HIOKI

MEMORY HiLOGGER LR8450

NEW

For multi-signal data integration

Electrical signals
Voltage, current, resistance

Environmental signals
Temperature, humidity

Mechanical signals
Strain, vibration

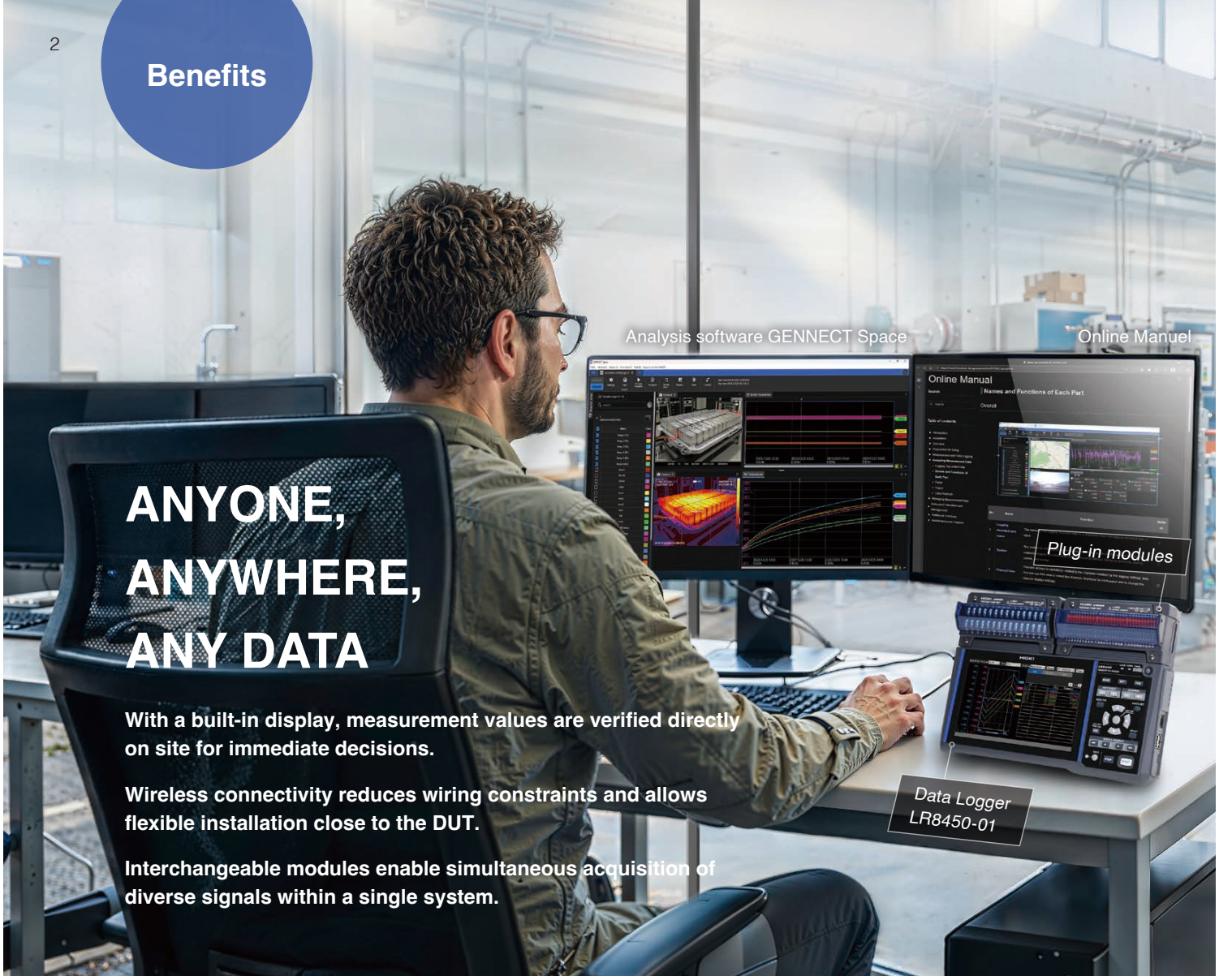
Vehicle communication
CAN, CAN FD

A wireless data logger built for a flexible test environment

Portable. Visible. On Site.

CE 3year Warranty

Benefits



ANYONE, ANYWHERE, ANY DATA

With a built-in display, measurement values are verified directly on site for immediate decisions.

Wireless connectivity reduces wiring constraints and allows flexible installation close to the DUT.

Interchangeable modules enable simultaneous acquisition of diverse signals within a single system.

Prevent measurement errors on-site and eliminate rework

Stand-alone operation with built-in display

From setup to recording, the system operates independently without a PC. With four plug-in slots and an integrated screen, values and waveforms can be checked immediately after wiring. This reduces the risk of discovering setup errors only after long-duration testing has begun, helping to avoid retesting and unnecessary labor loss.

A modular data logger built for flexible configurations

Eight interchangeable modules

The system supports eight types of modules, for various phenomena including voltage, current, resistance, temperature, vibration, strain, and CAN. Simply swap modules according to the measurement task to use a single logger across multiple applications. There is no need to prepare dedicated instruments for every test, reducing both capital investment and equipment management costs.

Freedom from wiring constraints for faster test preparation

Wireless distributed logging up to 30 m (line of sight)

Wireless modules can be positioned up to 30 meters from the logger. Placing modules close to the DUT shortens wiring length, reducing setup time and the risk of noise interference and connection errors. This improves efficiency for in-vehicle measurements and laboratory environments with measurement stations throughout the workspace.

Reliable design that protects data, even during wireless interruptions

Wireless modules with built-in backup memory

If wireless communication is interrupted, the module's internal backup memory stores up to five minutes of data and automatically retransmits it once communication is restored. Both the logger and modules can operate on battery power, providing added security during long-term or unattended measurements, even in the event of unexpected power loss.

Product lineup

More flexibility for diverse applications

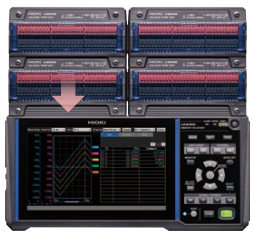
Configure the modules to match your measurement needs.
Even in field environments where DUTs and installation conditions frequently change, you can operate the system efficiently and adapt it quickly to new requirements.

Two logger models

Main Units

Plug-in module model
LR8450

Plug-in



LR8450

Up to 4 plug-in modules

- Compatible with 8 types of plug-in modules
- Up to 120 channels*1
- Swap modules according to the application

*1: When using four U8552 modules

Wireless LAN model
LR8450-01

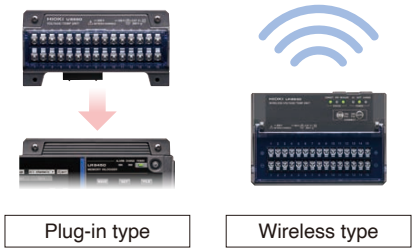
Plug-in | Wireless

LR8450-01

Up to 11 modules

- Supports up to 4 plug-in modules and 7 wireless modules
- Up to 330 channels*2
- Automatic sampling synchronization between plug-in and wireless modules*3

*2: When using four U8552 modules and seven LR8532 modules
*3: Even under stable wireless conditions, sampling timing may shift by approximately 20 ms or more, depending on the RF environment.



