SUPPLIER DECLARATION OF CONFORMITY (SDOC)

SDoC identification Number: Major Tech MT777BT 1000A ACDC TRMS BT VFD Datalogger Clamp Meter SDOC

Issuer details

Name (of New Zealand manufacturer or importer):

Marshire Investments (NZ) Limited t/a Hamer

Telephone: 0800 239 239

New Zealand Company No. (if applicable): 96793

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Woolston
Christchurch 8023
New Zealand

Details

Major Tech Product:
MT777BT - 1000A ACDC TRMS BT VFD Datalogger Clamp Meter CAT IV 600V / CAT III 1000V

Warnings:
Read, understand, and follow all instructions, cautions and warnings attached to and/or packed with all test and measurement devices before each use
Before each use, verify meter operation by measuring a known voltage or current
Never use the meter on a circuit with voltages that exceed the category based rating of this meter
Always adhere to local and national safety codes. Use personal protective equipment to prevent shock and arc blast injury where hazardous live conductors are exposed
Usage of this meter in any way other than that specified by the manufacturer can impair safe operation, resulting in severe injury or death

HAMER ltd confirms on inspection that the above article is not unsafe to use in NZ and the above article meets the safety requirements and principles of AS/NZ3000 and should be used in accordance within the manufacturer's instructions.

Declaration

Signed for and on behalf of:

Marshire Investments (NZ) Ltd t/a Hamer

Name and position as authorized by the issuer:

Evan Taylor
National Brand Manager

Issuer Identification (as affixed to the article)

DATE: 11th December 2020

Supplier Declaration of Conformity (SDoC)

MT777BT

1000A AC/DC TRMS Clamp Meter
With Datalogger & Mobile App

MAJOR TECH

Technical Datasheet

MT777

The MT777 True RMS 6000 count clamp meter provides fast sampling time with high accuracy. The meter offers peak hold, 100ms Inrush current, Low input impedance and a low pass filter for accurate measurements of VFD signals with a convenient non-contact voltage function.

Features

- Measures AC/DC Current up to 1000A
- Measures AC/DC Voltage up to 1000V
- Resistance 60MΩ
- Temperature measurement to 1000°C
- Inrush Current
- 33 mm Clamp Jaw Opening
- VFD (Variable Frequency Drive)
- Non-Contact Voltage
- Data Hold & Peak Hold Function
- Diode Check & Continuity Buzzer
- Backlight & Flashlight
- TFT Display, Bluetooth, Trend Capture, Data Logger
- CAT IV 600V / CAT III 1000V

TRUE RMS

IEC 61010-1 CAT IV 600V | IEC 61010-1 CAT III 1000V | Bluetooth Interface

METERBOX PRO FREE APP AVAILABLE ON IOS & ANDRIOD DEVICES

AC/DC A | AC/DC V | Resistance | Temperature | Frequency | Capacitance | 6000 LCD Display | 33 Cable (mm) | Peak Hold | Data Hold | Continuity | Double Molded Rubber Housing

Meter includes flash light to light up area of test

Red Light indicates detection of Non Contact Voltage (NCV)

6000 Count Backlight TFT Colour Display

Rear entry of standard 4mm Test Lead Terminals

33mm Conductor Size

Inrush Current, Peak Hold & VFD Measurements

Specifications

FUNCTION	RANGE
AC Current	1000A
DC Current	1000A
DC Voltage	1000V
AC Voltage	1000V
LoZ AC Voltage	300V
AC + DC TRMS Voltage	1000V
Flexible Coil Current	3000V
Resistance	60MΩ
Temperature	-40 to 1000°C
Capacitance	100mF
Frequency	9.999Hz-99.99kHz
Duty Cycle	90%
Diode Test	1.5mA Typical
NCV Detection	Above 80V AC
Batteries	3 x 1.5V AAA Batteries
Jaw Size	33mm
Dimensions	250 x 78 x 40mm
Weight	350g

Code	Description
MT777BT	Major Tech 1000A ACDC TRMS BT VFD Datalogger Clamp Meter

INSTRUCTION MANUAL

MT777"

