AUTORANGE MULTIMETER

Safety Precautions and Procedures

This multimeter is designed in agreement with the requirements of the international electrical safety standard IEC1010-1 and it is also manufactured strictly complying with 600V over voltage safety standard and pollution level 2.

Warning

To avoid the electrical shock, or personal injury and other safety, please follow the given terms:

- Please check that the measurements do not cross 30V AC true RMS, 42 V AC peak or 60V DC that cause the electric shock.
- It is mandatory to check ideal voltage to know if the multimeter works normally, if it is not normal or damaged, do not use it.
- Please check that the multimeter has any kind of crack or plastic damage in the case before using to avoid potential danger.
- Cautiously check, if the probe is broken or not, if it is broken, change it with the same type probe with same electrical specifications.
- Please wear personal protection equipment like rubber gloves, masks and flame resistance clothes and also follow national and local safety code.
- It is prohibited to use the multimeter around explosive gas, steam or wet environment.
- When it indicates low battery on the LCD display, replace it as soon as possible to avoid to measurement error.
- Please put your fingers behind the finger protector before using the probe.
- Disconnect the test leads from the circuit before changing the mode.
- Before rotating the range selector to change to functions, disconnect the test leads from the circuit under test
- Before opening the back cover , it is mandatory to pull out test leads, after closing the back cover and screwing it back, it is ready for measuring, be sure it is done properly.
- Never input signal electronic voltage to exceed the limited value to damages.

General Description and Function Panel

Display Max 1999 (3 1/2 digits)

Automatic polarity display, range instruction and battery charging indicator

POWER REQUIREMENTS: 2 x 1.5V AAA batteries

DIMENSION: 151mm x 75mm x 46mm

ENVIRONMENT CONDITION:

Working temperature: 0° C- 40° C; The relative humidity: <85 %

Store temperature: -10° C - 50° C; The relative humidity: <85 %

Temperature of precision: 23° C+5 C°; The relative humidity: <75 %

TEMPERATURE COEFFICIENT:

0.1 x accuracy /°C (<18° C OR >28° C)

MAX. Voltage between terminals and earth ground Ω 600V

Fuse protection Ω

Ma Ω F600mA/250V fuse

10A Ω F10A/250V fuse

Specification

1. DC VOLTAGE

Range	Resolution	Accuracy
600Mv	0.001V	
6V	0.1mV	± (0.5% reading+3)
60V	0.1mV	
600V	0.1mV	

Input impedance: 10M Ω;

Overload protection 600V; Maximum input voltage: 600V

2. DC CURRENT

Range	Resolution	Accuracy
600mA	0.1uA	
600mA	1uA	
60mA	0.01mA	± (1.2% reading+3)
600mA	0.1mA	
6A	0.001mA	
10A	0.01A	

Overload protection: uA/mA : F600A/250V fuse

3. AC VOLTAGE

Range	Resolution	Accuracy
600mV	0.1Mv	
6V	0.001V	± (1.0% reading+3)
60V	0.01V	
600V	0.1V	

Input impedance: 10M Ω;

Overload protection 600V; Maximum input voltage: 600V

Frequency Response Ω 1 kHz; TRMS

4. RESISTANCE

Range	Resolution	Accuracy
600 Ω	0.1Ω	
6k Ω	0.001kΩ	± (1.0% reading+3)
60kΩ	0.01kΩ	
600kΩ	0.1kΩ	
6MΩ	0.001MΩ	± (1.5% reading+3)
60MΩ	0.01MΩ	

5. DIODE TEST

It displays nearly forward voltage value of the diode

Forwarded DC current is about 2.5 mA

Reverse DC voltage is about 3V

Overload protection: 250V

7. CONTINUITY TEST

The resistance is <30, the buzzer will sound and the indicator light is green

Test voltage is 1V and Overload protection: 250V

Safety Symbols

High Voltage Warning

AC/DC

Fuse

AC (Alternating Current)

Warning, Safety Signs

Insulation Protection

DC (Direct Current)

Ground

Battery Under Voltage

Operating Instructions

1. LCD Display

Buttons

i. Hold : Press hold key to enter data mode and cancel data hold mode

ii. Display Backlight : Press it to turn on/off or wait 10 seconds

FUNC KEY: To measure multiple functions, the "func" key is adopted

Maximum Measurement: Tap max to key to enter maximum measurement or to cancel measurement

