

# GRAPHTEC

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<br>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           | 30 VA (when operating with AC power)                                                                                                                           |
| 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                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 (WRe5-26)                                                                                          |
|                                                                                                                                   | 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                                                                                                                       | ±0.25% of F.S.                                                                                                                                           |
| accuracy *8<br>(23°C±5°C)<br>When 30 minutes or more have elapsed after power was switched on<br>Filter : Line<br>GND : connected | Thermocouple Type Measurement temperature range Measurement accuracy                                                                                     |
|                                                                                                                                   | R/S 0°C ≤ TS ≤ 100°C ±7.0°C<br>100°C < TS ≤ 300°C ±5.0°C<br>R:300°C < TS ≤ 1600°C ±(0.05% of rdg +3.0°C)<br>S:300°C < TS ≤ 1760°C ±(0.05% of rdg +3.0°C) |
|                                                                                                                                   | B 400°C ≤ TS ≤ 600°C ±5.5°C<br>600°C < TS ≤ 1820°C ±(0.05% of rdg +3.0°C)                                                                                |
|                                                                                                                                   | K -200°C ≤ TS ≤ -100°C ±(0.05% of rdg +3.0°C)<br>-100°C < TS ≤ 1370°C ±(0.05% of rdg +2.0°C)                                                             |
|                                                                                                                                   | E -200°C ≤ TS ≤ -100°C ±(0.05% of rdg +3.0°C)<br>-100°C < TS ≤ 800°C ±(0.05% of rdg +2.0°C)                                                              |
|                                                                                                                                   | T -200°C ≤ TS ≤ -100°C ±(0.1% of rdg +2.5°C)<br>-100°C < TS ≤ 400°C ±(0.1% of rdg +1.5°C)                                                                |
|                                                                                                                                   | J -200°C ≤ TS ≤ -100°C ±3.7°C<br>-100°C < TS ≤ 100°C ±2.7°C<br>100°C < TS ≤ 1100°C ±(0.05% of rdg +2.0°C)                                                |
|                                                                                                                                   | N 0°C ≤ TS ≤ 1300°C ±(0.1% of rdg +2.0°C)                                                                                                                |
|                                                                                                                                   | W 0°C ≤ TS ≤ 2315°C ±(0.1% of rdg +2.5°C)                                                                                                                |
|                                                                                                                                   | Reference contact compensation accuracy : ±1.0°C                                                                                                         |
| 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 : ±30VDC<br>2 V to 500 V : ±500VDC                                                                  |
|                                                                                                                                   | Between input channel terminals 60 Vp-p                                                                                                                  |
|                                                                                                                                   | Between input channel terminal and GND terminal 60 Vp-p                                                                                                  |
|                                                                                                                                   | Between input channel terminal and GND terminal 1 minute at 1000 Vp-p                                                                                    |
| Withstand voltage                                                                                                                 | 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: 15 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

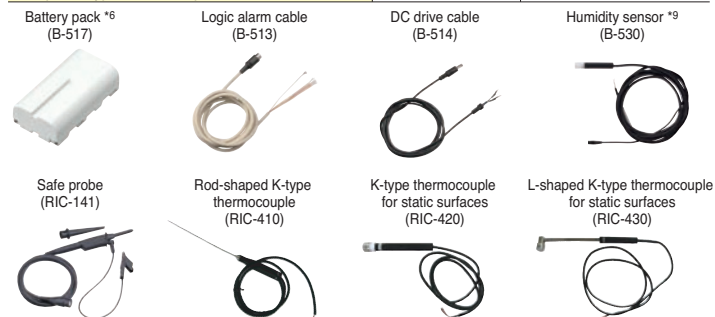
\*9 Operating temperature range: -25 to +80°C

## 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<br>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)  |
|---------|----------------------------------|----------------------------------|----------------------|
| Current | DC 0 to 400A /0 to 2000A         | 0 to 400A /0 to 1000A            |                      |
|         | AC 0 to 400A /0 to 2000A         | 0 to 400A /0 to 1000A            | 0 to 300mA /0 to 60A |
| Voltage | DC ○                             | ○                                | ×                    |
|         | AC ○                             | ○                                | ×                    |
| Other   | Frequency Duty ratio Pulse width | Frequency Duty ratio Pulse width |                      |



CM-211

CM-114

CM-113

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RoHS Compliant model

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ER040810 Vol.2