AC/DC TRMS CLAMP METER with Datalogger & Mobile APP

Contents Page no

1. **Introduction** 4
2. **Safety** 5
3. **Description** 6
   - 3.1. Meter Description 6
   - 3.2. Symbols Used on LCD Display 7
   - 3.3. Key Description 7
4. **Specifications** 8
   - 4.1. AC/DC Current Measurements 8
   - 4.2. Inrush Current Measurements 9
   - 4.3. AC/DC Voltage Measurements 9
   - 4.4. AC+DC Voltage Measurements 10
   - 4.5. Frequency Measurements 10
   - 4.6. VFD Mode 10
   - 4.7. LoZ AC Voltage Measurements 11
   - 4.8. Resistance Measurements 11
   - 4.9. Continuity Check 12
   - 4.10. Diode Test 12
   - 4.11. Capacitance Measurements 13
   - 4.12. Temperature Measurements 13
   - 4.13. Flexible Coil Current Measurements 14
   - 4.14. Using RANGE 14
   - 4.15. Hold Mode 15
   - 4.16. Capturing Minimum and Maximum Values 15
   - 4.17. Relative Values 15
   - 4.18. Capturing Peak Values 15
   - 4.19. Non-Contact AC Voltage Measurement 16
5. **Menu Operation** 17
   - 5.1. Settings Details 17
   - 5.2. Data/Time Details 17
   - 5.3. Measurement Details 18
   - 5.4. Recording Details 18
   - 5.5. Meter Info Details 20
   - 5.6. Factory Set Details 20
6. **Maintenance** 20
   - 6.1. Cleaning and Storage 20
   - 6.2. Battery Replacement 20
   - 6.3. Temperature Probe Replacement 20
7. **Specifications** 21
   - 7.1. Specifications 21
   - 7.2. General Specifications 23

Contents

Page no

1. **Introduction** 4
2. **Safety** 5
3. **Description** 6
   - 3.1. Meter Description 6
   - 3.2. Symbols Used on LCD Display 7
   - 3.3. Key Description 7
4. **Specifications** 8
   - 4.1. AC/DC Current Measurements 8
   - 4.2. Inrush Current Measurements 9
   - 4.3. AC/DC Voltage Measurements 9
   - 4.4. AC+DC Voltage Measurements 10
   - 4.5. Frequency Measurements 10
   - 4.6. VFD Mode 10
   - 4.7. LoZ AC Voltage Measurements 11
   - 4.8. Resistance Measurements 11
   - 4.9. Continuity Check 12
   - 4.10. Diode Test 12
   - 4.11. Capacitance Measurements 13
   - 4.12. Temperature Measurements 13
   - 4.13. Flexible Coil Current Measurements 14
   - 4.14. Using RANGE 14
   - 4.15. Hold Mode 15
   - 4.16. Capturing Minimum and Maximum Values 15
   - 4.17. Relative Values 15
   - 4.18. Capturing Peak Values 15
   - 4.19. Non-Contact AC Voltage Measurement 16
5. **Menu Operation** 17
   - 5.1. Settings Details 17
   - 5.2. Data/Time Details 17
   - 5.3. Measurement Details 18
   - 5.4. Recording Details 18
   - 5.5. Meter Info Details 20
   - 5.6. Factory Set Details 20
6. **Maintenance** 20
   - 6.1. Cleaning and Storage 20
   - 6.2. Battery Replacement 20
   - 6.3. Temperature Probe Replacement 20
7. **Specifications** 21
   - 7.1. Specifications 21
   - 7.2. General Specifications 23

2. Safety

2.1. International Safety Symbols

This symbol, adjacent to another symbol or terminal, indicates the user must refer to the manual for further information.

This symbol, adjacent to a terminal, indicates that, under normal use, hazardous voltages may be present.

Double insulation.

2.2. SAFETY NOTES

- Do not exceed the maximum allowable input range of any function.
- Do not apply voltage to meter when resistance function is selected.
- Set the function switch OFF when the meter is not in use.
- Remove the battery if meter is to be stored for longer than 60 days.

2.3. WARNINGS

- Set function switch to the appropriate position before measuring.
- When measuring volts do not switch to current/resistance modes.
- Do not measure current on a circuit whose voltage exceeds 600V.
- When changing ranges always disconnect the test leads from the circuit under test.

