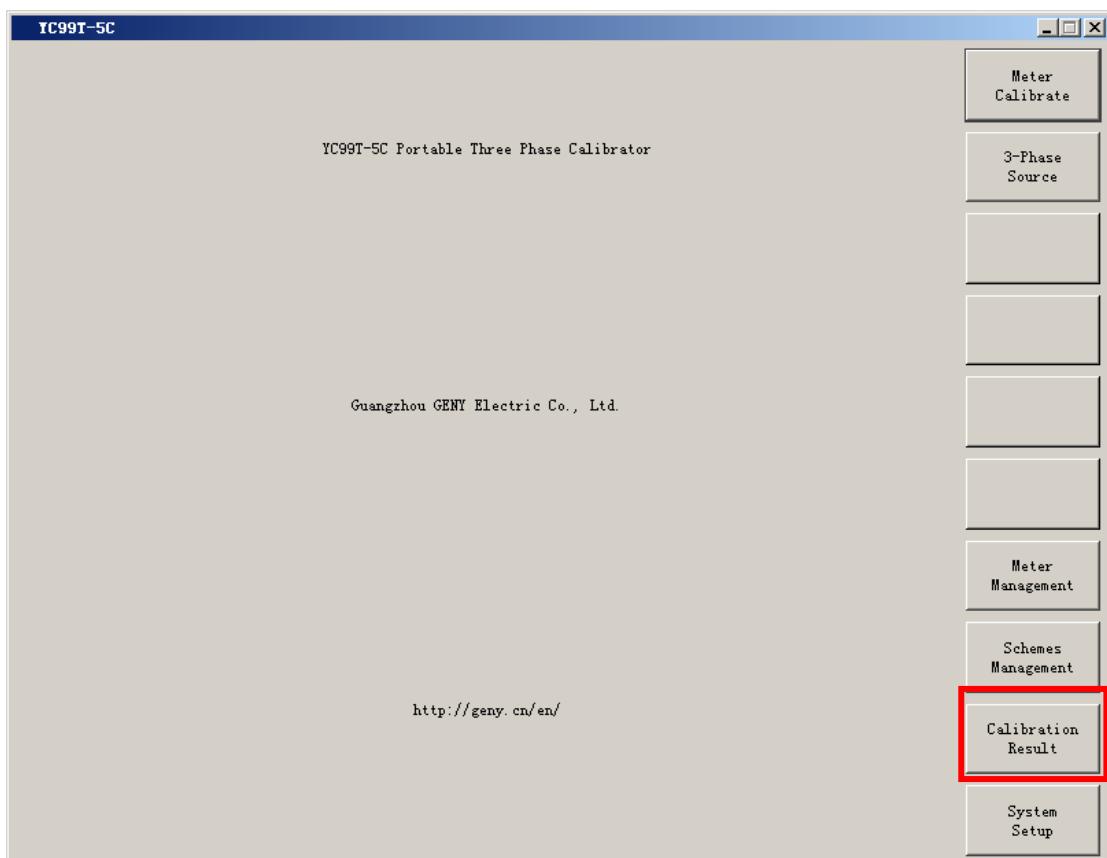
At the bottom of the table, there are buttons for 'Lock ScrollBar', 'Run 30', and 'Save Results To Excel'.

In the excel file, press first make sure the part is correct and then click 'Import data' button.

	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3	L3
1											
2	Date	Time	Items	Test Content	Error(%)					Deviation(\$)	
3	2019.06.06	12:05:25	Error	H_1.0_Imax	-0.004%	-0.004%	-0.004%	-0.0020%	-0.0020%		
4	2019.06.06	12:06:23	Error	H_0.5L_Imax	0.007%	0.007%	0.007%	-0.0070%	-0.0070%		
5	2019.06.06	12:07:03	Error	H_0.866C_Imax	-0.004%	-0.004%	-0.004%	-0.0040%	-0.0040%		
6	2019.06.06	12:07:34	Error	H_1.0_21b	-0.003%	-0.003%	-0.003%	-0.0030%	-0.0030%		
7	2019.06.06	12:08:10	Error	H_0.5L_21b	-0.019%	-0.019%	-0.019%	-0.0190%	-0.0190%		
8	2019.06.06	12:08:39	Error	H_0.866C_21b	0.002%	0.002%	0.002%	0.0020%	0.0020%		
9	2019.06.06	12:09:17	Error	H_1.0_0.51b	-0.002%	-0.002%	-0.002%	-0.0020%	-0.0020%		
10	2019.06.06	12:10:15	Error	H_0.5L_0.51b	-0.012%	-0.012%	-0.012%	-0.0120%	-0.0120%		
11	2019.06.06	12:10:55	Error	H_0.866C_0.51b	0.002%	0.002%	0.002%	0.0020%	0.0020%		
12	2019.06.06	12:12:17	Error	A_1.0_Imax	-0.008%	-0.008%	-0.008%	-0.0080%	-0.0080%		
13	2019.06.06	12:14:42	Error	A_0.5L_Imax	0.030%	0.030%	0.030%	0.0300%	0.0300%		
14	2019.06.06	12:16:12	Error	A_0.866C_Imax	-0.013%	-0.013%	-0.013%	-0.0130%	-0.0130%		
15	2019.06.06	12:17:01	Error	A_1.0_21b	-0.006%	-0.006%	-0.006%	-0.0060%	-0.0060%		
16	2019.06.06	12:18:20	Error	A_0.5L_21b	-0.011%	-0.011%	-0.011%	-0.0110%	-0.0110%		
17	2019.06.06	12:19:12	Error	A_0.866C_21b	-0.003%	-0.003%	-0.003%	-0.0030%	-0.0030%		
18	2019.06.06	12:20:34	Error	A_1.0_0.51b	-0.001%	-0.001%	-0.001%	-0.0010%	-0.0010%		
19	2019.06.06	12:23:00	Error	A_0.5L_0.51b	-0.021%	-0.021%	-0.021%	-0.0210%	-0.0210%		
20	2019.06.06	12:24:30	Error	A_0.866C_0.51b	0.001%	0.001%	0.001%	0.0010%	0.0010%		
21	2019.06.06	12:25:52	Error	B_1.0_Imax	-0.008%	-0.008%	-0.008%	-0.0080%	-0.0080%		
22	2019.06.06	12:28:18	Error	B_0.5L_Imax	0.000%	0.000%	0.000%	0.0000%	0.0000%		
23	2019.06.06	12:29:48	Error	B_0.866C_Imax	-0.013%	-0.013%	-0.013%	-0.0130%	-0.0130%		
24	2019.06.06	12:30:58	Error	B_1.0_21b	-0.003%	-0.003%	-0.003%	-0.0030%	-0.0030%		
25	2019.06.06	12:31:57	Error	B_0.5L_21b	-0.030%	-0.030%	-0.030%	-0.0300%	-0.0300%		
26	2019.06.06	12:32:48	Error	B_0.866C_21b	0.002%	0.002%	0.002%	0.0020%	0.0020%		
27	2019.06.06	12:34:00	Error	B_1.0_0.51b	0.005%	0.005%	0.005%	0.0050%	0.0050%		
28	2019.06.06	12:36:30	Error	B_0.5L_0.51b	0.017%	0.017%	0.017%	0.0170%	0.0170%		
29	2019.06.06	12:38:00	Error	B_0.866C_0.51b	-0.003%	-0.003%	-0.003%	-0.0030%	-0.0030%		
30	2019.06.06	12:39:23	Error	C_1.0_Imax	-0.013%	-0.013%	-0.013%	-0.0130%	-0.0130%		
31	2019.06.06	12:41:49	Error	C_0.5L_Imax	-0.015%	-0.015%	-0.015%	-0.0150%	-0.0150%		

2.2.4. Exporting test result to excel format

At the system main page click 'Calibration result'



Select the meter and then click 'Export Excel'

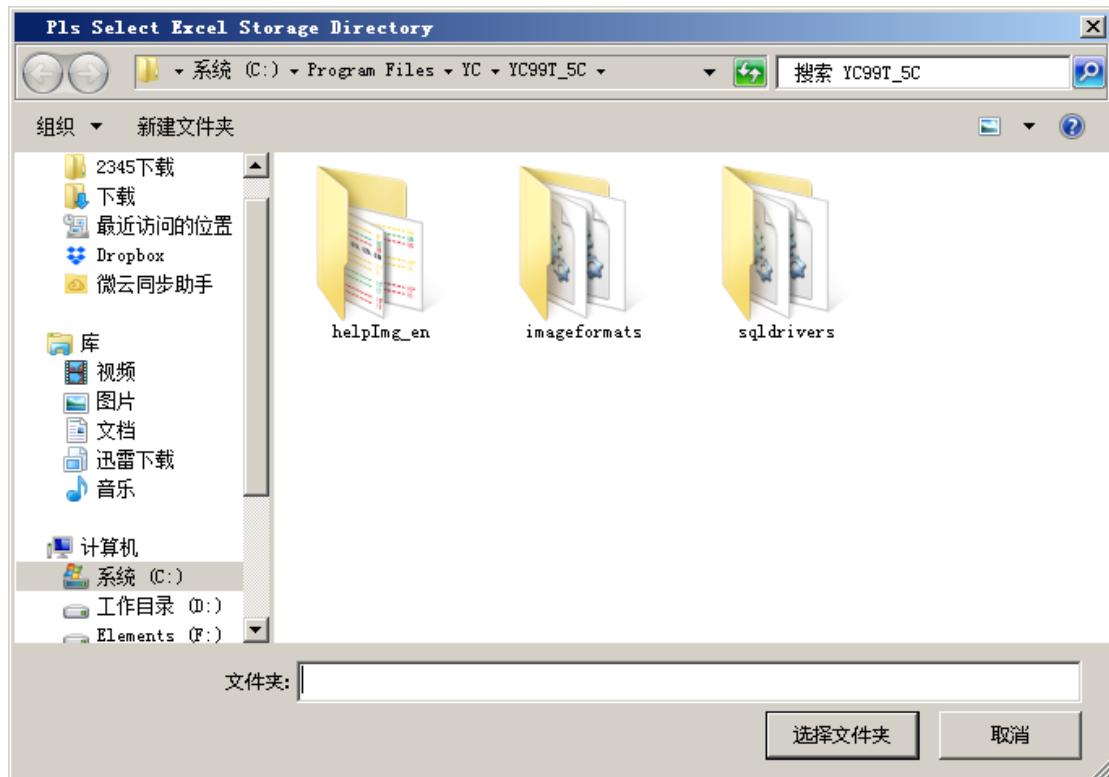
YC99T-SC

Read And Delete				
Sort		Type:	SN:	Calibration Time
1	Regular 3P4W Active Energy Meter	380V 10A	11	2019.06.06 13:25:26
2	Regular 3P4W Active Energy Meter	380V 10A	12	2019.06.06 13:25:26
3	Regular 3P4W Active Energy Meter	380V 10A	13	2019.06.06 13:25:26
4	Regular 3P3W Active Energy Meter	220V 1A 3P3W	1	2019.06.05 16:07:18
5	Regular 3P3W Active Energy Meter	220V 1A 3P3W	2	2019.06.05 16:07:18
6	Regular 3P3W Active Energy Meter	220V 1A 3P3W	3	2019.06.05 16:07:18
7	Regular 3P4W Active Energy Meter	220V 1A	1	2019.06.05 15:29:11
8	Regular 3P4W Active Energy Meter	220V 1A	2	2019.06.05 15:29:11
9	Regular 3P4W Active Energy Meter	220V 1A	3	2019.06.05 15:29:11
10	Multifunction 3P4W Multifunction Meter	220V 10A	1	2019.06.05 13:42:32
11	Multifunction 3P4W Multifunction Meter	220V 10A	2	2019.06.05 13:42:32
12	Multifunction 3P4W Multifunction Meter	220V 10A	3	2019.06.05 13:42:32
13	Regular 3P4W Active Energy Meter	380V 10A	1	2019.06.05 12:12:15
14	Regular 3P4W Active Energy Meter	380V 10A	2	2019.06.05 12:12:15

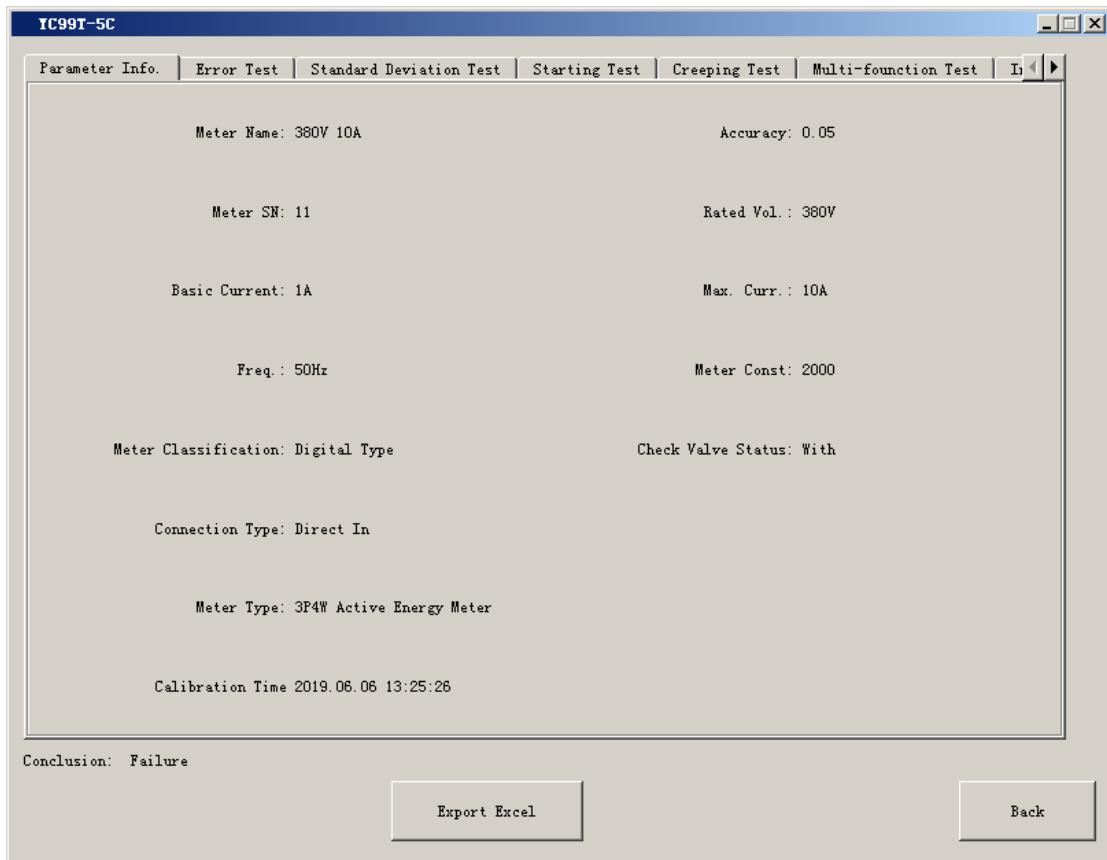
Search By Meter SN. Search By Time Slot
 Meter SN:
 From: 2019.06.06 13:32:41
 To: 2019.06.06 13:32:41

Read Record Delete Record Delete All Export Excel Import Results Back Search

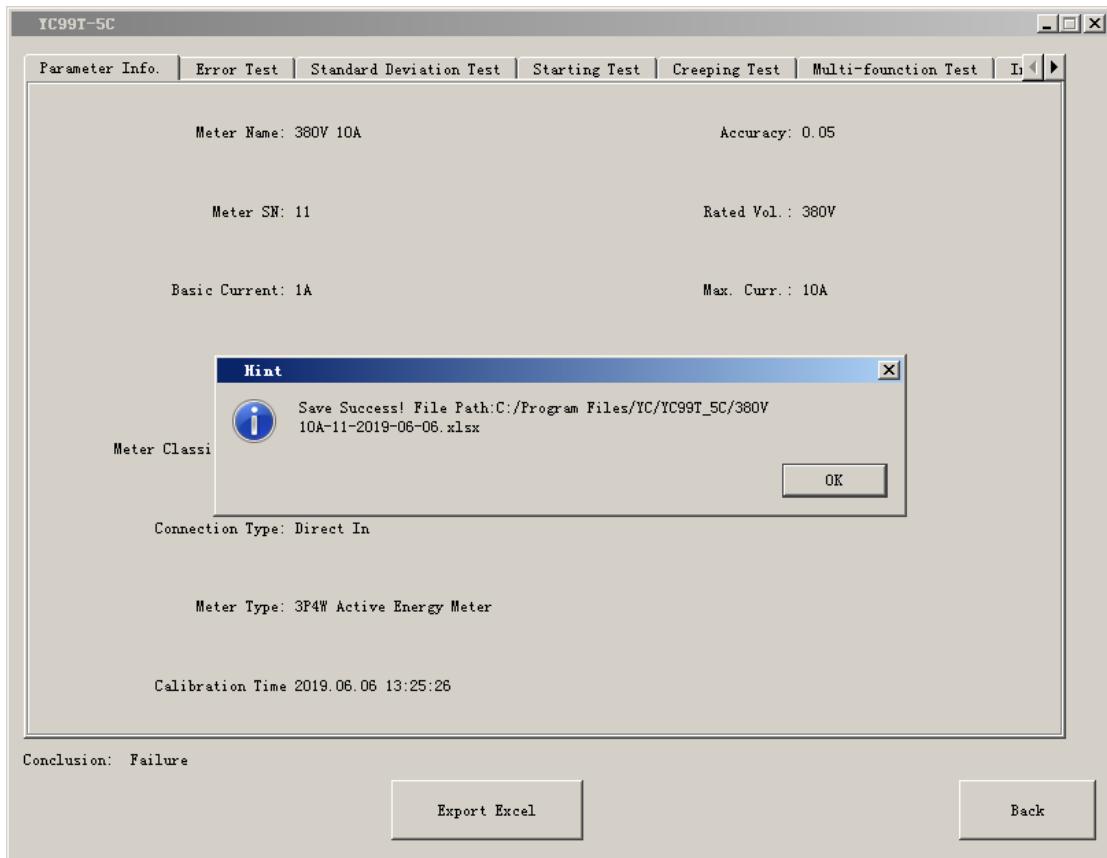
Select a save part for the file.



Then will see the calibration conclusion page for a few seconds.



And then a indication will pop out say the report has been save.



Finally we could get the excel report

Test report									
1	Meter Manufacture:		Meter Name:	380V 10A					
2	Meter SN:	11	Wiring Mode:	3P4W Active Energy Meter					
3	Meter Type:	Digital Type	Rated Voltage:	380V					
4	Basic Current:	1A	Maximum current:	10A					
5	Active Constant:	2000 imp/kWh	Reactive Constant:	0 imp/kvarh					
6	Active Accuracy:	0.05	Reactive Accuracy:						
7	Frequency:	50Hz							
8									
9									
10	Test Equipment:	YC99T-5C	Serial No.						
11	Temperature:		Humidity:						
12	Test Time:	2019/6/6 13:25	Test Conclusion:	Failure					
13									
14	No.	Test Item	Test Parameters	Test Requirements	Result 1	Result 2	Result 3	Result 4	Result 5
15	1	Error	H.1.0_imax	-0.05~+0.05_20	0.00%	0.00%	0%	0.00%	0.00%
16	2	Error	H.0.5L_imax	-0.05~+0.05_20	0.00%	0.00%	0.01%	0.01%	0.01%
17	3	Error	H.0.886C_imax	-0.05~+0.05_20	0.00%	-0.01%	0.00%	-0.01%	0.00%
18	4	Error	H.1.0_2lb	-0.05~+0.05_2	0.00%	0.00%	0.00%	0.00%	0.00%
19	5	Error	H.0.5L_2lb	-0.05~+0.05_2	-0.02%	-0.02%	-0.02%	-0.02%	-0.02%
20	6	Error	H.0.886C_2lb	-0.05~+0.05_2	0.00%	0.00%	0.00%	0.00%	0.00%
21	7	Error	H.1.0_0.5lb	-0.05~+0.05_1	0.00%	0.00%	0.00%	0.00%	0.00%
22	8	Error	H.0.5L_0.5lb	-0.05~+0.05_1	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%
23	9	Error	H.0.886C_0.5lb	-0.05~+0.05_1	0%	0.00%	0.00%	0.00%	0.00%
24	10	Error	A.1.0_imax	-0.05~+0.05_20	0.01%	-0.01%	-0.02%	-0.01%	-0.01%
25	11	Error	A.0.5L_imax	-0.05~+0.05_20	0.00%	0.00%	0.00%	0.00%	0.00%
26	12	Error	A.0.886C_imax	-0.05~+0.05_20	-0.01%	-0.02%	-0.01%	-0.01%	-0.01%
27	13	Error	A.1.0_2lb	-0.05~+0.05_2	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%

2.3. Multifunction meter

Multifunction Meter calibration involves the communication from machine to meter. Machine firmware needs to update to support the protocol of meter. Currently is only design for Chinese protocol (DLT654/2007) meter with RS485 communication.

Communication include: Detect Meter Address①, Setup Meter Address②.

VC99T-5C

Energy Meter Parameter

Meter Type:

Meter Name:	Reference Voltage:	Basic Current:
SZ-03A-K8 (100A)-multifunction	220 V	10 A

Max. Current: Freq.: Sensor Type Digital Type

100 A	50 Hz
-------	-------

Meter Const: Accuracy: Thru Transformer Direct In

200 imp/kWh	0.05
200 imp/kvarh	0.05

Check Valve No Check Valve

Serial No. And Meter Position

Meter Position	SN:	Meter Address	Meter Number
<input checked="" type="checkbox"/> 1#	21345		
<input checked="" type="checkbox"/> 2#	21346		
<input checked="" type="checkbox"/> 3#	21347		

SN: Start: 21345 Auto Numbering

DLT645/2007

① ②

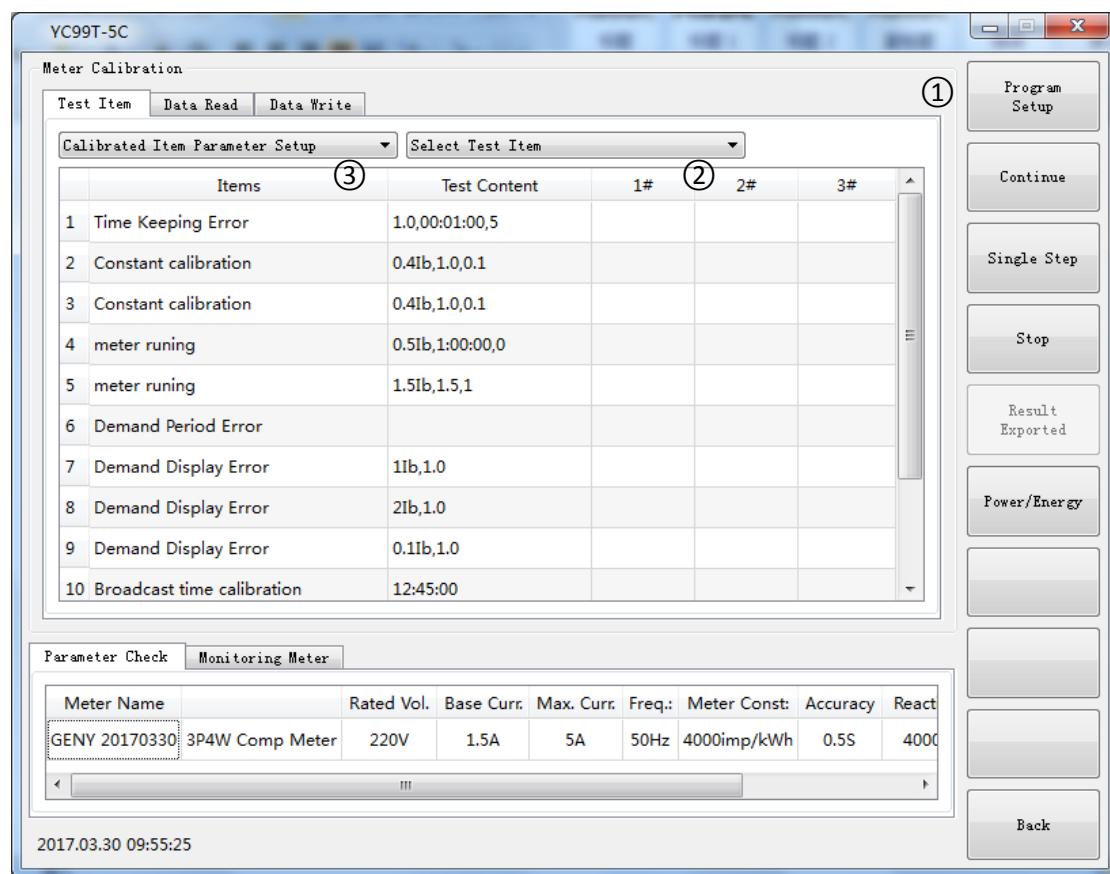
Back

This interface introduction can refer to [2. Meter Calibration](#)

Press “Multifunction meter” button go into Meter Calibration interface.

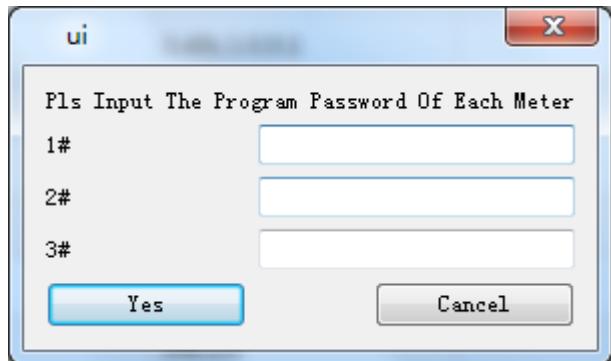
Following are the test items.

2.3.1. Test Item



To achieve the communication with meter, need to input the program pass word of each meter.

Press "Program Setup" ①



2.3.1.1. Select Test Item

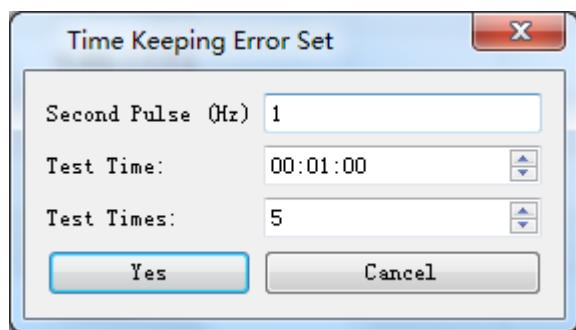
Include ②:

1. Time keeping error
2. Constant calibration
3. Meter running
4. Demand period error
5. Demand display error
6. Time slot error test
7. Tariff display error
8. Broadcast time calibration
9. Force to calibrate time
10. Frozen time
11. Voltage loss event
12. Voltage all loss event
13. Current loss event
14. Program event
15. Opening meter cover event
16. Voltage reversing phase sequence event
17. Power failure event
18. Clearing event

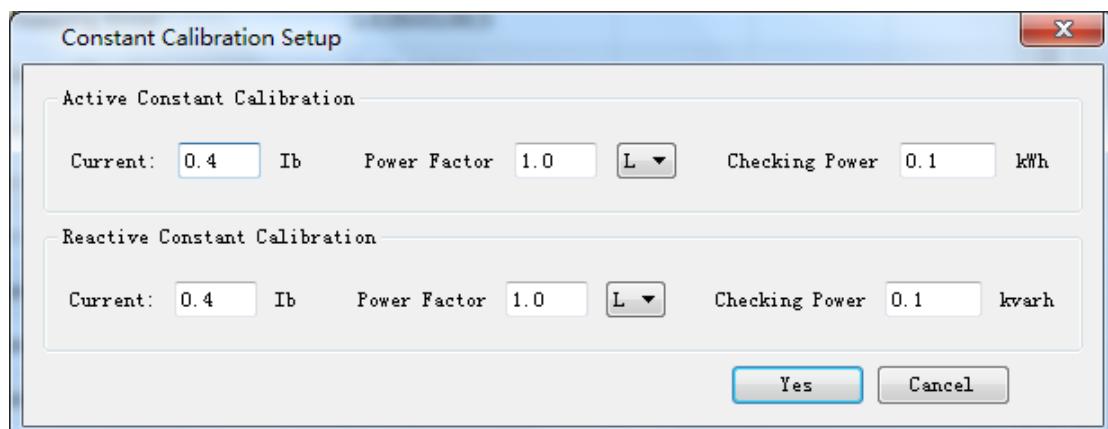
2.3.1.2. Calibrated Item Parameter Setup

Include ③:

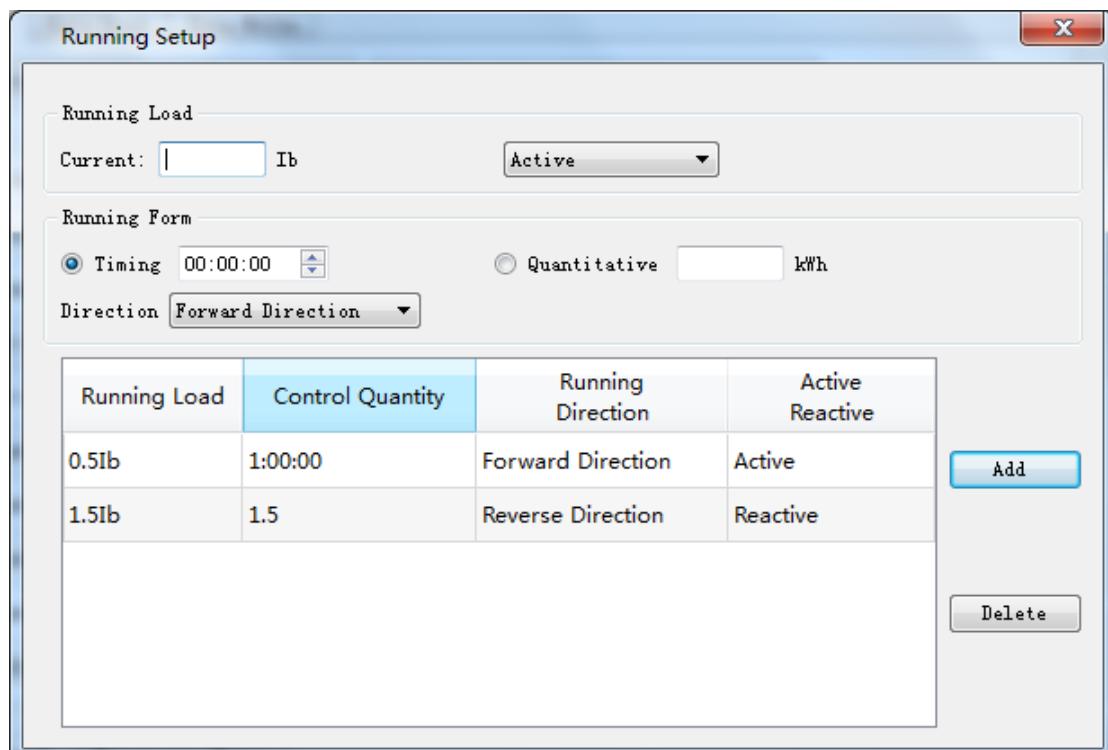
1. Time Keeping Error Set



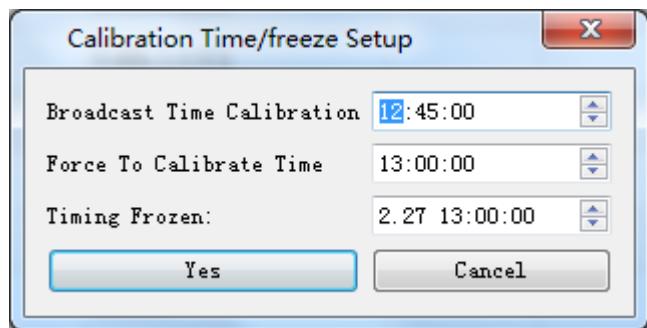
2. Constant Calibration Setup



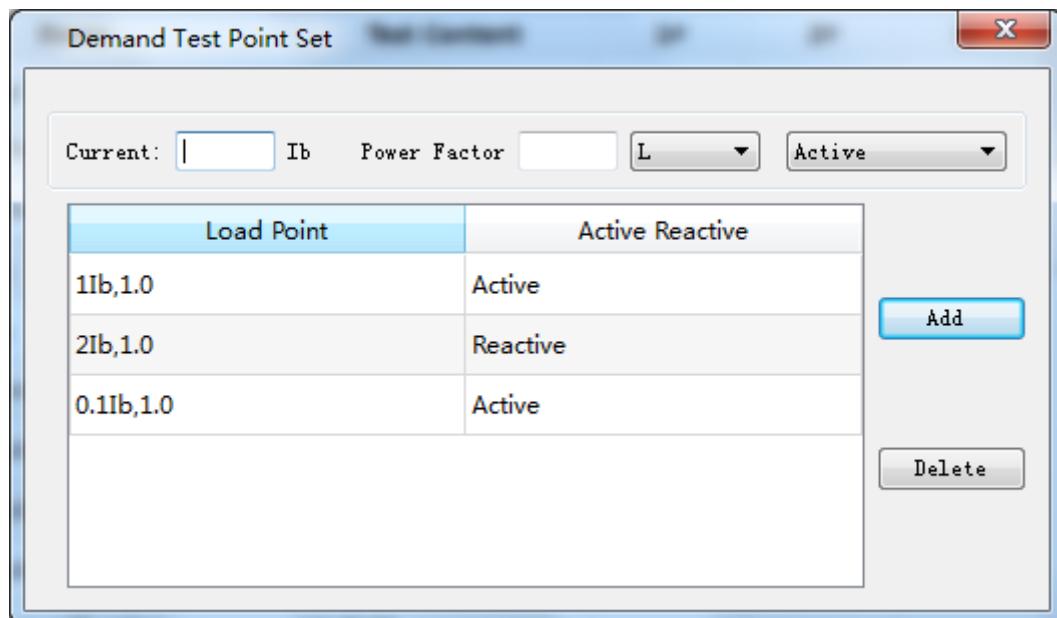
3. Running Setup



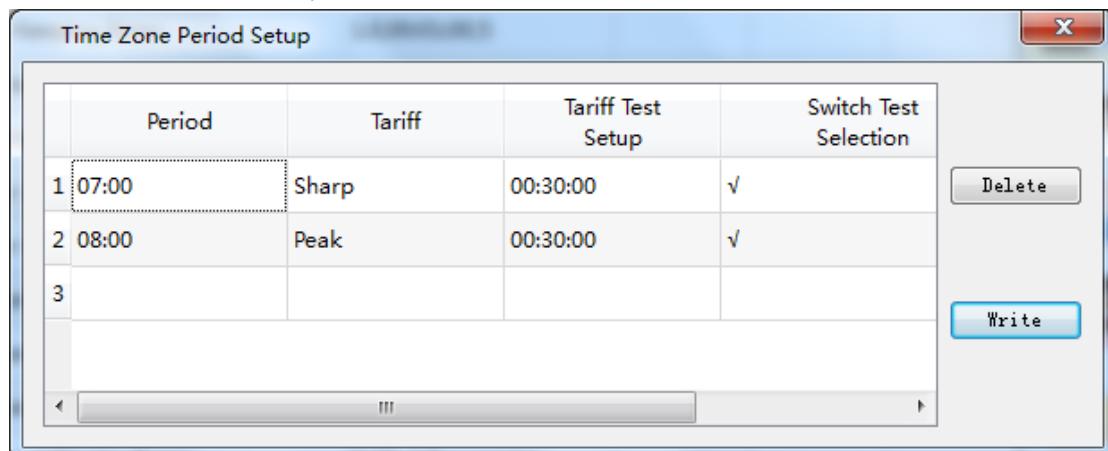
4. Calibration Time/ freeze Setup



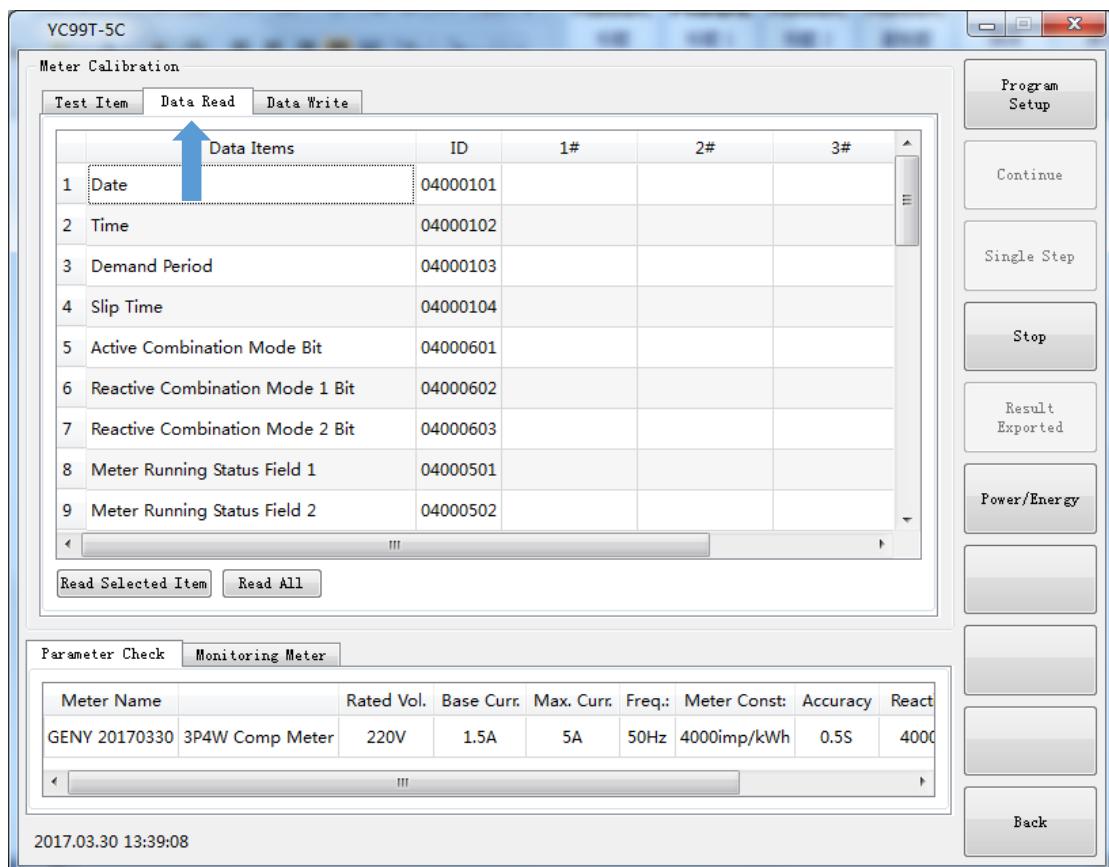
5. Demand Test Point Set



6. Time Zone Period Setup



2.3.2. Data Read

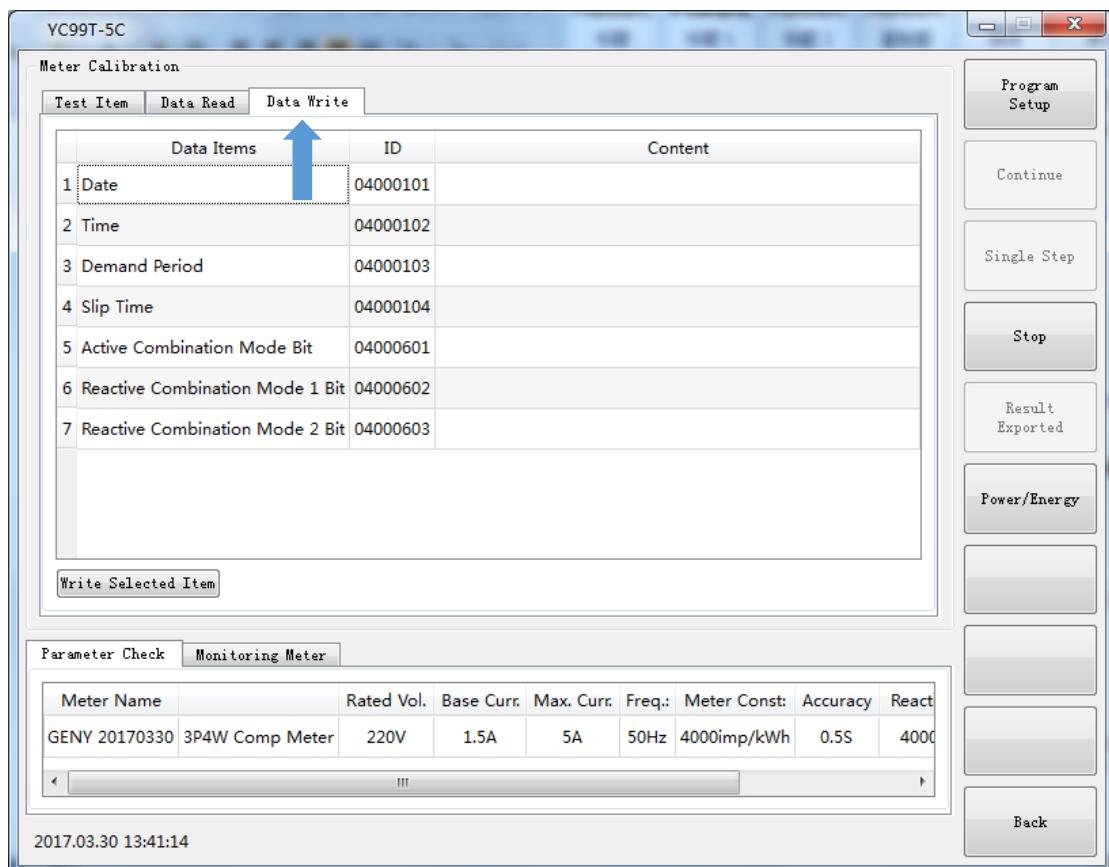


Data Read:

