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HIOKI Mr8880-20 Memory Hicorder User Guide

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Contents

## Operating Keys and LED

- **START**

  Starts measurement. The LED at the right lights green while measuring.

- **STOP**

  Stops measurement.

- **SAVE**

  Press to save data manually.

- **SCROLL/CURSOR**

  Use the left and right keys to scroll through the waveform in either direction or move the A/B cursors accordingly.

- **MONITOR**

  Displays the current input state as a waveform or numerical values. (The data is not recorded in internal buffer memory.)

- **WAVE**

  Switches to the waveform screen display.

- **SET**

  Displays the Settings screens, and toggles among the screen tabs with each press.

- **FILE**

  Displays file information.

- **POWER LED**

  Lights when the power is turned on.

- **CHARGE LED**

  Lights when the Z1000 Battery Pack is charging.

- **PRESETS**

  Allows you to set measurement conditions by following the instructions on the screen.

- **Cursor Keys**

  Moves the position of the cursor (blinking selection) on the screen.

- **ENTER**

  Accepts displayed settings.

- **KEY LOCK**

  To lock the keys, press and hold the left and right cursor keys for three seconds. Repeat to unlock.
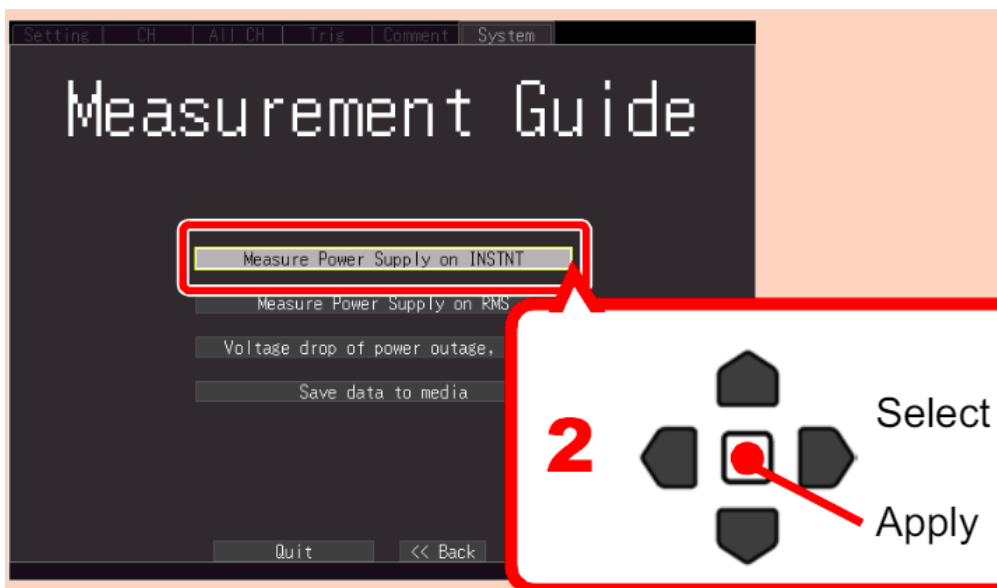
- **ESC**

  Cancels changes to settings
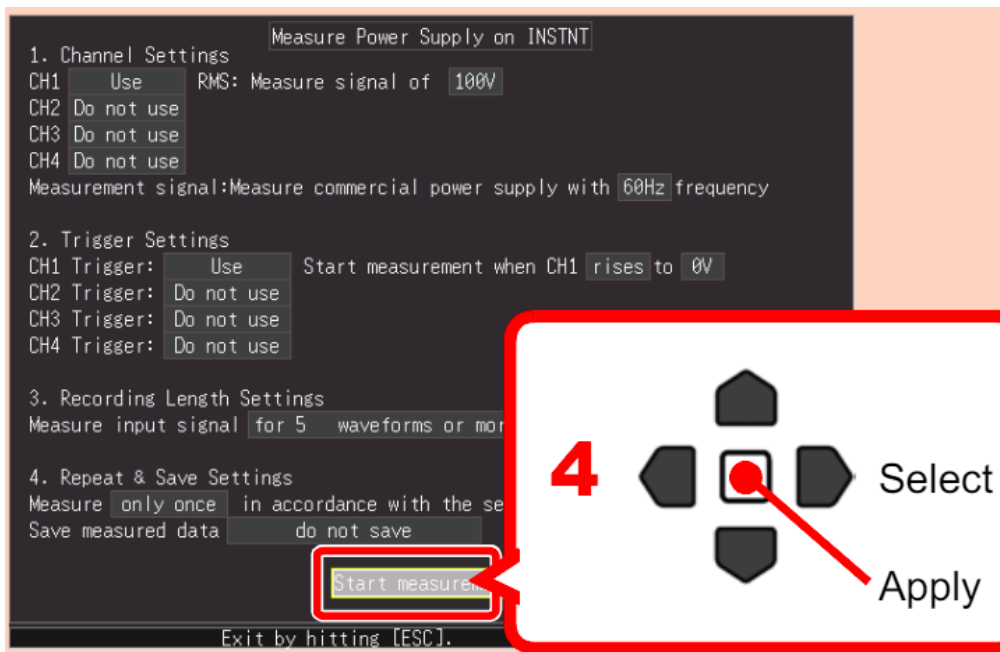
Display the Measurement Guide Screen
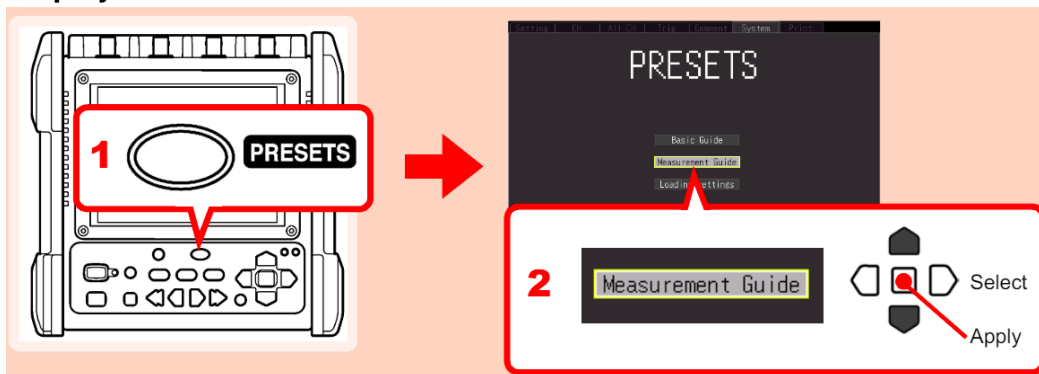
Measuring a 100 V AC Waveform

