



SAFETY AND WARNINGS

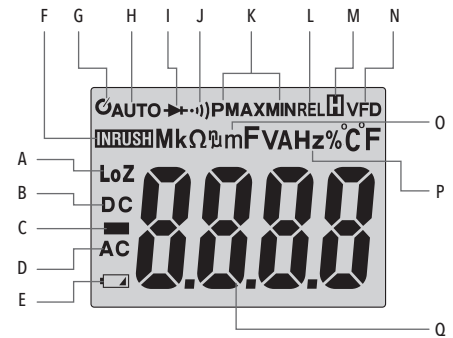
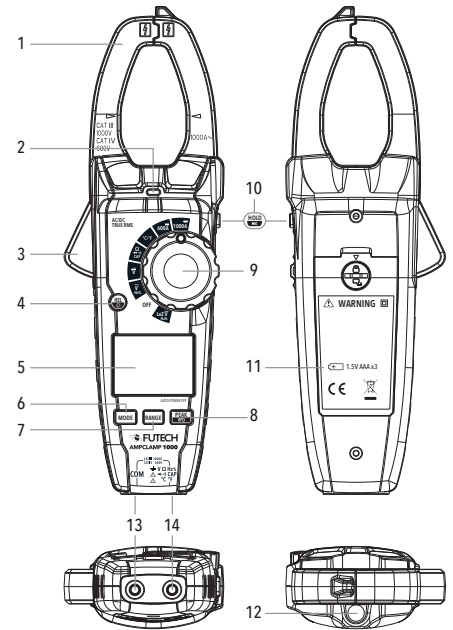
- Improper use of this Ampclamp 1000 can cause damage, shock, injury or death. Read and understand this user manual before operating the meter.
- Always remove the test leads before replacing the battery
- Inspect the condition of the test leads and the Ampclamp 1000 itself for any damage before operating the tester. Repair or replace any damage before use.
- Use great care when making measurements if the voltages are more than 25VAC rms or 35 VDC. These voltages are considered a shock hazard.
- Remove the battery if the meter is to be stored for long periods.
- Always discharge capacitors and remove power from the device under test before performing Diode, Resistance of Continuity 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.
- **DO NOT EXCEED THE MAXIMUM ALLOWABLE INPUT RANGE OF ANY FUNCTION.**
- **WHEN MEASURING VOLTS, DO NOT SWITCH TO CURRENT/RESISTANCE MODES. DO NOT APPLY VOLTAGE TO THE METER WHEN RESISTANCE FUNCTION IS SELECTED.**
- **SET THE FUNCTION SWITCH TO THE APPROPRIATE POSITION BEFORE MEASURING. SET THE FUNCTION SWITCH IN THE OFF POSITION WHEN THE METER IS NOT IN USE.**
- **WHEN CHANGING RANGES USING THE SELECTOR SWITCH, ALWAYS DISCONNECT THE TEST LEADS FROM THE CIRCUIT UNDER TEST.**

Please read the complete safety instructions in the booklet delivered with this device.

DESCRIPTION

1. Current clamp
2. Non-contact AC Voltage Indicator Lamp
3. Clamp trigger
4. Relative / Backlight Button
5. LCD Display
6. MODE / INRUSH select button
7. RANGE button
8. PEAK/VFD button
9. Rotary Function Switch
10. Data Hold / Flashlight button
11. Battery cover
12. Flashlight
13. COM Input jack
14. VΩ Hz% CAP TEMP jack

- A. Low Impedance input mode
- B. DC (Direct Current)
- C. Minus Sign
- D. AC (Alternating Current)
- E. Low battery
- F. Inrush Current mode
- G. Auto Power Off
- H. Auto Range Mode
- I. Diode test mode
- J. Audible Continuity
- K. Peak Voltage value
- L. Relative mode
- M. Data hold mode
- N. Variable Frequency Drive Voltage Value
- O. Units of Measure List
- P. Frequency/Duty Cycle Test Mode
- Q. 6000 Count (0-5999) Measurement Reading



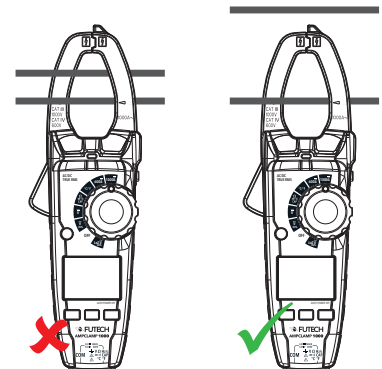
OPERATING

Read and understand all warning and precautions statements listed in the safety-section of this manual prior to using this meter. Set the function select switch to the OFF position when the meter is not in use.

AC/DC CURRENT MEASUREMENTS

Ensure that the test leads are disconnected from the meter before making current clamps measurements.

1. Set the Function switch to the 1000A AC/DC or 600A AC/DC range
2. If the range of the measured is not known, select the higher range first, than move to the lower range if necessary.
3. Press the trigger to open the clamp. Fully enclose one conductor to be measured.
4. The clamp meter LCD display will show the reading.