1. Date
2. Time
3. Demand Period
4. Slip time
5. Active Combination Mode Bit
6. Reactive Combination Mode 1 Bit
7. Reactive Combination Mode 2 Bit
8. Meter Running Status Field 1
9. Meter Running Status Field 2
10. Meter Running Status Field 3
11. Meter Running Status Field 4
12. Meter Running Status Field 5
13. Meter Running Status Field 6
14. Meter Running Status Field 7
15. Meter Clearing Totals Times
16. Program Total Times
17. Demand Clearing Total times
18. Events Clearing Total Times
19. Active Total Energy
20. Importing Active Total Energy
21. Active Demand
22. Max Demand of Importing Active Power

- 23. Max Demand of Exporting Active Power
- 24. Reactive Total Energy of 1st Quadrant
- 25. Reactive Total Energy of 2nd Quadrant
- 26. Reactive Total Energy of 3rd Quadrant
- 27. Reactive Total Energy of 4th Quadrant
- 28. Reactive Demand
- 29. Total Max. Demand of Reactive Power 1
- 30. Total Max. Demand of Reactive Power 2
- 31. Total Max. Demand of 1st Quadrant
- 32. Total Max. Demand of 2nd Quadrant
- 33. Total Max. Demand of 3RD Quadrant
- 34. Total Max. Demand of 4th Quadrant

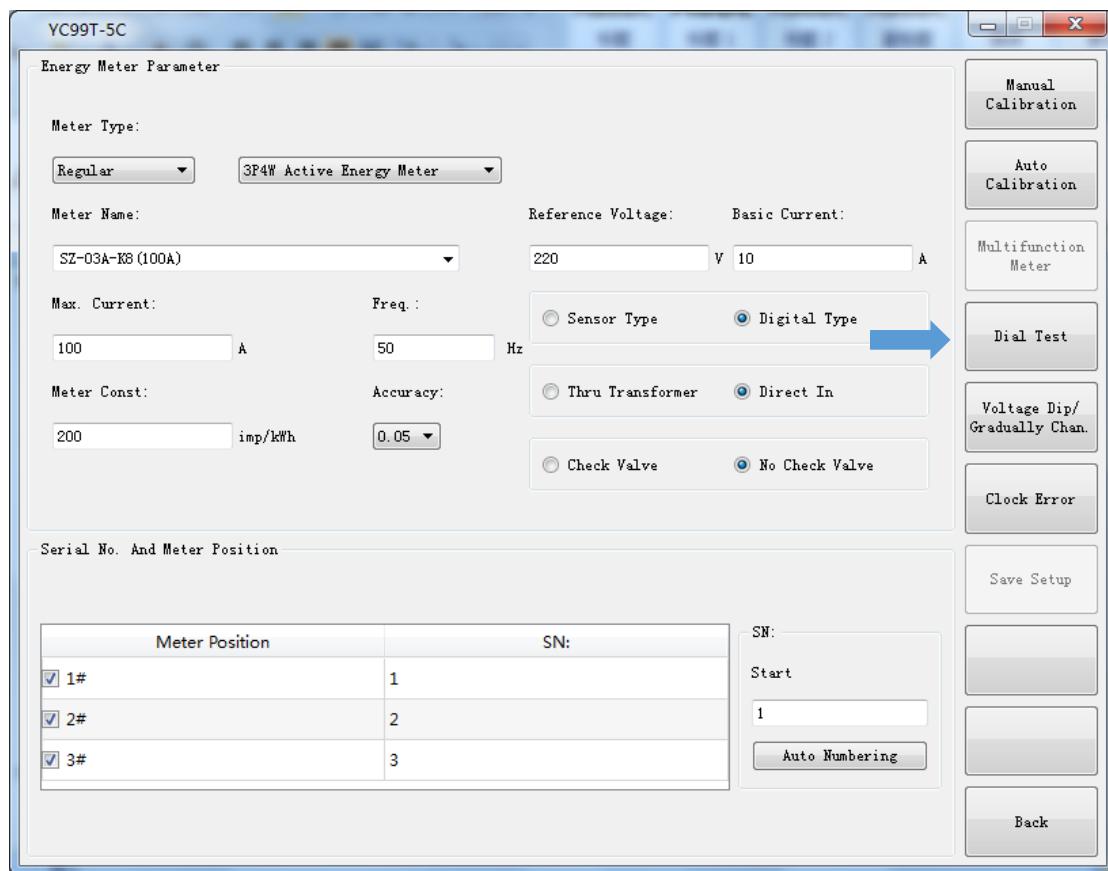
2.3.3. Data Write



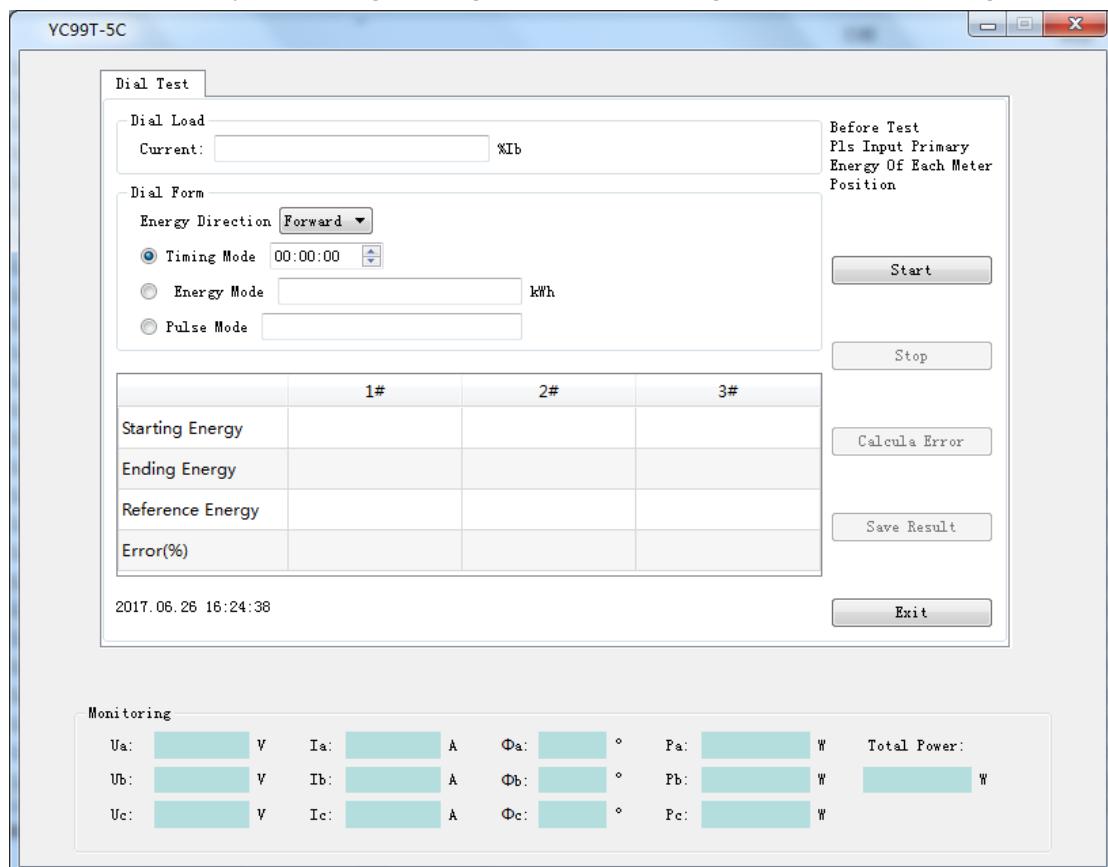
Date Write:

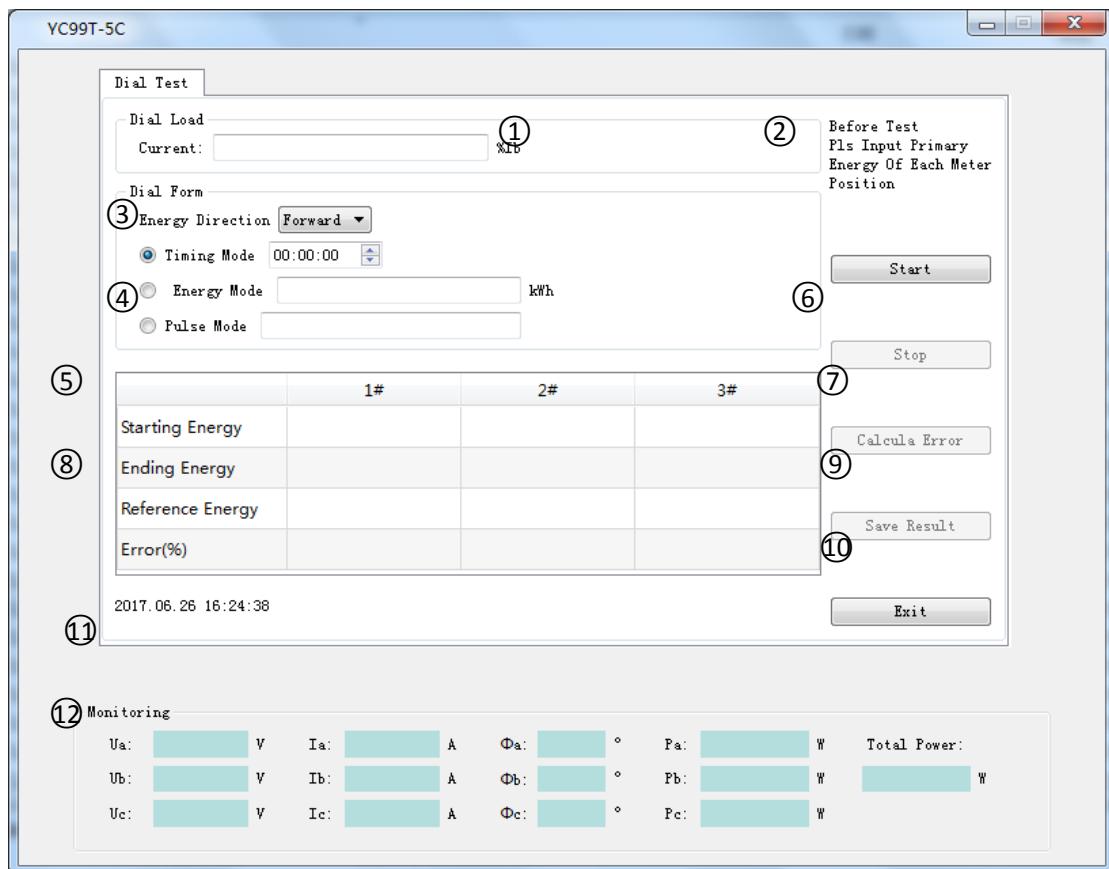
1. Date
2. Time
3. Demand Period
4. Slip time
5. Active Combination Mode Bit
6. Reactive Combination Mode 1 Bit
7. Reactive Combination Mode 2 Bit

2.4. Dial test



Dial test has three option: Timing Running, Quantitative Running and Rated Pulse Running.



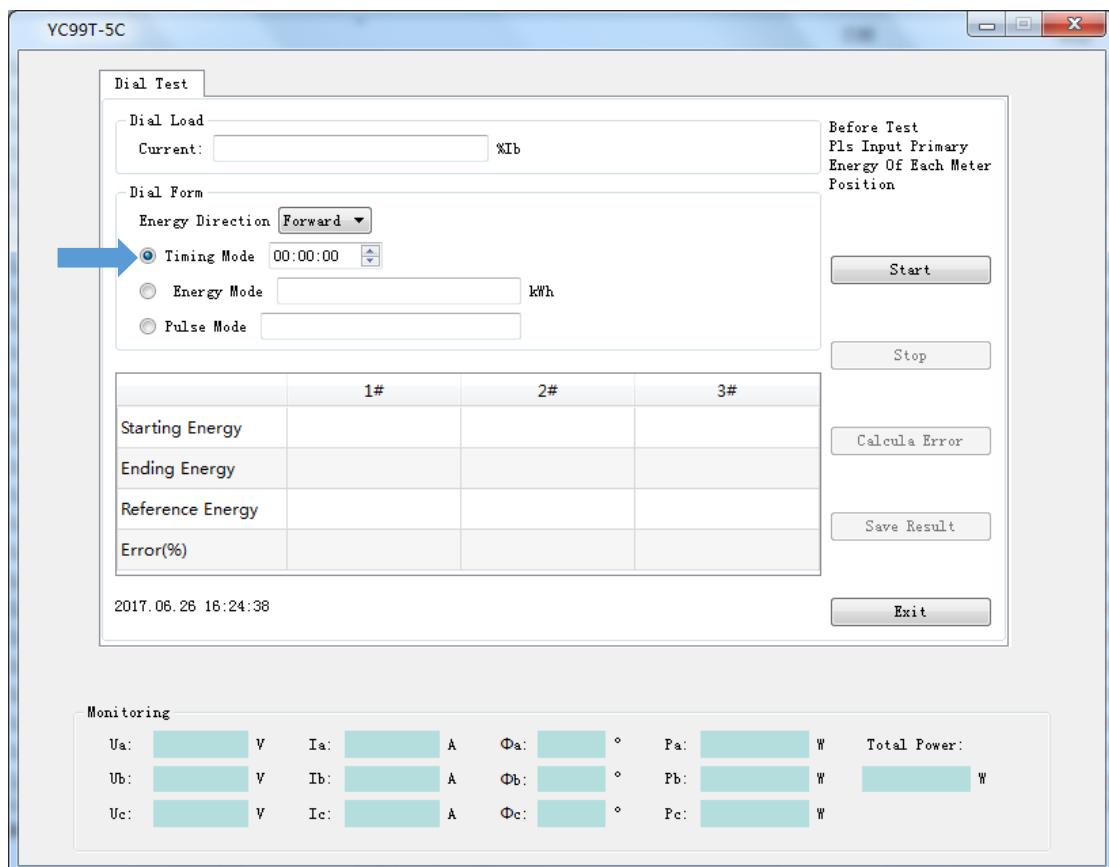


Test Steps as follow:

1. **Running load:** Set current on Ib%, setting value is not larger than Imax.
2. **Before test please input primary energy of each meter.**
3. **Running Direction:** Select forward or reverse direction of current.
4. **Test mode:** Choose from one of the three test mode and setting its parameter.
5. **Starting Electric Quantity:** Inputting tested meter start test register energy.
6. **Start Running:** Power up the power source and click “Start Running”.
7. **Stop Running:** Can stop the test at any time. Current will drop to zero and voltage maintain.
8. **Ending Electric Quantity:** Inputting tested meter end test register energy.
9. **Calculate Error:** Click “Calculate Error” to calculate the test result.
10. **Save result:** Save the test result.
11. **Quit Running:** Back to the [Meter Running](#) interface.
12. **Monitoring:** Real time display output value.

2.4.1. Timing Mode

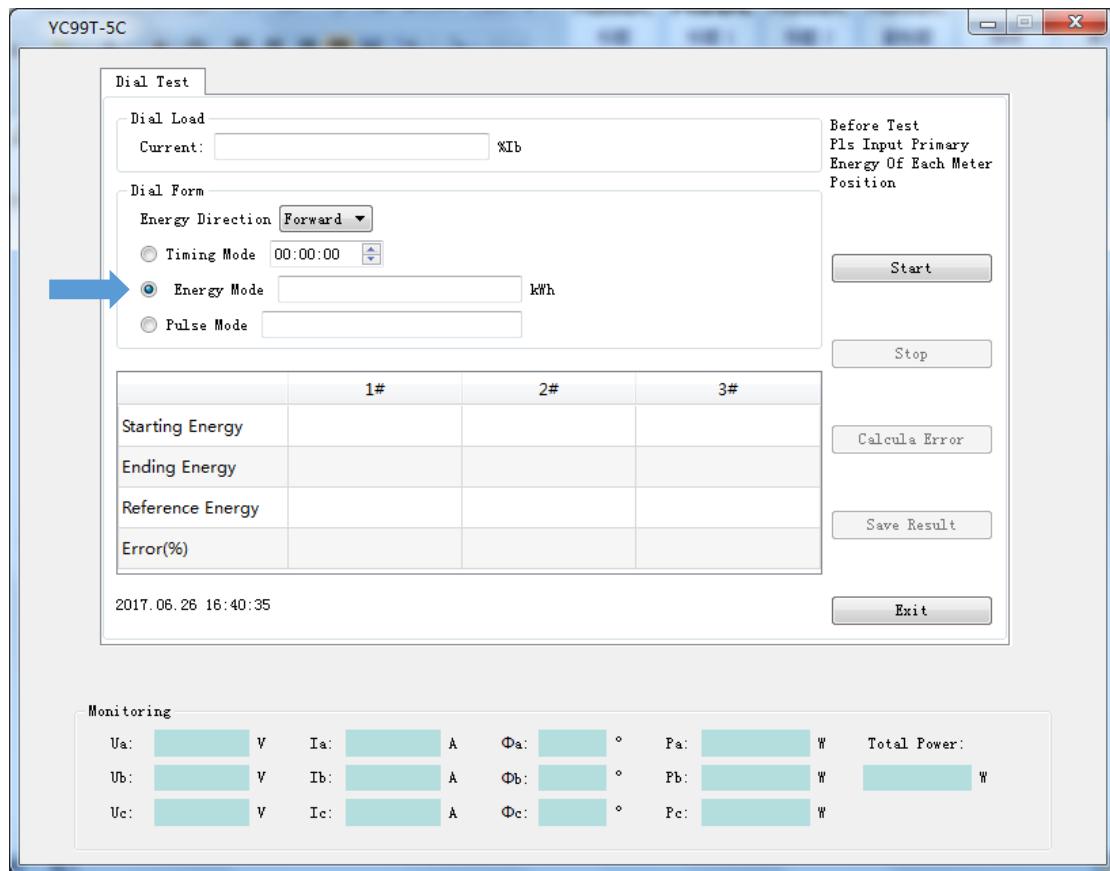
Preset the test time duration.



Maximum test time is 23:59:59

2.4.2. Energy mode

Preset the test energy. Power source accumulated energy as standard energy.

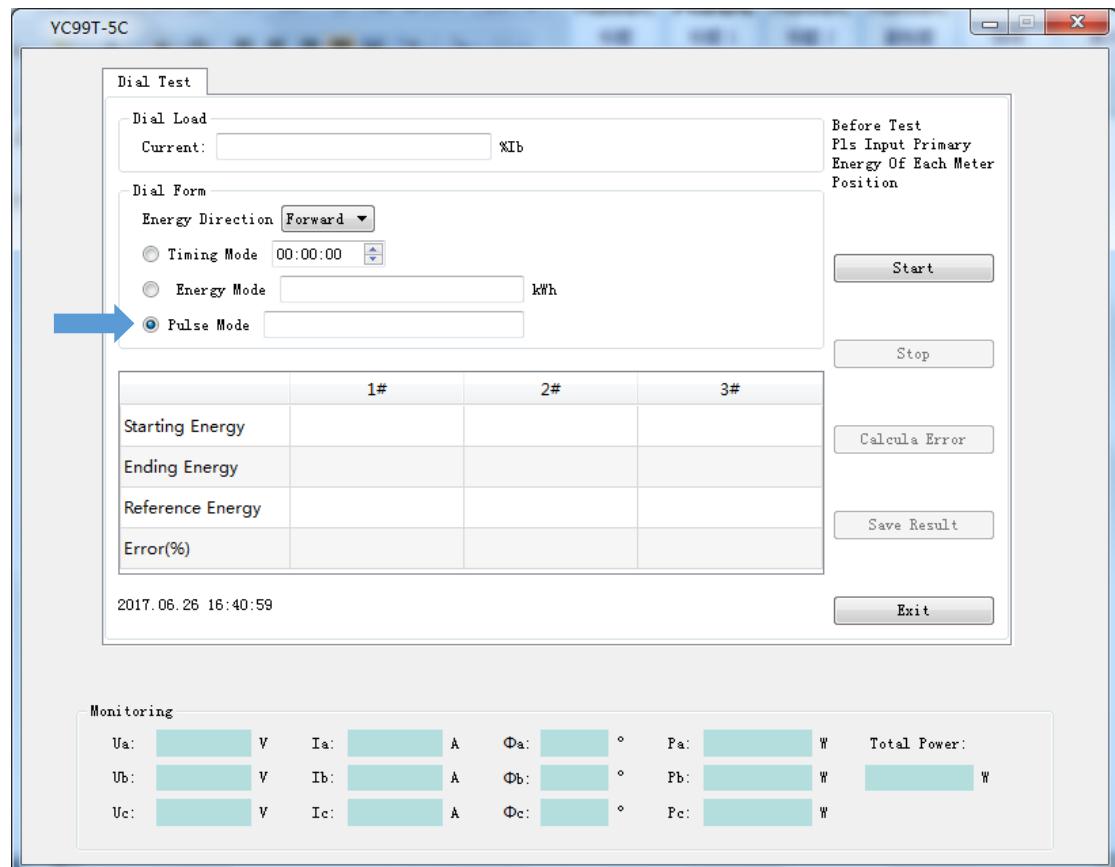


Maximum test energy is 99 KWh.

2.4.3. Rated Pulse Running

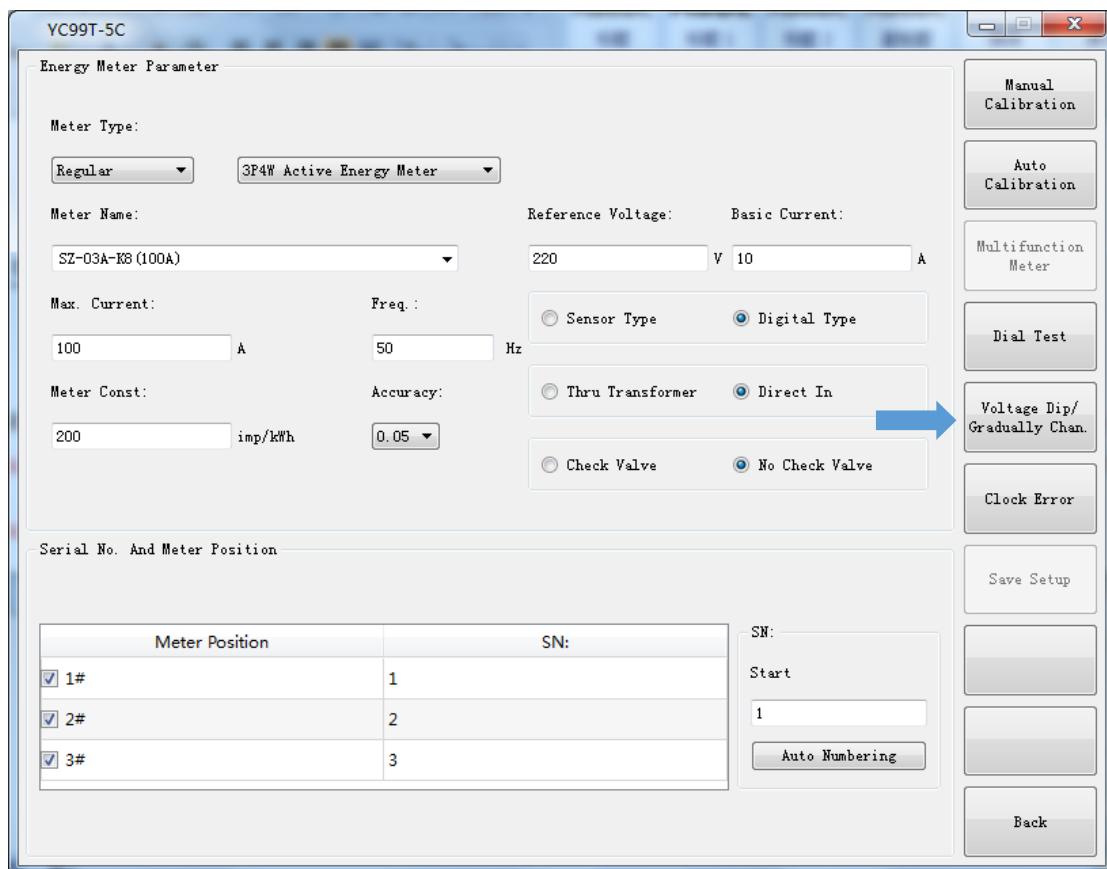
Preset the number of pulse of tested meter. Test will not stop until the last meter reach the

setting pulse number.

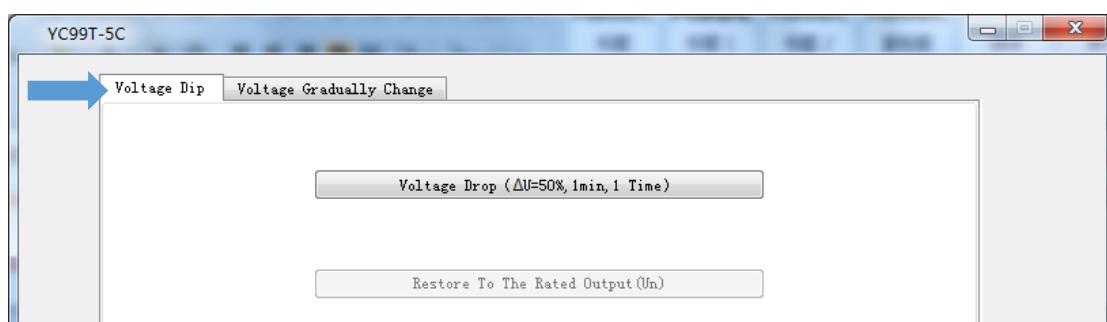


Maximum test pulse number is 999999.

2.5. Voltage Temporary Decline



Voltage drop to 50% of rated voltage for one minutes. After that, voltage resume to normal range. Visually judge the meter's working condition. When test finished, manually select the test result. ①



①

②

③

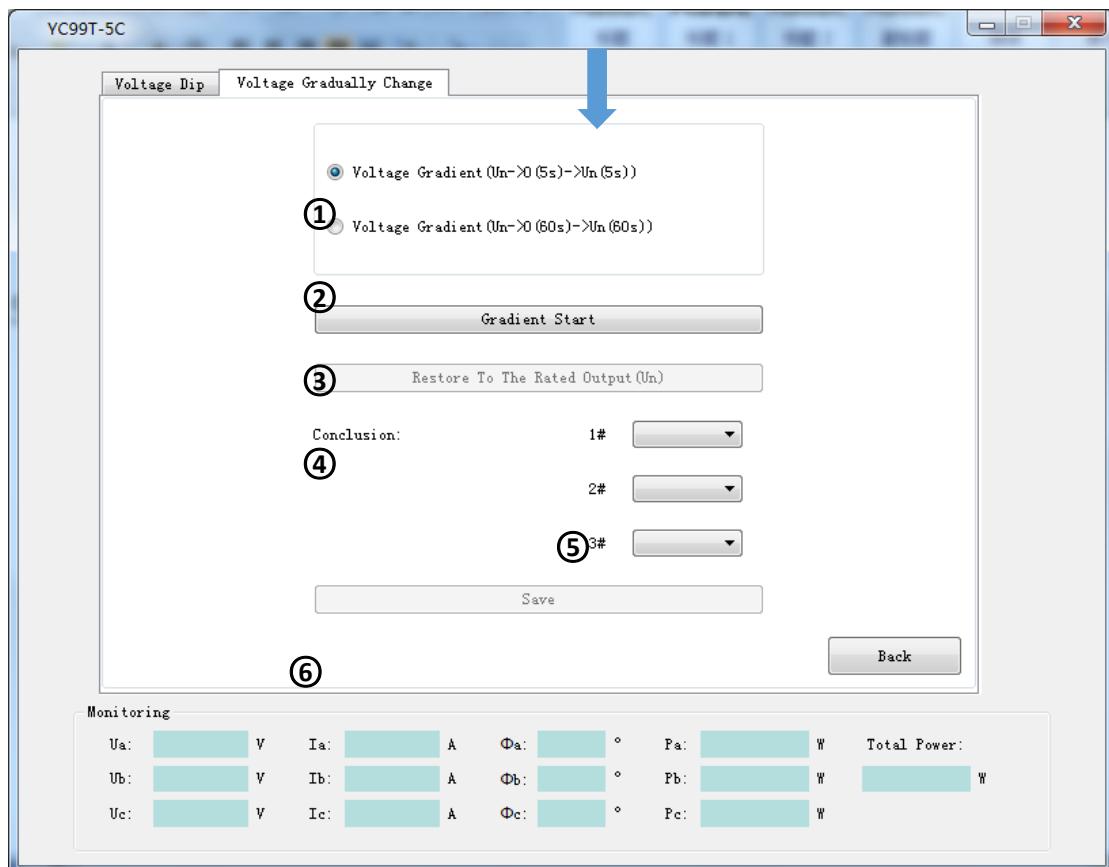
④

⑤

⑥

1. **Voltage Drop ($\Delta U=50\%$, 1 min, 1 Time):** Test start, drop to 50% of voltage 1 time per minutes.
2. **Restore To the Rated Output (Un):** Test stop.
3. **1#, 2#, 3#:** Meter position, select to test conclusion.
4. **Save:** Save test result.
5. **Back:** Back to meter calibration interface.
6. **Monitoring:** Real time display output value.

2.5.1. Voltage Gradually Change



1. **Voltage Gradient (Un->0(5s)->(5s)):** Voltage gradually decrease from Un to zero in 5s, and then increase back the Un in 5S.
2. **Voltage Gradient (Un->0(60s)->(60s)):** Voltage gradually decrease from Un to zero in 60s, and then increase back the Un in 60S.
3. **Gradient Start:** Start the test
4. **Restore To the Rated Output(Un):** Stop the test
5. **1#, 2#, 3#:** Meter position, select to test conclusion.
6. **Save:** Save test result.

2.6. Clock error(Time clock error)

YC99T-5C

Energy Meter Parameter

Meter Type: Regular 3P4W Active Energy Meter

Meter Name: 344 Reference Voltage: 100 V Basic Current: 1 A

Max. Current: 10 A Freq.: 50 Hz Sensor Type Digital Type

Meter Const: 1000 imp/kWh Accuracy: 0.05 Thru Transformer Direct In

Check Valve No Check Valve

Serial No. And Meter Position

Meter Position	SN:
1#	123
2#	124
3#	125

SN: Start 123 Auto Numbering

Buttons:

- Manual Calibration
- Auto Calibration
- Multifunction Meter
- Dial Test
- Voltage Dip/ Gradually Chan.
- Clock Error
- Save Setup
- Back

ui

④ Start

⑤ Stop

⑦ Save

① Second Pulse (Hz) ② Single Test Time ③ Test Times: 1

1# 2# 3#

⑥ Error (Sec./day)

2016.08.25 16:50:00 ⑧ Back

This test requires the meter equipment with time pulse output function, use crocodile clips to connect pulse output of meter.

- 1. Second Pulse (Hz):** Input the meter time pulse frequency.
- 2. Single Test Time:** Setting test time.
- 3. Test Times: Setting:** test repeat times.
- 4. Start:** Start the test.
- 5. Stop:** Stop the test.
- 6. Error (Sec./day):** Showing daily time error result.
- 7. Save:** Save test result.
- 8. Back:** Back to Energy meter parameter setting page.