How to measure 5 cycles of the waveform level (instantaneous value) of a 100 V AC/60 Hz voltage waveform once

1. Display the measurement guide screen. (See page 1.)
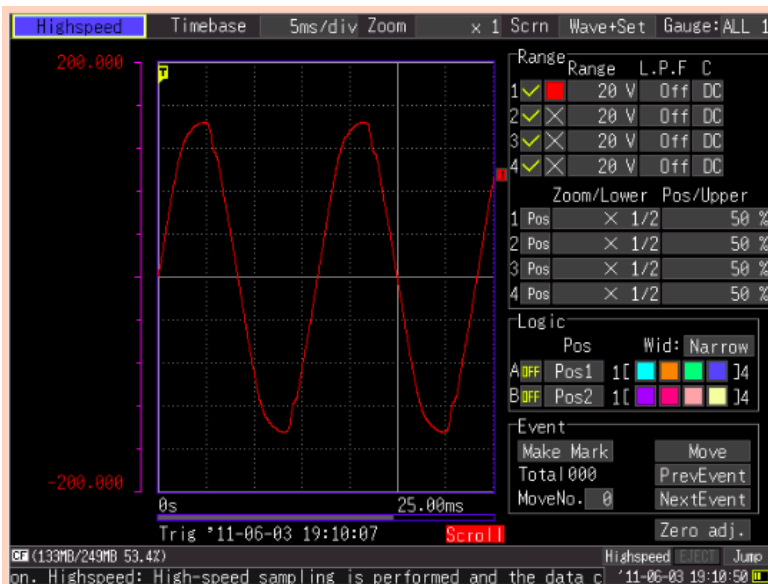2. Select **"Measure** Power Supply on INSTNT".
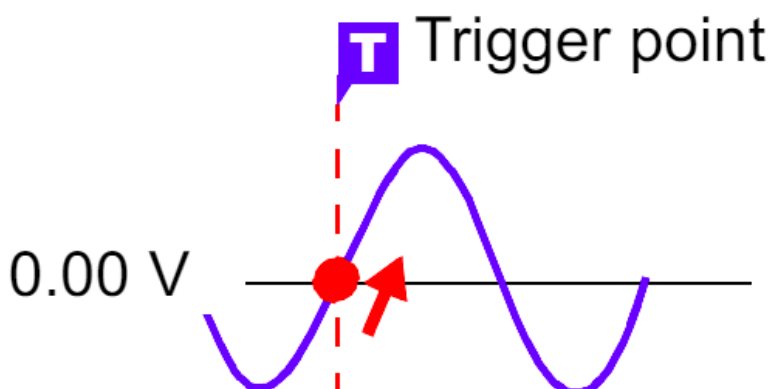
3. Configure the settings as shown below.'

4. Select **"Start measurement".** The start confirmation dialog will be displayed.

5. Press the START key to begin measuring.

   The MR8880-20 will measure ONCE, and display a waveform like that shown below.


- When measuring quick-changing signals such as power waveforms or sudden transients, use the **"Highspeed"** function. T 0.00 V

- For this example, a trigger has been set to start measurement when the signal reaches 0V. The trigger point (measurement start point) is shown on the right.
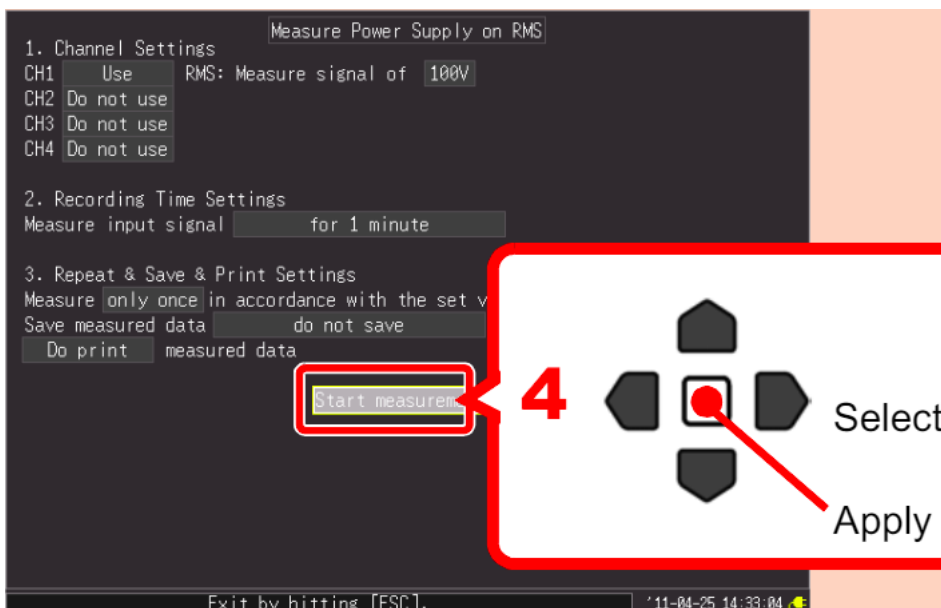
Measuring 100 V AC RMS

