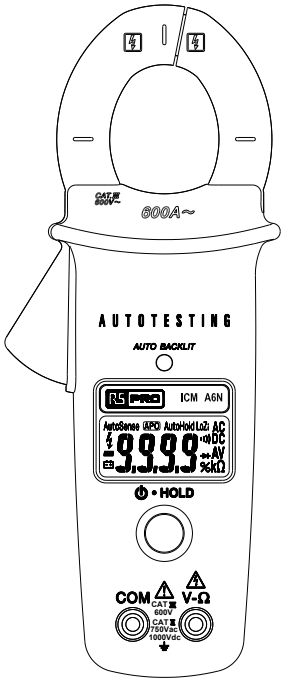
Instruction Manual
ICM A6N
Clamp Meter

EN DE ES IT FR



⚠ *Safety Information*

Read and understand this Instruction Manual completely before using this instrument. Failure to observe the warnings and cautions in this Instruction Manual may result in injury or death, or damage to the instrument and other equipment or property. If this instrument is used in a manner not specified in these instructions, the protection provided by the instrument may be impaired.

The following symbols may appear on the instrument and in this Instruction Manual:

⚠	Risk of electric shock
⚠	Refer to Instruction Manual
~	Alternating Current (ac)
⎓	Battery
⏚	Earth
⧈	Equipment protected throughout by double or reinforced insulation
CE	Conforms to EU directives
	Dispose of this equipment in accordance with local regulations.
	Application around and removal from hazardous Live conductors is permitted.

⚠ WARNING

- Examine the instrument and probes and leads before use. Do not use the instrument if it is wet or damaged, or if you suspect it is not operating correctly.
- When using the instrument, test leads or probes, keep your fingers behind the finger guards.
- Remove the test lead from the instrument before opening the battery cover or instrument case.
- Always use the correct terminals, switch position and range for measurements.

- Verify the instrument is operating correctly by measuring a known voltage before use. If in doubt, have the instrument serviced.
- Do not apply more than the rated voltage as marked on the instrument between terminals, or between any terminal and earth ground.
- Use caution when measuring voltages above 30 Vac rms or 60 Vdc. These voltages pose a shock hazard.
- To avoid incorrect readings that can lead to electric shock, replace the battery as soon as low battery indicator appears in the display.
- Disconnect the circuit power and discharge all high-voltage capacitors before making resistance, continuity, or diode measurements.
- Do not use the instrument in a Hazardous Area or around explosive gasses or vapours.
- Wear suitable Personal Protective Equipment when working around or near hazardous Live conductors which could be accessible.

⚠ Caution

- Disconnect the test leads from the test points before changing the position of the function rotary switch.
- Never connect the instrument to a source of voltage with the function rotary switch in Ω/ /⎓ ∼A position.
- If possible, do not work alone, so assistance can be given if required.
- Do not expose the instrument to extremes of temperature or high humidity.

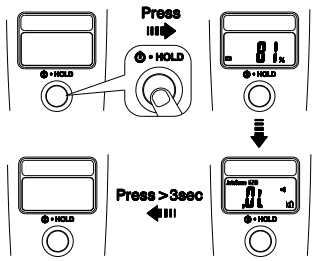
Maintenance

Do not attempt to repair this Instrument. It contains no user-serviceable parts. Repair or servicing should only be performed by qualified personnel. This instrument should be calibrated yearly, or more frequently if used in harsh conditions or if it is suspected of being inaccurate.
For calibration and repair contact RS Components - the address is given at the end of these instructions.

Cleaning

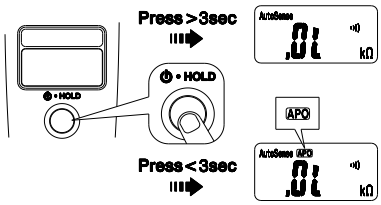
Periodically wipe the case with a damp cloth and detergent. Do not use abrasives or solvents.

Power On / Off

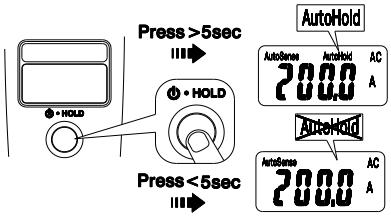


- When first turned on, the instrument displays the remaining capacity of the battery. Replace the battery when 0% is shown or the low battery symbol "🪫" remains visible in the display.
  After a successful battery self-test, the instrument will automatically select resistance (Ω)/continuity mode.

