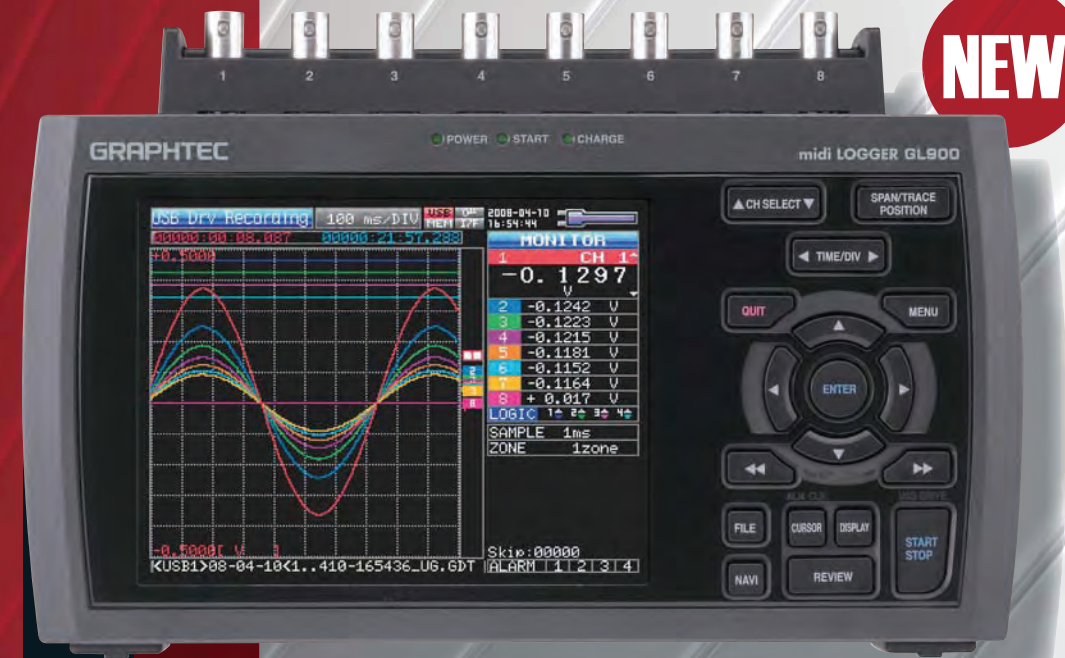


High-speed isolated 8-channel multifunction logger midi LOGGER GL900

NEW



Voltage

Multifunction input on eight isolated channels

Temperature

High-speed simultaneous sampling on eight channels, 16-bit resolution

Humidity

Equipped with a large-format 5.7-inch color LCD for easy-to-read waveform display

Pulse

Data can also be saved to PC-friendly USB memory sticks

Logic

| GL900 main unit specifications | | |
|--------------------------------|--|---|
| Item | Description | |
| No. of analog input ch. | 8 ch | |
| External input/output | Trigger input (1 channel), Logic input (4 channels) or Pulse input (4 channels), Alarm output (4 channels) | |
| Sampling interval | 10µs to 1 min | |
| TIME/DIV | 10 ms/DIV to 24 hour/DIV | |
| Timer functions | Date and time, daily cycle, hourly cycle | |
| Trigger functions | Type | Start: Data capture starts when a trigger is activated; Stop: Data capture stops when a trigger is activated |
| | Condition | Start: Off, Input signal level (analog, logic/pulse), External*1 Stop: Off, Input signal level (analog, logic/pulse), External*1, Scheduled time |
| | Combination | Input signal level: Level OR, Level AND, Edge OR, Edge AND |
| | Mode | H (Rising), L (Falling), Window In*2, Window Out*2 |
| Alarm setting functions | Rising, Falling, Window In*2, Window Out*2 | |
| Alarm output*1 | Number of channels: 4, Open collector output (5V, 10 kΩ pull-up resistance) | |
| Pulse input*1, *3 | RPM mode | 5 to 20 M RPM/F.S. (in steps of 1, 2, or 5) |
| | Count mode | 5 to 20 M C/F.S. (in steps of 1, 2, or 5) |
| | Inst. Mode | 5 to 20 M C/F.S. (in steps of 1, 2, or 5) |
| Calculation functions | Statistical calculations*4: Average, Peak, Maximum, Minimum, RMS (2 calculations can be set simultaneously) | |
| Other functions | Search function, annotation input function | |
| PC interface | Ethernet (10BASE-T/100BASE-TX), USB (High Speed supported) provided as standard | |
| Ethernet functions | Web server function, FTP server function, NTP client function | |
| USB function | USB drive mode (File transfer and deletion from internal GL900 memory) | |
| Memory device | Internal | One million data points / Internal flash memory: Approx. 256 MB |
| | External | USB memory slot (High speed supported)*5 |
| Display screens | Waveforms + digital values, enlarged waveforms, digital values + calculation results, X-Y | |
| Display unit | 5.7-inch TFT color LCD | |
| Operating environment | 0 to 40°C, 5 to 85% R.H. (15 to 35°C when using batteries) | |
| Withstand voltage | Between each input channel and GND: 1000 V p-p for one minute, between input terminals: 1000 Vp-p for one minute | |
| Power supply | AC adapter | 100 to 240 VAC, 50 to 60 Hz |
| | DC input | 8.5 to 24 VDC |
| Battery pack*6 | Option | |
| Power consumption | 28 VA | |
| External dimensions | 232 x 150 x 80 mm (W x H x D), approx. | |
| Weight (approx.) | 1.1 kg (excluding AC adapter and battery) | |
| Vibration-tested conditions | Equivalent to automobile parts Type 1 Category A classification | |

