АТК-2011

CLAMP METER

Users Manual

www.tmatlantic.com

EN 61010-2-032
CAT III 600V
Pollution Degree 2

Definition of Symbols:


Caution: Refer to Accompanying Documents


Caution: Risk of Electric Shock


Double Insulation

Over-voltage Category I (CAT I):
Equipment for connection to circuits in which measures are taken to limit the transient over-voltages to an appropriate low level.
Over-voltage Category II (CAT II):
Energy-consuming equipment to be supplied from the fixed installation.
Over-voltage Category III (CAT III):
Equipment in fixed installations.

WARNING: If the flexible tester is used in a manner Not specified by the manufacturer, the protection Provided by the clamp meter may be impaired.

WARNING


Don't use the flexible current probe before you read the following instructions.

1. Don't install the flexible current probe around bare conductors carrying a voltage from 30V to 600V unless you are wearing protective clothing and glove suitable for high-voltage work.
2. Always inspect and check any damage of the current probe assembly before usage. Don't use the flexible current probe if any damage is found.
3. Don't use the flexible current probe on circuit rated higher than 600V in installation category III.

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a. Up to 3000A, True RMS.

b. Direct Reading, no DMM required.

c. True RMS measurement of A at with 1% of scale basic accuracy.

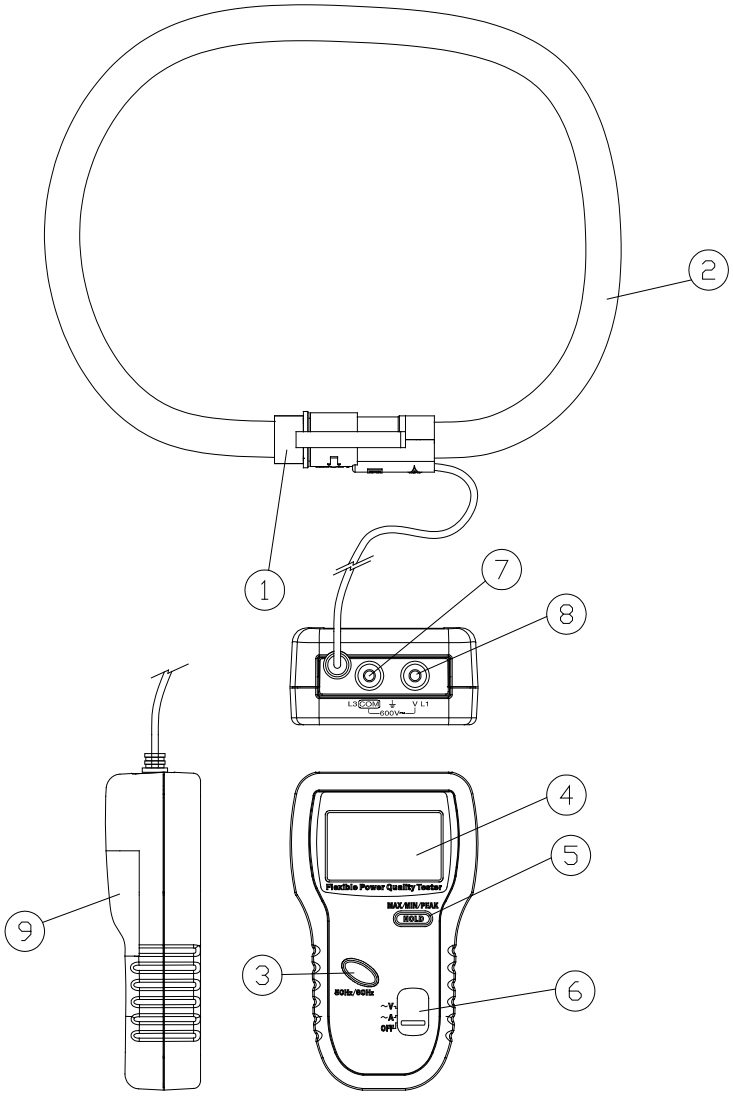
d. Fast peak function (39μs for 50 Hz, 33μs for 60Hz).

e. Max, Min and data hold functions.

f. Auto power off function in 15 minutes.

a. True RMS measurement of V at with 0.5% basic accuracy.

