LR8410-20

Wireless Logging Station

Measurement Guide

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LR8410B981-01 14-10H

Thank you for purchasing the HIOKI LR8410-20 Wireless Logging Station. This guide introduces the LR8410-20's basic operating procedure to first-time users. Before using the instrument, be sure to read the instruction manual carefully.
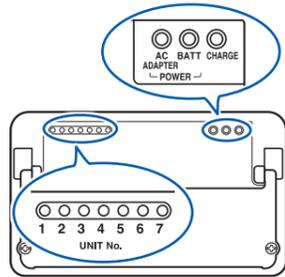
HIOKI

600408621

Operating Keys (Instrument)

● **Warning (ALM)**
Lights up when any of the four alarm channels satisfies the alarm conditions.

● **POWER**
Lights when powered on.

● **CHARGE**
Lights while charging the Z1007 Battery Pack.

● **WAVE/DATA**
Selects among Waveform/Numerical screen displays.
● **SET**
Displays the Settings screens, and switches among the screen tabs with each press.
● **FILE**
Displays file information.

● **SCROLL/CURSOR**
Select waveform scrolling or A/B cursor movement.
● **Left and Right Cursor keys**
Scroll waveforms and move A/B cursors.

● **SAVE**
Press to save data manually.

START and STOP measurement.
The LED (left of **START** key) lights green while measuring.

● **UNIT**
Switches input units.
● **CHAN**
Select channels.
● **MONITOR**
Shows the current input waveform and numerical values. Data is not captured to the instrument's internal buffer memory or external media (SD memory card or USB memory stick).
● **QUICK SET**
Selects Quick Set.
● **ESC**
Cancels the operation. Press and hold for 3 seconds to lock/unlock other keys.
·**Cursor Keys**
Moves the position of the cursor (blinking selection) on the screen.
● **ENTER**
Accepts displayed settings.

LED (Measurement Unit)

● **UNIT No. 1 to 7**
The LED for the registered unit number will light up. If the communications status is poor, the LED will flash.
● **AC ADAPTER**
Lights up when power is being supplied from the AC adapter or another external source.
● **BATT**
Lights up when power is being supplied from the Z1007 Battery Pack.
● **CHARGE**
Lights up when the Z1007 Battery Pack is being charged.

For more information about the wireless logger, see the wireless logger's User Manual.

Registering measurement units and wireless loggers with the instrument

STEP 1   Prep

1 Place the measurement unit or wireless logger close to the instrument.
Locate where there are no obstructions to wireless communications.

2 Connect an AC adapter or fully charged battery pack to the instrument and measurement unit.

3 Plug the AC adapter into an outlet and turn on the device.

Instrument   Measurement unit

The wireless logger will turn on automatically once the AC adapter is connected or batteries are installed.

Verify that the instrument's [POWER] LED and the measurement unit's [AC ADAPTER] or [BATT] LED are lit up.
Wireless logger: Check the ✺(Bluetooth icon) and ▮▮▮(Antenna icon).

4 **[STEP 1 Prep]** (**[QUICK SET]**) **is displayed.**
If the screen is not shown, press the **QUICK SET** key and select **[Unit Guide]**.
(Once the unit has been registered, the **[UNIT]** screen will be displayed the next time the instrument is turned on.)

Verify that all steps have been completed and select [Next >>]. (The unit{s} will be searched.)

ENTER

STEP 2   Search

Select how you wish to register measurement units (automatically or manually).

Automatic Register	Use when you wish to register all measurement units and wireless loggers that are discovered.
Manual Register	Select when you wish to register measurement units separately.
	Select when you wish to register a specific measurement unit.

< Automatic Register >

1 Select **[Automatic Register]**.
(**[Automatic Register]** is selected by default.)

ENTER

2 Select **[Next >>]**. (The unit{s} will be registered.)
Up to seven units will be registered in the order they were found.

Proceed to STEP 3 Unit Identifier.