How to measure the RMS level of the voltage fluctuation of a 100 V AC/60 Hz commercial power supply for 1 minute
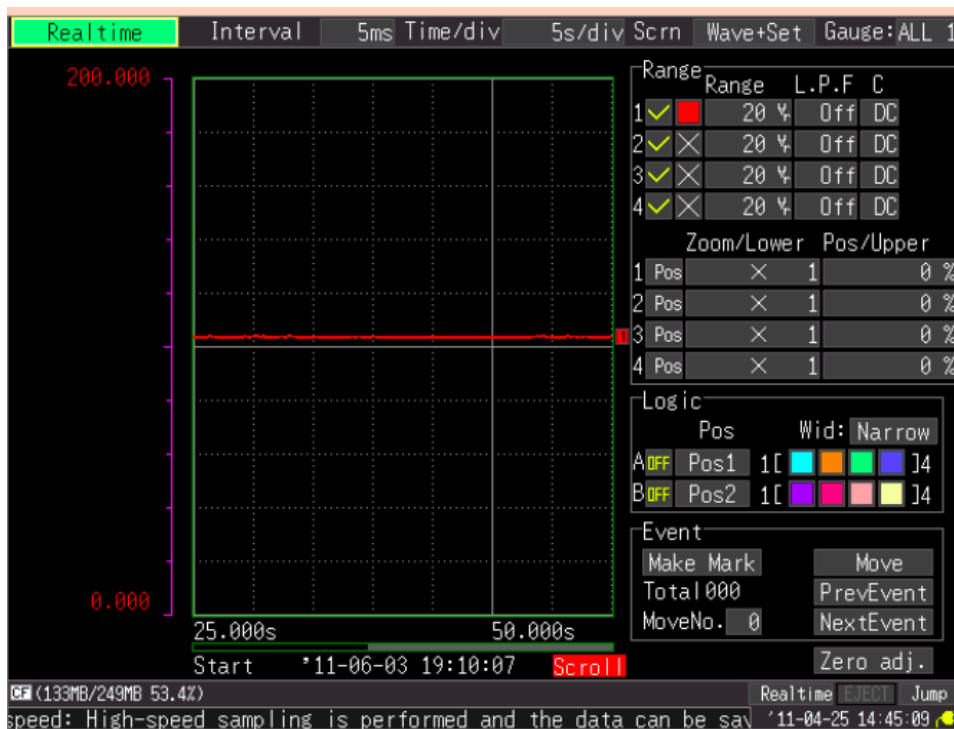
1. Display the measurement guide screen. (See page 1.)
2. Select **"Measure Power Supply on RMS"**
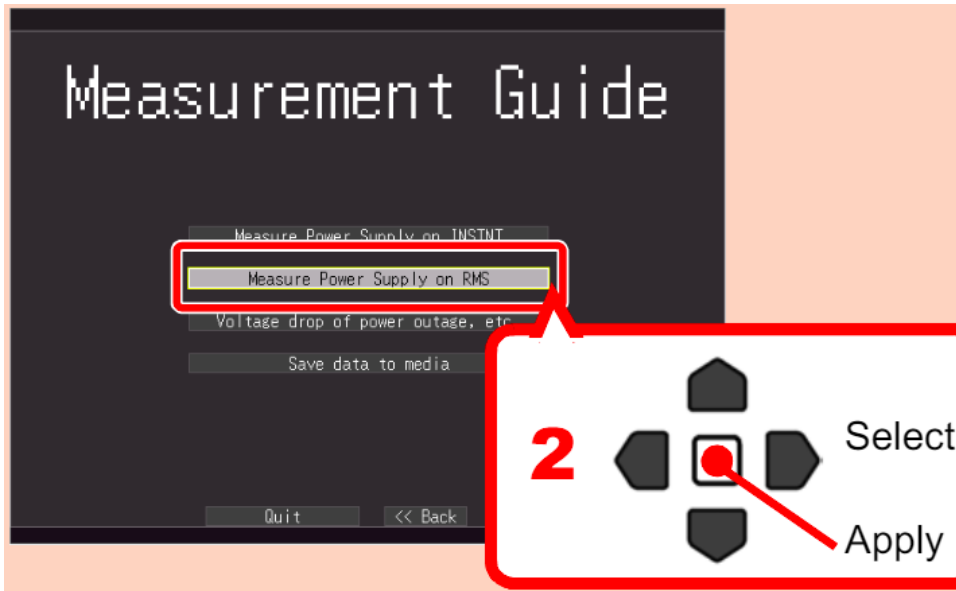
3. Configure the settings as shown below

4. Select **"Start measurement".** The start confirmation dialog will be displayed.
5. Press the START key to begin measuring. The MR8880-20 will measure for 1 minute, and then display a waveform like that shown below.

- When measuring the RMS fluctuation of a power supply or capturing the long-term changes of slow moving phenomena, use the **"Realtime"** function.
- To measure and save data to external media at the same time, insert a CF Card or USB flash drive into the MR8880-20, and configure the device according to Step 3 in **"Save** Measurement Data". Please refer to the detailed instruction manual for further information.

