

LR5051 CLAMP LOGGER Operation Manual

EN

Thank you for purchasing the HIOKI LR5051 Clamp Logger.

This guide introduces the logger's basic measurement procedure to first-time users.

Before using the instrument, be sure to read the Instruction Manual carefully.

HIOKI

Read First

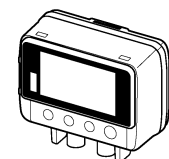
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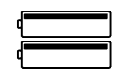
1 Confirmation

Confirm package contents, and prepare needed items.

Logger and Accessories



LR5051

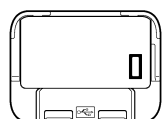


LR6 alkaline battery
(Pre-installed in the logger.)

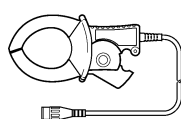


Instruction manual
Refer to this manual for operating procedure details, or when problems occur.

Option



LR5091 Communication Adapter
(Includes LR5000 Utility Program CD [PC application software] and USB Cable)



Clamp Sensor
(Use a Hioki optional product. See the Instruction manual.)

■ Importing data to a computer requires the optional LR5091 Communication Adapter or LR5092-20 Data Collector

3 Settings

Display Example: Setting the recording interval to 10 minutes.

1 **SET** →
Display the settings, and select the setting item.



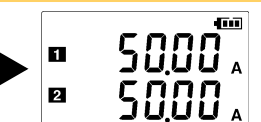
2 **+** **-** →
Configure the setting as needed.



3 **SET**
Apply the new setting contents.
(The setting items are displayed as shown under Setting Display on page 2.)

Stop

Hold the **REC/STOP** button for two seconds while recording (while **REC** is displayed).



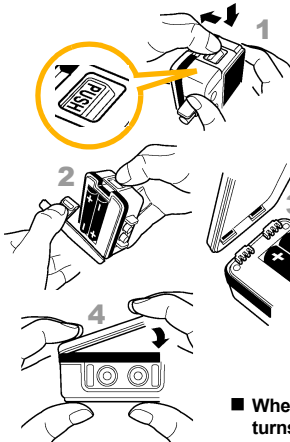
REC disappears when recording stops.
If the stop method is set to **[OFF]**, recording stops automatically when memory becomes full.

Note: Continue pressing the button until the **REC** indicator changes from a blinking to off state.

2 Preparations

Install the battery and connect the clamp sensor to the logger.

Installing the Battery



1 Press the PUSH tab as shown, and pull the battery cover back.

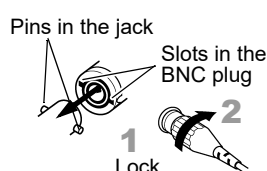
2 Install the battery as shown.

3 Align the holes in the battery cover with the projections on the back of the logger.

4 While confirming that there are no gaps, press with your fingers to close the battery cover.

■ When the battery is installed, the logger turns on (there is no power switch).

Connecting a Clamp Sensor



1 Align the slots in the BNC plug on the sensor cable with the pins in the jack on the logger.

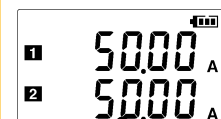
2 Push and turn clockwise to lock.

■ Obtain an optional clamp sensor. Select a sensor that is suitable for your application.
■ See the instruction manual for details about connecting the cable to an object to be measured.

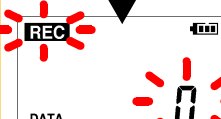
4 Recording

Before recording, install the logger and perform pre-measurement inspection.
(See the Instruction manual for details.)

Start



From the Measurement display, hold the **REC/STOP** button for two seconds.



Note: Continue pressing the button until the **REC** indicator changes from a blinking to on state.



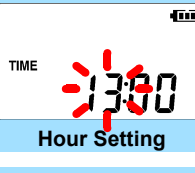
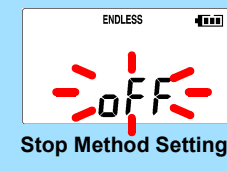
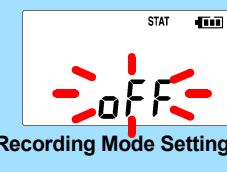
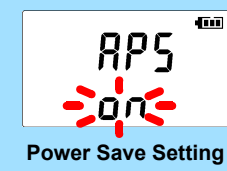
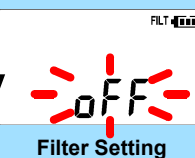
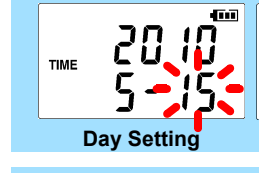
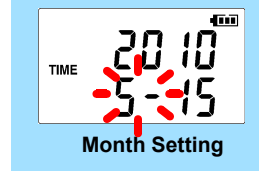
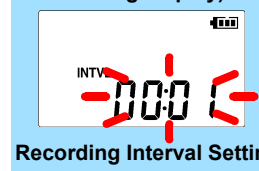
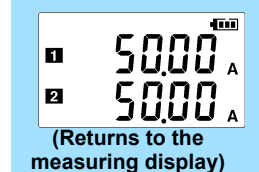
When the blinking stops and the data count is zeroed, recording starts.