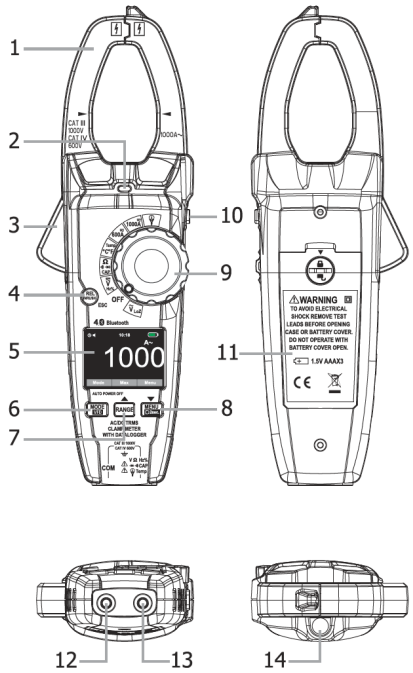
2.4. CAUTIONS

- Improper use of this meter 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 or fuses.
- Inspect the condition of the test leads and the meter itself for any damage before operating the meter. Repair or replace if damaged before use.
- Use great care when making measurements if the voltages are greater than 25VAC rms or 35VDC. These voltages are considered a shock hazard.
- Always discharge capacitors and remove power from the device under test before performing Diode, Resistance or 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.

3. Description

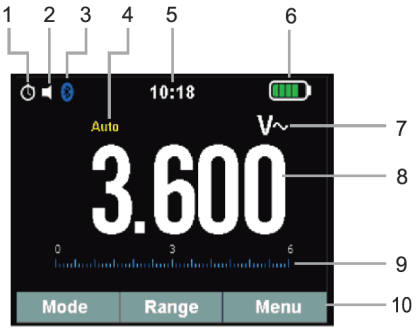
3.1. Meter Description

1-Current Clamp
2-Non-Contact AC Voltage Indicator Light
3-Clamp Trigger
4-Relative/INRUSH/ESC Button
5-LCD Display
6-MODE/VFD Button
7-RANGE Button
8-MENU Button
9-Rotary Function Swith
10-Data Hold/Flashlight Button
11-Battery Cover
12-COM Input Jack
13-VΩHz% CAP TEMP Jack
14-Flashlight



3.2. Symbols Used on LCD Display

1. Power Off Function
2. Key Beeper Function
3. Bluetooth Function
4. Automatic/Manual Mode
5. System's Time
6. Battery Capacity
7. Measuring Unit
8. Measuring Result
9. Analogue Bar Graph
10. Function Keys



3.3. Key Description

1. **MODE:** Press the Mode key to switch the functions, and press for 2 seconds to switch to VFD AC Voltage when AC Voltage measurement.
2. **RANGE:** Press the Range key to manual range, and press for 2 seconds to switch to auto range measurement.
3. **MENU:** Press the menu key to open the menu functions, and press the range and menu soft key function for more measurement options.
4. **REL:** Press the Rel key for 2 seconds to switch to inrush function when measuring 600 or 1000 A AC.
5. **HOLD:** Freezes the present reading in the display and allows the display to be saved. Press for 2 seconds to turn the Flashlight on or off.

4. Operation

NOTES: Read and understand all Warning and Caution statements in this operation manual prior to using this meter.

NOTES: Set the function select switch to the OFF position when the meter is not in use.

4.1. AC/DC Current Measurements

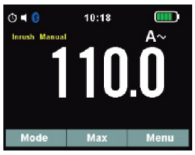
WARNING: Ensure that the test leads are disconnected from the meter before making current clamp measurements.

1. Set the Function switch to the **1000A, 600A** range, If the approx. range of the measurement is not known, select the highest range then move to the lower ranges if necessary.
2. Use the **MODE** button to select AC or DC.
3. Press the **REL** button to zero the meter display.
4. Press the trigger to open jaw. Fully enclose only one conductor. For optimum results, center the conductor in the jaw.
5. The clamp meter LCD will display the reading.