Capturing the Waveform of a 200 V AC Instantaneous Power Interruption

How to measure the waveform level (instantaneous value) of the waveforms before and after an instantaneous power outage on a 200 V AC/60 Hz commercial power supply
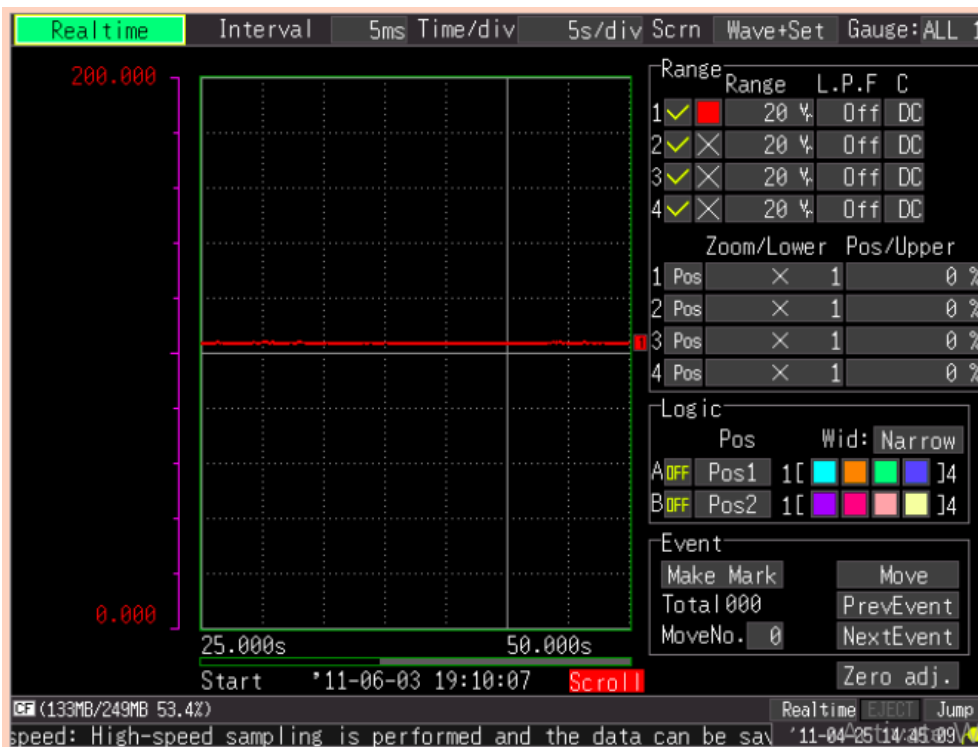
1. Display the measurement guide screen. (See page 1.)
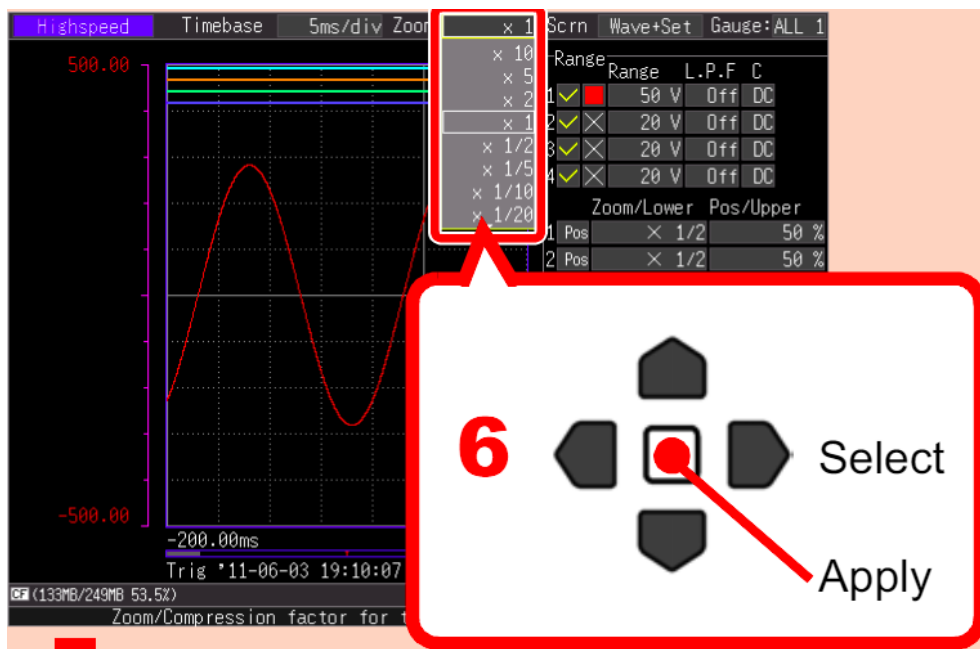2. Select **"Voltage drop of power outage, etc.".**
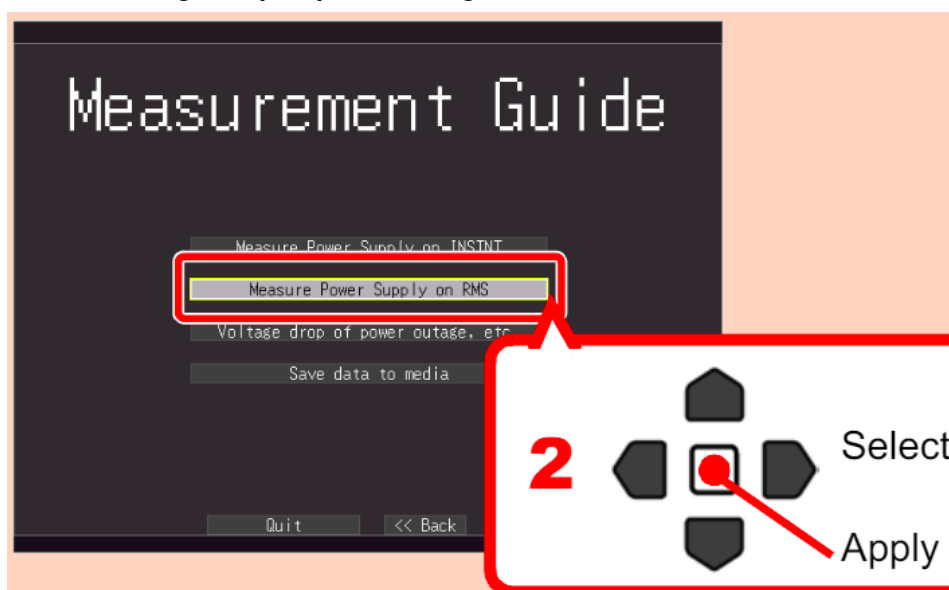
3. Configure the settings as shown below.
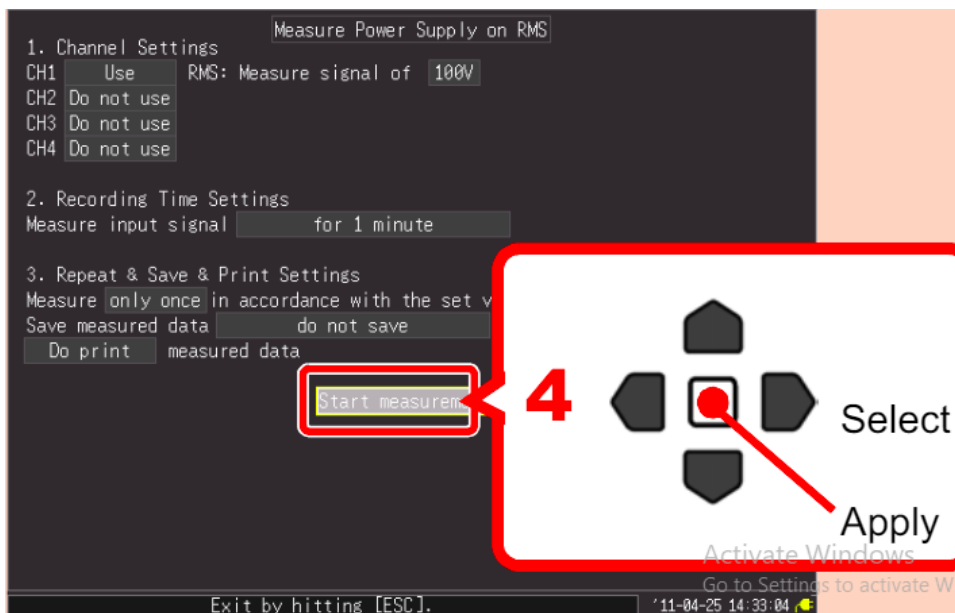
4. Select **"Start measurement".** The start confirmation dialog will be displayed.