< Manual Register >

1 Select **[Manual Register]**.

ENTER

2 Select **[Next >>]**. (The unit selecting screen will be displayed.)

3 Select **[Register]** for the measurement unit or wireless logger that you wish to register from the list.

4 Select **[Decision]**. (The unit{s} will be registered.)

STEP 3   Unit Identifier

Advice
Entry of unit ID is not required. However, it is recommended to enter an ID for each unit or wireless logger to make it easier to identify.

1 Select the **[Unit identifier]** box into which you wish to enter a comment.
If you do not wish to enter a comment, proceed to **STEP 4 Complete**.

ENTER

2 Enter a comment. (up to 16 single-byte characters)

3 Push the **START** key, or select **[OK]** on the bottom-left corner of the display.

ENTER

START

4 Select **[Next >>]**.

STEP 4   Complete

Select **[Complete]**.

ENTER

This completes the registration of the measurement unit{s}.

Preparing for measurement (installation and making connections)

1 **Install the measurement units.**

Verify that the registered unit No. LED lights.

Flashing	The communications status is poor. Move the measurement unit closer or remove obstructions to communications.
Off	No connection has been established. Move the measurement unit closer or remove obstructions to communications.

Wireless logger: Verify that the 🅱 (Bluetooth icon) and ▁▂▃ (antenna icon) are lit up.

🅱	Displayed	The unit can communicate with the instrument.
	Not displayed	The unit cannot communicate with the instrument. Press the power key once quickly to display the Bluetooth icon.
▁▂▃		Signal strength is indicated using a three-bar display. If possible, position the wireless logger so that all three antenna barsare shown.

2 **Connect each measurement unit to the object to be measured.**

Connect the connection cable and clamp sensors to the wireless logger and to the measurement target.

Resolving Communication Problems

Verify by selecting **[QUICK SET]** - **[Communication ERR.]**.

	1	**Is the measurement unit or wireless logger on?**
Instrument can't be searched and registered	**2**	**Isn't duplication connection made?**
	3	**Is the instrument capable of communicating with the measurement unit or wireless logger?**
	4	**Cycle the instrument's power.**
Communication fault during measurement	**1**	**Verify the status of the unit.**

> If the communications problem persists despite performing the steps above, the instrument or measurement unit may be malfunctioning. Please contact your authorized Hioki distributor or reseller.

Setting measurement conditions and starting measurement

1 Select **[QUICK SET]** - **[Config Guide]** - **[Set new]**.

2 Set each parameter as desired. Select **[Next >>]** after setting each step.

Step 1	Setting measurement conditions
Step 2	Auto Save
Step 3	Analog Set
Step 4	Setting the display range
Step 5	Setting scaling
Step 6	Start Trigger Set
	• To start measurement, proceed to procedure **3**. • To set Steps 7 to 9 (arbitrarily), select **[Use trigger or alarm]**.
Step 7	Stop Trigger Set
Step 8	Alarm Set
Step 9	Pre-trigger

ENTER

Select if performing Steps 7 to 9.

3 Select **[Start measurement]**.

4 After **[Start measurement by Start key.]** dialog is displayed, press **START** key.

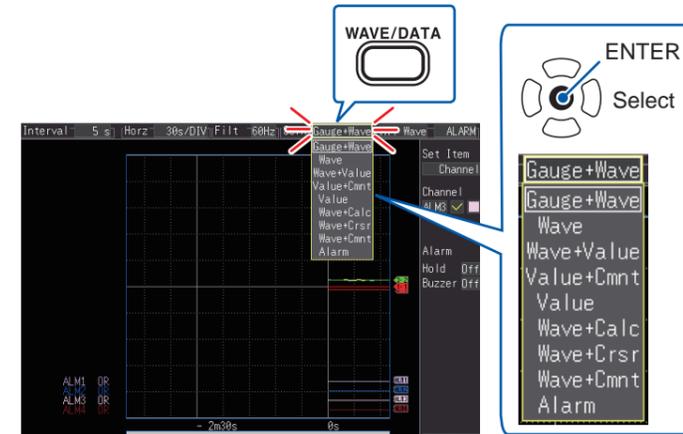(Press the **ENTER** key to cancel the settings and return to the SETTINGS screen.)