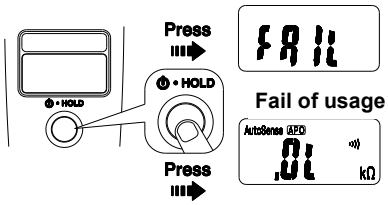
Auto Power Off Enable / Disable



Auto Hold Enable / Disable



Self-Testing Aid

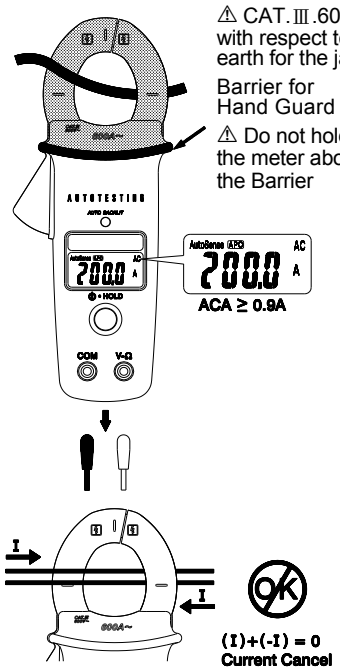


- Do not attempt to measure while powering up, as it will cause the self-test to fail.

⚠ Caution

If "FAIL" is shown in the display, do not use the instrument as an internal fault has occurred.

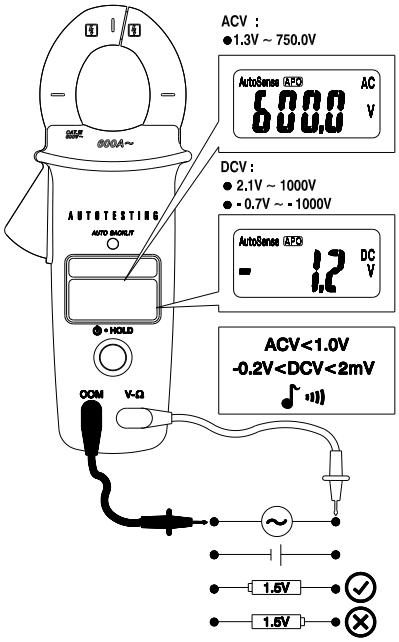
AC Current measurement



AC V / DC V

⚠ Caution

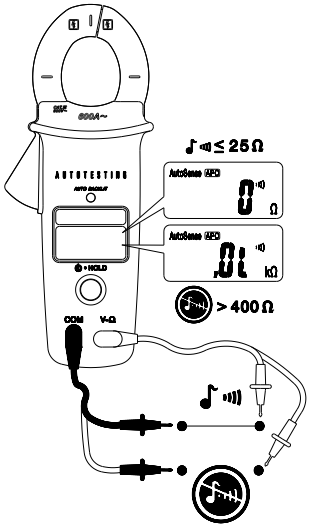
When connecting the test leads to the circuit or device, connect the black lead before the red lead. When removing the test leads, remove the red lead before the black lead.



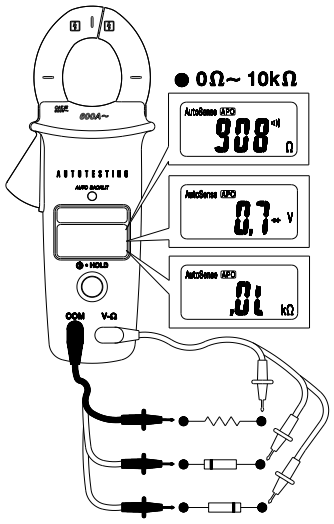
- **Input Impedance**

Note : The input impedance is≧4K for an input voltage up to 30V and increases automatically with input voltage to approximately 375K**Ω** at 750V.