Incorrect Correct

4.2. Inrush Current Measurements

1. Set the function switch to the **600A** or **1000A** position.
2. Press the **INRUSH** button (Enter key for 2 seconds) to indicate "Inrush" on the display. Then measurement display "----" .
3. Clamp the cable to be motor.
4. Start the motor.
5. Read the inrush current in the display.

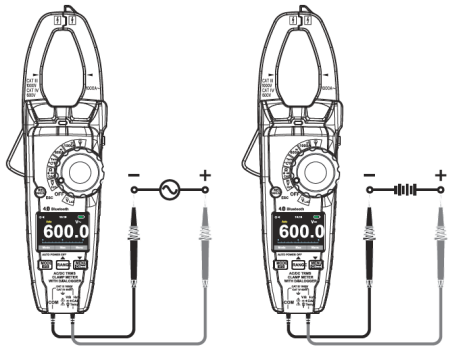


4.3. AC/DC Voltage Measurements

WARNING: Risk of Electrocution. The probe tips may not be long enough to contact the live parts inside some 240V outlets for appliances because the contacts are recessed deep in the outlets. As a result, the reading may show 0 volts when the outlet actually has voltage on it. Make sure the probe tips are touching the metal contacts inside the outlet before assuming that no voltage is present.

CAUTION: Do not measure AC/DC voltages if a motor on the circuit is being switched ON or OFF. Large voltage surges may occur that can damage the meter.

1. Set the function switch to the **V AC/DC** position.
2. Insert the black test lead banana plug into the negative **COM** jack. Insert the red test lead banana plug into the positive **V** jack.
3. Press the **MODE** key to switch AC or DC Voltage functions.
4. Read the voltage in the display.



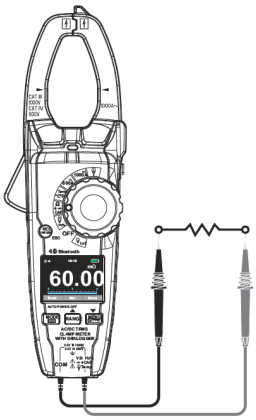
4.4. AC+DC Voltage Measurements
CAUTION: Do not measure DC voltages if a motor on the circuit is being switched ON or OFF. Large voltage surges may occur that can damage the meter.
1. Set the function switch to the **V AC/DC** position.
2. Insert the black test lead banana plug into the negative **COM** jack. Insert the red test lead banana plug into the positive **V** jack.
3. Press the **MODE** key to switch the V AC+DC Voltage functions.
4. Read the AC+DC voltage in the display.

4.5. Frequency Measurements
1. Set the function switch to the **V AC/DC** position.
2. Insert the black test lead banana plug into the negative COM jack. Insert the red test lead banana plug into the positive **V** jack.
3. Press the menu key for 2 seconds refer soft key function for more measurement options.
4. Press the soft key Hz key to switch the Hz functions.
5. Read the Frequency in the display.
6. Press the soft key Hz to switch the Duty functions.
7. Read the Duty in the display.

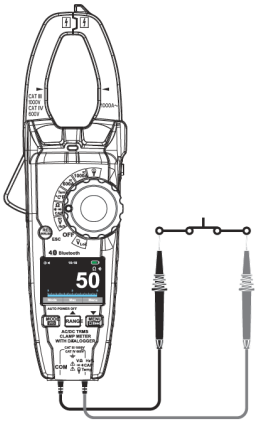
4.6. VFD Mode (Variable Frequency Drive)
1. Set the function switch to the **V AC/DC** to AC Voltage measurements.
2. Press the **VFD** button (MODE key for 2 seconds) to indicate "VFD" on the display for variable frequency driver measurements.
3. Read Measurement in the display

4.7. LoZ AC Voltage Measurements
WARNING: Risk of Electrocution. The probe tips may not be long enough to contact the live parts inside some 240V outlets for appliances because the contacts are recessed deep in the outlets. As a result, the reading may show 0 volts when the outlet actually has voltage on it. Make sure the probe tips are touching the metal contacts inside the outlet before assuming that no voltage is present.
CAUTION: Do not measure AC voltages if a motor on the circuit is being switched ON or OFF. Large voltage surges may occur that can damage the meter.
1. Set the function switch to the **VAC LoZ** position.
2. Insert the black test lead banana plug into the negative **COM** jack. Insert red test lead banana plug into the positive **V** jack.
3. Read the voltage in the main display.

