

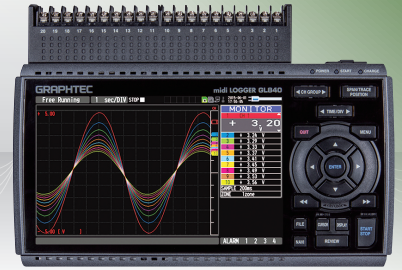
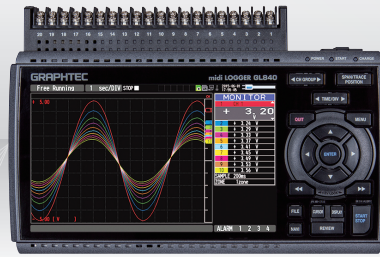
# GRAPHTEC

Isolated/Universal Input,  
Standalone Multi-Channel Datalogger

## midi LOGGER GL840-M GL840-WV

**NEW** Multi-Input Model  
midi LOGGER GL840-M

**NEW** High Voltage  
Withstand Model  
midi LOGGER GL840-WV



### Expandable up to 200 channels

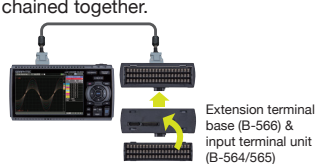
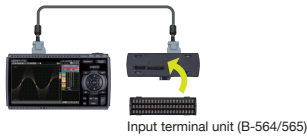
Standard configuration has 20 analog input channels. It is expandable to 200 channels by adding the optional 20 channel extension terminal base unit (B-566) and input terminal units (B-564 or B-565).

The following shows how a standard configuration is expanded to a 40 channel configuration.

1. Terminal unit is removed from the main body of the GL840.
2. Extension terminal base unit (B-566) connects to the GL840 using the external cable (B-567).

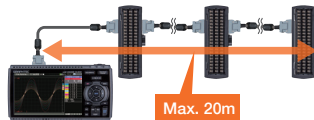


3. Terminal unit snaps onto the extension terminal base unit (B-566).
4. The combined extension terminal base set (B-566) and additional input terminals (B-564 or -565) are daisy chained together.



### Offers longer cable for the input terminals

Input terminal blocks can be connected directly (in daisy chain), or using the B-565 cable(s). This allows the input terminals to be placed in separate locations according to the need of the application. The input terminal and the GL840 main body can be extended by using an extended connection cable.



\* If the signal is affected by noise, it may be required to use a slower sampling.

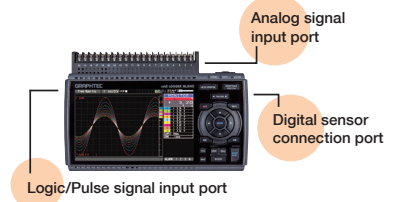
### two models for application specific use

| Withstand voltage & Accuracy |                                 | Multi-input type (B-564)                      | Withstand-voltage type (B-565) |
|------------------------------|---------------------------------|---|--------------------------------|
| Voltage                      | Input voltage range             | 20 mV to 100 V                                | 20 mV to 100 V                 |
|                              | Max. voltage (Input - GND)      | 60 Vp-p                                       | 300 Vp-p                       |
| Temp.                        | Thermocouple                    | R, S, B, K, E, T, J, N, W (WR5-26)            |                                |
|                              | RTD (Resistance Temp. Detector) | Pt100 (IEC751), JPt100 (JIS), Pt1000 (IEC751) |                                |
| Accuracy                     | Voltage                         | ± 0.1% of F.S.                                | ±(0.05% of FS + 10µV)          |
|                              | Temperature*                    | ± 1.55 °C                                     | ± 1.1 °C                       |

\* Accuracy rating for K-type thermocouple at 100°C includes reference junction compensation. Accuracy varies by the temperature levels and thermocouple types.