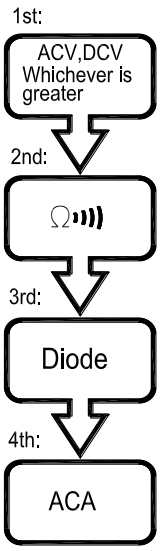
Continuity



Resistance / Diode

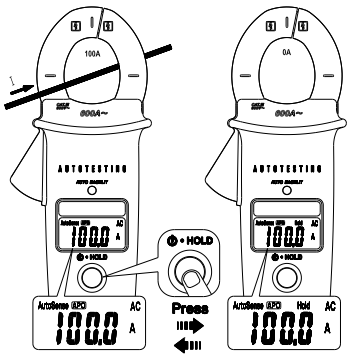


Priority of function



The LCD display shows voltage mode, when the voltage at the input terminals satisfies the following conditions:
ACV:
Between 1.3V and 999.9V
DCV:
Between 2.1V and 999.9V, or between -0.7V ~ -999.9V
The LCD display shows resistance (**Ω**) mode when the resistance at the input terminals satisfies the following conditions:
Resistance:
Between 0 and ∞Ω
ACV: Between 0 and 0.9V
DCV: Between -0.4 and -0.2V
DCV: Between 1.0 and 2.0V
The LCD display shows diode mode when the voltage at the input terminals satisfies the following conditions:
DCV: Between 0.4 and 0.8V
The LCD display shows AC current (A) mode when the current sensed by the jaws satisfies the following conditions :
ACA:
Between 0.9A and 600.0A

Data Hold



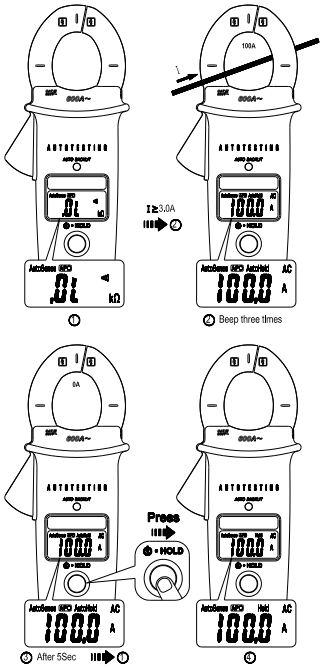
Data-hold mode is not available when "OL K**Ω**" is displayed with no input Signal present.

Data Hold Beep Guard

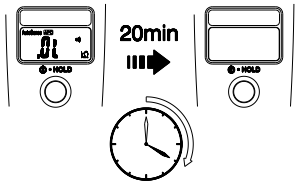
The internal sounder will beep continuously and the LCD display will flash if either of the following two situations are met in Data -hold mode :

1. The instrument measures a characteristic different from the LCD reading; e.g. a voltage reading is held on the display and an attempt is made to measure an AC current .
2. The measured signal is the same characteristic as the LCD reading, but is 50 counts or more greater than the held LCD reading.

Auto Hold (ACA only)



Auto Power-off



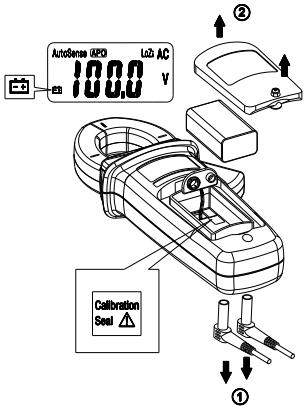
Battery Replacement

When the low battery indicator " " appears on the LCD, replace the batteries with the type given in the specifications.

⚠ WARNING

Disconnect the test leads from the circuit and the instrument before removing the battery cover.

Refer to the following figure to replace the batteries:



Specifications

1-1 General Specifications

LCD display :
4 full large scale LCD readout.
Measuring rate : 5 times / sec.
Overrange display : "OL" is displayed for "Ω" functions, shows the real value is shown for the "A" and "V" functions.
Automatic power off time :
Approximately 20 minutes after power on without operations.
Low battery indicator : is displayed. Replace the battery when the indicator appears in the display.
Power requirement : 9V battery
Battery life : Approximately 250 hours approximately.

1-2 Environmental Conditions

Indoor use only.
Calibration : One year calibration cycle.
Operating temperature :

0°C to 30°C (32°F to 86°F) @ ≦ 80% RH

30°C to 40°C (86°F to104°F) @≦ 75% RH)

40°C to 50°C (104°F to 122°F) ≦ 45%RH

Storage temperature : -20 to + 60°C (-4°F to 140°F) @ 0 to 80% RH with batteries removed from the instrument.
Measurement Category (Installation Category) :

per IEC 61010-1:2001: CAT.Ⅲ 600V.

