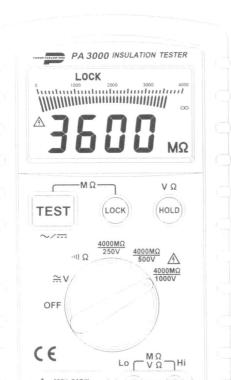


PA 3000

AUTORANGING INSULATION TESTER



CE

Instruction Manual

CONTENTS

TITLE	PAGE
I. SAFETY INFORMATION	1
Environment conditions	1 1
II. GENERAL SPECIFICATION	2
III. ELECTICAL SPECIFICATION	3
IV. SYMBOL DEFINITION & BUTTON LOCATION	
V. MEASURING FUNCTION	
ACV Function DCV Function Low Ohm Function and Continuity Function	5 5
4. Megohm Function	
VI. AUTO POWER OFF	6
VII. BATTERY CHANGING	7
VIII. FUSE CHANGING	7



I. A SAFETY INFORMATION

- Read the following safety information carefully before attempting to operate or service the meter.
- The circuit under test must be de-energized and isolated before connections are made except for voltage measurement.
- Circuit connections must not be touched during a test.
- After insulation test, capacitate circuits must be allowed to discharge before disconnecting the test leads.
- To avoid damage to the instrument do not apply signals, which exceed the maximum limits shown in the technical specification tables.
- Do not use the meter or test leads if they look damaged. Use extreme caution when working around bare conductors or bus bars.
- Use the meter only as specified in this manual; otherwise, the protection provided by the meter may be impaired.
- Caution when working with voltages above 60V DC or 30 V AC RMS. Such voltages pose a shock hazard.
- Before taking resistance measurements or testing acoustic continuity, disconnect circuit from mains power supply and all loads from the circuit.

Environment conditions:

- ① Installation Categories III 600 V
- ② Pollution Degree 2
- 3 Altitude up to 2000 meters
- ④ Indoors use only
- S Relatively humidity 80% max.
- ⑥ Operation Temperature 0~40°C

Maintenance & Cleaning:

- Only qualified personnel should perform repairs or servicing not covered in this manual.
- ② Periodically wipe the case with a dry cloth. Do not use abrasives or solvents on these instruments.



Safety symbols:



Caution (Refer to this manual before using the meter)



Dangerous voltages, risk of electric shock.



Meter is protected throughout by double insulation. When servicing, use only specified replacement parts.

Approvals: (€

EN-61010-1 600V CAT III 1000V CATII

VDE 0413

II. GENERAL SPECIFICATION:

· Display:

76×42mm Big LCD Panel with 40 segments analog Bar Indication.

· Over range Indication:

"OL" will be shown on the LCD Panel when out of range measurement is made.

· Low Battery Indication:

The will be shown when the battery needs to be changed.

· Sampling Rate:

2.5 times/sec Digital Display; 10 times/sec Bar Graph

· Power Source:

1.5V AA size Battery × 8

Operating Temperature and Humidity:

0°C to 40°C, bellow 80% RH

Storage Temperature:

-10°C to 60°C

Dimension:

196(L)×112(W)×64(H)mm; 7.72(L) ×4.41(W) ×2.52(H)inch

Weight:

Approx. 700g(with battery)

Accessories:

Test Lead, Large Jaw Alligator Clips, Battery, Instruction Manual, Carry Case.



III. ELECTRICAL SPECIFICATION:

AC Voltage

Range	Resolution	Accuracy
600V	0.1V	1.5%rdg+5dgts

DC Voltage

Range	Resolution	Accuracy
600V	0.1V	1%rdg+3dgts

Ω Ohms (Autoranging)

Range	Resolution	Accuracy
400 Ω	0.1Ω	40/ 1 . 5 1 4
4000Ω	1Ω	1%rdg+5dgts

· ·**) Continuity beeper

Range	Active	Protection
-11)	≤40Ω	600Vrms

MΩ (Autoranging)

Range	Resolution	Accuracy
4/40/400/4000MΩ(250V)	$\frac{3\%\text{rdg}+50}{5\%\text{rdg}+50}$	20/ 1 511 200
4/40/400/4000MΩ(500V)		3% rdg+5dgts < $2G\Omega$
$4/40/400/4000M\Omega$ (1000V)		5% rdg+ 5 dgts $< 4G\Omega$

