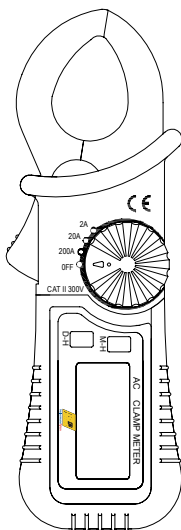


DIGITAL CLAMP METER

T609



*Only illustrative image.

INSTRUCTIONS MANUAL

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1) OVERVIEW

This operating manual covers information on safety and cautions. Please read the relevant information carefully and observe all the **Warnings** and **Notes** strictly.

Warning

To avoid electric shock or personal injury, read the Safety Information and the following instructions carefully before using the Meter.

- Do not use it if the meter appears to be damaged. Inspect the meter to ensure that the case is not cracked and the rear case is securely placed.
- Do not use the meter if it operates abnormally as protection may be impaired.
- Do not use during electrical storms or wet weather.
- Do not use near inflammable, dusty or vapor environments.
- Do not use without the battery cover and the rear case properly installed.
- Do not attempt to repair this unit as it has not user serviceable parts inside.
- Replace the battery if wrong operation occurs.
- Use the proper range for your measurement. To protect yourself, think "Safety First".
- Voltages over 30V AC RMS or 60V DC pose a shock hazard so use caution.
- Use appropriate personal protective equipment such as safety glasses, face shield, insulating gloves, boots and mats.
- Never ground yourself when taking electrical measurements.
- Always work with a partner.

2) SAFETY

This manual contains information and warnings that must be followed to safe operation of the instrument and to keep the instrument in safe operation conditions. If the instrument is used in a different way than the specified by the manufacturer, the protection provided by the instrument may be impaired.

This meter complies with the double insulation standards IEC61010-1: Category **II 300V**.

BY IEC61010 OVERVOLTAGE CATEGORY INSTALLATION

OVERVOLTAGE CATEGORY II

Equipment of OVERVOLTAGE CATEGORY II is energy-consuming equipment supplied from the fixed installation.

Note - Examples include household, office and laboratory appliances.

OVERVOLTAGE CATEGORY III

Equipment of OVERVOLTAGE CATEGORY III is equipment in fixed installation.

Note - Examples includes switches in fixed installations and some equipment for industrial use with permanent connection to the fixed installation.

OVERVOLTAGE CATEGORY IV

Equipment of OVERVOLTAGE CATEGORY IV is for use at origin of the installation.

Note - Examples include electricity meters and primary over-current protection equipment.

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

TERMS IN THIS MANUAL

WARNING identifies conditions and practices that may result in serious injuries or even death.

CAUTION identifies conditions and practices that may cause damage or instrument malfunction.

WARNING

To reduce the risk of fire or electrical shock do not expose this instrument to rain or high humidity. This instrument was designed to indoor use only.

INTERNATIONAL ELECTRICAL SYMBOLS



Caution! Risk of Electrical Shock.



Caution! Risk of Danger.



Earth (Grounding).



Double Insulation or Reinforced Insulation.



AC - Alternating Current.



DC - Direct Current.

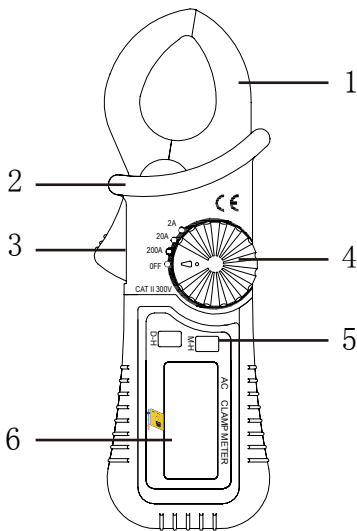
3) ACCESSORIES

Check if the following items are not missing or damaged:

1. Instructions Manual (1 piece)
2. Protective Holster (1 piece)
3. Transport Case (1 piece)
4. Batteries (2 pieces)


4) PRODUCT DESCRIPTION

- 1) Transformer clamp jaw to pick-up AC current.
- 2) Hand / Finger barrier to indicate the limits of safe access to the jaw during current measurements.
- 3) Jaw trigger to open it.
- 4) Rotary switch to turn the power ON / OFF and range selection.
- 5) The buttons used to operate special functions & features:
D-H: Button is used to freeze the reading.
M-H: Button is used to freeze the maximum reading.
- 6) LCD Display



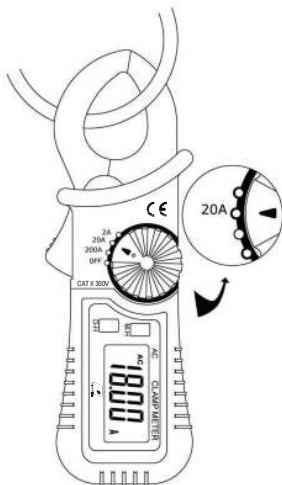
5) DISPLAY SYMBOLS



Number	Symbol	Meaning
1		Indicator for low battery level.
2	AC	AC (Alternating Current).
3	D-H	Indicator for Data Hold mode.
4	M-H	Indicator for Maximum Hold mode.
5	A	Amperes. Current Unit.

