

GRAPHTEC

data LOGGER GL260

Compact Standalone Data Logger



More intuitive operation than ever before
Handy and practical data logger

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1. Overview / Features

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About GL260

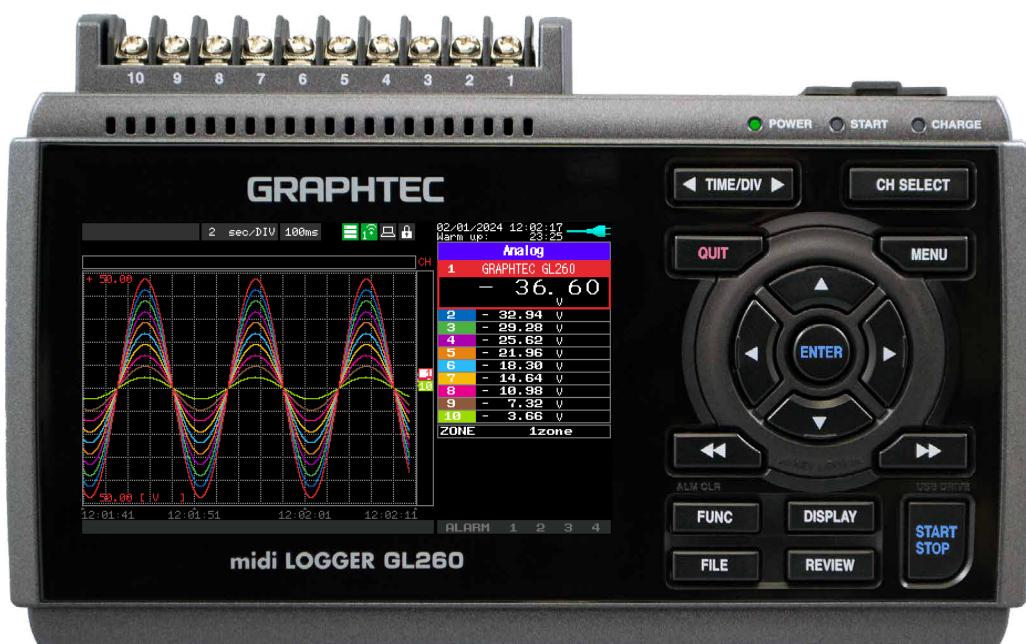
GL260 is a 10-channel type data logger that supports all channel isolated and multi-function input. It can measure various phenomena such as voltage and temperature.

It operates recording at intervals of 10ms to 1 hour.

Also an optional Wireless LAN unit enables wireless measurement and remote monitoring.

GL260 supports the new Remote control service "G-REMOTE", which makes your measuring more efficient.

*G-REMOTE is offered for limited areas only.



G-REMOTE^{NEW!}

Remote control & Data storage service

*Additional fees required.

*The service is offered for limited areas only.

Remote control and the data recording becomes easier by using web browser from anywhere you have an internet connection.

The recorded data can be backed up to a dedicated cloud server.



Get services just when and as much as you need

You can purchase the right plan at the right time.

Plan	Free trial	Basic	Standard	Premium
Price	FREE	1 unit monitoring	Max. 5 units monitoring	Max. 10 units monitoring
Preiod of Use	30 days	360 days	360 days	360 days
Storage capacity	1GB	1GB	5GB	10GB

G-REMOTE

Remote control & Data storage service

*Additional fees required.

*The service is offered for limited areas only.

■ Remote control service

- GL remote control via web browser
- Simple user interface
- Easy setup (same menu design as GL260)
- All communications are encrypted

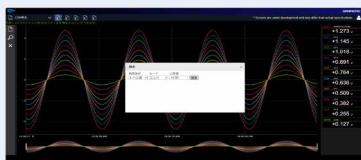


Remote display

New functions *Available for all plans

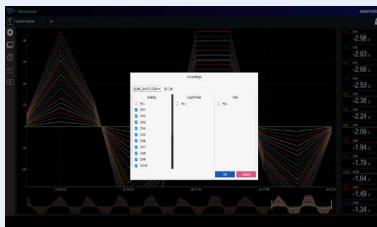
CSV Replay

Play the data recorded in CSV files



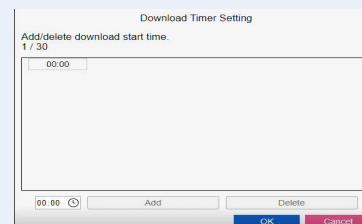
Custom Monitor

Customize the display of waveform and digital value



Download Timer

Transfer data automatically from GL260 to PC at specified time



Heat Area

Place color points for each CH on the image and visualize their condition



■ Data storage service

- Backup of recording data
- Upload and share the data
- Destination of FTP backup function



3 New functions of GL260

1. Alarm history function

Alarm occurrence/clearing time ^{NEW!} and event occurrence channel are clear at glance

This function displays a list of the time history of alarm occurrence/clearing.

Rec to Int Mem		11/14/2023 13:14	Warm up:
==== Alarm history ====			
1:	11/14/2023 13:10:57	Occur	CH4
2:	11/14/2023 13:10:57	Occur	CH2
3:	11/14/2023 13:10:58	Occur	CH1
4:	11/14/2023 13:10:58	Occur	CH3
5:	11/14/2023 13:11:02	Clear	CH1
6:	11/14/2023 13:11:02	Clear	CH3
7:	11/14/2023 13:11:03	Clear	CH2
8:	11/14/2023 13:11:03	Clear	CH4
9:	11/14/2023 13:11:07	Occur	CH4
10:	11/14/2023 13:11:07	Occur	CH2
[<]Previous (1 / 3)		Next [>]	[FUNC]
[<<]Top		End[>>]	Filter settings

Alarms can be checked while data is being recorded, allowing the user to look them back later.

Stores occurrence and clearing history in text data

The file is saved in GAH (Graphtec Alarm History) format and can be opened as a text file.

