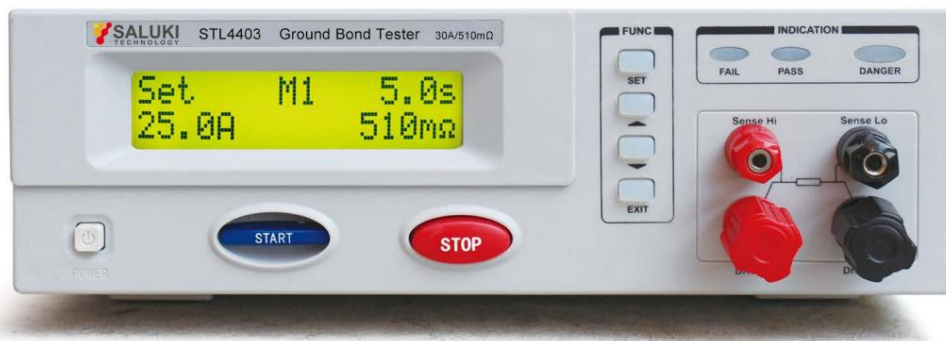




# STL4403 Series Ground Bond Tester

## Operation Manual



Saluki Technology Inc.

























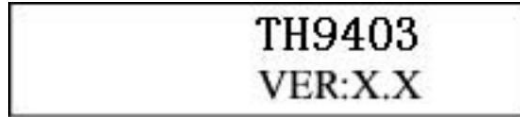


## Chapter 10: Monitor Information

V j k u " e j c r v g t " r t q x k f g u " l p h q t o c v k q p " q p " v j g " N E F " " F k u r n c { " q h " v j g " O q f g n " S T L 4 4 0 3 " " I t q w p f " " T g u k u v c p e g " V g u w g t 0

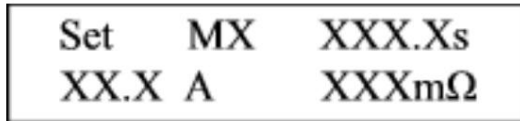
### 10.1 Start-up display

C h v g t " w t w p k p i " " q p " v j g " r q y g t " u y k v e j " " q h " v j g " k p u v t w o g p v " " v j g " k p u v t w o g p v " " y k m " " f k u r n c { <



V j g " k p u v t w o g p v " " o q f g n " c p f " k p u v t w o g p v " p c o g " c h v g t " c " u j q t v " v k o g " g p v g t " 3 2 0 4 " V g u w l U g w k p i " " o q f g 0

### 10.2 Test and parameter setting mode



k p " v j k u " " o q f g " " k h " { q w " r t g u u " v j g " \$ U G V \$ " m g { . " v j g " k p u v t w o g p v " g p v g t u " v j g " r c t c o g v g t " u g v k p i " " o q f g " " k h " { q w " r t g u u " v j g " \$ U V C T V \$ R t g u u " v j g " d w w q p " c p f " v j g " k p u v t w o g p v " k o o g f k c v g n { " g p v g t u " k p v q " v j g " u v c v g " q h " " C E " " i t q w p f k p i " " t g u k u v c p e g " v g u v 0

### 10.3 AC ground resistance test (Dwell)

3 2 0 5 0 3 " Y j g p " v j g " C E " " i t q w p f " t g u k u v c p e g " v g u v " k u " r g t h q t o g f " " v j g " v g u v " t g u w n v u " y k m " d g " w r f c v g f " e q p v k p w q w u n { . " c p f " v j g " F k u r n c { " " y k m " F k u r n c { <



3 2 0 5 0 4 " k h " v j g " v g u v " j c u " l w u v " u v c t v g f " c p f " v j g " e q o r n g v g " v g u v " t g u w n v " j c u " p q v " d g g p " q d v c k p g f " " v j g " F k u r n c { " " y k m " u j q y <

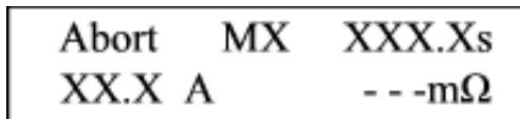


### 10.4 Test Termination (Abort)

3 2 0 6 0 3 " k h " v j g " C E " " i t q w p f " t g u k u v c p e g " v g u v " k u " d g k p i " r g t h q t o g f " c p f " v j g " v g u v " k u " k p v g t t w r v g f " d { " r t g u u k p i " v j g " \$ T G U G V S " m g { " q t " " w u k p i " v j g " t g o q v g " e q p v t q n " F g x k e g . " v j g " f k u r n c { " " y k m " F k u r n c { <