After one second, the measurement display reappears.

■ Logger memory contains the data for two recording sessions. (Be aware that old data is erased when starting recording after two recording sessions.)
■ Data can be imported to a computer without stopping recording.

Setting Display



■ **Filter**
Enable (set to ON) to remove frequency components such as noise.
Default is off.

■ **Power Save**
Battery life is extended when on (enabled).
Default is on.

■ **Recording Mode**
When on (statistical recording), instantaneous, maximum, minimum, and average values are recorded at each interval. (Record statistical values) Battery life is shorter.
Default is off.

■ **Stop Method**
Select what happens when memory becomes full.
When on, the oldest data is overwritten (Endless Recording), and when off, recording stops (One-Time Recording).
Default is on.

Operating Buttons

SET
Displays settings.



(-), (+)
Changes Measurement display contents.
Changes setting values on the Settings display.

REC/STOP
Hold for two seconds to start/stop recording.
From a setting display, switches to measurement display.

■ **Setting Display:** Displays settings (recording interval, date and time, etc.)
■ **Measuring Display:** Displays recorded data (measured values, recorded data count, etc.)

Indicators

REC
Recording in progress

AL
Upper/lower threshold exceeded

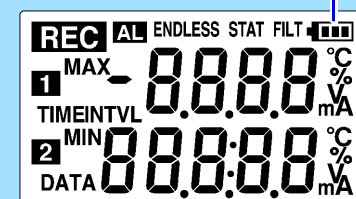
ENDLESS
Stop method enabled

STAT
Recording mode enabled

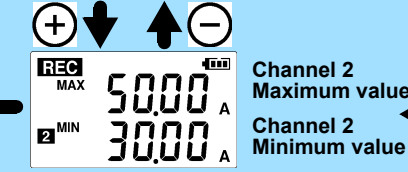
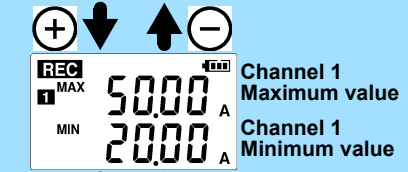
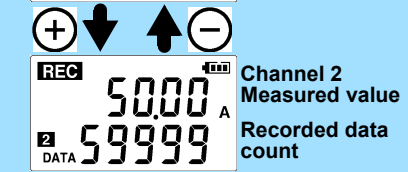
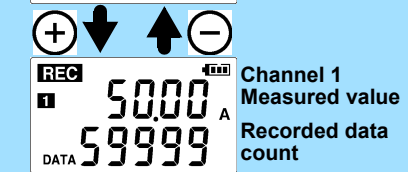
MAX, MIN
Maximum and minimum values

DATA
Recorded data count

Battery Status Indicator

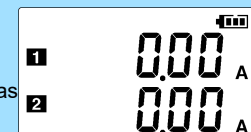


Measuring Display



Troubleshooting

■ **No measured value is displayed**
Is the clamp sensor inserted as far as possible?
Insert the clamp sensor as far as possible.
If the values are not displayed despite these measures and the logger need to be inspected and repaired.
Please contact your dealer or Hioki representative.
Note: The maximum and minimum values are not displayed when the recorded data count is 0.



■ **The display is blank.**
Is auto power saving enabled (set to ON)?
When enabled, the display blanks after 30 seconds of operator inactivity.
Press any button or send a communication signal to turn on the display.

■ **The [REC] indicator disappears even though recording has not been stopped.**
Is the stop method disabled (set to OFF)?
With disabled, recording stops automatically when memory becomes full.
To record continuously until stopped by the **REC/STOP** button, enable the stop method.
(In this case, old data is overwritten when the memory becomes full.)

■ **Recorded data has disappeared.**
Does recording restart after stopping?
Note that if recording is accidentally restarted after stopping, data recorded prior to the last recording is automatically erased.
(The logger retains the data from both current and most recent prior recording operations.)