AC/DC VOLTAGE MEASUREMENT

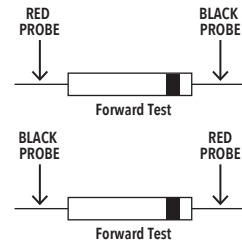
1. Insert the blank test lead into the negative COM jack [13] and the red test lead into the positive V jack [14].
2. Set the function switch to the ACV or DCV position
3. Connect the test leads in parallel to the circuit under test
4. Read the voltage measurement on the LCD display

■ RESISTANCE MEASUREMENTS

1. Insert the blank test lead into the negative COM jack [13] and the red test lead into the positive V jack [14].
2. Set the function switch to the $\Omega \rightarrow \rightarrow \rightarrow$ CAP position.
3. Touch the test probe tips across the circuit or component under test. It is best to disconnect one side of the device under test, so the rest of the circuit will not interfere with the resistance reading.
4. For resistance tests, read the resistance on the LCD display.

■ DIODE AND CONTINUITY MEASUREMENTS

1. Insert the blank test lead into the negative COM jack [13] and the red test lead into the positive V jack [14].
2. Set the function switch to the $\Omega \rightarrow \rightarrow \rightarrow$ CAP position.
3. Press the MODE/INRUSH button [6] until $\rightarrow \rightarrow$ appears in the display.
4. Touch the test probes to the diode under test. Forward voltage will indicate 0.4V to 0.7V. reverse voltage will indicate "OL". Shorted devices will indicate near 0mV and an open diode will indicate "OL" in both polarities.



For Continuity tests, if the resistance is $<50\Omega$, a tone will sound.

■ CAPACITANCE MEASUREMENTS

· TO AVOID ELECTRIC SHOCKS, DISCONNECT POWER TO THE UNIT UNDER TEST AND DISCHARGE ALL CAPACITORS BEFORE TAKING ANY CAPACITANCE MEASUREMENTS. REMOVE THE BATTERIES AND UNPLUG THE LINE CORDS.

1. Insert the blank test lead into the negative COM jack [13] and the red test lead into the positive V jack [14].
2. Set the rotary function switch to the $\Omega \rightarrow \rightarrow \rightarrow$ CAP position.
3. Press the MODE/INRUSH button [6] to change to capacitance measurements.
4. Touch the test leads to the capacitor to be tested.
5. Read the capacitance value in the display.

■ FREQUENCY OR % DUTY CYCLE MEASUREMENTS

1. Insert the blank test lead into the negative COM jack [13] and the red test lead into the positive V jack [14].
2. Set the rotary function switch to the "VAC/Hz/%" position
3. Select Hz or % duty with the MODE/INRUSH button [6]
4. Touch the test probe tips to the circuit under test
5. Read the frequency on the display

■ TEMPERATURE MEASUREMENTS

· TO AVOID ELECTRIC SHOCK, DISCONNECT BOTH TEST PROBES FROM ANY SOURCE OF VOLTAGE BEFORE MAKING A TEMPERATURE MEASUREMENT.

1. Set the function switch to TEMP
2. Insert the Temperature probe into the negative COM and the V jacks, making sure to observe the correct polarity.
3. Touch the temperature probe head to the part whose temperature you wish to measure. Keep the probe touching the part under test until reading stabilizes (about 30 seconds).
4. Read the temperature in display. The digital reading will indicate the proper decimal point and value.

· TO AVOID ELECTRIC SHOCK, BE SURE THE THERMOCOUPLE HAS BEEN REMOVED BEFORE CHANGING TO ANOTHER MEASUREMENT FUNCTION.

■ NON-CONTACT AC VOLTAGE MEASUREMENTS

- **WARNING! RISK OF ELECTROCUTATION! BEFORE USE, ALWAYS TEST THE AMPCLAMP 1000 ON A KNOWN LIVE CIRCUIT TO VERIFY PROPER OPERATION.**
1. Touch the probe tip to the hot conductor or insert into the hot side of the electrical outlet.
 2. If AC voltage is present, the detector light will illuminate.
- *The conductors in electrical cord sets are often twisted. For best results, rub the probe tip along a length of the cord to assure placing the tip in close proximity to the live conductor.*
 - *The detector is designed with high sensitivity. Static electricity or other sources of energy may randomly trip the sensor. This is normal operation.*

■ BUTTONS

■ MODE/INRUSH BUTTON [6]

To select

- ACV / Hz / %
- OHM / Continuity / Diode
- °C / °F
- ACA / DCA

■ RANGE BUTTON [7]

When the meter is first turned on, it automatically goes in AutoRanging. This automatically selects the best range for the measurements being made and is generally the best mode for most measurements. For measurement situations requiring that a range be manually selected, perform the following:

1. Press the RANGE button [7]. The "Auto Range" display indicator [H] will turn off.
2. Press the RANGE button [7] to step through the available ranges until you select the range you want.
3. Press and hold the RANGE button [7] for approx. 2 seconds to exit the manual ranging and return to Auto ranging. The "Auto Range" display indicator [H] appears on the LCD display.

