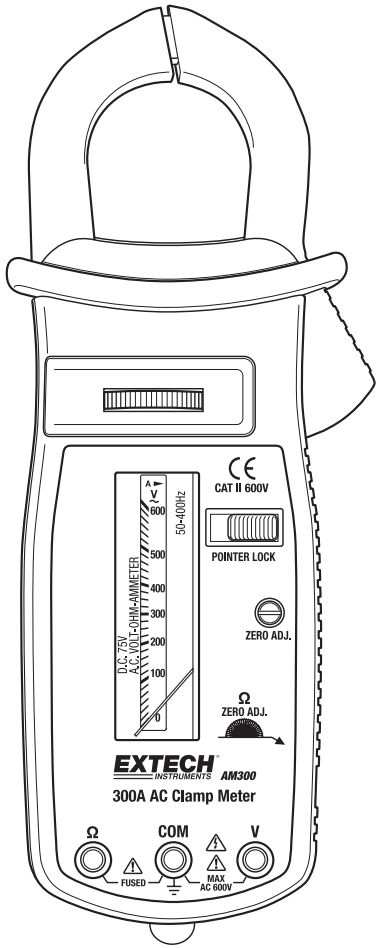
User's Guide

Extech AM300
300A AC Analog Clamp Meter



Introduction

Congratulations on your purchase of the Extech AM300 Analog Clamp Meter. This device measure AC Voltage and Current, DC Voltage, and Resistance. This meter is shipped fully tested and calibrated and, with proper use, will provide years of reliable service.

Safety

International Safety Symbols



This symbol, adjacent to another symbol or terminal, indicates the user must refer to the manual for further information.



This symbol, adjacent to a terminal, indicates that, under normal use, hazardous voltages may be present



Double insulation

SAFETY NOTES

- Do not exceed the maximum allowable input range of any function.

Function	Maximum Input
A AC	300A AC
V DC, V AC	600V DC/AC

- Do not apply voltage to meter when resistance function is selected.
- Remove the battery if meter is to be stored for longer than 60 days.

WARNINGS

- Set function switch to the appropriate position before measuring.
- When measuring volts do not switch to current/resistance modes.
- Do not measure current on a circuit whose voltage exceeds 600V.
- When changing ranges always disconnect the test leads from the circuit under test.

CAUTIONS

- Improper use of this meter can cause damage, shock, injury or death. Read and understand this user manual before operating the meter.
- Always remove the test leads before replacing the battery or fuses.
- Inspect the condition of the test leads and the meter itself for any damage before operating the meter. Repair or replace any damage before use.
- Use great care when making measurements if the voltages are greater than 25VAC rms or 35VDC. These voltages are considered a shock hazard.
- Always discharge capacitors and remove power from the device under test before performing Resistance tests.
- Voltage checks on electrical outlets can be difficult and misleading because of the uncertainty of connection to the recessed electrical contacts. Other means should be used to ensure that the terminals are not "live".
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

STANDARDS

PER IEC1010 OVERVOLTAGE INSTALLATION CATEGORY

OVERVOLTAGE CATEGORY I

Equipment of OVERVOLTAGE CATEGORY I is equipment for connection to circuits in which measures are taken to limit the transient overvoltages to an appropriate low level.

Note – Examples include protected electronic circuits.

OVERVOLTAGE CATEGORY II

Equipment of OVERVOLTAGE CATEGORY II is energy-consuming equipment to be 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 installations.

Note – Examples include switches in the fixed installation and some equipment for industrial use with permanent connection to the fixed installation.

OVERVOLTAGE CATEGORY IV

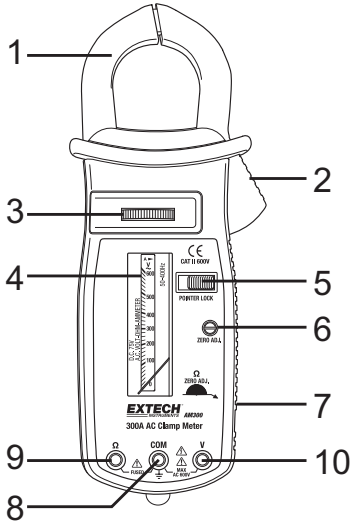
Equipment of OVERVOLTAGE CATEGORY IV is for use at the origin of the installation.

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

Description

Meter Description

1. Current clamp
2. Clamp opening trigger
3. Function Selector Switch
4. Scale Display
5. POINTER LOCK switch
6. Meter zero adjust
7. Zero ohms adjust
8. **COM** negative input jack for black test lead
9. **OHMS** positive input jack for red lead
10. **VOLT** positive input jack for red lead



Specifications

Function	Ranges	Accuracy
AC Current (50/60Hz)	6, 15, 60, 150, and 300A AC	± 3% of Full Scale for 50/60Hz
AC Voltage (50/60Hz)	300 and 600V AC	± 3% of Full Scale
DC Voltage	75V DC	± 3% of Full Scale
Resistance	2000Ω (20Ω mid-scale)	± 3% of Scale Length

Clamp jaw opening	1.5" (38mm) max.
Display	Analog with Zero Adjustment
Input Impedance	240kΩ (75VDC range), 530kΩ (300VAC range, 1MΩ (600VAC range),
AC bandwidth	50 to 60Hz (50 to 400Hz for 15 through 300ACA ranges)
Ambient conditions	Temperature 32 - 104°F (0 - 40°C); Relative Humidity <80%
Operating Altitude	7000ft. (2000m) maximum.
Battery	One (1) 1.5V 'AA' Battery
Fuse	0.5A / 250V glass fuse (6mm x 30mm); spare fuse supplied
Dimensions & Weight	9.0 x 2.8 x 1.5" (230 x 72 x 37mm); 14.7oz. (416g)
Safety	For indoor use and in accordance with the requirements for double insulation to IEC1010-1 (2001): EN61010-1 (2001) Overvoltage Category II 600V, Pollution Degree 2.