File Edit Format View Help	
Manufacturer,"GRAPHTEC Corporation"	
Model,"GL260"	
Version,"1.00 "	
Suffix,	
Number, Data position, Date, Time, CH, Flag, Remarks	
1,7888,2023/11/14,13:24:02,CH1,4,"Clear	CH1"
2,7888,2023/11/14,13:24:02,CH3,4,"Clear	CH3"
3,7896,2023/11/14,13:24:03,CH2,4,"Clear	CH2"
4,7897,2023/11/14,13:24:03,CH4,4,"Clear	CH4"
5,7937,2023/11/14,13:24:07,CH4,1,"Occur	CH4"
6,7938,2023/11/14,13:24:07,CH2,1,"Occur	CH2"
7,7945,2023/11/14,13:24:08,CH1,1,"Occur	CH1"
8,7946,2023/11/14,13:24:08,CH3,1,"Occur	CH3"
9,7988,2023/11/14,13:24:12,CH1,4,"Clear	CH1"
10,7988,2023/11/14,13:24:12,CH3,4,"Clear	CH3"
11,7996,2023/11/14,13:24:13,CH2,4,"Clear	CH2"
12,7997,2023/11/14,13:24:13,CH4,4,"Clear	CH4"
13,8037,2023/11/14,13:24:17,CH4,1,"Occur	CH4"
14,8038,2023/11/14,13:24:17,CH2,1,"Occur	CH2"
15,8045,2023/11/14,13:24:18,CH1,1,"Occur	CH1"
16,8046,2023/11/14,13:24:18,CH3,1,"Occur	CH3"
17,8088,2023/11/14,13:24:22,CH1,4,"Clear	CH1"
18,8088,2023/11/14,13:24:22,CH3,4,"Clear	CH3"
19,8096,2023/11/14,13:24:23,CH2,4,"Clear	CH2"

2. Inter-CH operation function

More extensive Inter-CH operation function than ever before NEW!

Inter-CH operation function

Function to perform four arithmetic operations between two CHs
(e.g. record $CH1 + CH2 = X$)

10 virtual channels for calculation

→ No analog CH occupied or overwritten by calculation

Coefficients can now be used in calculations

→ More advanced calculations are now possible

Calculation method can be selected from calculation formula and 4-point input

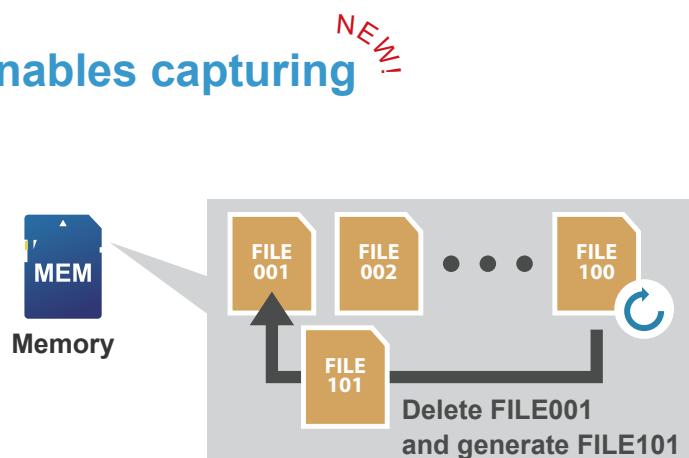
- Calculation formula: Advanced calculations using coefficients and digit adjustments
- The 4-point input: Temperature slope calculation output



3. Memory loop function

Relay capturing function enables capturing without missing data NEW!

In addition to the existing relay function, the oldest file is automatically deleted before memory capacity runs out.



Other capturing functions (existing functions)

Relay capturing function

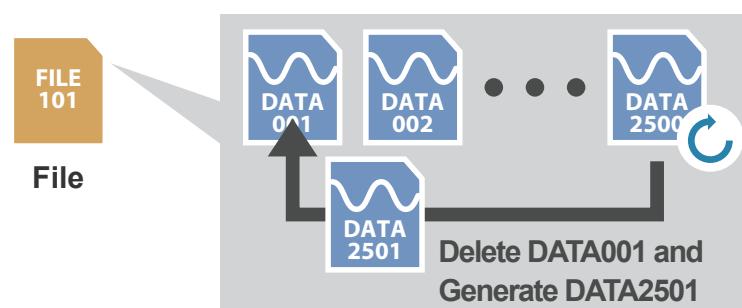
Set the capacity or capturing time of one file, and create a new file when either of them is reached.

Capturing will stop when the memory capacity is full.



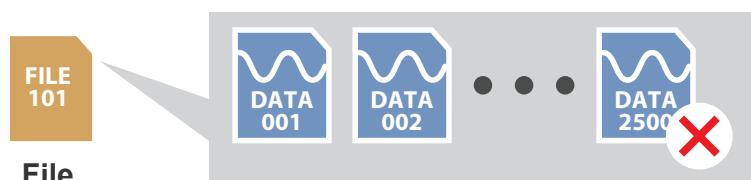
Ring capturing function

The capacity of one file and the number of data points are set, and when either is full, the old data is deleted and capturing continues.



Regular capturing

Stops when the file size reaches 2GB.



2. Improved operability and new functions

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Web server function is accelerated

Functional Improvements

Web server function

This function allows the GL unit settings and measurement values to be monitored using a web browser within the local network.

Easy to set up and control via PC without installing software.

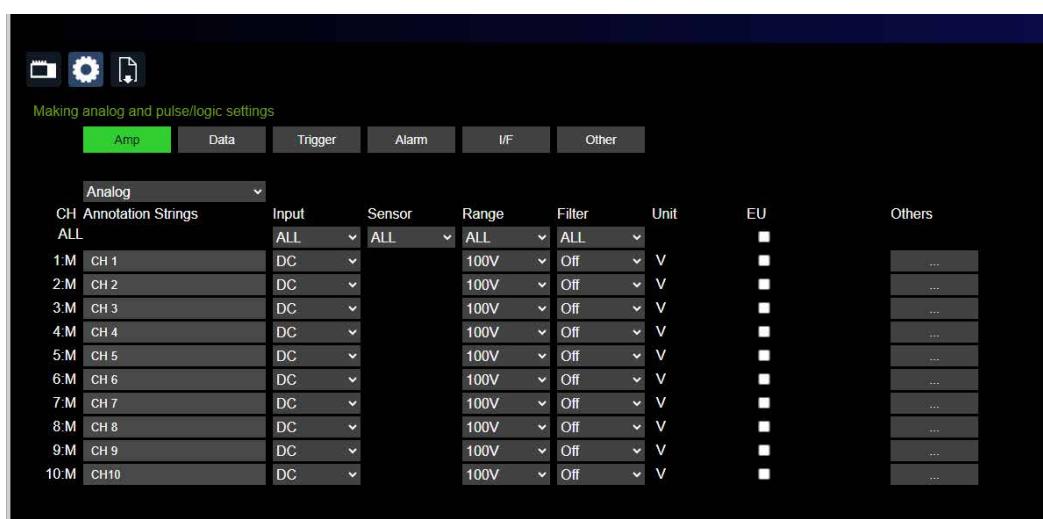
■ Faster and smoother processing of update speeds



*In Graphtec network environment

■ New User Interface NEW!

