UNI-T TIS1835 Advanced Insulation Continuity and Voltage Tester Instruction Manual

UNI-T TIS1835 Advanced Insulation Continuity and Voltage Tester

Contents

Introduction

Thank you for purchasing the TIS1835

The TIS1835 is a handheld Insulation, Continuity & Voltage tester featuring the following:

- 50V, 1 00V,250V,500V, 1 000V Insulation resistance measurements
- 200mA Continuity/ Resistance measurements.
- AC Voltage measurements.
- DC Voltage measurements.
- Inbuilt fuse/ overload protection.
- Internal Storage/ Memory (Up to 99 results).

Accessories

Tl S 1835 Instrument——————————————————————————1
Test lead (Red + Black) ——————————————————————————-2
Crocodile clip (Red + Black) ——————————————————————————- 2
Test probe (Red + Black) ——————————————————————————2
1.5V AA alkaline battery——————————————————————————- 6
User Manual ——————————————————————————— 1
Black neutral bag——————————————————————————-1

SAFETY INSTRUCTIONS

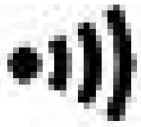
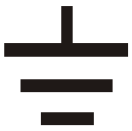
Warning – Please read and follow the following:
Before using the instrument, test leads and I or the adaptors please ensure there are no signs of damage as this could result in electrical shock and / or inaccurate results.

- Once the battery indicator appears, please replace the batteries. As low battery level can produce inaccurate results.
- Do not use/ store the instrument in high temperature, humid, flammable, or electromagnetic environments as this could result in injury, damage to the instrument and I or inaccurate results.
- If the instrument/ equipment is use in a manner not specified by the manufacturer, the protection provided by the instrument may be impaired.
- Do not connect test leads to live systems or hazardous voltages unless stated within the manual. Do not touch any exposed test terminals during testing, as hazardous voltages present due to a faulty appliance/ lead.

Declaration of Conformity

This product has been manufactured to the specifications detailed within the instruction manual.
The product conforms to the following standards:
EN61010-1 :2010; EN61010-2-030:2010; EN61010-2-033:2012
EN61557-1:2007; EN61557-2:2007; EN61557-4:2007; EN61326-1:2013; EN61326-2-2:2013

Safety Symbols

	Warning & caution safety label
	Double insulation
	DC (Direct Current)
	AC (Alternative Current)
	Low battery
	Dangerous high voltage!
	Buzzing on-off
	Earthing
	Comply with EC standard
CAT IV	Applicable to test and measuring circuits connected at the source of the building's low-voltage M AINS installation.

Warranty

NEW INSTRUMENTS HAVE A WARRANTY PERIOD OF: 1 YEAR FROM THE DATE OF PURCHASE BY THE USER, however the warranty period can be extended by a further year by having the instrument calibrated by: Test Instrument Solutions / Calibrations. {A copy of the original purchase invoice may be requested to validate the purchase date).

This warranty period includes parts and labor only.
Any unauthorized repair/ adjustment will void the warranty.

For service I calibration/ repair requirements, please contact:

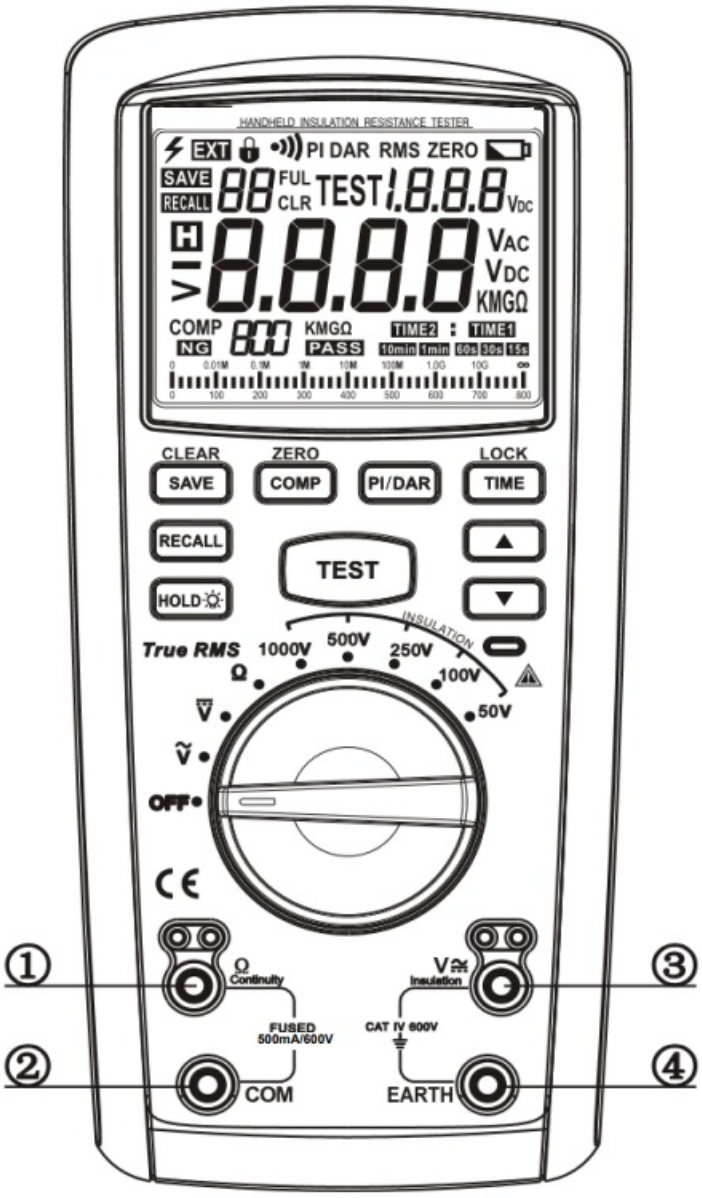
TEST INSTRUMENT SOLUTIONS LIMITED
UNIT 12/14, LUDDITE WAY BUSINESS PARK
RAWFOLDS WAY
CLECKHEATON
BD19 5DQ
Tel: 01274 752407
Email: **SALES@TIS-TIC.CO.UK**

