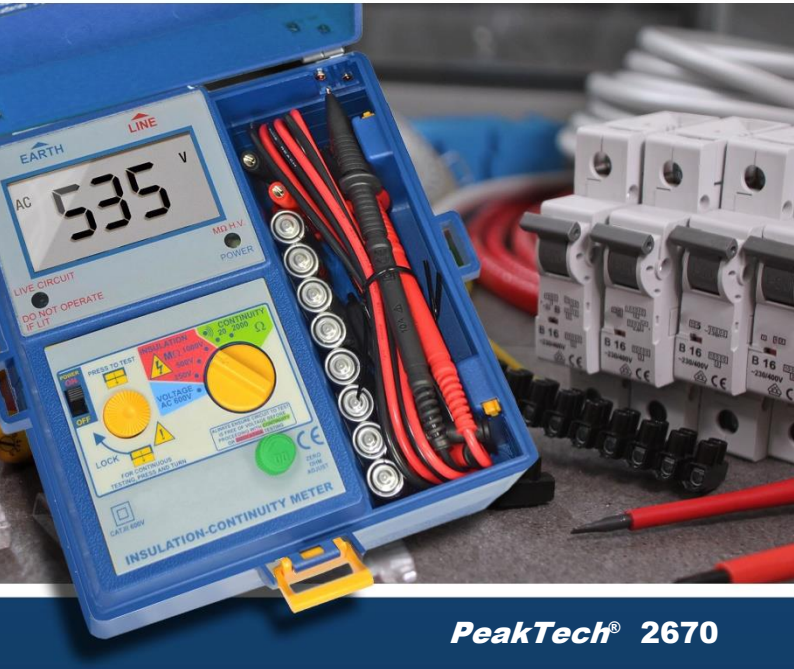
PeakTech®

Unser Wert ist messbar...



***PeakTech®* 2670**

Operation manual

Digital Insulation Tester

1. Operating safety precautions

This product complies with the requirements of the following directives of the European Union for CE conformity: 2014/30/EU (electromagnetic compatibility), 2014/35/EU (low voltage), 2011/65/EU (RoHS).
Overvoltage category III 600V; pollution degree 2.

To ensure safe operation of the equipment and eliminate the danger of serious injury due to short-circuits (arcing), the following safety precautions must be observed.

Damages resulting from failure to observe these safety precautions are exempt from any legal claims whatever.

* Read the operating instructions carefully and make them accessible to subsequent users.
* Use the device only within its intended purpose and within its overvoltage category.
* Check the device and its accessories for possible damage to the housing or insulation before switching them on.
* Do not place the equipment on damp or wet surfaces.
* Do not exceed the maximum permissible input ratings (danger of serious injury and/or destruction of the equipment).
* The meter is designed to withstand the stated max voltages. If it is not possible to exclude without that impulses, transients, disturbance or for other reasons, these voltages are exceeded a suitable presale (10:1) must be used.
* Disconnect test leads or probe from the measuring circuit before switching modes or functions.
* To avoid electric shock, disconnect power to the unit under test and discharge all capacitors before taking any resistance measurements.
* Check test leads and probes for faulty insulation or bare wires before connection to the equipment.

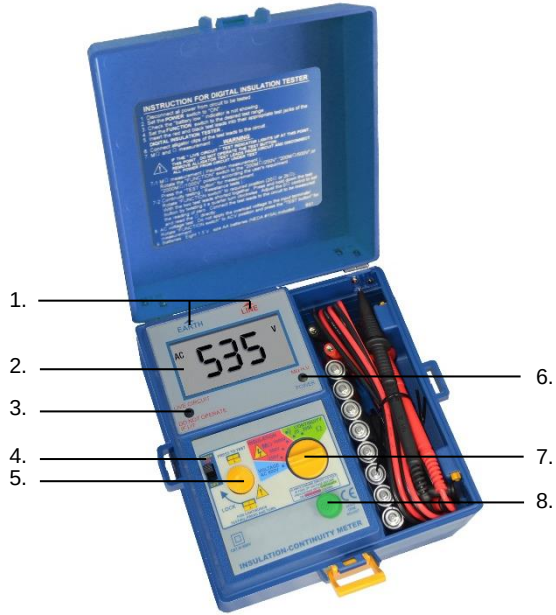
* Please use only 4mm-safety test leads to ensure immaculate function.
* To avoid electric shock, do not operate this product in wet or damp conditions. Conduct measuring works only in dry clothing and rubber shoes, i. e. on isolating mats.
* Never touch the tips of the test leads or probe.
* Comply with the warning labels and other info on the equipment.
* The measurement instrument is not to be to operated unattended.
* Always start with the highest measuring range when measuring unknown values.
* Do not subject the equipment to direct sunlight or extreme temperatures, humidity or dampness.
* Do not subject the equipment to shocks or strong vibrations.
* Do not operate the equipment near strong magnetic fields (motors, transformers etc.).
* Keep hot soldering irons or guns away from the equipment.
* Allow the equipment to stabilize at room temperature before taking up measurement (important for exact measurements).
* Do not turn the rotary function switch during voltage measurement, otherwise the meter could be damaged.
* Use caution when working with voltages above 35V DC or 25V AC. These Voltages pose shock hazard.
* Replace the battery as soon as the battery indicator “BAT” appears. With a low battery, the meter might produce false reading that can lead to electric shock and personal injury.
* Fetch out the battery when the meter will not be used for long period.
* Periodically wipe the cabinet with a damp cloth and mid detergent. Do not use abrasives or solvents.