Plug-in type | Wireless type

8 measurement modules

Measurement Modules

Model name	Plug-in	Wireless	Input	Number of channels	Data refresh interval
VOLTAGE/TEMP UNIT	U8550	LR8530	Voltage, thermocouple, humidity (U8550)	15 ch	10 ms to 10 s
UNIVERSAL UNIT	U8551	LR8531	Voltage, thermocouple, humidity, RTD, resistance	15 ch	10 ms to 10 s
VOLTAGE/TEMP UNIT	U8552	LR8532	Voltage, thermocouple, humidity (U8552)	30 ch	10 ms to 10 s (1 to 15 ch) 20 ms to 10 s (16 to 30 ch)
HIGH SPEED VOLTAGE UNIT	U8553	LR8533	Voltage	5 ch	1 ms to 10 s
STRAIN UNIT	U8554	LR8534	Voltage, strain (strain-gauge-type converter, strain gauge)	5 ch	1 ms to 10 s
CAN UNIT	U8555	LR8535	CAN, CAN FD	2 ports (up to 500 ch)	10 ms to 10 s
CURRENT MODULE	U8556	LR8536	Current sensor (sold separately)	5 ch	1 ms to 10 s
THERMISTOR MODULE	U8557	LR8537	Thermistor, resistance	15 ch	50 ms to 10 s

Wireless Measurements, Multiple Locations

Supported: LR8450-01

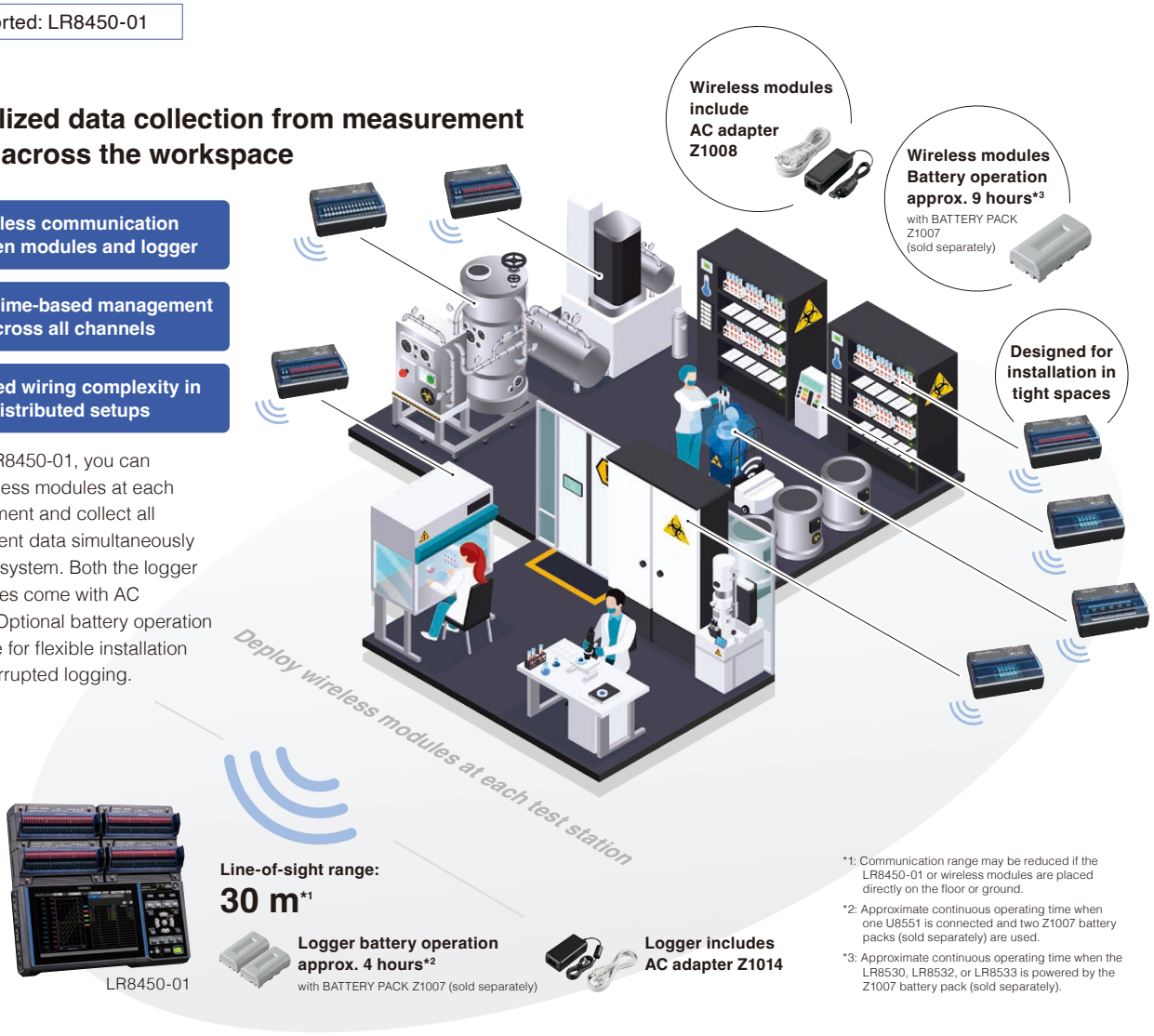
Centralized data collection from measurement points across the workspace

Wireless communication between modules and logger

Unified time-based management across all channels

Reduced wiring complexity in distributed setups

With the LR8450-01, you can install wireless modules at each test equipment and collect all measurement data simultaneously in a single system. Both the logger and modules come with AC adapters. Optional battery operation is available for flexible installation and uninterrupted logging.



*1: Communication range may be reduced if the LR8450-01 or wireless modules are placed directly on the floor or ground.

*2: Approximate continuous operating time when one U8551 is connected and two Z1007 battery packs (sold separately) are used.

*3: Approximate continuous operating time when the LR8530, LR8532, or LR8533 is powered by the Z1007 battery pack (sold separately).

Wireless connection between the logger and PC

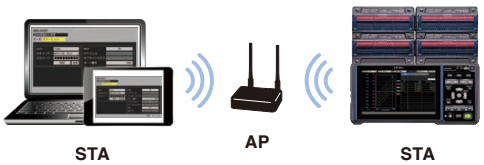
The wireless module cannot be used while the logger is wirelessly connected to a PC.

Access point mode

Direct wireless LAN connection to a PC

Station mode

Connection via a standard wireless access point



Operable from anywhere

The LR8450-01 can connect directly to a PC or tablet via wireless LAN. Measurement setup, start and stop control, real-time data monitoring, and data retrieval can all be performed through a standard web browser. No dedicated software installation or programming is required for remote monitoring.

Remote operation over a shared network

The LR8450-01 can connect to an existing wireless access point (AP) to extend communication range. By linking to a PC on the same network, measurements can be monitored and managed remotely from different locations within the facility.

PC Software
GENNECT Space

Supported: LR8450, LR8450-01

Analysis software that integrates data from multiple instruments and links it to real-world events

GENNECT Space

Observe data and phenomena on a unified time axis

1 ms interval	3000 ch	30 instruments
LAN connection	CAN supported	Free software

Video captured with a standard USB camera or thermal camera can be synchronized with recorded measurement data. By viewing numerical changes alongside what physically occurred at that moment, you can understand the situation intuitively and in context.

Available for download

Explore your measurement space with practical example data.

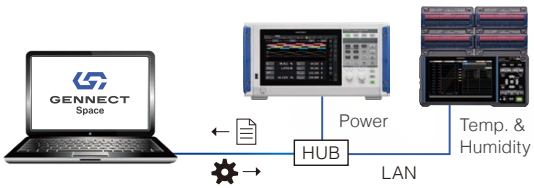
On the download page, please search for this application using “GENNECT Space” or “SF4300”.

https://cloud.gennect.net/dl

For Windows PC
Install Gennect Space SF4300 on your Windows PC

Data logging and real-time display

Real-time measurement and monitoring on a PC



Integrate multiple instruments without coding

Gennect Space is dedicated PC software for integrating data from multiple Hioki instruments. It enables high-speed data logging without programming skills.

- Simultaneous logging as quickly as 1 ms when combined with loggers, power analyzers, and other instruments
- Real-time graphical display of logging data
- Synchronized recording with video and map data*1 using standard USB cameras, thermal cameras, and GPS antenna
  *1: In Version 1.0, map data may not be available in certain regions (China).
- Save logged data in binary (.grcd) or text (.csv, .txt) formats
- Change instrument settings remotely

Voltage and Temperature measurement

15 channels: screw terminal

Plug-in
Voltage
Temperature
Thermocouple
Humidity

VOLTAGE/TEMP UNIT
U8550

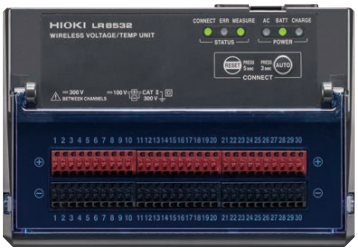
Wireless
Voltage
Temperature
Thermocouple

WIRELESS VOLTAGE/TEMP UNIT
LR8530

30 channels: push-button terminal

Plug-in
Voltage
Temperature
Thermocouple
Humidity

VOLTAGE/TEMP UNIT
U8552

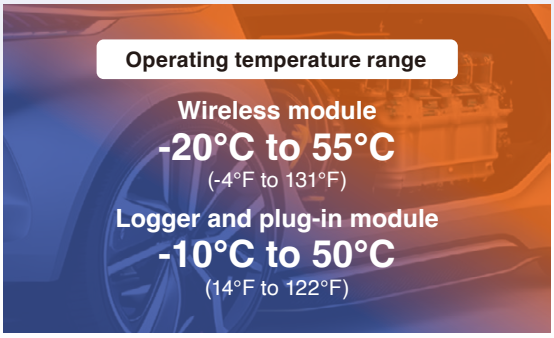


Wireless
Voltage
Temperature
Thermocouple

WIRELESS VOLTAGE/TEMP UNIT
LR8532

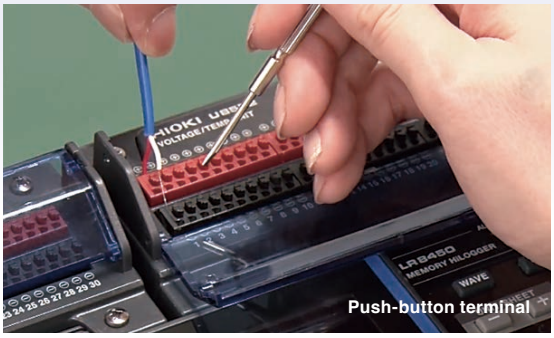
Basic specifications

Input voltage	±100 V DC
Input voltage	K, J, E, T, N, R, S, B, C
Humidity	5.0 to 95.0% RH, when using humidity sensor Z2000 (sold separately)
Data refresh interval	U8550, LR8530: 10 ms to 10 s (1 to 15 ch) U8552, LR8532: 10 ms to 10 s (1 to 15 ch), 20 ms to 10 s (16 to 30 ch)



Designed for harsh temperature environments

For measurements inside environmental test chambers or vehicle cabins under low- and high-temperature conditions, the wireless modules are specified for an operating temperature range of –20°C to 55°C (–4°F to 131°F). Because they can be placed directly inside the chamber, wiring length can be minimized while evaluating products under conditions close to real-world use.



Terminal options to suit your application

Push-button terminals enable quick wiring without a screwdriver, helping reduce labor time.
Screw terminals provide secure fastening, lowering the risk of disconnection or poor contact. This also helps prevent measurement issues such as short circuits caused by loose voltage leads during testing.

Voltage and Temperature measurement

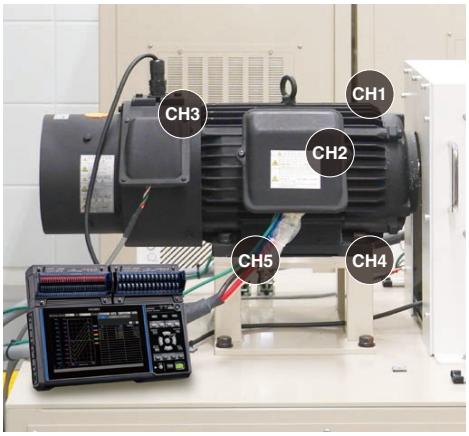
15 channels: accurate temperature measurement with RTD sensors

Plug-in
Voltage
Resistance
Temperature
Thermocouple
RTD
Humidity

UNIVERSAL UNIT
U8551

Wireless
Voltage
Resistance
Temperature
Thermocouple
RTD
Humidity

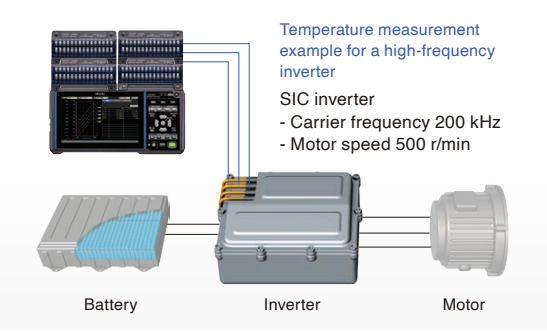
WIRELESS UNIVERSAL UNIT
LR8531



As part of durability and performance testing, record temperature changes under a wide range of operating conditions. With a maximum channel-to-channel voltage and maximum rated voltage to ground of DC 300 V, thermocouples can be attached directly to metal surfaces with voltage present for measurement. For higher-accuracy temperature measurement, use RTD sensors.

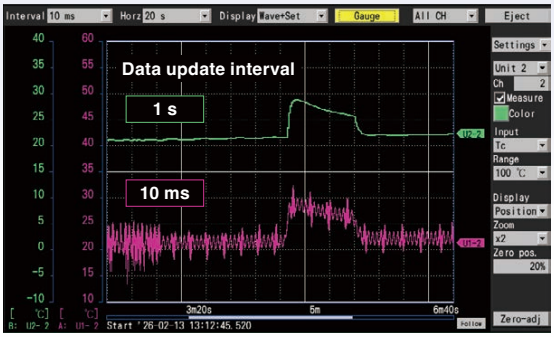
Basic Specifications

Input voltage	±100 V DC
Thermocouple	K, J, E, T, N, R, S, B, C
RTD	Pt100, JPt100, Pt1000
Resistance	0 to 200 Ω, ranges of 10 Ω, 20 Ω, 100 Ω, 200 Ω
Humidity	5.0 to 95.0% RH when using humidity sensor Z2200 (sold separately)
Data refresh interval	10 ms to 10 s (1 to 15 ch)



Stable measurement even in high-voltage and high-frequency environments

Even in environments where high voltage and high frequency currents are applied (e.g., in the development of inverters and motors), the LR8450 is not easily affected by noise and can perform stable measurements. High-sensitivity data that handles minute changes, such as temperature, can also be acquired with high reproducibility and minimal variation.

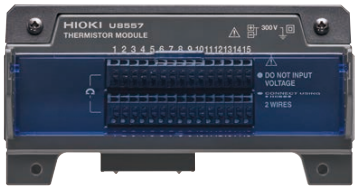


Data update interval settings suitable for the measurement target

Data update intervals are configured independently for each measurement module. When measuring high-speed phenomena such as vibration or switching signals together with temperature, set a slower update interval for the temperature channels. This reduces susceptibility to noise and ensures stable, reliable readings.

Temperature measurement with thermistors

15 channels: compatible with a wide range of thermistors

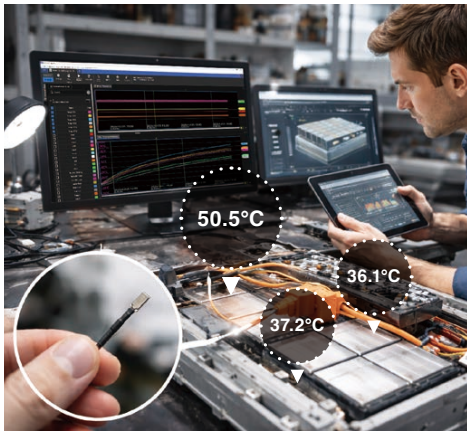


Plug-in
Temperature
Thermistor
Resistance

THERMISTOR MODULE
U8557

Wireless
Temperature
Thermistor
Resistance

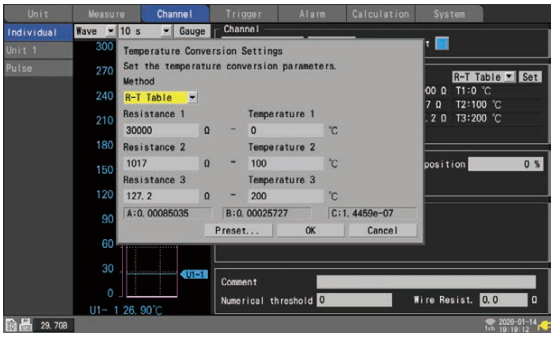
WIRELESS THERMISTOR MODULE
LR8537



Thermistors are often integrated into products to directly monitor internal temperature and operating status. The thermistor module supports design validation of products equipped with thermistors, as well as verification of temperature detection accuracy and functional performance.

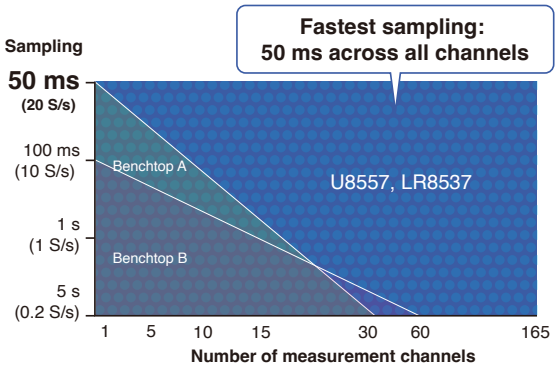
Basic Specifications

Thermistor	0 to 200 kΩ
Resistance	0 to 200 kΩ, ranges of 2000 Ω, 20 kΩ, 200 kΩ
Data refresh interval	50 ms to 1 s (1 to 15 ch)



Supports a wide range of thermistors

The thermistor module supports thermistors up to 200 kΩ. Temperature conversion can be configured using either the Steinhart–Hart equation or the B-parameter equation, depending on the thermistor characteristics. This flexibility minimizes sensor limitations and enables a broad range of evaluation and validation applications.

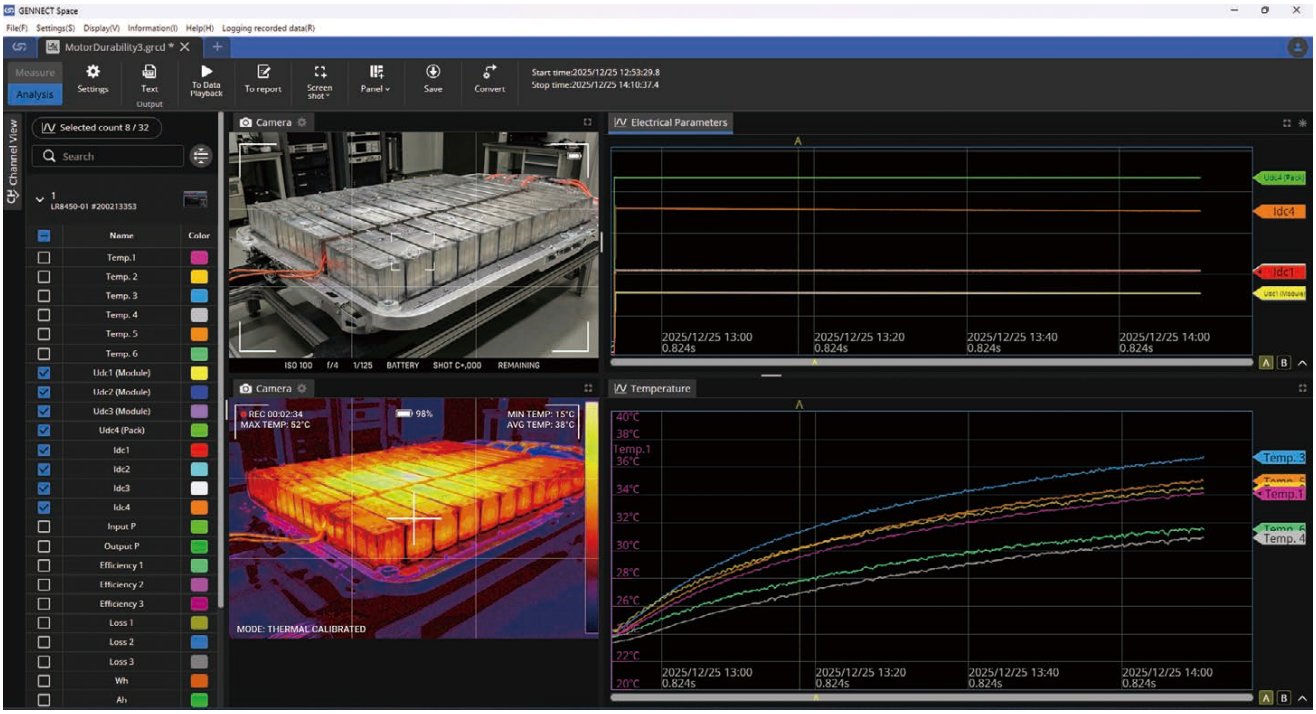


Multi-channel, high-speed sampling

All 15 channels measure simultaneously at intervals as fast as 50 ms. Expanding the system with up to 11 modules increases capacity to 165 channels without performance degradation. Even when the number of measurement points increases, temperature data can be recorded in synchronization with the BMS data update cycle of the battery pack.

Measurement application

GENNECT Space



Intuitive data analysis with synchronized video and thermal imaging

Gennect Space synchronizes data logger and power analyzer measurement data with video from a USB camera or thermal camera connected to a PC. By reviewing numerical data together with visual and thermal imaging, temperature distribution and changes can be understood intuitively during and after long-duration tests. This makes it easier to identify behavior and trends that are difficult to interpret from numbers alone, improving analysis and evaluation efficiency.

Battery pack evaluation

- Measurement of battery cell temperature distribution
- Verification of BMS thermistor measurements
- Cell temperature monitoring during charge and discharge testing

Motor durability testing

- Internal motor temperature measurement
- Motor vibration measurement
- Resistance measurement of built-in thermistors

Mechanical signal measurement

5 channels: mechanical signal recording, such as pressure sensors

Plug-in

Voltage

HIGH SPEED VOLTAGE UNIT

U8553

Wireless

Voltage

WIRELESS HIGH SPEED VOLTAGE UNIT

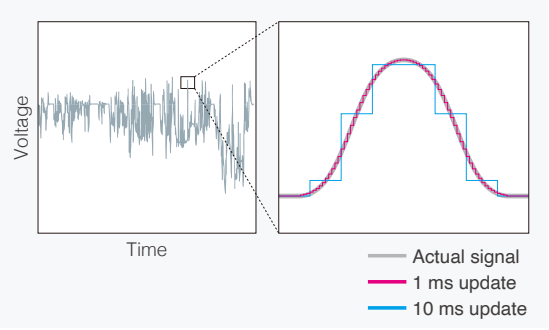
LR8533

Mechanical signals such as pressure and load are key indicators that directly reflect the condition of equipment and systems. When recorded together with electrical signals and temperature data, they allow evaluation not only of what happened, but also why it happened, by correlating events on a common time axis.

Basic Specifications

Input voltage	±100 V DC
Data refresh interval	1 ms to 10 s (1 to 5 ch)

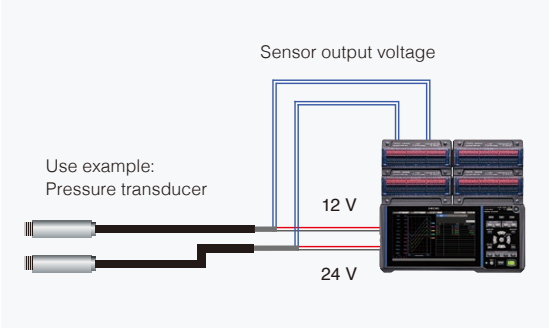
Evaluate pressure fluctuations and response delays over time



High-speed sampling captures transient changes

With sampling down to 1 ms, rapid changes in signals from pressure sensors and other mechanical sensors can be recorded reliably. The measurable signal frequency is typically in the range of several tens of hertz, making it suitable for analyzing dynamic mechanical behavior.

No separate sensor power supply required



Integrated power supply for external sensors

The logger includes two standard output terminals for powering external sensors. These can be used directly to drive pressure transducers and similar devices.
OUTPUT 1: 5 V, 12 V, 24 V (100 mA)
OUTPUT 2: 5 V, 12 V (100 mA)

Mechanical signal measurement

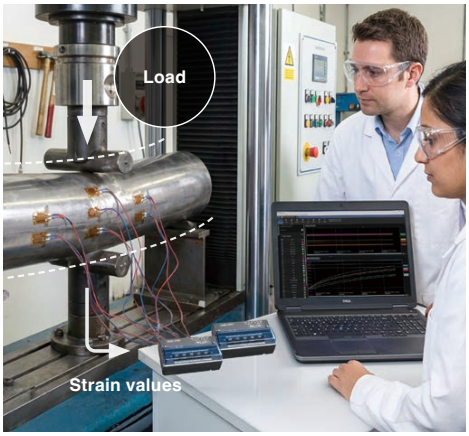
5 channels: measurement of strain gauge sensors

Plug-in
Strain gauge
Voltage
±0.5 V DC

STRAIN UNIT
U8554

Wireless
Strain gauge
Voltage
±0.5 V DC

WIRELESS STRAIN UNIT
LR8534

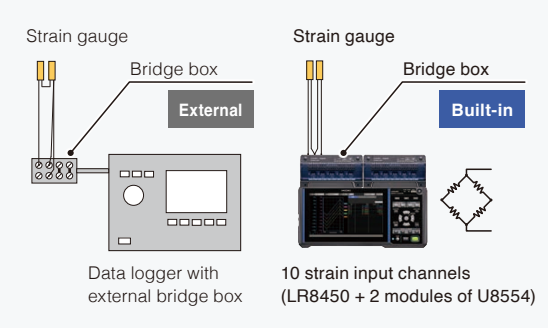


Strain refers to the deformation that occurs in a material or structure when stress or load is applied. By measuring strain, you can evaluate how a structure responds to load, identify mechanical limits, and detect early signs of abnormal conditions before damage occurs.

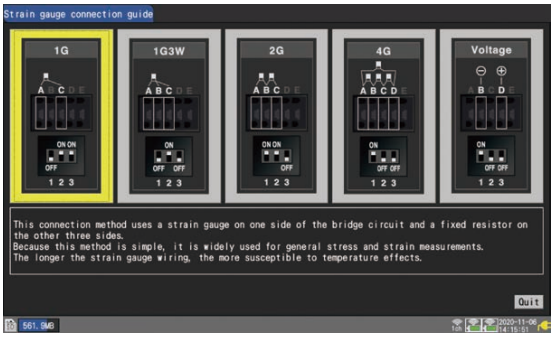
Basic Specifications

Strain	Strain-gauge-type converter	
	Strain gauge	for 1-gauge and 2-gauge method, 120 Ω (external bridge box required for 350 Ω) for 4-gauge method, 120 Ω to 1 kΩ
Data refresh interval	1 ms to 10 s (1 to 5 ch)	

Acquire strain data without interrupting the test



Connect various strain sensors with confidence



Built-in bridge for direct strain gauge connection

An integrated bridge circuit allows strain gauges to be connected directly to the input terminals. No external amplifier or converter is required, enabling a simple measurement setup. Shorter wiring reduces susceptibility to noise in low-level strain signals and lowers the risk of disconnection, helping prevent unexpected test interruptions.

Guided configuration for easy setup

The module supports a wide range of strain sensors, including 1-gauge (2-wire and 3-wire), 2-gauge, and 4-gauge configurations; and strain-gauge-based transducers. Setup is guided by the configuration menu, and switching the module's selector is all that is required to complete the connection.

Mobility measurement

2 ports: CAN or CAN FD measurement

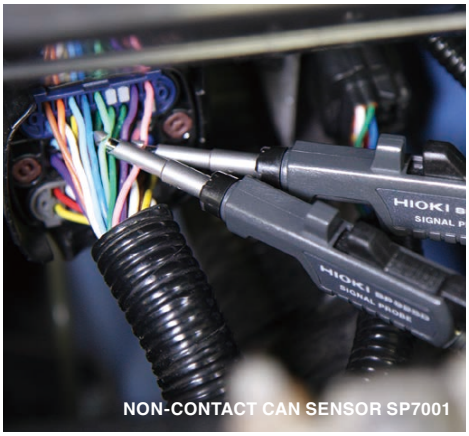
Plug-in
CAN
CAN FD
Input/output

CAN UNIT
U8555

Wireless
CAN
CAN FD
Input only

WIRELESS CAN UNIT
LR8535

Streamline ECU evaluation



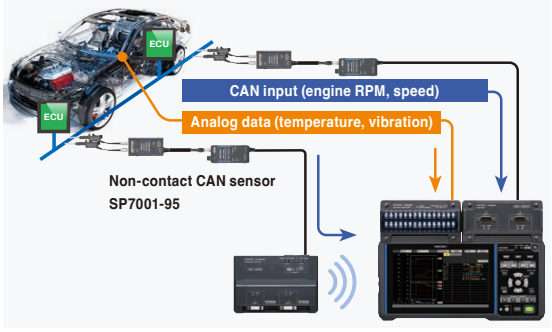
In addition to CAN measurement modules, Hioki offers the proprietary non-contact CAN sensor SP7001. Using the SP7001, detect CAN and CAN FD signals directly through the cable insulation. This eliminates the need to strip wires or use branch cables, significantly reducing wiring time and effort.

Basic Specifications

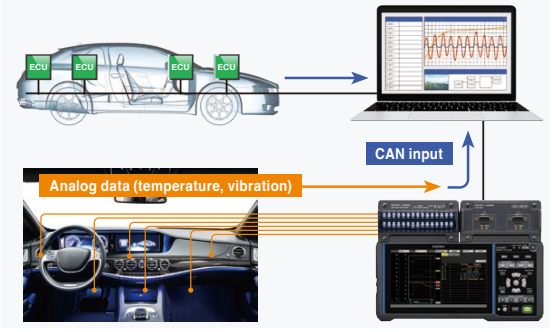
CAN	CAN (ISO11898), CAN FD (ISO11898), CAN FD (non-ISO)
Data refresh interval	10 ms to 10 s
Number of channels	50 ch (10 ms sampling) 500 ch (100 ms sampling)

Connection limitations
A maximum of four CAN modules can be connected to the main unit.

Synchronize vehicle behavior and control status



Integrate voltage and temperature data into higher-level systems



Acquire CAN data together with analog measurements

CAN/CAN FD data output from ECUs and control units can be converted into analog waveforms and displayed in real time. Vehicle speed, motor speed, and control signals can be recorded on the same time axis as analog measurements such as voltage and temperature. One module can receive up to 500 IDs (at a 100 ms recording interval).

Output analog measurements as CAN signals

The U8555 can output analog measurement values, such as voltage and temperature, as CAN signals with data update cycles as fast as 1 ms. Transmitting data over CAN enables integration and centralized management within higher-level systems that handle ECU and system CAN communication.

CAN signals output is available only with the U8555.
The LR8535 does not support CAN output.

Mobility measurement

5 channels: current measurement

Plug-in

Current

CURRENT MODULE
U8556

Wireless

Current

WIRELESS CURRENT MODULE
LR8536

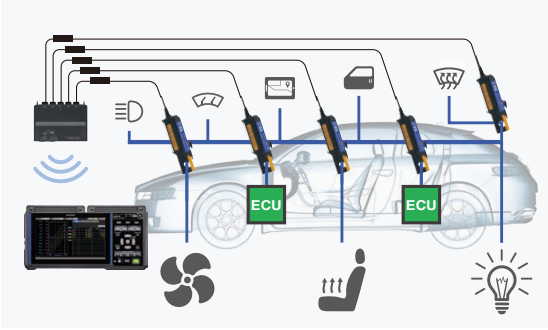
Current sensors tailored to your measurement scenario

Select clamp-on current sensors to match your application, from low-level currents to high-current systems. With a wide lineup ranging from 2 A to 6,000 A rated current, the system supports applications from vehicle ECU evaluation to high-current power line measurements.

Basic specifications

Current range	Refer to the current individual sensor's rating
Measurement item	Instantaneous value, RMS value (switchable)
Data refresh interval	1 ms to 10 s (1 to 5 channels)

Measure multiple circuit currents without modifying vehicle wiring



Multiple current measurements

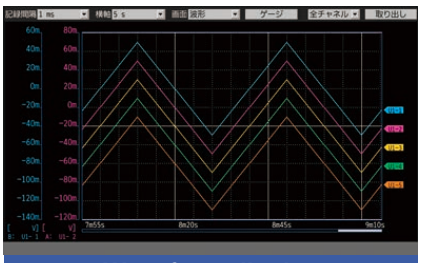
By connecting Hioki clamp current sensors, current measurement can be performed without cutting or altering wiring. One module supports up to five current sensors simultaneously, enabling multi-channel recording of ECU or onboard device consumption. This makes the system suitable for in-vehicle evaluation and measurements on existing systems.

Stable long-term measurement with low-drift sensors

Long-duration measurement with low-drift current sensors

Hioki clamp current sensors offer minimal offset drift due to ambient temperature changes, making them well suited for long-duration measurements. Continuous monitoring of ECU and electrical device current consumption helps identify early signs of abnormal behavior and changes in power usage.

Interfaces

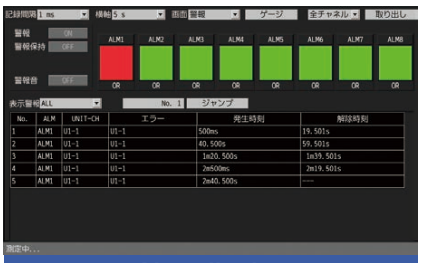


Waveform display

Clear visualization of the waveforms

Numerical Display

Instantaneous and maximum values can be checked on one screen



Alert display

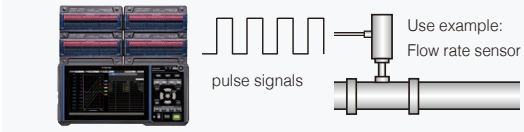
Graphical indication of alert status

Clear visualization

Waveform + numeric display | **XY + numeric display**

View waveforms while confirming key values simultaneously

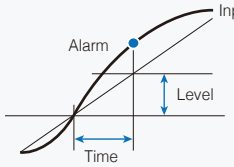
External control terminals and interfaces



8 channel pulse measurement

Motor speed, flow rate integration, etc.

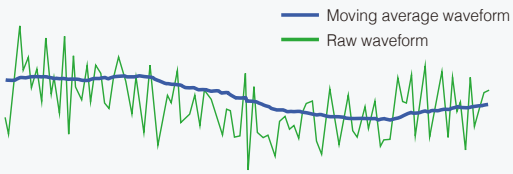
In "Revolve" mode, you can monitor production equipment by measuring the variations in revolution speed of motors or drills. In "Count" mode, you can identify operation status by acquiring integrated power or flow rate.



8 alarm output channels

Useful in preventive maintenance

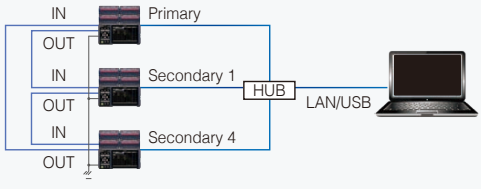
You can set alarm output for eight channels. You can set a level, a window, a slope, and a logic pattern on channels you wish to monitor.



Calculation example: moving average

Numerical and waveform calculation function

A wide range of calculations is available, including maximum and minimum values, ON/OFF time, event count, and duty cycle. The logger performs numerical and waveform calculations during measurement, and displays and records the results in real time as dedicated channels.

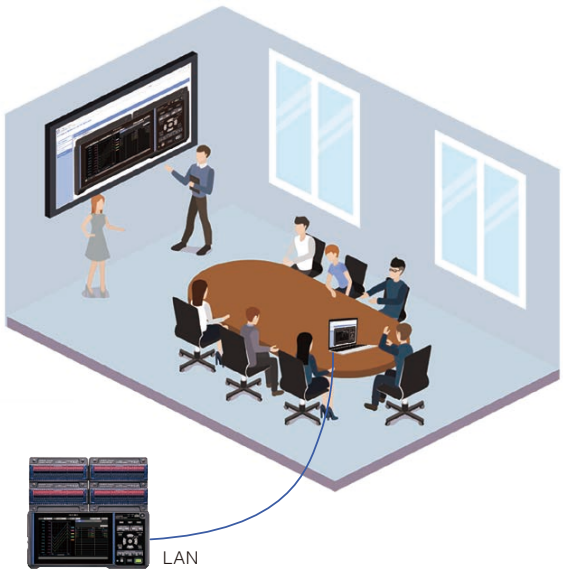


600 CH Analog Synchronous Sampling

Connect and measure with up to 5 modules

Synchronized sampling of up to 5 plug-in modules (600 analog channels) can be measured when multiple LR8450's external sync terminals (SYNC.IN, SYNC.OUT) are connected. (This function cannot be used when wireless modules are connected.)

Remotely control and capture data on a PC



FTP server function

Download data files onto a PC

Your PC can get files from inside the SD memory card or USB drive connected to the LR8450/LR8450-01.

FTP client

Automatically transfer data files to an FTP server

Automatically transmit data files to an FTP server from the SD memory card or USB drive inserted to the LR8450/LR8450-01.

HTTP server function

Control the instrument remotely from a PC

Use a standard Web browser to control the LR8450/LR8450-01, start and stop measurement, then enter comments.

NTP client

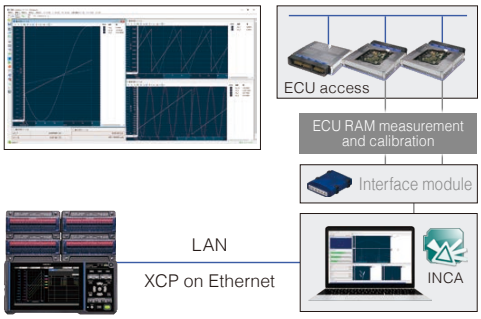
Synchronize the time, correct the sampling interval

You can synchronize the clock of the LR8450 main unit with an NTP server on the network. This corrects the sampling timing during measurement, minimizing the discrepancy between the actual time and the sampling time.

Use with third-party software

Output measured values using XCP on Ethernet

The LR8450 supports XCP Secondary operation based on the XCP protocol, a standard developed by the Association for Standardization of Automation and Measuring Systems (ASAM). You can control the start and stop of measurements and acquire measured values using an XCP Primary. (Measured values from CAN modules cannot be output.)



Load data using MDF-compatible waveform viewers

Current, voltage, temperature, strain, CAN, and other measurement data captured by the LR8450 can be saved in the Measurement Data Format (MDF) and loaded by other software that support the format.

Commercially available software

FAMOS

- More than 400 calculation processing variables
- Easy report creation functionality

FlexPro

- Functionality ranging from searching and loading of data to analyzing and creating of reports
- Dialog-based interface

NI DIAdem

- High-speed search and processing of large volumes of data
- Share analysis templates within your company

Logger Utility

Download from Hioki website.

Collect data at sampling speeds as fast as 10 ms on a PC*

*Real-time measurement and viewing of waveform data from CAN modules U8555 and LR8535 are not supported. Please use the GENNECT One software for real-time viewing of CAN data from the U8555 and LR8535.

10 ms interval | **600 ch** | **5 loggers** | **LAN/USB connection** | **CAN not supported**

- Simultaneous logging of up to five LR8450 units at 10 ms
- Real-time graphical display of logging data
- Up to 600 recording channels plus 60 waveform calculation channels
- Import .mem files recorded on the logger

Selection guide

Step 1 Select the logger (main unit)

LR8450 and LR8450-01 cannot perform measurements by themselves. Measurement modules must be purchased separately.

Supports up to four plug-in modules
*Wireless modules not supported

Plug-in module model
LR8450

Supports up to four plug-in modules plus up to seven wireless modules

Wireless LAN model
LR8450-01

The LR8450-01 and all wireless modules emit radio waves. Use of radio communication requires approval in each respective country. Operation in countries where approval has not been obtained may involve local regulations and/or result in penalties. For the latest information on approved countries, please refer to the Hioki website.

Step 2 Select measurement modules > See page 5 for details

Please note that the LR8450 plug-in model does not support wireless modules.

	Voltage/Temp Unit	Universal Unit	Voltage/Temp Unit	High Speed Voltage Unit	Strain Unit	Can Unit*1	Current Module	Thermistor Module
Plug-in	 **U8550**	 **U8551**	 **U8552**	 **U8553**	 **U8554**	 **U8555**	 **U8556**	 **U8557**
Wireless	 **LR8530**	 **LR8531**	 **LR8532**	 **LR8533**	 **LR8534**	 **LR8535**	 **LR8536**	 **LR8537**

*1: A maximum of four CAN modules can be connected simultaneously.

Step 3 Battery and storage media

The use of battery packs is recommended for both the logger and wireless modules. When used together with the supplied AC adapter, battery operation helps prevent data loss in the event of a power outage.

Power supply

Li-ion
For logger and wireless modules

BATTERY PACK Z1007
Logger takes two. Wireless modules take one.

Storage media

SD MEMORY CARD Z4001
2 GB capacity

SD MEMORY CARD Z4003
8 GB capacity

USB DRIVE Z4006
16 GB, long-life, high-reliability SLC flash memory

Always use Hioki accessory storage media. Proper operation is not guaranteed when using storage media from other manufacturers, and may prevent the product from saving and loading data properly.

Maximum recording time (estimate)

Because the header portion of waveform files is not included in capacity calculations, the expected actual maximum time is about 90% of that in the timetables. The maximum recording time varies with the number of measurement channels. Recording times are doubled if the number of measurement channels shown in the table is halved.

- When recording 30 analog channels with two U8550/U8551 modules or one U8552 module (no alarm output, no waveform processing)
- When recording 30 analog channels with two LR8530/LR8531 modules or one LR8532 module (no alarm output, no waveform processing)

Recording intervals	Internal buffer memory (512 MB)	SD MEMORY CARD Z4001 (2 GB)	SD MEMORY CARD Z4003 (8 GB)	USB DRIVE Z4006 (16 GB)
10 ms	1 d	3 d 20 h	15 d 8 h	30 d 12 h
100 ms	10 d 8 h	38 d 18 h	153 d 9 h	305 d 5 h
1 s	103 d 13 h	387 d 12 h	1533 d 21 h	3052 d 9 h
10 s	500 d	3875 d 6 h	15339 d 3 h	30523 d 19 h

- When recording 330 channels with four U8552 modules and seven LR8532 modules (no alarm output, no waveform processing)

Recording intervals	Internal buffer memory (512 MB)	SD MEMORY CARD Z4001 (2 GB)	SD MEMORY CARD Z4003 (8 GB)	USB DRIVE Z4006 (16 GB)
20 ms	4 h 31 min	17 h 14 min	2 d 18 h	5 d 13 h
100 ms	22 h 35 min	3 d 14 h	13 d 20 h	27 d 17 h
1 s	9 d 9 h	35 d 22 h	138 d 17 h	277 d 11 h
10 s	94 d 3 h	359 d 13 h	1388 d 9 h	2774 d 19 h

Options

Current sensors compatible with the current module

- Output connector: HIOKI PL14
- Selectable from leakage current values up to 6,000 A, depending on the application
- Switchable between instantaneous values or RMS values recording in the logger's current module settings

AC DC							
	Φ 5 mm	Φ 5 mm	Φ 33 mm	Φ 33 mm	Φ 55 mm		
	2 A	20 A	100 A	600 A	2000 A		
	CT7812	**CT7822**	**CT7731**	**CT7736**	**CT7742**		
AC							
	Φ 15 mm	Φ 15 mm	Φ 40 mm	Φ 46 mm	Φ 100 mm	Φ 180 mm	Φ 254 mm
	60 A	100 A	6 A (For leakage current)	600 A	6000 A	6000 A	6000 A
	CT7126	**CT7131**	**CT7116**	**CT7136**	**CT7044**	**CT7045**	**CT7046**

Cables and other sensors

LAN CABLE 9642
Straight Ethernet cable, supplied with straight-to-cross conversion adapter, 5 m (16.4 ft.)

HUMIDITY SENSOR Z2000
Analog output, 3 m (9.84 ft) length

CAN CABLE 9713-01
For U8555, LR8535, Unprocessed on one end, 1.8 m (5.9 ft.)

NON-CONTACT CAN SENSOR SP7001-95
Supports CAN FD / CAN signals, SP7001, SP9250, SP7150 set

CARRYING CASE C1012
Accommodates instrument and four plug-in modules or seven wireless modules

FIXED STAND Z5040
For installing logger on wall

For main unit

POWER CABLE L1012
DC drive, Connect to external battery, Unprocessed ends, Approx. 2 m (6.6 ft.)

For main unit

Included accessory

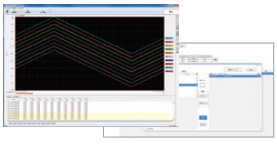
AC ADAPTER Z1014
AC adapter is bundled with the LR8450, LR8450-01

For wireless module

Included accessory

AC ADAPTER Z1008
AC adapter is bundled with the wireless modules

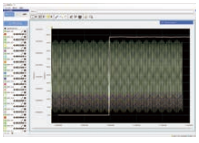
Software



Download from Hioki website.

LOGGER UTILITY
The control of the measurement of loggers, real-time data collection

CAN EDITOR
CAN measurement setup



Download from Hioki website.

GENNECT One
1 s interval data logging. Real-time graphical display of measured values. Centralized monitoring with dashboard functionality.

Download from Hioki website.

GENNECT Space
High-speed data logging at 1 ms. Synchronized recording with video and map data using USB-connected cameras and GPS antennas.