INSTRUMENT LAYOUT, DISPLAY INFORMATION & SYMBOLS

LCD display area: displaying the measured data and functional symbols.
Functional key area: selecting basic functions. Rotary switch: selecting the measurement function/

Measurement port area:

1. Positive terminal for continuity /resistance measurements
2. Negative terminal for continuity /resistance measurements.
3. Positive terminal for AC/DC voltage measurements and insulation resistance measurements.
4. Negative terminal for AC/DC voltage measurement and insulation resistance measurement.



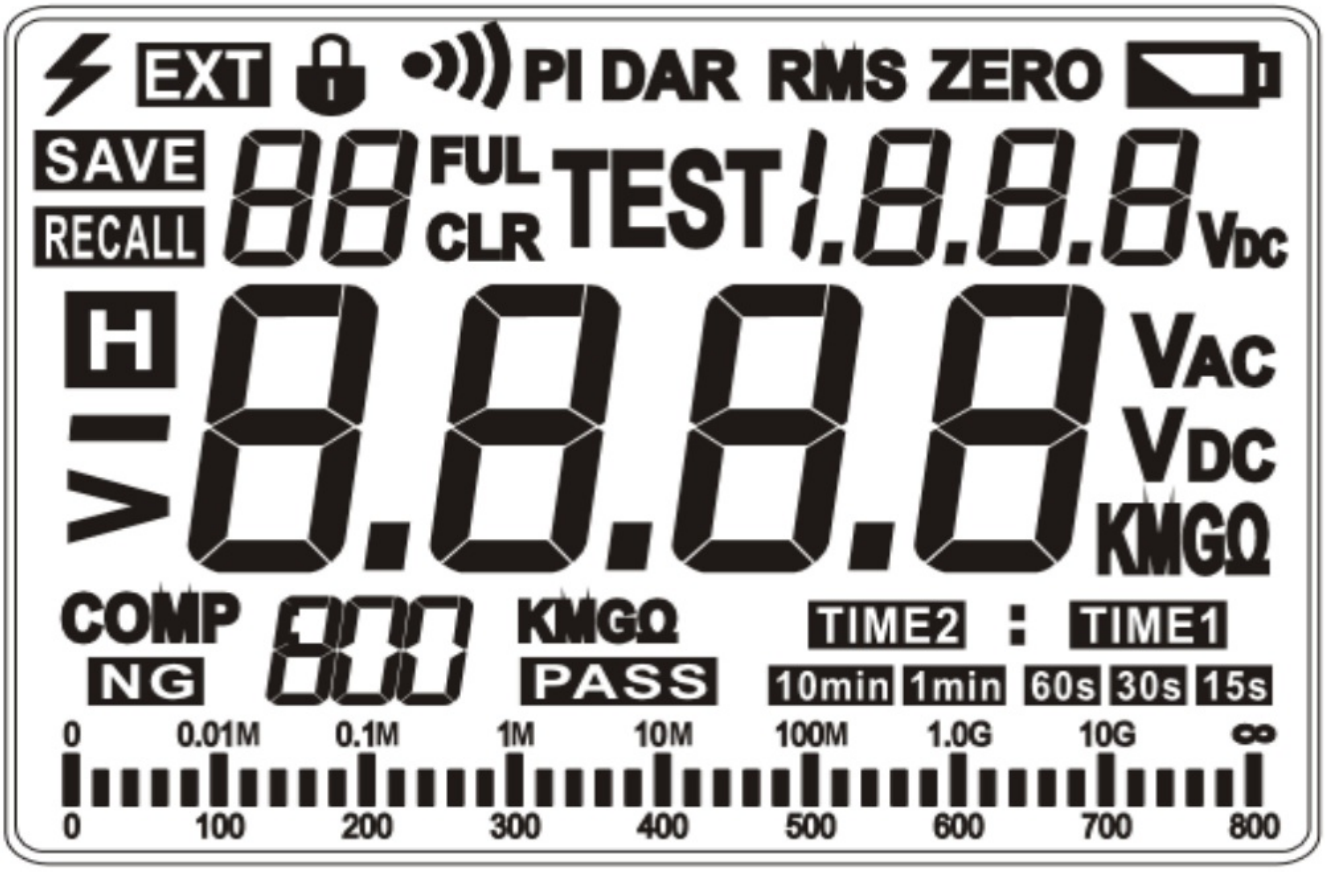
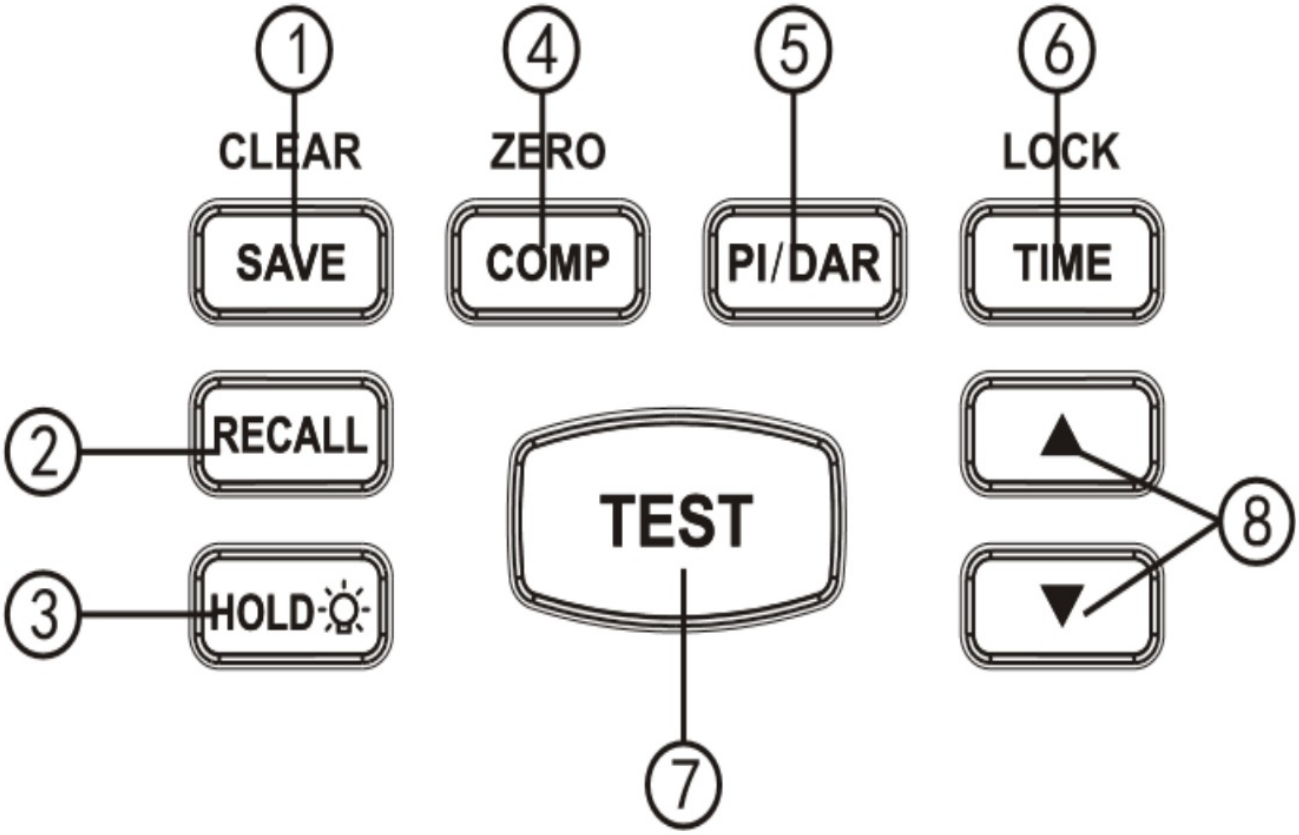


Figure 2

1. **SAVE/CLEAR**

   Short press SAVE / CLEAR button to save the current measurement data. Press RECALL to enter measurement recall interface, Press SAVE/CLEAR button for 3seconds, this will delete all saved data “CLR” will be displayed once completed.



2. **RECALL**

   With a short press on the button, the previously saved measured values are retrieved, to exit the function press the recall button.

