

- 1. Introduction / Product Package5
- 2. Safety Measures5
- 3. Danger of electric shock and other dangers5
- 4. Intended Use6
- 5. Tester Information7
- 6. Preparation for tests8
 - 6.1 Auto-power-on/ switching on8
 - 6.2 Auto-power off8
- 7. Conducting Tests8
 - 7.1 Voltage test8
 - 7.2 Single-pole phase test8
 - 7.3 Phase rotation test8
 - 7.4 Continuity test9
 - 7.5 Torch light9
- 8. Battery Replacement9
- 9. Technical data9
- 10. Cleaning and storage10

The voltage testers TIS 831 and TIS 841 are universally applicable testers for voltage testing, continuity testing and rotary field testing.

The testers are constructed according to the latest safety regulations and guarantee safe and reliable working.

The voltage testers TIS 831 and TIS 841 are characterized by the following features:

- Designed to meet international safety standards. EN61243-3:2010
- Measurement Category (CAT.) IV 600V
- AC and DC voltage test up to 690V with LEDs and LCD (TIS 831: no LCD display)
- Polarity indication
- Single-pole phase test
- Phase rotation test
- Continuity test
- Auto-power ON / OFF
- Torch light
- IP64 (IEC60529)

After unpacking, check that the instrument is undamaged.

The product package comprises:

- 1 pc Tester TIS 831 or TIS 841
- 2 pcs 4mm test tip adapters
- 2 pcs CAT III / 1000V test tip cover
- 2 pcs batteries 1.5V, IEC LR03
- 1 pc operating instructions

2. Safety Measures

- ⚠ The testers have been constructed and tested in accordance with the safety regulations for voltage testers and have left the factory in a safe and perfect condition.
- ⚠ The operating instructions contain information and References required for safe operation and use of the tester. Before using the tester, read the operating instructions carefully and follow them in all respects.

3. Danger of electric shock and other dangers

- ⚠ To avoid an electric shock, observe the precautions when working with voltages exceeding 120 V (60 V) DC or 50 V (25 V) eff AC. In accordance with DIN VDE these values represent the threshold contact voltages (values in brackets refer to limited ranges, e.g. in agricultural areas).
- ⚠ The tester must not be used with the battery compartment open.

⚠ Before using the tester, ensure that the test leads and device are in perfect working order. Look out e.g. for broken cables or leaking batteries.

⚠ Hold the tester and accessories by the designated grip areas only, the display elements must not be covered. Never touch the test probes.

⚠ The tester may be used only within the specified measurement ranges and in low-voltage installations up to 690 V.

⚠ The tester may be used only in the measuring circuit category it has been designed for.

⚠ Before and after use, always check that the tester is in perfect working order (e.g. on a known voltage source).

⚠ The tester must no longer be used if one or more functions fail or if no functionality is indicated.

⚠ It is not permitted to use the tester during rain or precipitation.

⚠ A perfect display is guaranteed only within a temperature range of -15°C to +55°C at an relative air humidity less than 85%.

⚠ If the safety of the user cannot be guaranteed, the tester must be switched off and secured against unintentional use.

⚠ Safety is no longer guaranteed e.g. in the following cases:

- obvious damage
- broken housing, cracks in housing
- if the tester can no longer perform the required measurements/tests
- stored for too long in unfavorable conditions
- damaged during transport
- leaking batteries

⚠ The tester complies with all EMC regulations. Nevertheless it can happen in rare cases that electric devices are disturbed by the electrical field of the tester or the tester is disturbed by electrical devices.

⚠ Never use the tester in explosive environment

⚠ Tester must be operated by trained users only

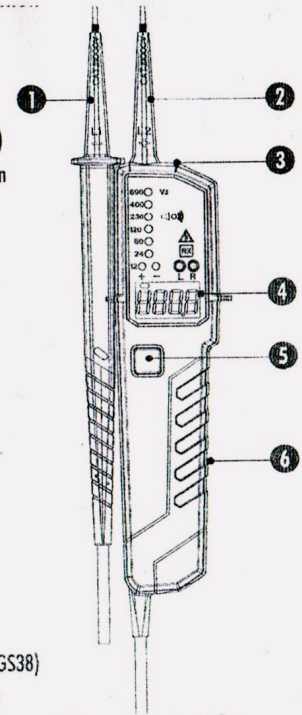
⚠ Operational safety is no longer guaranteed if the tester is modified or altered.