2.7. Save Setup

YC99T-5C

Energy Meter Parameter

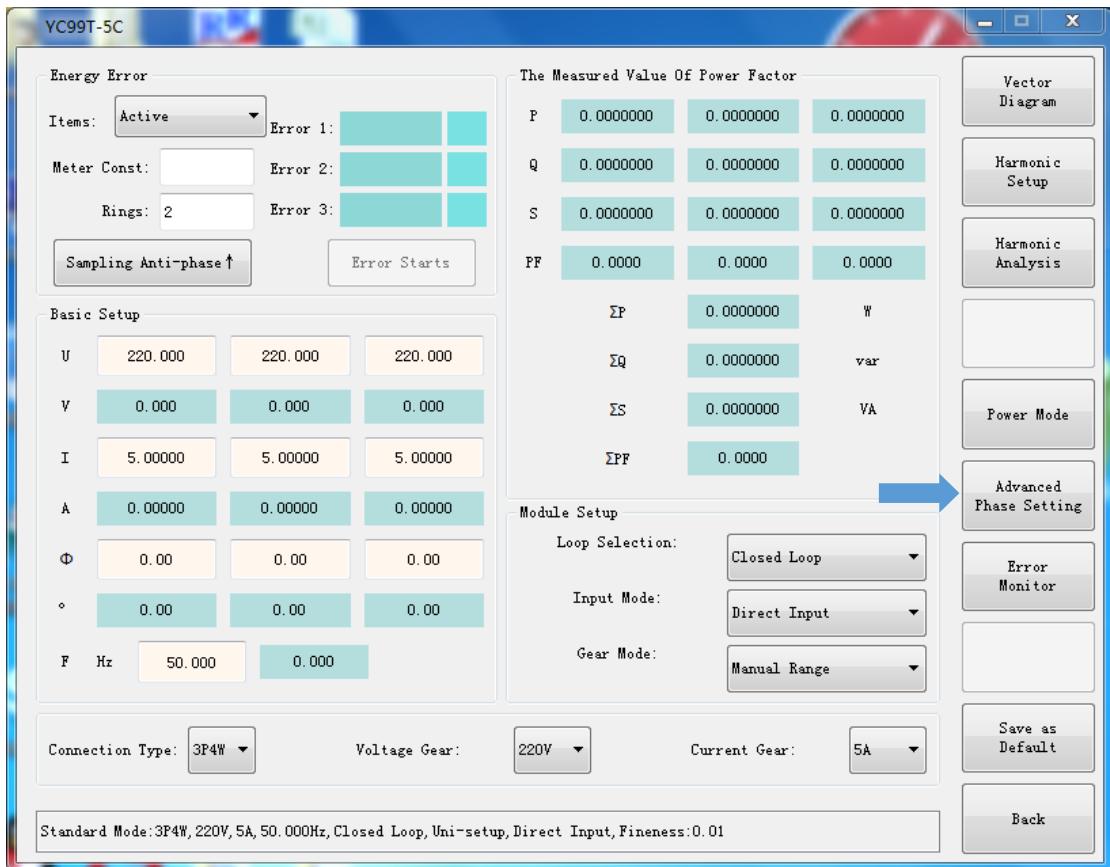
Meter Type:	Regular	3P4W Comp Meter	Manual Calibration							
Meter Name:	GENY 130330	Reference Voltage:	Basic Current:							
Max. Current:	5 A	220 V	1 A							
Meter Const:	4000 imp/kWh	Freq.:	Sensor Type Digital Type							
	4000 imp/kvarh	50 Hz	Thru Transformer Direct In							
Accuracy:	0.5S	Check Valve	No Check Valve							
Serial No. And Meter Position										
<table border="1"> <thead> <tr> <th>Meter Position</th> <th>SN:</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/> 1#</td> <td>23456</td> </tr> <tr> <td><input checked="" type="checkbox"/> 2#</td> <td>23457</td> </tr> <tr> <td><input checked="" type="checkbox"/> 3#</td> <td>23458</td> </tr> </tbody> </table>		Meter Position	SN:	<input checked="" type="checkbox"/> 1#	23456	<input checked="" type="checkbox"/> 2#	23457	<input checked="" type="checkbox"/> 3#	23458	SN: Start 23456 Auto Numbering Back
Meter Position	SN:									
<input checked="" type="checkbox"/> 1#	23456									
<input checked="" type="checkbox"/> 2#	23457									
<input checked="" type="checkbox"/> 3#	23458									

In this interface, input meter parameter and press Save Setup to create a new meter. Same function as [Meter management](#).

3.3-Phase source

Switching between two mode by pressing Advanced Phase Setting/ Energy error

3.1. Mode 1, Energy Error



Energy Error

Items: Active/Digital reactive/Sensor reactive

Meter constant: from 1 to 999999

Rings: from 1-999

Error 1, Error2, Error3: Error result of 1st meter, 2nd meter and 3rd meter.

Sampling Anti-phase ↑ : Pulse sensor mode.

Error Start: Start for error calculation

Basic Setup:

Press external key board “F6” to select unity setting or individual phase. Input value and press enter.

U: From 0.1 to 456V

V: Voltage real time monitoring

I: From 0.0001 to 120A

A: Current real time monitoring

Φ : From 0.01 to 359.99

° : Phase position real time monitoring

F Hz: From 40 to 70 Hz

F Hz: Frequency real time display

Connection Type: 3PW4/ 3P3W

Voltage Gear: Voltage range including 57.7V, 100V, 220V, 380V, default setting is 220V. Voltage range selection is activated with Manual Range mode.

Current Gear: Voltage range including 0.05A, 0.2A, 1A, 5A, 20A, 100A, default setting is 5A.

Current range selection is activated with Manual Range mode.

The Measured Value of Power Factor

P: Active power

Q: Reactive power

S: Appearance power

PF: Power factor

ΣP : Sum up of active power

ΣQ : Sum up of reactive power

ΣS : Sum up of appearance power

ΣPF : Sum up of power factor

Module Setup

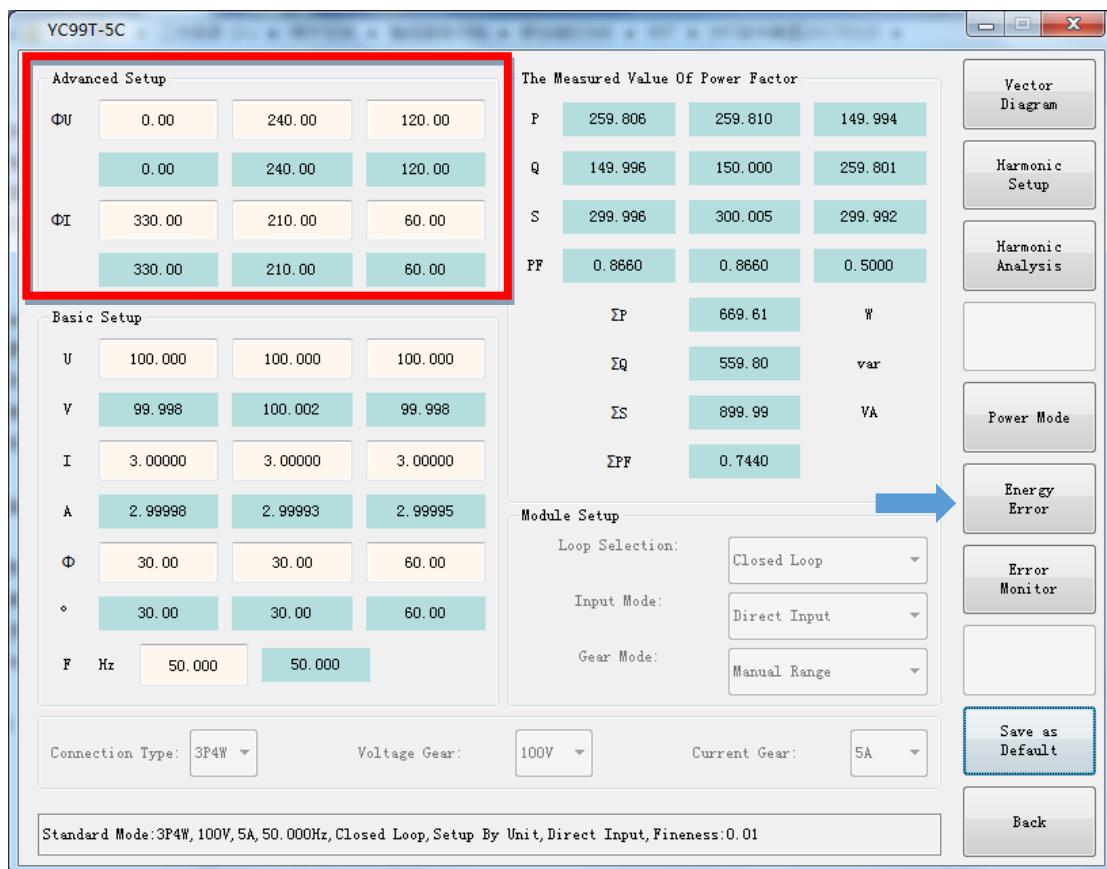
Loop Selection: Close loop/ open loop

Input mode: Direct Input/ Percentage Input

Remark: Percentage input only activated at Manual range.

Gear mode: Auto Range/ Manual range

3.2. Mode 2, Advanced Phase Setting



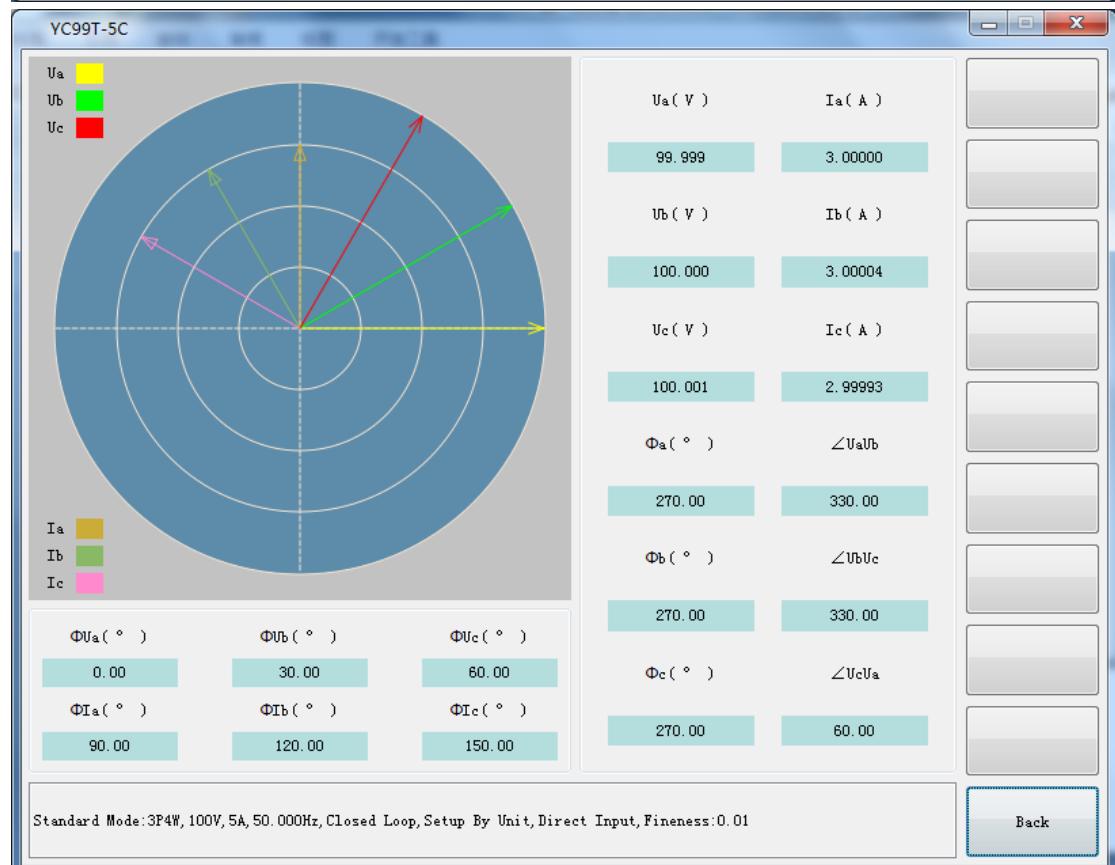
Different to mode 1(Energy Error) as:

Advance Setup high light in red color

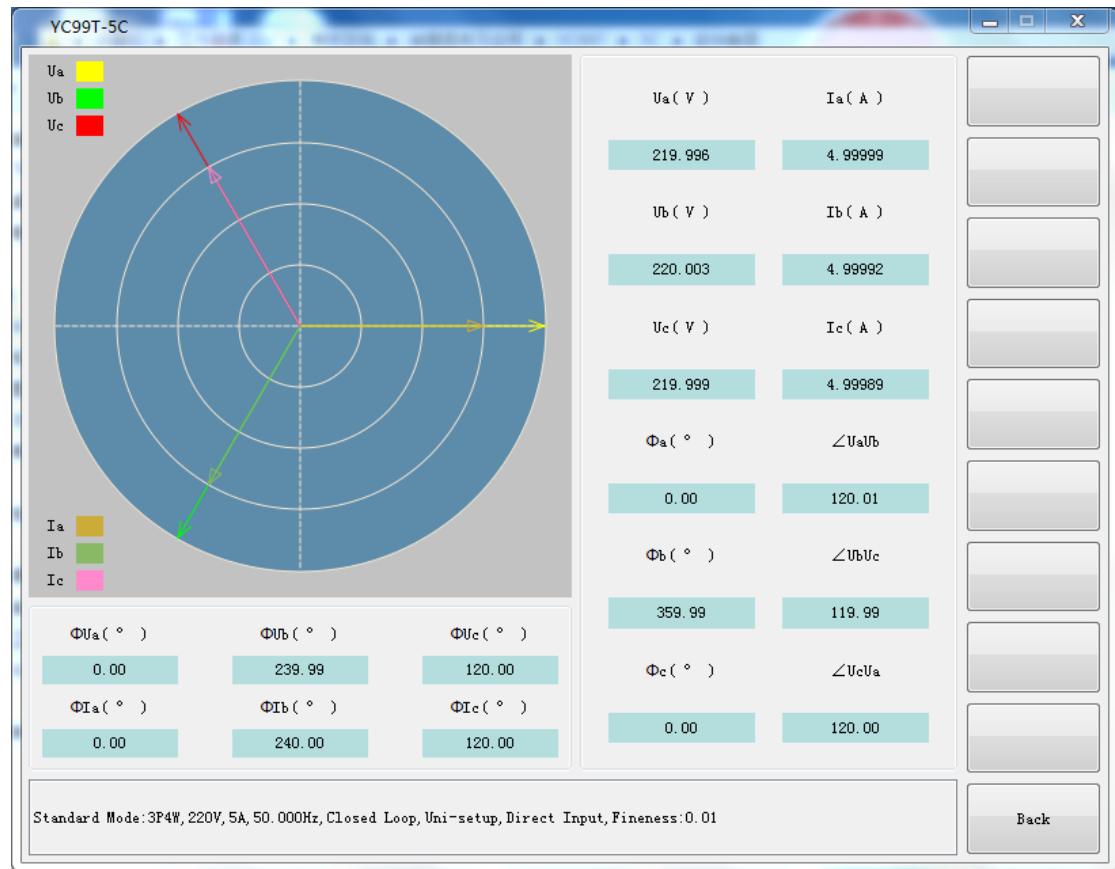
Φ U: Set to any phase angle at voltage.

Φ I: Set to any phase angle at current.

Example:



3.3. Vector Diagram



3.4. Harmonic Setup

The screenshot shows the YC99T-5C software interface for harmonic setup. It features a large table where users can input values for various harmonics from 2nd to 17th. The columns represent the magnitude and phase of each component:

	$U_a(%)$	$U_a(^{\circ})$	$U_b(%)$	$U_b(^{\circ})$	$U_c(%)$	$U_c(^{\circ})$	$I_a(%)$	$I_a(^{\circ})$	$I_b(%)$	$I_b(^{\circ})$	$I_c(%)$	$I_c(^{\circ})$
2nd												
3rd												
4th												
5th												
6th												
7th												
8th												
9th												
10th												
11th												
12th												
13th												
14th												
15th												
16th												
17th												

At the bottom, there are controls for "U/I" selection, "Mode" (set to "Setup Alone"), and buttons for "Harmonic Output Updating", "Previous Page", "Next Page", and "Back".

YC99T-5C

	Ua(%)	Ua(°)	Ub(%)	Ub(°)	Uc(%)	Uc(°)	Ia(%)	Ia(°)	Ib(%)	Ib(°)	Ic(%)	Ic(°)
18th												
19th												
20th												
21th												
22th												
23th												
24th												
25th												
26th												
27th												
28th												
29th												
30th												
31th												
32th												
33th												

U/I: U I Mode: Setup Alone ▾

Harmonic Output Updating Previous Page Next Page Back

YC99T-5C

	Ua(%)	Ua(°)	Ub(%)	Ub(°)	Uc(%)	Uc(°)	Ia(%)	Ia(°)	Ib(%)	Ib(°)	Ic(%)	Ic(°)
34th												
35th												
36th												
37th												
38th												
39th												
40th												
41th												
42th												
43th												
44th												
45th												
46th												
47th												
48th												
49th												

U/I: U I Mode: Setup Alone ▾

Harmonic Output Updating Previous Page Next Page Back

YC99T-5C

	Ua(%)	Ua(°)	Ub(%)	Ub(°)	Uc(%)	Uc(°)	Ia(%)	Ia(°)	Ib(%)	Ib(°)	Ic(%)	Ic(°)
50th												
51th												
52th												
53th												
54th												
55th												
56th												
57th												
58th												
59th												
60th												
61th												
62th												
63th												

U/I: U I Mode: Setup Alone ▾ Harmonic Output Updating Previous Page Next Page Back

YC99T-5C

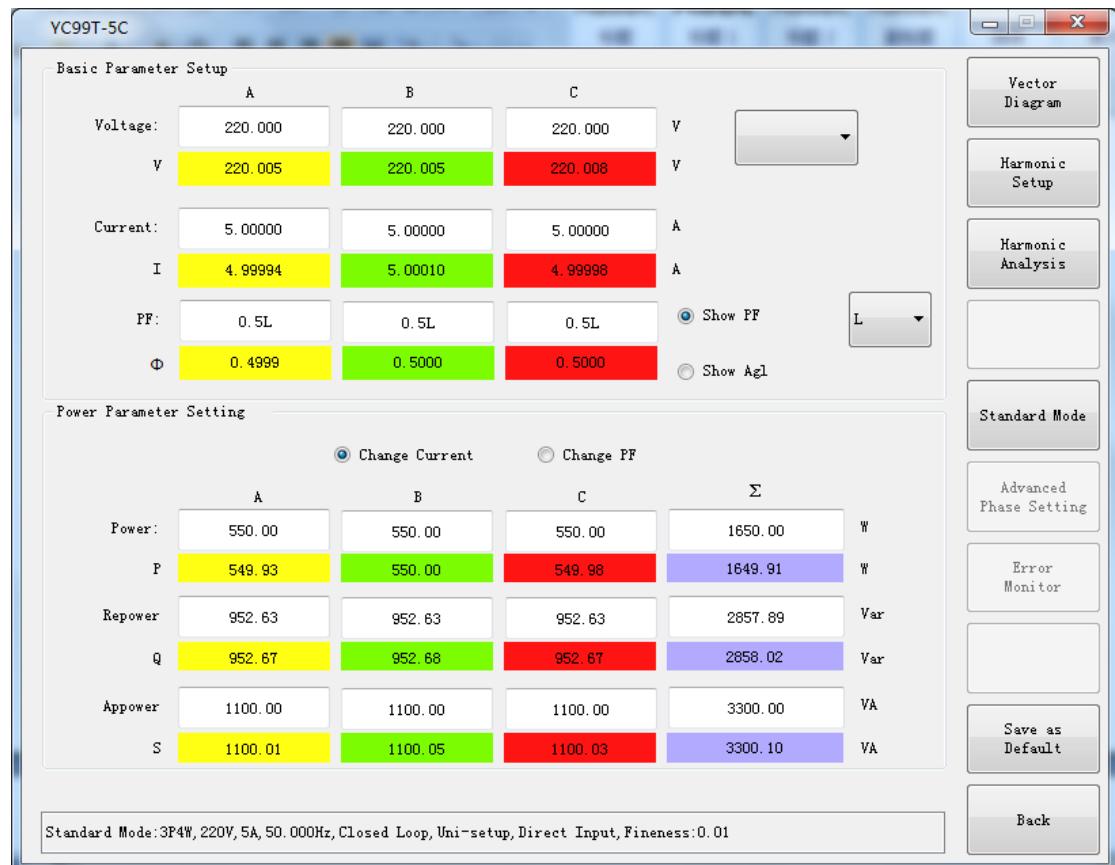
	Ua(%)	Ua(°)	Ub(%)	Ub(°)	Uc(%)	Uc(°)	Ia(%)	Ia(°)	Ib(%)	Ib(°)	Ic(%)	Ic(°)
2nd												
3rd												
4th												
5th												
6th												
7th												
8th												
9th												
10th												
11th												
12th												
13th												
14th												
15th												
16th												
17th												

U/I: U I Mode: Setup Alone ▾ Harmonic Output Updating Previous Page Next Page Back

Maximum of harmonica content is 40%.

3.5. Power Mode

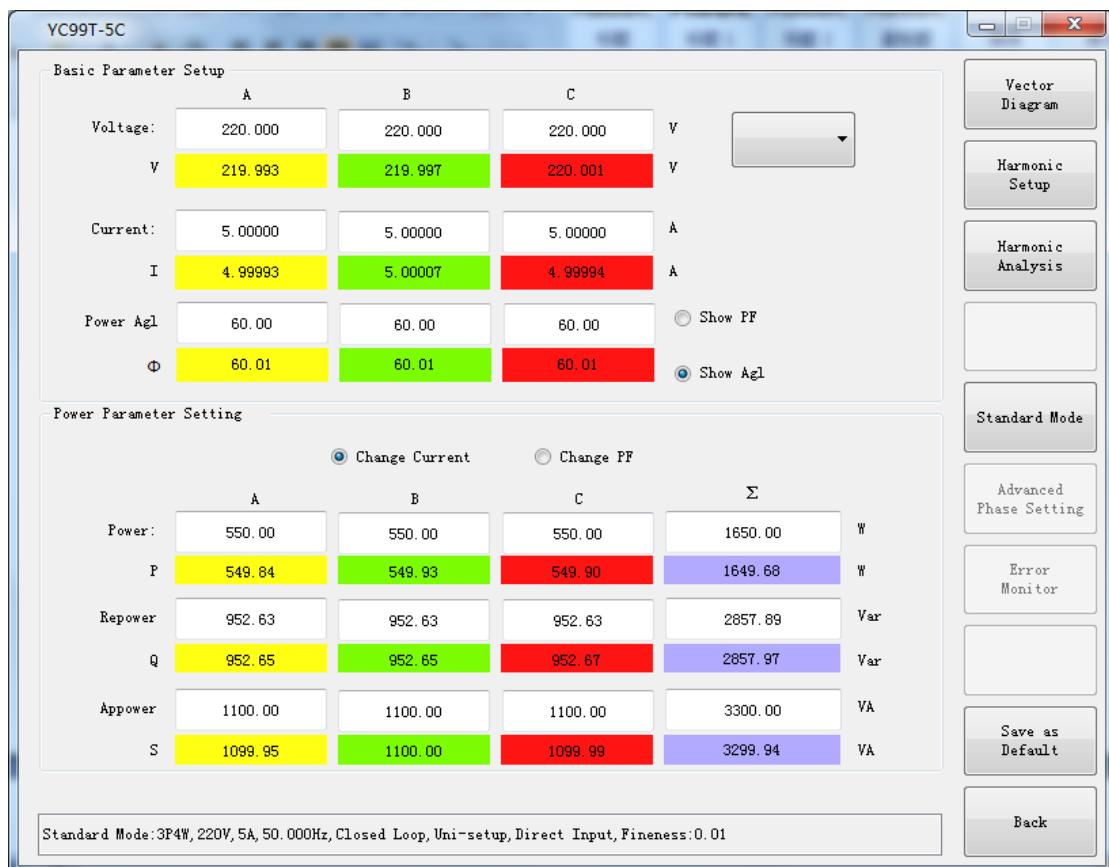
3.5.1. Show Power Factor



Change Current: Manual setting the power output value, current will adjust accordingly, voltage will remain the same.

Change PF: Manual setting the power output value, power factor will adjust accordingly, voltage will remain the same.

3.5.2. Show Angle



Change Current 和 Change PF 的区别是什么？

Vector Diagram: Same as

Harmonic Setup: Same as

Harmonic Analysis: Analysis each phase current and voltage from 2nd to 63th harmonic.

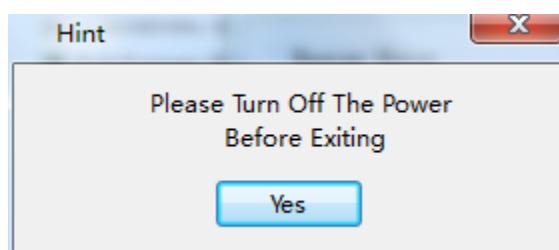
Standard Mode: Same as

Advance Phase Setting: Same as

Error Monitor: Same as

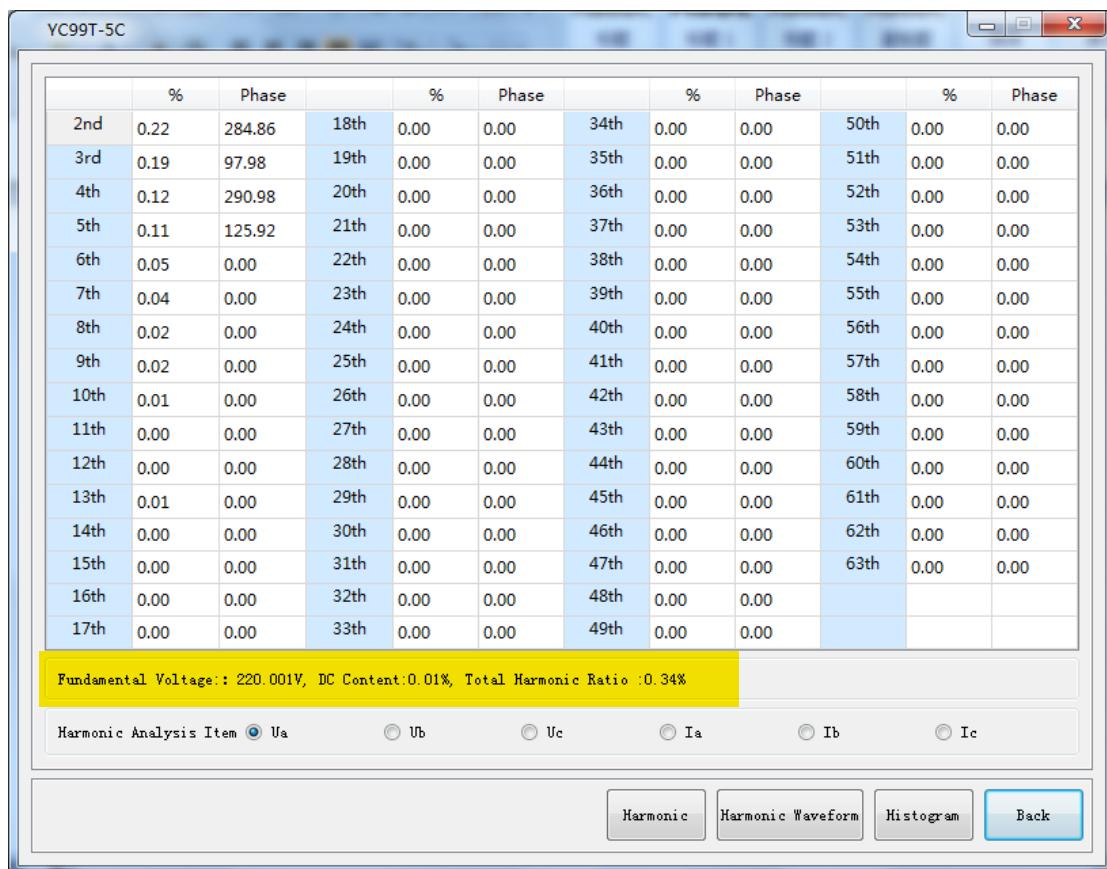
Save As default: Save the source output parameter setting as default.

Back: Back to Standard Mode. Please Turn Off The Power Before Exiting. Press “F2” or “Stop”

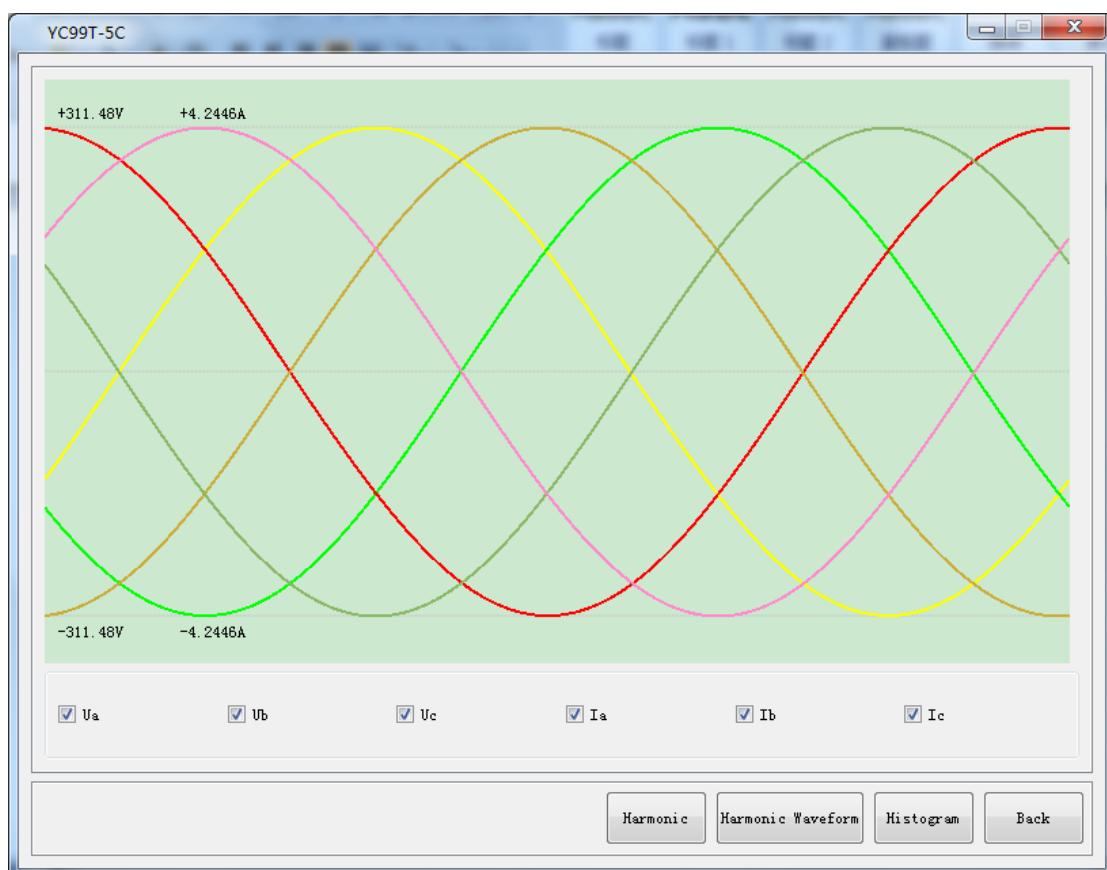


3.5.3. Harmonic Analysis

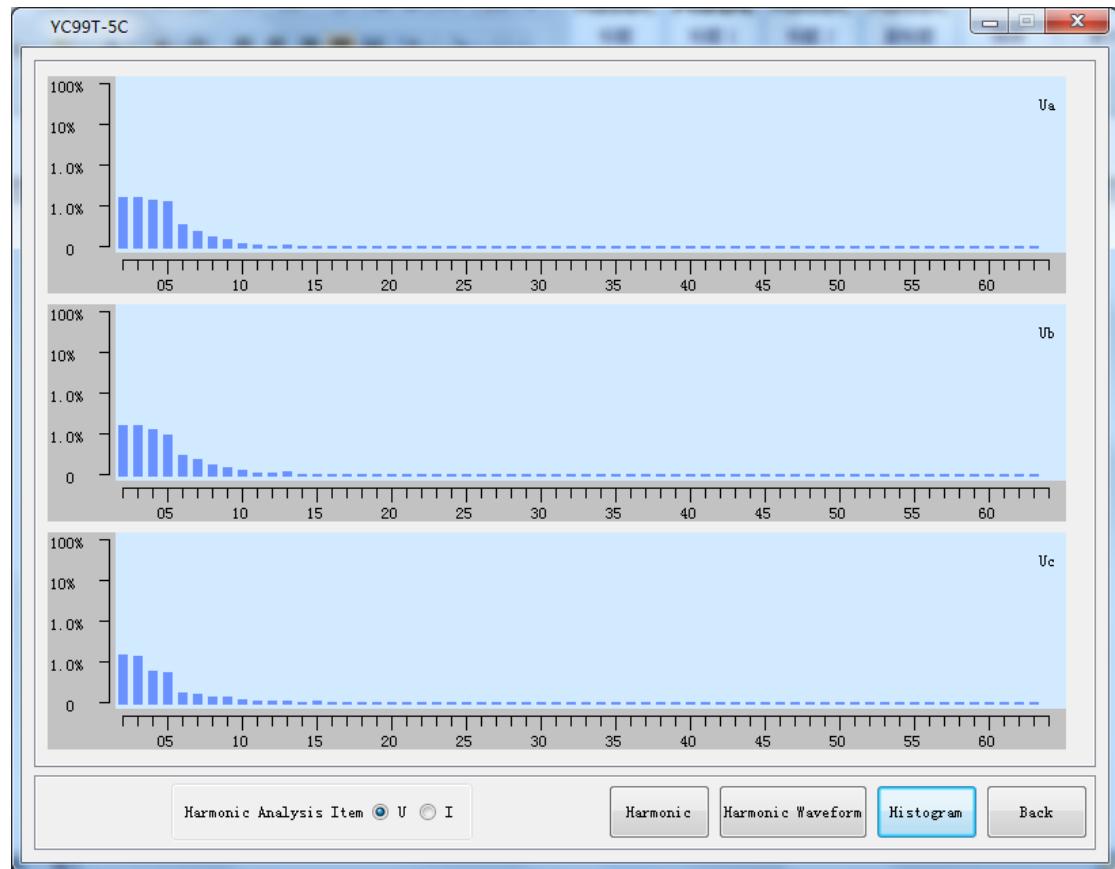
3.5.3.1. Harmonic



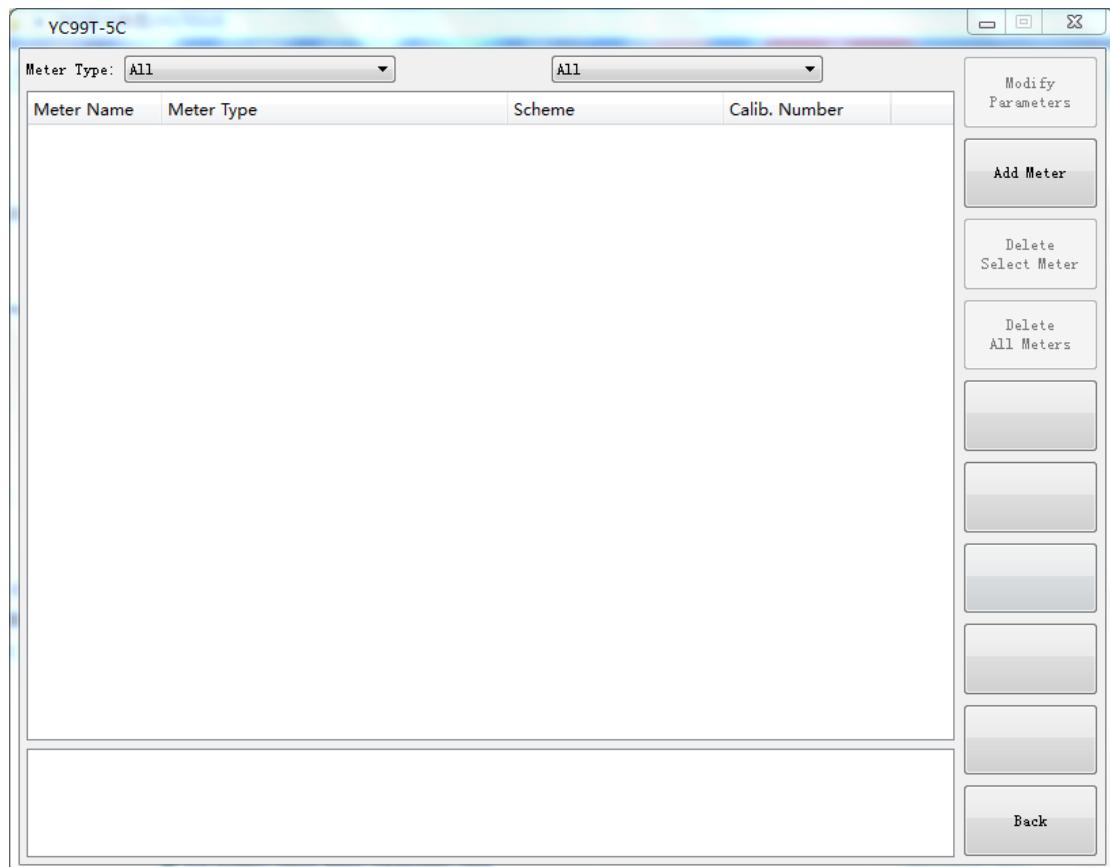
3.5.3.2. Harmonic Wave Form



3.5.3.3. Histogram



4. Meter Management



Select meter type, and wiring mode, otherwise the meter list will not display. If not sure the meter type and wiring mode, select ALL.