5. Press the START key to begin measuring. The MR8880-20 will measure ONCE, and display a waveform like that shown below.
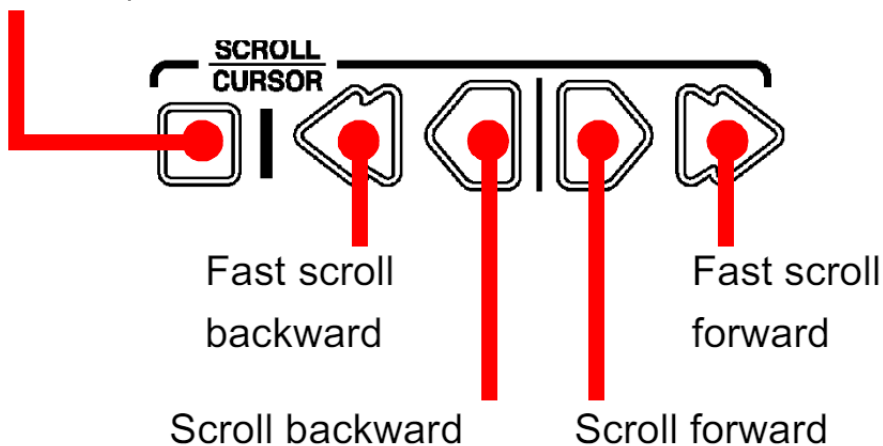

6. If the waveform you wish to see is not displayed, change the zoom ratio of the time axis

When the zoom ratio of the time axis is changed, the waveform printout will also zoom in or out accordingly.

7. Scroll through the waveform to check for anomalies.

Press this key to display the "Scroll" icon on the bottom of the screen. (This key toggles between **"Scroll"** and **"Cursor".)**


- Use the Scroll function to **"fast forward"** or **"go backwards"** through the waveform.
- To jump to the beginning of the waveform or the latest waveform captured, press the "fast" and "standard" keys at the same time.

Using Model 9018-50 Clamp On Probe to Measure a Current Waveform

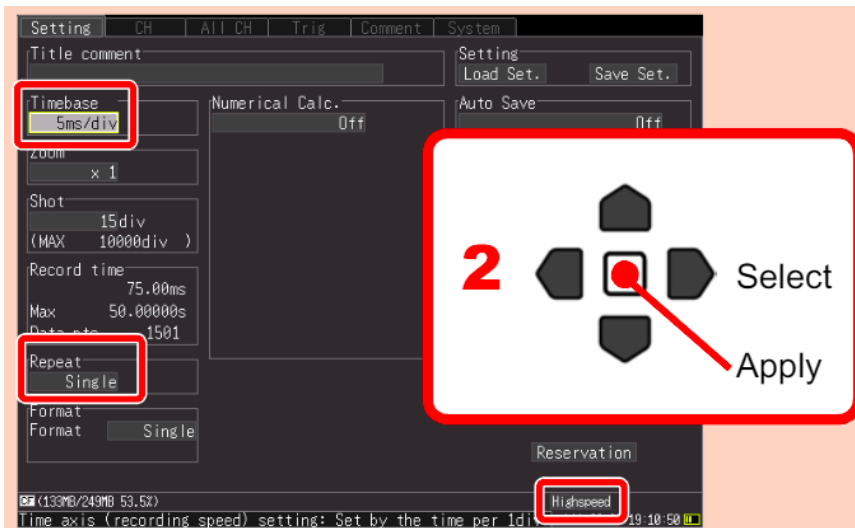How to measure a 10 A AC/50 Hz current signal using Model 9018-50 Clamp On Probe

1. Press the SET key to open the **"Setting"** screen
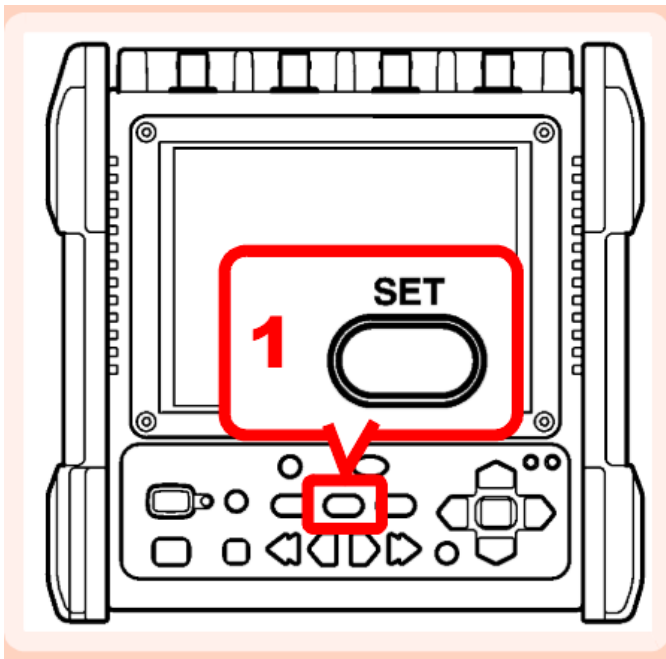
(Use the SET key to toggle between the 7 screens until you reach the **"Setting"** screen.)

2. Configure the parameters in the areas indicated below

A 50 Hz measurement frequency is equivalent to 20 ms per cycle. When using the 5 ms/div time axis range and selecting to record 15 divisions, a 75 ms waveform can be monitored. (5 ms/div x 15div = 75 ms) This is equivalent to approximately 3.5 cycles.