⚠ The tester may be opened by an authorized service technician only.

4. Intended Use

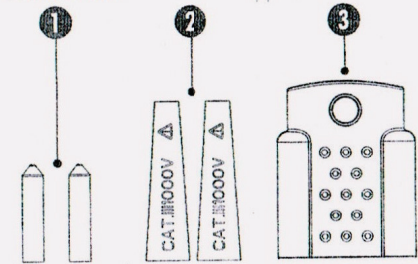
The tester may be used only under the conditions and for the purposes for which it was designed. Therefore, observe in particular the safety instructions, the technical data including environmental conditions.

- 1. Test Probe L1
- 2. Test Tip L2
- 3. Torch Light
- 4. Display (TIS 841)
- 5. Torch light button
- 6. Main Body



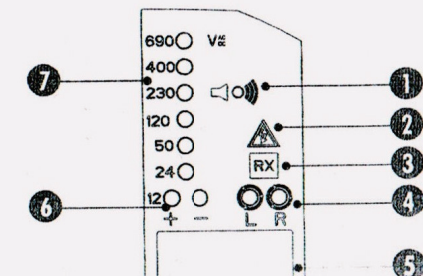
Accessory

- 1. 4 mm test Tips
- 2. Plug on cover (GS38)
- 3. Protective cover



Control elements

- 1. Buzzer hole for acoustic indication
- 2. Single Pole Test ELV Warning
- 3. Continuity Test
- 4. Rotary field (left and right)
- 5. LCD Display indicating voltage, polarity and low battery (TIS 841)
- 6. LEDs indicating 12V and polarity
- 7. Voltage Indication



References marked on tester or in instruction manual:

⚠ Warning of a potential danger, comply with instruction manual.

📖 Reference. Please pay utmost attention.

⚠ Caution! Dangerous voltage. Danger of electrical shock.

☐ Continuous double or reinforced insulation complies with category II DIN EN 61140.

CE Conformity symbol, the instrument complies with the valid directives. It complies with the EMV Directive (89/336/EEC), Standard EN 61326-1 are fulfilled. It also complies with the Low Voltage Directive (73/23/EEC), Standard EN61243-3:2010 is fulfilled.

🔋 Tester complies with the standard (2002/96/EG) WEEE

⚠ The instruction manual contains information and references, necessary for safe operation and maintenance of the tester.

Prior to using the tester (commissioning/ assembly) the user is kindly requested to thoroughly read the instruction manual and comply with it in all sections.

⚠ Failure to read the tester manual or to comply with the warnings and references contained herein can result in serious bodily injury or tester damage.

The respective accident prevention regulations established by the professional associations are to be strictly enforced

The tester switches on when it detects continuity, an AC or DC voltage above approx. 10V a live phase on L2 (single pole test).

It can be switched on with the torch light button.

7.2 Auto-power off

Tester is automatically powered off after 5 sec when there is no signal contacted to the probes.

The torch light switches off after approx. 10 sec.

7. Conducting Tests

7.1 Voltage test

Connect both probes to the object under test.

The voltage is indicated by LEDs and LCD (TIS 841 only)

Buzzer sounds when a threshold voltage of approx. 38VAC or approx. 100 VDC is exceeded.

Voltage polarity is indicated in following manner.

→ AC: + and - 12V LED are on

→ +DC: +12V LED is on

→ -DC: -12V LED is on

When the L2 probe + is the positive (negative) potential, the Polarity indication LED indicates "+DC" ("-DC").

During voltage test, L or R LED may light up.

In case of empty batteries, the ELV LED lights up >50VAC, >120VDC

7.2 Single-pole phase test

Function of this test may not be fully achieved if the insulation condition/ grounding conditions of user or of the equipment under test aren't good enough. Verification of live-circuit shouldn't be dependent on this Single-pole phase test only, but on the voltage test.

Hold the tester good in your hand. Connect the "L2+" probe to the object under test. Live circuit LED lights up and buzzer sounds when a voltage of approx. 100V AC or more exists in the object under test. (Pol ≥ 100VAC).