| Terminal block specifications | | | | |
|---|---|---|--|--|
| Item | Description | | | |
| Number of input channels | Fixed to 8 channels | | | |
| Input terminal type | Voltage | BNC connector | | |
| | Temperature | M3 screw type terminal board*7 | | |
| Input method | All channels isolated Imbalanced input Simultaneous sampling of all channels | | | |
| Measurement ranges | Voltage | 20, 50, 100, 200, 500 mV; 1, 2, 5, 10, 20, 50, 100, 200, 500 V F.S., 1-5 V F.S. | | |
| | Temperature | Thermocouples: K, J, E, T, R, S, B, N, W (WR5-26) | | |
| | Humidity | 0 to 100% (voltage 0 V to 1 V scaling conversion)* with B-530 (option) | | |
| Input filter | Off, Line, 5 Hz, 50 Hz, 500 Hz | | | |
| Measurement accuracy*8 (23°C±5°C) When 30 minutes or more have elapsed after power was switched on Filter: Line GND: connected | Thermocouple | Type | Measurement temperature range | Measurement accuracy |
| | | R/S | 0 ≤ TS ≤ 100 100 < TS ≤ 300 R: 300 < TS ≤ 1600 S: 300 < TS ≤ 1760 | ±7.0°C ±5.0°C ±(0.05% of rdg + 3.0°C) ±(0.05% of rdg + 3.0°C) |
| | B | 400 ≤ TS ≤ 600 600 < TS ≤ 1820 | ±5.5°C ±(0.05% of rdg + 3.0°C) | |
| | K | -200 ≤ TS ≤ -100 -100 < TS ≤ 1370 | ±(0.05% of rdg + 3.0°C) ±(0.05% of rdg + 2.0°C) | |
| | E | -200 ≤ TS ≤ -100 -100 < TS ≤ 800 | ±(0.05% of rdg + 3.0°C) ±(0.05% of rdg + 2.0°C) | |
| | T | -200 ≤ TS ≤ -100 -100 < TS ≤ 400 | ±(0.1% of rdg + 2.5°C) ±(0.1% of rdg + 1.5°C) | |
| | J | -200 ≤ TS ≤ -100 -100 < TS ≤ 100 100 < TS ≤ 1100 | ±3.7°C ±2.7°C ±(0.05% of rdg + 2.0°C) | |
| | N | 0 ≤ TS ≤ 1300 | ±(0.1% of rdg + 2.0°C) | |
| | W | 0 ≤ TS ≤ 2315 | ±(0.1% of rdg + 2.5°C) | |
| | Reference contact compensation accuracy: ±1.0°C ‡ Thermocouple diameters T: 0.32φ, others: 0.65φ | | | |
| A/D converter | 16 bits (out of which 14 bits are internally acknowledged) | | | |
| Maximum permissible input voltage | Between input channel + and - terminals | 20 mv to 1 V : 30 Vp-p 2 V to 500 V : 500 Vp-p | | |
| | Between input channel terminals | 60 Vp-p | | |
| | Between input channel terminal and GND terminal | 60 Vp-p | | |
| Withstand voltage | Between input channel terminal and GND terminal | 1 minute at 1000 Vp-p | | |
| | Between input channel terminals | 1 minute at 1000 Vp-p | | |

