

# LR5041, LR5042, LR5043 VOLTAGE LOGGER

Operation Manual EN

Mar. 2021 Revised edition 4  
LR5041B981-04 21-03H



Thank you for purchasing the HIOKI  
LR5041, LR5042, LR5043 Voltage 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

## 1 Confirmation

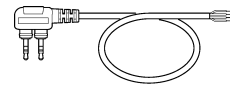
Confirm package contents, and prepare needed items.

### Logger and Accessories

LR5041, LR5042, or LR5043



LR9802 Connection Cable  
(Cable length: Approx. 1 m)



### Instruction manual

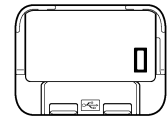
Refer to this manual for operating  
procedure details, or when problems  
occur.

### Stand

This is the logger  
stand. See the  
Instruction Manual  
for details.

LR6 alkaline battery  
(Pre-installed in the log-  
ger.)

### Option



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

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.

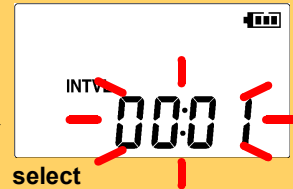
2 **+** **-** →

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 **REC** →

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

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

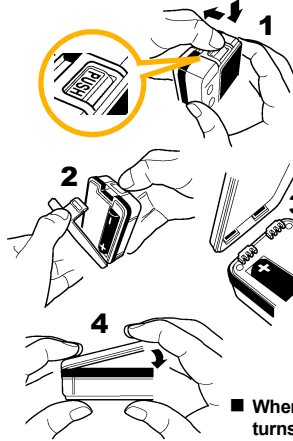


**REC** disappears when  
recording stops.  
If the stop method is set to  
**OFF**, recording stops  
automatically when mem-  
ory becomes full.

## 2 Preparations

Install the battery and connect the cable to the logger.

### Installing the Battery



1 Press the PUSH tab as  
shown, and pull the bat-  
tery cover back.

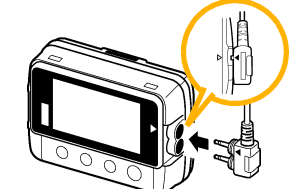
2 Install the battery as  
shown.

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

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

### Connecting a Connection Cable



Align the triangles on the plug  
body and in front of the cable  
jacks, and insert the plug  
securely. (Insert the protruded  
parts of the connecting cable  
into the holes of the device.)

Correct values are not displayed unless the plug is inserted all  
the way in.  
See the instruction manual for details about connecting the  
cable to an object to be measured.

## 4 Recording

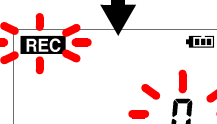
Before recording, install the logger and  
perform pre-measurement inspection.

(See the Instruction manual for details.)

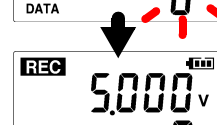
### Start



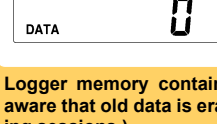
From the Measurement display, hold the  
**REC/STOP** button for two seconds.



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



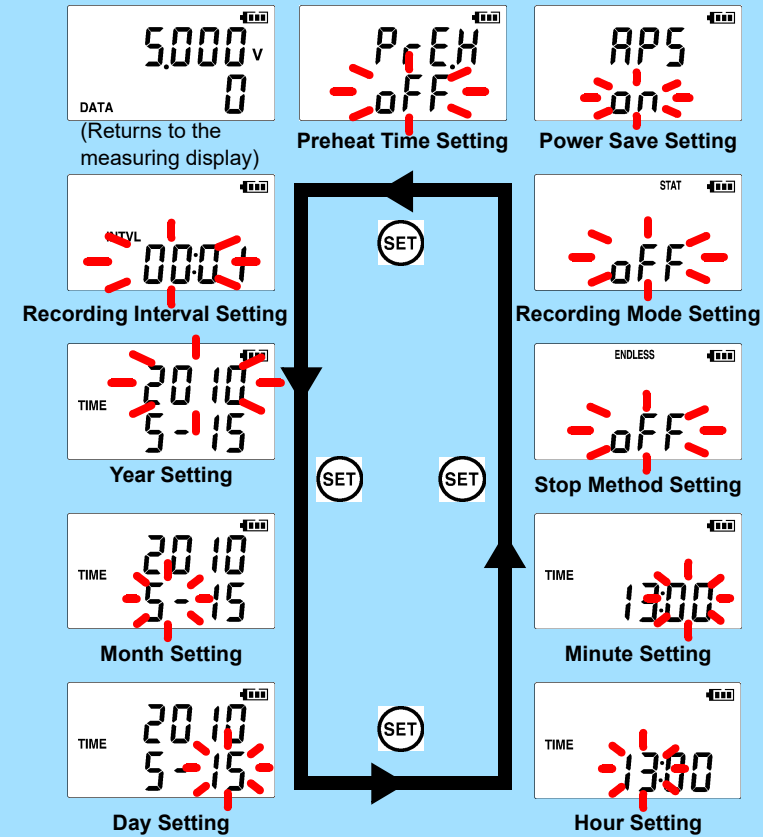
When the blinking stops and the data count is  
zeroed, recording starts.