3. Press the SET key once to open the **"CH"** screen.
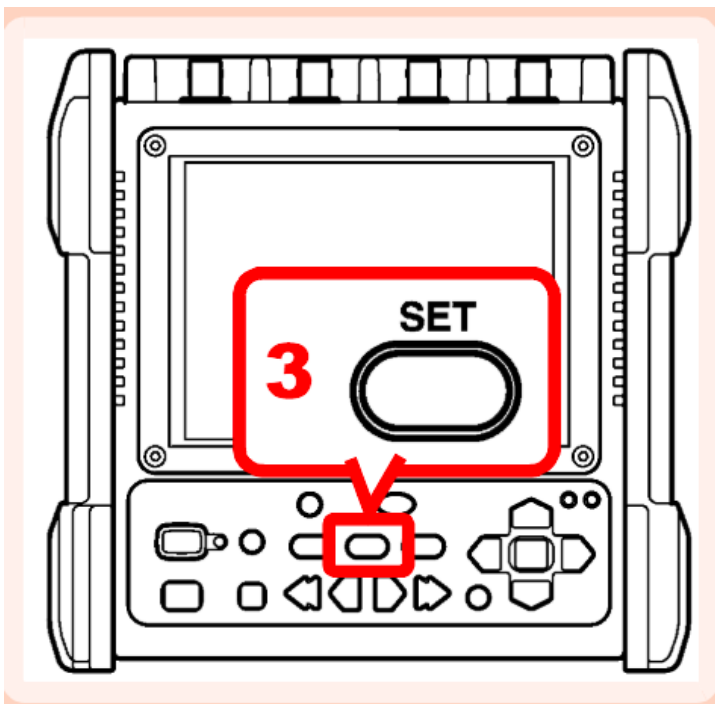
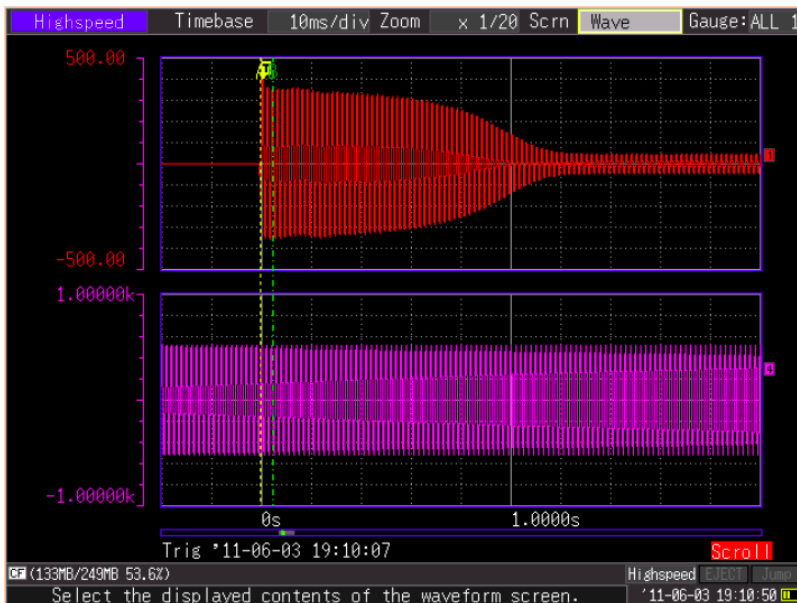4. Configure the parameters in the areas indicated below.
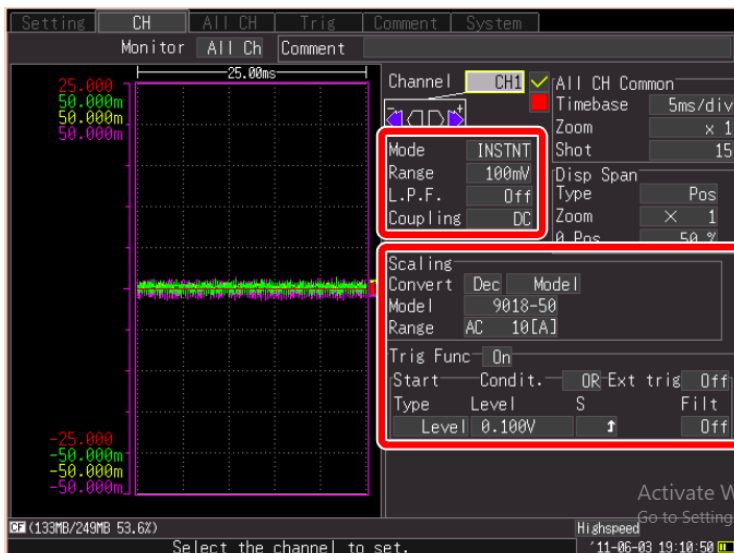
- The voltage axis range (refer to the **"Range"** information in the upper highlighted section in the screen above) represents the voltage value per 1div on the vertical axis (=100 mV/div)

- Because the output of the 9018-50 at the 10 A AC range is 0.2V AC, the instantaneous peak value of 0.2 V AC will be approximately 0.28 V (=0.2 V AC x √2). As such, please select a voltage range in accordance with this level of voltage.

- Because the full scale of the MR8880-20's vertical axis is 10 divisions, when the voltage axis range is set to 100 mV/div, instantaneous values up to 1 V (=100 mV/div x 10div) can be measured.

- When changing the current range of the 9018-50 Clamp On Probe, be sure to also change the "Range" setting in the MR8880- 20 (in the lower highlighted section in the screen above).

- If the measurement ranges do not match, incorrect measurement values may be displayed and/or recorded.

- The value to set for the trigger level is the instantaneous value. **"0.100 V"** is equivalent to **"5 A"**.

"A". T Trigger point

5.00 A

0.00 A
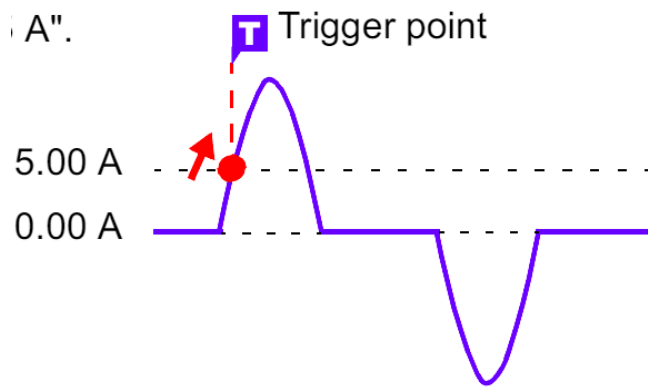
5. Press the START key to begin measuring. **"Waiting for trigger"** will be displayed until the set trigger conditions are met. When the trigger is activated, measurement will occur once.