Meter type: All/ Regular/ Multifunction.

Wiring mode: 3P4W Active Energy Meter/ 3P3W Active Energy Meter/ Single Phase Energy meter/ 3P4W Reactive Energy Meter/ 3P3W Reactive Energy Meter/ 2P60° Reactive Energy Meter/ 2P90° Reactive Energy Meter/ 3P90° Reactive Energy Meter/ 3P4W Comp Meter/ 3P3W Comp Meter.

Modify Parameters: Change the parameter of listed meter.

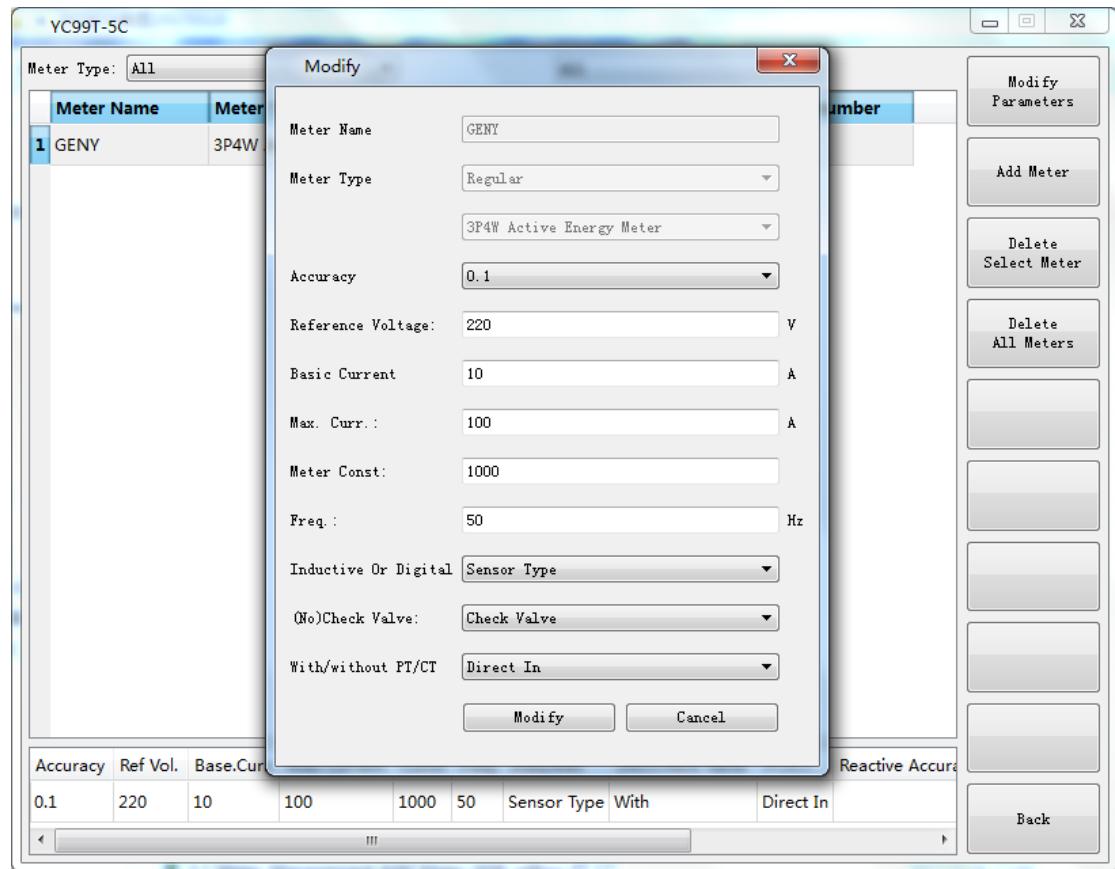
Add meter: To add new meter.

Delete Select Meter: Delete one meter type at a time.

Delete All Meters: Delete all meter type at once.

Back: Back to 3-Phase power source interface

4.1. Modify Parameters



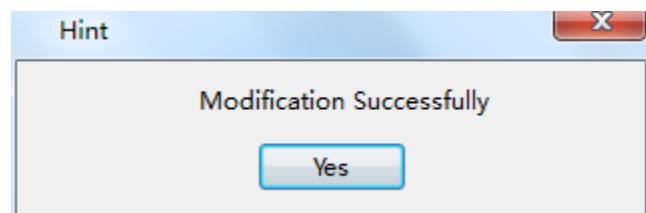
Meter Name: Not allow to change once the meter has created.

Meter Type: Not allow to change once the meter has created.

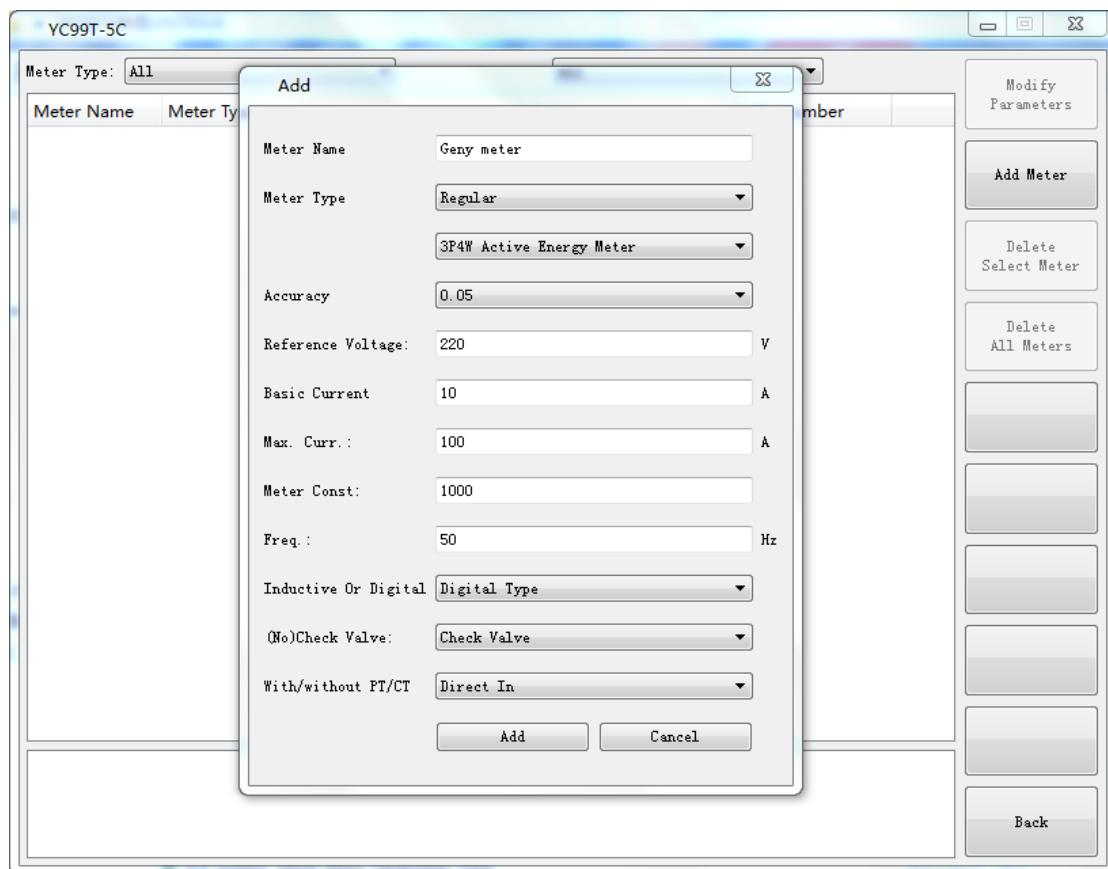
Modify: Confirm the setting.

Cancel: Cancel the setting.

Follow with a “Modification Successfully” after Modify success.



4.2. Add meter



Meter Name: meter model name or meter factory name.

Meter type: Regular/ multifunction

Wiring mode: 3P4W Active Energy Meter/ 3P3W Active Energy Meter/ Single Phase Energy meter/ 3P4W Reactive Energy Meter/ 3P3W Reactive Energy Meter/ 2P60° Reactive Energy Meter/ 2P90° Reactive Energy Meter/ 3P90° Reactive Energy Meter/ 3P4W Comp Meter/ 3P3W Comp Meter.

Accuracy: **Active energy accuracy, how about in multifunction meter type reactive?**

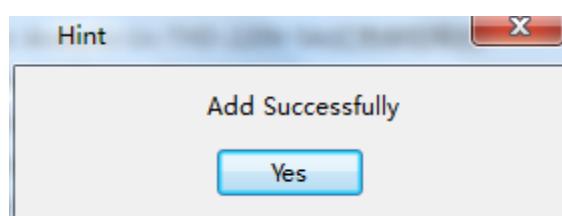
Reference voltage: Rate voltage

Basic Current: Ib

Max Current: Imax

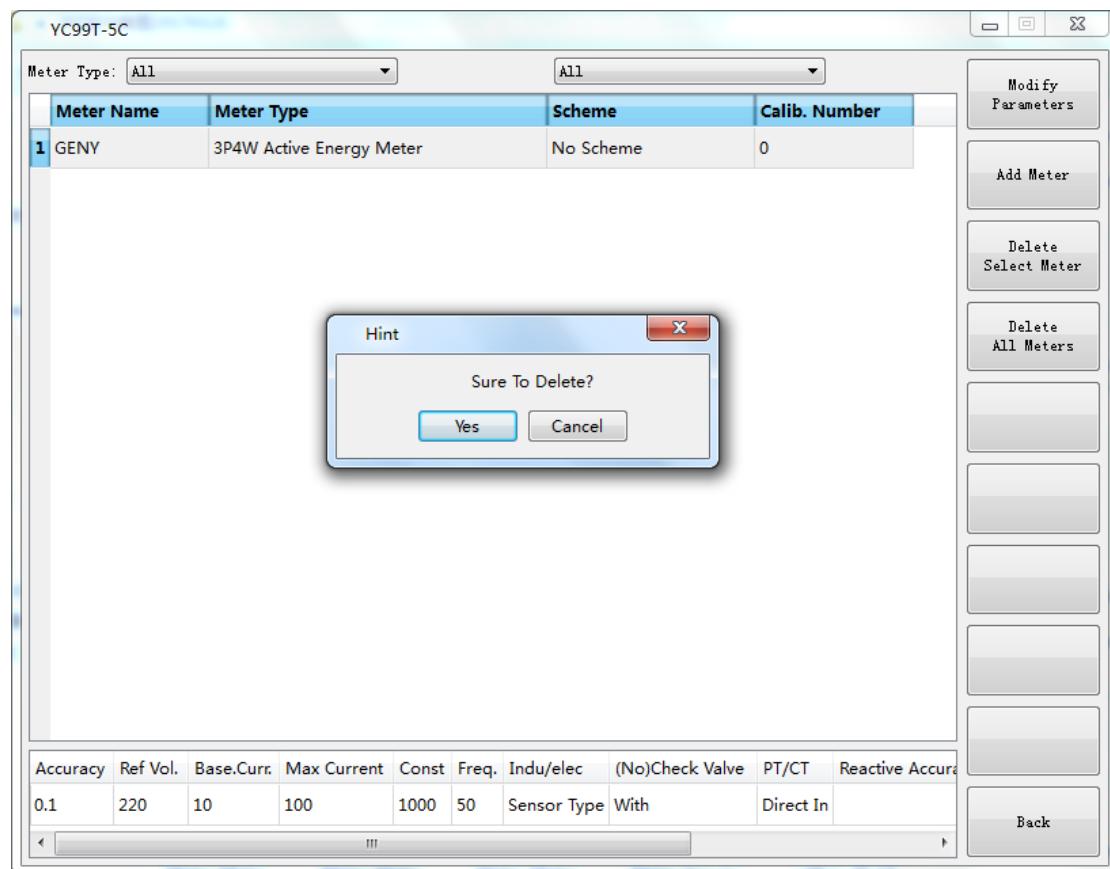
Meter Constant: pulse/kWh

Follow with “Add successfully” after add success.

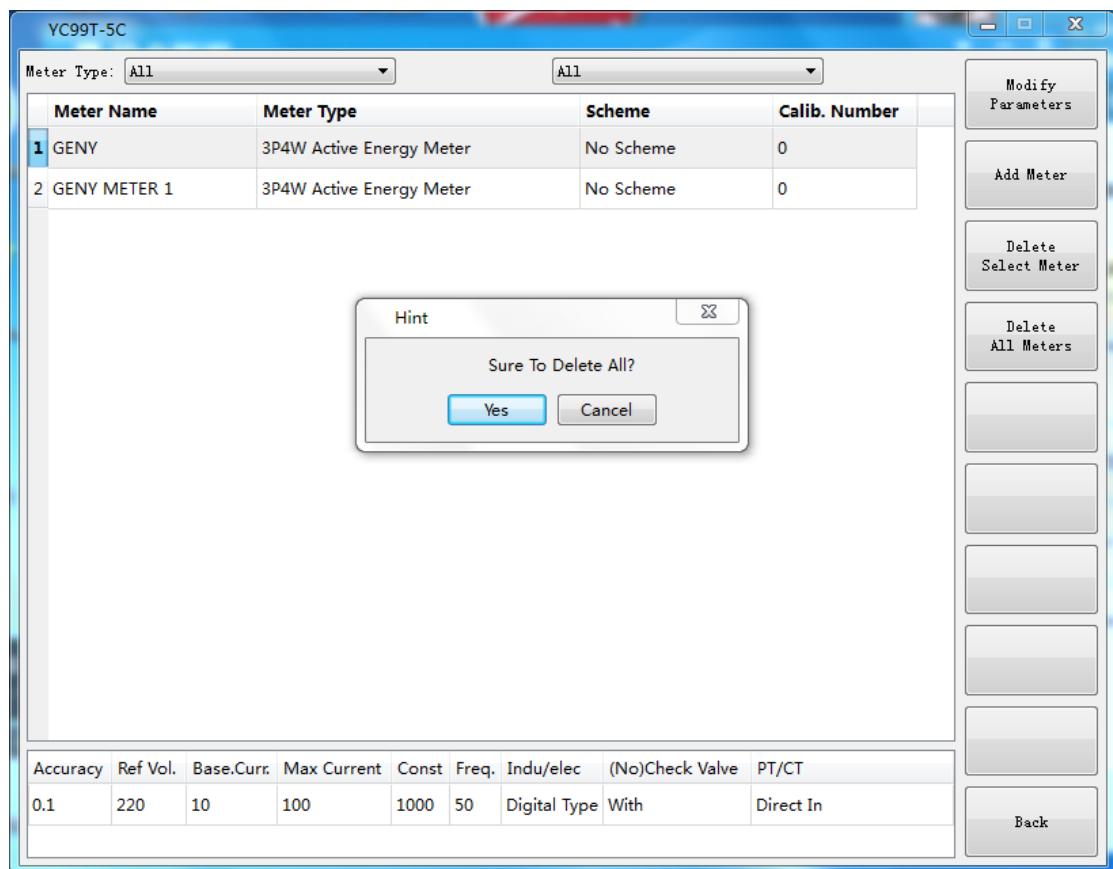


4.3. Delete Meter

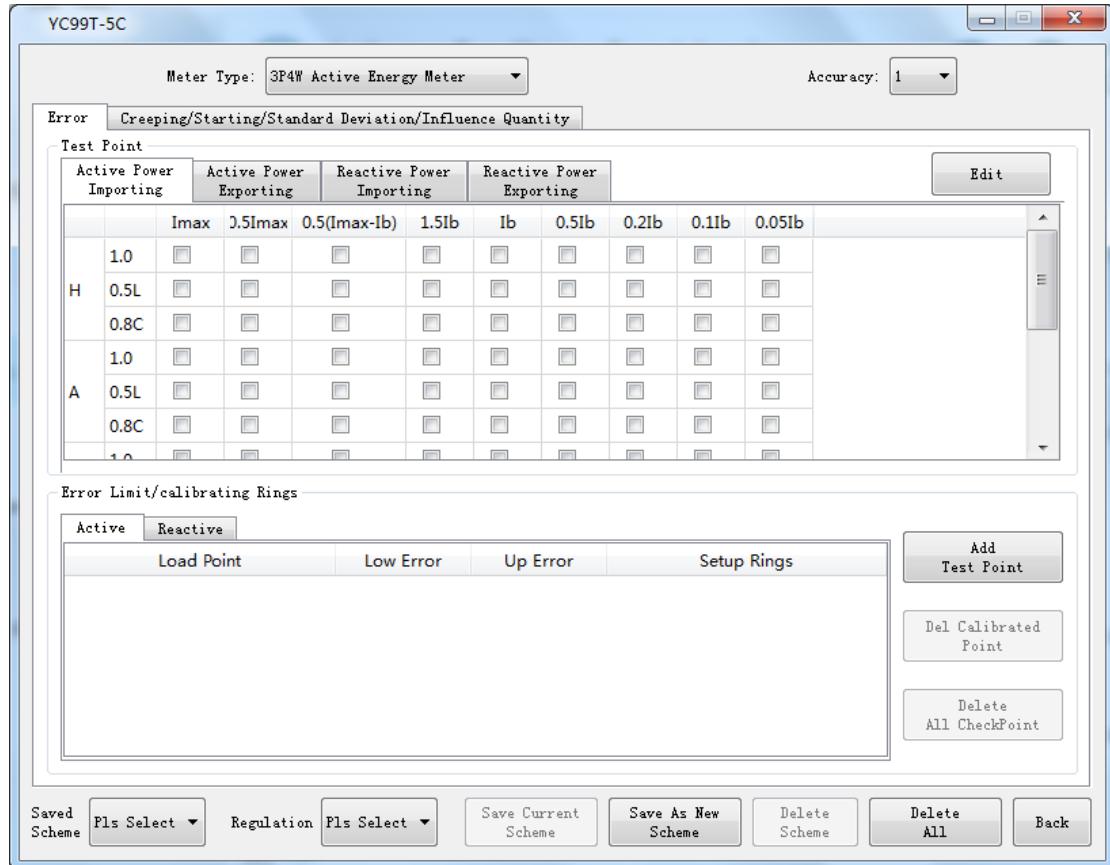
Delete Select Meter



Delete All Meters



5.Schemes Management



Meter type: divide into two type.

(Regular type) 3P4W Active Energy Meter/ 3P3W Active Energy Meter/ Single Phase Energy meter/ 3P4W Reactive Energy Meter/ 3P3W Reactive Energy Meter/ 2P60° Reactive Energy Meter/ 2P90° Reactive Energy Meter/ 3P90° Reactive Energy Meter/ 3P4W

(Multifunction type) Comp Meter/ 3P3W Comp Meter.

Accuracy: Energy accuracy of selected meter type. Only the Multifunction Meter type have Active and Reactive accuracy setting. As follow picture.

5.1. Error

5.1.1. Normal test point

Active Power Importing: Forward active energy.

Active Power Exporting: Reverse active energy.

Reactive Power Importing: Forward Reactive energy.

Reactive Power Exporting: Reverse Reactive energy.

H: Unity output

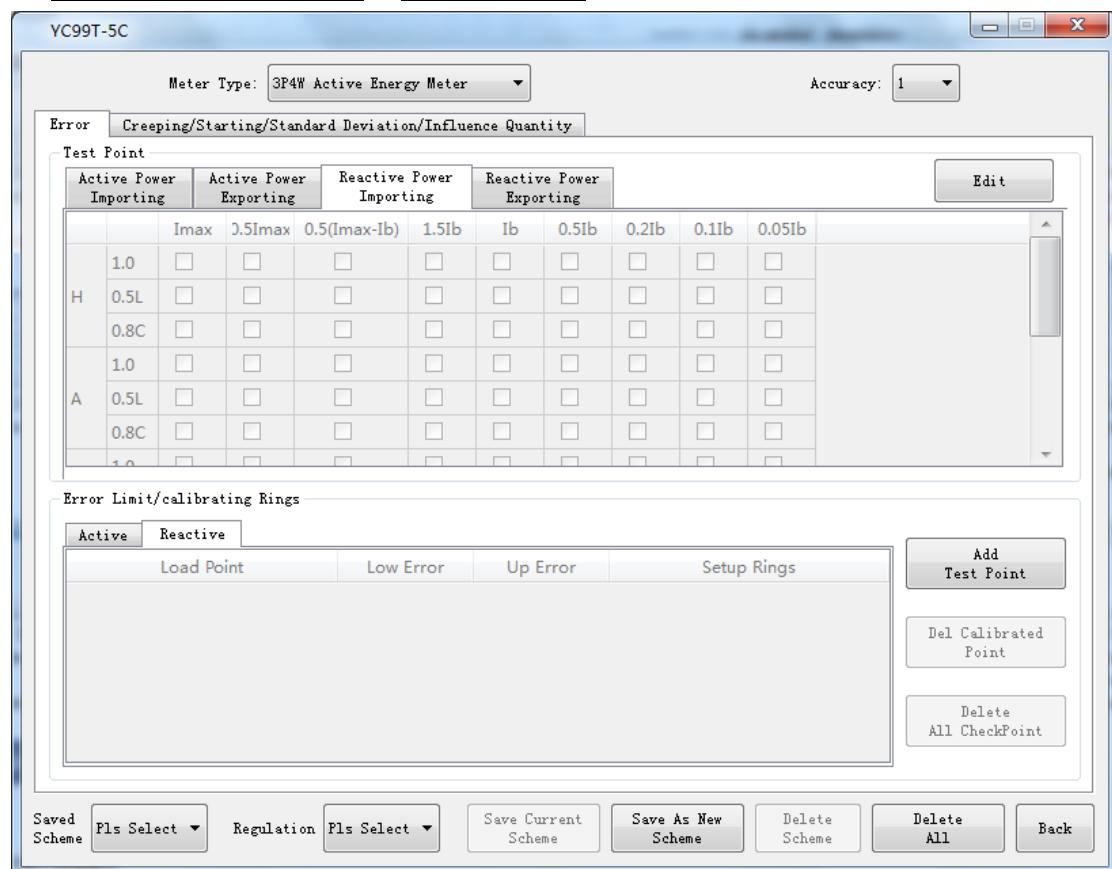
A: Phase A output

B: Phase B output

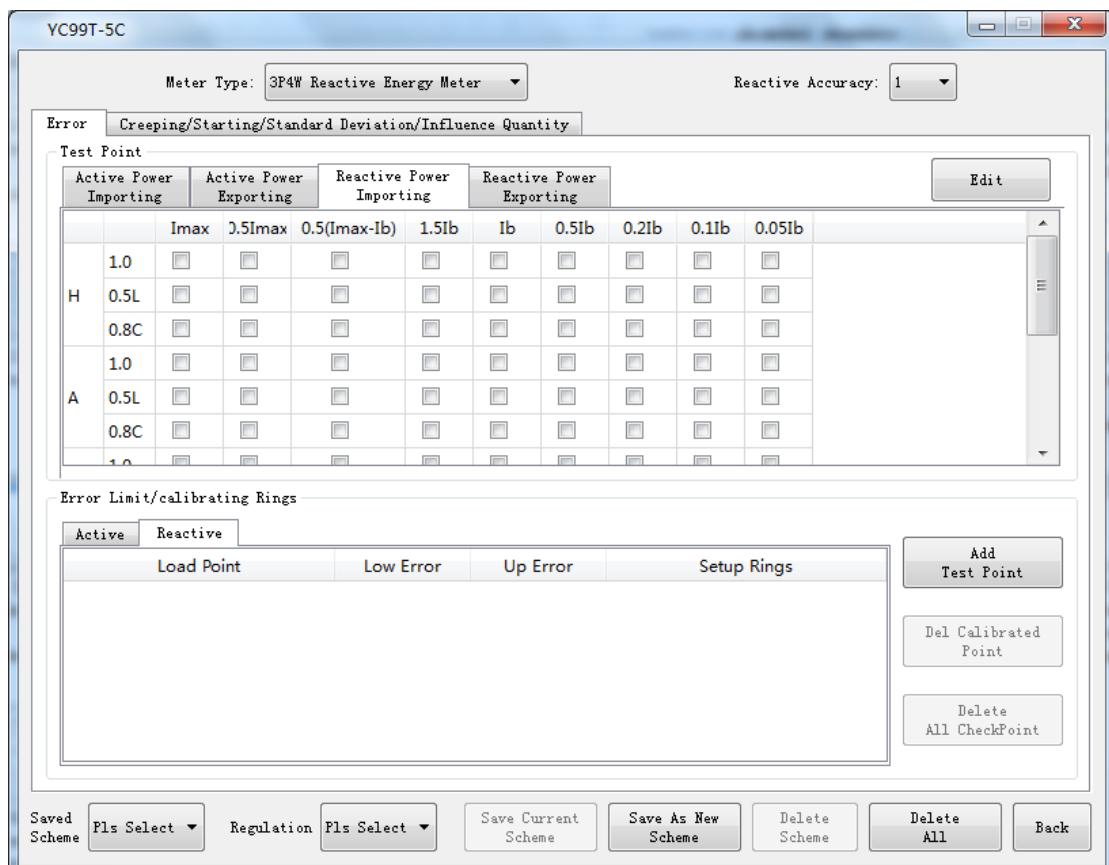
C: Phase C output

If test points are not able to select, please make sure the meter type selection is correct. For example as follow three photos:

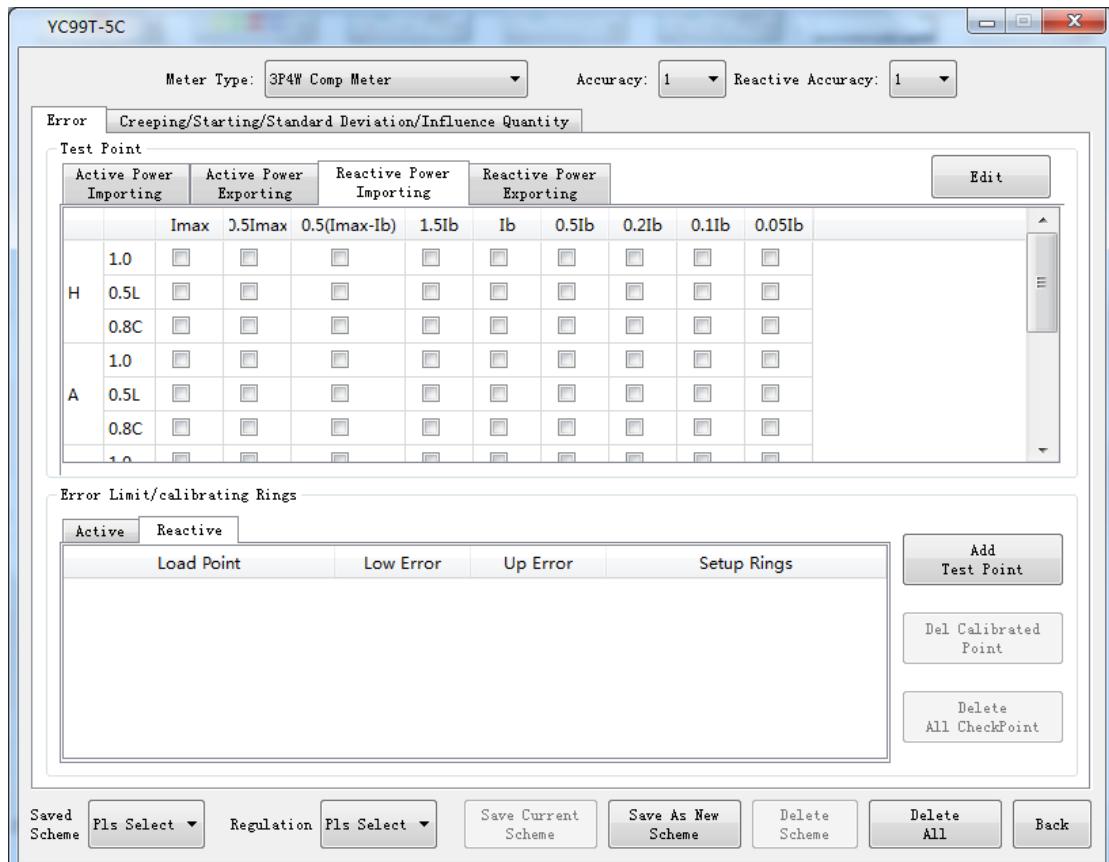
First photo shows Reactive Power Importing is disabled. Because the Meter type selection is not the Reactive energy meter type or Com meter type.



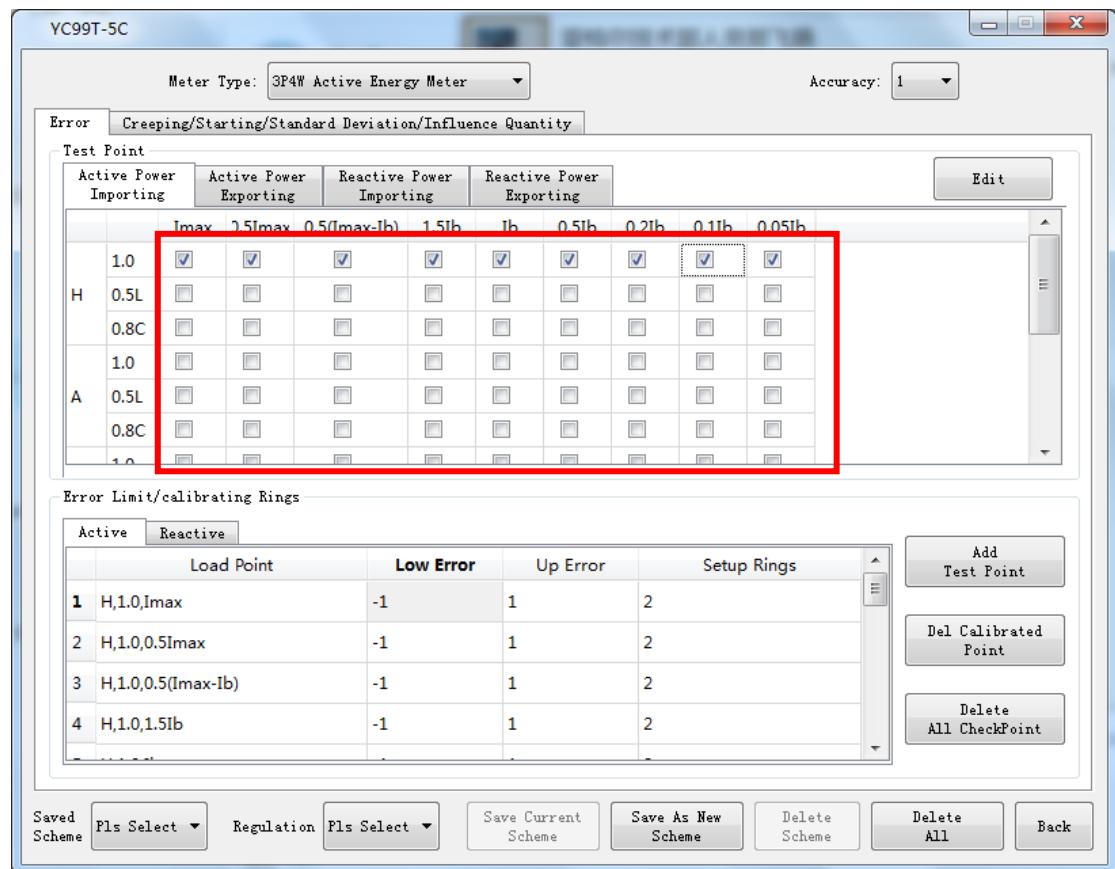
Second photo shows that meter type change to Reactive energy meter type and test point is activated.



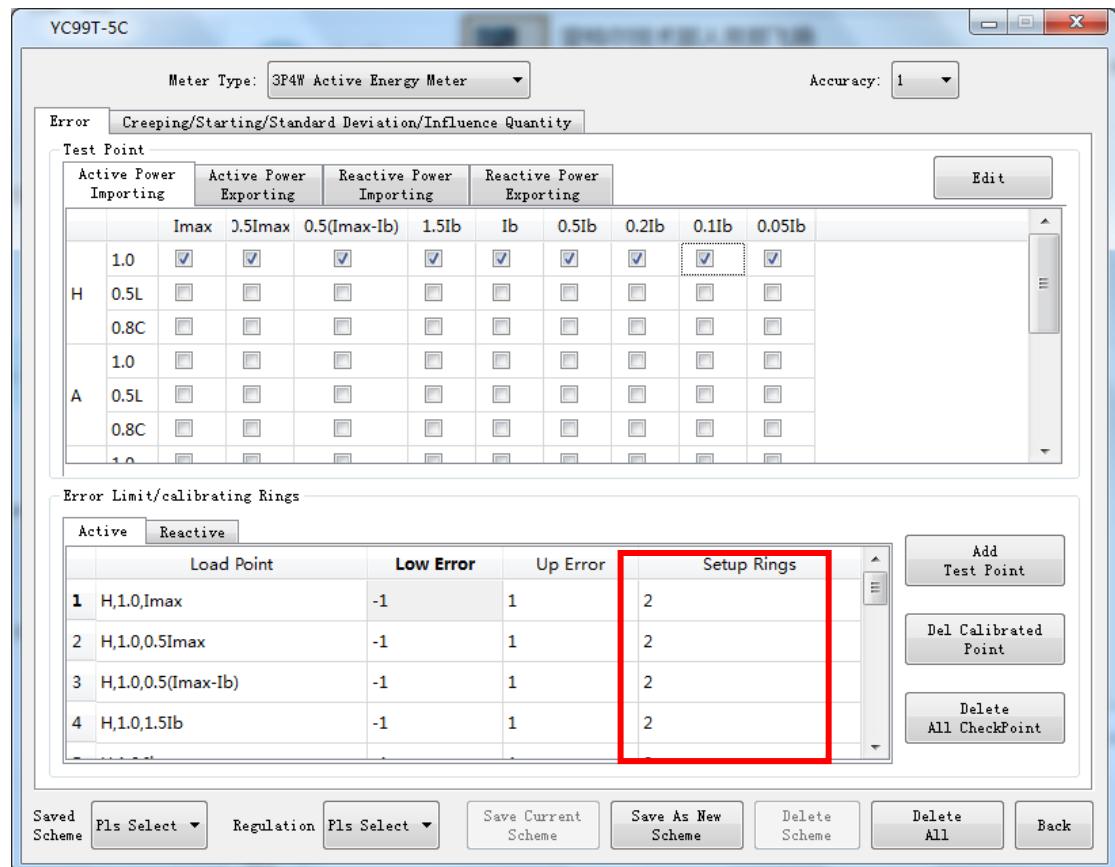
Third photo shows that meter type change to Comp meter type and test point is activated.