6) OPERATION

A. Current Measurement - AC



Set the rotary switch to the proper range, ACA (alternating current) for T609

NOTE

- *For non-invasive current measurement, press the jaw trigger and clamp the jaw around only one single conductor of a circuit for load current measurement. Make sure the jaw is completely closed.*
- *Adjacent current-carrying devices such as transformers, motors and conductor wires will affect measurement accuracy . Keep the jaw away from them as much as possible to minimize influence.*
- *The best accuracy is taken when the conductor is centered in the jaw.*

B. Special Functions

D-H Button

The Data Hold function freezes the current reading to later visualization. Press **D-H** button for a moment to enter in the Data Hold mode. Press **D-H** button again to return to normal measurements.

M-H Button

The Max Hold function freezes the highest reading to later visualization. Press **M-H** button for a moment to enter in the Max Hold mode. Press the button again to return to normal measurement.

Auto Power Off (APO)

The meter turns off after approximately 15 minutes of neither switch nor key activity. To wake up the meter from APO, change the function selector to other position and back on again. Always turn the function selector to OFF when the meter is not in use.

7) MAINTENANCE

CAUTION!

Do not attempt to repair or service your meter unless you are qualified to do so and have the relevant calibration, performance test, and service information. To avoid electrical shock or damage to the meter, do not get water inside the case.

A. General Service

- Periodically wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents.
- Turn off the power of the meter when it is not in use.
- Take out the batteries when it is using for a long time.
- Do not use or store the meter in a place of humidity, high temperature, explosive, inflammable and strong magnetic field.

B. Battery Replacement

WARNING!

To avoid false readings, replace the battery as soon as the battery indicator appears.

- Turn off the meter.
- Remove the protective holster (rubber).
- Remove the screw from the battery compartment cover and separate the battery cover from the case bottom.
- Replace the batteries observing the correct polarity.
- Replace the battery compartment cover, the screw and the protective holster.

8) SPECIFICATIONS

A. General Specifications

Display: LCD 3 1/2 digits (2000 counts)

Jaw Opening & Conductor Diameter:

19mm maximum

Sampling Rate: 3 times per second nominal

Polarity : Automatic

Low Battery: 

Range Selection: Manual

Temperature Coefficient: 0.1 x (specified accuracy) / °C (< 18°C or > 28°C)

Operation Environment: 0°C to 40°C, < 75% RH

Altitude: Operation below 2000m

Storage Environment: -20°C to 60°C, < 80% RH (without battery)

Safety: IEC61010-1 Measurement Category II **300V**

Pollution Degree: 2

Supply: Two 1.5V batteries (LR44)

Dimension: 155(H) x 50(W) x 25(D)mm

Weight: 95g approx.

B. Electrical Specifications

AC Converter: These models are averaging sensing, RMS calibrated.

Accuracy: Accuracy is specified as \pm (% reading + a fixed amount) or otherwise specified, at 23°C \pm 5°C & less than 75% RH.

The specification is valid for 10% to 100% of the measurement range.

AC Current

Range	Resolution	Accuracy	Overload Protection
2A	0.001A	0.05A~2A \pm (2.0%+8D) 50~60Hz	200A RMS
20A	0.01A	0.5A~20A \pm (2.0%+5D) 50~60Hz	
		0.5A~20A \pm (3.0%+10D) 45~400Hz	
200A	0.1A	5A~200A \pm (2.0%+5D) 50~60Hz	
		5A~200A \pm (3.0%+10D) 45~400Hz	

Note: Frequency Response: 50Hz ~ 60Hz

DC Current

Range	Resolution	Accuracy	Overload Protection
40A	0.01A	\pm (3.0%+5D)	200A RMS
200A	0.1A		

9) WARRANTY

This instrument was carefully calibrated and inspected. If any failure occurs under normal use, this product will be repaired according to warranty conditions and limitations.

WARRANTY

SERIAL N°

MODELS: T609

- 1- The warranty period is 12 (twelve) months and begins on the date of purchase.
- 2- It will be repaired free of charge in following cases:
 - A) Manufacturing defects or damages occurred under normal use of instrument within the warranty period.
 - B) The services to correct the failure will be done only in authorized service center or personal will be allowed to fix this product.
 - C) If product is purchased through a Minipa's authorized dealer.
- 3- Warranty will be void in case:
 - A) It has been misused, altered, neglected or damaged by accident or abnormal conditions of operation or handling.
 - B) The instrument shows violations by a non authorized repair center.
- 4- This warranty does not apply to fuses, dry cells, batteries and accessories as test leads, carrying case, thermocouple, etc.
- 5- For instrument with software, Minipa assumes responsibility that the software will operate in accordance with its functional specifications for 90 days. Minipa will not guarantee that the software will be error free or operate without interruption.
- 6- Minipa assumes no risk for damage in transit or transportation costs.
- 7- **Warranty will be valid only after the registration of this certificate.**

Name:

Address:

City:

State:

Phone:

Sales Voucher N°:

Date:

Serial N°:

Sales Agent Name: