TENMARS

YF-8020A

AC CLAMP METER

CE

User's manual

Thank you for purchasing this instrument. Please read this instruction manual carefully and completely before using the digital clamp meter. Correct operation will insure the best performance and decrease the possibility of damages.

◆ *Safety precaution*

CAUTION

Take extreme care for the following conditions while measuring

1. Measuring voltage over 20V as it may cause human body electricity conduction.
2. Measure AC power.
3. Do not measure voltage, current under humid or wet environment.
4. If any unusual condition (such as: breakage, deformation, fracture, foreign substance, no display, etc.) of the test leads end (metal part) and attachment of the meter, please do not conduct any measurement.
5. Do not contact any exposed metal (conductive) parts, such as: end of test lead, jack, fixing object, circuit, etc.
6. Keep you insulated from the object waiting for being measured.
7. Do not operate the meter under the environment with explosive gas (material), combustible gas (material) steam or filled with dust.
8. In order to avoid reading incorrect data, place replace the battery immediately when the symbol "" appears on the LCD.
9. In order to avoid the damage caused by contamination or static electricity, do not touch the circuit board before you take any adequate action.
10. Operating Environment: Indoors use. This instrument has been designed for being used in an environment of pollution degree 2.
11. Operation Altitude: Up to 2000M.
12. Operating Temperature & Humidity: 5℃ ~ 40℃,below 80%RH.
13. Storage Temperature & Humidity: -10℃ ~ 60℃, below 70%RH.
14. Fingers should hold under the protection guard of test probe.
15. Symbols Description

DC Voltage or Current

AC Voltage or Current

DC/AC Voltage or Current

Ground

Double insulated Meter

Caution refer to the instruction manual-an improper use may damage the in strumpet or its components.

Danger *high voltage: risk of* electric shock

◆ *Specifications*

1. Display: 3 1/2 digits LCD with max. reading 1999, plus decimal point, unit symbol indication.
2. Overload Indication: LCD will show "1" in the left highest position.
3. Low Battery Indication: Replace battery immediately when LCD displays "".
4. Sampling Rate: 2 times per second for digital display.
5. Power Supply: 9V NEDA 1604 IEC 6F22 JIS 006P battery x 1pc.
6. Battery Life: About 200 hours.
7. Jaws opening: Max. 40 mm.
8. Conductor size: Max. 37mm.
9. Dimension: 205mm(L)x80mm(W)x35mm(H).
10. Weight: About 257g. (Including battery)
11. Accessories: Test Leads、manual、carrying case 、battery.

Electrical Specifications Accuracy: ±(.....%rdg……dgt)

ACA

Range	Resolution	Accuracy 50Hz~60 Hz	Overload Protection
20A	0.01A	± (2.0%+5)	600A rms (30 second)
200A	0.1A		
600A	1A	± (3%+8)<6A	
		± (2%+5)	
		± (3%+8)>590A	

ACV

Range	Resolution	Accuracy 50Hz~500 Hz	Overload Protection
200V	0.1V	± (1.2%+3)	DC 1000V/750V rms
750V	1V		

Resistance

Range	Resistance	Accuracy	Max. Open Voltage	Overload Protection
2000Ω / •))	1Ω	± (1.0%+2)	0.4V_{DC}	350V rms

Frequency

Range	Resolution	Accuracy	Overload Protection
2000Hz	1Hz	± (0.8%+3)	350V rms

Sensitivity :>1Vrms

◆ ***Instrument Description***

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a. Inductive clamp jaw.
b. Jaw Trigger.
c. LCD
d. "– " Jack: it is used for the connection of negative signal input while measuring ACV, Ω/ •)) /Hz.
e. "+" Jack: It is used for the connection of positive signal input while measuring ACV,Ω/ •)) /Hz.
f. Slide Range Selector.
g. DATA HOLD button: The reading data shown on LCD can be locked while pressing the button.

Fig 1

◆ **Measurement**

4-1. AC Current (ACA) measurement

WARNING

Make sure that all the test leads are disconnected with the meter's terminal for current measurement.

1. Select a proper ACA range. Always start from the top range for any unknown current.
2. Open the jaws and put the tested conductor in the center of the clamp jaws. (No gap is allowed between the connections of clamp jaws)
3. Read the indicative value. If the LCD shows "1" in the left highest position, then it means "overload". In that case, setting a higher range is necessary.
4. If darkness causes the reading is incapable to read, press the data hold, then the reading will be locked.
5. To release the reading, just press again the data hold.

4-2. AC Voltage (ACV) measurement

WARNING

Max. input for DCV or ACV is 600V. Do not attempt to take any voltage measurement which exceeds the limits. Exceeding the limits could cause electrical shock and damage the clamp meter.

1. Select a proper ACV range 200V or 600V. Start from the highest range if the voltage is unknown.
2. Plug the test leads into the jacks. The red test lead plugs into " + " jack, and the black test lead plugs into "-" jack.
3. Connect the two long ends of test leads with the desired circuit, then the reading will be displayed.
4. Data hold function is available for voltage measurement. For operation, please refer to current measurement.

4-3.Resistance and continuity measurements

WARNING

Before measuring the resistance, please be sure to remove power from the circuit being tested and discharge all the capacitors. If the reading is over range, the symbol "OL" will be displayed.

1. Select a proper "OHM " range (2000Ω/).
2. Plug the test leads into the jacks, the red test lead plugs into" +" jack and the black test lead plugs into "-" jack.
3. Connect the two long ends of the test leads with the desired circuit, then the reading will be displayed. while the buzzer sounds when the resistance value lower then 40Ω approximately.
4. Before measuring the resistance, please be sure to remove power from the circuit being tested and discharge all the capacitors.
5. Data hold function is available for resistance measurement. For operation, please refer to voltage and current measurement.

4-4 Frequency Measurements

1. Select the 2000Hz range.
2. Connect the test leads into the sockets, plug the red plug into "+" jack, and black plug into "-" jack.
3. Connect the two long ends of test leads to the desired
4. circuit, then reading will be displayed.
5. An alternative way for measuring is to clamp the desired
6. circuit with clamp jaw. But this method must be done
7. with the max. sensitivity and the frequency region.
8. As measuring frequency.

◆***Battery Replacement***

WARNING

If the symbol "⊟+" appears on the LCD, please replace the battery immediately.

1. Before operating the battery replacement, please remove all test leads and the conductor.
2. Set the range to OFF position.
3. Remove the screws from the battery cover with screwdriver, and detach the battery cover from the bottom cover.
4. Remove the battery from battery holder carefully, (replace it with new 9V NEDA 1604 IEC 6F22 JIS 006P battery x 1pc.
5. Put the battery cover back to its right place and tighten it with screws.

◆ *Maintenance and Cautions*

1. This meter is a precision digital instrument. Whether in use or in storage, please do not exceed the specification requirements to avoid any possible damage or danger during in operation.
2. Do not use strong / abrasive detergents, water or wet cloth to clean the instrument.
3. Do not put the instrument in high temperature or in humid condition. Being exposed to direct sunlight is prohibited.
4. After finishing the measurement, please turn the rotary switch to off position. Remove the battery from battery holder if the instrument is not be used for a long period in order to avoid the liquid leakage from the battery.
5. Regarding to the other requirements for inspection and maintenance which are not stated in the manual, a qualified technician is necessary.

End of life

Caution: this symbol indicates that equipment and its accessories shall be subject to a separate collection and correct disposal

◆ *Manufacturer*

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