

AD-5588

Mini Clamp Meter

Instruction Manual

1WMPD4004860

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1. Introduction

This manual describes how the AD-5588 Mini Clamp Meter works and how to get the most out of the product. Read this manual thoroughly before using the product, and keep the manual at hand for future reference.

2. Features

This product is a mini clamp meter that can measure AC current, with a minimum resolution of 1mA to a maximum of 200Arms.

The product complies with the following standards: IEC 61010-1, 61010-2-032, 61010-2-033, Pollution Degree 2¹, and Overvoltage Categories CATII 600V and CATIII 300V¹.

¹ For details regarding Pollution Degree and Overvoltage Category, see "3-2. Pollution Degree" and "3-3. Overvoltage Category."

3. Precautions for Use

All safety messages are given according to the ANSI Z535.4 (American National Standard Institute: Product Safety Signs and Labels) standard.

3-1. WARNING DEFINITIONS

The warnings described in this manual mean the following:

	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
NOTICE	Indicates a potential result of property damage or a similar event not including personal injury.

When using the product, the following safety precautions should always be followed.

⚠ WARNING

- Please carefully read and fully understand the warnings and operating instructions before use.
- Be sure to perform a safety check before use. If the product is damaged and does not operate normally, or if any abnormality is found, stop using it immediately. Attach a notice to the product indicating that the product is "Out of Order" or move the product to a location where it will not be used accidentally. Continued use of the product is very dangerous. For repairs, please contact the store where you purchased the product or an A&D office.
- Do not use for measurement on objects over a rated voltage of 600 V (CATII) or over 400 Hz.
- Use within the range designated by Pollution Degree 2 and Overvoltage Categories CAT II 600 V or CAT III 300 V.
- Do not touch the earth during measurement. Be careful not to touch anything grounded to the earth, such as exposed metal pipes, electrical outlets, jigs, and tools. Insulate the operator's body from the ground using a reliable insulator such as a dry cloth, rubber sheet, or rubber shoes.
- When replacing the batteries, move the instrument away from the object to be measured before removing the battery cover.
- There is a risk of electric shock when used with a voltage of 30 V AC (RMS AC value) or higher.

⚠ CAUTION

- There is a risk of electric shock. Internal servicing or adjustment of the product for repairs must be performed by a qualified person.
- To prevent hazards, do not use the product in the presence of flammable gases.

NOTICE

- Opening the case for repairs may void the warranty and damage the product or cause it to lose functionality.
- Do not apply strong impacts, vibrations, or electrical shocks to the product as they may cause the product to malfunction.
- Avoid using the product in places where there are sudden changes in temperature, high temperature, high humidity, or high dust levels.
- This product is not waterproof. Do not use it in water or in places where it may be directly exposed to water.

3-2. Pollution Degree

Pollution Degree is classified into 4 degrees (or categories) according to the type and amount of contamination, such as whether there is conductive dust in the air where the equipment is used. It is an environmental classification stipulated by internal and external standards for evaluating clearance and creepage distance.

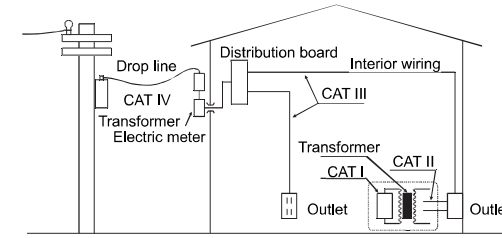
Pollution Degree 2: Non-conductive pollution occurs, but occasional dew condensation is expected to cause temporary conductivity. General office and home environments are categorized as Pollution Degree 2 environments.

3-3. Overvoltage Category

The product conforms to CAT II (600V) and CAT III (300V) of the safety standards (EN 61010 series, JIS C 1010 series). In the safety standards, the safety level is specified in terms of overvoltage categories, classified as CAT I to CAT IV as follows.

- CAT I: Circuit with overvoltage control on the secondary side, routed from the power outlet through the power transformer.
- CAT II: Primary side of devices that have power cables connected to a power outlet.
- CAT III: Circuits from the primary side of devices that draw electricity directly from a distribution board and from the branching units of equipment to the power outlet.
- CAT IV: Electrical meters and primary overcurrent protection devices for use on drop lines.

Never use a measuring instrument rated with a small CAT No. to measure an object with a larger CAT No., as this may lead to a serious accident.

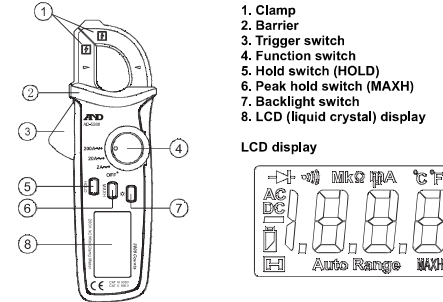


4. Part Names and How to Use

⚠ CAUTION

Be very careful with voltages of AC30V or higher. There is a risk of electric shock.

