



## INSTRUCTION MANUAL

### MT250

### AC VOLTAGE/CURRENT DATA LOGGER





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### **Warning!**

- Do not attempt to make measurement in flammable gaseous areas!
- When testing non-insulated cable, pay attention to avoiding short circuiting the cable.
- Do not attempt to use the instrument when your hand is wet!
- Do not apply over voltage and currents during measurement.
- Stop using the instrument when there is any structural defect or exposed metal parts.
- Do not install substitute parts or make modifications on the meter.
- Never replace the battery in moist areas.
- Ensure the meter is disconnected and switch off before opening the battery cover to replace the battery.
- Do not attempt to place the instrument in unsteady areas.
- Do not get the meter close to magnetic cards, computers or displays which will be easy influenced by the magnetic force of the magnet at the back of the meter.
- Do not expose the meter to direct sunlight, high temperature and moisture environment.
- Switch off the meter after use. When the meter will not be used for a long period, store after removing the battery.
- When cleaning, do not use abrasives or solvents on the meter, use a damp cloth and mild detergent only.



## 1. INTRODUCTION

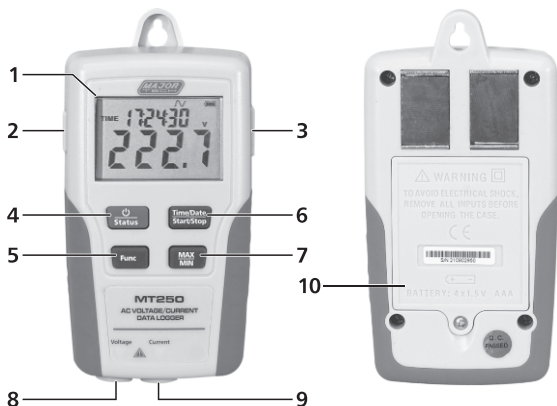
This Data Logger is designed and produced according to IEC61010 safety standard, tested and inspected to factory specifications.

This data logger is a precision instrument for recording AC current and AC voltage. It is more convenient to use with the LCD display and buttons. 1 second rapid sampling rate. Single point offset calibration is available through software, Current and Voltage are factory calibrated. Every channel can store 50,022 data. AC current range is from 2 to 200A, AC voltage range is from 6 to 600V.

## 2. FEATURES

| Function                              | Range                                                                     |
|---------------------------------------|---------------------------------------------------------------------------|
| Sample Point Capacity                 | 50,022 points for current & voltage 100,044 points for current or voltage |
| Sample Rate                           | 1 second to 24 hour                                                       |
| Current Range                         | 2 to 200A AC                                                              |
| Current Accuracy                      | $\pm 2\% \pm 1A$                                                          |
| Current Resolution                    | 0.1Amp AC                                                                 |
| Voltage Range                         | 6 to 600V AC                                                              |
| Voltage Accuracy                      | $\pm 2\% \pm 1V$                                                          |
| Voltage Resolution                    | 0.1V AC                                                                   |
| MAX hold                              | Hold the Maximum reading                                                  |
| MIN hold                              | Hold the Minimum reading                                                  |
| Start Mode                            | Manual & Automatic mode                                                   |
| Frequency range of current or voltage | 40Hz to 1kHz                                                              |
| <b>Operating Range</b>                |                                                                           |
| Temperature                           | 0°C to 60°C (32°F to 140°F) using Alkaline Battery                        |
| Humidity                              | 0% to 60%RH, Non-condensing                                               |
| Power Source                          | 1.5V AAA Alkaline or carbon battery (4pc)                                 |

### 3. FUNCTION DESCRIPTION



#### 1. LCD Display

| Function                                                                           | Range                                                                                                                                                                                    |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DATE<br>TIME <b>00:00:00</b>                                                       | Date and time                                                                                                                                                                            |
| <b>REC</b>                                                                         | Recording indication                                                                                                                                                                     |
|   | The waveform of the measuring current and voltage (This unit can only measure a wave whose waveform resembles a sine curve)                                                              |
|  | Battery sign, when displaying completely, it means battery power is full. When there is only a frame icon displayed, it means the battery is flat and should be replaced with a new one. |
| <b>00.00</b>                                                                       | Data display                                                                                                                                                                             |

## **2. Power supply socket**

DC voltage supply (6V-9V)

## **3. USB socket**

When transmitting data with PC software, stop recording before connecting to PC with the USB cable.