Same design as GL260 for easier use



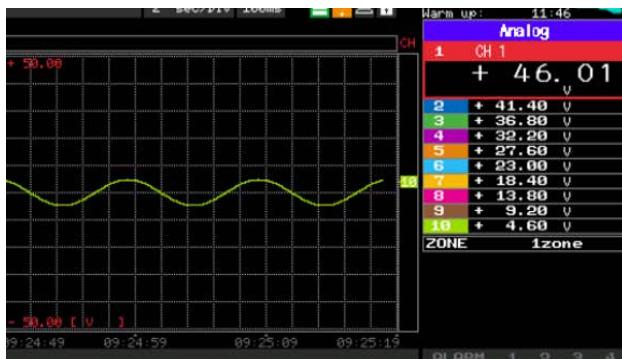
Simplified waveform setup

Functional improvement

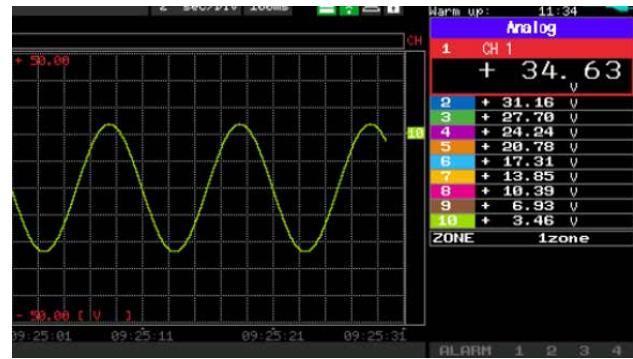
One-touch access to waveform setting screen NEW! Span adjustment is also done automatically

Easy to open settings menu and span adjustment will be done automatically. The waveform is set to the most optimal scale to display.

Before span setting

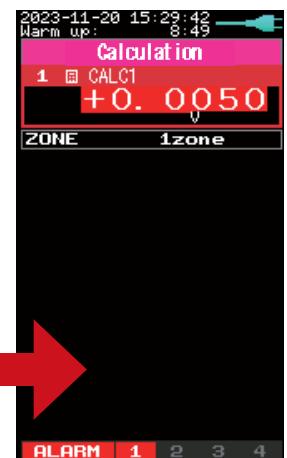
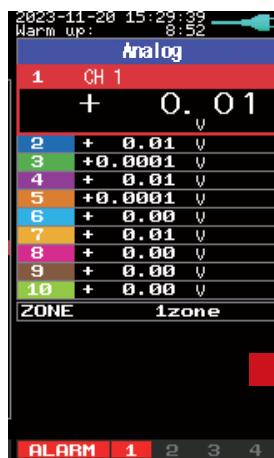


After span setting



Just click the button to switch AMP settings *only when AMP settings is ON.

Push CH SELECT key to switch the CH category display Analog, Logic/Pulse, Calculation during Free Running.



Hide unnecessary menus

Operability improvement

Unused functions can be hidden for even greater ease of use NEW!

The sophisticated menu group of the GL series has been improved more. Display/Hide can be selected from a list or wizard.

Menu display setting window



Menu list screen



<Menu display setting example>

All menus ON

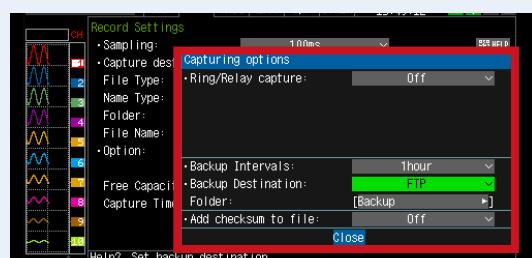


All menus OFF

e.g. only operating measurement with START/STOP keys

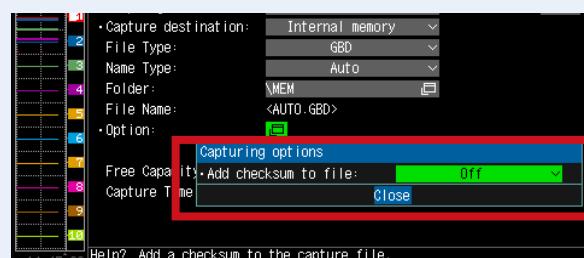


All menus ON



Some menus OFF

e.g. do not use ring/relay capturing function



HELP QR Code Display

Operability improvement

■ Access to FAQ of each functions NEW!

HELP-QR codes of FAQ web page are installed in each setting window of GL260.



Our website has been renewed!

HOME > 計測Q&A > GL260 >

What is the measured input impedance in ohms?

Mar 11, 2024

The input impedance will be 1MΩ.

* Allowable signal source resistance is 300Ω or less.

3 Software

GL28-APS

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GL-Connection

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The software is included in the internal memory of GL260 when it is delivered.

Please copy it to PC with USB drive mode or download free of charge from the website.

Even while using the PC software, data can be transferred to the PC and saved to the internal memory at the same time. It can be used as backup data if PC failure or communication problem occurred.