3. HOLD/

   With a short press on the button, enables the hold measurement mode, press the hold button to disable. Press & hold the button for 3 seconds to activate the backlight, either switch the instrument off or press & hold the button to deactivate the backlight.

4. **COMP**

   The button is used to define the pass/fail comparison value for insulation measurement. “PASS” will be displayed when the measured insulation value is larger than the set value, and “NG” will be displayed when the former value is less than the later one; press the button to select the required comparison value, such as 100K, 200K,300K,400K,500K 1M, 2M, 3M, 4M, 5M, 10M~ 20M, 30M, 40M, 50M, 100M, 200M, 300M, 400M, 500M, 1 G, 2G, 3G, 4G, 5G and 1 0G.

5. **PI/DAR**

   The button is used to configure the testing instrument to conduct insulation polarization index or absorption ratio test. With a short press on the button, the screen displays DAR (absorption ratio), time ratio (TIME2: TIME1) is simultaneously set as 1min: 15s; with the second short press, the time ratio {TIME2:TIME1) for insulation polarization index is set as 1 min: 30s; with the third short press, the screen displays PI (polarization index) and currently the time ratio (TIME2:TIME1) is set as 1 0min: 60s; and with the fourth short press, the PI/DAR (polarization index/ absorption ratio) test function is canceled. The test can be conducted by pressing the test button after selecting a required time ratio.

6. **LOCK/TIME**

   Is a multiplex button. With a short press on the button, you can set the test time mode. press the test button starts the timer until the test button is pressed again or the test will automatically stop the test after 60 seconds.

Press & hold the TIMER/ LOCK button to activate & deactivate the test lock function.

7. **TEST**

   Activates Insulation & continuity/ resistance measurements.

8. **Up and down regulation**

   Function 1: used to set the insulation measurement voltage output.

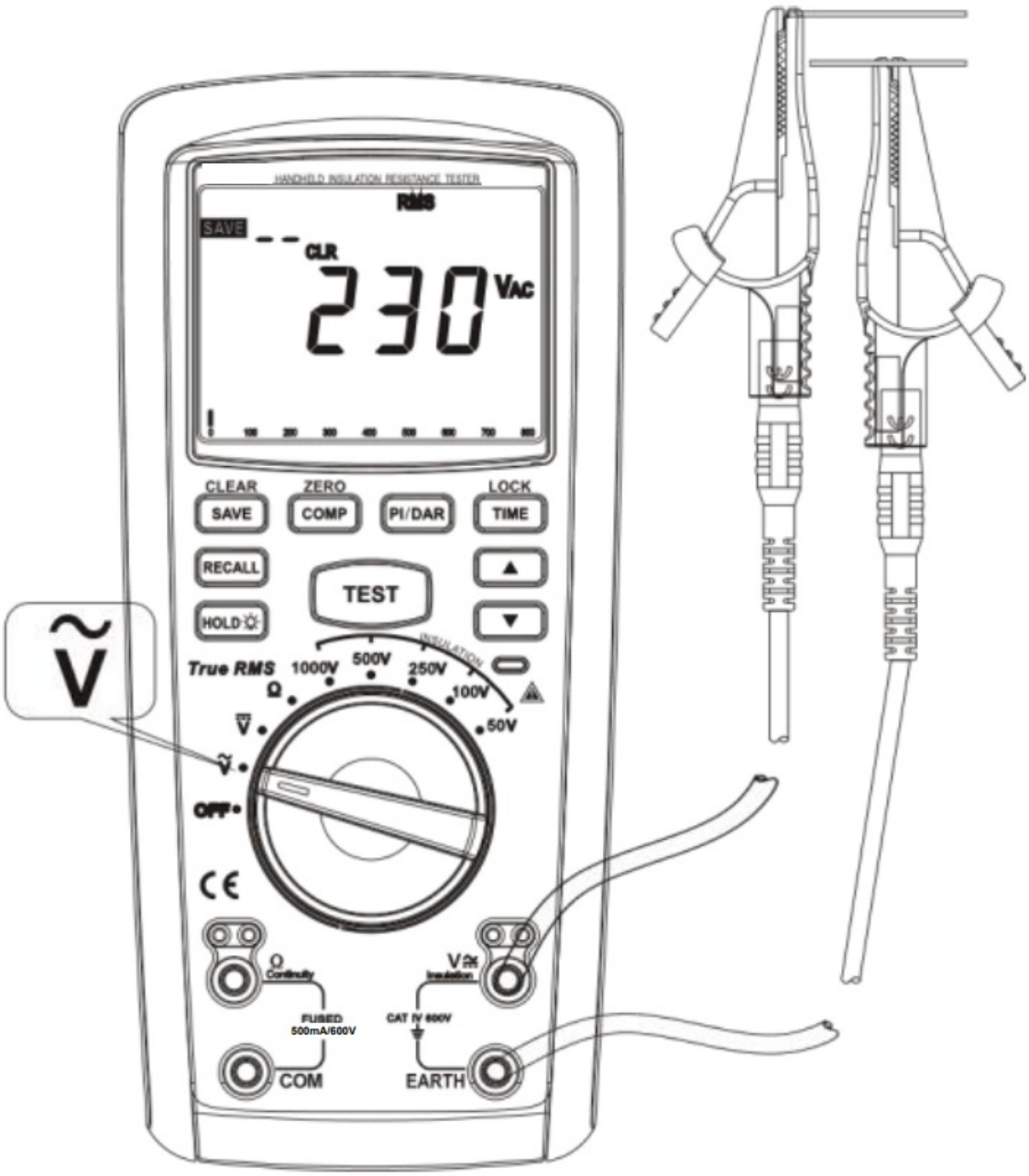
   Function 2: used to save the up and down retrieval while recalling the measured data.