*1 Logic alarm cable (B-513) is required.
*2 Cannot be set for logic input
*3 Maximum input frequency: 50 kHz, maximum number of counts: 1 5 M C
*4 In real time or when Between Cursors has been specified (during Replay)
*5 1 file = 2 Gbytes (depends on the USB memory stick used)
*6 Please install two battery packs.
*7 Connections are made to both the BNC terminal and M3 screw terminal for the same channel.
*8 Thermocouple diameters T: 0.32φ, others: 0.65φ
*9 Operating temperature range: -25 to +80°C

| Control software specifications | | |
|-----------------------------------|--|---|
| Item | Description | |
| Supported OS | Windows 2000, Windows XP, Windows Vista (32-bit and 64-bit versions) | |
| Functions | GL900 control, real-time data capture, data conversion | |
| Setting range | Amp settings, data capture settings, trigger settings, alarm settings, other | |
| Captured data | Real-time data | Binary: Sampling speed: 10 µs to 60 s CSV: Sampling speed: 10 ms to 60 s |
| | Data conversion | Binary, CSV |
| Display information | Analog waveforms, logic waveforms, pulse waveforms, digital values | |
| File conversion | Data between cursors, All data | |
| 2-screen function (Zoom) | Display of current and past data | |
| Display of statistics and history | Display of maximum, minimum, and average values | |

| Options and accessories | | | |
|--|------------|---------------|--|
| Product name | Model name | Specification | |
| Battery pack*6 | B-517 | One pack | |
| Logic alarm cable | B-513 | 2 m | |
| DC drive cable | B-514 | 2 m | |
| Humidity sensor*9 | B-530 | 3 m | |
| Safe probe | RIC-141 | 1:1, 42 pF | |
| BNC-BNC cable | RIC-112 | 1.5 m | |
| BNC banana plug cable | RIC-113 | 1.5 m | |
| BNC alligator clip cable | RIC-114 | 1.5 m | |
| Rod-shaped K-type thermocouple | RIC-410 | 1.1 m | |
| K-type thermocouple for static surfaces | RIC-420 | 1.1 m | |
| L-shaped K-type thermocouple for static surfaces | RIC-430 | 1.1 m | |

| Digital clamp meter (incorporating output function) specifications | | | | |
|--|-------------|------------------------|------------------------|------------------------|
| Item | CM-211 | CM-114 | CM-113 (Leak clamp) | CM-112 (Clamp adapter) |
| Current | DC | 0 to 400A / 0 to 2000A | 0 to 400A / 0 to 1000A | 0 to 40A / 0 to 400A |
| | AC | 0 to 400A / 0 to 2000A | 0 to 400A / 0 to 1000A | 0 to 40A / 0 to 400A |
| Voltage | DC | ○ | ○ | ○ |
| | AC | ○ | ○ | ○ |
| Other | Frequency | ○ | ○ | ○ |
| | Duty ratio | ○ | ○ | ○ |
| | Pulse width | ○ | ○ | ○ |



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8 isolated channels & high speed simultaneous sampling

In compliance with various test requirements, this data logger is capable of performing high-speed simultaneous voltage and temperature measurements

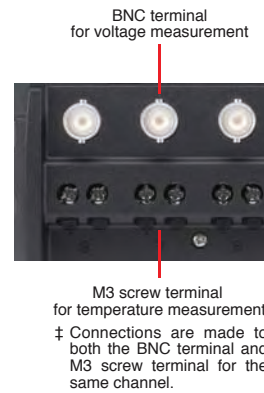


High-speed isolated 8-channel multifunction logger midi **LOGGER** GL900

Easy-to-use, upright, high-speed, isolated 8-channel multifunction logger

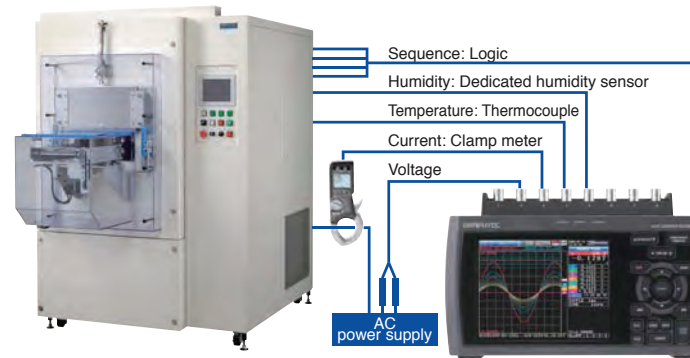
An easy-to-use upright device enabling isolated 8-channel multifunction input, the GL900 is capable of performing high-speed simultaneous measurements of voltage, temperature, and various other phenomena.

