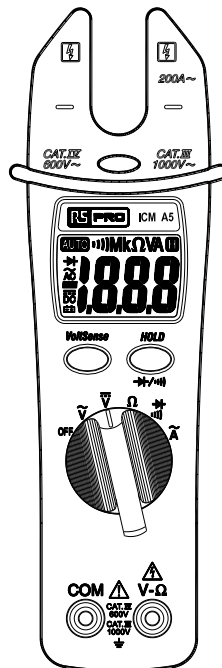




**Instruction Manual**  
**ICM A5**  
**Clamp Meter**

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.

### **⚠ 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  $\Omega$  /  $\rightarrow$   $\rightarrow$  /  $\text{---}$   $\sim$  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.

**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           |
|  | Conforms to EU directives   |
|  | Dispose of this equipment in accordance with local regulations.             |
|  | Application around and removal from hazardous Live conductors is permitted. |

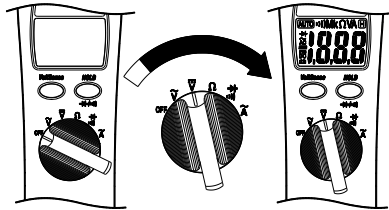
### ***Maintenance***

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.

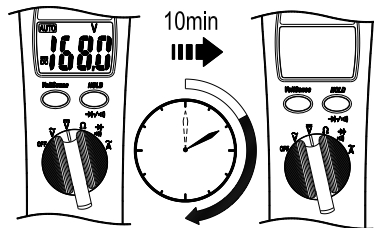
### ***Cleaning***

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

**Power On / Off**

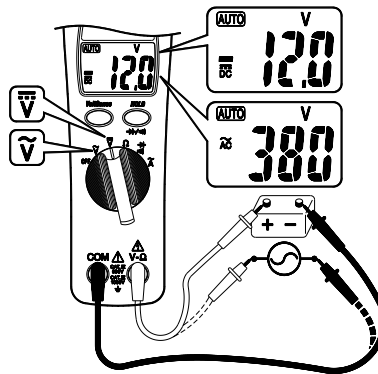


**Auto Power Off**

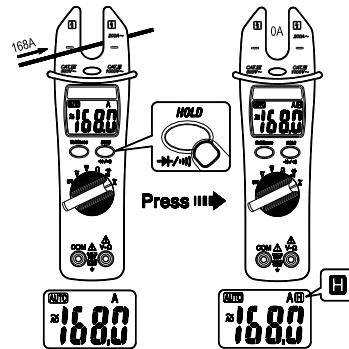


The instrument will automatically turn off approximately 10 minutes after the last operation.

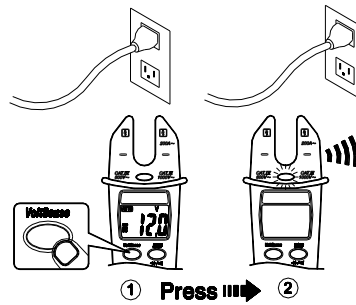
**AC V / DC V**



### Data Hold



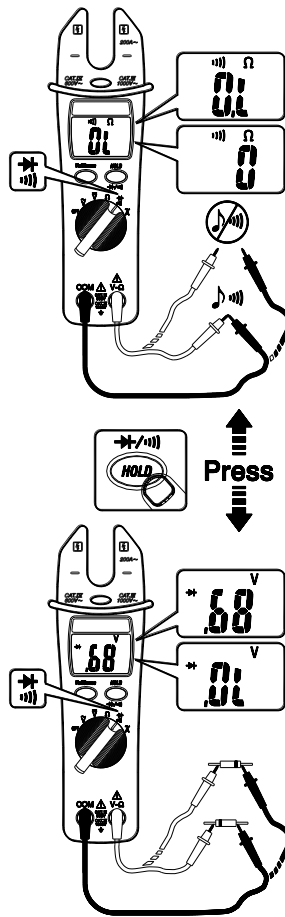
### Non-Contact Voltage Sensing: VoltSense™



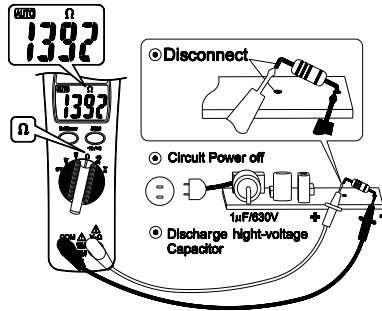
1. The VoltSense function will operate irrespective of the position of the function rotary switch, including the OFF position.
2. Remove the test leads from the instrument as they are not used for the VoltSense test.
3. Press and hold the VoltSense button. The LCD display will go blank, a tone will sound and the red LED will illuminate momentarily to confirm the instrument is operational.

4. Hold the Volt sense button down and move the instrument over the area where detection is required. The buzzer will sound and the LED will illuminate when a live conductor is detected. Release the VoltSense button to return to normal operation.