DESCRIPTION OF MEASUREMENT OPERATION

AC voltage

1. Insert red test lead in "‘ $\overline{V}$ terminal and the black test probe in “EARTH” terminal
2. Rotate the function selector switch to the AC voltage function "‘ $\overline{V}$
3. Connect test leads to the conductors using either crocodile clips and/or probes.
4. Read the measured voltage value from display.
5. To save the measured voltage value during measurement, press the “SAVE” button.

- Do not input voltage higher than 1 000V,
- Take special care to avoid electric shocking while measuring high voltage and if necessary, wear insulation gloves.
- After completing measurement operation, disconnect the test leads from the circuit.
- When the measured voltage is greater than the safety voltage (42V/DC), the high voltage symbol will be displayed on the LCD.
- high voltage warning prompt will be displayed when the input voltage is greater than 1000V

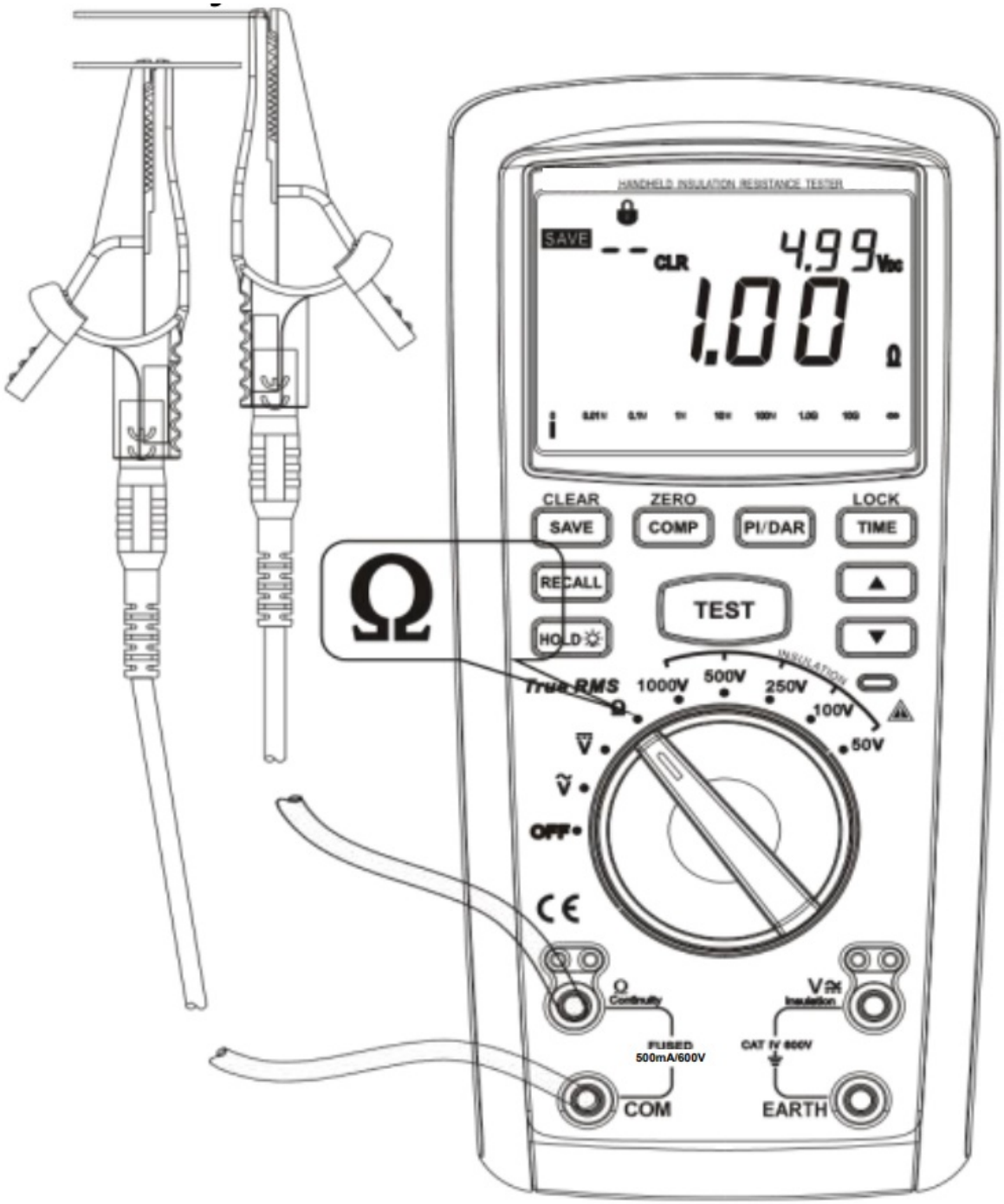