   The following shows the measured waveform of the starting current of a motor.

| Highspeed | Timebase | 10ms/div Zoom | × 1/20 Scrn | Wave | Gauge:ALL 1 |

500.00

-500.00
1.00000k

-1.00000k
          0s   1.0000s
       Trig '11-06-03 19:10:07   Scroll
CF (133MB/249MB 53.6%)   Highspeed EJECT Jump
       Select the displayed contents of the waveform screen.   '11-06-03 19:10:50
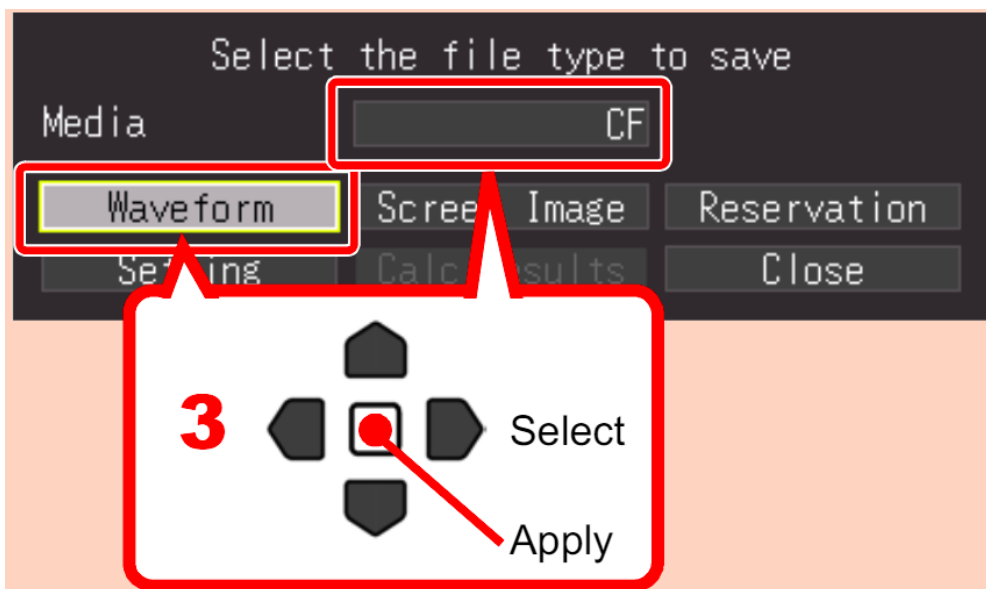
Save Measurement Data

The following are the instructions on how to save data after measurement has finished. To learn how to save data during measurement, please refer to the detailed instruction manual.

1. Connect the storage media (CF Card or USB flash drive).

   (Right side of MR8880-20)
   Cover
   CF card   USB flash drive
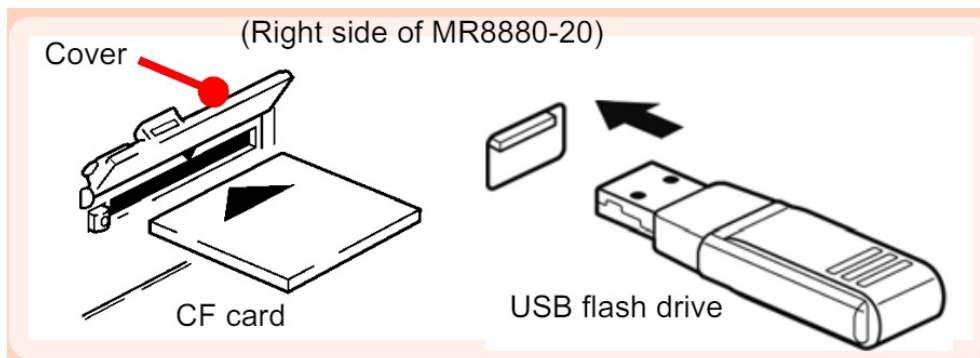
   Note: The USB flash drive may not be recognized by the instrument depending on the USB flash drive used.

2. Press the SAVE key after measurement. The setting dialog is displayed.

3. Select the connected media, and then select **"Waveform**

The setting dialog is displayed.

4. Select the **"Binary"** format and **"All"** span, and move the cursor to the **"Save"** button. Press the ENTER key

The confirmation dialog is displayed.
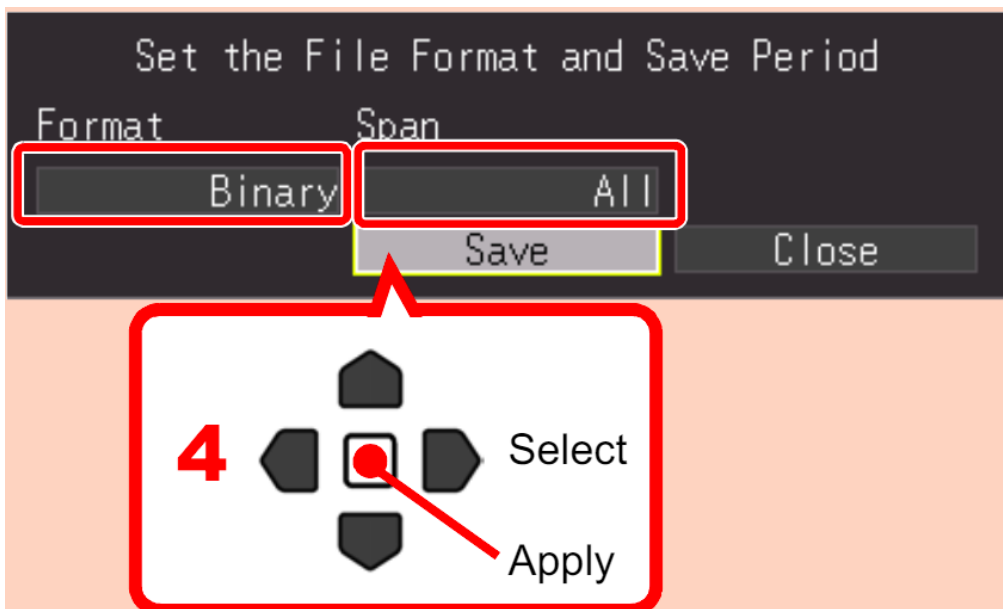
5. Select **"Yes",** and press the ENTER key to start saving.