II. PANEL DESCRIPTION



1. Coupling Assembly

2. Flexible Loop
Open the coupling connector and circle around the conductors. Then re-connect the coupling connector.
3. 50/60 Hz button
Press this button to select nominal frequency (50 or 60Hz).
It is also used to decrement the order of harmonics or CT ratio.
If this button is hold when turning on power, the tester can perform measurement of phase sequence instead of phase angle in the balanced 3Φ power system.

4. LCD
This is a 4+4 digit Liquid Crystal Display. Function symbols, units, sign, decimal points, low battery symbols, max, min symbols, peak and harmonic symbols are included

5. MAX/MIN/HOLD/PEAK
In the measurement of A, or V, press this button to perform function of MAXIMUM, MINIMUM, HOLD or PEAK.

6. Sliding Switch
This is used to turn the power on and select measurement of current, voltage or power.

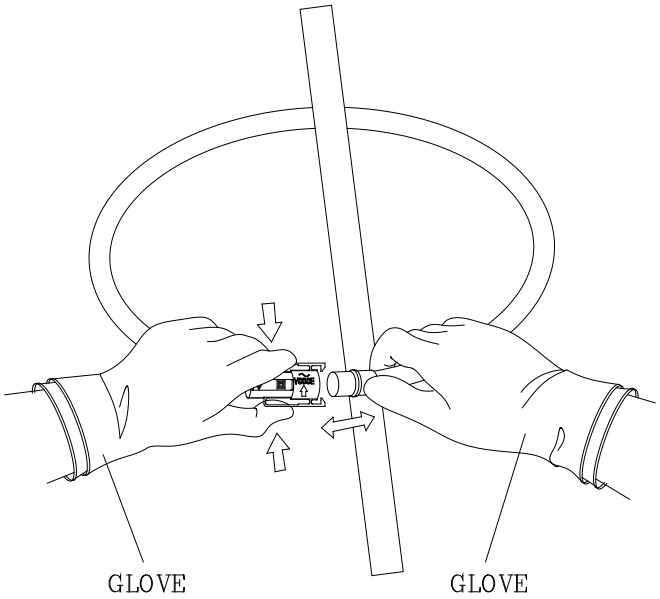
7. COM Terminal
This terminal is used as common reference input.

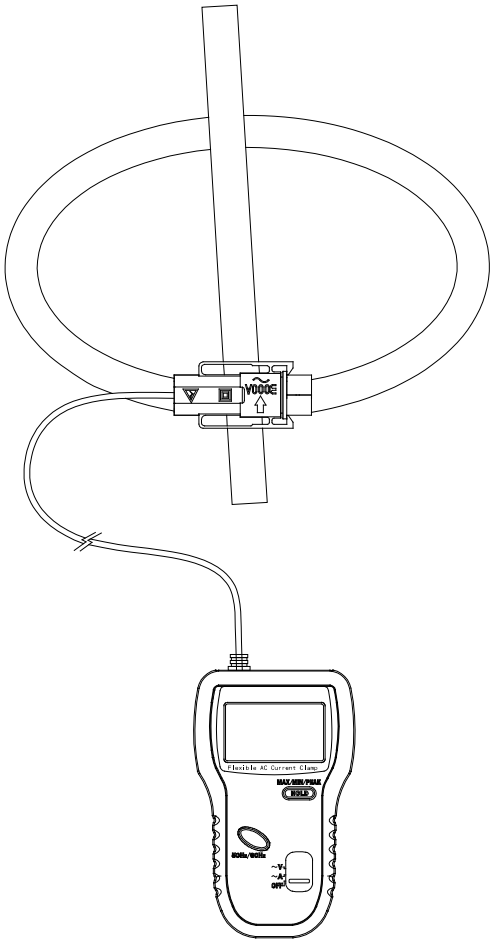
8. V Input Terminal
This terminal is used as input for voltage and power measurements.
9. Battery Cover

III. OPERATING INSTRUCTIONS

III.1. Measurement of ACA

NOTE:
1. Set the sliding switch at the A position.
2. If the peak value of the input AC current is greater than the maximum value of the range, then symbol of OL will be displayed.