DC voltage

1. Insert red test lead in $\overline{V}$ terminal and the black test probe in “EARTH” terminal
2. Rotate the function selector switch to the AC voltage function $\overline{V}$
3. Connect test leads to the conductors using either crocodile clips and/or probes.
4. Read the measured voltage value from display.
5. To save the measured voltage value during measurement, press the “SAVE” button.

- Do not input voltage higher than 1000V,
- Take special care to avoid electric shocking while measuring high voltage and if necessary, wear insulation gloves.
- After completing measurement operation, disconnect the test leads from the circuit.
- When the measured voltage is greater than the safety voltage (42V/DC), the high voltage symbol will be displayed on the LCD.

- high voltage warning prompt will be displayed when the input voltage is greater than 1000V.



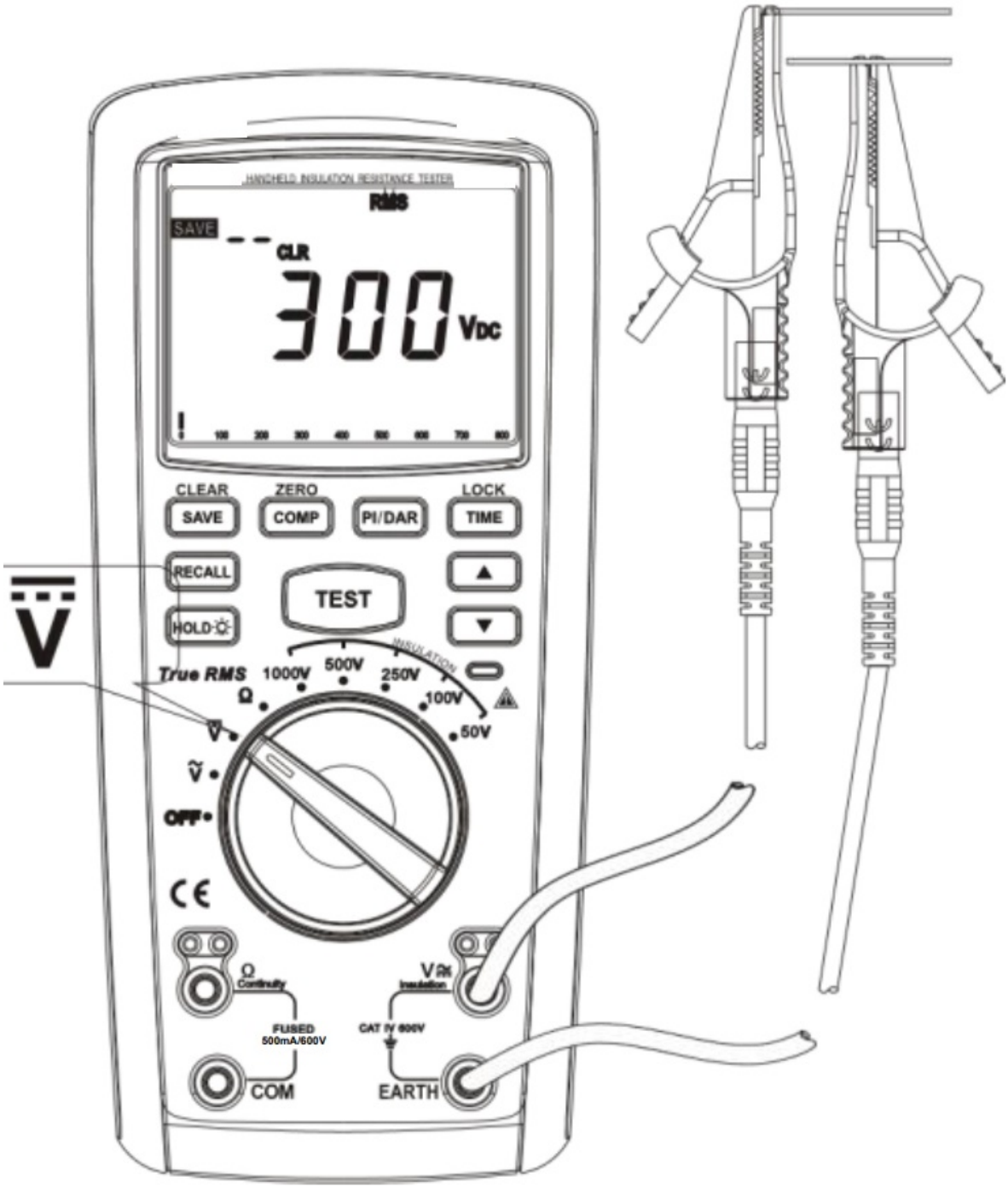
Continuity / Resistance

Zeroing lead resistance:

1. Rotate the function selector switch to the continuity/ resistance function. Ω
2. Insert red test lead in the Ω input terminal and the black test probe in the Com terminal
3. Short the leads using either the crocodile clips or probes
4. With the lock function on, press the test button (lead resistance will be displayed)
5. Press and hold the Com/ Zero button for 3 seconds. (If completed correctly Zero should be displayed in the top right-hand corner of the LCD and the measurement will indicate 0.00 Ω).

Conducting measurements:

1. Insert red test lead in the Ω input terminal and the black test probe in the Com terminal
2. Connect the positive (red) and Negative (Black) leads to an isolated circuit using either the probes or crocodile clips.
3. Press the test button and wait for the measurement to stabilize.
4. To save the measured voltage value during measurement, press the “SAVE” button.

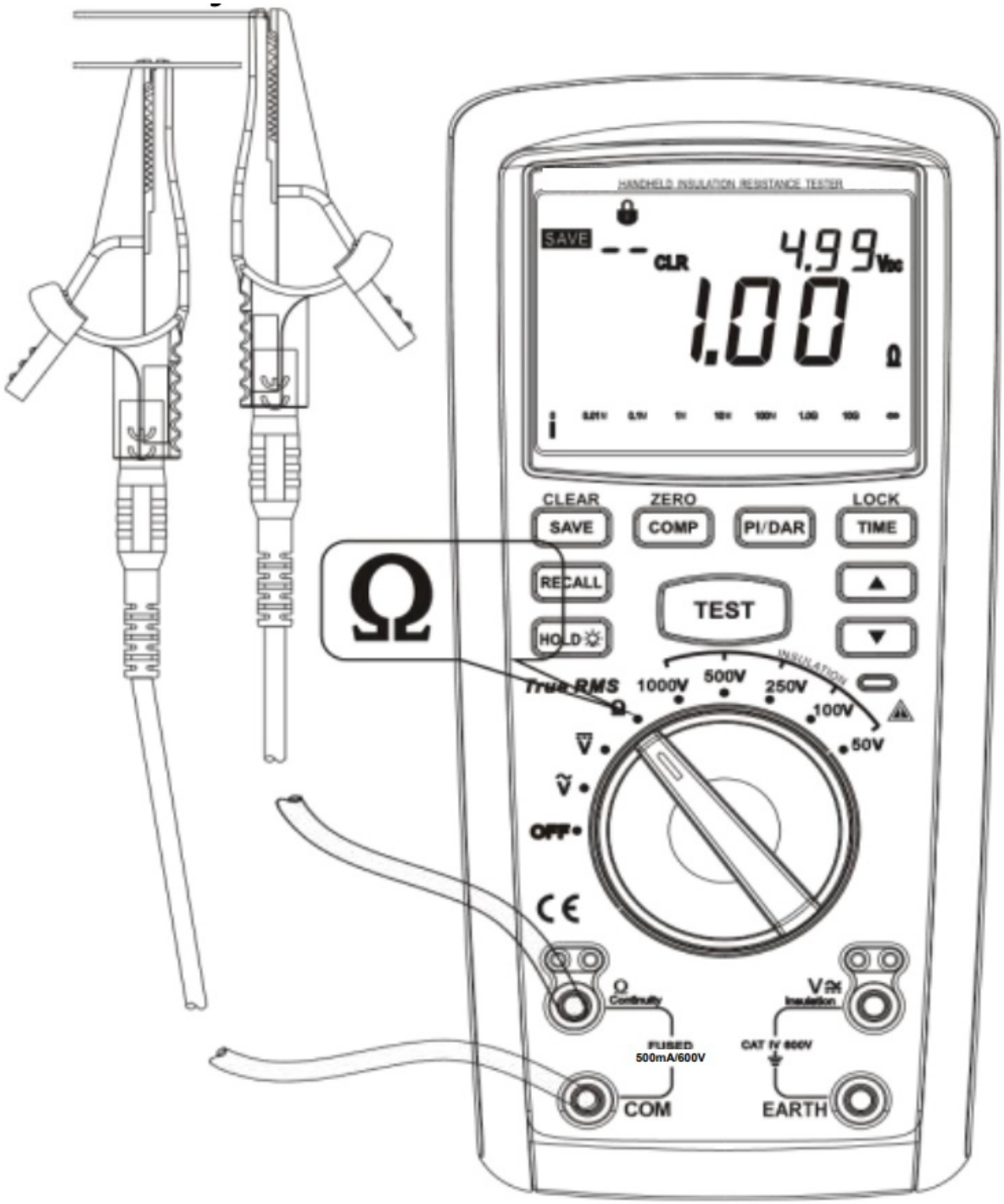


Press & hold the PI/DAR/ SETUP button to enter the setup menu Use the recall / enter button to cycle through test settings & up / down keys to change the various values. Press & hold the PI/DAR/ SETUP button to confirm changes and exit the setup menu.

Insulation Resistance

1. Using the function selector switch select the insulation resistance & required voltage output.
2. Insert red test lead in positive $\overline{V}$ terminal and the black test probe in Earth terminal.

3. Connect the positive (red) and Negative (Black) leads to an isolated circuit using either the probes or crocodile clips.
4. Press the test button and wait for the measurement to stabilize.
5. To save the measured voltage value during measurement, press the “SAVE” button.



Press & hold the PI/DAR/ SETUP button to enter the setup menu The insulation resistance voltages can be changed using the up & down buttons, please see below available voltages for each test function

Output voltage	50V stepping 10%	50%-120 %	0% ～ 10%	250V	SOY output range: 25V-60V
	100V stepping 1()%				1 00V output range:50V-120 V
	250V stepping 10%				250V output range: 125V-30 0V
	500V stepping 10%				500V output range:250V-60 0V
	1 OOOV stepping 10%				HXXJV output range:50CJV-1200V

Specifications