■ PEAK/VFD BUTTON [8]

In the AC voltage mode (with Auto Range indicator [H] visible on the LCD display):

- Short press the PEAK/VFD button [8] to display "----" first and enter the Peak measurement mode. The maximum PEAK and minimum PEAK voltage can be measured circularly. Short press the PEAK/VFD button [8] to switch between Max and Min. Long press the PEAK/VFD button [8] to return to Auto.
- Long press the PEAK/VFD button [8] to enter the VFD function measurement. In the VFD mode, the voltage value of the variable frequency drive device can be measured. Long press the PEAK/VFD button [8] again to return to Auto.

The measured values of "PEAK" and "VFD" are for reference only.

■ REL/BACKLIGHT BUTTON [4]

- REL for DCA and Capacitance Zero & Offset adjustment.
- Long press this button to turn on the backlight of the LCD display. Long press again to turn off the backlight.

■ DATA HOLD/FLASHLIGHT BUTTON [10]

- To freeze the LCD meter reading, press the DATA HOLD button [10]. The data hold button is located on the right side of the Ampclamp 1000. While data hold is active, the "H" (Data Hold symbol [M]) is visible on the screen. Press the DATA HOLD button [10] again to return to normal operation.
- Long press the DATA HOLD button [10] to turn ON and OFF the flashlight.

BATTERY REPLACEMENT

1. Remove the one rear head screw
2. Open the battery compartment [11]
3. Replace the batteries (3x 1.5V AAA)
4. Re-assemble the meter

SPECIFICATIONS

Function	Range & Resolution	Accuracy ± (% of reading + digits)
AC Current (50/60Hz)	600.0A	± (2.5% + 8 digits)
	1000A	± (2.8% + 8 digits)
DC Current	600.0A	± (2.5% + 5 digits)
	1000A	± (2.8% + 5 digits)
AC Voltage (50-400Hz)	6.000V	± (1.5% + 5 digits)
	60.00V	
	600.0V	
	1000V	
LoZ AC Voltage	6.000V	± (3.0% + 40 digits)
	60.00V	
	300.0V	
DC Voltage	600.0mV	± (0.5% + 5 digits)
	6.000V	± (1.5% + 2 digits)
	60.00V	
	600.0V	
	1000V	
Resistance	600.0Ω	± (1.0% + 4 digits)
	6.000KΩ	± (1.5% + 2 digits)
	60.00KΩ	
	600.0kΩ	
	6.000MΩ	± (2.5% + 3 digits)
	60.00MΩ	± (3.5% + 5 digits)
Capacitance	60.00nF	± (4.0% + 20 digits)
	600.0nF	± (3% + 5 digits)
	6.000μF	
	60.00μF	
	600.0μF	
	6.000mF	± (5% + 5 digits)
	60.00mF	± (5% + 8 digits)
	100.0mF	+ (5% + 15 digits)
Frequency Sensitivity =>5Vrms	9.999Hz to 99.99kHz	± (1.2% + 5 digits)
Duty Cycle Sensitivity =>5Vrms	10.0% to 90.0%	± (1.2% + 2 digits)

Temperature (Type-K)	+20.0 to 1000°C	± (3% + 5°C)
(probe accuracy not included)	-4.0 to 1832°F	± (3% + 9°F)

· Accuracy is given as $\pm(\%$ of reading + counts of least significant digit) at 23°C $\pm 5^\circ\text{C}$, with relative humidity less than 80%RH. ac voltage and current shall be subject to sine wave.

■ GENERAL SPECIFICATIONS

Clamp size	opening approx. 35mm
TRMS	The AC voltage and AC current of this meter are measured by TRMS. True RMS measurement is different from mean measurement. The mean measurement method can only measure the symmetric waveform, such as sine wave. True RMS measurements can reliably measure any irregular waveform and obtain valid values for AC voltage or AC current.
Diode Test	Test current of 0.3mA typical. Open circuit voltage 3.2V DC typical
Continuity check	Threshold $\leq 50\Omega$ test current $< 0.5\text{mA}$
Overrange indication	"OL" is displayed
Measurement rate	2 per second, nominal
Input impedance	10M (VDC and VAC)
Display	6000 counts LCD
AC Current	50-60Hz (AAC)
AC Voltage bandwidth	50-400Hz (VAC)
Operating temperature	5 to 40°C
Storage temperature	-20 to 60°C
Operating humidity	Max. 80% up to 31°C decreasing linearly to 50% at 40°C
Storage humidity	$< 80\%$
Operating Altitude	2000 meters maximum
Over voltage	Category III 1000V
Auto off	Approx. 30 minutes
Safety	For indoor use and in accordance with Overvoltage Category II, Pollution Degree 2. Category II includes local level, appliance, portable equipment, etc., with transient overvoltages less than overvoltage Cat. III.

Futech is a registered brand of Laseto NV, Belgium.

Futech declares that the Signaltester RJ-F is in conformity with the following standards:

- EN 61010-1:2010
- EN 61010-031:2015
- EN 61010-2-032:2012

following the provisions of Directive:

- Low Voltage Directive 2014/35/EU

Tested by Shenzhen Huatongwei International Inspection Cr. Ltd., China
 Certificate number CTSE20050097R1 - May 27, 2020

