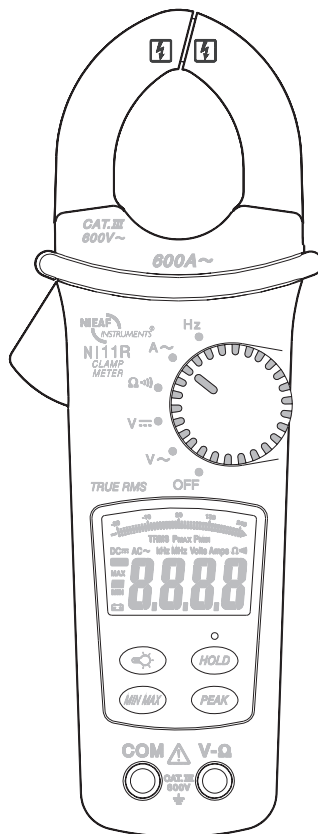




## NI 11/11R Clampmeter











### **⚠ Safety Information**

To ensure safe operation and service of the Meter, follow these instructions. Failure to observe warnings can result in severe **injury** or **death**.

- Avoid working alone so assistance can be rendered.
- Do not use test leads or the Meter if they look damaged.
- Do not use the Meter if the Meter is not operating properly or if it is wet.
- Use the Meter only as specified in the Instruction card or the protection by the Meter might be impaired.
- Use extreme caution when working around bare conductors or bus bar. Contact with the conductor could result in electric shock.
- Use caution with voltages above 30 V ac rms, or 60 V dc. These voltages pose a shock hazard.

### **Symbols as marked on the Tester and Instruction card**

	Risk of electric shock
	See instruction card
	DC measurement
	Equipment protected by double or reinforced insulation
	Battery
	Earth
	AC measurement
	Conforms to EU directives

### **⚠ Caution**

*If the meter is used in the vicinity of equipment which generates electromagnetic interference, the display may become unstable or the measurements show may be subject to large errors.*



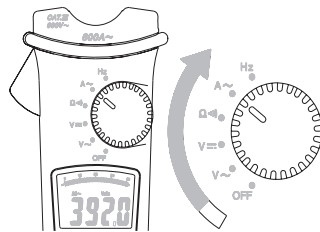
### **Maintenance**

Do not attempt to repair this Meter.  
It contains no user-serviceable parts.  
Repair or serving should only be performed  
by qualified personal.

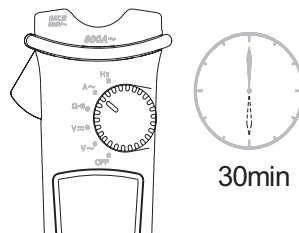
### **Cleaning**

Periodically wipe the case with a dry  
cloth and detergent do not use abrasives  
or solvents.

### **Power On / Off**



### **Auto Power Off**



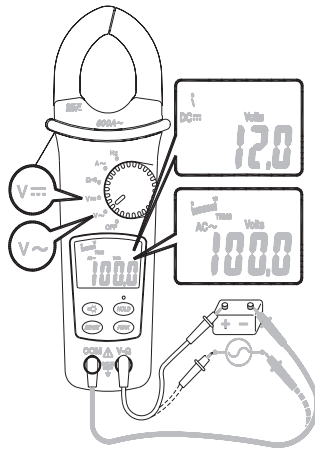
### **Auto Power Off disable :**

Press buttons (except Hold button) than  
switch the rotary knob to power on the  
meter.