7.3 Phase rotation test

L LED and R LED for Phase rotation test may operate on various wiring systems, but effective testing result can be obtained only on three-phase 4-wire system.

Hold the tester good in your hand and connect both probes to the object under test.

Phase-to-phase voltage is indicated by Voltage LEDs.

R LED lights up for Right rotary field.

L LED lights up for Left rotary field.

Measurement principle: The instrument detects the phase

7.4 Continuity test

Make sure the object under test isn't live.

Connect both test probes to the object under test. Continuity LED lights up and buzzer sounds continuously to indicate continuity

7.5 Torch light

Pressing the torch light button to turn on the light and after approx. 10s it will turn itself off

8. Battery Replacement

Remove the probes from any testing point, when opening the Battery case. Batteries are dead when the continuity test with both test probes connected cannot be done any more. A battery symbol in the LCD indicates low battery.

Follow the procedure below and replace batteries with new ones (type IEC LR03 1.5V).

Unscrew the battery door, e.g. with a coin.

Pull out the Battery door and replace the batteries. Insert new batteries according to the engraving on the Battery door.

Re-assemble battery door.

Confirm that the Battery door case is properly locked prior to measurements.

9. Technical data

Voltage range: 12...690V AC (16...400Hz), DC(±)

LED Nominal voltage: 12/24/50/120/230/400/690V, AC (16...400Hz), DC(±)

LED tolerances according to EN61243-3

ELV indication LED >50VAC, >120VDC

Response time: < 1s at 100% of each nominal voltage

LCD Range: 0...690V, AC (16...400Hz), DC(±) (TIS 841 only)

LCD Resolution: 0.1V (TIS 841 only)

LCD Accuracy: ±3%±5dgt (0...690V) (TIS 841 only)

LCD Overrange

indication: "OL" (TIS 841 only)

Peak current: Is < 3.5mA (at 690V)

Measurement Duty: 30s ON (operation time), 240s OFF (recovery time)

Internal battery

consumption: approx. 80mA

Single-pole phase test

voltage range: 100...690V AC (50/60Hz)

Phase rotation test: 120...400V earth-to-phase, AC 50/60Hz

Continuity test: Detection range 0...500kΩ + 50%

ENGLISH

Humidity:

Max 85% RH

Altitude:

up to 2000m

Overvoltage:

CAT III/1000V, CAT IV 600V

Standard:

EN61243-3:2010

Pollution:

degree 2

Protection:

IP 64

10. Cleaning and storage

Tester does not need any special maintenance if used according to user manual.

Remove tester from all test points before cleaning.

Use a lightly damp cloth with neutral detergent for cleaning the instrument. Do not use abrasives or solvents.

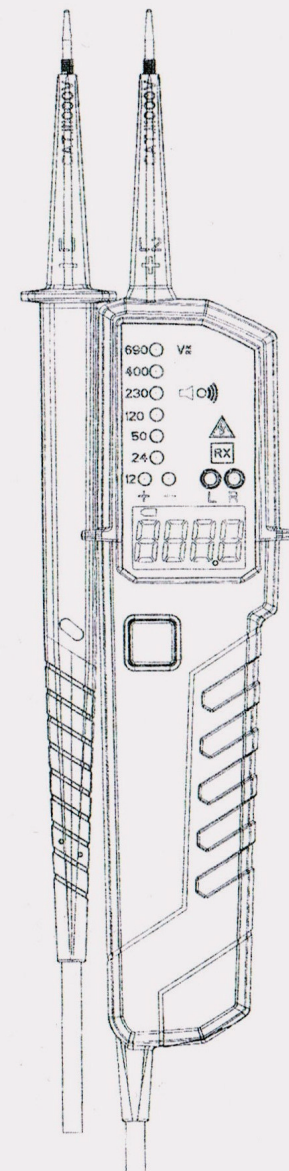
Do not expose the instrument to direct sun light, high temperature and humidity or dewfall.

Remove batteries when the instrument will not be in use for a long period.

Voltage Tester

TIS 831/841 Manual

GB Manual



T.I.S.

Test Instruments Solutions
1/F, Middle Mill, Carlinghow Mills,
WF17 0RH Bradford Road, Batley
United Kingdom