■ **To erase logger memory**
Erase using the PC Utility program. See the Instruction manual for details.

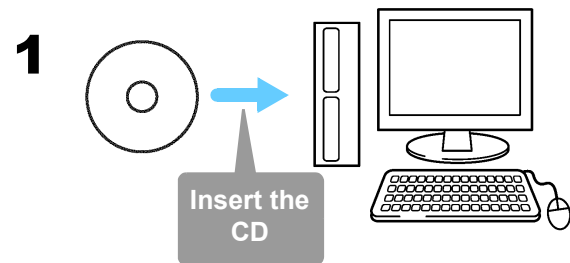
■ **The battery is depleted too quickly.**
Are you using the battery originally supplied with the logger?
Are you using a zinc-manganese battery?
Install a new LR6 alkaline battery.

5 Importing and Displaying Data on a Computer

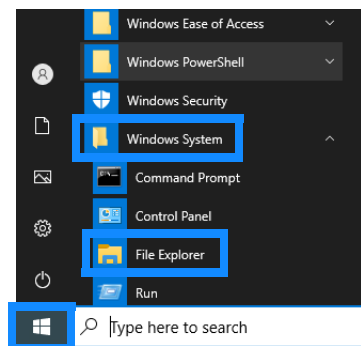
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Installing the PC Application Program

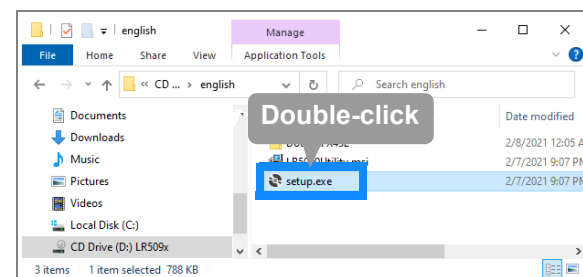
Required Items: Supplied CD



2. Click [Start] to display the application list. Click [Windows System]-[File Explorer] to start Explorer.



3. Double-click [setup.exe] (SET UP file).



- LR5000 Utility Program Operating Requirements
 - CPU 1 GHz or faster processor clock
 - RAM 1 GB or more (32-bit), 2 GB or more (64-bit)
 - OS Windows 7, Windows 10
 - Library .NET Framework 4.5.2 or later
 - Interface USB
 - Monitor Resolution 1024 × 768 or higher
 - Hard Disk At least 30 MB free space (Additional space is required for storing recorded data)

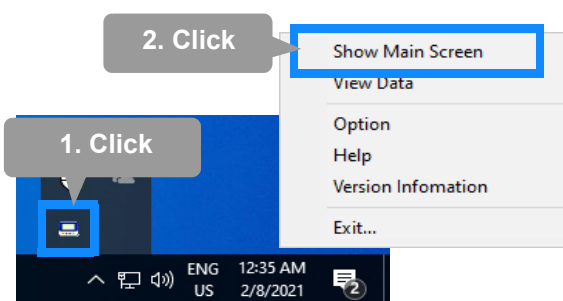
What if the PC Utility program cannot be installed?

- Be sure that the computer meets the above operating requirements.
- Carefully read "Installing the PC Application Program" in the Instruction manual, and reinstall. Pay special attention to the following items.
 1. Be sure to log in using an Administrator account.
 2. Before installing, be sure to close any programs running on the computer.

2 Starting the PC Utility Program

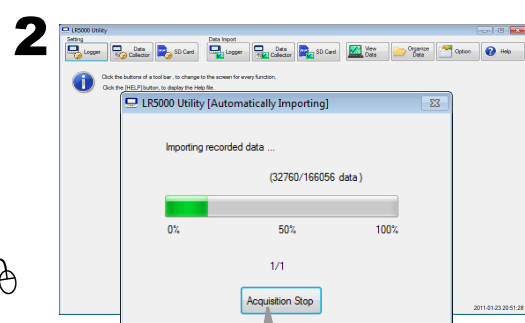
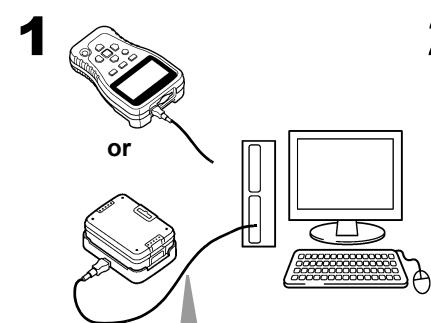
From the Windows [Start] menu, select **-[HIOKI LR5000 Utility Software]-[LR5000 Utility]** to start the program.