Standard Included PC Software

GL28-APS

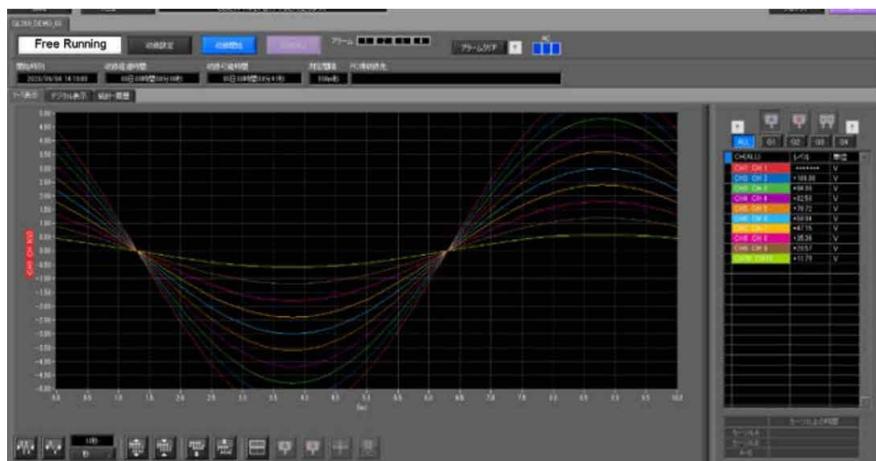
Check, record and save the waveform to your PC

Easy to use software with simple operation and sophisticated display design.

Supported model

**Up to 10 units
can be connected**

- GL860
- GL260
- GL840 Series
- GL240 Series



Main Functions

- Various waveforms display
- Connected device search function
- Scheduling Function
- Search list display function
- Statistical display of any range (max, min, mean, P-P)
- Extract and save data
- The recording synchronization with multiple devices and automatic file synthesis function
- The direct-Excel function
- Save all playback data or convert between cursors

GL Series Integrated Waveform Viewer

GL-Connection

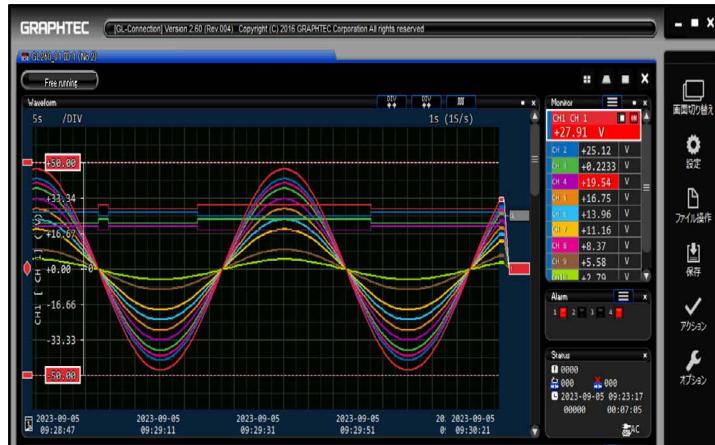
Manage multiple GL series at once

By connecting various GL series devices via USB/LAN, GL series settings and real-time display of input signals, data recording, data playback, etc. can be performed from it.

Supported model

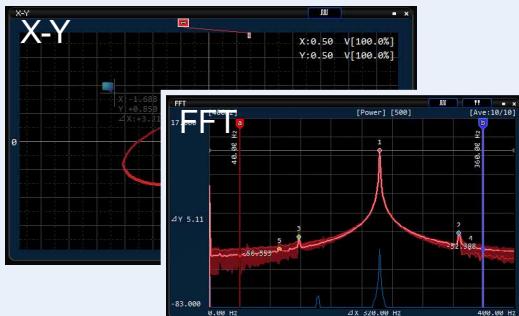
(Current model)

- GL860
- GL260
- GL7000
- GL2000
- GL980
- GL840 Series
- GL240 Series
- GLT400



Main Functions

Various waveforms display



Multi-window function



Tab function

Ability to connect multiple units and merge recorded data

4. Other functions

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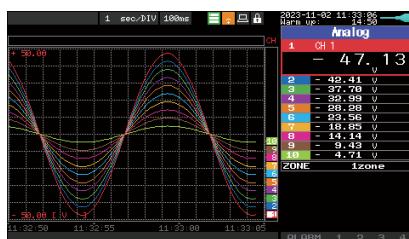
Screen

Screen mode

A variety of screen modes are provided. The display is easy to see according to the customer's application.

Wave + Digital screen

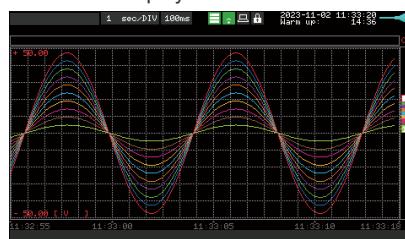
Ideal for viewing current values and changes (trends)



Magnified waveform screen

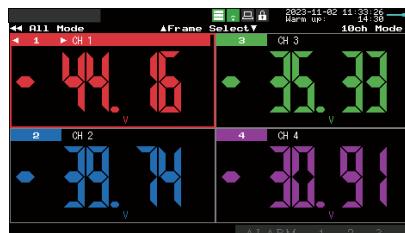
The entire screen can be displayed as a waveform when you see changes (trends)

*Waveform display can be switched between 1s/DIV and 24hour/DIV per DIV (in real time)



Digital + Calculation

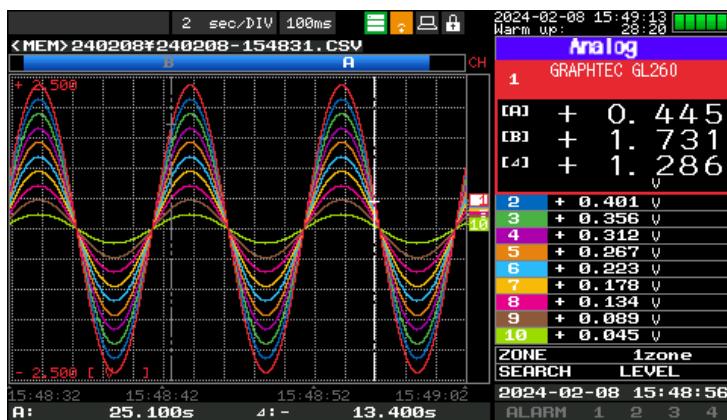
▼ If you want to see instantaneous data, you can view it by digital.



▼ Statistical calculation values can be displayed at the same time



Data confirmation screen during measurement



You can check the past data when you push the REVIE key while recording. The past data can be scrolled with the cursor.

Operability

■ Easy operation NEW

It is easier to see by changing the font and color saturation while simple operation that the cross key and ENTER key remains unchanged.