3 2 0 6 0 4 " k h " v j g " v g u v " k u " u v c t v g f " d w v " v j g " e q o r n g v g " o g c u w t g o g p v " t g u w n v " j c u " p q v " d g g p " q d v c k p g f " " c h v g t " t g e g k x k p i " v j g " k p v g t t w r v " v g u v " k i p c n . " v j g " F k u r n c { " " y k m " d g <



### 3207 Ground resistance exceeds the upper limit (HI—Limit)

3 2 0 7 0 3 " k h " v j g " " i t q w p f " t g u k u v c p e g " q h " v j g " q d l g e v " w p f g t " v g u v " k u " f g y g e v g f " v q " g z e g g f " v j g " w r r g t " h k o k v " u g v k p i " x c n w g . " k v " " y k m " d g " " l w f i g f " c u " v j g " " i t q w p f " t g u k u v c p e g " g z e g g f u " v j g " h k o k v 0 " V j g " F k u r n c { " u j q y u <

---

HI-LMT	MX	XXX.Xs
XX.X A		XXXmΩ

10.5.2 If the grounding resistance of the object under test is detected to exceed the test range, it will be judged as the grounding resistance value exceeds the limit, and the display will display:

R_High	MX	XXX.Xs
XX.X A		>510mΩ

10.6 The output voltage is too high If the output voltage of the instrument is higher than 6V, the instrument will automatically stop the test, and the display will display:

V-OVLD	MX	XXX.Xs
XX.X A		>6V

10.7 Pass the test (PASS) If the grounding resistance of the object under test is detected not to exceed the upper limit setting value, it will be judged as the grounding resistance test passed. The display shows:

Pass	MX	XXX.Xs
XX.X A		XXXmΩ

10.8 Abnormality of the instrument When the circuit of the instrument is aging, the display will display:

BROKEN DOWN		
-------------	--	--

## Chapter Eleven: Program Operation and Steps

Model STL4403 grounding resistance tester is mainly used for general production line design and quality inspection. It is very easy to operate and set, and has warnings for unreasonable operations. Please operate the instrument according to the following

procedural steps. 1. Securely connect the grounding post on the rear panel of the instrument. 2. After turning off the power switch, connect the power cord correctly.

The power wiring on your electrical outlet should have neutral on the left and phase on the right (when the ground terminal is on the upper side). 3. Turn on the power switch, and the display of the instrument stays in the setting mode when it was turned off last time.

TH9403		
VER:X.X		

ÿ

Set	MX	XXX.Xs
XX.X A		XXXmΩ

4. Set parameters according to your test requirements (see Chapter 9). 5. If you want to test

the object to be tested, please connect the two points of the object to be tested reliably to the two clamp ends of the test line (the other two ends of the test line are respectively connected to the "CURRENT" end and "RETURN" end of the AC ground resistance tester). 6. Please press the "T" key, the instrument enters the test state, the "DANGER" indicator light on the panel is on, and the timer starts counting from zero at the same time (the grounding resistance of the object under test is lower than the upper limit resistance setting value). "MX" on the display is the currently executing program group (setting value); "XX.XA" is the current value of the program group, "XXX.Xs" is the elapsed time of the test, and "XXX m $\Omega$ " is the measured grounding resistance value.

7. When the test time reaches the "test time setting value" and the grounding resistance value of the object under test does not exceed the upper limit resistance setting value, the instrument will automatically stop the test. And make a "didi" notification sound, and at the same time, the "PASS" indicator light on the right side of the "START" key is on. At this time, the test value displayed on the display is the last test value of the instrument. The ground resistance test value and test time are retained. 8. If the grounding resistance of the object to be tested exceeds the upper limit resistance value set by the current program group, the instrument will judge the test as a failure, and emit a long-term warning sound, and at the same time, the "FALL" indicator light on the "STOP" key is on. Press the "START" button to restart the test or press the "STOP" button to stop the warning sound. Press the "START" button again to enter the standby state. 9. If you want to use an external remote control device to operate the ground resistance tester, please connect the remote control to the remote control input terminal on the rear panel. The "TEST" and "RESET" keys on the remote control have exactly the same function as the "START" and "STOP" keys on the panel of the instrument.