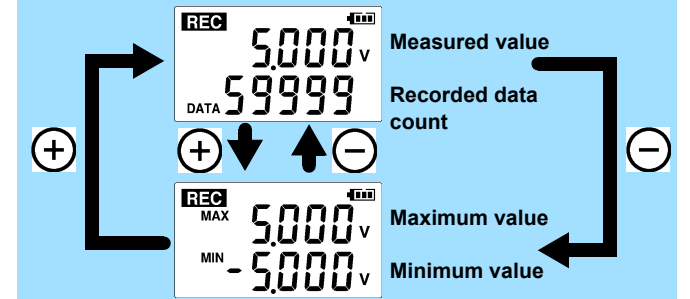
After one second, the measurement display  
reappears.

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

## Setting Display



## Measuring Display



### 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

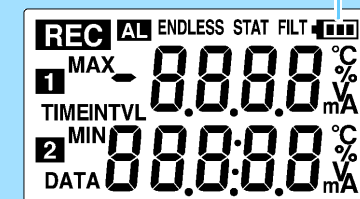
### MAX, MIN

Maximum and minimum values

### DATA

Recorded data count

### Battery Status Indicator



## Troubleshooting

### No measured value is displayed.

Is the cable plug inserted all the way in?

Verify the correct plug orientation, and insert it  
as far as possible.

If the values are not displayed despite these  
measures, the connection cable and 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?

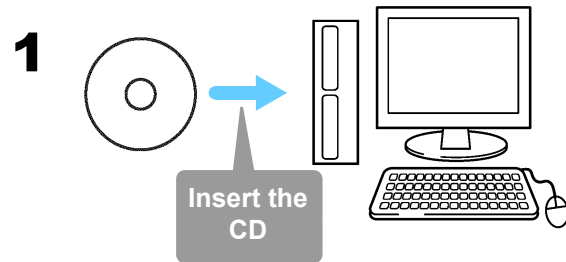
Install a new AA-size (LR6) alkaline battery.

# 5 Importing and Displaying Data on a Computer

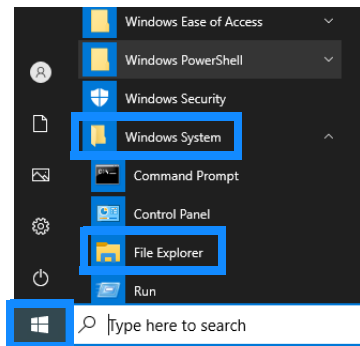
1

## Installing the PC Application Program

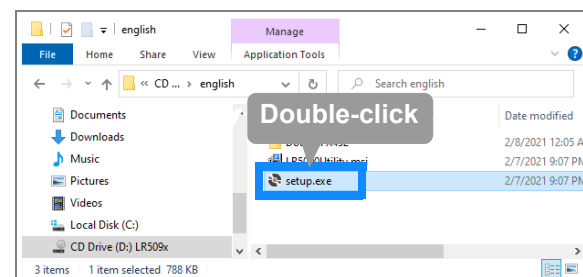
Required Items: Supplied CD



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)

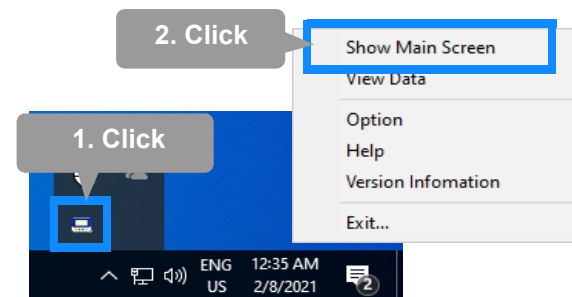
### What if the PC Utility program cannot be installed?

- 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.