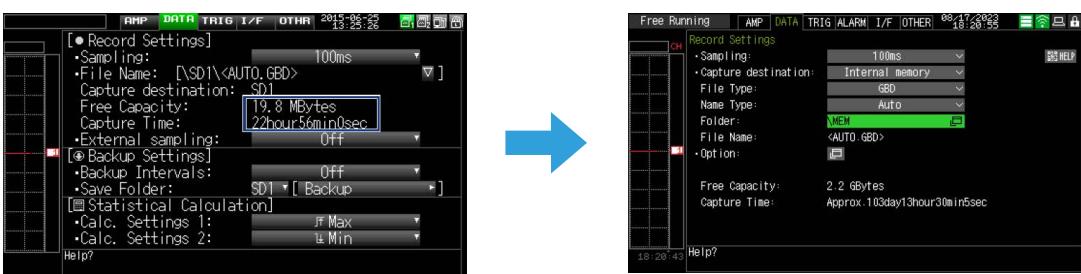
Display color saturation

Easy to read display by changing the color saturation brighter



MENU tree change

For a simple and intuitive tree



New font

Visibility has been improved by changing margins



AMP input

Input type of analog input section

*Input type can be set for each channel

Analog channels are all isolated and multi-function inputs



Voltage

20mV - 100V

Temperature

Thermocouple compatible (K,J,R,E,B,S,N,C (W))

Humidity

0 - 100%

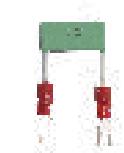
(optional tool B-530 is required)



Electric current

4 - 20%

(optional tool B-551 is required)



Logic/Pulse

Selectable between 4 channels of logic input
or 4 channels of pulse input
(need to optional item, B-513)

- Logic: measure H/L
- Pulse: selectable RPM,
instantaneous value,
and integrated value for each channel



Filter

*Analog channel only

Noise reduction, enable to set for each channel, moving average filter method
Off, 2, 5, 10, 20, 40

AMP input

■ EU function (scaling function)

The sensor data can be output as voltage and converted to another unit for measurement.

(*When inputting voltage on analog channel)

It can also be used for temperature measurement and pulse input.

e.g. Humidity sensor

The sensor outputs humidity 0 - 100% with **a voltage of 0 - 1 V**

Measured value: Voltage 0 - 1 V

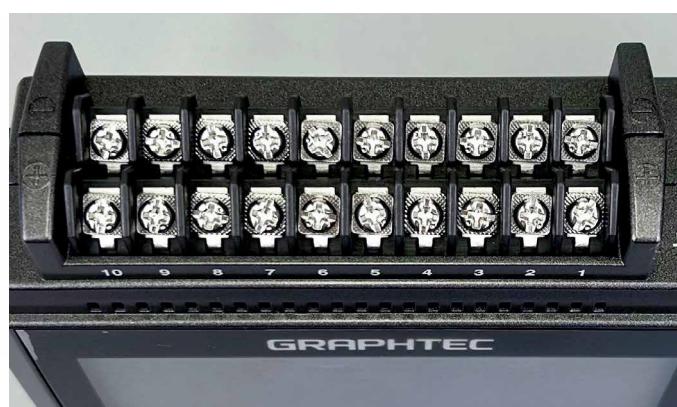
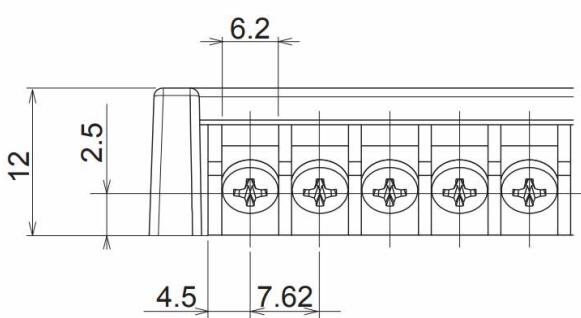
→ **Converted value: Humidity 0 - 100%**



■ Analog input terminal

The analog channel terminal uses a highly versatile M3 screw terminal.

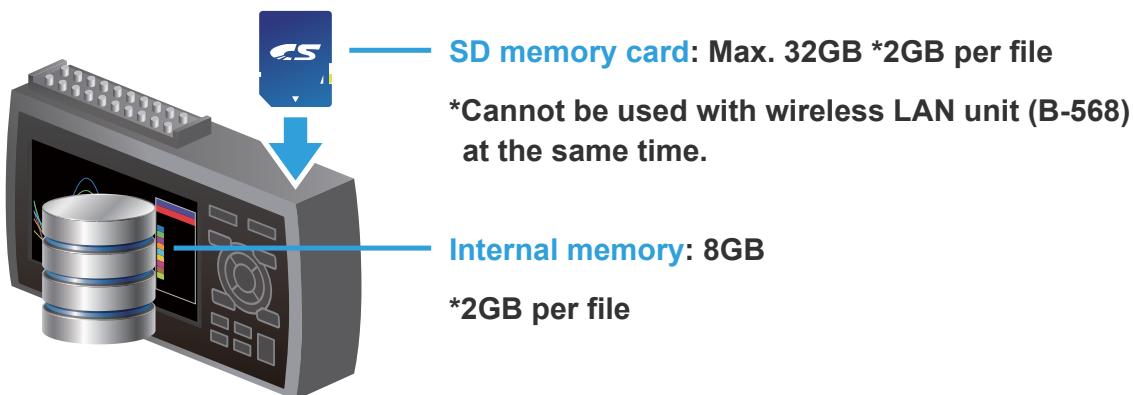
Easy wiring by just pinching to loosened screws.



Memory

Recording destination

Large-capacity internal memory is installed to enable long-term recording. The recording destination can be selected from the internal memory or an SD memory card.



Sampling/recording time

By narrowing down the number of channels, it is possible to record data at a maximum of 10ms.

Sampling interval	10ms	20ms	50ms	100ms
Number of usable channels	1	2	5	10
Measurement target	Voltage	•	•	•
	Temperature	-	-	•

Maximum recording time

Large capacity 8GB memory for long recording times

Recording time example (analog 10ch, 2GB recording)

Sampling interval*	10ms	50ms	100ms	200ms	500ms	1s
GBD format	41 days	88 days	103 days	207 days	365 days or more	365 days or more
CSV format	3 days	12 days	18 days	36 days	91 days	182 days

*The number of channels is limited depending on the sampling interval. 10ms: 1ch, 20ms: 2ch, 50ms: 5ch

Memory

■ **Backup function** (Backup destination: main unit memory, SD memory card, FTP)

Backups are performed at fixed intervals
(1 hour, 2 hours, 6 hours, 12 hours, 24 hours).
Autosave is available.