START

Performing measurement

1 **The measurement will begin when pressing the START key.**

• To stop recording, press the **STOP** key.
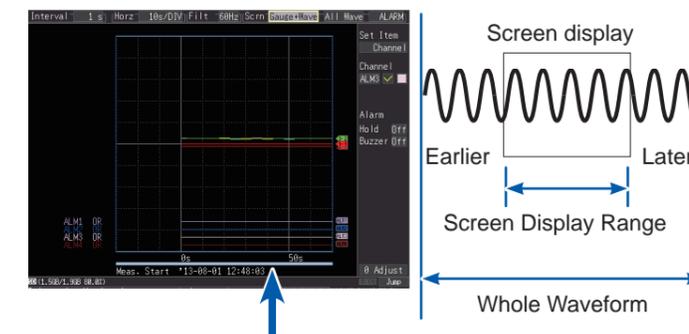
2 **Viewing the waveform and value.**

• Press **WAVE/DATA** key to display the **[Waveform/Value]** Screen.
The screen will toggle each time the key is pressed. (You can also select the screen with the **cursor** keys.)
Gauges can be displayed, and numerical values and waveforms can be viewed simultaneously.
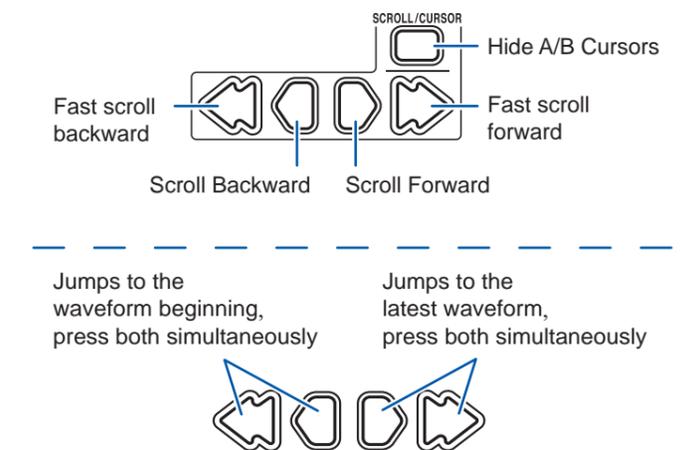
WAVE/DATA

ENTER
Select

Gauge+Wave
Gauge+Wave
Wave
Wave+Value
Value+Cmnt
Value
Wave+Calc
Wave+Crsr
Wave+Cmnt
Alarm

3 **Viewing the measurement waveform.**

Scrolling the Waveform

Screen display

Earlier — Later

Screen Display Range

Whole Waveform

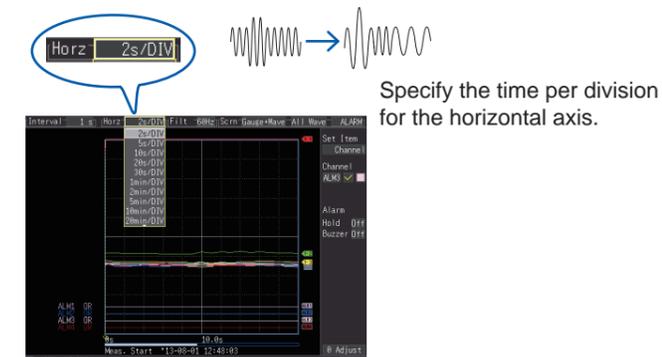From the scroll bar you can verify which portion of the overall measured waveform is being viewed.

Scrolling Methods

SCROLL/CURSOR

Hide A/B Cursors

Fast scroll backward

Fast scroll forward

Scroll Backward   Scroll Forward

Jumps to the waveform beginning, press both simultaneously

Jumps to the latest waveform, press both simultaneously

Zooming the Waveform View

Zooming (Magnifying and Reducing) the Horizontal Axis

Horz 2s/DIV

Specify the time per division for the horizontal axis.

> **Advice**
> • Use the A/B cursors to view measured values at particular times.
> • Average, maximum, and minimum values can be calculated and displayed while measuring.