The program starts automatically from the next Windows logon, and the icon appears in the task tray (notification area).

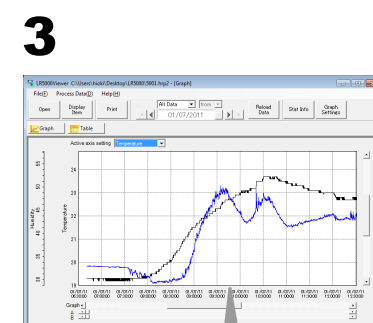


3 Importing (Saving) Recorded Data to a Computer, and Graph Display

Required Items: LR5091 or LR5092-20 and supplied USB cable



Data is saved to a file.



PC Utility Program Features

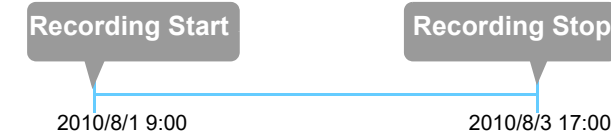
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Making Detailed Settings

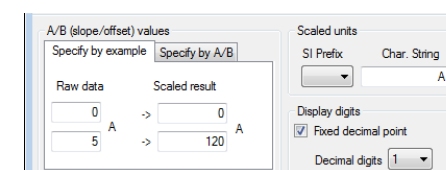
Configure settings on the LR5000 "Data Logger" series loggers, and on the LR5092-20 Data Collector. The PC utility program can access settings that cannot be accessed from the logger itself.

For example,

- Set recording start/stop method and timing to start and stop recording automatically at scheduled times (Timer Measurements).



- Measurement data can be freely scaled for display (Scaling).



- Set upper and lower thresholds so that measurements outside of the range cause [AL] (Alarm) to appear on the logger screen (Alarm Judgment).

- Add comments to measurement data.

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Processing Recorded Data

Process data imported to the computer.

- Freely scale for display (Scaling)
- Calculate electric power easily (using clamp logger measurement values)
- Calculate energy cost easily (using clamp logger measurement values)
- Calculate operating rate
- Integration
- Calculate dew-point temperature (using temperature/humidity logger measurement values)

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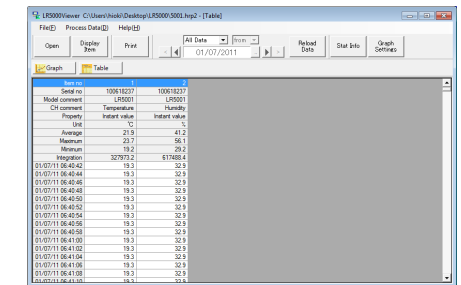
Organizing Recorded Data

Sort data imported to the computer.

- Copy (files between folders)
- Move (selected files between folders)
- Delete (selected files)
- Combine (multiple recording files into one, and save with new file name)
- Extract (data for a specified period, and save with new file name)

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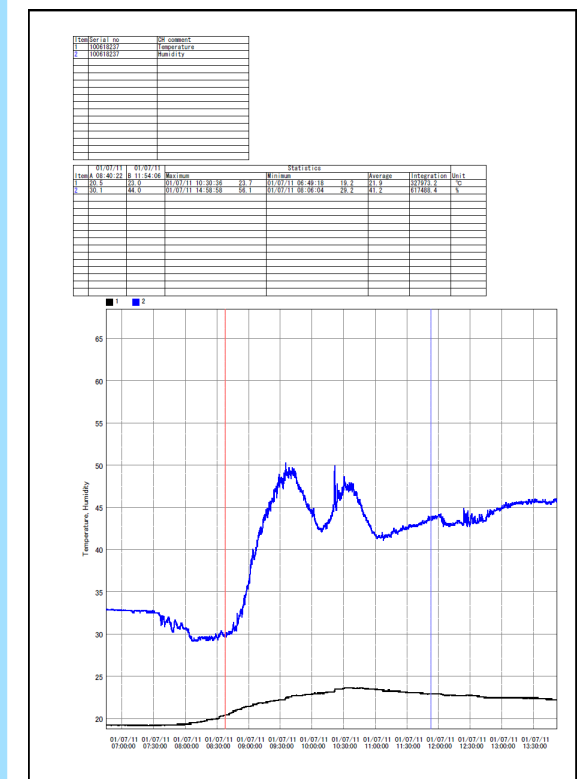
Displaying Recorded Data in a Table



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Printing Recorded Data

Example Graph Printout



■ See the Instruction manual for details.