- Voltage** +/-20 mV to +/-500 V
- Temperature** Thermocouples: K, J, E, T, R, S, B, N, W
- Humidity** 0 to 100% (the B-530 option is required)
- Pulse** 4 channels Count, Inst., Rpm
- Logic** 4 channels ‡ Select either Pulse or Logic



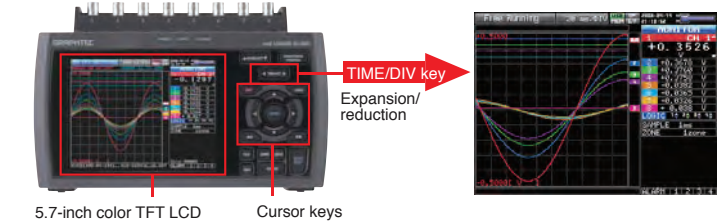
High-voltage measurement capabilities

The wide 500 V range enables 100 to 240 VAC power supply voltage waveform measurements. Using logic input and a clamp meter simultaneously allows measurement of a device's power supply voltage and current concurrently with sequential control of various points.



Built-in, large-format 5.7 inch color LCD for easy-to-read waveforms

The bright, easy-to-read large-format 5.7-inch color TFT LCD provides vivid, easy-to-read waveform displays. Cursor keys enable fast, easy control and setup. The waveform display can be scrolled at high-speed – 10 ms/DIV.

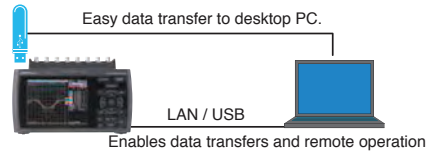


Free Running display for waveform-checking without the need for data capture

The Free Running display lets users check input signal waveforms even before measurements begin. Since waveforms are displayed on each setup screen, users can make settings while viewing the waveforms.

Data can be captured to PC-friendly USB memory sticks

Long-term data can be captured directly to built-in 256-MB flash memory or to an external USB memory stick at sampling intervals of from 1 ms to 1 min. For high-speed sampling at intervals faster than 1 ms, up to one million data points can be captured to internal RAM.



Example of 8-channel analog measurement

| Capture destination | 10µs | 100µs | 500µs | 1ms | 10ms | 100ms | 1s |
|---|------------|----------------------------|----------------------------|-----------------------------|---------------------------|--------------------------|-----------------------------|
| Internal RAM (up to one million points) | 10 seconds | Approx. 1 min. and 40 sec. | Approx. 8 min. and 40 sec. | Approx. 16 min. and 40 sec. | Approx. 2 hrs. and 3 hrs. | Approx. 1 day and 3 hrs. | Approx. 11 days and 13 hrs. |
| Internal flash memory (256 MB) | x | x | x | Approx. 11 hrs. | Approx. 4 days | Approx. 49 days | Approx. 493 days |
| External USB memory stick (512 MB) | x | x | x | Approx. 22 hrs. | Approx. 8 days | Approx. 98 days | Approx. 986 days |

The USB memory stick must be a standard model (without fingerprint recognition or other proprietary features).

Can be used as an X-Y recorder

The GL900 reproduces analog X-Y recorder movements and provides the illusion of pen up/pen down movements. It can be operated like an analog X-Y recorder and can also be used as a 4-pen X-Y recorder. The digital data format facilitates post-measurement confirmation of data values and report creation.



High precision measurement even during high-speed sampling

Lets users perform high-precision temperature measurements even during high-speed sampling – ideal for performing combined voltage and temperature measurements.

Comprehensive built-in trigger and timer functions

Using a combination of trigger and timer functions eliminates superfluous data and enables capture of only the required data.

Setting example 1 To perform measurement over a four-day period starting January 10

| | | | |
|-----------------|---------------|---------------|--------------------------------|
| Timer setting | Date and time | Start setting | January 10 00 hours 00 minutes |
| | | Stop setting | January 14 23 hours 59 minutes |
| Trigger setting | | Start trigger | Off |
| | | Stop trigger | Off |

Setting example 3 To perform measurements every 20 minutes

| | | | |
|-----------------|--------------|---------------|-----------------------|
| Timer setting | Hourly cycle | Start setting | 00 minutes 00 seconds |
| | | Stop setting | 20 minutes 00 seconds |
| Trigger setting | | Start trigger | Off |
| | | Stop trigger | Off |

Setting example 2 To perform measurements of abnormal signals during device operations

| | | | |
|-----------------|-------------|---------------|--------------------------|
| Timer setting | Daily cycle | Start setting | 09 hours 00 minutes |
| | | Stop setting | 17 hours 00 minutes |
| Trigger setting | | Start trigger | Level CH 1 (3 V Rising) |
| | | Stop trigger | Level CH 1 (2 V Falling) |
| | | Repeat | On |