Measurement Category I is for measurements performed on circuits not directly connected to mains. Examples include : Measurements on battery powered equipment and specially protected (internal) mains-derived circuits.
Measurement Category II is for measurements on circuits directly connected to the low voltage installation. Examples include: Household appliances, portable tools and similar equipment.

Measurement Category III is for measurements performed in the building installation. Examples include measurements on distribution boards, junction boxes, socket-outlets and wiring and cables in the fixed installation.
Measurement Category IV is for measurements performed at the source of the low-voltage installation. Examples include measurements on primary overcurrent protection devices and electricity meters.
Conductor Size :
27mm diameter maximum.
Pollution degree : 2
Operating altitude : 2000m (6562 ft)
EMC : EN 61326-1
Shock vibration: Sinusoidal vibration per MIL-T-28800E (5 to 55 Hz, 3g maximum).
Drop Protection :
4 feet drop onto hardwood or concrete floor.

1-3 Electrical Specifications

Accuracy is ±(% reading + number of digits) at 23°C ± 5°C < 80%RH.

Temperature coefficient :
Add 0.2 x (Specified accuracy) / °C ,< 18°C > 28°C .

Voltage

Function	Range	Accuracy
V~	1.3V ~ 750.0V	±(1.5%+ 3 dgt) 50Hz ~ 500Hz
V⎓	2.1V ~ 1000V	±(1%+ 2 dgt)
	-0.7V ~ 1000V	±(1%+ 4 dgt)

Overload protection :
1000 VDC / 750 VAC

Max Operation time: DT = 30s for ≧30V

Input impedance : ≧4K for input voltage up to 30V. Impedance increases with input voltage to approximate 375K**Ω** at 750V.

Resistance & Continuity & Diode

Function	Range	Accuracy
Ω	0.0Ω ~ 9999Ω	±(2% + 2 dgt)
⏩	0.4V ~ 0.8V	±(1% + 3 dgt)

Overload protection :
1000 VDC / 750 VAC
Max. open circuit voltage : 2.0V
Continuity check :
Internal sounder activates if the resistance of the circuit under test is less than 25**Ω**.
It will then turn off if the resistance is increased beyond 400**Ω**. Specified from 0°C ~ 40°C.

AC Current

Function	Range	Accuracy
A~	0.9A ~ 600.0A	±(1.9% + 5 dgt)* 50Hz ~ 60Hz

Overload protection : 600.0A
0 ~ 500A : Continuous Operation.
* 501A ~ 600A: 10 minutes maximum
Followed by 10 minutes cooling period.

Limited Warranty

This instrument is warranted to the original purchaser against defects in material and workmanship for 3 year from the date of purchase. During this warranty period, RS Components will, at its option, replace or repair the defective unit, subject to verification of the defect or malfunction. This warranty does not cover disposable batteries, or damage from abuse, neglect, accident, unauthorized repair, alteration, contamination, or abnormal conditions of operation or handling.
Any implied warranties arising out of the sale of this product, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited to the above. RS Components shall not be liable for loss of use of the instrument or other incidental or consequential damages, expenses, or economic loss, or for any claim or claims for such damage, expense or economic loss. Some states or countries laws vary, so the above limitations or exclusions may not apply to you. For full terms and conditions, refer to the current RS Catalogue.

Africa
RS Components SA
P.O. Box 12182,
Vorna Valley, 1686
20 Indianapolis Street,
Kyalami Business Park,
Kyalami, Midrand
South Africa
www.rs-components.com

Asia
RS Components Pte Ltd.
31 Tech Park Crescent
Singapore 638040
www.rs-components.com

China
RS Components Ltd.
Suite 23 A-C
East Sea Business Centre
Phase 2
No. 618 Yan'an Eastern Road
Shanghai, 200001
China
www.rs-components.com

Europe
RS Components Ltd.
PO Box 99, Corby,
Northants. NN17 9RS
United Kingdom
www.rs-components.com

Japan
RS Components Ltd.
West Tower (12th Floor),
Yokohama Business Park,
134 Godocho, Hodogaya,
Yokohama, Kanagawa 240-0005
Japan
www.rs-components.com

U.S.A
Allied Electronics
7151 Jack Newell Blvd. S.
Fort Worth, Texas 76118
U.S.A.
www.alliedelec.com

South America
RS Componentes Limitada
Av. Pdte. Eduardo Frei M. 6001-71
Centro Empresas El Cortijo
Conchali, Santiago, Chile
www.rs-components.com