* The meter is suitable for indoor use only.
* Do not operate the meter before the cabinet has been closed and screwed safely as terminal can carry voltage.
* Do not store the meter in a place of explosive, inflammable substances.
* Do not modify the equipment in any way.
* Do not place the equipment face-down on any table or work bench to prevent damaging the controls at the front.
* Opening the equipment and service- and repair work must only be performed by qualified service personnel.
* Operation should only be carried out by or under the supervision of trained specialist personnel.

Cleaning the cabinet

Clean only with a damp, soft cloth and a commercially available mild household cleanser. Ensure that no water gets inside the equipment to prevent possible shorts and damage to the equipment.

2. Instrument Layout



1. OUTPUT Terminal
2. LCD Display
3. External Voltage Indicator
4. POWER Switch
5. TEST Button
6. POWER Indicator
7. FUNCTION Switch
8. Ω Null Adjust

3. Introduction

NOTE:
This meter has been designed and tested according to safety requirements for electronic measuring apparatus, EN 61010-1.

Follow all warnings to ensure safe operation.

WARNING!
Read “Safety Notes” before using the meter.

4. Safety Notes

1. Read the following safety information carefully before attempting to operate or service the meter.

2. Use the meter only as specified in this manual, otherwise the protection provided by the meter may be impaired.

3. Rated environmental conditions:
   * Indoor use
   * Installation Category III
   * Pollution Degree 2
   * Altitude up to 2000 Meter
   * Relative Humidity 80% max.
   * Ambient Temperature 0 … 40°C

4. Observe the international electrical symbols listed below:

Meter is protected throughout by double insulation or reinforced insulation.

Warning! Risk of electric shock.

Caution! Refer to this manual before using the meter.

Alternating current.

5. Features

* 3 ½ digit Insulation Tester
* 68 x 34 mm large LCD display
* three Insulation test voltage: 250V / 500V / 1000V
* external voltage warning indication
* automatic circuit discharge
* test Insulation at rated voltage into a 1mA load
* 200mA continuity short circuit test current
* AC voltage measurement
* fuse protection
* meet EN 61010 CAT III

6. Measuring Methods

6.1. Operation caution

Observe all safety precautions when the FUNCTION switch is set to either the 200 MΩ (250, 500 V) or the 2000MΩ (1000V) position. Connect the meter test leads to the circuit under test before operating the TEST switch. Do not touch the clip ends of the test leads when the TEST switch is pressed. Some electrical equipment, especially cables, may retain an electrical charge when disconnected from the line. It is good practice to discharge such equipment with grounding straps, or other suitable devices, before touching or making connections. The meter automatically discharge the test circuits when the spring loaded TEST switch is released.

6.2. Important

Remove all power to the circuit under test when making resistance measurements. If any voltage is present in the test circuit the red on the meter scale plate will light. Immediately disconnect test leads and turn off power to test circuit.

6.2.1. Function switch

The FUNCTION switch is used to select the range, or function desired.

6.2.2. Test switch

The TEST switch is normally OFF spring loaded momentary action switch which “turn on “ the meter is momentary action is a safety feature. The test voltage generated by the meter is automatically discharged when the TEST switch is released.

6.2.3. Before testing always check the following

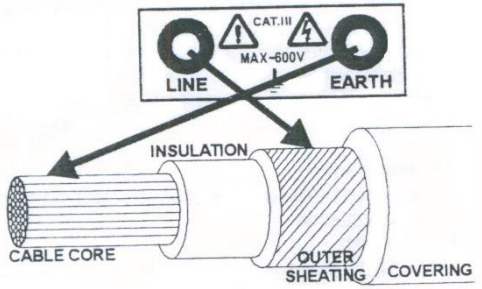
The “battery low” indicator is not shoving. There is no visual damage to the test or test leads. Test Lead Continuity. Select the continuity function and 20Ω range. Short the test leads together. An overrange (“1”) indication will mean that the leads are faulty or instrument fuse is blown. (see fuse replacement).