10. This AC ground resistance tester is equipped with "PASS", "FALL", and "PROCESSING" output signals, which can be

These signals are received by the monitoring center so that the central control personnel can monitor the test status.

## Chapter 12: Calibration Procedures and Steps

The Model STL4403 Ground Resistance Tester has been calibrated according to the verification regulations before leaving the factory. The indicators of the instrument are in full compliance with the technical specifications of the instrument. The company recommends that the user unit calibrate the instrument at least once a year. The accuracy of the standard ammeter and standard voltmeter during calibration is not less than 0.5 to ensure the accuracy of the instrument after calibration. **12.1** Calibration

instruments and equipment Voltmeter specification: AC 0-10V

above Ammeter specification: AC 0-35A above

### 12.2 Enter the calibration mode

Attention; before you do not have the calibration instrument, please do not enter the calibration mode at will, otherwise it may cause the measurement of the instrument Test accuracy drops.

In the state of turning off the power, press and hold the "CAL" key on the rear panel first, then turn on the power switch, see the characters are displayed, release the "CAL" key, the instrument will display:



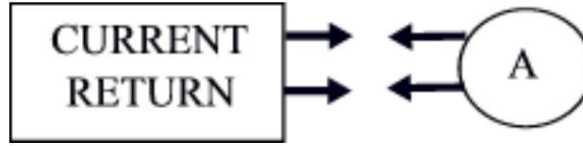
At this point, the instrument enters the calibration mode, and the instrument only needs to calibrate the two parameters of current and voltage. While the resistance value is measured in terms of voltage and The flow value is calculated according to Ohm's law. When the voltage and current values are accurate, the calculated resistance values are also accurate.



## 12.3 Calibration procedures and steps

### 12.3.1 Current calibration

Connect a standard ammeter to the "CURRENT" and "RETURN" output terminals of the instrument, as shown in the figure below:



Then press the "TEST" button, the instrument will output a current of about 25A. The instrument displays:

```

Current = 25.00 A
Enter  STD  A-out
  
```

Please use the " " or " " key to change the current value of the instrument to the reading value of the standard ammeter. For example your standard ammeter's

If the current reading value is 24.85A, press the " " key to display the current of the instrument as:

```

Current = 24.85 A
Enter  STD  A-out
  
```

The maximum change range of the ammeter of the instrument during calibration is: 20.00-30.00A. Then

press the "SET" button, the instrument will automatically memorize the current value you calibrated, and enter the voltage calibration state.

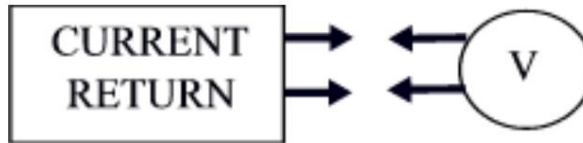
### 12.3.2 Voltage Calibration

Press the "SET" button after the current calibration, the instrument will automatically memorize the current value you calibrated, and enter the next voltage calibration state, as shown in the figure below:

```

CAL  U  Mode
  
```

At this point, the instrument enters the voltage calibration state, and a standard voltmeter is connected to the output terminals "CURRENT" and "RETURN" of the instrument, as shown in the figure below:

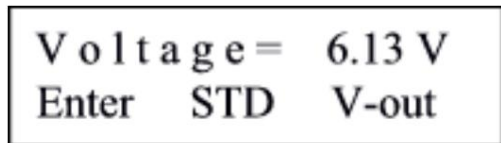


Then press the "TEST" button, the instrument will output a voltage of about 6V, and the instrument will display:

```

Voltage = 6.00 V
Enter  STD  V-out
  
```

Please use the " " or " " key to change the voltage value of the instrument to the reading value of the standard voltmeter. If the actual reading of your voltmeter is 6.13V, press the " " key to make the instrument display as:



V o l t a g e = 6.13 V  
E n t e r   S T D   V - o u t

The maximum variation range of the voltmeter of the instrument during calibration is: 5.50V-6.50V.

Then press the "SET" button, the instrument will automatically memorize the voltage value you calibrated. The instrument enters the initial calibration screen

On the surface, the calibrated parameters are all stored in the memory, and the calibrated parameters will not be lost unless they are changed.

- It is recommended to calibrate the instrument at least once a year!