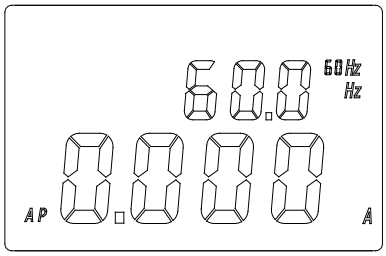




WARNING: Always wear appropriate gloves in operation..

WARNING: Make sure that all the test leads are disconnected from the meter's terminals for current measurement.

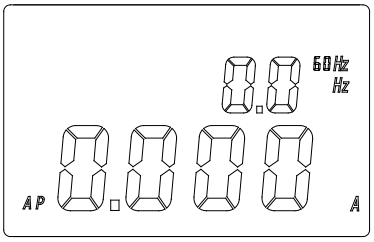
III.1.1. True RMS value of AC Current



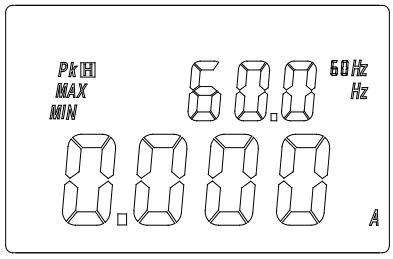
a. Set the sliding switch at A..
b. Connect the flexible probe around the conductor. Keep the probe coupling more than 25mm away from the conductor.

c. Read the measured value from the LCD display. The actually measured frequency will be displayed in the upper LCD.

NOTE: If the true RMS value is less than 3A, the frequency of the signal will be displayed as 0 (Please refer to the following figure.



III.1.2. HOLD, MAX, MIN and PEAK of AC Current.



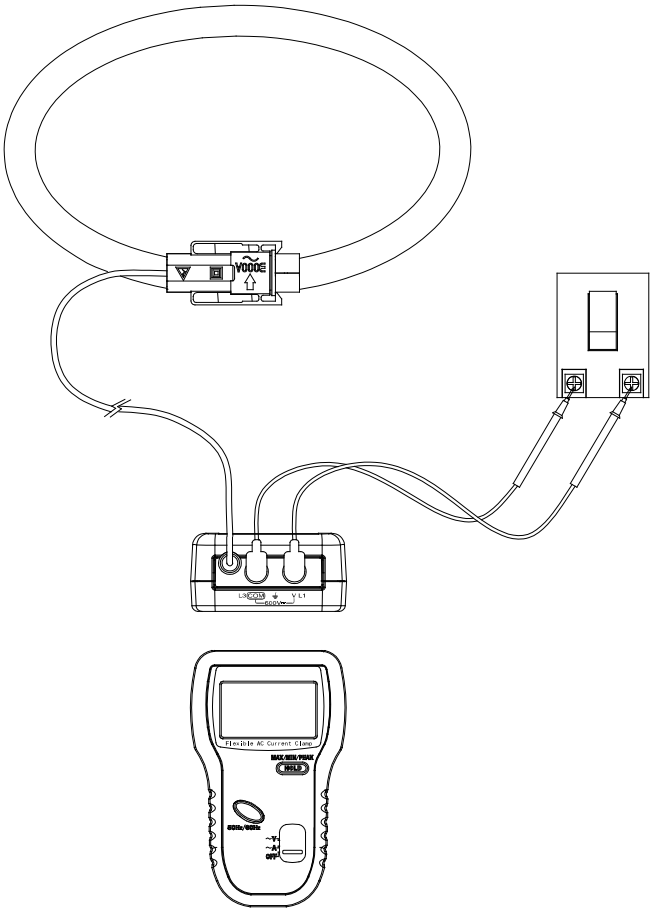
a. Set the sliding switch at A.
b. Connect the flexible probe around the conductor. Keep the probe coupling more than 25mm away from the conductor.
c. The measured value from the LCD display. If the HOLD button is pressed, the symbol of “HOLD”, “MAX”, “MIN” or “PEAK” will be shown in LCD alternatively. And the value of the HOLD, MAX, MIN or PEAK function will be displayed in LCD alternatively.
d. To return to the display of current measurement, hold the HOLD button for more than 2 seconds.