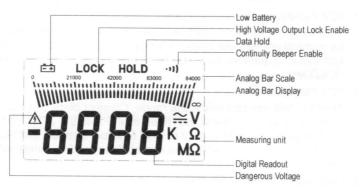
Power Consumption

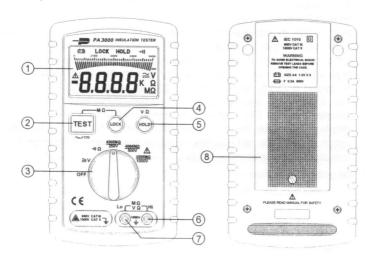
Battery = 9.5 V

Range	Condition	mA (approx.)
ACV	0~600V	16mA
DCV	-600V~600V	16mA
Ω	∞	22mA
Ω	0Ω	190mA
250V	∞	50mA
250V	250K	120mA
500V	∞	60mA
500V	500K	150mA
1000V	∞	85mA
1000V	1M	220mA
$M\Omega$	Stand by	16mA



IV. Symbol Definition and Button Location





- ① LCD Display
- 3 Function Selector
- ⑤ Data Hold Button
- Lo Input Terminal

- ② TEST Button
- Power Lock Button
- 6 Hi Input Terminal
- ® Battery Compartment Cover



1. ACV Function:

Turn function selector to voltage range. Connect black test lead to Lo terminal and red one to the Hi terminal. Connect test lead to the test circuit in parallel. One can hold the reading by pressing the HOLD key.

2. DCV Function:

Turn function selector to voltage range. Connect black test lead to Lo terminal and red one to the Hi terminal. Press the TEST button to change the mode from ACV to DCV function. Connect test leads to the test circuit in parallel. One can hold the reading by pressing the HOLD key.

3. Low Ohm Function and Continuity Function:

Turn function selector to Ohm range. Connect black test lead to Lo terminal and red one to the Hi terminal. Connect test leads to the test circuit in parallel. If the reading is less than 40 Ohm, the continuity beeper will sound.

One may null the lead resistance (under 40 Ohm) by shorting the test leads then press the test key. When the lead resistance is recorded a ZERO symbol will be display on the LCD. Press TEST key again to go back to normal operation. If the lead resistance is greater than 40 Ohm, the "Err" error message will show on the display. Because the test current provided by the meter could reach 200mA, do not use this range to test electronic components like diodes, transistors or fuses.

4. Megohm Function:

Turn the function selector to the desired test voltage range. The LCD will display "----" to indicate the tester is standing by. Connect black test leads to Lo terminal and red one to the Hi terminal. Connect test lead to the test circuit in parallel. One may take the measurement under manual power mode or power lock mode:

Manual Mode: Press and hold the test key to activate the test voltage source. A periodic beeping will give warning of the high voltage output. Release the test button to stop the test voltage output. A series of beeps with shorter periods indicate the discharging is in progress. When the beeper stops, the discharge



is completed. The test result will be held on the display automatically.

> Lock Mode: Press the LOCK button to enter the Power Lock operation mode. Press the test button once to activate the test source. A periodic beeping will give warning of the high voltage output. Press the test button again to stop the test voltage output. A series of beeps with shorter periods indicate the discharging is in progress. When the beeper stops, the discharge is completed. The test result will be held on the display automatically. If test period extends longer than 3-minutes the test source will shut down automatically.



Caution:

Do not activate the test before the lead is connected to the test circuit properly.

Do not remove the test lead from the test circuit before the discharge process is completed.

VI. AUTO POWER OFF

When the tester is idle for thirty minutes, with no function selector or button operation, it will turn itself off automatically. To turn the tester on again, the user has to turn the function selector to "OFF" position, then back to the selected function.

VII. BATTERY CHANGING

When $\stackrel{\square}{=}$ appears on the LCD, the batteries need to be replaced with new ones. To replace the batteries the user should turn the function selector to OFF position. Then the user needs to open the battery compartment cover with a screwdriver. Eight AA 1.5V batteries are needed to replace the old ones. After all batteries are changed, put the cover back and fasten the screw.

VIII. FUSE CHANGING:

The meter protection fuse will be blown if the ohms range has been selected and the tester is connected into a circuit with a source of >10V. The new replacement fuse must have a rating of 0.5A 600V fast Blow. First, the user should turn the test off and remove the test leads then remove the back cover and replace the Fuse.



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