4.8. Resistance Measurements
To avoid electric shock, disconnect power to the unit under test and discharge all capacitors before taking any resistance measurements. Remove the batteries and unplug the line cords.
1. Set the function switch to the **Ω CAP** position.
2. Insert the black test lead banana plug into the negative **COM** jack. Insert the red test lead banana plug into the positive Ω Jack.
3. Read the resistance in the display. If the circuit is open, the display will indicate "OL".

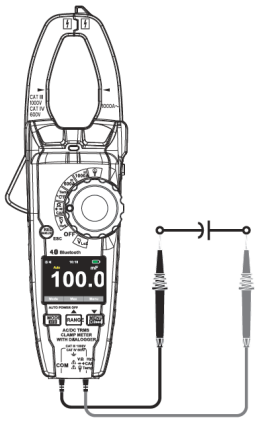


4.9. Continuity Check
WARNING: To avoid electric shock, disconnect power to the unit under test and discharge all capacitors before taking any resistance measurements. Remove the batteries and unplug the line cords.
1. Set the function switch to the **Ω CAP** position.
2. Insert the black test lead banana plug into the negative **COM** jack. Insert the red test lead banana plug into the positive jack.
3. Press the MODE key to switch the continuity functions.
4. If the resistance is less than approximately 50Ω, the audible signal will sound. If the circuit is open, the display will indicate "OL".

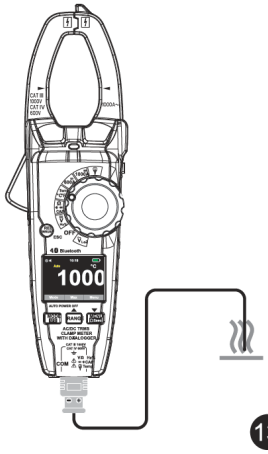


4.10. Diode Test
1. Set the function switch to the **Ω CAP** position.
2. Insert the black test lead banana plug into the negative **COM** jack and the red test lead banana plug into the positive **V** jack.
3. Press the **MODE** key to switch the Diode functions.
4. Forward voltage will typically indicate 0.400 to 3.000V. Reverse voltage will indicate "OL". Shorted devices will indicate near 0V and an open device will indicate "OL" in both polarities.

4.11. Capacitance Measurements
WARNING: To avoid electric shock, 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. Set the rotary function switch to the **Ω CAP** position.
2. Insert the black test lead banana plug into the negative **COM** jack. Insert the red test lead banana plug into the positive **V** jack.
3. Press the **MODE** button to switch the Capacitance functions.
4. Read the capacitance value in the Display.

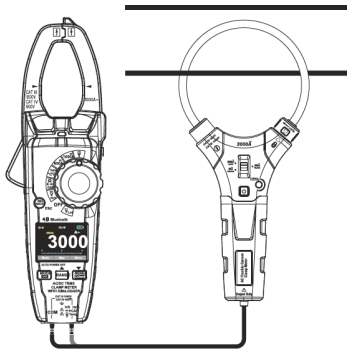


4.12. Temperature Measurements
1. Set the function switch to the **TEMP** position.
2. Insert the Temperature Probe into the input jacks, making sure to observe the correct polarity.
3. Read the temperature in the display
4. Press the **MODE** key to switch the Unit (°C or °F).



4.13. Fexible Coil Current Measurements (use the MT740)

1. Set the function switch to the Flexible coil position.
2. Insert the black test lead banana plug into the negative **COM** jack. Insert the red test lead banana plug into the positive **V** jack.
3. Read the Current in the display.
4. Press the **RANGE** key to switch range. 30A, 300A, 3000A.