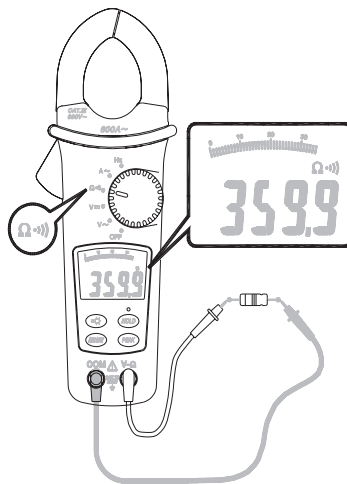




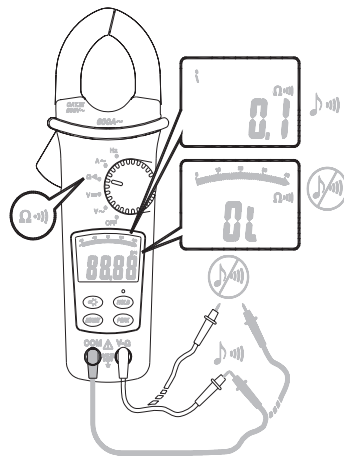
## AC V / DC V



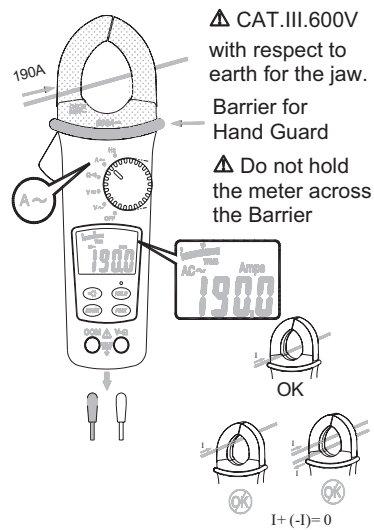
## Resistance



## Continuity

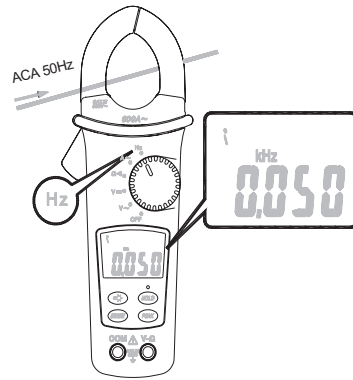


## ACA

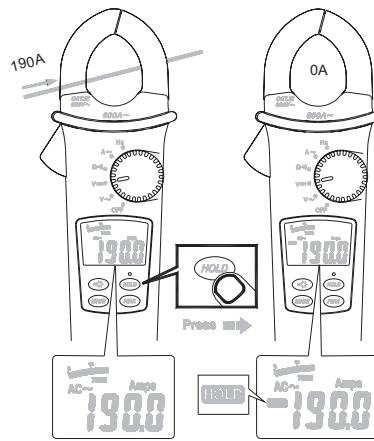




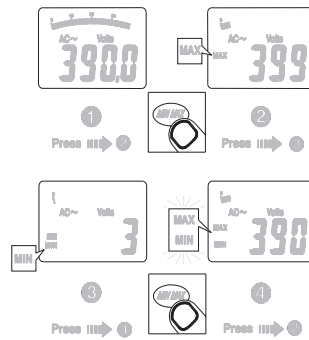
## Hz



## Data Hold

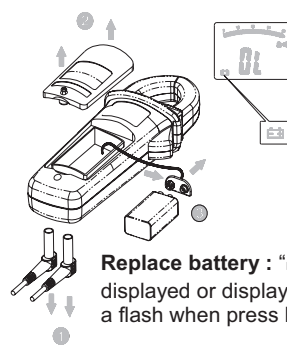


## Min / Max Hold



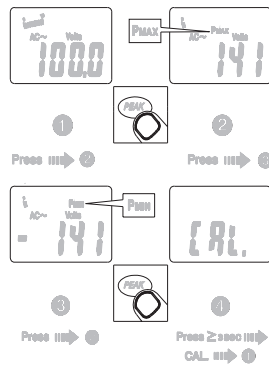
- ② MAX: Meter is saving the maximum and minimum value. Maximum value is displayed.
- ③ MIN: Meter is saving the maximum and minimum value. Minimum value is displayed.
- ④ MAX MIN (flashing): Meter is saving the maximum and minimum values. Present value is displayed.
- ① Normal : Press and hold MIN MAX to return to normal operation.

## Battery Replacement



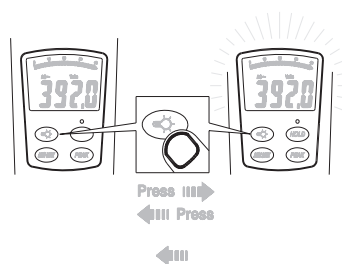
**Replace battery :** “OL” is displayed or displays “OL” a flash when press button.

## Peak Hold



- ② **P<sub>MAX</sub>**: Meter is saving the peak maximum and minimum value. Peak maximum value is displayed.
- ③ **P<sub>MIN</sub>**: Meter is saving the peak maximum and minimum value. Peak minimum value is displayed.
- ④ **CAL** : Press and hold PEAK button  $\geq 3$  sec to **calibrate** the Meter itself for accurate measurement.
- ① **Normal** : Press and hold PEAK button to return to normal operation.

## Back Light



Back light Automatic switched off after 60 seconds.



## **Specifications**

### **1-1 General Specifications**

**LCD display digits :**

3 3/4 digit large scale LCD readout.

**Display count :** 4000 counts.

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

**Overrange display :**

“OL” is displayed for “ $\Omega$ ” functions, shows the real value for “A” and “V” function.

