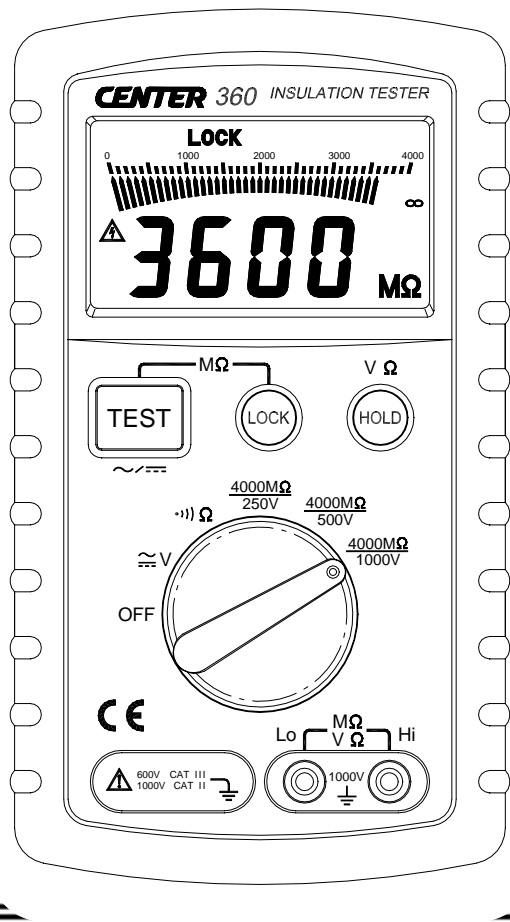


# CENTER<sup>®</sup> 360

## AUTORANGING INSULATION TESTER



### Instruction Manual



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## I. 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 damages to the instrument do not apply the 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 main 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
- ⑤ Relatively humidity 80% max.
- ⑥ Operation Temperature 0 40

### Maintenance & Cleaning:

- ① 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 show when the battery need 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 to 40 ( 32 to 104 ), bellow 80% RH

- **Storage Temperature:**

-10 to 60 ( 14 to 140 )

- **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

• **Ohms ( Autoranging )**

Range	Resolution	Accuracy
400	0.1	1%rdg+5dgts
4000	1	

• **•••) Continuity beeper**

Range	Active	Protection
•••)	40	600Vrms

• **M ( Autoranging )**

Range	Resolution	Accuracy
4/40/400/4000M ( 250V)	1K	3%rdg+5dgts < 2G 5%rdg+5dgts < 4G
4/40/400/4000M ( 500V)		
4/40/400/4000M ( 1000V)		

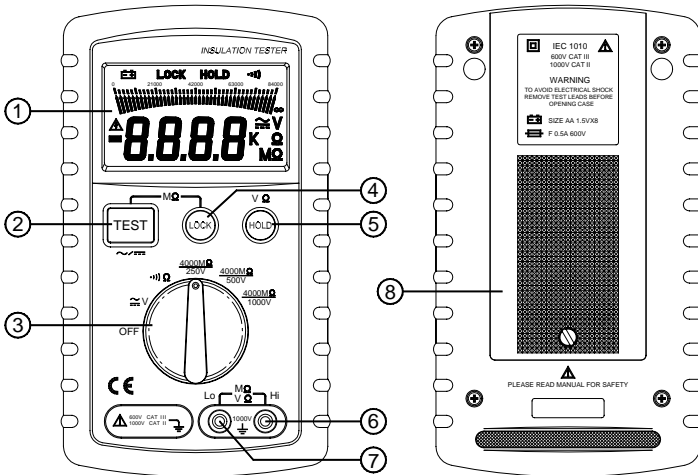
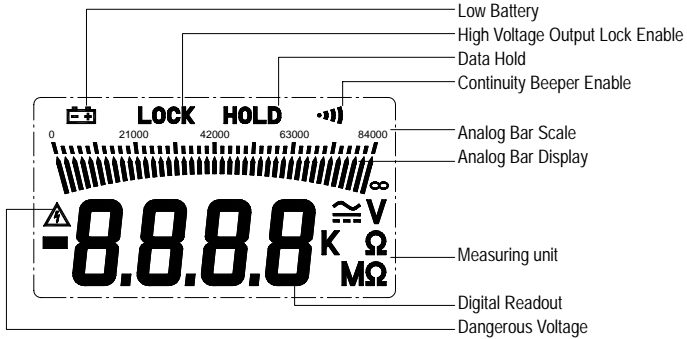
*Power Consumption*

Battery = 9.5 V

Range	Condition	mA (approx.)
ACV		16mA
DCV		16mA
		22mA
	0	190mA
250V		50mA
250V	250K	120mA
500V		60mA
500V	500K	150mA
1000V		85mA
1000V	1M	220mA
M	Stand by	16mA



### IV. Symbol Definition and Button Location



- ① LCD Display
- ③ Function Selector
- ⑤ Data Hold Button
- ⑦ Lo Input Terminal

- ② TEST Button
- ④ Power Lock Button
- ⑥ Hi Input Terminal
- ⑧ Battery Compartment Cover



## V. MEASURING FUNCTIONS

### 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 lead 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 lead 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 lead then press the test key. When the lead resistance is recorded a ZERO symbol will display on the LCD. Press TEST key again to go back to normal operation. If the lead resistance is great than 40 , 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 component like diode, transistor or fuse.

### 4. MegaOhm 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 lead to Lo terminal and red one to the Hi terminal. Connect test lead to the test circuit in parallel. One may take the measuring under manual power mode or power lock mode:



- **Manual Mode:** Press and hold the test key to active the test voltage source. A periodic beeping will warn the high voltage output. Release the test button to stop the test voltage output. A series of beeping with shorter period indicate the discharging 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 warn the high voltage output. Press the test button again to stop the test voltage output. A series of beeping with shorter period indicate the discharging in progress. When the beeper stops, the discharge is completed. The test result will be held on the display automatically. If test period extend longer that 3-minute the test source will shot 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 the selected function.





## VII. BATTERY CHANGING

When  appear on the LCD, the battery need to be replaced with new ones. To replace the battery 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:

When connect the meter under Ohm rang to a source  $> 10V$ , the protection fuse will break the circuit and new one will be needed for replacement. To replace the fuse, user should prepare an F 0.5A 600V fuse. First, the user should turn the test off and remove the test leads then remove the Beck Cover and Replace the fuse.

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