4.14. Using RANGE

- Press the **RANGE** key to activate the manual mode and to disable the Auto range function.
- The message "Manual" appears on the upper left part of the display instead of "Auto".
- In manual mode, press the **RANGE** key to change measuring range: the relevant decimal point will change its position.
- The RANGE key is not active in positions , , ,%, Temp °C°F, 600A ACDC, 1000A ACDC.
- In Auto range mode, the instrument selects the most appropriate ratio for carrying out measurement.
- If a reading is higher than the maximum measurable value, the indication "O.L" appears on the display.
- Press and hold the **RANGE** key for more than 1 second to exit the manual mode and restore the Auto range mode.

Auto (or manual) mode fig below:

4.15. Hold Mode

- To freeze the display for any function, press key HOLD. And again press key HOLD to release freeze.
- Press soft key SAVE will store the measurement to memory.

4.16. Capturing Minimum and Maximum Values

- The MAX MIN Record mode captures minimum, and maximum input values.
- When the input goes below the recorded minimum value or above the recorded maximum value, the Meter beeps and records the new value.
- This mode is for capturing intermittent readings, recording minimum and maximum readings unattended, or recording readings while equipment operation precludes watching the Meter.
- To activate the MAX MIN mode, press soft key max.
- If the Meter is already in MAX MIN function, press max to turn MAX MIN function off.

4.17. Relative Values

- To activate the relative mode, press the REL key.
- If the Meter is already in the relative function, press REL to turn REL MODE off.

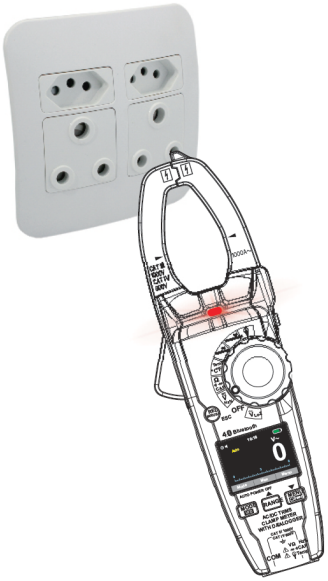
4.18. Capturing Peak Values

- In VAC measures, To activate the peak mode, press the soft key peak.
- If the Meter is already in the peak function, press peak to turn Peak mode off.

4.19. Non-Contact AC Voltage Measurement

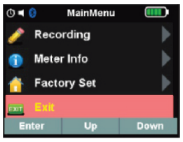
WARNING: Risk of Electrocution. Before use, always test the voltage detector on a known live circuit to verify proper operation.

1. Touch the probe tip to the live conductor or insert into the live side of the electrical outlet.
2. If AC voltage is present, the detector light will illuminate.
   Note: The conductors in electrical cord sets are often twisted. For best results, move the probe tip along a length of the cord to assure placing the tip in close proximity to the live conductor.
   Note: The detector is designed with high sensitivity. Static electricity or other sources of energy may randomly activate the sensor. This is normal operation.



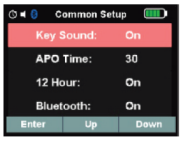
5. Menu Operation

- Press Menu button to open the Menus, As show below
- Press soft key Up / Down to select menu item or change the value of current focus item.
- Press soft key Enter to enter the submenu or set focus on the current selected item.
- Press ESC button to return to the previous menu.



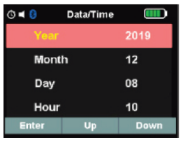
5.1. Settings Details

- Press soft key **Up/Down** to select setup item at main menu, and Press soft key Enter to enter.
- Four options are available: Key Sound, Bluetooth, 12 Hour and APO Time.
  1.Key Sound: Use Up/Down button to set beep on or off.
  2.Bluetooth: Use Up/Down button to turn Bluetooth on or off.
  3.12 Hour: Use Up/Down button to set Time 12 Hour on or 24 Hour.
  4.APO Time: Use Up/Down button to set Auto Power Off Time 15,30,45,60,and off.



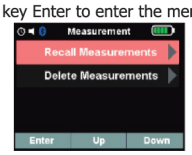
5.2. Data/Time Details

- Press soft key Up/Down to select Data/Time item at main menu, and Press soft key Enter to enter.
- In this menu, year, month, day, hour, minute can be set.



5.3. Measurement Details

- Press soft key Up/Down to select Measurement item at Measurement menu, and Press soft key Enter to enter the menu.