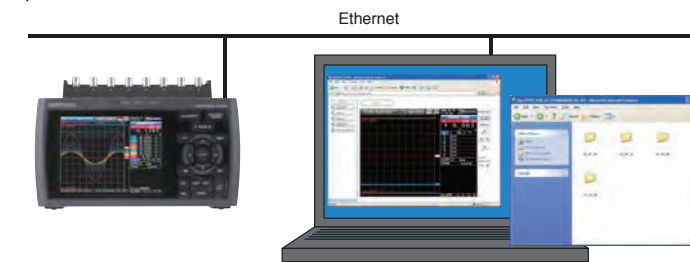
Setting example 4 To perform measurements for a period of one hour, every four hours, daily

With the timer set to daily cycle status, data is captured repeatedly for one hour every four hours.

| | | |
|------------------|----------------------|--|
| Timer settings | Timer mode | Off, Date and time, Daily cycle, Hourly cycle |
| Trigger settings | Start source setting | Off, Level value, External input |
| | Stop source setting | Off, Level value, External input, Scheduled time |
| | Pre-trigger | 0~100% |
| | Repeat capture | On, Off and Repeat interval |

Easy PC measurement via USB; remote monitoring via ethernet Web server and FTP functions

The USB and Ethernet connections enable transfer of captured data to your PC and setup and control of the GL900 from a PC, even without the PC software provided standard with the GL900.



Web server/FTP server functions

Waveform display and GL900 setup operations can be performed via a web browser (e.g., Internet Explorer). In addition, data files captured to the GL900's internal memory or to a USB memory stick can be transferred or deleted from the PC.

USB drive mode

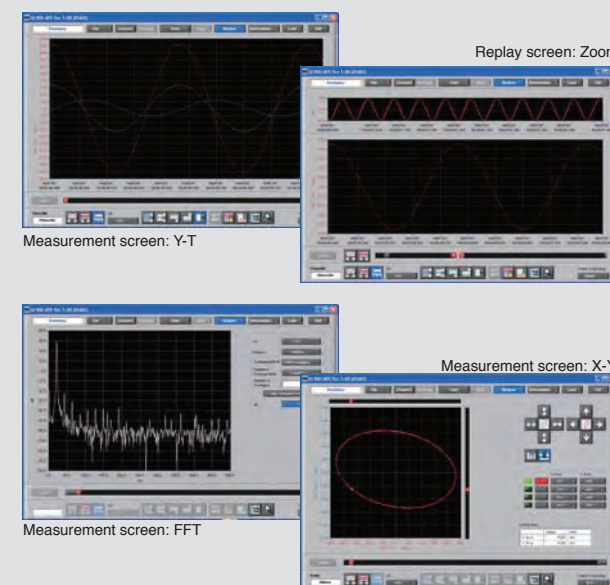
When your GL900 is connected to your PC via the USB interface, the GL900 can be operated in USB mode to enable fast, easy data transfers from internal memory to the PC.

NTP client function

Simply connect the GL900 to an NTP server via an Ethernet connection to synchronize GL900 time with NTP server time at periodic intervals.

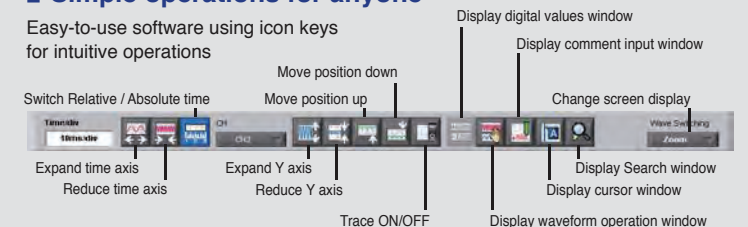
Dedicated software for real-time data capture

Three measurement screens are provided to allow selection of the screen that best suits measurement needs. The Replay screen provides a Zoom screen feature to enable enlarged display of specific sections of long-term measurement data.



Simple operations for anyone

Easy-to-use software using icon keys for intuitive operations



Convenient functions

Various convenient data-processing functions are built in.

- **Direct to Excel function**
This function enables measurement data to be written directly to an Excel file.
- **Search function**
This function enables searching for specific values in the captured data.
- **CSV batch conversion function**
This function enables batch conversion of multiple captured files to CSV file format.
- **Thumbnail function**
This function enables display of captured data files as thumbnails.