COM: Common Terminal for all measurements

10A: Input terminal to for related current measurements

2. MEASURE AC/DC VOLTAGE

1. Turn the knob to "V" and Switching AC or DC voltage function by "FUNC" key
2. Insert the red probe in the given socket, insert the black probe in" COM" socket
3. Contact the probe to the measured circuit to measure the voltage
4. Read the measurement result on the screen

Caution:

The instrument will be damaged, if the voltage is above 600V and it cannot be measured in the time of high measuring, pay special attention.

3. MEASURE AC/DC CURRENT

1. Turn the knob to uA or mA or A shift or 10A socket or DC voltage function by "FUNC" key.
2. In the red probe in the given socket or 10A Socket, insert the black probe in "COM" socket.
3. Disconnect the power of the tested circuit or connect the meter.
4. Read the measurement result on the screen.

Caution:

1. The instrument will be damaged, if the voltage is above 600V and it cannot be measured in the time of high measuring, pay special attention.
2. Test the known current with the meter before use and confirm the instrument function intact.

4. MEASURE RESISTANCE

1. Turn the knob to "Ω⊣⊢" shift
2. Insert the red probe in "°C/°F ⊣⊢VΩHzLive •))▶⊢mAμA" socket and insert the black probe in "COM" socket
3. Connect the probe to the measured circuit or resistance, measure the resistance
4. Read the measurement result on the display

Caution:

While measuring resistance on the line, disconnect the power supply and discharge all the high-voltage capacitors. Otherwise, the instrument may be damaged and may be struck by electric socket.

5. MEASURE DIODE

1. Turn the knob to •))▶⊢ shift and switch to diode measurement function according to "FUNC" key
2. Insert the red probe in "°C/°F ⊣⊢VΩHzLive •))▶⊢mAμA" socket and insert the black probe in "COM" socket
3. Touch the diode anode with the red probe, the black probe diode cathode
4. Read the measurement result on the display

Caution:

While measuring diode on the line, disconnect the power supply and discharge all the high voltage capacitors. Otherwise, the instrument may be damaged.

6. MEASURE CONTINUITY

1. Turn the knob to •))▶⊢ shift and switch to continuity measuremen function according to "FUNC" key.
2. Insert the red probe in "°C/°F ⊣⊢VΩHzLive •))▶⊢mAμA" socket and insert also the black probe in "COM" socket.
3. Contact the probe to the measured resistance or circuit.
4. If the resistance or circuit of the measured resistance is less than 30 Ω, the buzzer will on and the green indicator lights up at the same time and when the resistance between 30Ω to 60Ω , the red indicator lights up, the screen displays the resistance of the measured circuit.

Caution:

While measuring continuity on the line, disconnect the power supply and discharge all the high voltage capacitors. Otherwise, the instrument may be damaged and may be struck by electric shocks.

7. REPLACE BATTERY AND FUSE

1. Turn off the power supply of the instrument and remove the probe on the instrument.
2. Use screwdriver to unscrew screws fixing the battery cover, remove the back and battery cover.
3. Remove the old batteries with new with same specifications.
4. install the battery cover to its original position, fix and lock the battery cover with screws.

Accessories Included

1. Multimeter
2. One pair of test leads
3. Manual
4. 9V 6F22 battery

MAINTENANCE

- Switch off the power supply of the instrument and remove the test probe.
- Turn over the instrument and shake out the dust accumulated in the input socket, wipe the outer cabinet with a cloth and mild detergent.
- Wipe contacts in each input socket with a clean cotton swab soaked in alchohol.

Warning and Caution

- Warning mark indicates the condition or operation that may cause danger to the users
- Caution mark indicates the condition or operation that may cause damage to the instruments
- Be careful about the condition of the meter and testing leads before using.
- Turn off the item when it is not in use so that it can give a long service.
- Remove the battery and put in dry and less dusty place if the multimeter is not used in long time.
- Disconnect the test leads from the circuit before changing the mode.

This user manual is also available in these languages

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Polish 

Dutch 

Spanish 

Swedish 

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