NOTE: The PEAK function displays the maximum value of the input waveform. The sampling time for the PEAK function is 39 μs (50Hz) or 33μs (60Hz). The HOLD, MAX, or MIN function displays the true RMS value.

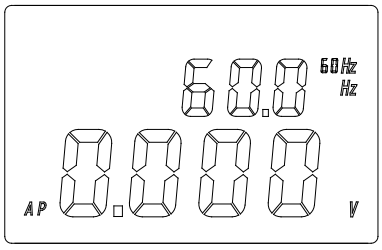
III.2 Measurement of ACV

NOTE: If the peak value of the input AC voltage is greater than the maximum value of the range, then symbol of OL will be displayed.

WARNING: Maximum input for ACV is 600. Do not attempt to take any voltage measurement that exceeds the limits. Exceeding the limits could cause electrical shock and damage to the clamp meter.

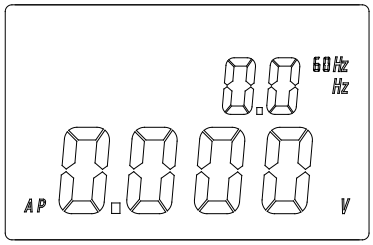


III.2.1. True RMS value of AC Voltage

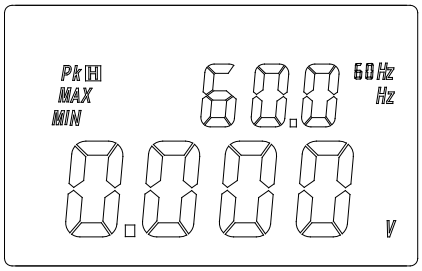


a. Set the sliding switch at position V.
b. Insert the test leads into the input jack. Connect the test prods of the test leads in PARALLEL to the circuit to be measured.
c. Read the measured RMS value from the LCD display.

NOTE: If the true RMS value is less than 10V, the frequency of the signal will be displayed as 0 (Please refer to the following figure).



III.2.2. HOLD, MAX, MIN and PEAK value of AC Voltage



a. Set the sliding switch at position V. Then select the correct fundamental frequency by pressing the 50/60 Hz button.
b. Insert the test leads into the input jack. Connect the test prods of the test leads in PARALLEL to the circuit to be measured.
c. The measured value is displayed in the LCD display. If the HOLD button is pressed, the symbol of “HOLD”, “MAX”, “MIN” or “PEAK” will be shown in LCD alternatively. And the value of the HOLD, MAX, MIN or PEAK function will be displayed in LCD alternatively.
d. To return to the display of current measurement, hold the HOLD button for more than 2 seconds.

NOTE: The PEAK function displays the maximum value of the input waveform. The sampling time for the PEAK function is 39μs (50Hz) or 33μs (60Hz). The HOLD, MAX, or MIN function displays the true RMS value.

III.3 Disable Auto Power Off

The tester has an auto-power-off function. The tester will turn the power off after power is turned on for 15 minutes. To disable the auto power off function, hold the **HOLD** button, and then turn the power on.

IV. FIX THE NOMINAL FREQUENCY

When the power is turned on, the tester will measure the frequency of signal automatically. If users wish to fix the measuring frequency at 50 or 60 Hz, they can hold the 50/60Hz button and turn the power on.