Insulation Resistance:

Output Voltage	Accuracy	Range	Range	Accuracy
0.00V	-0% +10%	0.01 MO – 19.99MΩ 20.0MO – 50.0MΩ	0.01MΩ 0.1MΩ	+/-3% +5digits +/-3% +5digits
100.0V	-0% +10%	0.01 MO – 19.99MΩ 20.0MO – 1 OOMΩ	0.01MΩ 0.1MΩ	+/-3% +5digits +/-3% +5digits
250V	-0% +10%	0.01 MO – 19.99MΩ 20.0MO – 200MΩ	0.01MΩ 0.1MΩ	+/-1.5% +5digits +/- 1.5% +5digits
500V	-0% +10%	0.01 MO – 19.99MΩ 20.0MO – 199.9MΩ 200MO – 500MΩ	0.01MΩ 0.1MΩ 1MΩ	+/-1.5% + 5digits +/- 1.5% + 5digits +/- 1.5% + 5digits
1000V	-0% +10%	0.01 MO – 19.99MΩ 20.0MO – 199.9MΩ 200MO – 2000MΩ 2.0GΩ-10.0GΩ 10.0GΩ-20.0GΩ	0.01MΩ 0.1MΩ 1MΩ 0.1GΩ 0.1GΩ	+/- 1.5% +5digits +/- 1.5% +5digits +/- 1.5% +5digits +/- 10% +3digits +/- 20% +10digits

Short circuit current: less than 2mA / Nominal test current 1.0mA , One-year specification

Continuity/ Resistance:

Range	Accuracy	Short circuit Current	Open Circuit Voltage
0.01Ω – 20.00kΩ	+/-1.5% + 3digits	Greater than 200mA	5.0V

One-year specification

Voltage Measurements

Voltage Range	Resolution	Accuracy
600.0V AC I DC	0.1V	± (2%+3)

Input impedance 1 OMO, Frequency AC 50Hz-400Hz, One-year specification

Environmental temperatures: Storage: -20°C 60°C Operating 0°C 40°C
IP Rating: IP40, CAT IV 600V
Power supply: X6 1.5V batteries LR6 (AA).
Battery Life: >800 Measurements at 23°C

Installation / Replacement of Batteries & Fuse Protection

Turn the rotary switch to OFF (shut down) and remove test lead(s).

Remove the three screws from the battery cover, remove the cover and take out the depleted batteries, then install the new batteries as per the indication of polarity inside the battery compartment. After installing new the batteries, put the battery cover in place and secure.

Take out the damaged fuse and replace with the following:
Specification: Quick Blow (F) 500mA/600V Φ5×20mm. After installing the new fuse, put the battery cover in place and secure.

Documents / Resources

	UNI-T TIS1835 Advanced Insulation Continuity and Voltage Tester [pdf] Instruction Manual TIS1835, TIS1835 Advanced Insulation Continuity and Voltage Tester, Advanced Insulation Continuity and Voltage Tester, Insulation Continuity and Voltage Tester, Continuity and Voltage Tester, Voltage Tester, Tester

References

- User Manual