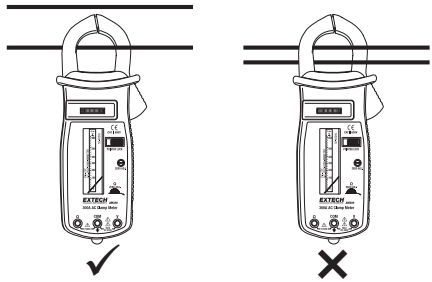
Operation

NOTES: Read and understand all Warning and Caution statements in this operation manual prior to using this meter.

AC Current Measurements

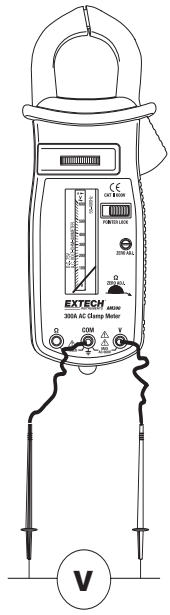
WARNING: Ensure that the test leads are disconnected from the meter before making current clamp measurements.

1. Set the scale to the highest range using the function thumbwheel switch. Step down to the lower ranges as necessary in order to keep the reading in the upper half of the scale.
2. Ensure that the Pointer Lock switch is set to the right-most position so that the pointer may freely move.
3. Turn the Zero Adjust screw to zero the meter display.
4. Press the trigger to open jaw. Fully enclose only one conductor. For optimum results, center the conductor in the jaw.
5. The analog display pointer will indicate the current reading.



AC/DC Voltage Measurements

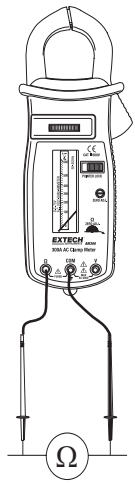
1. Insert the black test lead into the negative **COM** terminal and the red test lead into the positive **V** terminal.
2. Set the display to the highest AC or DC Voltage range using the thumbwheel switch. Step down to the lower ranges as necessary in order to keep the reading in the upper half of the scale.
3. Ensure that the Pointer Lock switch is set to the right-most position so that the pointer may freely move.
4. Turn the Zero Adjust screw to zero the meter display.
5. Connect the test leads in parallel to the circuit under test.
6. The analog display pointer will indicate the voltage reading.



Resistance Measurements

WARNING: To avoid damage to the meter, do not apply voltage to the meter when measuring resistance. Ensure that the circuit, device, or component under test is disconnected from power before measuring resistance.

1. Insert the black test lead into the negative COM terminal and the red test lead into the OHMS positive terminal.
2. Set the display scale to the OHMS position using the thumbwheel switch.
3. Ensure that the Pointer Lock switch is set to the right-most position so that the pointer may freely move.
4. With the test leads open, adjust the meter zero so that the pointer is over the ∞ symbol.
5. Touch the test lead tips together and adjust the 0 Ohms adjust until the pointer is over the 0 ohms position.
6. Touch the test probe tips across the circuit or component under test.
7. The analog display pointer will indicate the resistance reading.



Pointer Lock Function

The Pointer Lock switch freezes the pointer's position and can be used as a 'data hold' feature. This feature is useful in dimly lit or hard to reach locations.

Maintenance

WARNING: To avoid electrical shock, disconnect the meter from any circuit and remove the test leads from the input terminals before opening the case. Do not operate the meter with an open case.

Cleaning and Storage

Periodically wipe the case with a damp cloth and mild detergent; do not use abrasives or solvents. If the meter is not to be used for 60 days or more, remove the battery and store it separately.

Battery and Fuse Replacement

1. Remove the two (2) Phillips head screws at the rear of the meter.
2. Carefully open the meter housing.
3. Replace the 1.5V 'AA' battery if necessary
4. Replace the fuse if necessary with a 0.5A / 250V glass fuse (6mm x 30mm) or equivalent. Note that a spare fuse is provided inside the meter housing.
5. Close the meter and replace the meter screws securely.

Warranty

EXTECH INSTRUMENTS CORPORATION *warrants this instrument to be free of defects in parts and workmanship for* ***one year*** *from date of shipment (a six month limited warranty applies to sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department at (781) 890-7440 ext. 210 for authorization or visit our website www.extech.com for contact information. A Return Authorization (RA) number must be issued before any product is returned to Extech. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. Extech specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Extech's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.*

Calibration and Repair Services

Extech offers repair and calibration services for the products we sell. Extech also provides NIST certification for most products. Call the Customer Care Department for information on calibration services available for this product. Extech recommends that annual calibrations be performed to verify meter performance and accuracy.



Support line (781) 890-7440

Technical Support: Extension 200; E-mail: support@extech.com

Repair & Returns: Extension 210; E-mail: repair@extech.com

Product specifications subject to change without notice

For the latest version of this User Guide, Software updates, and other up-to-the-minute product information, visit our website: www.extech.com

Extech Instruments Corporation, 285 Bear Hill Road, Waltham, MA 02451

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