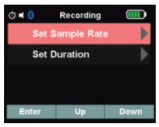


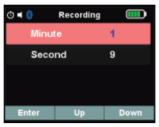
- This recalls all the measurements saved when the hold button was used and the readings were saved, refer to 4.15 (Hold Mode)
- Recall Measurement Item can Recall store measurement in Memory.
- Delete Measurements item will Delete all data in Memory.
- Recall measurement fig is below:

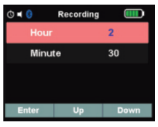
5.4. Recording Details

1. Press soft key Up/Down to select Recording item at main menu, and press soft key Enter to enter Recording Function. Recording Menu is below:

2. In Recording Menu. Press soft key Up/Down to select Setup New Recording Item, and press soft key Enter to enter set Duration and sample time. fig is below:



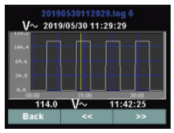




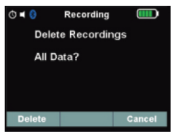
3. In Record Menu. Press soft key Up/Down to select Start recording Item, and press soft key Enter to start one new recording.

4. In Record Menu. Press soft key Up/Down to select Recall recordings Item, and press soft key Enter to enter recall recording in memory. Then Press soft key Prev/Next view last or next recording. Fig is below:

And Press soft key Trend to expansion graph. Fig is below:



5. In Record Menu. Press soft key Up/Down to select Delete recordings Item. and press soft key Enter to enter delete all recording function.



5.5. Meter Info Details

- Press soft key Up/Down to select Meter Info item at main menu, and Press soft key Enter to enter Meter info interface.
- This menu contains software's version, hardware's version and Free Memory.

5.6. Factory Set Details

- Press soft key Up/Down to select Factory set item at main menu, and Press soft key Enter to enter Factory set interface.
- Select "YES" button, System setting will be reset. Fig is below:

6. Maintenance

WARNING: To avoid electrical shock, disconnect the meter from any circuit, remove the test leads from the input terminals, and turn OFF the meter before opening the case. Do not operate the meter with an open case.

6.1. Cleaning and Storage

- Periodically wipe the case with a damp cloth and mild detergent; do not use abrasives or solvents.
- If the meter is not to be used for 60 days or more, remove the battery and store it separately.

6.2. Battery Replacement

1. Remove the Phillips head screw that secures the rear battery door.
2. Open the battery compartment.
3. Replace the AAA battery.
4. Secure the battery compartment.

6.3. Temperature Probe Replacement

Note: To use a Type K thermocouple probe that is terminated by a subminiature (flat blade) connector, a subminiature-to-banana plug adaptor is required.

7. Specifications

7.1. Specifications

Accuracy calculated as [%reading + (num. digits*resolution)] at 18 to 28°C; <75%HR.

Function	Range	Resolution	Accuracy
DC Voltage	600.0mV	0.1mV	±(0.5% + 8 digits)
	6.000V	0.001V	±(1.5% + 5 digits)
	60.00V	0.01V	
	600.0V	0.1V	
	1000V	1V	

Input impedance>10MΩ; Protection against overcharge: 1000VDC/AC RMS.

AC TRMS Voltage (50Hz-400Hz)	6.000V	0.001V	±(1.5% + 5 digits)
	60.00V	0.01V	
	600.0V	0.1V	
	1000V	1V	

Input impedance>9MΩ; Protection against overcharge: 1000VDC/AC RMS.
Accuracy specified from 10% to 100% of the measuring range, sine wave.
Accuracy PEAK function: ±10%rdg, PEAK response time: 1ms.
VFD AC Voltage reading for reference only.

LowZ AC TRMS Voltage (50Hz-400Hz)	6.000V	0.001V	±(3.0% + 40 digits)
	60.00V	0.01V	
	300.0V	0.1V	

Input impedance<300kΩ; Protection against overcharge: 1000VDC/AC RMS.
Accuracy specified from 10% to 100% of the measuring range, sine wave.

AC+DC TRMS Voltage (50Hz-400Hz)	6.000V	0.001V	±(2.5% + 20 digits)
	60.00V	0.01V	
	600.0V	0.1V	
	1000V	1V	

Input impedance>10MΩ; Protection against overcharge: 1000VDC/AC RMS.