6.2.4. Insulation Resistance Testing

WARNING!

Insulation test should be conducted on circuits that are de-energised. Ensure circuits are not live before commencing testing.

* Select the required test voltage (250 V, 500 V or 1000 V) by rotating the function switch.
* Attach the test leads to the instrument and to the circuit to be tested (see connect diagram). If the “LIVE CIRCUIT” is lit, do not press the test button and disconnect the instrument form the circuit. The circuit is live and should be de-energised before further testing.
* Press the test button. The value of insulation resistance in megohms will be displayed.



Connect Diagram

CAUTION:
Never turn the function dial whilst the button is depressed. This may damage the instrument. Never touch the circuit under test during insulation testing.

When testing is complete ensure that the test button is released before the test leads are disconnected. This is because the system may be charged up and it must be allowed to discharge through the tester's internal discharge resistor.

6.2.5. Continuity testing (Resistance test)

WARNING!
Ensure circuit are not live before commencing testing.

* Select the 20Ω range by rotating the range selector and connect the test leads to the instrument. Short the tips of the leads. Press and hold down the test button by twisting it a quarter turn clockwise. The display will show the resistance of the test leads. Adjust the Ω ZERO control to set the reading of zero.
* Connect the test leads to the circuit under test. Ensure the circuit is not live by checking that the live circuit indicator does not lit. Read the value of resistance from the LCD.

6.2.6. AC voltage test
Set FUNCTION switch to ACV. Connect test leads to circuit being measured. Press TEST button and read the value of voltage from the LCD.

7. Specifications

Insulation resistance:

Measuring range	200MΩ (250V / 500V DC +/- 10%)
Resolution	1 count / 100 kΩ
Measuring range	2000MΩ (1000 V DC +/- 10%)
Resolution	1 count / 1MΩ
Accuracy	1,5% rdg.+5 dgt. (200MΩ range)
	3,0% rdg.+3 dgt. (under 1GΩ/2000MΩ)
	5,0% rdg.+5 dgt. (under 2GΩ/2000MΩ)
Output current	1mA DC min. at 0,25MΩ (250V range)
	1mA DC min. at 0,50MΩ (500V range)
	1mA DC min. at 1,00MΩ (1000V range)
Power consumption	max. consumption current approx. 250mA

AC Voltage:

Range	0-600V
Resolution	1V
Accuracy	1,5% rdg+3 dgt.
Line frequency range	40-120 Hz

Continuity

Ohm range	0-20Ω
Resolution	0,01Ω
Accuracy	1,5% rdg+5dgt.
Open circuit terminal voltage	4V DC min.
Short circuit terminal current	210mA DC min.
Ohm range	0-2kΩ
Resolution	1Ω
Accuracy	1,5% rdg. + 3 dgt.
Power consumption	max. consumption current approx. 160 mA

Buzzer sound below	under 10Ω (on 20Ω range)
Withstand voltage	meet EN 61010 safety requirements category III
Dimensions (WxHxD)	170x165x92 with housing front cover
Weight	1,04 kg
Standard accessories	test leads, alligator clips, carrying belt, batteries and manual

8. Maintenance

CAUTION:
Always disconnect the test leads from the instrument before attempting battery or replacement.

8.1. Batteries replacement

When the LCD shows the low battery flag, the batteries need replacing. Eight batteries (AA or equivalent) are required. Alkaline types are recommended. Open the battery compartment lid on the back of the instrument by unscrewing the screw. Replace all eight batteries with new ones observing the correct polarity. Close the battery compartment lid and replace the screw before using the tester.

8.2. Fuse replacement

Open the battery compartment lid. Remove the fuse conver and the old fuse and replace with the new one. Replace the fuse conver and screw the battery compartment lid back on before using the tester.

8.3. Notification about the Battery Regulation

The delivery of many devices includes batteries, which for example serve to operate the remote control. There also could be batteries or accumulators built into the device itself. In connection with the sale of these batteries or accumulators, we are obliged under the Battery Regulations to notify our customers of the following:

Please dispose of old batteries at a council collection point or return them to a local shop at no cost. The disposal in domestic refuse is strictly forbidden according to the Battery Regulations. You can return used batteries obtained from us at no charge at the address on the last side in this manual or by posting with sufficient stamps.

Contaminated batteries shall be marked with a symbol consisting of a crossed-out refuse bin and the chemical symbol (Cd, Hg or Pb) of the heavy metal which is responsible for the classification as pollutant:

1. "Cd" means cadmium.
2. "Hg" means mercury.
3. "Pb" stands for lead.

This manual is according the latest technical knowing. Technical changings which are in the interest of progress, reserved.

We herewith confirm that the units are calibrated by the factory according to the specifications as per the technical specifications.

We recommend to calibrate the unit again, after 1 year.

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