*When saving in CSV format, please set sampling slower than 100ms.

■ **Ring/relay recording function**

See page 9

Multiple recording functions for various applications

- Normal recording
- Ring recording function
- Relay recording function
- Relay recording function + memory loop function

■ **File save format**

GBD (Graphtec Binary Data) format

→ Our proprietary binary format

CSV format

→ Data can be opened directly in Excel, making it convenient for creating reports.

■ **Replacing SD memory card during measurement**

Memory can be replaced while recording without missing data.
Semi-permanent 24h recording is possible.

TRIGGER

Trigger type/function

Since the recording start/stops automatically according to the set conditions, only the needed data can be extracted.

Unattended measurements are possible under a variety of setting conditions. Enable to create files at any time.

Setting conditions (Can be set for both start and stop sides)

Off / Level / Alarm / External / Time / Day of the week / Fixed time



External trigger (requires optional B-513)
Recording can be started
or stopped using a signal
from an external device as a trigger.



Input signal No-voltage contact (A contact, B contact, NO, NC), open collector, voltage input Conditions at input voltage
Voltage: 0 to +24V, Threshold voltage: approx. +2.5V Hysteresis: 0.5V (+2.5V to 3V)

Alarm

■ Alarm setting/output channel NEW!

Alarm conditions can be set for each channel: analog input channel, logic/pulse channel, and calculation channel.

<Screen image>

Analog



Calculation



Logic/pulse



Alarm output

There are 4 ports, and the output port can be selected for each channel.

Signal output is possible from the output port

(*optional tool B-513 is required)

Alarm output signal

Open collector output (5V pull-up resistor 10KΩ)



When an alarm occurs, you can be notified by email.

(*Optional B-568 is required)

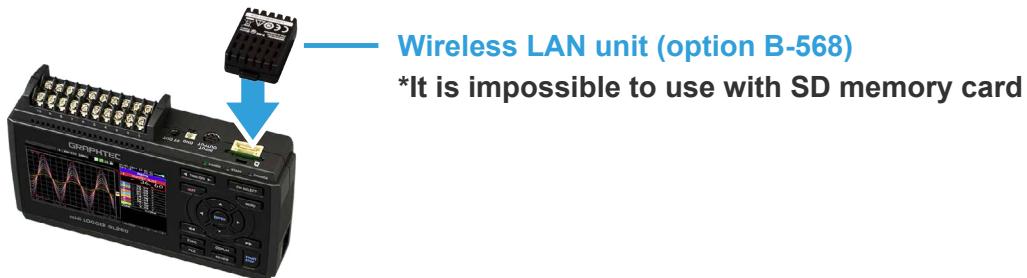
Errors are detected automatically and a screen copy of the occurrence will be attached to the notification email.

Interface

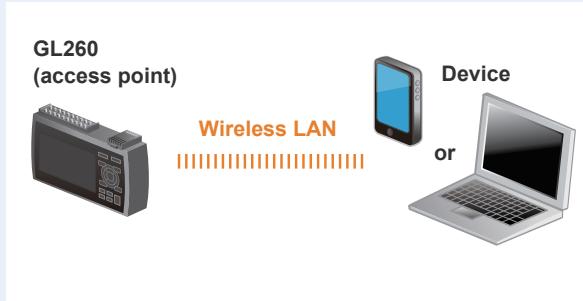
Connection to a PC can be made via USB or wireless LAN.

*Optional B-568 is required for wireless LAN connection. The USB connection is a common A-B type cable.

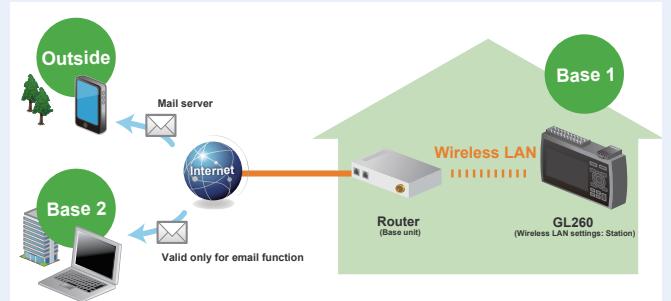
Wireless LAN (access point (base unit)/station (child unit))



Connection between GL main unit (access point) and device (PC/smartphone)

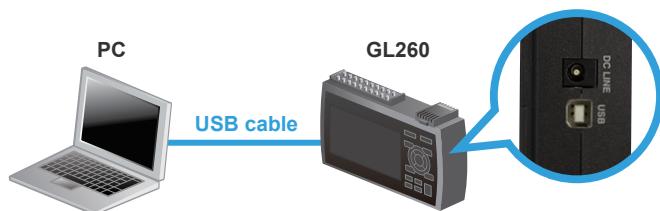


Connection between GL main unit (station) and remote device (PC/smartphone)



USB cable

Connect GL260 and PC with USB cable and data can be easily transferred to a PC by turning on the power while pressing GL260 [START/STOP] key. (USB drive mode function)



*USB cable is not included. Please use a commercially available A-B type.