Use the supplied WaveViewer (Wv) software to view the saved binary data and/or convert the data into CSV format. Refer to the instruction manual on how to install the WaveViewer software into your PC.
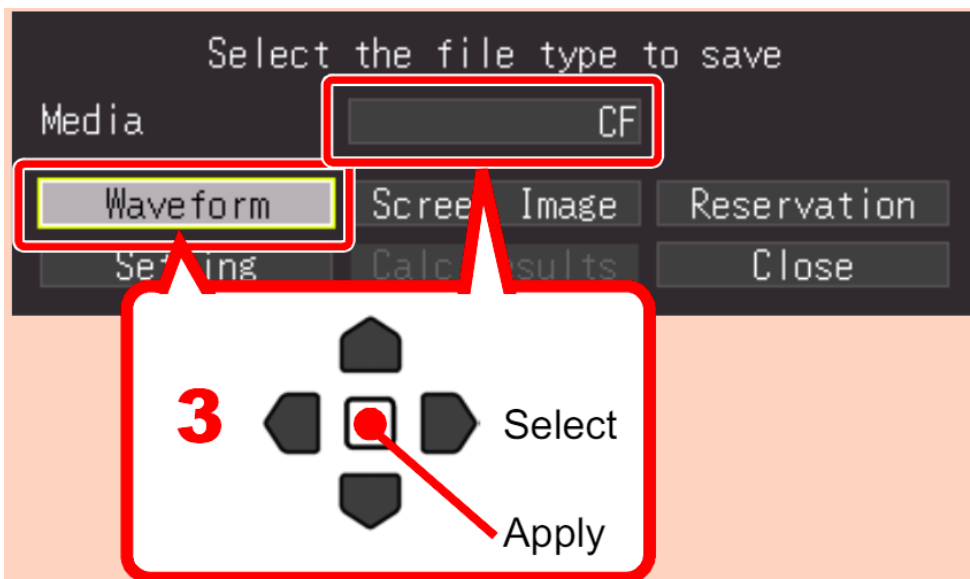
Print Measurement Data

Printing directly from the MR8880-20 requires the MR9000 Printer. The following are the instructions on how to print all of the waveforms after measurement has finished. To learn how to print a certain range of waveforms, or about the display screen and print settings, please refer to the detailed instruction manual

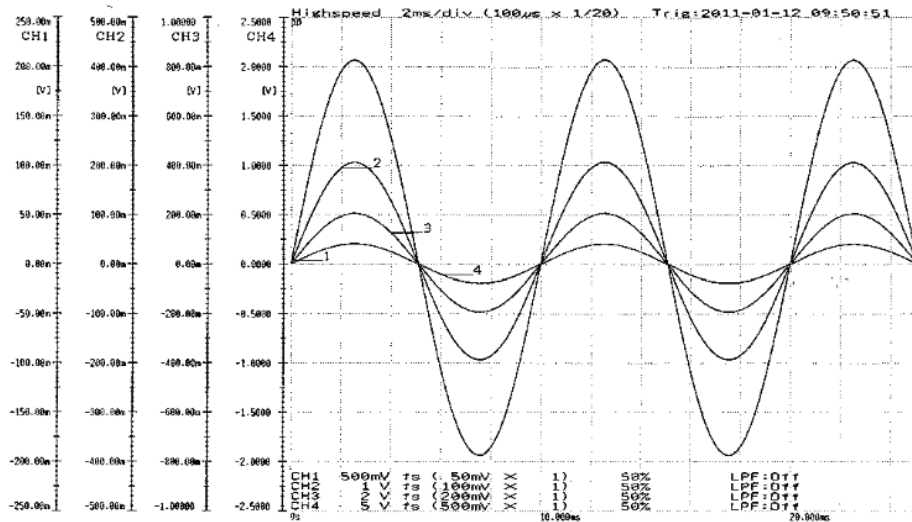1. Press the WAVE key to display the waveform display screen.
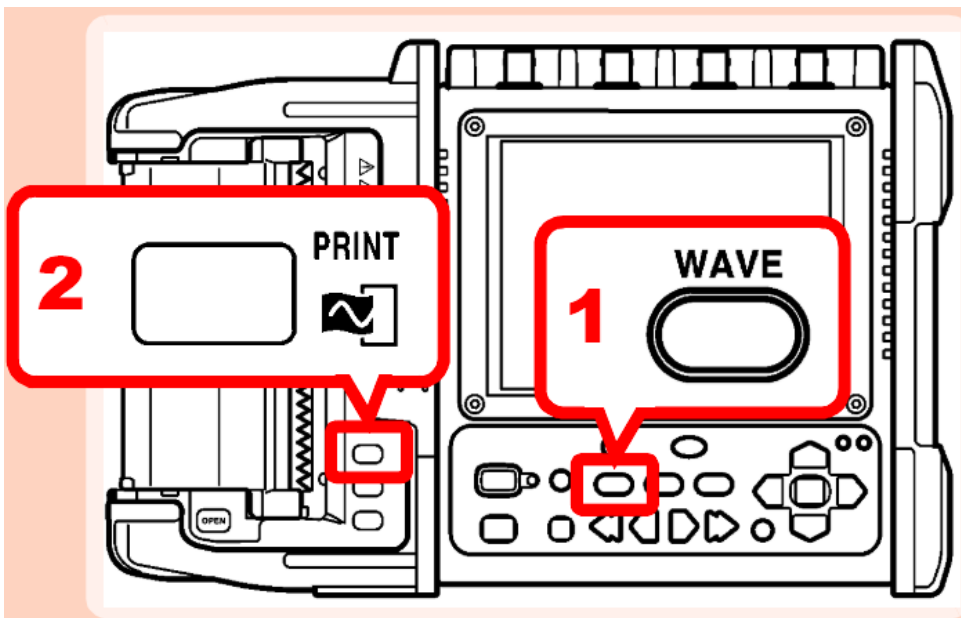
2. Press the PRINT key on the printer.

   The print range confirmation screen appears.

3. Select **"All Wave".**

   Printing of the waveform begins.

To force printing to end, press the STOP key.

■ Print Example

Europe only

Documents / Resources

HIOKI Mr8880-20 Memory Hicorder [pdf] User Guide
Mr8880-20 Memory Hicorder, Mr8880-20, Memory Hicorder, Hicorder

References

- **User Manual**