DC Current	600.0A	0.1A	±(2.5% + 5 digits)
	1000A	1A	±(2.8% + 5 digits)

Protection against overcharge: 1000ADC/AC RMS.

AC TRMS Current (50Hz-60Hz)	600.0A	0.1A	±(2.5% + 5 digits)
	1000A	1A	±(2.8% + 5 digits)

Protection against overcharge: 1000ADC/AC RMS.

Flexible Coil Current (50Hz-400Hz)	30.00A	0.01A	±(3.0% + 5 digits)
	300.0A	0.1A	
	3000A	1A	

Protection against overcharge: 3000ADC/AC RMS.
Accuracy specified from 10% to 100% of the measuring range, sine wave.

Function	Range	Resolution	Accuracy
Resistance and	600.0Ω	0.1Ω	±(1.0% + 10 digits)
Continuity Test	6.000kΩ	0.001kΩ	±(1.5% + 5 digits)
	60.00kΩ	0.01kΩ	
	600.0kΩ	0.1kΩ	
	6.000MΩ	0.001MΩ	±(2.5% + 5 digits)
	60.00MΩ	0.01MΩ	±(3.5% + 10 digits)

Buzzer <50Ω; Protection against overcharge: 1000VDC/AC RMS.

Diode Test	Test Current<1.5mA Max voltage with open circuit: 3.3VDC

Frequency (Electronic circuits)	9.999Hz-99.99 kHz	0.01-10Hz	±(1.2% + 5 digits)

Protection against overcharge: 1000VDC/AC RMS.
Sensitivity: >5V RMS (at 20% - 80% duty cycle).

Duty Cycle	10.0% - 90.0%	0.1%	±(1.2% + 8 digits)

Pulse frequency range: 40Hz - 10kHz, Pulse amplitude:±5V (0.1ms - 100ms).

Capacity	60.00nF	0.01nF	±(4.0% + 20 digits)
	600.0nF	0.1nF	±(3.0% + 8 digits)
	6.000µF	0.001µF	
	60.00µF	0.01µF	
	600.0µF	0.1µF	
	6000µF	1µF	±(5.0% + 8 digits)
	60.00mF	0.01mF	±(5.0% + 20 digits)
	100.0mF	0.1mF	

Protection against overcharge: 1000VDC/AC RMS.

Temperature	-40.0 to 600.0°C	0.1°C	±(1.5% + 5°C)
with K-Type Probe	600 to 1000°C	1°C	
	-40.0 to 600.0°F	0.1°F	±(1.5% + 9°F)
	600 to 1800°F	1°F	

Protection against overcharge: 1000VDC/AC RMS.
Instrument accuracy without probe; Specified accuracy with stable environmental temperature at ±1°C.
For long-lasting measurements, reading increases by 2°C.

7.2.General Specifications

Clamp Jaw Opening	33mm approx.
Display	3-5/6 digits (6000 counts) TFT Color LCD
Continuity Check	Threshold 50Ω; Test current < 0.5mA.
Diode Test	Test current of 0.3mA typical; Open circuit voltage < 3.3VDC typical.
Over-Range Indication	"OL" display
Measurement Rate	3 readings per second, nominal
Peak	Captures peaks >1ms
Temperature Sensor	Type K thermocouple
Input Impedance	10M VDC and 9M VAC
AC Response	True RMS (AAC and VAC)
Operating Temperature	5 to 40°C (41 to 104°F)
Storage Temperature	-20 to 60°C (-4 to 140°F)
Operating Humidity	Max 80% up to 31°C decreasing linearly to 50% at 40°C
Storage Humidity	<80%
Operating Altitude	2000 meters maximum.
Battery	Three (3) x 1.5V AAA battery
Auto Power Off	After approx. 15-60 minutes.
Dimensions	250 x 78 x 40mm
Weight	350g
Safety	For indoor use and in accordance with the requirements for double insulation to IEC1010-1 (2001): EN61010-1 (2001) Overvoltage Category III 1000V and Category IV 600V, Pollution Degree 2.

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