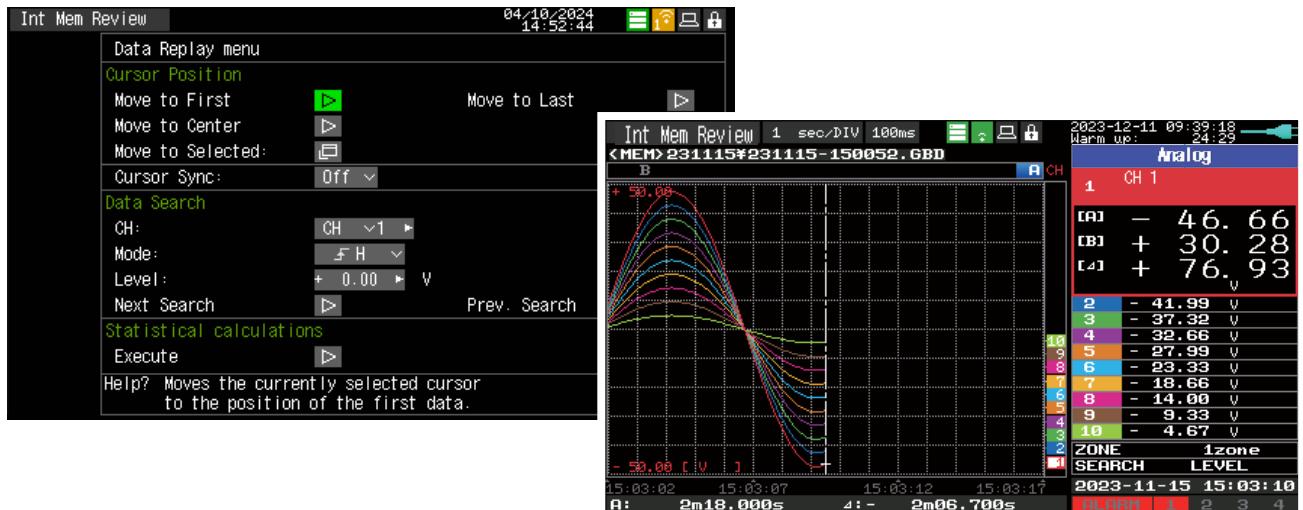
Statistics Calculations & Searches

Search function for playback data NEW!

The relevant point can be searched from a huge amount of data by using set conditions.

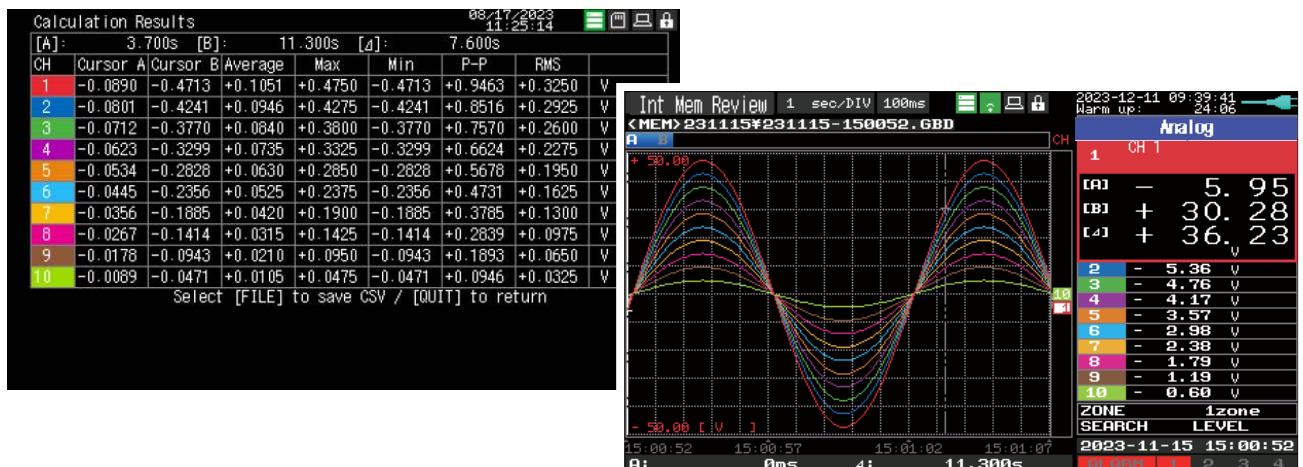
Move the cursor to the set condition value.

Also, recorded data can be played back and searched while recording.



Statistical calculation between cursors

- Statistical calculation results of playback data are displayed instantly.
- No need to check the entire data
(Instantly access the points you want to look by the search function)



Other functions

Power supply form

Power supply formats can be selected according to the application.

AC100V power supply: enable to use with the included AC adapter.

DC power supply: requires optional DC drive cable B-514.

DC8.5V to 24V

Battery powered: requires optional dedicated battery B-573.

Battery compatibility status

Model/Battery	B-569	B-573
GL260	*	Y
GL2000/GL980	Y	-
GL840	Y	-
GL240	Y	-

* Battery performance reduce by 20%

Key operation sound

Key operation sound can be switched ON/OFF.

* GL260 ver.1.04 or later

Compatible standards

Compatible with Radio Law, RoHS, and CE mark

Game function

Game function has came back to help you get used to the controls.



5. Options/Specifications

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Options

Item	Model number	Description
Input/output cable for GL series	B-513	2 m long (no clip on end of cable)
DC drive cable	B-514	2 m long (no clip on end of cable)
Humidity sensor	B-530	3 m long (with power plug) Allowable temperature range (-25 to 80°C)
Wireless unit	B-568	Wireless LAN
Battery pack	B-573	7.2V / 2875mAh
Shunt resistace 250Ω	B-551	±250 Ω (0.1%), Rated power of 1 W
Type T ultrafine thermocouple (TC200×TD1000)	ST-55K-TC-1.2M	Tip wire φ0.127, 0.5X0.7X200mm, relaying 1m, -40 - 260°C, class 2, 5 units
Rod-shaped thermocouple K type	RIC-410	-100 - 300°C, class1, length 1.1m