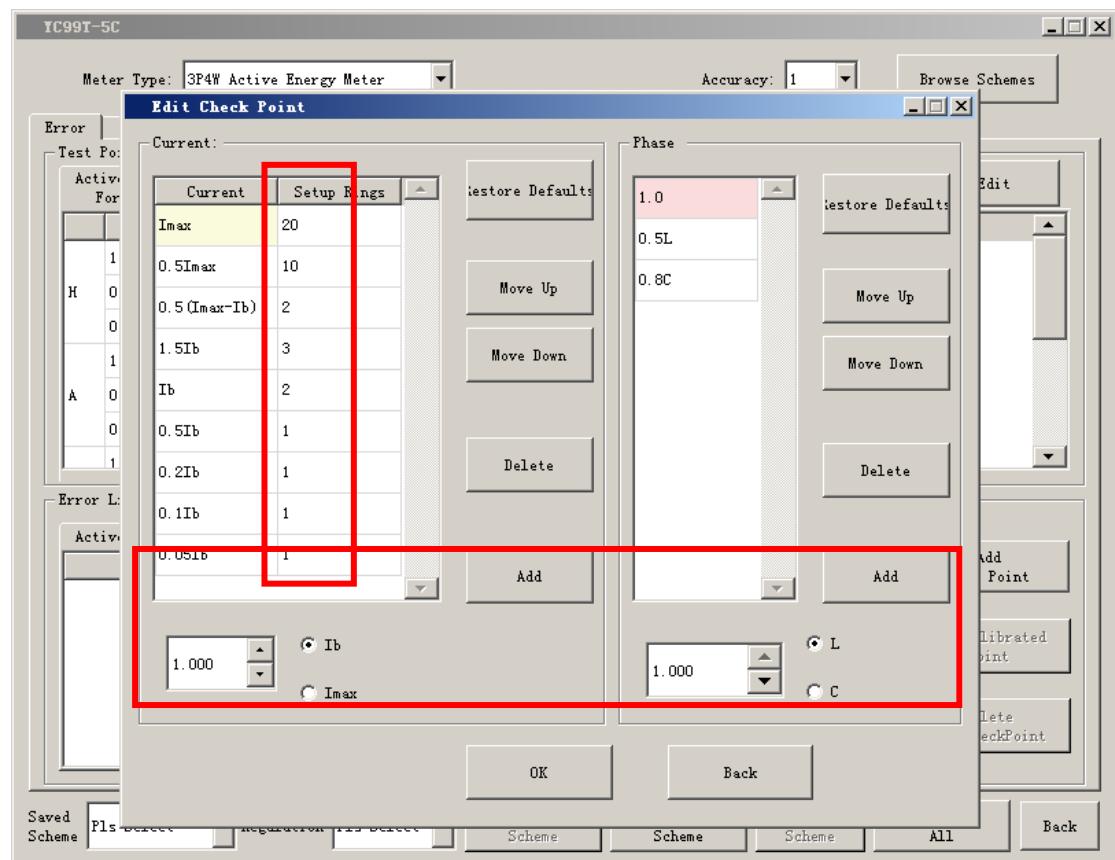
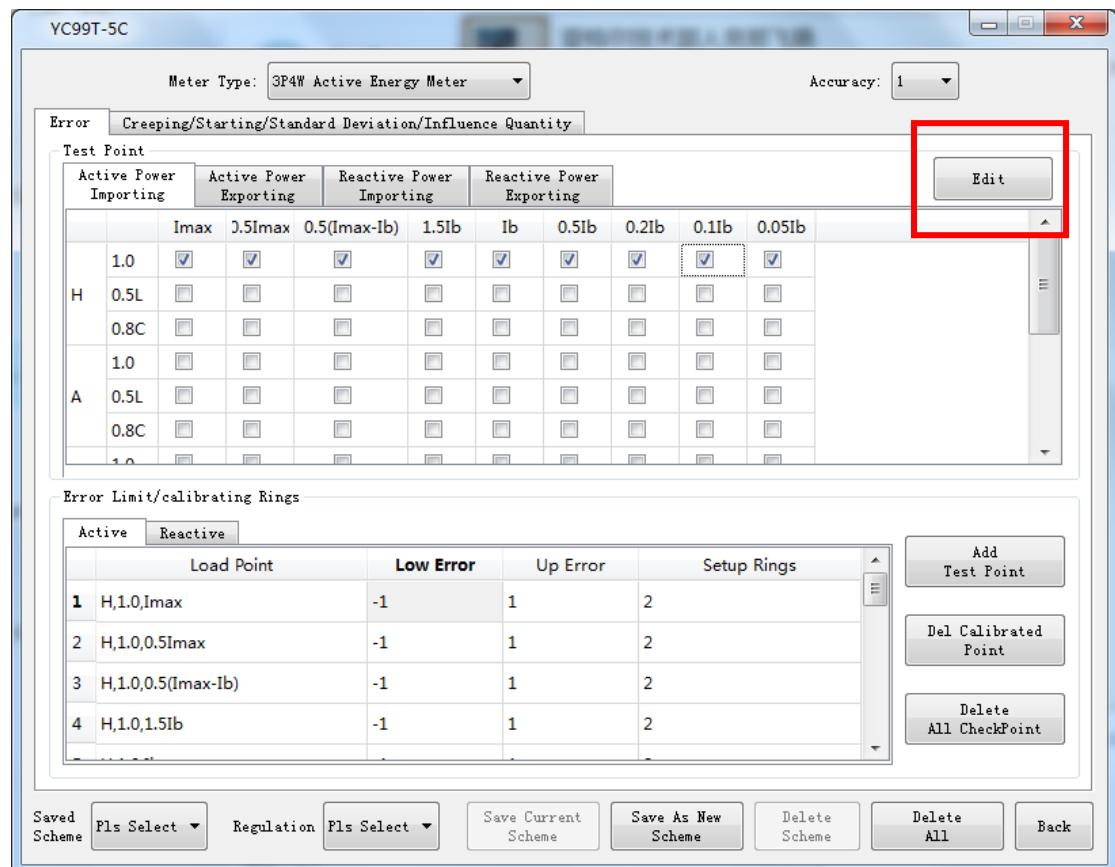
5.1.2. Select test point

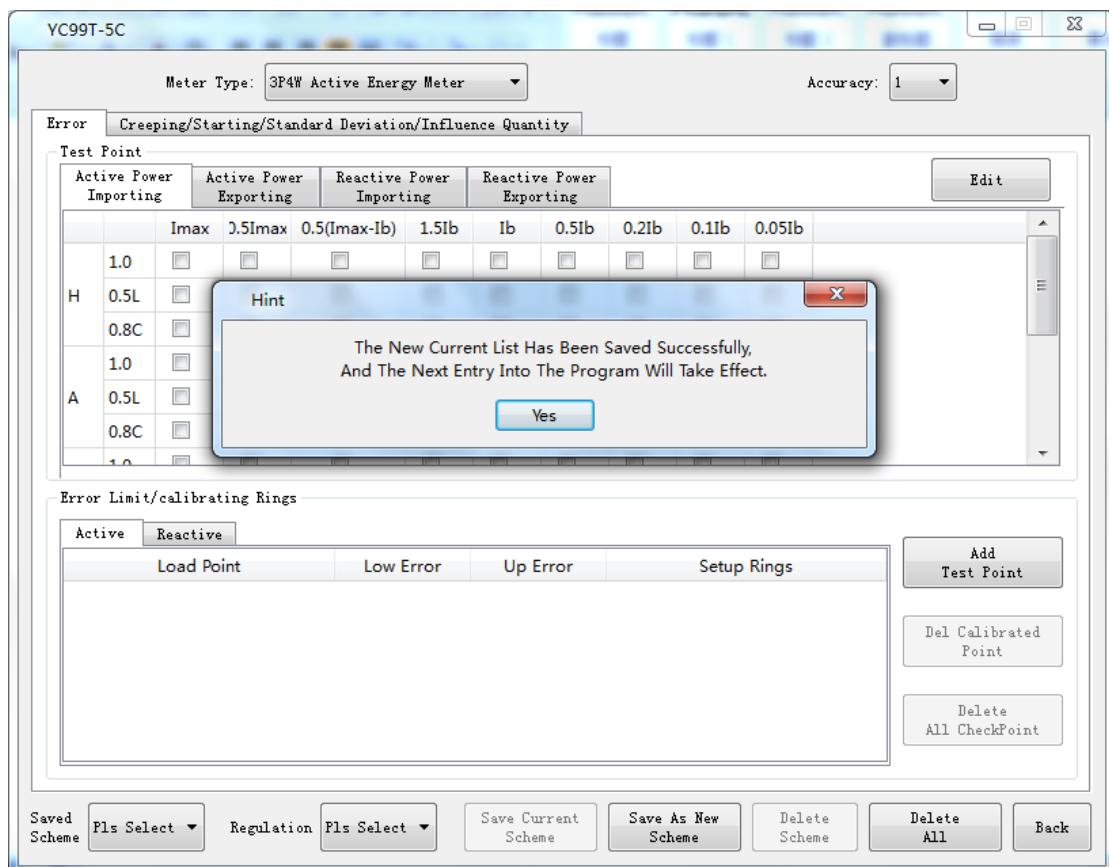


5.1.3. Setup ring.



5.1.4. Edit Check point and test rings



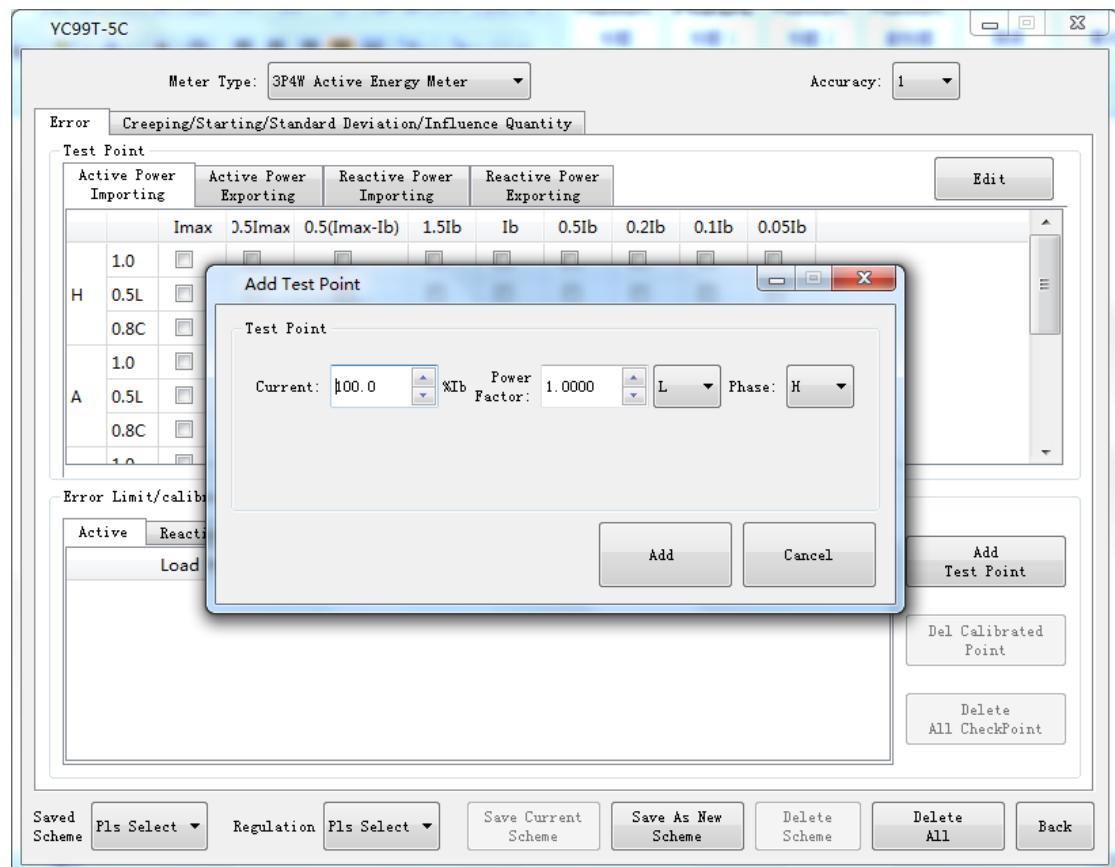


Remark:

Need to restart the programmed after save the edit.

Addict check point first and then set the test ring.

5.1.5. Add Test Point:



Current: input by %lb, maximum is 800 %lb

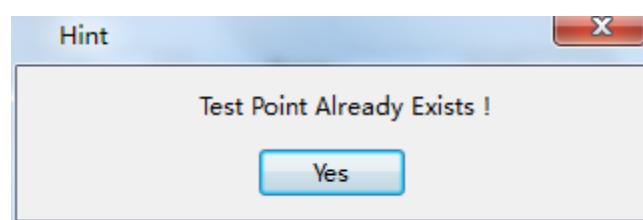
Power factor: from 0.0000 to 1.0000 of L/C

Phase: H/A/B/C

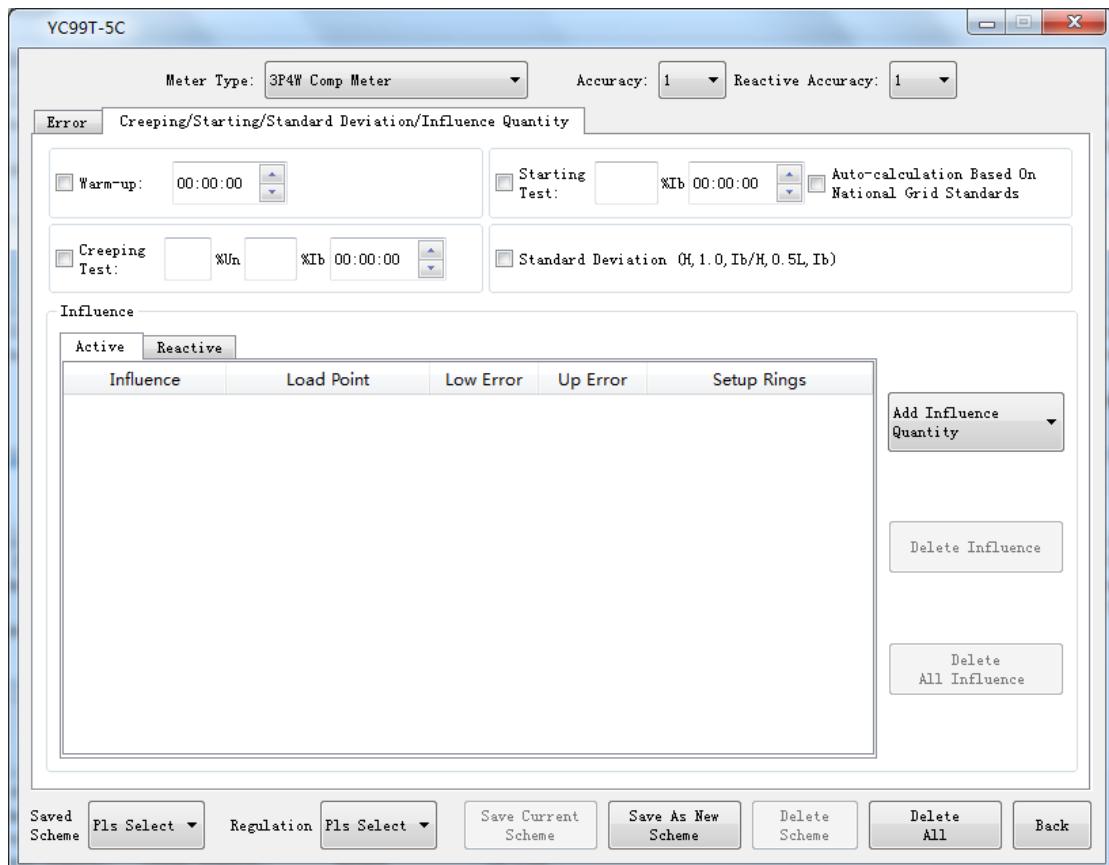
Cancel: Exit and not saved.

Add: Confirm test point, not have confirmation window.

Follow with a Hint if test point already existed.



5.2. Creeping/ Starting/ Standard Deviation/ Influence Quantity



Warm-up: what is the current of warm up time?

Creeping Test: input %Un and %Ib and test time. Time of test unable to be auto calculated.

Starting Test: input %Ib and test time. Test time can be auto calculated. Show in the next picture.

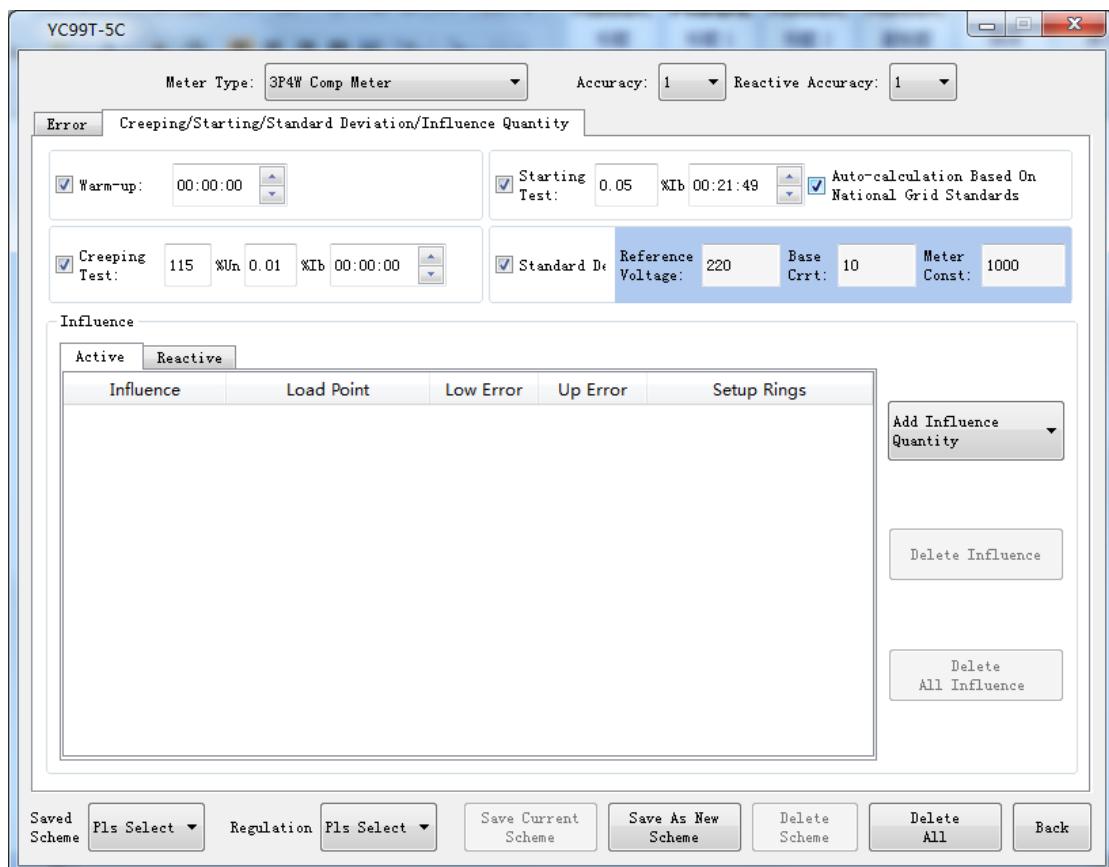
Standard Deviation: ???

Add Influence Quantity: Harmonic influence, Voltage influence, Frequency influence, Sub harmonic influence, Odd harmonic influence, Reverse Sequence.

Delete Influence: Delete influence quantity setting one by one, not have confirmation window.

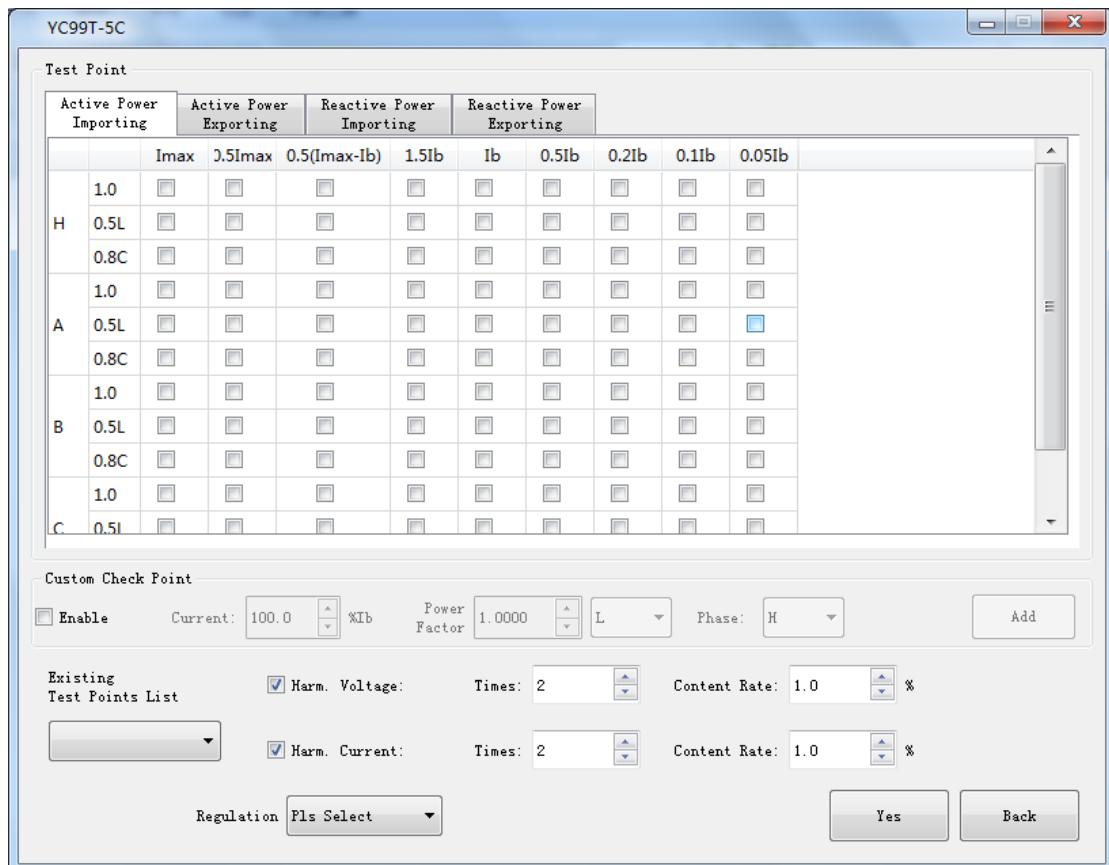
Delete All Influence: Delete all influence quantity setting, not have confirmation window.

Auto-calculation Base on National Grid Standard: After select Auto-calculation Based on National Power Grid Standard, the meter parameter will shows and need to input Reference Voltage, Base Current and Meter Constant. And then input %Ib and press ENTER, test time can be auto calculated.



5.3. Add Influence Quantity

5.3.1. Harmonic Influence



Test point: Active Power Importing/ Active Power Exporting/ Reactive Power Importing/ Reactive Power Exporting

H: Unity output

A: Phase A output

B: Phase B output

C: Phase C output

Custom Check Point: can create any test point, by current in %lb(max 800%), Power factor and phase. Test point above will become grey when selecting Custom Check point. Show on the next picture.

Existing Test Point List: select from the existed test point on the previous interface.

Regulation: Base on Chinese Regulations of JJG596 and JJG307.

Yes: Save and exit, **without confirmation.**

Back: Back to Creeping/ Starting/ Standard Deviation/ Influence Quantity setting page.

YC99T-5C

Test Point

		Active Power Importing	Active Power Exporting	Reactive Power Importing	Reactive Power Exporting					
		I _{max}	0.5I _{max}	0.5(I _{max} -lb)	1.5lb	I _b	0.5lb	0.2lb	0.1lb	0.05lb
H	1.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	0.5L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	0.8C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A	1.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	0.5L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	0.8C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B	1.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	0.5L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	0.8C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C	1.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	0.5L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

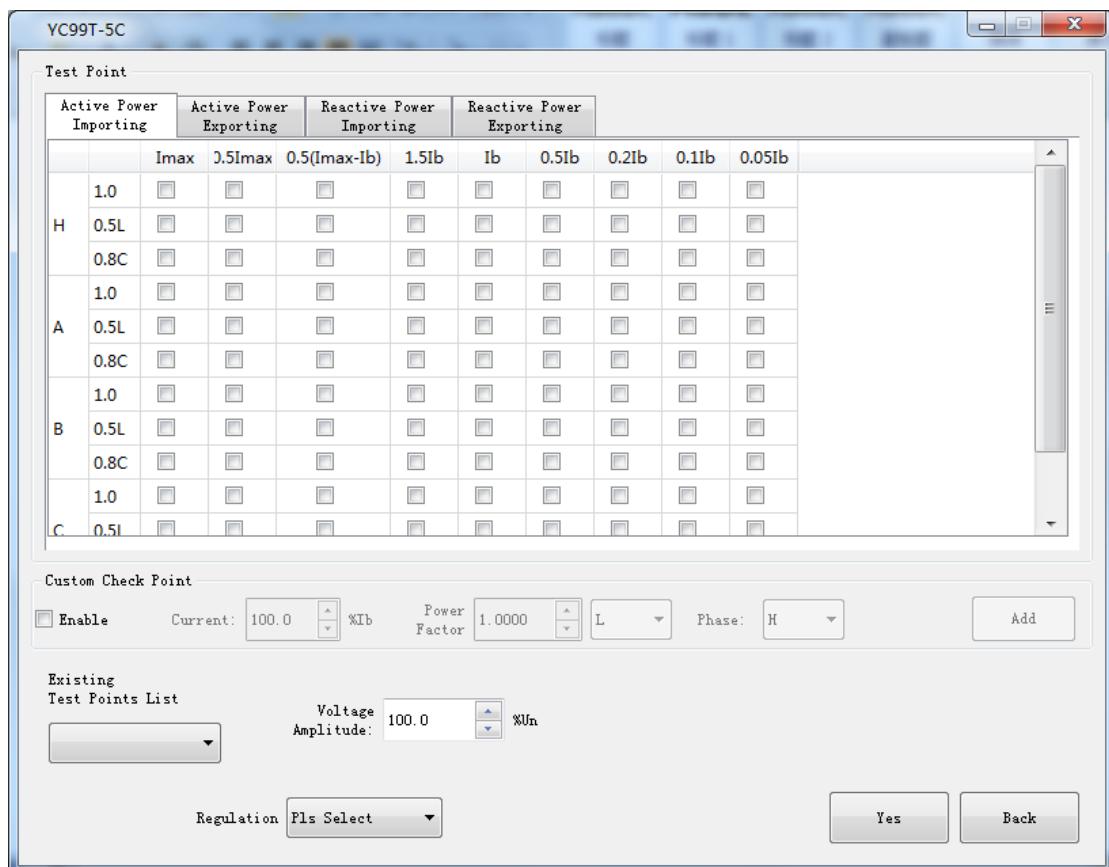
Custom Check Point

Enable Current: 100.0 %lb Power Factor: 1.0000 L Phase: H Add

Existing Test Points List Harm. Voltage: Times: 2 Content Rate: 1.0 % Harm. Current: Times: 2 Content Rate: 1.0 %

Regulation Pls Select Yes Back

5.3.2. Voltage Influence



Voltage Amplitude from 35~120%

5.3.3. Frequency Influence

VC99T-5C

Test Point

		Active Power Importing		Active Power Exporting		Reactive Power Importing		Reactive Power Exporting			
		I _{max}	0.5I _{max}	0.5(I _{max} -I _b)	1.5I _b	I _b	0.5I _b	0.2I _b	0.1I _b	0.05I _b	
H	1.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0.5L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0.8C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A	1.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0.5L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0.8C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B	1.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0.5L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0.8C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C	1.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0.5L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Custom Check Point

Enable Current: 100.0 %I_b Power Factor 1.0000 L Phase: H Add

Existing Test Points List

Freq. 50.0 Hz

Regulation Pls Select Yes Back

Frequency from 50~70Hz

5.3.4. Sub Harmonic Influence

VC99T-5C

Test Point

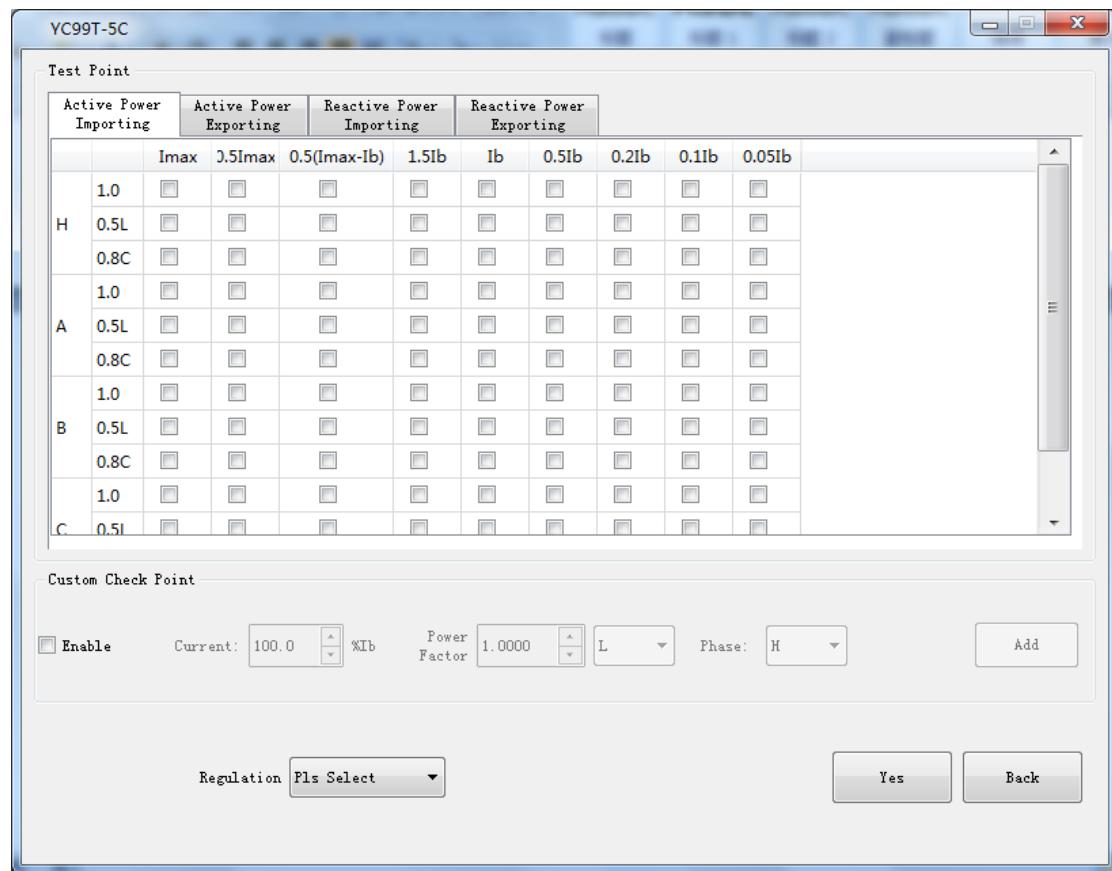
		Active Power Importing		Active Power Exporting		Reactive Power Importing		Reactive Power Exporting			
		I _{max}	0.5I _{max}	0.5(I _{max} -I _b)	1.5I _b	I _b	0.5I _b	0.2I _b	0.1I _b	0.05I _b	
H	1.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0.5L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0.8C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A	1.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0.5L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0.8C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B	1.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0.5L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0.8C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C	1.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0.5L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Custom Check Point

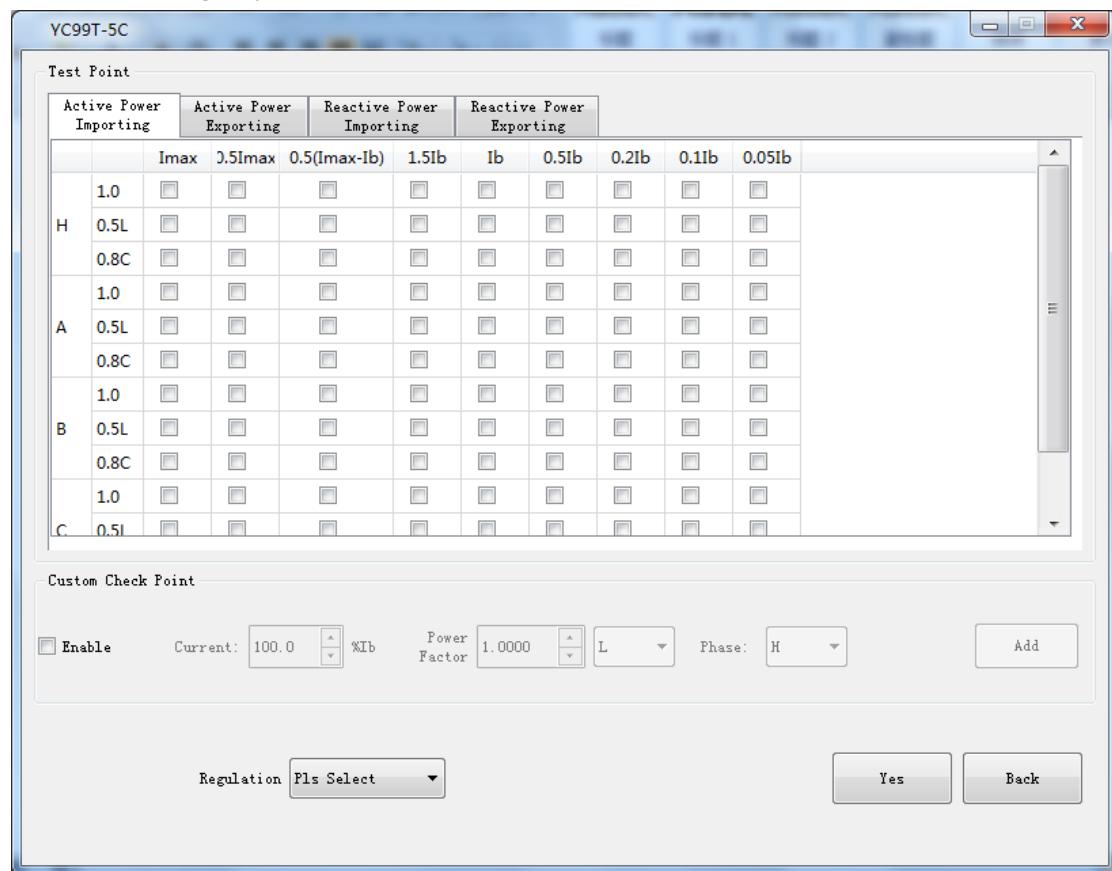
Enable Current: 100.0 %I_b Power Factor 1.0000 L Phase: H Add