XI. SPECIFICATIONS (23°C±5°C)

AC Current (50 or 60 Hz, Auto Range, True RMS, Crest Factor < 4, Conductor is located at the center of flexible loop. Position sensitivity is 2% of range. External field effect of < 40A/m and 200mm from the coupling is 1% of range. Temperature coefficient is 0.02% of reading /˚C)

Range	Resolution	Accuracy of Readings
0 – 300.0A	0.1A	±1% of range
300.0 – 999.9A	0.1A	±1% of range
1000 – 3000 A	1 A	±1% of range

AC Voltage (50 or 60 Hz, Auto Range, True RMS, Crest Factor < 4, Input Impedance 10 MΩ, Overload Protection AC 800V)

Range	Resolution	Accuracy of Readings
4.0 V – 600.0 V	0.1 V	±0.5% ± 5dgts

Frequency of ACV (RMS value > 30VAC) or ACA (RMS value > 30A)

Range	Resolution	Accuracy
45 – 65	0.1	± 0.2Hz

Indoors Use

Probe Length: 3000-24 24 in / 610 mm

Minimum Bending Diameter: 35mm

Connector Diameter: 23mm

Cable Diameter: 14mm

Cable Length from Probe to Box: 1700mm

Cable Length from Box to Output: 1700mm

Dimension (Box): 130mm(L) x 80mm(W)x 43mm(H)

5.1”(L) x 3.1”(W) x 1.7”(H)

Battery Type: two 1.5V SUM-3

Display: 4+4 digits LCD

Range Selection: Auto

Overload Indication: OL

Power Consumption: 10mA(approx.)

Low battery Indication: 

Auto-Power-Off: 15 minutes after power-on

LCD Update Time: 2times/sec.

No. Of Samples per Period 512 (voltage or current)

256 (power)

Operating Temperature: -10◦C to 85◦C

Operating Humidity: 15% to 85% RH

Altitude: up to 2000M

Storage Temperature: -20◦C to 85◦C

Storage Humidity: 15% to 85% RH

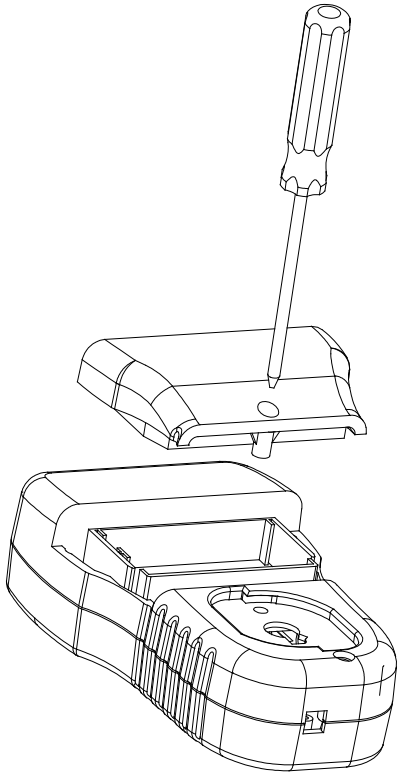
Weight: 430g (battery included)

Accessories: test leads

Users manual x 1

Batteries 1.5V x 2

XII. BATTERY REPLACEMENT



When the low battery symbol is displayed on the LCD, replace the old batteries with two new batteries.

1. Turn the power off and remove the test leads from the box.
2. Disconnect flexible loop from any conductor.
3. Remove the screw of the battery compartment.
4. Lift and remove the battery compartment.
5. Remove the old batteries.
6. Insert two new 1.5V SUM-3 batteries.
7. Replace the battery compartment and secure the screw.

XIII. MAINTENANCE & CLEANING

1. Always inspect the flexible current probe for any damage. If users find any damage, don't use the flexible current probe. Return the probe to a qualified person for repair or replacement.
2. Clean the probe assembly with a damp cloth and a mild detergent
3. Remove the battery if the flexible current probe is not to be used for a long period.

Address of Agent, Distributor, Importer, or Manufacturer