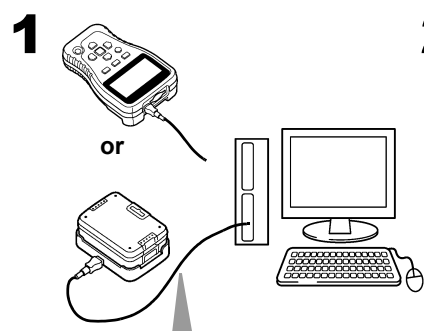
The program starts automatically from the next Windows logon, and the icon appears in the task tray (notification area).



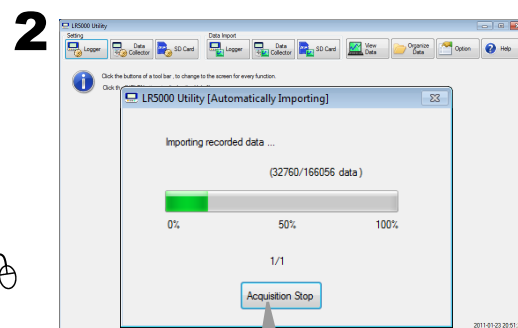
3

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

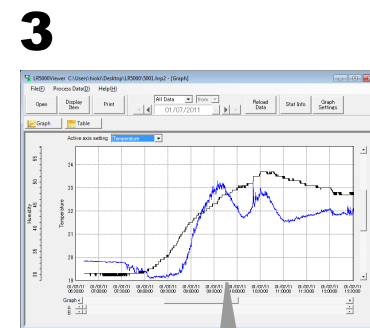
Required Items: LR5091 or LR5092-20 and supplied USB cable



Connect to the computer via USB cable



Data importing begins automatically. Data is saved to a file.



The viewer starts up automatically with a graph displayed

# PC Utility Program Features

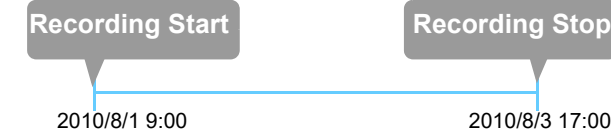


## Making Detailed Settings

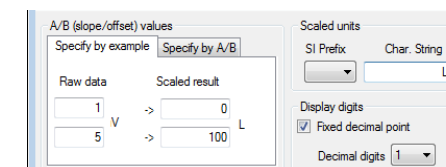
Configure settings on the LR5000 "Data Logger" series loggers, and on the LR5092-20 Data Collector. The PC utility program can access settings that cannot be accessed from the logger itself.

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.



## 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 duty cycle
- Integration
- Calculate dew-point temperature (using temperature/humidity logger measurement values)



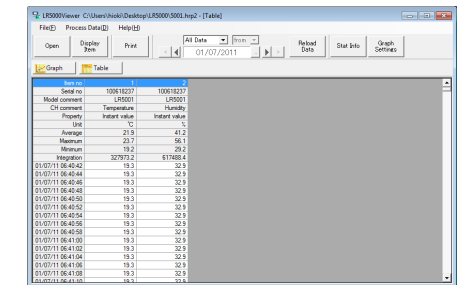
## Organizing Recorded Data

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)

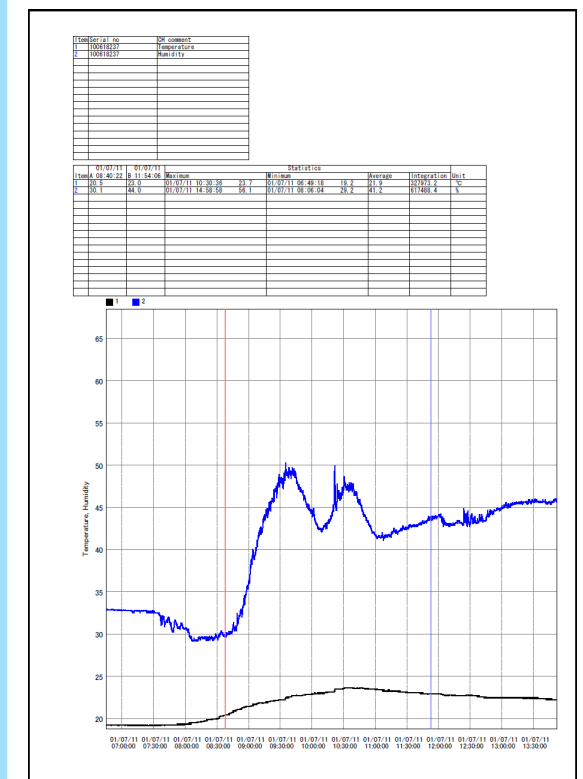


## Displaying Recorded Data in a Table



## Printing Recorded Data

Example Graph Printout



■ See the Instruction manual for details.