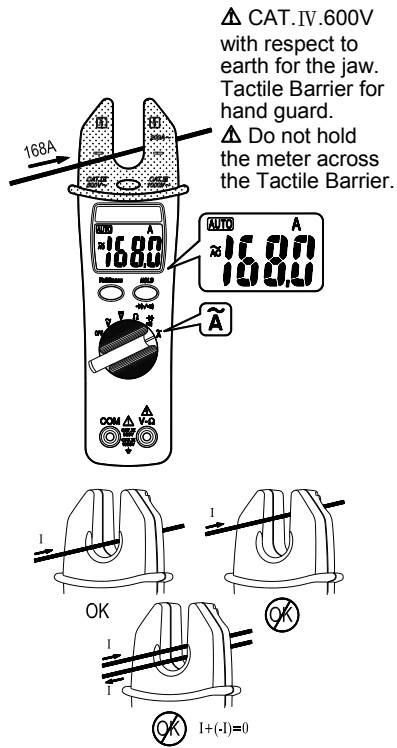
### **Diode / Continuity**



### Resistance



### ACA





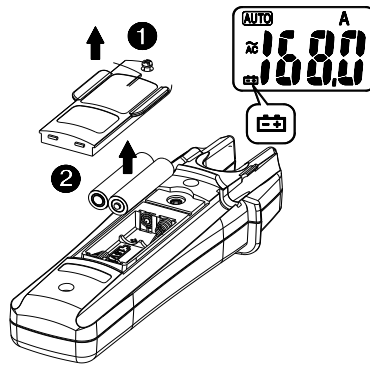
### **Battery Replacement**

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 :**

3<sup>1</sup>/<sub>2</sub> digit large scale LCD readout.

**Display resolution :** 2000 counts.

**Measuring rate :** 1.5 times / sec.

**Overrange display :**

“OL” is displayed for “Ω” functions,

The real value is shown for the “A” and “V” functions.

**Automatic power off time :**

Approximately 10 minutes after power on.

**Low battery indicator :**  is displayed.

**Power requirement :** 1.5V x 2 batteries

**Battery life :** Approximately 250 hours with Alkaline batteries.

### **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 to 104°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.

**Dimensions (W x H x D) :**

54mm x 193mm x 31mm

**Weight:** 280g including battery.

**Accessories:** Battery (installed), Carrying case and User manual.

**Measurement Category (Installation**

**Category) :**

per IEC 61010-1:2001: CAT. III 1000V.

CAT. IV 600V. Pollution Degree 2

**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.

**Operating altitude** : 2000m (6562 ft)

**Conductor Size** : 16mm diameter.

**Pollution degree** : 2

**EMC** : EN 61326-1

**Shock vibration**: Sinusoidal vibration per MIL-T-28800E (5 to 55 Hz, 3g maximum).

**Drop Protection** : 1 metre drop onto hardwood or concrete floor.

### 1-3 Electrical Specifications

Accuracy is  $\pm$ (% reading + number of digits) at 23°C (73.4°F)  $\pm$  5°C ( $\pm$  9°F)  
< 80%RH.

**Temperature coefficient :**

Add 0.2 x (Specified accuracy) / °C (1.8°F),  
< 18°C > 28°C (< 64.4°F > 82.4°F).

**DC / AC Volts**

| Range  | DC Accuracy         | AC Accuracy                         |
|--------|---------------------|-------------------------------------|
| 200.0V | $\pm$ (1.0% + 2dgt) | $\pm$ (1.5% + 5dgt)<br>50Hz ~ 500Hz |
| 1000V  |                     |                                     |

**Over voltage protection :**

DC 1000V / AC 750V

**Input Impedance :**

2 M $\Omega$  // less than 100pF.

**CMRR / NMRR:**

**(Common Mode Rejection Ratio)**

**(Normal Mode Rejection Ratio)**

V<sub>AC</sub>: CMRR > 60dB at DC, 50Hz / 60Hz

V<sub>DC</sub>: CMRR > 100dB at DC, 50Hz / 60Hz

NMRR > 50dB at DC, 50Hz / 60Hz

**AC Conversion Type:**

Average sensing rms indicating.

**AC Current**

| Function              | Range        | Accuracy             |
|-----------------------|--------------|----------------------|
| A $\sim$<br>(50~60Hz) | 0.0 ~ 200.0A | $\pm$ (3.0% + 3 dgt) |

**Overload protection :** 400 Arms

**AC Conversion Type :**

Average sensing rms indication.

\* **Adjacent conductor influence :**

<0.08 A/A

**Resistance**

| Range            | Accuracy                        |
|------------------|---------------------------------|
| 200.0 $\Omega$   | $\pm(1.0\% + 5 \text{ dgt})$ *2 |
| 2.000 K $\Omega$ | $\pm(1.0\% + 2 \text{ dgt})$    |
| 20.00 K $\Omega$ |                                 |
| 200.0 K $\Omega$ |                                 |
| 2.000M $\Omega$  |                                 |
| 20.00 M $\Omega$ | $\pm(1.9\% + 5 \text{ dgt})$ *1 |

**Overload protection** : 600Vrms

**Open circuit Voltage** : -1.3V approx.

\* 1 < 100 dgt rolling.

\* 2 < 10 dgt rolling.

**Diode Check and Continuity**

| Resolution | Accuracy                      |
|------------|-------------------------------|
| 1 mV       | $\pm(1.5\%+0.05 \text{ V})$ * |

\* For 0.4V ~ 0.8V

**Max. Test Current** : 1.5mA

**Max. Open Circuit Voltage** : 3V

**Overload Protection** : 600Vrms

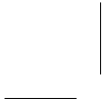
**Continuity** : Internal beeper activates if the resistance of the circuit under test is less than 50 $\Omega$ . It will then turn off if the resistance is increased beyond 250 $\Omega$ .

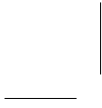
Response time is approximately 0.25~1 sec.

## **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](http://www.rs-components.com)

**Asia**

**RS Components Pte Ltd.**

31 Tech Park Crescent  
Singapore 638040

[www.rs-components.com](http://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](http://www.rs-components.com)

**Europe**

**RS Components Ltd.**

PO Box 99, Corby,  
Northants. NN17 9RS  
United Kingdom

[www.rs-components.com](http://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](http://www.rs-components.com)

**U.S.A**

**Allied Electronics**

7151 Jack Newell Blvd. S.  
Fort Worth, Texas 76118  
U.S.A.

[www.alliedelec.com](http://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](http://www.rs-components.com)