4-1. Part names

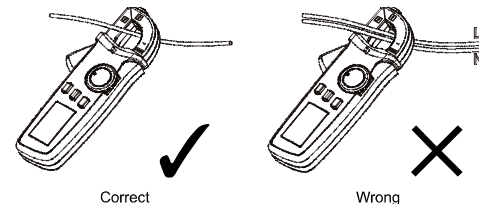


Indicator	Description	Indicator	Description
AC	AC current measurement	A	Current measurement range
	Battery replacement indicator	MAXH	Peak hold mode
	Hold mode	Other indicators	Not used

4-2. AC current measurement

1. Switch the Function switch to the expected range of maximum measurement current ("2A or more", "20A or more", "200A or more").
2. Press the trigger switch, open the clamp, and then clamp the cable to be measured. The internal current value of the cable will be displayed on the LCD display.

When measuring current, always clamp one of the conductors (wires) being tested. Current measurement is not possible if two wires (parallel wires) are clamped. Measurement errors can be reduced by measuring at the center of the core (iron core) of the clamp part.



4-3. Hold Mode

By pressing the Hold switch (HOLD) during measurement, the value when the Hold switch is pressed is paused (hold) on the display. If you press the Hold switch (HOLD) again or turn the power off and on again, the hold will be canceled and the currently measured value will be displayed.

4-4. Peak Hold Mode

Peak Hold is a function that displays the maximum value obtained during measurement. When the Peak Hold switch (MAXH) is pressed during measurement, "MAXH" is displayed on the lower left of the display. While "MAXH" is displayed, the maximum value (peak hold) obtained during measurement is displayed. To stop showing the maximum measured value, turn the power off and on again or press the Peak Hold switch (MAXH).

Note: The maximum value (peak hold) continues to be automatically updated.

4-5. Backlight

When the power is on, press and hold the "☼" button for 2 seconds or longer to turn on the backlight.

To turn off the backlight, press and hold the "☼" button for 2 seconds or longer to turn off the backlight.

4-6. Sleep Mode

The product turns off the display and goes into Sleep Mode after about 15 minutes of inactivity to save battery power. Press any switch or press any button to return from sleep mode.

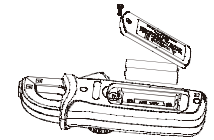
5. Maintenance

5-1. Installing / Replacing Batteries

The product uses two AAA batteries. If the LCD display becomes dim or the "⏻" appears in the lower-left corner of the display, replace the batteries by the following method.

The included batteries are for testing purposes only, so the battery life may be short. If you insert the batteries with the "+" and "-" polarities reversed, the product will not operate normally and it will even be damaged.

1. Set the Function switch to the "OFF" position.
2. Remove the screw on the battery cover on the back of the main unit with a Phillips screwdriver (No.1), and then remove the battery cover.
3. Remove the old batteries.
4. Insert the new batteries into the battery space, ensuring the orientation is correct.
5. Replace the battery cover and tighten the screws.



Notes on using batteries

1. Do not charge, short-circuit, disassemble, or throw the batteries into fire as they may explode or leak.
2. To protect the environment, please dispose of used batteries in accordance with local ordinances.

5-2. Maintaining the Product

When cleaning the product, wipe it gently with a soft cloth that is moistened and tightly wrung out.

If the product is very dirty, wipe it off with a soft cloth slightly moistened with a neutral detergent.

Do not use organic solvents, chemical wipes, or brushes.

Using a spray for cleaning may cause malfunction.

Do not use thinner, benzene-like volatile solvents or abrasives.

6. Specifications

Display	1999 count LCD display
Overload indicator	OL
Sampling	Approx. 3 times / sec.
Clip inner diameter	Approx. φ16 mm
Maximum input current	200Arms
Operating temperature / humidity range	0 °C to 30 °C 75%RH or less (no condensation) 30 °C to 40 °C 40%RH or less 2000 m or less above sea level
Storage temperature / humidity range	-10 °C to 50 °C 75%RH or less (no condensation)
Power supply	Two AAA batteries
Battery life	Approx. 350 hours
Size	158(W)×60(H)×33.5(D) mm
Weight	Approx. 170 g (including batteries)
Accessories	Instruction Manual, batteries (for testing)

Accuracy of each range (23°C±5°C 75%RH or less)

Range	Resolution	Accuracy
2.000A	1mA	±(4%rdg+30dgt)
20.00A	10mA	±(3%rdg+20dgt)
200.0A	100mA	±(2.5%rdg+20dgt)

Maximum input current: 200 Arms

Sine wave measurement value, measurement frequency range: 50 to 60Hz

For non-sinusoidal measurements, the following values are added to accuracy.

Crest factor: +3% for 1 to 2, +5% for 2 to 2.5, +7% for 2.5 to 3