Specifications

Body specifications

Item	Description		
Number of analog input channels	10 channels		
External input/ output (*1)	Input	Input: Trigger or Sampling (1 channel), Logic/Pulse (4 channels) Input voltage range: 0 - +24V (single-ended input) Input signal: No-voltage contact (a contact, b contact, NO,NC), Open collector, Voltage input	
	Output	Alarm output (4 channels) Output format: Open collector output (+5 V, 10 KΩ pull-up resistance)	
Sampling interval	10 ms to 1 hour (10ms to 50ms: voltage only, number of channels is limited), External signal (*1)		
TIME / DIV	1sec. to 24 hour /division		
Trigger function	Repeat action	Off · On	
	Trigger action	Start or stop capturing data by the trigger	
	Trigger source	Start: Off, Level, Alarm, External, Date, Weekly or Time Stop: Off, Level, Alarm, External, Date, Weekly or Time	
Alarm function	Condition Setting	Combination: OR or AND	
		Analog signal: Rising (High), Falling (Low), Window-in, Window-out Logic signal: Pattern (combination of each input signal in high or low) Pulse (number of count): Rising (High), Falling (Low), Window-in, Window-out	
Pulse input function	Measurement mode	Rotation count (RPM) mode Accumulating count mode Instant count mode	
	Maximum number of pulse inputs	Maximum input frequency: 50kHz Maximum number of count: 50kC/sampling (16-bit counter)	
PC I/F	Internal memory SD card slot Contents	USB (Hi-speed), WLAN (using B-568 option)	
Storage Device		Approx. 8GB	
		1 (Supports SDHC, Up to approx. 32GB memory available) *Up to 2GB per file *Unable to use the SD card slot when using the optional wireless LAN unit	
		Setting conditions of the main unit, Recorded data, Screen capture	
Operating environment	0 to 45 °C, 5 to 85% RH (When operating with battery pack 0 to 40 °C, charging battery 15 to 35 °C)		
Power source	AC adapter	100 to 240 V AC, 50/60 Hz	
	DC power	8.5 to 24 V DC (Max. 26.4V)	
	Battery pack	7.2V DC, 2875mAh (Battery pack option)	
Power consumption	Max. 36 VA (Rating under maximum power consumption using the AC adapter, with LCD display on, and battery pack being charged, 100 V AC)		
External dimensions (W x D x H)	Approx. 188 x 117 x 42mm (Excluding protrusions)		
Weight	Approx. 500g(Excluding AC adapter and battery pack)		
Earthquake resistant	Automotive parts Class 1A equivalent		

*1 Input/Output cable for GL (option B-513) is required to connect the signal.

Specifications

Analog input section specifications

Item	Description		
Type of analog input terminal	Screw terminal (M3 screw)		
Input method	Photo MOS relay scanning system All channels isolated, Balanced input		
Measurement range	Voltage	20, 50, 100, 200, 500 mV, 1, 2, 5, 10, 20, 50, 100 V, and 1-5V F.S. (Full Scale)	
	Thermocouple	Type: K, J, E, T, R, S, B, N, and W (WRe5-26)	
	Humidity	0 to 100% (voltage 0 to 1 V scaling conversion)(usingoption B-530)	
Filter	Voltage	Off, 2, 5, 10, 20, 40 (moving average in selected number)	Voltage: $\pm 0.1\%$ of F.S.
Measurement accuracy(*2) ($23^{\circ}\text{C} \pm 5^{\circ}\text{C}$) -At least 30 minutes after turning the power on - Sampling speed 1s/ 10ch - Filter ON (10) - GND ground	Temperature	Measuring temperature range ($^{\circ}\text{C}$)	Measurement accuracy
A/D converter	Resolution	16Bit (Effective resolution: Approx. $\pm 1/ 40000$ of the measuring full range)	$\pm 0.5^{\circ}\text{C}$
Input resistance		1M Ω $\pm 5\%$	
Maximum input voltage	Between(+) / (-) terminal	- 20mV - 1V range (60Vp-p) - 2V - 100V range (110Vp-p)	
	Between input terminal and input terminal	60Vp-p	
	Between input terminal and GND	60Vp-p	
Withstand voltage	Between input terminal and input terminal	350Vp-p 1minute	
	Channel / GND	350Vp-p 1minute	

(*2) Thermocouples used are T/K: 0.32 ϕ , others: 0.65 ϕ .

Specifications

PC software (GL28-APS) specifications

Item	Description
Supported OS	Windows 11 (64bit) *Operating system that is no longer supported by the OS manufacturer will no longer be supported by us.
Function	Main unit control, realtime data recording, data conversion
Number of groups	4 groups MAX
Number of CHs per 1 group	Up to number of connected module
Maximum number of channels	1000ch
Settings	AMP settings, recording settings, trigger/alarm settings, report settings, others
Recorded data	Realtime data (CSV, GBD Binary) Data in Internal memory or SD memory card (CSV, GBD binary)
Display	Analog waveforms, logic waveforms, pulse waveforms, digital values
Display modes	Y-T View, Digital View, X-Y View between Cursors (only during replay)
File conversion	Between cursors, All data
Monitor functions	Alarm monitor enables sending of email to the specified address
Statistic/ History	Displays maximum, minimum and average values during measurement
Report function	Enables creation of daily or monthly files

PC software (GL-Connection) specifications

Item	Description
Supported OS	Windows 11 (64bit) *Operating system that is no longer supported by the OS manufacturer will no longer be supported by us.
Function	Main unit control, Real time data recording, Conversion, data playback
Number of units connected	Up to 20 units can be mixed and matched via USB and LAN
Display	Analog waveform, Logic waveform, Pulse waveform, Digital waveform
Display mode	Y-T view (Digital view), X-Y View between cursors (data reply only) FFT display, cursor information, recording information display, alarm information display, etc.
Multi-screen function	Up to 4 separate screens to display different waveforms at the same time
Recorded data	Real time data (CSV, GBD binary) Internal memory or SD memory card data (CSV, GBD binary) *Sampling is limited by conditions.
Statistic/ History	During recording: Maximum, Minimum, Average, Peak During playback cursor: Maximum, Minimum, Average, Peak, RMS
Direct-Excel Function	Transfer recorded data directly to Excel
E-mail send function	The e-mail is sent to the specified address when the alarm monitor is performed

Specifications

Standard included accessory

Item	Description	Quantity
TO ENSURE SAFE AND CORRECT USE	This document contains important information to ensure the safe and proper use of the product.	1
Notice	This document provides a clear explanation of the basic operations.	1
AC cable/AC adapter	100 to 240 VAC, 50/60 Hz	1
Ferrite core	This is used to attach to the USB cable.	1

- Due to the possibility of equipment or PC failure, the data files on the instrument will not be guaranteed to be held on the memory.
Please make a backup of data whenever possible to avoid data loss.
- Brand names and product names listed in this brochure are the trademarks or registered trademarks of their respective owners.
- Items mentioned are subject to change without notice. For more information about product, please check the web site or contact your local representative.

⚠ For using equipment in correctly and safely • Before using it, please read the user manual and then please use it properly in accordance with the description.
• To avoid malfunction or an electric shock by current leakage or voltage, please ensure a ground connection and use according to the specification.