Regulation Pls Select Yes Back

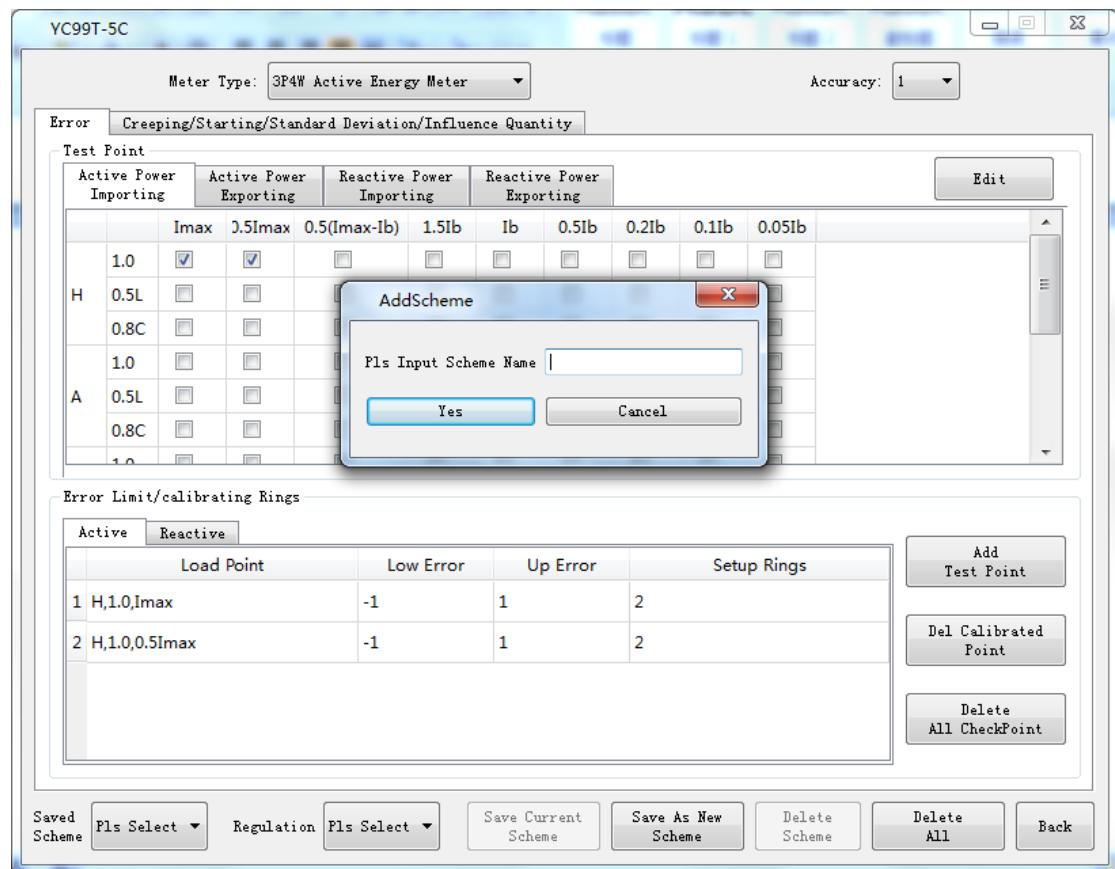
5.3.5. Odd Harmonic Influence



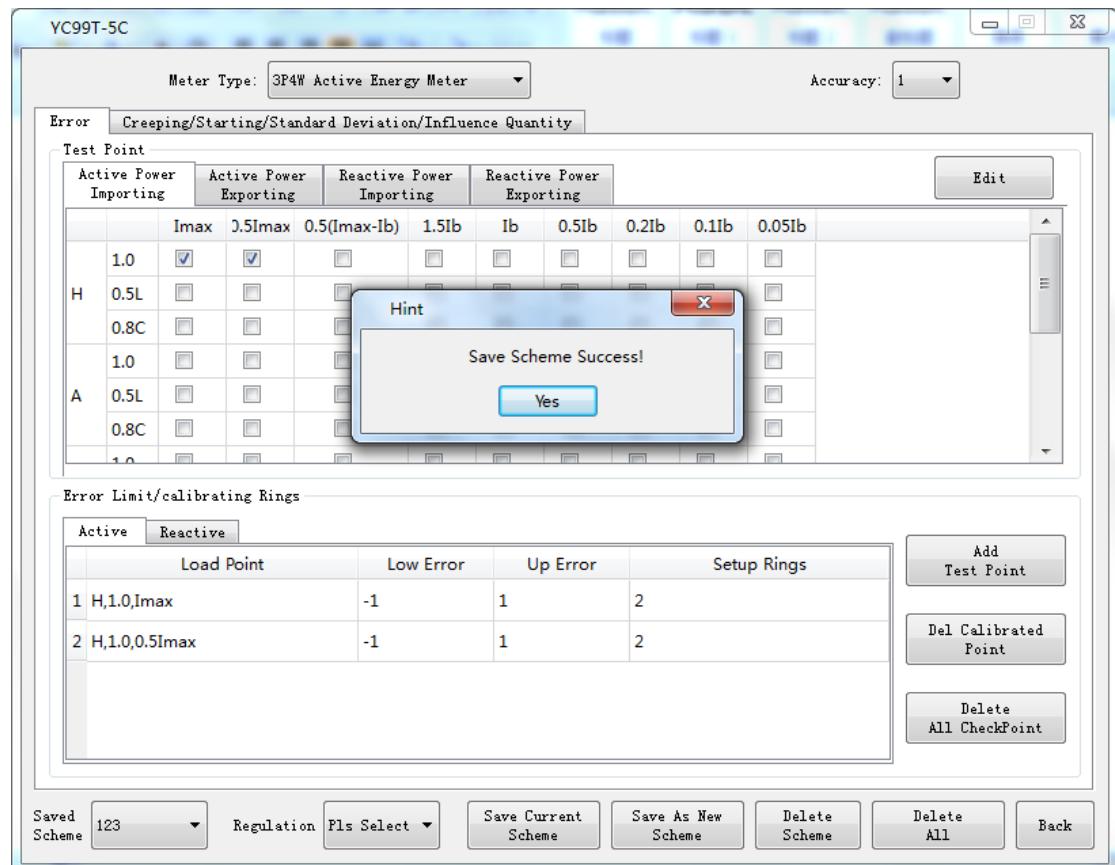
5.3.6. Reversing Sequence



5.4. Save the Scheme

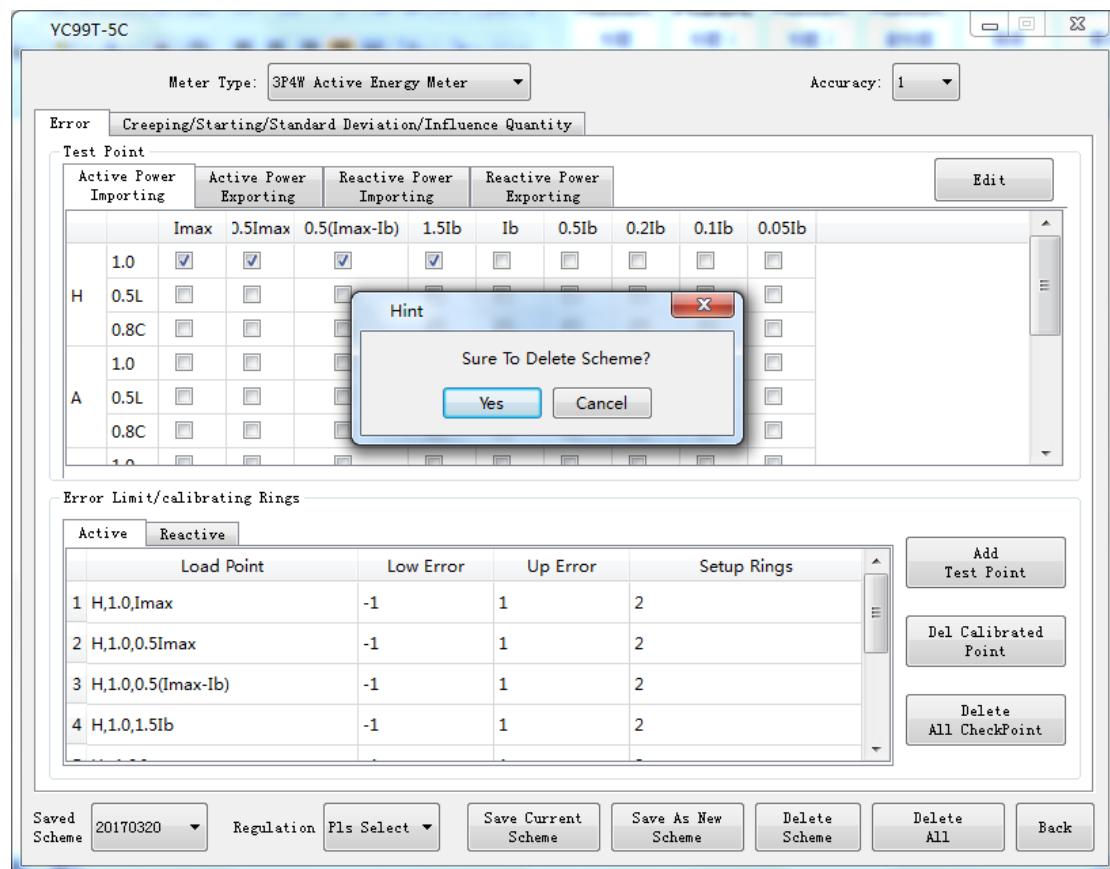


Save as new scheme, input scheme name.

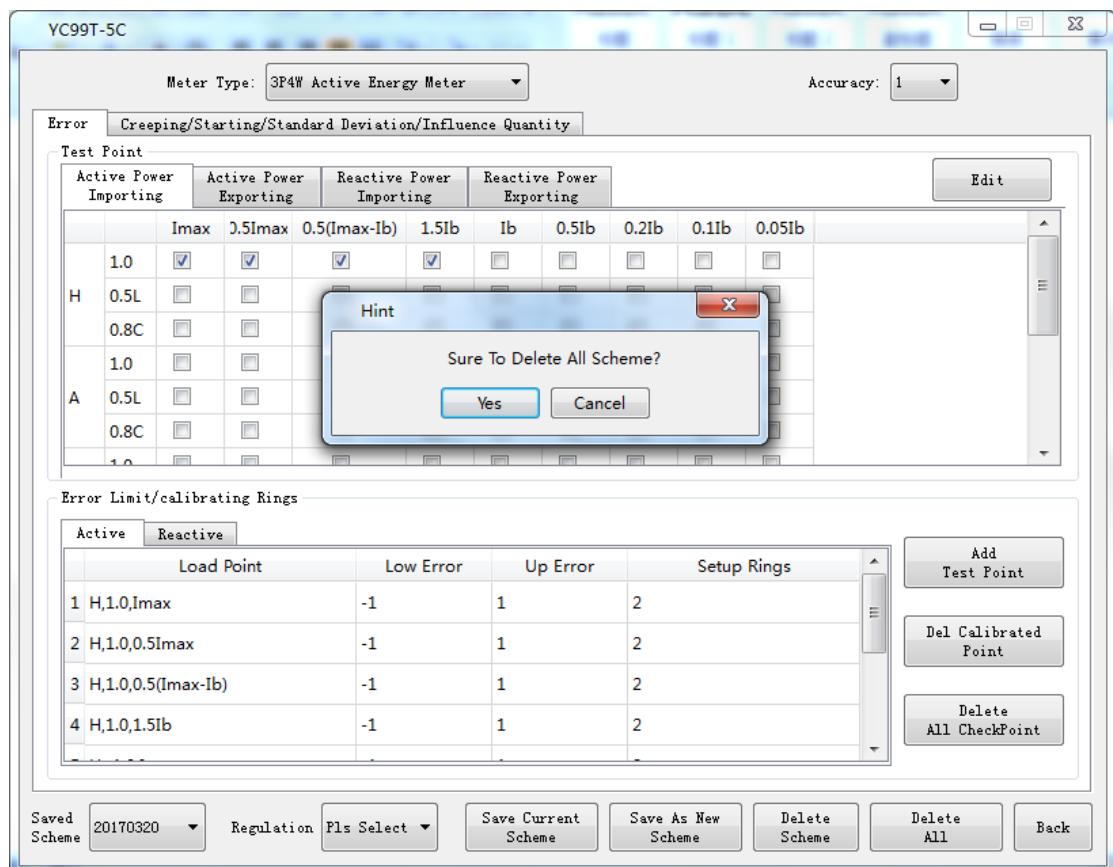


Save Current Scheme

5.5. Delete Scheme

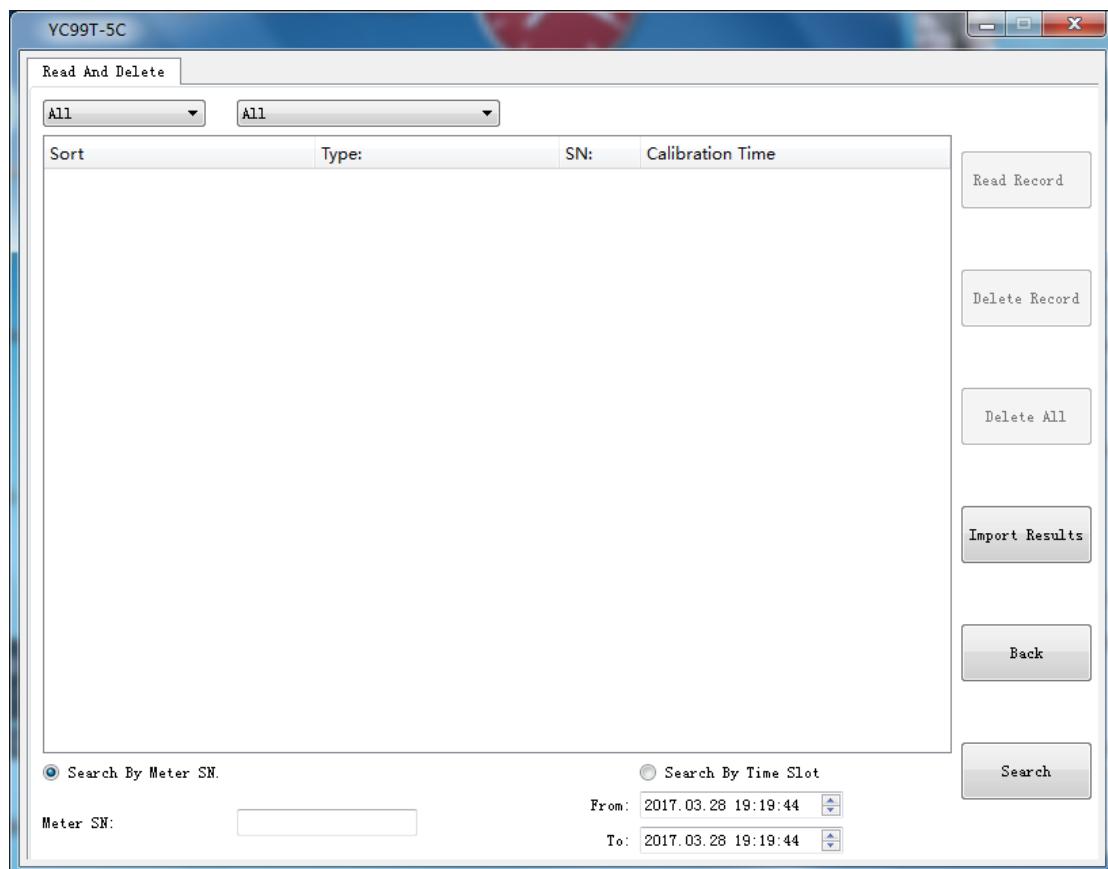


Delete current scheme

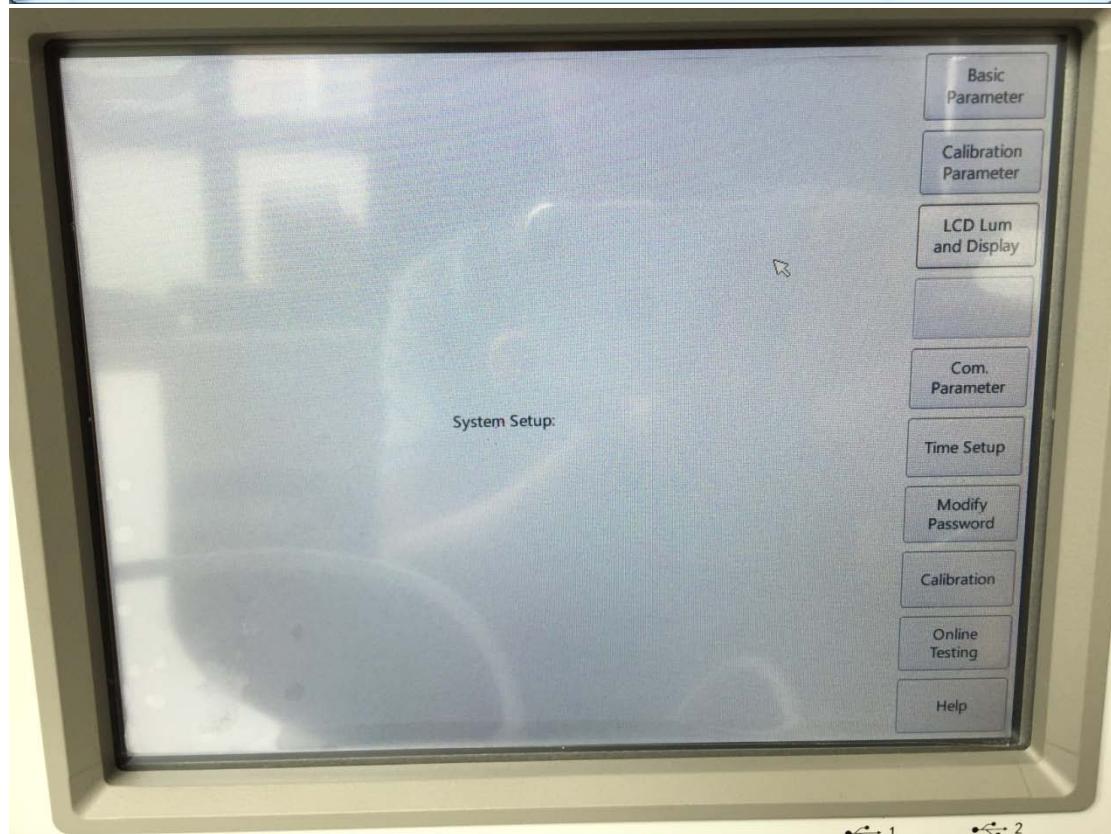
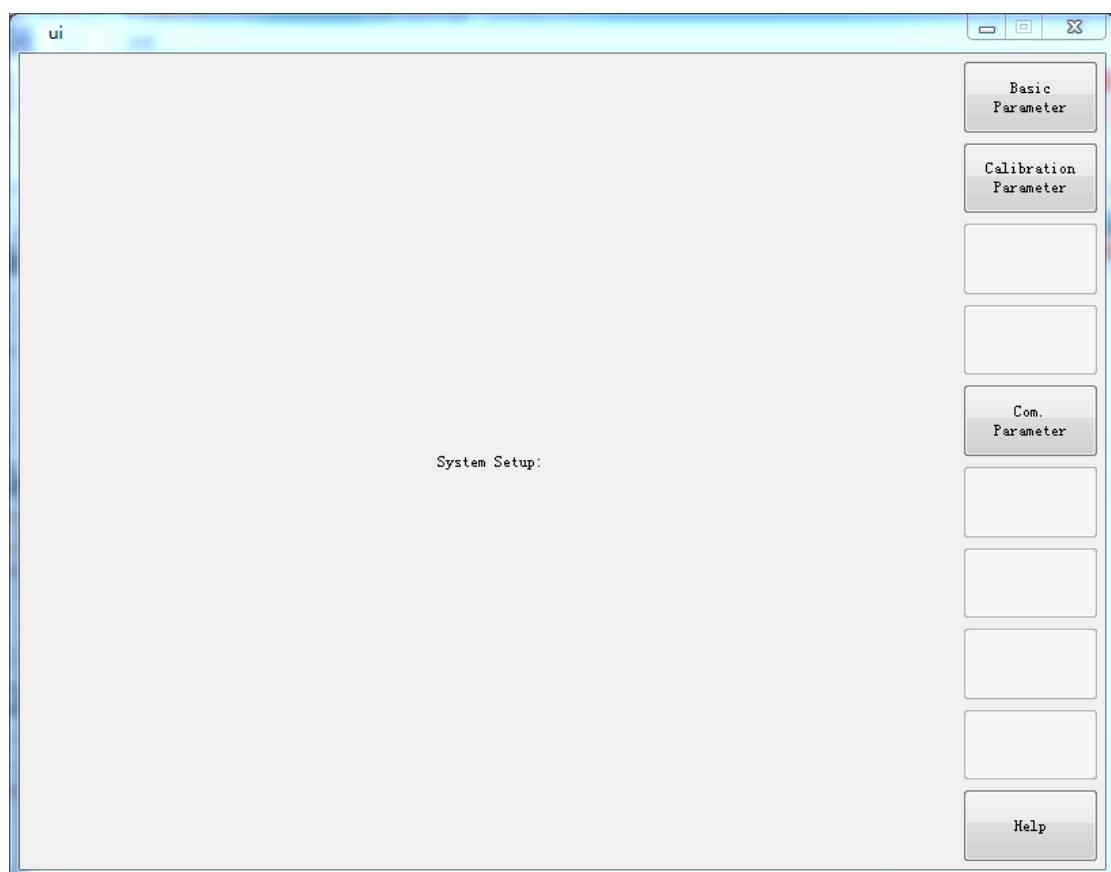


Delete all schemes

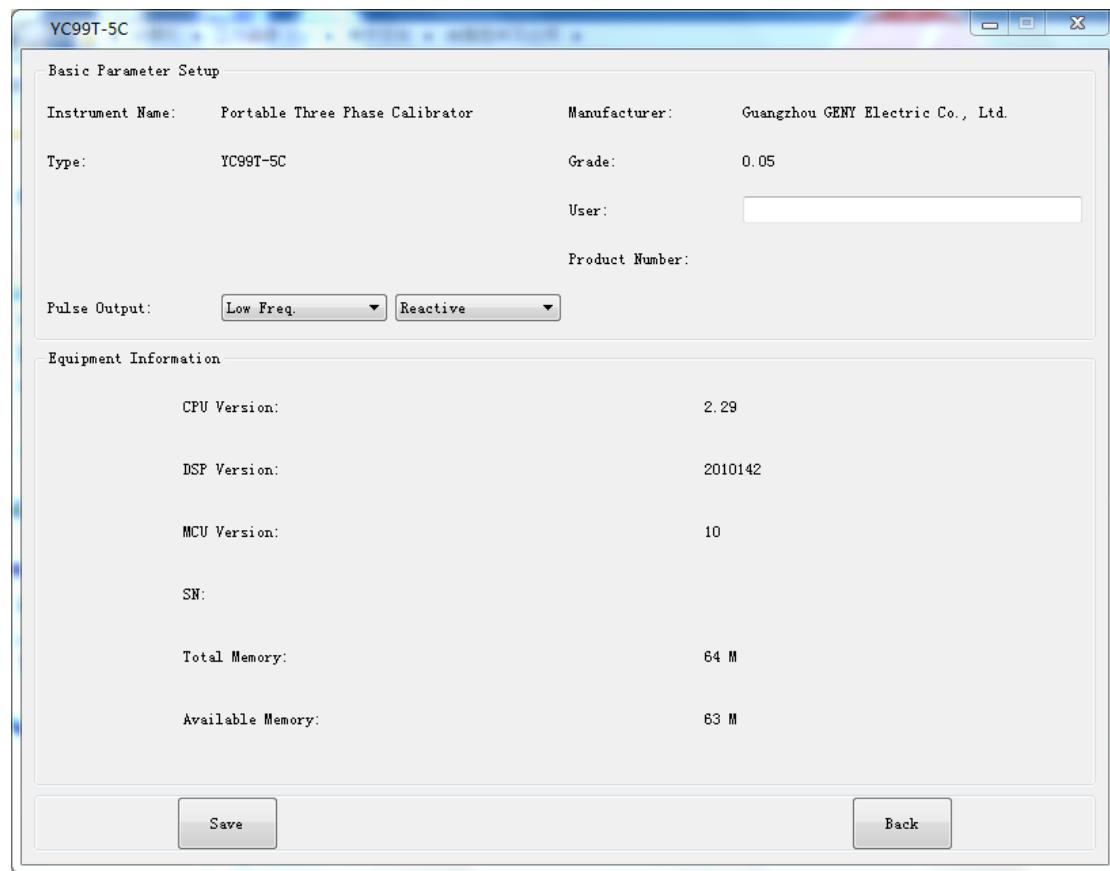
6. Calibration Result



7. System setup



7.1. Basic Parameter



Grade: Accuracy class of machine.

Pulse Output: Low Frequency/High Frequency & Active/Reactive.

User: Input user information

Product Number: Serial number

CPU Version: Machine Firmware version

Save: Save the setup

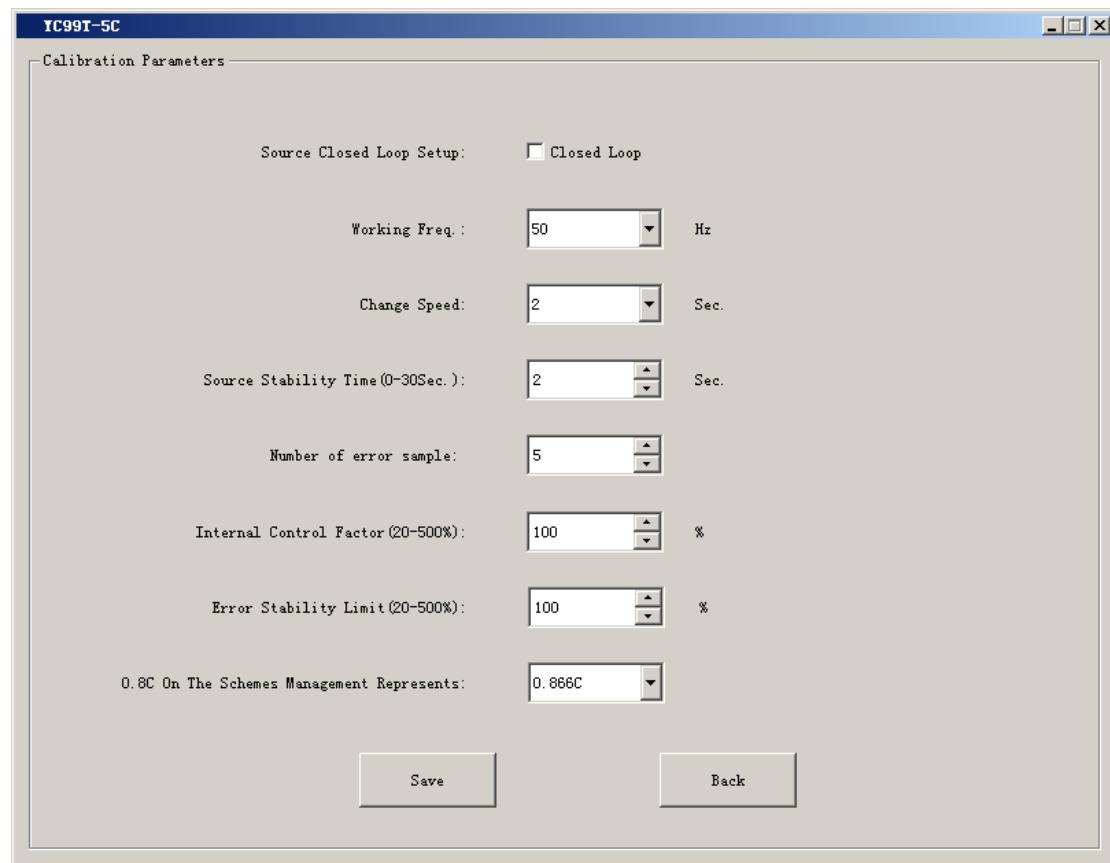
Back: Back to System Setup interface

7.1.1. System upgrade

Detail operation refer to point 9.

Basic Parameter Setup			
Instrument Name:	Portable Three Phase Calibrator		
Type:	YC99T-5C	Manufacturer:	Guangzhou GENY Electric Co., Ltd.
Key Sound:	<input type="checkbox"/> On	Grade:	0.05
Source Alarm:	<input type="checkbox"/> On	User:	<input type="text"/>
Pulse Output:	<input type="button" value="Low Freq."/> <input type="button" value="Up"/>	<input type="button" value="Reactive"/> <input type="button" value="Down"/>	
Equipment Information			
CPU Version:	2.03		
DSP Version:			
MCU Version:			
SN:			
Total Memory:	64 M		
Available Memory:	63 M		
<input type="button" value="Save"/>	<input type="button" value="Upgrade"/>	<input type="button" value="Back"/>	

7.2. Calibration Parameter (Number of error sample)



Source Closed Loop Setup: Power source feedback mode

Working Frequency: The power supply frequency of 99T

Change Speed: Power source power respond time to reach the setting value

Source Stability Time (0-360): After power source reaching the setting value, the waiting time before the calibration start.

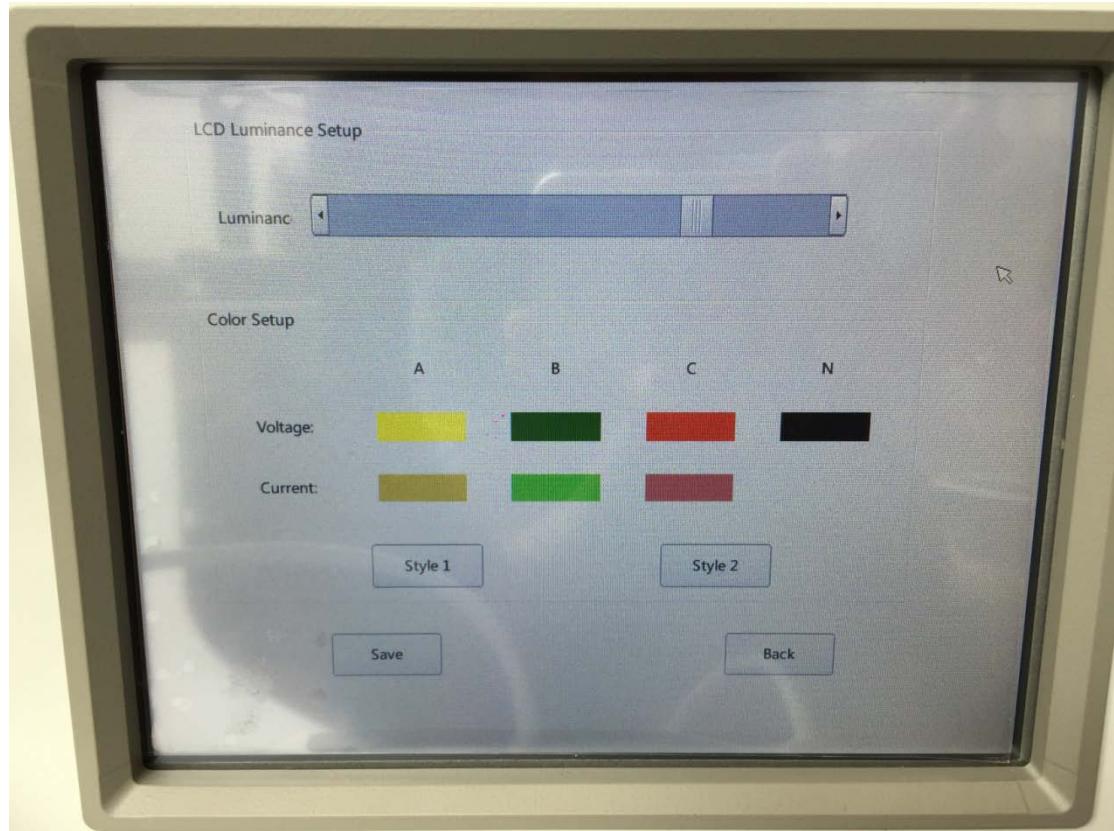
Number of error sample: The setting number of error samples which will be saved to the test record.

Internal Control Factor (20-500%): Normal setting is 100%

Error Stability Limit (20-500%): If the difference between each two error is within the limit of "error stability Limit*99T accuracy, then we can define the error has reached the stable condition.

0.8C on the Schemes Management Represents: 0.866C or 0.8C

7.3. LCD Laminations and Display

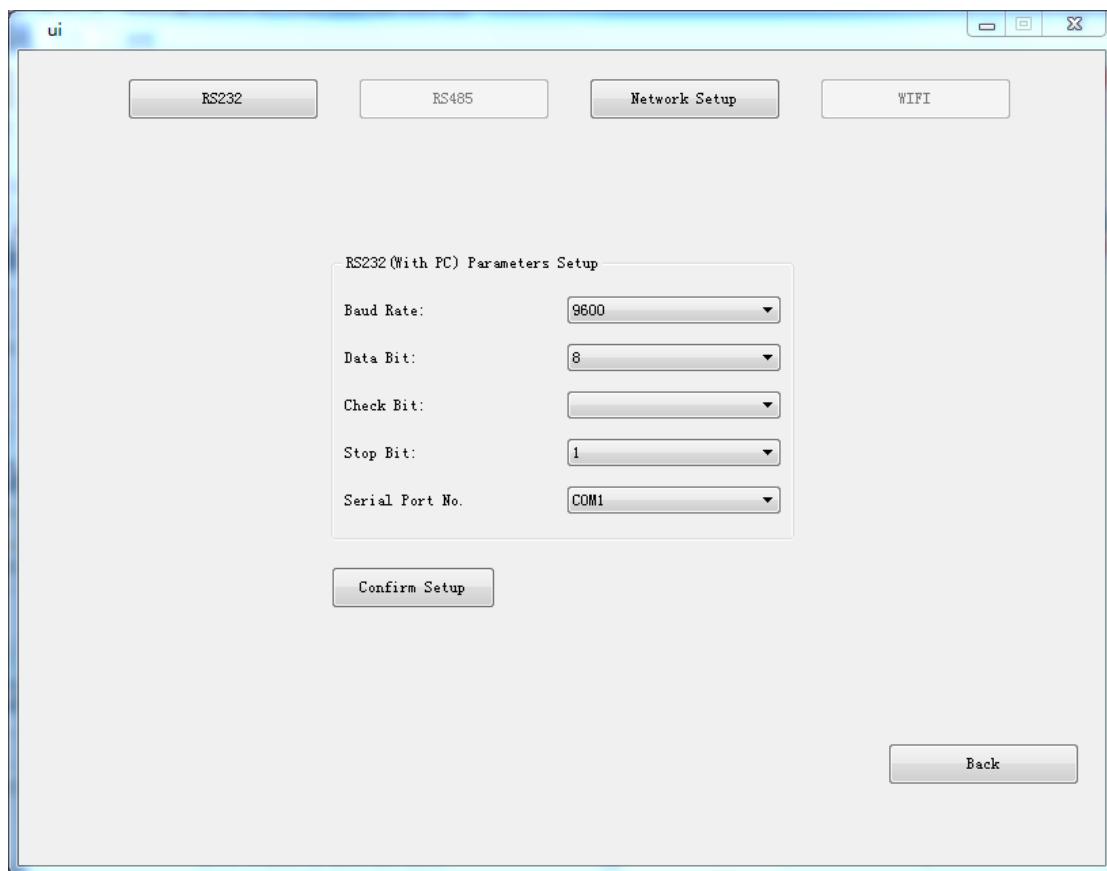


LCD Luminance Setup: To adjust the brightness of the display

Color Setup: Style 1 present for ABC phase to yellow, green and red. Style 2 present for phase ABC to red yellow and blue