Basic Specifications

LR8450, LR8450-01 Memory HiLogger
General specifications, basic specifications

Product warranty period	3 years	
Accuracy guarantee period	1 year	
Maximum number of connectable modules	4 plug-in modules + 7 wireless modules*(*LR8450-01 only) No more than 4 CAN modules (U8555 and/or LR8535) can be connected.	
Connectable modules (plug-in modules)	U8550 Voltage/Temp Unit U8551 Universal Unit U8552 Voltage/Temp Unit U8553 High Speed Voltage Unit	U8554 Strain Unit U8555 Can Unit U8556 Current Module U8557 Thermistor Module
Connectable modules (wireless modules, LR8450-01 only)	LR8530 Wireless Voltage/Temp Unit LR8531 Wireless Universal Unit LR8532 Wireless Voltage/Temp Unit LR8533 Wireless High Speed Voltage Unit	LR8534 Wireless Strain Unit LR8535 Wireless Can Unit LR8536 Wireless Current Module LR8537 Wireless Thermistor Module
No. of measurement channels	Up to 120ch with plug-in modules. Up to 330 ch with plug-in and wireless modles. (LR8450-01) U8555 can input up to 500 channels per unit.	
Pulse/logic input	Number of ch	8 ch (common GND, non-isolated, exclusive setting for pulse/logic input for individual channels)
	Adaptive input format	Non-voltage contact, open collector, or voltage input
	Count	0 to 1000 M pulse, 1 pulse resolution
	Rotational speed	0 to 5000/n (r/s), 1/n (r/s) resolution, 0 to 300,000/n (r/min.), 1/n (r/min.) resolution, n: Number of pulses per rotation (1 to 1000)
	Logic input	Records 1 or 0 for each recording interval
Recording intervals	1 ms*, 2 ms*, 5 ms* (*: Can be set only when using 1 ms/S modules), 10 ms to 1 hour, 22 selections (Data refresh interval can be set for each unit	
Data storage	SD Memory Card/USB Drive (user-selectable) (Only storage media sold by HIOKI are guaranteed for operation)	
LAN interface	100BASE-TX / 1000BASE-T, DHCP, DNS support, Functions: Data acquisition, condition settings used with the Logger Utility software, configuring settings and controlling recording using communications commands, FTP server / FTP client, HTTP server, Email transmission, NTP client, XCP on Ethernet, GENNECT Cloud integration function	
Wireless LAN interface (LR8450-01 only)	IEEE 802.11b/g/n Communications range: 30 m, line of sight Encryption function: WPA-PSK/WPA2-PSK, TKIP/AES Usable channels: 1 to 11 Supported modes: Wireless unit connectivity, access point, station Functions: Configuring settings and controlling recording using communications commands, FTP server / client, HTTP server, Email transmission, NTP client, XCP on Ethernet, GENNECT Cloud integration function	
USB interface	Series A receptacle × 2: USB 2.0 compliant (USB drive, keyboard, or hub) Series mini-B receptacle × 1: Data acquisition, condition settings used with the Logger Utility, configuring settings and controlling recording using communications commands, transferring data from a connected SD Memory Card to a computer	
SD card slot	SD standard-compliant slot × 1 (with SD memory card/SDHC memory card support), Guaranteed-operation options: Z4001, Z4003	
Display	7 inch TFT color liquid crystal display (WVGA 800 × 480 pixel)	
Functions	Save waveform data in real time to the SD memory card or USB drive, numerical value calculations, waveform calculations, 8ch alarm output, voltage output ×2 (5 V /12 V /24 V selectable)	
Power supply	AC adapter	Using the Z1014 (100 to 240 V AC, 50/60 Hz), 95 VA Max. (including AC adapter), 28 VA Max. (exclusive of AC adapter)
	Battery Pack	Using the Z1007 (accommodates 2 batteries), continuous use 4 hr (reference value for 2 pieces), 20 VA Max.
	External power	10 to 30 V DC, 28 VA Max.
Dimensions and mass	Without any modules	272 mm (10.71 in) W × 145 mm (5.71 in) H × 43 mm (1.69 in) D (excluding protrusions), 1108 g (39.1 oz) (excluding battery pack)
	With 2 modules	272 mm (10.71 in) W × 198 mm (7.80 in) H × 63 mm (2.48 in) D (excluding protrusions)
	With 4 modules	272 mm (10.71 in) W × 252 mm (9.92 in) H × 63 mm (2.48 in) D (excluding protrusions)
Included accessories	Quick Start Manual ×1, USB Cable ×1, AC Adapter Z1014 ×1, Precautions Concerning Use of Equipment that Emits Radio Waves ×1*(*LR8450-01 only)	

Plug-in modules:
U8550, U8551, U8552, U8553, U8554, U8555, U8556, U8557

Host model	LR8450, LR8450-01 Memory HiLogger
Operating temperature and humidity range	-10°C to 50°C, 80% RH or less (non-condensing)
Storage temperature and humidity range	-20°C to 60°C, 80% RH or less (non-condensing)
Vibration resistance	JIS D 1601:1995 5.3 (1), Class 1 A (passenger vehicle) equivalent
Included accessories	User manual, mounting screw × 2, wiring confirmation label*1 (*1 U8554 only), 5 caps*2 (*2 U8556 only)

Wireless modules:
LR8530, LR8531, LR8532, LR8533, LR8534, LR8535, LR8536, LR8537

Host model	LR8450-01 Memory HiLogger
Control communications method	Connect wirelessly via Wireless LAN Adapter Z3231 (included) Wireless LAN (IEEE 802.11b/g/n) Communication range: 30 m (line of sight) Encryption function: WPA-PSK/WPA2-PSK, TKIP/AES Available number of channels: 1 to 11
Communications buffer memory	4 Mword (volatile memory) Saves data in the event of a communications error. Data is resent when communications are restored.
Operating temperature and humidity range	-20°C to 55°C, 80% RH (non-condensing) (charging temperature range: 5°C to 35°C)
Storage temperature and humidity range	-20°C to 60°C, 80% RH (non-condensing)
Vibration resistance	JIS D 1601:1995 5.3 (1), Class 1 A (passenger vehicle) equivalent
LED display	Wireless connection and measurement status, error status, AC adapter or external power, battery power, charge status
Auto-connect function	Available
Included accessories	Z3231 Wireless Lan Adapter, user manual, Z1008 AC Adapter, mounting plate, M3×4 screw × 2 (for use with mounting plate), wiring confirmation label*1 (*1 LR8534 only), caps × 5*2 (*2 LR8536 only)
Z3231 wireless specifications	Wireless LAN (IEEE 802.11b/g/n) Range: 30 m (line of sight) Encryption: WPA-PSK/WPA2-PSK, TKIP/AES Channels: channel 1 to 11
Power supply specifications	
AC adapter	Z1008 AC Adapter (12 V DC, standard accessory) Rated supply voltage: 100 to 240 V AC Rated power supply frequency: 50/60 Hz Maximum rated power: 25 VA (including AC adapter)
Battery	Z1007 Battery Pack (when using AC adapter, AC adapter takes precedence.) Maximum rated power LR8530, LR8532: 1.5 VA LR8531, LR8533, LR8537: 2.0 VA LR8534, LR8535, LR8536: 3.5 VA
External power supply	Rated supply voltage: 10 to 30 V DC Maximum rated power: 8 VA (30 V DC external power supply, while charging battery) Normal power consumption (12 V DC external power supply, without battery pack) LR8530, LR8532, LR8533: 2.5 VA LR8531, LR8537: 3.0 VA LR8534, LR8535: 4.0 VA LR8536: 2.4 VA
Continuous operating time	When using Z1007 Battery Pack (all data refresh rates, good communications state, 23°C reference values) LR8530, LR8532, LR8533, LR8537: approx. 9 h LR8531: approx. 7 h LR8534, LR8536: approx. 5 h LR8535: approx. 10 h (approx. 5 h when using two non-contact CAN sensors)
Charging function	When Z1007 Battery Pack installed while connected to AC adapter or 10 to 30 V DC external power supply Charging time: approx. 7 h (23°C reference value)

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