HIOKI

DATA LOGGER Selection Guide

LR8431, LR8400 series, 8423, LR5000 series

DATA LOGGER Series

I surely find the Logger I want

CE

3year Warranty

Choose from Hioki's extensive line of loggers that's right for your application

HIOKI Logger Search

For multichannel measurement and recording

Memory HiLogger series

		LR8431-20	LR8400-20	LR8401-20	LR8402-20	8423
						
Page		p.3	p.4			p.5
Channels		10 ch	30 (standard); expandable to 60			15 up to a maximum of 600
Maximum sampling rate		10 ms	10 ms (up to 15 channels)			10 ms
Measurement parameters	Voltage	✔	✔	✔	✔	✔
	Temperature (Thermocouples)	✔	✔	✔	✔	✔
	Temperature (Pt 100, JPt100)	N/A	N/A	✔	✔	✔
	Humidity	N/A	✔	✔	✔	✔
	Resistance	N/A	N/A	✔	✔	N/A
	Pulse	✔ (4ch)	✔ (8ch) *1	✔ (8ch) *1	✔ (8ch) *1	✔ (15ch) *2
	Digital	N/A	✔ (8ch) *1	✔ (8ch) *1	✔ (8ch) *1	✔ (15ch) *2
External Interface		USB	USB LAN			USB LAN
External storage		USB memory CF card	USB memory CF card			CF card
Battery		✔	✔			N/A

*1 Pulse+ Digital 8ch(Each channel can be set to either pulse or digital.) *2 Digital/Pulse Unit 8996: 15ch

Compact solutions for measuring 1 or 2 channels

Data Logger series

	LR5001	LR5011	LR5031	LR5051	LR5040s
					
Measurement parameters and channels	Temperature 1ch and Humidity 1ch	Temperature 1ch	Instrumentation 1ch	AC Current 2 ch	DC Voltage 1ch
Measurement range	– 40.0 to 85.0 °C 0% to 100%rh	– 40.0 to 180.0 °C	DC – 30.00 to 30.00 mA	AC 0.00 to 1000 A	LR5041: -50 mV to 50 mV LR5042: -5 V to 5 V LR5043: -50 V to 50 V
Power supply LR6(AA) Alkaline battery 1.5V	1		1	2	1

Power and energy loggers

For use in environmental, energy, and power supply management (demand monitoring) applications

Detailed catalogs also available

Clamp on Power Logger PW3360-20

Use a power logger to implement energy-saving measures!

Featuring USB Flash Drive and Improved Accuracy! Your Personal 10-channel Logger

Memory HiLogger LR8431

Voltage Thermocouple Pulse

Lightest weight in its class and Easy Operation

USB 2.0 CE 3 year Warranty

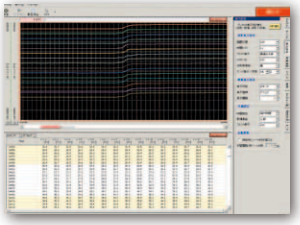
Order Code: LR8431-20

Key Point

- Ten Isolated Analog Input Channels
- 10ms Sampling and Recording Across All Channels
- Ultra-compact for convenient portability
- Noise-resistant measurement circuitry for improved readings
- Improved thermocouple measurement accuracy and reference junction compensation accuracy
- Real-time recording to a CF card or USB memory stick

Real-time recording of up to 10 ms/ sample data to USB or CF memory devices (only the Hioki CF card is guaranteed for correct operation)

Small and light enough for the palm of your hand - yet completely isolated



Monitor in real-time on the PC using bundled Logger Utility freeware

General specifications (Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)

Number of channels	Analog: 10 isolated channels using scanning input method (M3 mm dia. screw terminal block) Pulse: 4 channels (All pulse inputs share common ground with the main unit)
Measurement parameters	**[Voltage]** ±100 mV to ±60 V, 1-5V f.s., Max. resolution 5 µV **[Temperature (Thermocouples)]** –200°C to 1800°C (depend on the sensor), Thermocouples (K, J, E, T, N, R, S, B), Max. resolution 0.1°C **[Temperature (Pt 100 sensor)]** not available **[Humidity]** not available **[Totalized pulses]** 0 to 1000M pulse (No-voltage 'a' contact, open collector or voltage input), Max. resolution 1 pulse **[Rotation count]** 0 to 5000/n (r/s) f.s. (No-voltage 'a' contact, open collector or voltage input), Resolution 1/n (r/s) *Note: n = pulses per rotation (1 to 1,000)*
Max. allowable input	DC 60 V (Analog input), DC 0 V to 10 V (Pulse input)
Max. rated voltage to earth	AC 30 Vrms, DC 60 V (Upper limit voltage that does not cause damage when applied between input channel and chassis, and between each input channels)
Recording intervals	10 ms to 1 hour, 19 selections (All input channels are scanned within each recording interval)
Selectable Filters	50 Hz, 60 Hz, or OFF (digital filtering of high frequencies on analog channels)
Memory capacity	Internal storage: 3.5 M-words, External storage: CF card or USB memory stick (only the Hioki CF card is guaranteed for correct operation)
External Interfaces	USB 2.0 mini-B receptacle ×1; Functions: Control from a PC, Transfers files from the installed CF card to a PC (cannot transfer files from the connected USB memory stick to a PC via USB communication), Data copy between CF card and USB memory stick
Display	4.3-inch WQVGA-TFT color LCD (480 × 272 dots)
Functions	Save data to the CF card or USB memory stick in real time, Numerical Calculations, etc.
Power supply	AC Adapter Z1005: 100 to 240 VAC (50/60 Hz), Battery Pack 9780: Continuous use 2.5 hours 12 V DC supply: 10 to 16 V (please contact Hioki distributor for cable; less than 3 m/9.84 ft cable length)
Dimensions and mass	176 mm (6.93 in) W × 101 mm (3.98 in) H × 41 mm (1.61 in) D, 550 g (19.4 oz) (Battery Pack 9780 not installed)
Accessories	Measurement guide ×1, CD-R (Instruction manual PDF, Logger Utility instruction manual PDF, Data acquisition application program Logger Utility) ×1, USB cable ×1, AC Adapter Z1005 ×1

Options

AC Adapter	Z1005	(100 to 240 V AC, Supplied Accessories)
Battery Pack	9780	(NiMH, Charges while installed)
Soft Case	9812	(Includes space for small items, Neoprene rubber)
Carrying Case	9782	(Includes compartment for options, Resin coated)
Connection Cable	9641	(For pulse inputs, 1.5 m (4.92 ft) length)
Protection Sheet	9809	(For LCD protection, pairs of sheets)

Removable storage (CF card)

PC Card	2G	9830
PC Card	1G	9729
PC Card	512M	9728

PC Card Precaution

Use only PC Cards sold by Hioki. Compatibility and performance are not guaranteed for PC cards made by other manufacturers. You may be unable to read from or save data to such cards.

Portable Data Logger with 30 Standard Channels, Expandible to 60 Channels
Memory HiLogger LR8400, LR8401, LR8402

Voltage | Thermocouple | Pt100/JPt100 | Resistance | Humidity | Pulse | Digital

Protect valuable data in the event of a power outage or other problem with a portable, multichannel logger

Key Point

- Compact size despite 30-channel standard capabilities
- Write data to USB memory stick or CF card in real-time
- Protected against unexpected power outages
- Digital filtering function for enhanced noise immunity
- All input channels are isolated and high withstand voltage

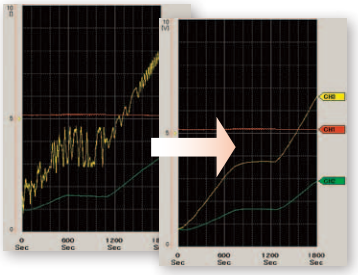
Order Code: LR8400-20
(Built-in the Voltage/temp unit LR8500 ×2, 30 ch, English)

Order Code: LR8401-20
(Built-in the Universal unit LR8501 ×2, 30 ch, English)

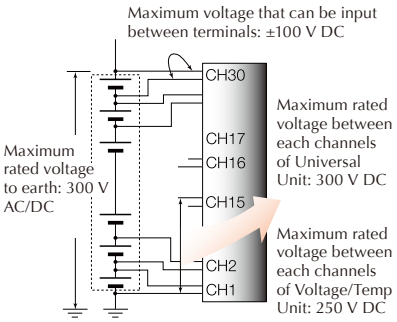
Order Code: LR8402-20
(Built-in the Universal unit ×1, Voltage/temp unit ×1, 30 ch, English)

■ Enhanced Noise Immunity

High-frequency noise is rejected by means of a digital filter.



■ High withstand voltage



General specifications (Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)

Analog input Voltage/ Temp Unit LR8500 Analog input Universal Unit LR8501 *Note: Isolated from each channel to chassis* **Red text: LR8501 only*	[**No. of channels**] 15 analog channels; isolated scanning method input ([LR8500] 2 terminals: M3 screw type, [LR8501] 4 terminals: push-button type) [**Voltage**] ±10 mV to ±100 V, 1-5 V f.s., Max. resolution: 500 nV *Note: Isolated between channels and from each channel to chassis* [**Temperature (Thermocouples)**] -200°C to 2000°C (depends on the sensor), Thermocouples (K, J, E, T, N, R, S, B, W), Max. resolution 0.01°C *Note: Isolated between channels and from each channel to chassis* [**Temperature (Pt 100, JPt 100 sensor)**] -200°C to 800°C, Max. resolution 0.01°C *Note: Not isolated between channels* [**Resistance**] 0 Ω to 200 Ω f.s., Max. resolution 0.5 mΩ *Note: Not isolated between channels* [**Humidity**] 5.0 to 95.0 % rh (use with the optional sensor), resolution 0.1 % rh *Note: Not isolated between channels nor from each channel to chassis* [**Max. rated voltage between isolated input channels**] LR8500: 250 V DC, LR8501: 300 V DC [**Max. allowable input**] ±100 V DC [**Max. rated voltage from isolated terminals to ground**] 300 V AC, DC
Pulse, Digital input	[**No. of channels**] 8 channels, pulse / digital selectable for each channel, M3 screw terminal, not isolated, common ground [**Pulse totalization**] 0 to 1000 M pulse (No-voltage 'a' contact; normally open, open collector or voltage input), Max. resolution 1 pulse [**Rotation count**] 0 to 5000 /n (r/s) f.s. (same as Pulse totalization input signal condition), resolution 1/n (r/s) *Note: "n" is the number of sensor output pulses per revolution, 1 to 1000* [**Digital input**] Record logical "1" or "0" at each sampling [**Max. rated voltage between input channels**] Not isolated [**Max. allowable input**] 0 to 50 V
Recording intervals	10 ms to 50 ms, 100 ms to 1 hour, 19 selections (All input channels are scanned within each recording interval) *Note: limited by using channels at 10 ms to 50 ms interval*
Digital filter	Select from OFF/ 50 Hz/ 60 Hz (the cut-off frequency is automatically set)
Data storage	Internal memory: 8 M-words, Data storage media: CF card or USB memory (Only data recorded to a genuine Hioki CF card is guaranteed)
Interfaces	[**LAN**] 100BASE-TX, Functions: Data acquisition using bundled software or PC commands, FTP server, FTP client, HTTP server function, or E-mail system [**USB**] USB 2.0 High-speed capable, series mini-B receptacle Functions: Data acquisition using bundled software or PC commands, Transfer data from the CF card to a PC via USB drive mode *Note: Data transfer not possible from USB memory sticks*
Display device	5.7 inch TFT color liquid crystal display (640 × 480 pixel)
Other functions	Save waveform data in real time to the CF card or USB memory stick, Numerical value calculations, Waveform calculations, and others
Power supply	AC Adapter 9418-15: 100 to 240 V AC (50/60 Hz), Battery Pack Z1000: Continuous use 5 h, External power: 10 to 28 V DC
Dimensions and mass	272 mm (10.71 in) W × 182.4 mm (7.18 in) H × 66.5 mm (2.62 in) D, 1.8 kg (63.5 oz), (LR8400-20 main unit, excluding the Battery Pack 370 g/ 13.1 oz)
Accessories	Instruction manual ×1, Measurement guide ×1, AC Adapter 9418-15 ×1, USB cable ×1, CD-R (data collection software "Logger Utility") ×1

Options

Voltage/Temp Unit	LR8500	(2 terminals M-3 mm screw type, 15 channels Voltage, Temperature with thermocouple, or Humidity measurement)
Universal Unit	LR8501	(4 terminals push-button type, 15 channels Voltage, Temperature with thermocouple, Platinum Resistance temperature sensor, Humidity, or Resistance measurement)
Humidity Sensor	Z2000	(3 m (9.84 ft) length)
Battery Pack	Z1000	(NiMH, Charges while installed)
AC Adapter	9418-15	(100 to 240 V AC, Bundled with the LR8400, LR8401 and LR8402)
LAN Cable	9642	(Straight Ethernet cable, supplied with straight to cross conversion adapter, 5 m (16.41 ft) length)
Carrying Case	C1000	(Includes compartment for options)
Fixed Stand	Z5000	(For wall hanging and slanted bench mounting)

Removable storage (CF card)

PC Card	2G	9830
PC Card	1G	9729
PC Card	512M	9728

PC Card Precaution

Use only PC Cards sold by Hioki. Compatibility and performance are not guaranteed for PC cards made by other manufacturers. You may be unable to read from or save data to such cards.

Fast 10-ms Sampling. Up to 600 Channels of Data Logging

Memory HiLogger 8423

Voltage | Thermocouple | Pt100/JPt100 | Humidity | Pulse | Digital

Mix and match input units to build a measurement system with up to 600 channels.

Key Point

- More robust isolation: 600 V terminal-to-ground, 200 V/120 V channel-to-channel
- Capture data with 15 to a maximum of 600 channels
- USB 2.0, LAN 100BASE-TX, Store to 1GB PC Card
- Dual sampling to make efficient use of available memory

USB 2.0 | LAN | CE | 3 years Warranty

Order Code: 8423

Voltage/Temp Unit 8948
15-channles, Voltage,
Thermocouple input

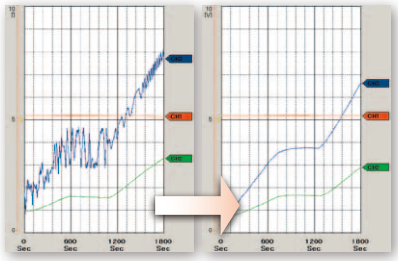
Universal Unit 8949
15-channels, Voltage, Thermocouple,
Resistance temperature sensor,
Humidity measurement

Digital/Pulse Unit 8996
15-channels, ON/OFF logic signal, Totalized pulses
(integrated or instantaneous), Rotation count

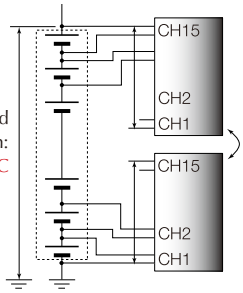
Alarm Unit 8997
15-channels, Open-collector output

■ Enhanced Noise Immunity

Enhanced noise immunity reduces the impact of switching noise from inverter-equipped devices and 50/60 Hz hum noise.



■ High withstand voltage



Maximum rated voltage to earth: 600 V AC, DC

Maximum rated voltage to earth between each module: 600 V AC, DC

Maximum rated voltage between each channel: 200 V DC
200V in model 8948
120V in model 8949

General specifications (Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)

No. of connectable units	Maximum 8 units (total 120 channels), Bundle 8 Modules together to achieve a 120-channel System, Bundle 5 Systems together to enable a maximum of 600 channels of simultaneous recording
Measurement parameters Model 8948	[**Voltage**] ±150 mV to ±100 V, 1-5 V f.s., Max. resolution 5 μV, Max. allowable input : 100 V DC, Max. rated voltage between channels : 200 V DC, Max. rated voltage to earth : 600 V DC, AC [**Temperature (Thermocouples)**]: -200°C to 2000°C (depend on the sensor), Thermocouples(K, E, J, T, N, W (Wre5-26), R, S, B), Max. resolution 0.01°C
Measurement parameters Model 8949	[**Voltage**] ±150 mV to ±60 V, 1-5 V f.s., Max. resolution 5 μV, Max. allowable input : 60 V DC, Max. rated voltage between channels : 120 V DC, Max. rated voltage to earth : 600 V DC, AC [**Temperature (Thermocouples)**] -200°C to 2000°C (depend on the sensor), Thermocouples(K, E, J, T, N, W (Wre5-26), R, S, B), Max. resolution 0.01°C [**Temperature (Pt 100, JPt 100 sensor)**] -200°C to 800°C, Max. resolution 0.01°C [**Humidity**] 5.0 to 95.0% rh (use with the optional sensor 9701), 0.1% rh resolution
Measurement parameters Model 8996	[**Totalized pulses**] 0 to 1000M pulse, Max. resolution 1 pulse [**Rotation count**] 0 to 5000/n (r/s) f.s., Resolution 1/n (r/s) *Note: n = pulses per rotation (1 to 1,000)* [**Digital input**] ON/OFF digital signal per interval [**Max. allowable input**] 50 V DC, Max. rated voltage between channels : 33 V AC, 70 V DC, Max. rated voltage to earth : 600 V DC, AC, (Upper limit voltage that does not cause damage when applied between CH-1 to CH-5 each channel and chassis, CH-6 to CH-10 each channel and chassis, CH-11 to CH-15 each channel and chassis, and between each UNITs), (common ground for CH-1 to CH-5, common ground for CH-6 to CH-10, common ground for CH-11 to CH-15)
Recording intervals	10 ms to 1 hr, 19 range (5 s to 1hr when combined with humidity measurement), Dual sampling : Recording intervals can be specified for every input module (high-speed and low-speed)
Functions	Measurement data are saved to the CF card in real time, Trigger function, Digital filter (Input unit), Alarm output (use with the Alarm Unit 8997), Data acquisition is controlled by the PC data acquisition program, FTP server function, HTTP server function
Interfaces	[**LAN**] supports 100 Base-TX, [**USB**] Ver 2.0, mini-B receptacle, CF card slot
Power supply	AC Adapter 9418-15: 20 VA (when connected with 8 units), External power: 9.6 to 15.6 V DC, Please contact Hioki for connection cord
Dimensions and mass	67 mm (2.64 in) W × 133 mm (5.24 in) H × 125 mm (4.92 in) D, 600 g (21.2 oz) (main unit 8423 only)
Accessories	Instruction manual ×1, Quick start manual ×1, AC Adapter 9418-15 ×1, USB cable ×1, Connection plate ×1, CD-R (data collection software "Logger Utility") ×1, Connector cover ×1, Ferrite clamp ×1

Options

AC Adapter	9418-15	(Supplied as standard, 100 to 240 V AC, Supplied Accessories)
LAN Cable	9642	(Straight Ethernet cable, supplied with straight to cross conversion adapter, 5 m (16.41 ft) length)
Connection Cable	9683	(For synchronization, cable length 1.5 m (4.92ft))
Humidity Sensor	9701	(1-channel, for UNIVERSAL UNIT 8949)

Removable storage (CF card)

PC Card	1G	9729
PC Card	512M	9728

PC Card Precaution

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Record Temperature and Humidity Simultaneously

Humidity Logger LR5001

Measurement items	Temperature 1ch and Humidity 1ch
Measurement range	[**Temperature**] -40°C to 85°C [**Humidity**] 0% to 100%rh
Accuracy	See figure at lower right.
Waterproof and dustproof	IP54 (splash-proof construction) (with sensor connected, excluding sensor tip)
Operating temperature and humidity	-20°C(-4°F) to 70°C(158°F) , 80%rh or less (non-condensating)
Power supply	LR6 (AA) Alkaline battery 1.5V×1
Battery life	Case 1 : Approx. 3 months (1min. recording interval, power-saving mode, Instantaneous recording, environmental temp.20°C) Case 2: Approx. 20 days (1sec. recording interval, power-saving mode, Instantaneous recording, environmental temp.20°C)
Dimensions and mass	Approx. 79 mm(3.11 in)W×57 mm(2.24 in) H×28 mm(1.10 in)D, 105 g(3.7 oz)
Accessories	Humidity Sensor LR9504×1, Stand, LR6 (AA) Alkaline battery ×1, Instruction manual ×1, Operation manual×1

Bundled sensor (LR9504)
(Sensor is out of warranty)

Order Code: LR5001

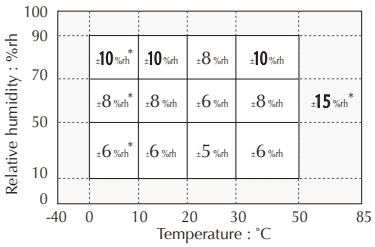
Options

Temperature range : -40.0°C to 85.0°C (-40°F to 185°F)
Humidity range : 0.0%rh to 100.0%rh
Response time : Approx. 300 seconds
(Temperature and humidity;
90% response time)
Waterproofness: None
Sensor head size : 13 mm×30 mm
(0.51 in × 1.18 in)

Humidity Sensor LR9501 (1 m)
Humidity Sensor LR9502 (5 m)
Humidity Sensor LR9503 (10 m)

Humidity Sensor LR9504 (40 mm)
Note: LR9504 is bundled accessory.

■ Humidity (LR5001+Sensor)



*Values provided for reference only.

■ Temperature (LR5001+Sensor)

-40.0°C up to (not including) 0.0°C	±1.0 °C
0.0°C up to (not including) 35.0°C	±0.5 °C
35.0°C up to (not including) 70.0°C	±1.0 °C
70.0°C to 85.0°C	±2.0 °C

Measure Temperature with External Sensor

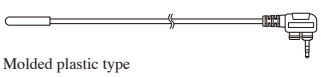
Temperature Logger LR5011

Measurement items	Temperature 1ch
Measurement range	-40.0°C to 180°C *Note: Depends on measurement range of sensor.*
Accuracy	–40.0°C up to (not including) 0.0°C: ±1.0°C/ 0.0°C up to (not including) 35.0°C: ±0.5°C/ 35.0°C up to (not including) 70.0°C: ±1.0°C/ 70.0°C up to (not including) 120.0°C: ±2.0°C/ 120.0°C to 180.0°C: ±5.0°C
Waterproof and dustproof	IP54 (splash-proof construction) (with sensor connected, excluding sensor tip)
Operating temperature and humidity	-20°C(-4°F) to 70°C(158°F) , 80%rh or less (non-condensating)
Power supply	LR6 (AA) Alkaline battery 1.5V×1
Battery life	Case 1 : Approx. 2 years (1min. recording interval, power-saving mode, Instantaneous recording, environmental temp.20°C) Case 2: Approx. 2 months (1sec. recording interval, power-saving mode, Instantaneous recording, environmental temp.20°C)
Dimensions and mass	Approx. 79 mm(3.11 in)W×57 mm(2.24 in) H×28 mm(1.10 in)D, 105 g(3.7 oz)
Accessories	Stand, LR6 (AA) Alkaline battery ×1, Instruction manual ×1, Operation manual×1

Optional sensor (LR9604)
(Sensor is out of warranty)

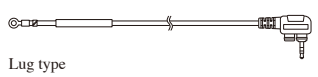
Order Code: LR5011

Options



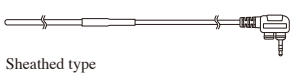
Molded plastic type
Temperature range: -40°C to 180°C
(-40°F to 356°F)
Response time : Approx. 100 seconds
(90% response time)
Waterproofness : Watertight JIS C 0920
(when attached to logger)
Sensor head size: Ø6 mm×28 mm (0.24 in×1.10 in)

Temperature Sensor LR9601 (1 m)
Temperature Sensor LR9602 (5 m)
Temperature Sensor LR9603 (10 m)
Temperature Sensor LR9604 (45 mm)



Lug type
Temperature range: -30°C to 180°C
(-22°F to 356°F)
Response time : Approx. 45 seconds
(90% response time)
Waterproofness : Watertight JIS C 0920
(when attached to logger)
Diameter: Outer: 7 mm (0.26 in)
Inner: 3.2 mm (0.13 in)

Temperature Sensor LR9611 (1 m)
Temperature Sensor LR9612 (5 m)
Temperature Sensor LR9613 (10 m)



Sheathed type
Temperature range: -40°C to 120°C
(-40°F to 248°F)
Response time : Approx. 90 seconds
(90% response time)
Waterproofness : Watertight JIS C 0920
(when attached to logger)
Sensor head size: Ø4 mm×180 mm
(0.16 in × 7.09 in)

Temperature Sensor LR9621 (1 m)

Needle type
Temperature range: -40°C to 120°C
(-40°F to 248°F)
Response time : Approx. 20 seconds
(90% response time)
Waterproofness : Watertight JIS C 0920
(when attached to logger)
Sensor head size: Ø1.3 mm×25 mm
(0.05 in × 0.98 in)

Temperature Sensor LR9631 (1 m)

Record 4-20 mA Instrumentation Signals, etc.

Instrumentation Logger LR5031

Measurement items	For instrumentation / 0 to 20 mA DC, 1 ch
Measurement range	DC -30.00 to 30.00 mA
Basic Accuracy	±0.5% rdg. ±5 dgt. (@23°C±5°C)
Waterproof and dustproof	IP54 (splash-proof construction) (with sensor connected, excluding sensor tip)
Operating temperature and humidity	-20°C(-4°F) to 70°C(158°F) , 80%rh or less (non-condensating)
Power supply	LR6 (AA) Alkaline battery 1.5V×1
Battery life	Case 1 : Approx. 2 years (1min. recording interval, power-saving mode, Instantaneous recording, environmental temp.20°C) Case 2: Approx. 2 months (1sec. recording interval, power-saving mode, Instantaneous recording, environmental temp.20°C)
Dimensions and mass	Approx. 79 mm(3.11 in)W×57 mm(2.24 in) H×28 mm(1.10 in)D, 105 g(3.7 oz)
Accessories	Connection Cable LR9801×1, Stand, LR6 (AA) Alkaline battery×1, Instruction manual ×1, Operation manual×1

CE 3 year Warranty

Bundled accessory (LR9801)

Order Code: LR5031

Record Instrumentation Signals and Measure Analog Output from Sensors and other Devices

Voltage Logger LR5041, LR5042, LR5043

	LR5041	LR5042	LR5042
Measurement items	DC voltage 1 ch		
Measurement range	-50.00 mV to 50.00 mV	-5.000 V to 5.000 V	-50.00 V to 50.00 V
Basic Accuracy	±0.5% rdg. ±5 dgt. (@23°C±5°C)		
Waterproof and dustproof	IP54 (splash-proof construction) (with sensor connected, excluding sensor tip)		
Operating temperature and humidity	-20°C(-4°F) to 70°C(158°F) , 80%rh or less (non-condensating)		
Power supply	LR6 (AA) Alkaline battery 1.5V×1		
Battery life	Case 1 : Approx. 2 years (1min. recording interval, power-saving mode, Instantaneous recording, environmental temp.20°C) Case 2: Approx. 2 months (1sec. recording interval, power-saving mode, Instantaneous recording, environmental temp.20°C)		
Dimensions and mass	Approx. 79 mm(3.11 in)W×57 mm(2.24 in) H×28 mm(1.10 in)D, 105 g(3.7 oz)		
Accessories	Connection Cable LR9802×1, Stand, LR6 (AA) Alkaline battery×1, Instruction manual ×1, Operation manual×1		

CE 3 year Warranty

Bundled accessory (LR9802)

Order Code: LR5041 (±50 mV DC)

Order Code: LR5042 (±5 V DC)

Order Code: LR5043 (±50 V DC)

Easily Record Load Current of 50Hz/60Hz lines and Leak Current

Clamp Logger LR5051

Measurement items	AC Current (2 channels) *Current and leak current that occur intermittently cannot be measured.
Measurement range	When Using 9669 :1000 A range When Using CT6500 :50.00 A/ 500.0 A range When Using 9695-02 :5.000 A/ 50.00 A range When Using 9675 :500.0 mA/ 5.000 A range When Using 9657-10 :500.0 mA/ 5.000 A range
Basic Accuracy	±0.5% rdg. ±5 dgt.+Clamp sensor accuracy
Operating temperature and humidity	-0°C(32°F) to 50°C(122°F) , 80%rh or less (non-condensating)
Power supply	LR6 (AA) Alkaline battery 1.5V × 2
Battery life	Case 1 : Approx. 1 years (1min. recording interval, power-saving mode, Instantaneous recording, environmental temp.20°C) Case 2: Approx. 1 months (1sec. recording interval, power-saving mode, Instantaneous recording, environmental temp.20°C)
Dimensions and mass	Approx. 79 mm(3.11 in)W×70 mm(2.76 in) H×37 mm(1.46 in)D, 165 g (5.8 oz)
Accessories	LR6 (AA) Alkaline battery × 2 Instruction manual ×1, Operation manual×1

CE 3 year Warranty

*Clamp sensor is sold separately
(Sensor warranty is one year)

Order Code: LR5051

Options	Clamp on Sensor			Clamp on Leak Sensor	
					
	9669	**CT6500**	**9695-02**	**9675**	**9657-10**
Measurable conductor diameter	Ø55 mm(2.17") or less, 80(3.15") ×20(0.79") mm busbar	Ø46 mm(1.81") or less	Ø15 mm(0.59") or less	Ø30 mm(1.18")	Ø40 mm(1.57")
Primary current rating	1000 A AC	500 A AC	50 A AC	5 A AC *	5 A AC *
LR5051 range(s)	1000 A	50.00/500.0 A	5.000/50.00 A	500.0 mA/5.000 A	500.0 mA/5.000 A
Accuracy(45Hz to 66Hz)	±1.0% rdg. ±0.01% rdg.	±1.5% rdg. ±0.03% rdg.	±0.3% rdg. ±0.02% rdg.	±1.0% rdg. ±0.005% rdg.	±1.0% rdg. ±0.05% rdg.
Maximum rated voltage to earth	600 Vrms	600 Vrms	300 Vrms	300 Vrms	300 Vrms

Note: Using with LR5051

Data Logger series

LR5000 Series
Shared specifications and options

Can be positioned at an angle with the included stand.
(included, except for Model LR5051)

LR5000 Series common specifications (Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)

Recording interval	1/ 2/ 5/ 10/ 15/ 20/ 30 seconds, 1/ 2/ 5/ 10/ 15/ 20/ 30/ 60 minutes
Recording methods	**[One time recording]** Stop recording when the memory capacity is full **[Endless recording]** Continue recording even when the memory capacity is full (Old data is overwritten)
Recording modes	**[Instantaneous recording]** Instantaneous values are recorded at every recording interval **[Statistical value recording]** Measure at one second intervals, and record the instantaneous, maximum, minimum, and average values within every recording interval
Storage capacity	**[Instantaneous value mode]** 60,000 data sets per channel **[Statistical value mode]** 15,000 data sets per channel
Display items	Measured value, Interval configration, Date, Time, Alarm, Remaining battery power, Number of data, Maximum data, Minimum data
Recording start/ stop	**[Recording start]** Manual start, Timer start **[Recording stop]** Manual stop, Timer stop, When the memory capacity is full (One time recording)
Data backup	Data from the last recording session is always backed up
Interfaces	Infrared optical communications with LR5091, LR5092-20
Power supply	During battery replacement, recording and clock operations are preserved for about 30 seconds (Recording operation continues if the battery is replaced within about 30 seconds) *Note: With the LR5001, recording is interrupted during battery replacement if the battery is very weak. After batteries are replaced, recording resumes automatically. Previously recorded data is not lost during battery replacement.*

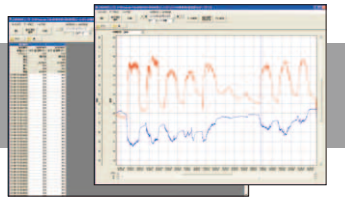
LR5000 Series common options

Magnetic Strap Z5004

Wall-mounted Holder LR9901

*Not compatible with Model LR5051

Transfer data from Data Logger to PC
Communication Adapter LR5091
Data Collector LR5092



Analyze data with the included software application

Communication Adapter

Order Code: LR5091

Data collection method

Connect the Communication Adapter to a computer and then place a data-mini in the cradle.

LR5091 specifications

Features	• Transfer data from a Data logger to a PC • Transfer Data Logger configurations or clock settings from a PC to the Data Logger
Interface with Data Logger	Infrared optical communications
Interface with PC	USB2.0, Full Speed, Series Mini B Receptacle
Operating environment	Indoors
Power supply	DC5 V (USB bus power) Maximum rated power 0.5 VA
Operating temperature and humidity	0°C(32°F) to 40°C(104°F) , 80%rh or less (non-condensating)
Dimensions, Mass	Approx. 83 mm(3.27 in)W×61 mm(2.40 in)H×19 mm(0.75 in)D, 43 g(1.5 oz)
Accessories	USB cable (1 m)×1, CD (Application software "LR5000 Utility") × 1

Data Collector LR5092

Bring the Data Collector to the measurement site and collect data.

Order Code: LR5092-20

Connect the Data Collector to a computer after downloading the measurement data to its internal memory.

Download the measurement data onto an SD card and then insert the card into a computer.

LR5092-20 specifications

Features	• Collect recorded data from the Data Logger to internal memory or SD memory card • View collected data in a graph • Transfer Data Logger configurations or clock settings from internal memory or SD memory card to the Data Logger • Transfer data from a Data Logger to a PC • Transfer Data Logger configurations or clock settings from a PC to the Data Logger
Interface with Data Logger	Infrared optical communications
Interface with PC	USB2.0, Full Speed, Series Mini B Receptacle
Clock functions	Auto calender, auto leap year
Display	Dot-matrix LCD (128 × 64 dots)
Display items	Data Logger configurations (Interval, Start/Stop method, Recording mode, Scaling, Alarm, Power-saving mode, Clock, Range) Collected data (Record list , Maximum data, Minimum data, Average, Graph, Value)
Internal memory capacity of data	**[Instantaneous value mode]** 60,000 data elements ×16 ch **[Statistical value mode]** 15,000 data elements ×16 ch
Removable storage media	SD memory card, Save data and configurations
Operating environment	Indoors
Power supply	DC3 V (LR6 (AA) Alkaline battery 1.5 V×2) or DC5 V (USB bus power) Maximum rated power 1 VA
Battery life	Approx. 12 hours or 500 times of data collection
Operating temperature and humidity	0°C(32°F) to 40°C(104°F) , 80%rh or less (non-condensating)
Dimensions, Mass	91 mm(3.58 in)W×141 mm(5.55 in)H×31 mm(1.22 in)D, 215 g(7.6 oz) (excluding batteries)
Accessories	Instruction manual ×1, Operation manual×1, LR6 (AA) Alkaline battery ×2, USB cable(1m)×1, CD (Application software "LR5000 Utility") × 1

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All information correct as of Jan. 24, 2019. All specifications are subject to change without notice.

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