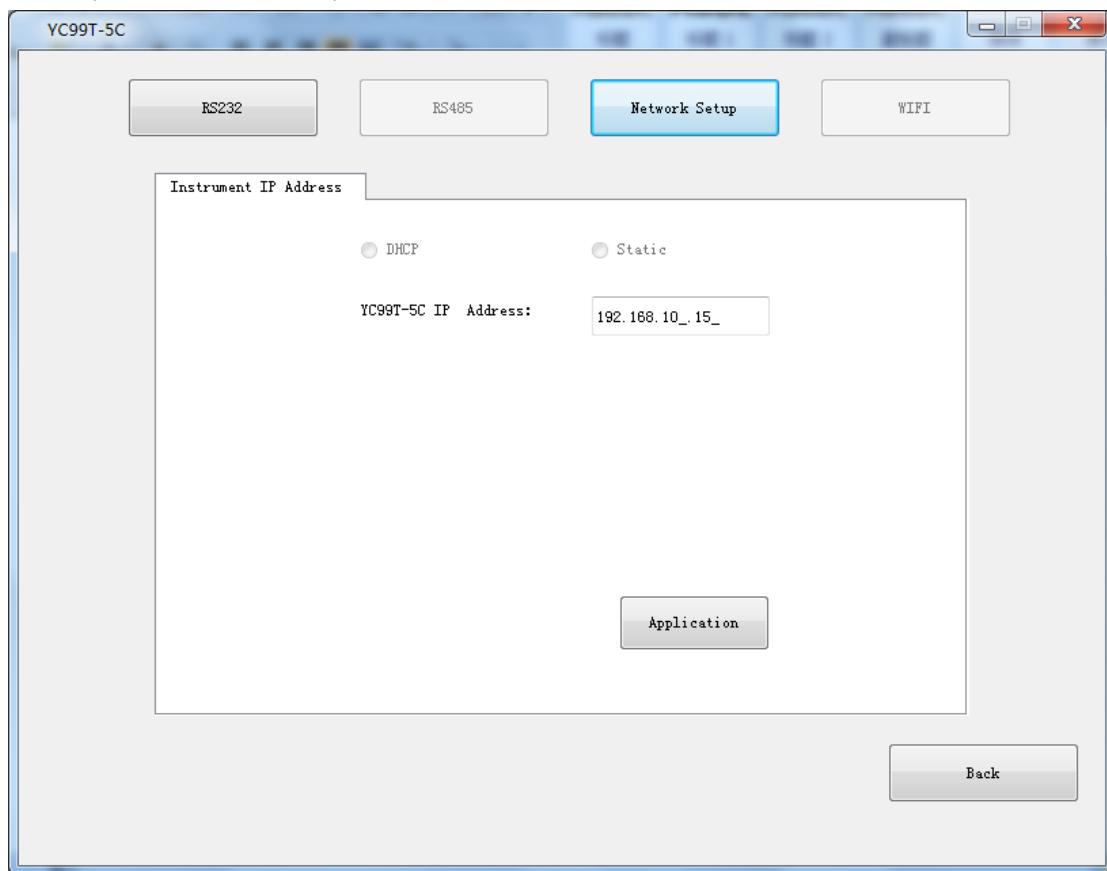
7.4. Communication Parameter

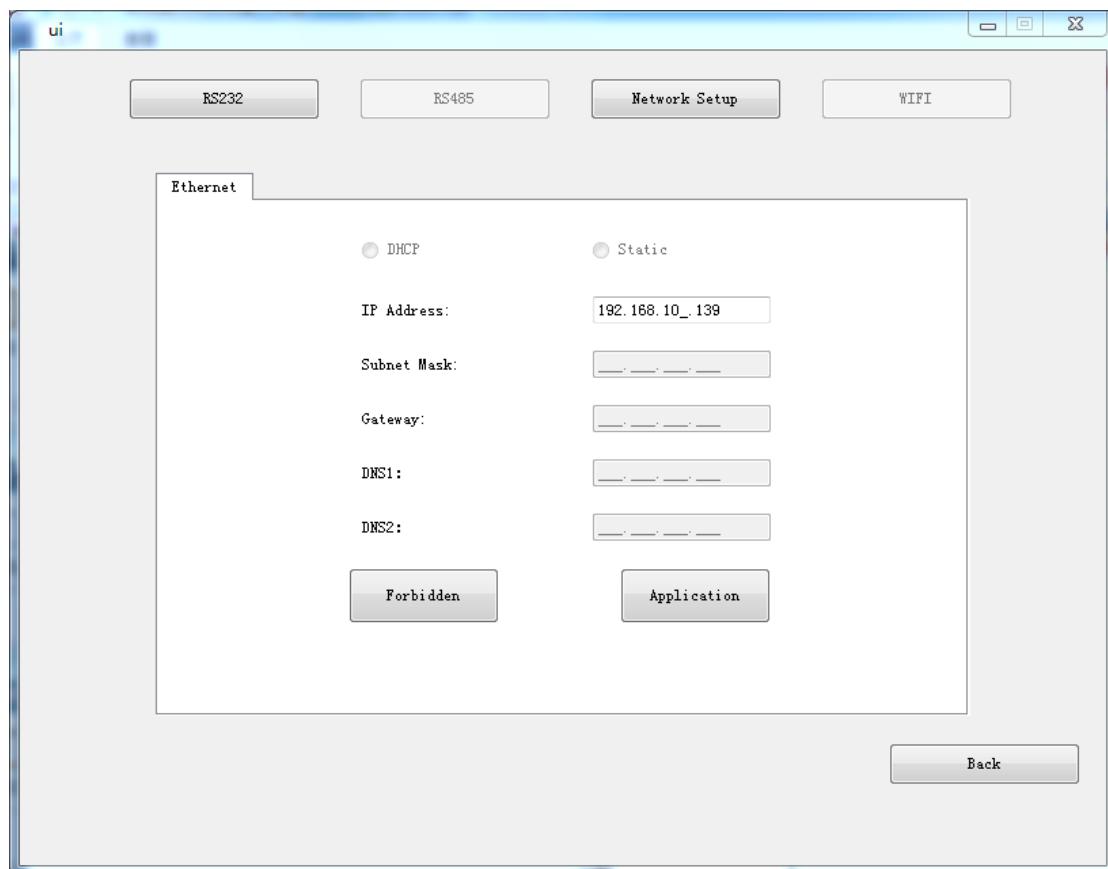
7.4.1. RS232 setup



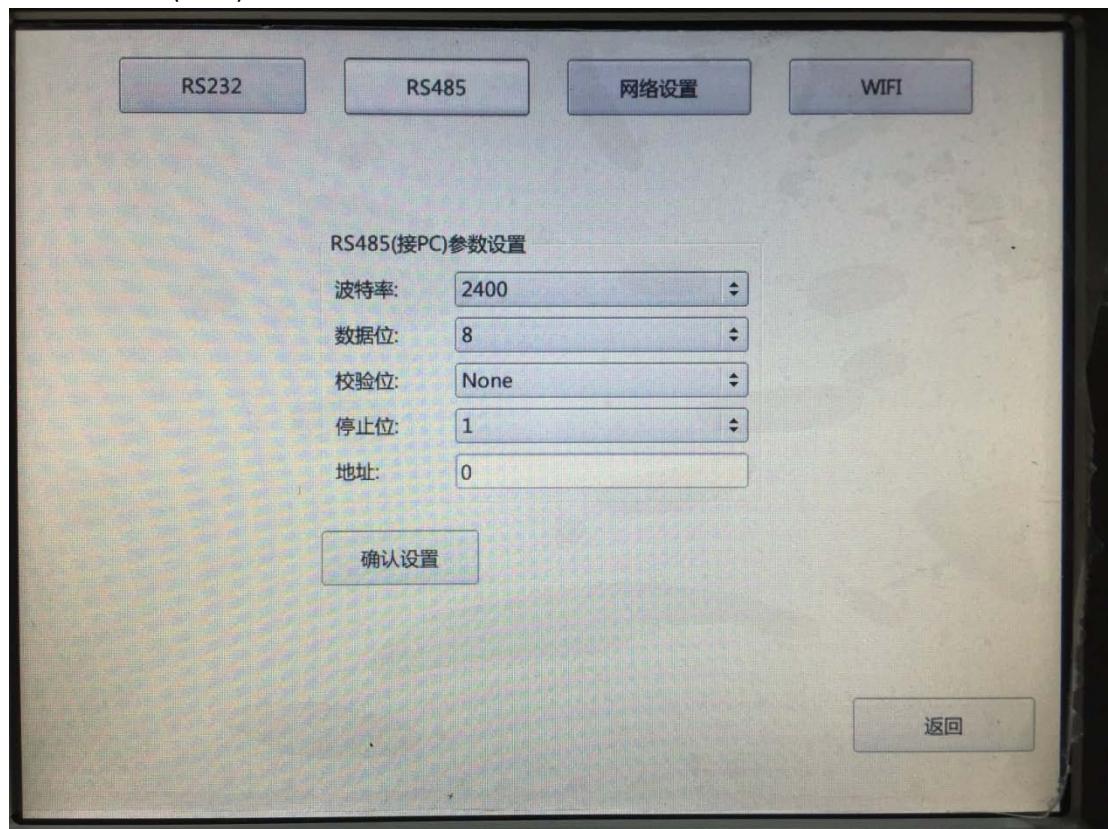
7.4.2. Network Setup (Connecting 99T from PC by internet cable)

Detail operation can refer to point 8.

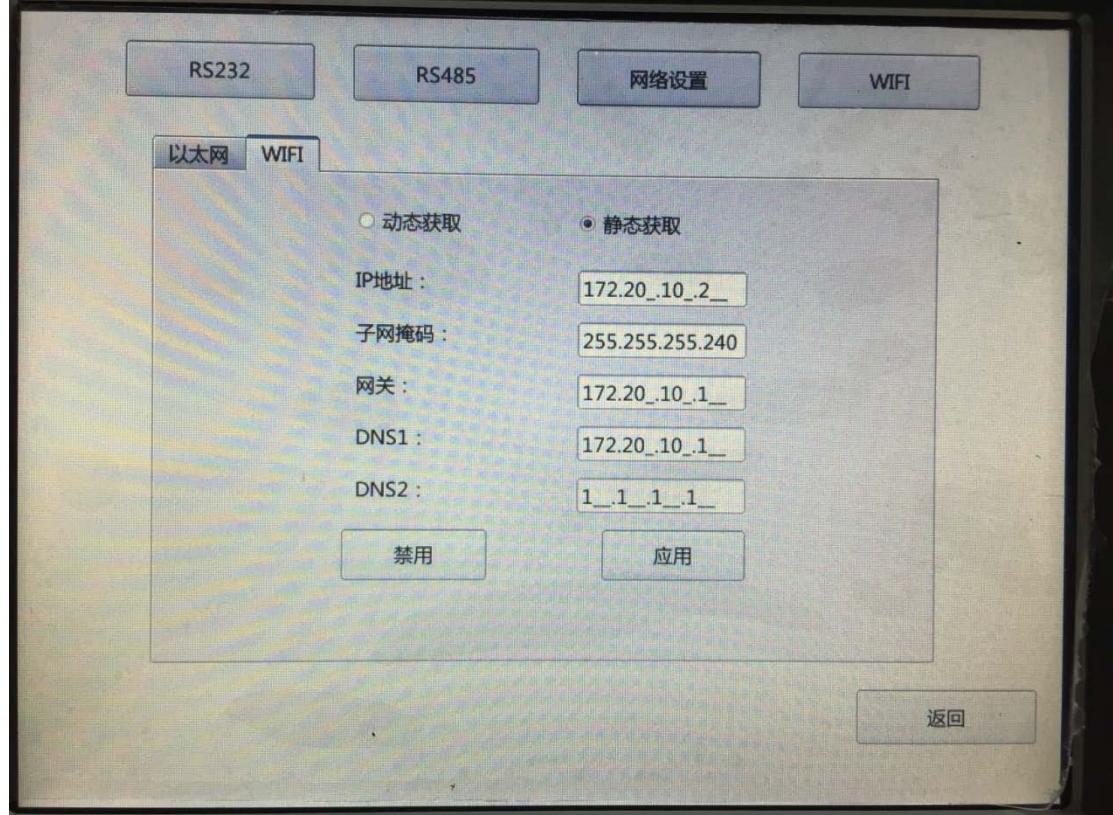
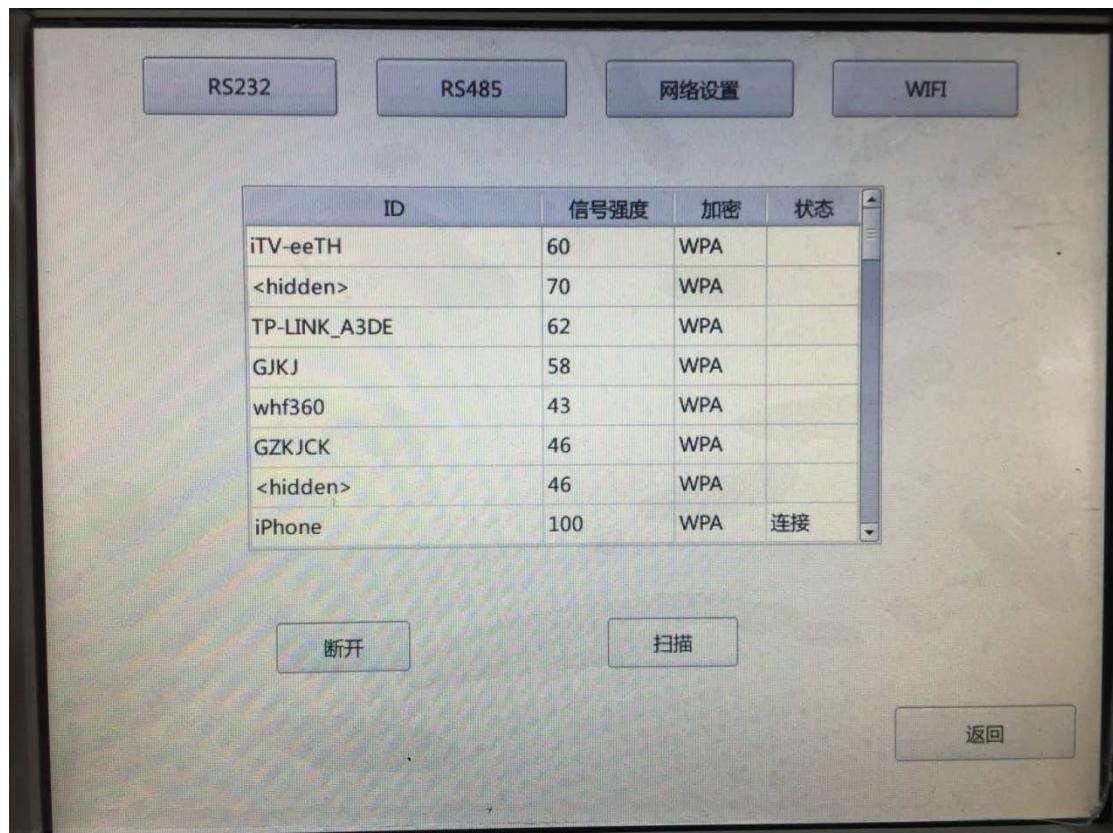




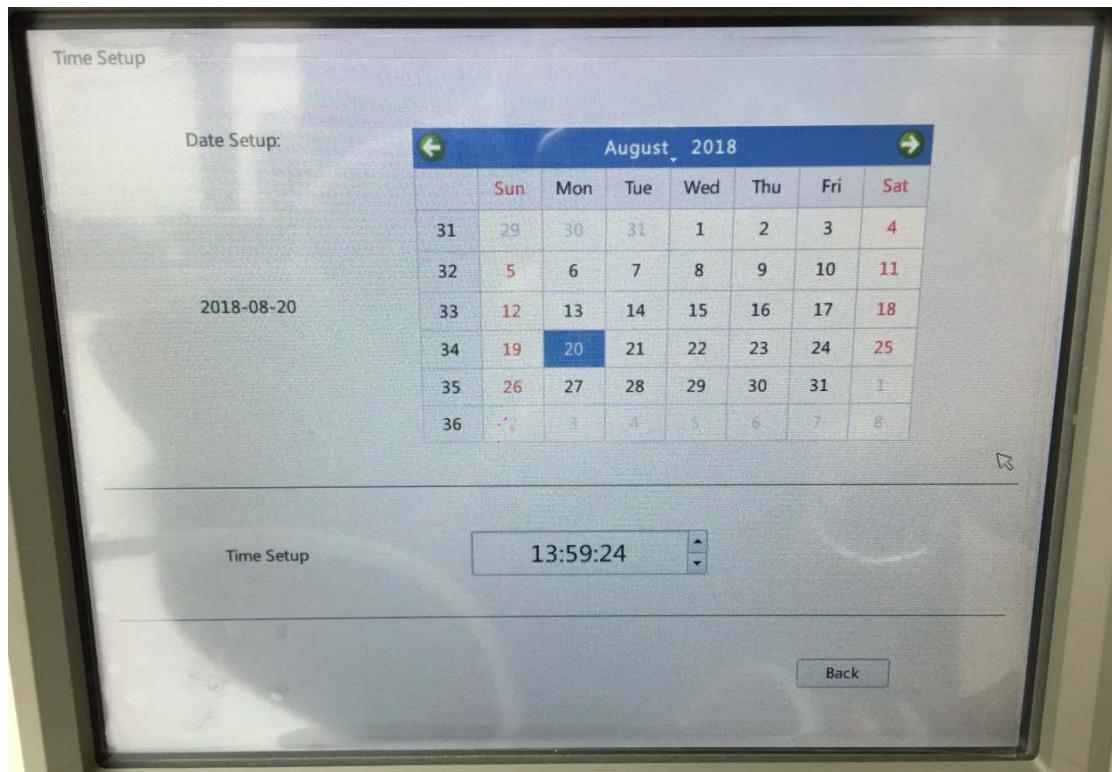
7.4.3. RS485(中文)



7.4.4. Wifi(中文)

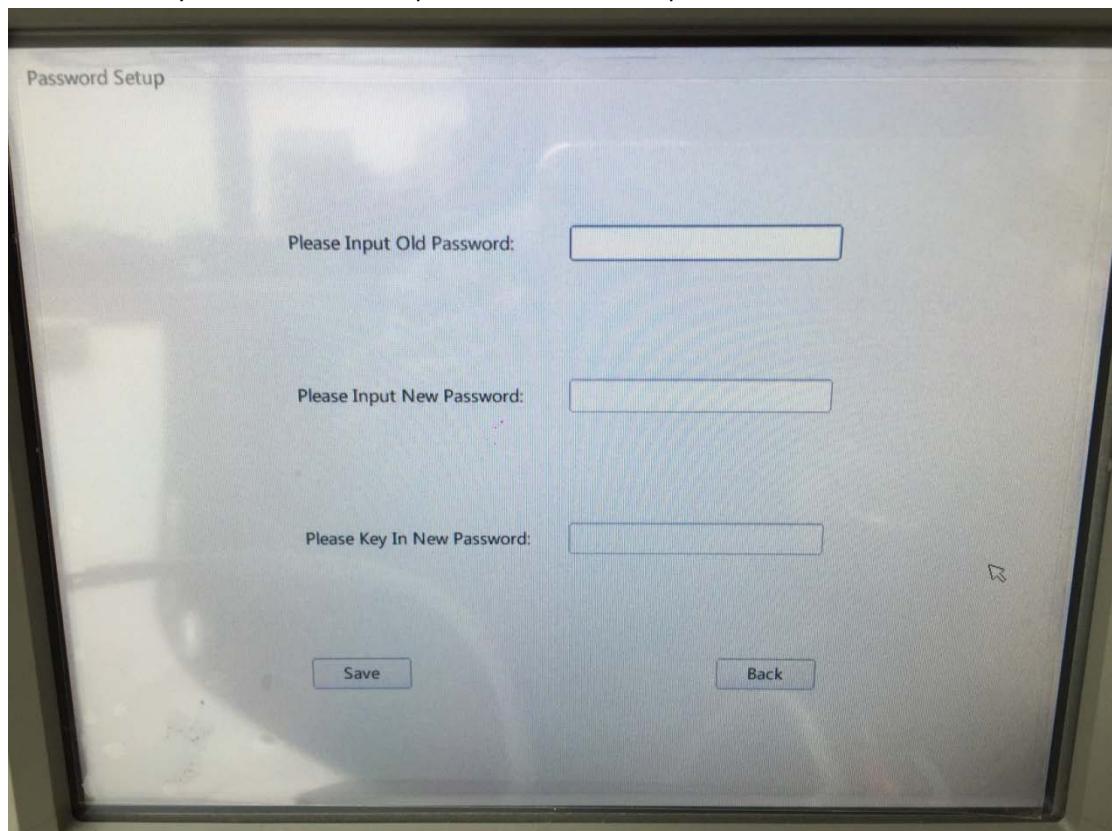


7.5. Time setup



7.6. Modify password

This is to modify the 99T calibration password, the default password is 000000.



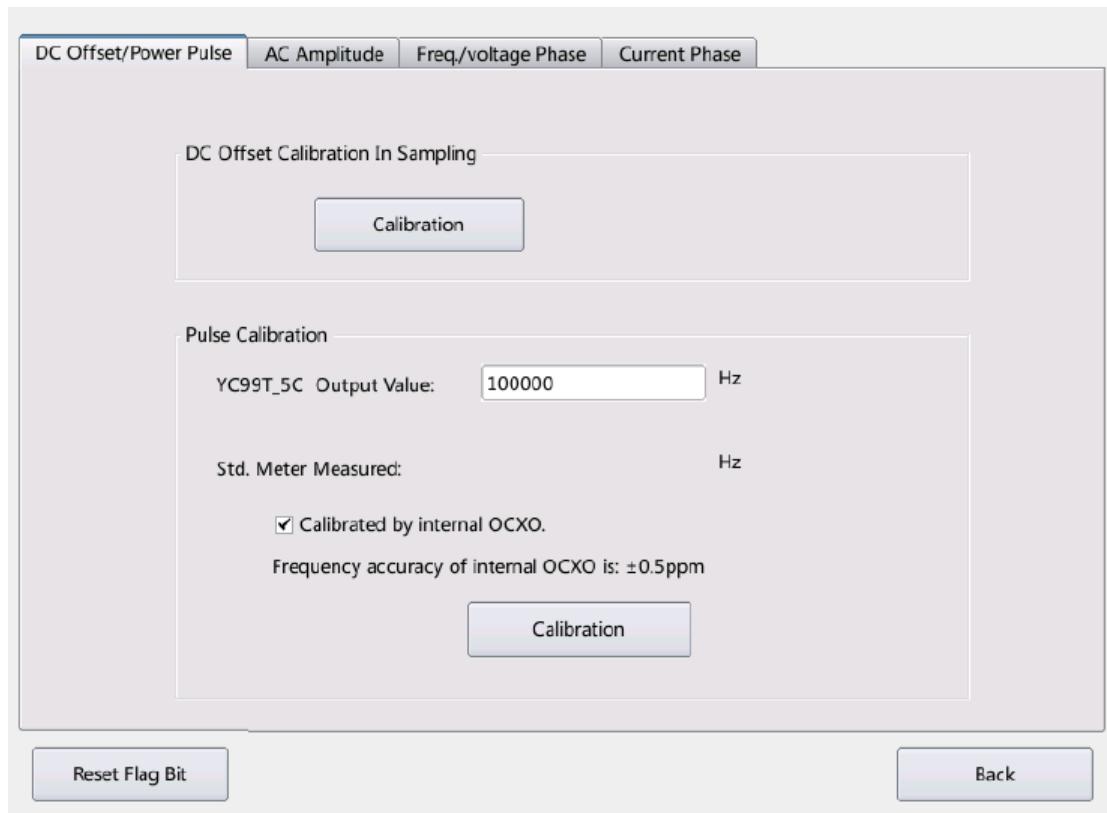
7.7. Calibration

The calibration can only be operate on the 99T key board panel, default password to enter calibration interface is 000000. “Reset Flag Bit” function is to high light the calibration point in red color when means the test points have been calibrated.

7.7.1. DC Offset/Power Pulse

DC Offset Calibration In Sampling, in this calibration no need a external standard. There is not actual output in the calibration process.

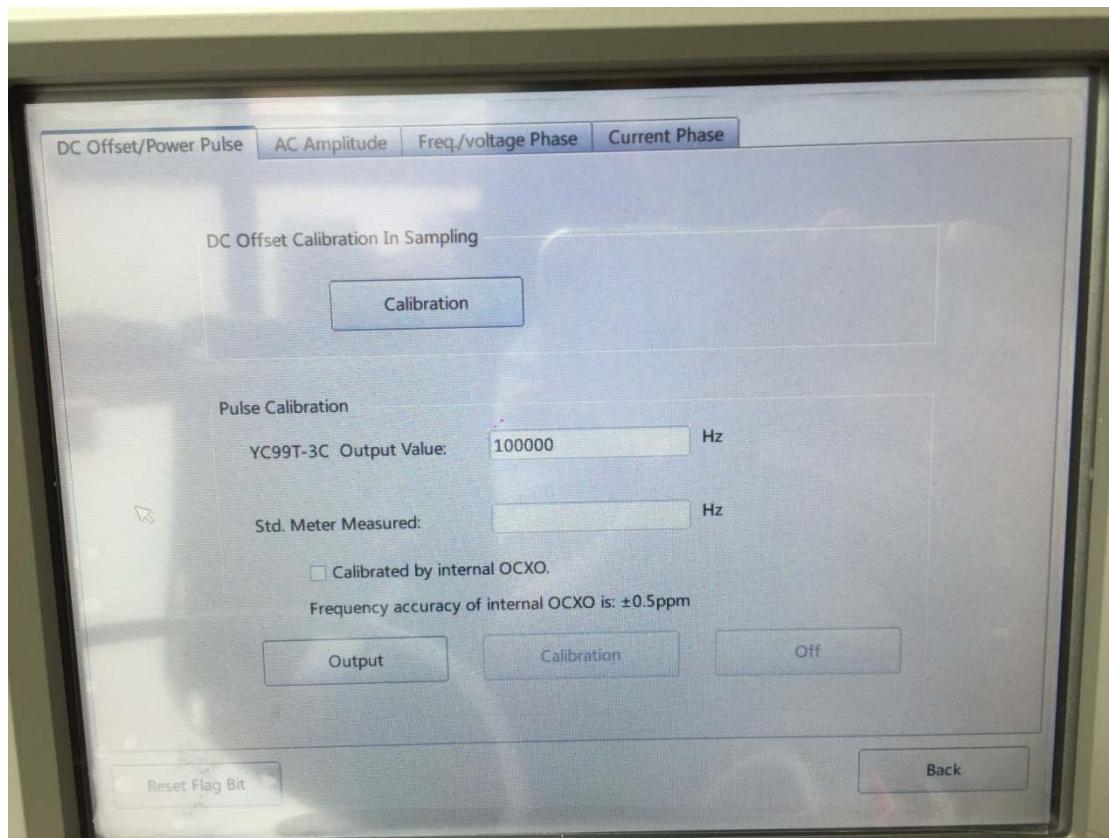
Power Pluses calibration, in this calibration no need a external standard. The calibration is done by using the build in OCXO. The build in OCXO accuracy is $\pm 0.5\text{ppm}$.



7.7.1.1. Power pulse calibration wither external standard

There are two options for Power pulse calibration. The first option is to use the build in OCXO to calibrate, the second option is to connect with a external frequency standard to calibrate.

To unselect the “Calibrated by internal OCXO”, and then select “output”, the FH/FL terminal of the equipment will generate a high frequency at set in the output value. Then connect this high frequency to a external frequency standard. To fill in the actual frequency reading in the standard meter measurement windows.



Output: Generate a high frequency pulse at the 99T front panel "FH/FL" terminal

7.7.2. AC Amplitude

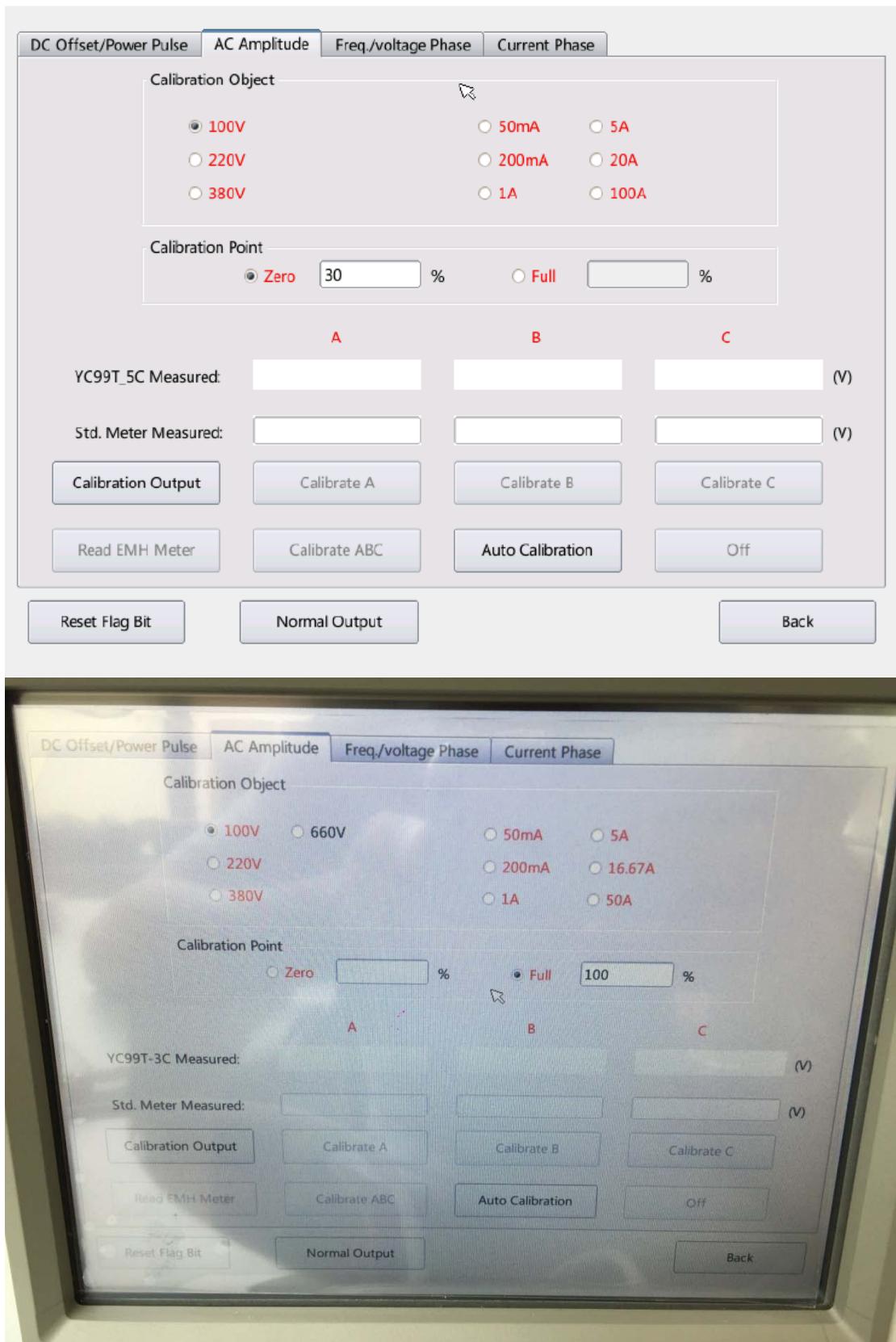
This calibration require a external standard meter, calibration should done both at zero scale(30%) and full scale(100%). Voltage and current are calibrate separately.

Voltage calibration points are 100V, 220V, 380V.

Current calibration points are 50mA, 200mA, 1A, 5A, 20A, 100A.

To start the calibration by selecting a calibration point then press "Calibration output", 99T will generate the setting value. The equipment support "auto-calibration" by connecting with an EMH standard meter. If the user no having a EMH standard meter, then have to manually input the actual output reading to the "standard meter measurement" windows.

Normally first will calibrate phase A, then phase B, at last is phase C. If select "calibrate ABC", may the calibrate result not accurate due to time lag of input value and real time value.



Calibration object: To select the calibration point

Calibration point: To select in zero scale or full scale

Calibration output: Output the selected calibration value

Read EMH Meter: Use when connecting with EMH standard meter

Calibration A: to calibrate phase A after input the actual measurement value
Calibration B: to calibrate phase A after input the actual measurement value
Calibration C: to calibrate phase A after input the actual measurement value
Calibration ABC: to calibrate all phase after input the actual measurement value
Auto Calibration: Use when connecting with EMH standard meter
Off: stop the power source
Reset Flag Bit: To highlight the yet to calibration point in red color
Normal Output: To verify the calibration value

7.7.3. Freqency/votlage phase angle calibration

Frequency calibration: There are two options for frequency calibration. The first option is to use the build in OCXO to calibrate, the second option is to connect with a external standard to calibrate. The voltage that use to calibrate the frequency is 100V.

Voltage calibration: need to connect an external standard to calibrate the voltage phase. The voltage that use to calibrate the frequency is 100V.

Ua 100V 50Hz Output: Out 100V with 50Hz without the calibration factor.

100V output: Output 100V without the calibration factor

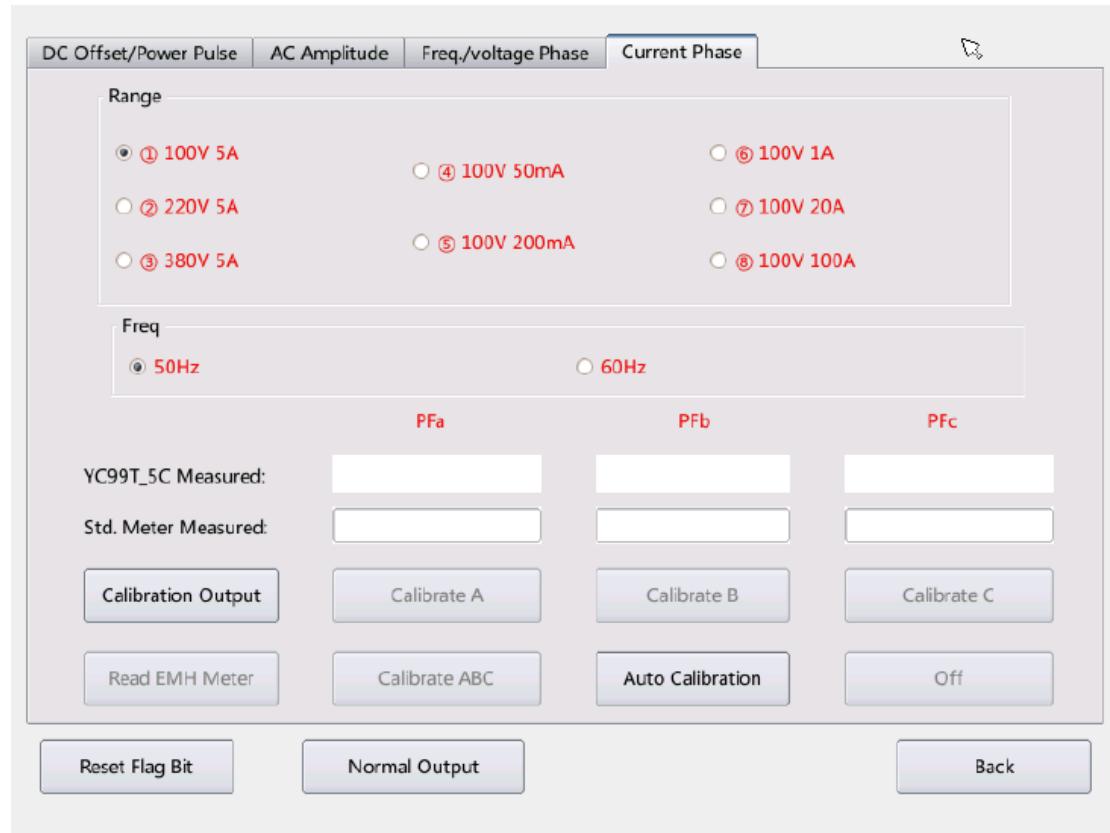
Reset Flag Bit: To highlight the un-calibrate value

Freq Normal Output: To verify the calibrated frequency output.

Phase Normal Output: To verify the calibrated voltage phase output.

7.7.4. Current phase

Need to connect an external standard to calibrate.