## **4. ON/OFF & data logger status button**

Press the button to power on. Hold the button to power off. Press the button to check which channel data is being recorded. If display "CHC", it will record or start recording the current data, and "CHC-F" means it has recorded the current data and stopped. If display "CHV" it will record or start recording the voltage data, and "CHV-F" means it has recorded the voltage data and stopped. If display "CHCV" it will record or recording the current and voltage data, and "CHCV-F" means it has recorded the current and voltage data and stopped.

## **5. Function switch button**

Press to switch display to current or voltage data. If the corresponding sensor is not being connected it will display "-CH-".

## **6. Date/Time & START/STOP button**

Press the button to cycle on screen view of date and time when connected. Press the button for 3 seconds for manual recording to start and "REC" will shown on LCD. If record has started, press the button 3 second for recording pause and "REC" will stop. Once you stop recording, it will not record data until next record mode is set up via PC.

## **7. MAX/MIN button**

Press the button to display the maximum or minimum value of the measurement. If the current reading is for voltage, press this button for MAX or MIN value of voltage. If the reading is for current, press this button for MAX. or MIN. value of current. If there is no data, it will display "0.0".

## **8. Voltage Channel**

Insert the voltage sensor to this COM to measure and record the corresponding data.

## **9. Current Channel**

Insert the current sensor to this COM to measure and record the corresponding data.

## **10. Battery Cover**



#### **4. Data memory and Data transmitting**

- If you want to start recording, the corresponding sensor must connect to the data logger or you can not start it. In the process of measurement if the sensor is disconnected because of some reason it will stop recording.
- When the memory is full, the Data Logger will stop recording and turn off, when downloading data to PC you need to turn on the Data Logger. The data can be read time after time until a new setup is done.
- After a new setup from PC software, all of the data in Data Logger will be deleted, and the max and min value is set to 0.

#### **5. Caution before connecting**

- Before recording data, please make sure the sensors have been connected (Voltage sensor or current sensor)
- Please make sure the wires are securely attached to the connector and that no uninsulated portion of the wire is visible after the connection is made.
- The connection wire of the sensor and Data Logger must not be too taut to prevent pulling out while recording.

#### **6. Software Introduction**

##### **6.1. Installation**

##### **System Required:**

Windows 10 and above.

##### **Software Introduction:**

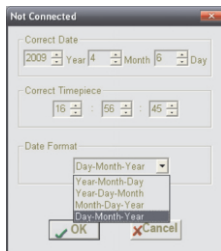
1. Insert the USB into a vacant slot. Open the location containing the installation files.
2. After the software is installed, keep the USB in the PC and connect the data logger with the PC by the USB cable. Then, there will be a USB Driver installation window pop-up. Follow the icons, select the path of USB driver and Windows will automatically install the driver from that location.



## 6.2. Operation

### Time setting:

The time will be set when it is connected to your PC. If you find the DATA LOGGER time is incorrect, click the "🕒" icon to open the below dialog.



Input the correct date and correct time and select the date format display on the Data Logger, and click "OK" button then Data Logger time will update.

### Data Logger setup:

Click on the icon "🔧" on the menu bar.



"Sample Setup": set the sample log rate at a specific rate from 1 sec. to 24 hr.

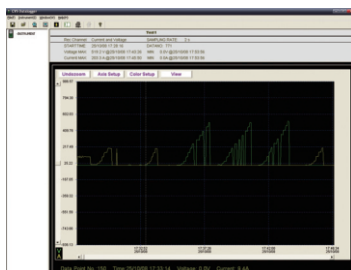
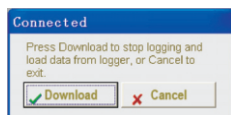
"Channel Setup" : set up record current or voltage only. It can also record both at the same time.

"Manual", "Auto" : manual or auto start method

"User name" : user name. It can not leave spacebar between the words. Maximum 14 letters.

### Data download:

Click the Download icon "  " to download the data in the Data Logger.



Yellow line is for current data and green line is for voltage data

P.S: Please refer to the software manual for other software operation.





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