**Automatic power off time :**

Approximately 30 minutes after power on.

**Low battery indicator :**

⚡ is displayed.

**Power requirement :**

9V battery for NI 11R.

1.5V x 2 AA size batteries for NI 11.

**Battery life :** ALKALINE 9V approximately 200 hours for NI 11R.

ALKALINE 1.5Vx2 AA size approximately 600 hours for NI 11.

### **1-2 Environmental Conditions**

**Indoor Use.**

**Calibration :**

One year calibration cycle.

**Operating temperature :**

0°C ~ 30°C ( $\leq$ 80% RH)

30°C ~ 40°C ( $\leq$ 75% RH)

40°C ~ 50°C ( $\leq$ 45%RH)

**Storage temperature :**

-20 to +60°C, 0 to 80% RH (batteries not fitted).

**Overvoltage category :**

IEC 61010-1 600V CAT.III.

CAT.III equipment is designed to protect against the transients in the equipment in fixed installations, such as distribution panels, feeders and short branch circuits and lighting systems in large buildings.

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

**Conductor Size :** 34mm diameter.

**Pollution degree :** 2

**EMC :** EN 61326-1

**Shock vibration :**

Sinusoidal vibration per MIL-T-28800E (5 ~ 55 Hz, 3g maximum).

**1-3 Electrical Specifications**

Accuracy is  $\pm$  (% reading + number of digits) at  $23^{\circ}\text{C} \pm 5^{\circ}\text{C} < 80\%\text{RH}$ .

**Temperature coefficient :**

Add  $0.2 \times$  (Specified accuracy) /  $^{\circ}\text{C}$ ,  $< 18^{\circ}\text{C}$ ,  $> 28^{\circ}\text{C}$  .

Function	Range	Accuracy
V $\sim$	0~400.0Vrms 400~600Vrms	$\pm$ ( 1.0%+ 5 dgt) 50Hz ~ 500Hz *1
V $\equiv$	0~400.0 V 400~600 V	$\pm$ ( 0.7% + 2 dgt)

**Overload protection :** 600 Vrms

**Input impedance :**  $1\text{M}\Omega$  // less than 100pF.

**AC Conversion Type :**

**NI 11 :** AC Conversion are average sensing rms indication calibrated to the rms value of a sine wave input.

**NI 11R :**

\*1 : Reading less than 15% of full scale (4000 digits) is needed to add 4 digits and the settling time will increase.

\*2 AC Conversions are ac-coupled, true rms responding, calibrated to the rms value of a sine wave input.

Accuracies are given for sine wave at full scale and non-sine wave below half scale. For non-sine wave add the following Crest Factor corrections :


For Crest Factor of 1.4 to 2.0, add 1.0% to accuracy.

For Crest Factor of 2.0 to 2.5, add 2.5% to accuracy.

For Crest Factor of 2.5 to 3.0, add 4.0% to accuracy.

CF $\leq$  2 600V//600A

### Resistance & Continuity

Function	Range	Accuracy
$\Omega$ 	400.0 $\Omega$	$\pm (1\% + 3 \text{ dgt})$

**Overload protection :** 600 Vrms  
**Max. open circuit voltage :** 3V  
**Continuity check :** Internal sounds activates if the resistance of the circuit under test is less than 30 $\Omega$  approximately.

### AC Current

Function	Range	Accuracy
$A_{\sim}$ (50~60Hz)	0~60.0A	$\pm (1.9\% + 7 \text{ dgt})$ *1 *2
	60.1~400.0A	$\pm (1.9\% + 5 \text{ dgt})$ *2
	401~600A	
$A_{\sim}$ (61~400Hz)	0~400.0A	$\pm (2.5\% + 7 \text{ dgt})$ *1 *2
	401~600A	

**Overload protection :** 600 Arms  
**For \*1 & \*2 see page 10**

### Frequency : Hz

Range	Accuracy
20~400Hz	$\pm (0.1\% + 2 \text{ dgt})$

**Overload protection :**  
AC/DC 600 Arms  
**Sensitivity :** 3 Arms for ACA ( $A_{\sim}$ )  
(>400Hz Unspecified)

**Peak Hold :**  $\pm (3\% + 15\text{dgt})$   
\*>600Vpeak Unspecified.  
\*>600Apeak Unspecified.  
The range is automatically switched to the low resolution range at Peak Hold or Min Max Hold.

## Limited Warranty

This Meter is warranted to the original purchaser against defects in material and workmanship for 6 months from the date of production. During this warranty period, manufacturer 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. The manufacturer 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.



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