Calibration object: To select the calibration point

Calibration point: To select in zero scale or full scale

Calibration output: Output the selected calibration value

Read EMH Meter: Use when connecting with EMH standard meter

Calibration A: to calibrate phase A after input the actual measurement value

Calibration B: to calibrate phase A after input the actual measurement value

Calibration C: to calibrate phase A after input the actual measurement value

Calibration ABC: to calibrate all phase after input the actual measurement value

Auto Calibration: Use when connecting with EMH standard meter

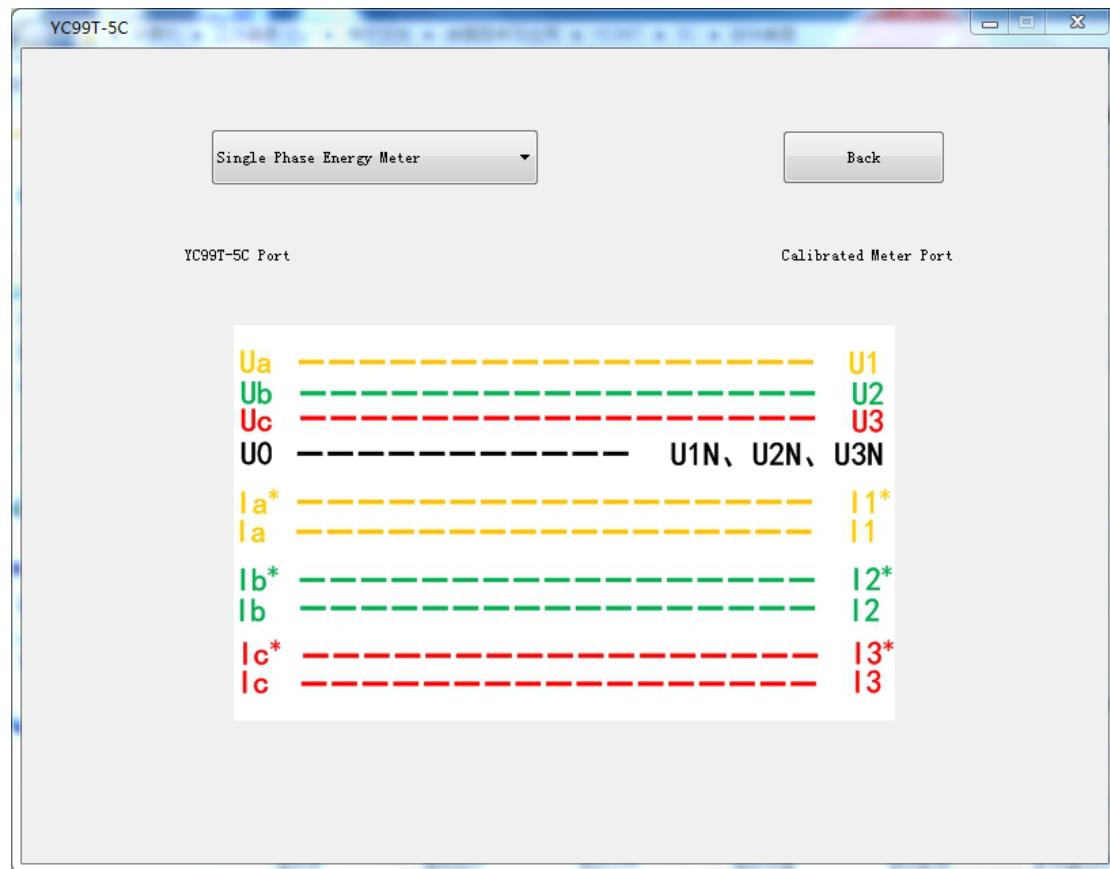
Off: stop the power source

Reset Flag Bit: To highlight the yet to calibration point in red color

Normal Output: To verify the calibration value

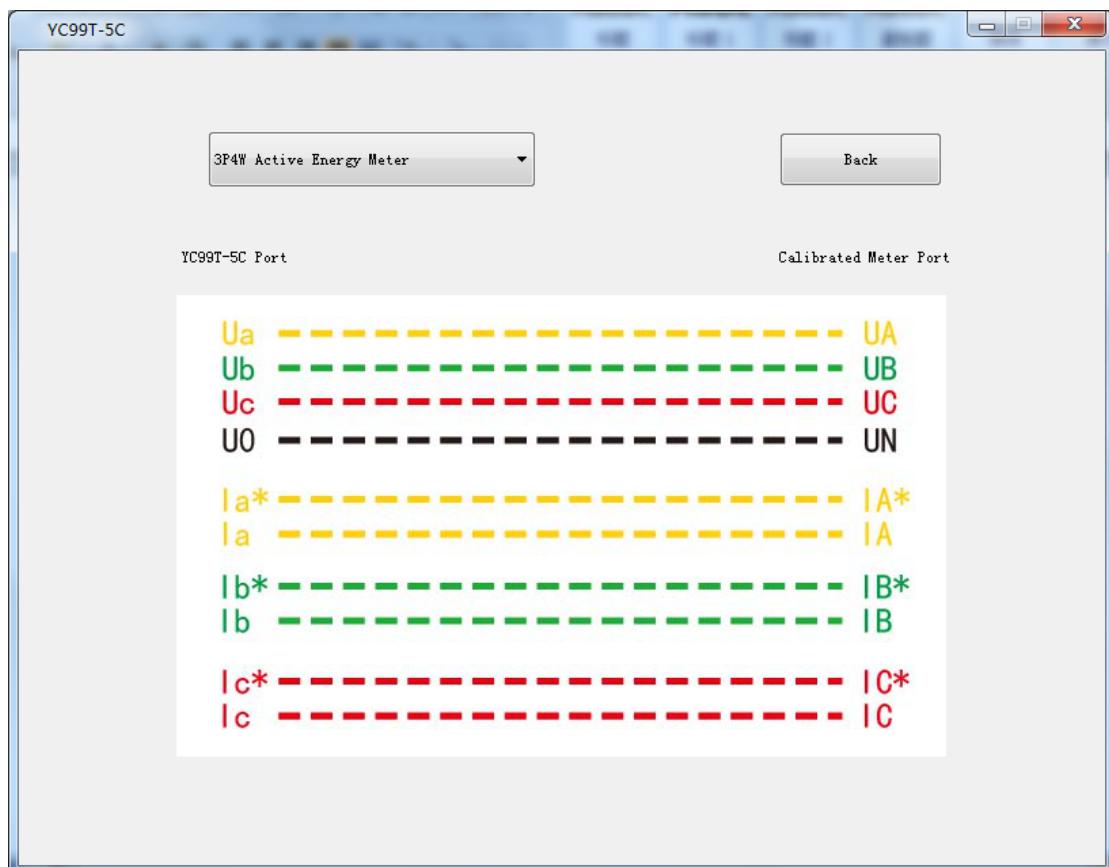
7.8. Help(Wiring)

7.8.1. Single Phase mode



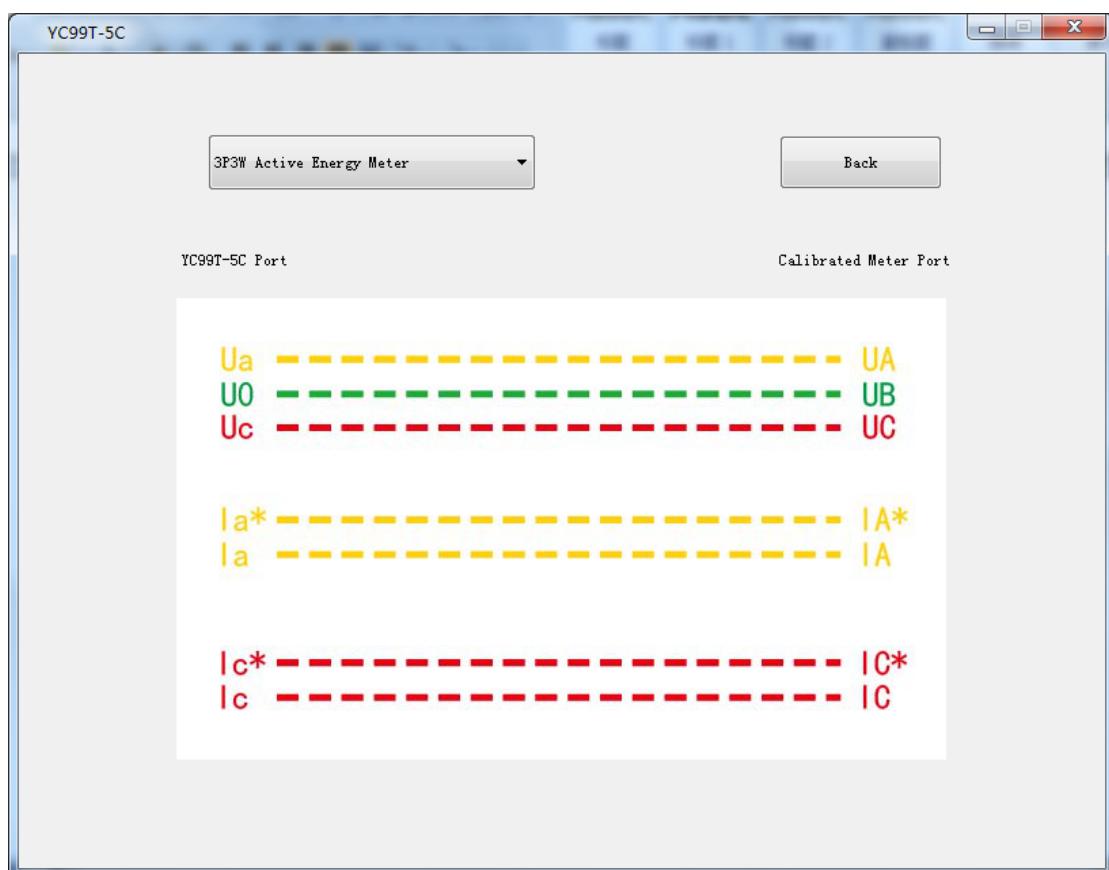
Single Phase mode: Support for three pieces of single phase meter to calibrate at the same time. Meter can be close-link or open-link. Phase A current & voltage connect to first meter, phase B current @ voltage connect to second meter, phase C current and voltage connect to third meter, phase sequence can't reverse. Three meter's voltage-N should connect together to the power source.

7.8.2. 3P4W mode



3P4W Energy mode: Support for 3P4W active energy/reactive Energy /com meter.

7.8.3. 3P3W mode



3P3W mode: Support for 3P3W Active energy/com meter, 2 element 60° / 90° reactive energy meter

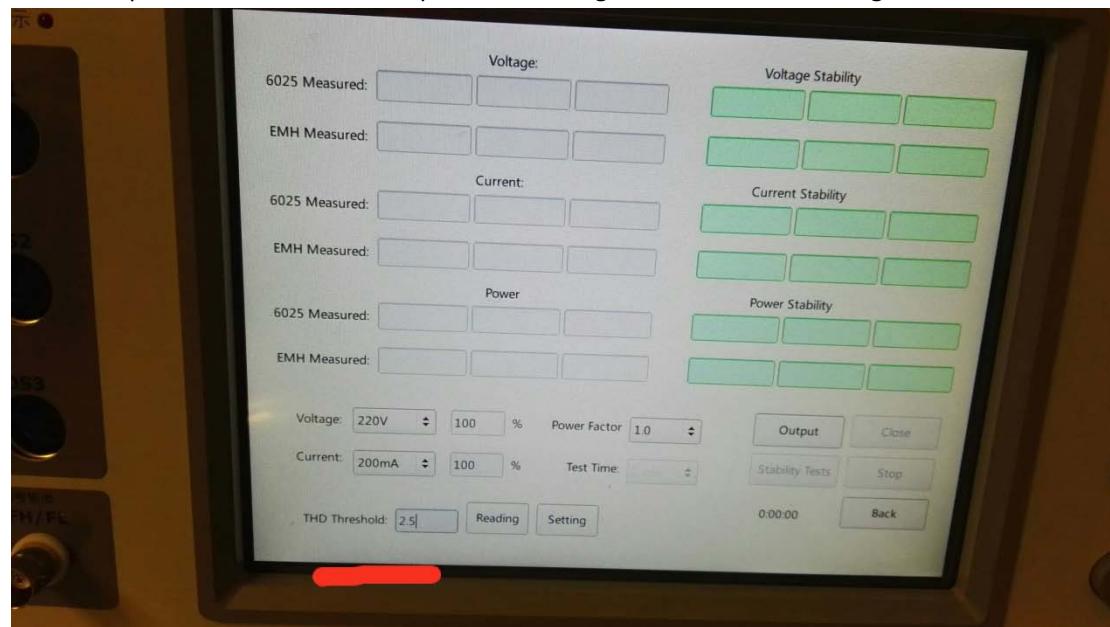
7.8.4. 3 element 90° reactive Energy Meter



7.9. Factory Setting

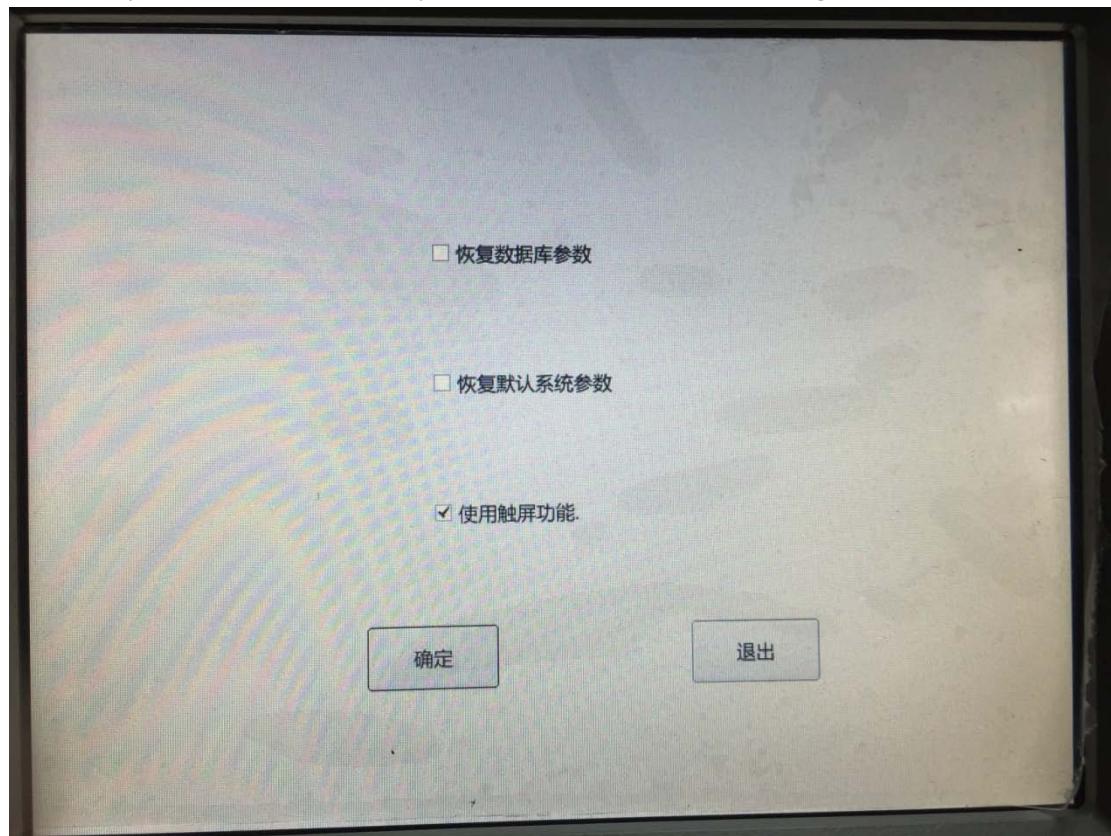
7.9.1. Calibration of power source and THD Threshold

In the “Help” interface of 7.4, direct press 3851 will go into calibration setting



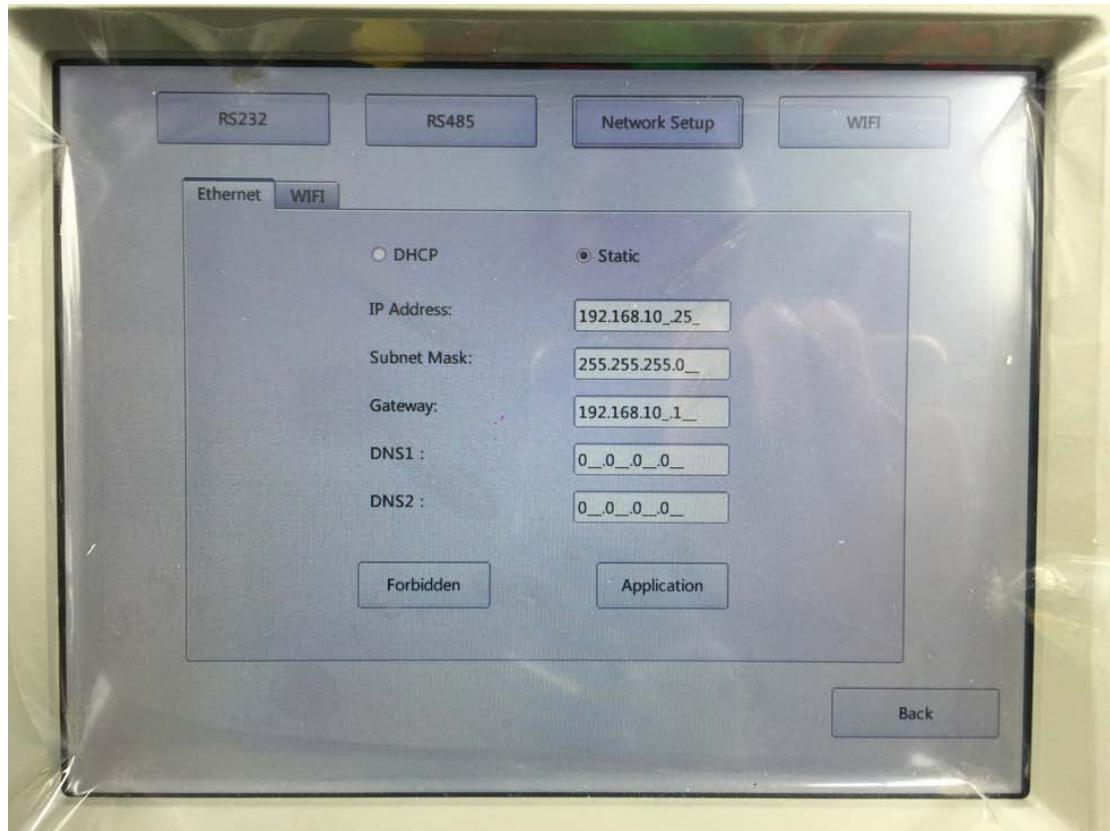
7.9.2. Default setup, database, touch screen.

In the “Help” interface of 7.4, direct press 3850 into touch screen setting.

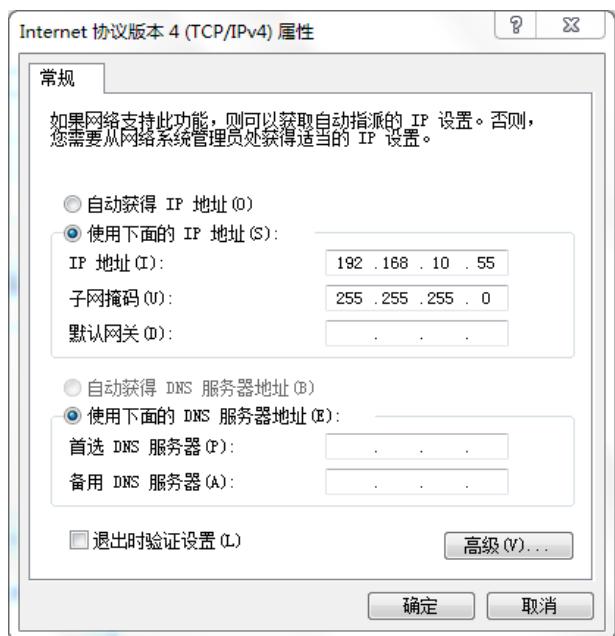


8. Connecting 99T with computer by internet cable

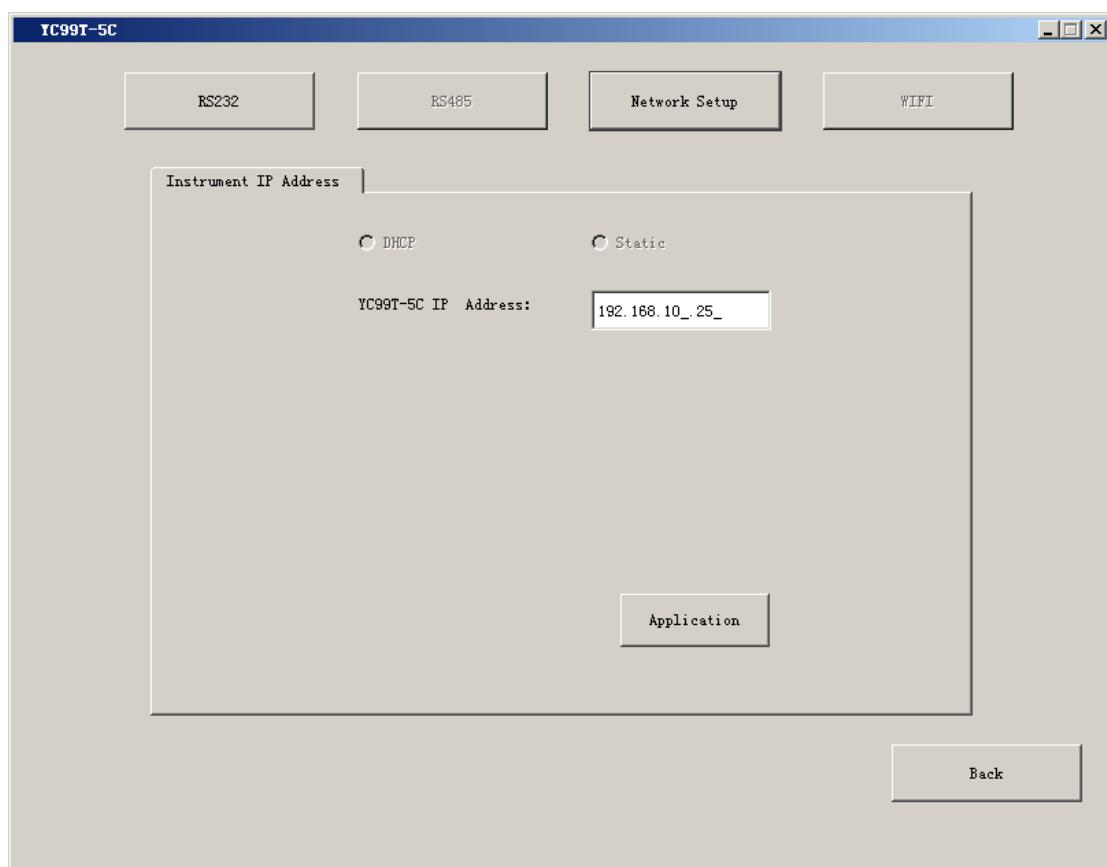
In the machine, go to System Setup /Com. Parameter/Network Setup, can see the machine IP as below picture, for example: 192.168.10.25, this IP can redefine by the user.



Computer IP setting: go to control panel, set the network TCP/IPV4 as follow, the last two digit of the computer IP should be bigger than the machine IP in number. For example, machine IP is 192.168.10.25, computer IP should be anything but not 25 on the last two digits, for example like 192.168.10.55



Run PC software to set up software IP, go to the 99T-3C network interface to set the same IP as machine.



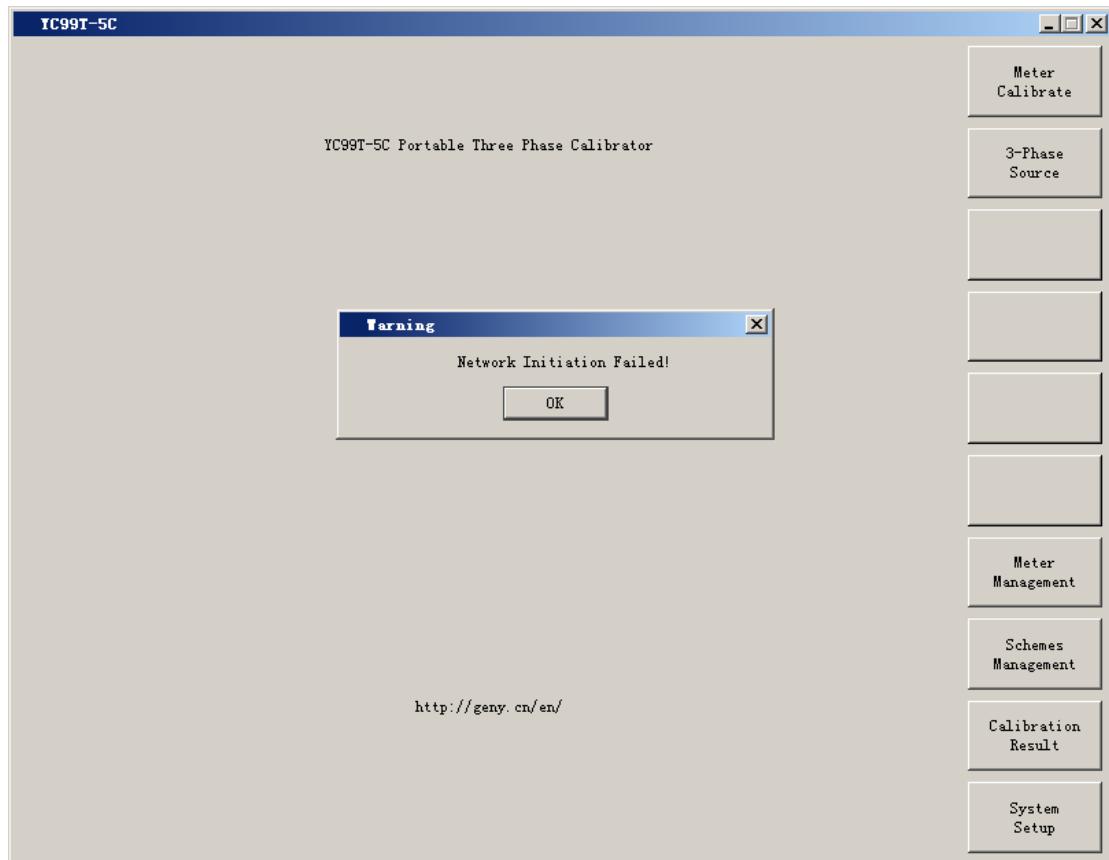
In conclusion: IP setting can follow as below example

Machine IP: 192.168.10.**25**

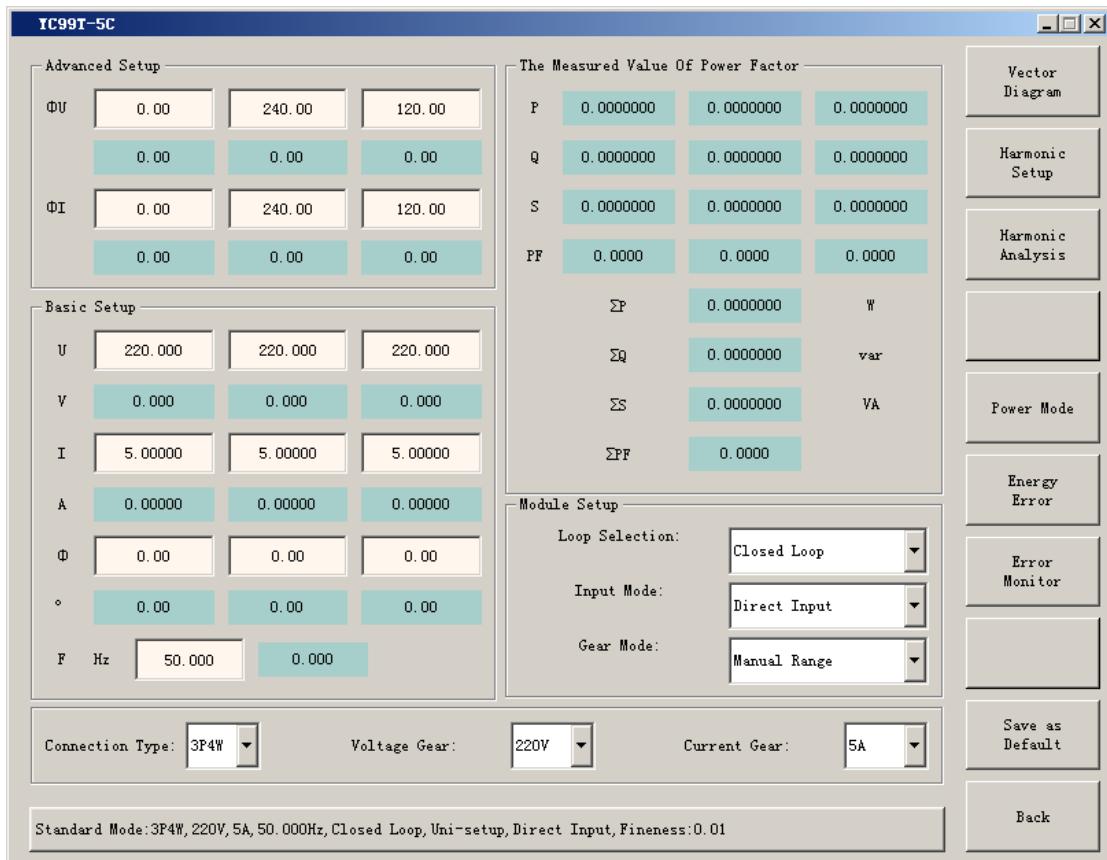
PC IP: 192.168.10.**55**

SW IP: 192.169.10.**25**

Try to control the power source from PC software, if not success in connection, a “Network setup failed” message will show on the screen.



For successful connecting, it will go into the power source control interface.



Press 'F2' on PC, 99T will output voltage and current accordingly.

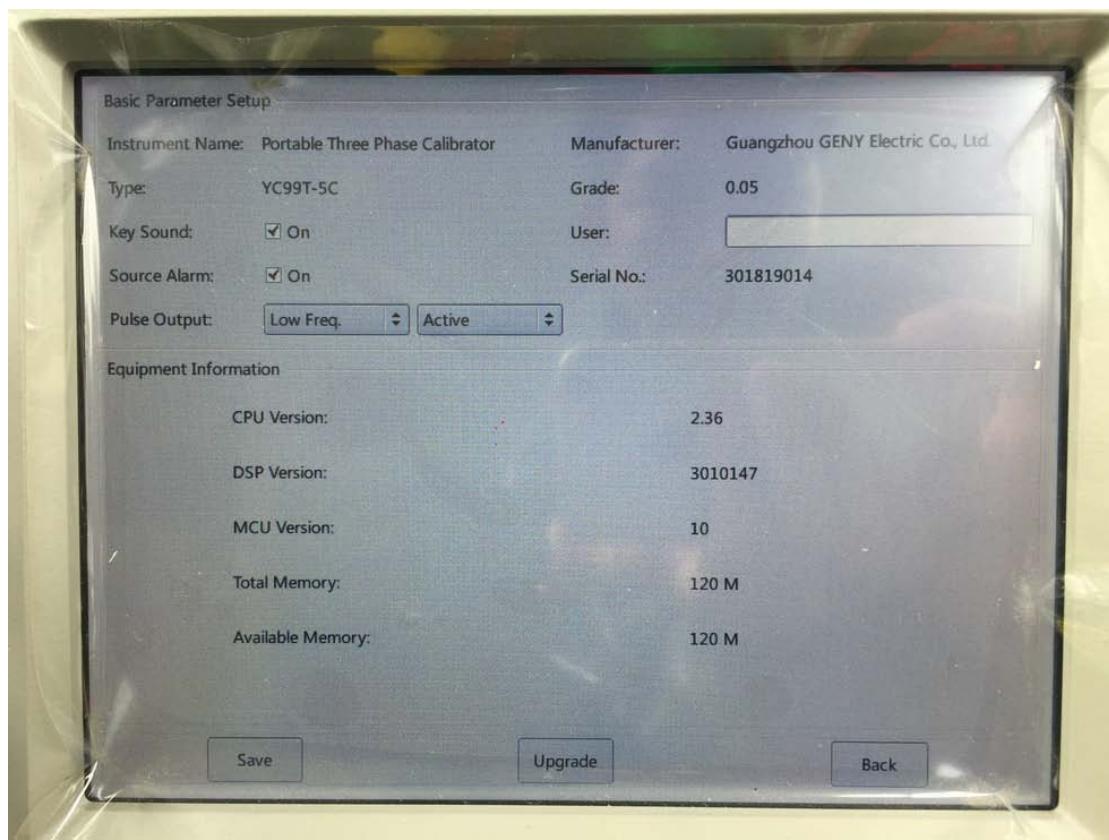
9.System upgrade.

Copy the file “yc99t_5c_upgrade#.....bin” into USB-Stick root directory.

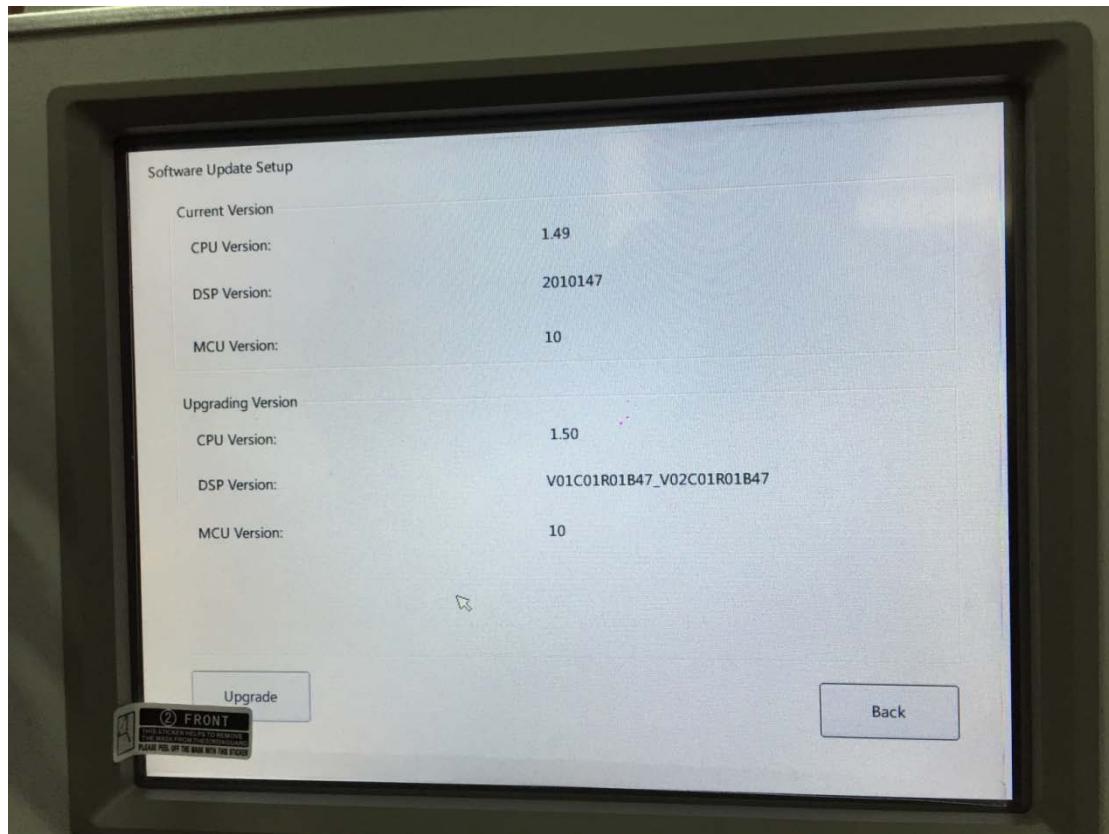
Plug the USB-Stick into the front panel of 99T.



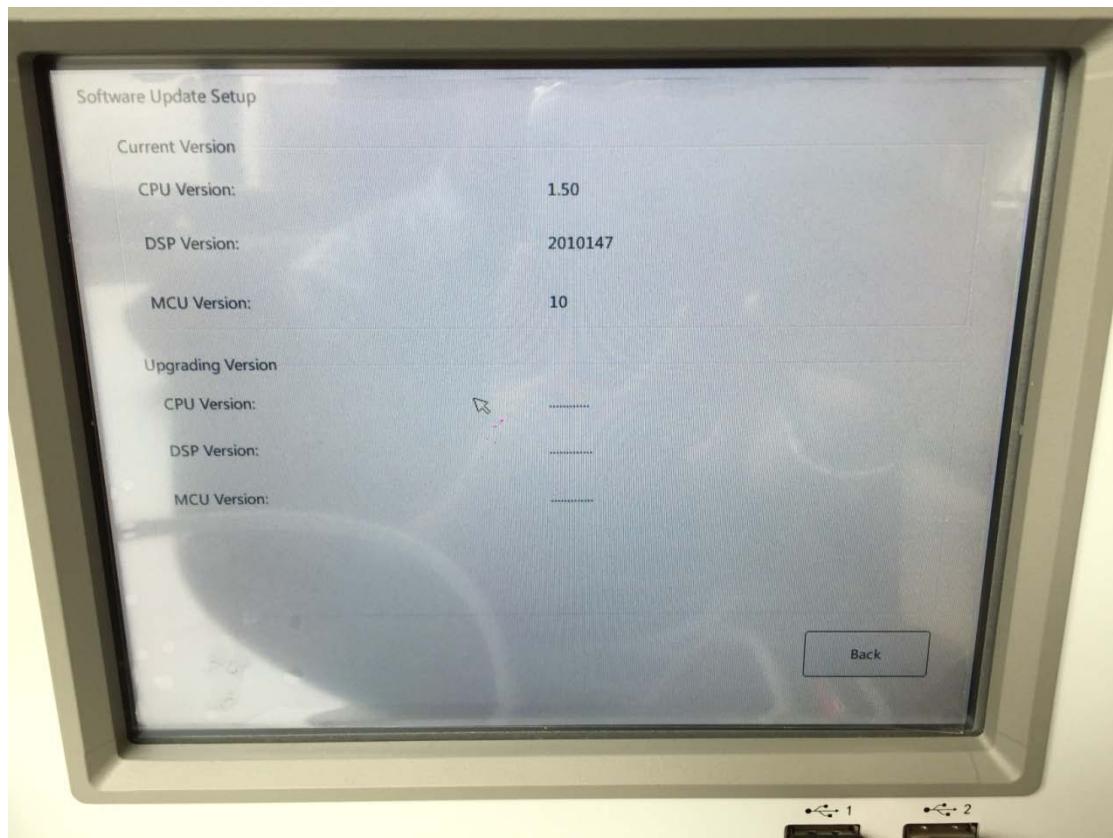
From main interface---system setup—basic parameter---upgrade, press the upgrade button, will go to versions confirm interface on the next



The follow versions confirm interface show the 99T version and the new version in the flash drive to be upgrade, commence the upgrade by press the upgrade button.



If the upgrade version information can't detect, the new version detail will not show up.



During upgrade, do not unplug the flash drive, the 99T will automatically reboot when after the upgrade.