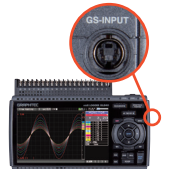
### Three types of input systems enable measurement of various signals

Along with the basic analog signal, Logic/Pulse, and digital sensors can be all connected to monitor a variety of measurements.



### Support digital sensors

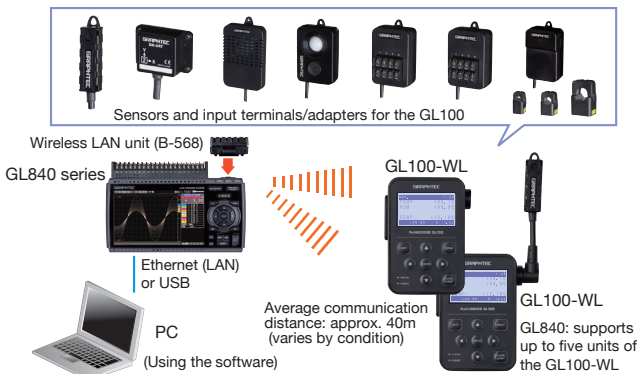
Digital sensors and input terminal/adapters for the GL100 connects to the GL840 directly.



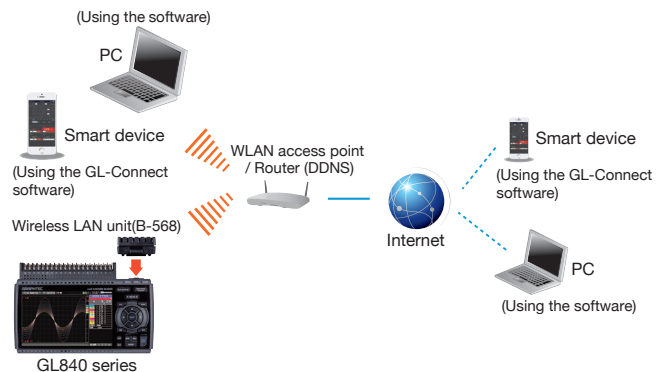
## Wireless Measurement Using WLAN (option)

Wireless LAN option enables the wireless communication with other devices. Connects to the GL100-WL wireless unit remotely when set as an access point. When set as a station, PC and smart devices will be able to access the WLAN unit directly.

### Combining GL100-WL and GL840



### Communication with the PC or Smart device



# High quality performance and measurement software with useful functions for the PC & smart device environment

## For PC (APS)

Software for the PC is included as a standard accessory.

### ■ Supports GL840, GL100

Up to 10 units of GL840 and GL100 can be connected to 1 PC simultaneously. Up to 1000 channels are supported.

### ■ Controls settings for GL840, GL100

### ■ Various measurement screen

Displays data in Y-T waveform, digital monitoring, statistical calculation result. The direct-Excel function enables captured data to be written directly to an Excel file.



### ■ File operation

Data captured in multiple files can be merged into a single file. Using the *combine* function, data can be imported as a new channel overlaying on top of each other. The *bind* function connects the data in a time axis. When using the relay capture mode, the bind feature will append multiple files together into one large, continuous file.

#### Main unit series specifications

| Item   | Description  |
|--|--|
| Model number   | GL840-M/GL840-WV   |
| Number of analog input channels                              | 20 channels in standard configuration, Expandable up to 200 channels   |
| Number of analog input terminals                             | Up to 10 terminals (standard config: 1)  |
| Type of analog input terminal                                | Multi-input type, Withstand-voltage type   |
| Port for digital sensor                                      | 1 port for the sensor/terminal of the GL100  |
| Time scale of waveform display                               | 1 sec. to 24 hour/division   |
| Trigger, Alarm function                                      | Trigger action: Start or stop capturing data by the trigger<br>Repeat action: Off, On (auto rearmed)<br>Trigger source: Start: Off, Measured signal, Alarm, External, Clock, Week or Time<br>Stop: Off, Measured signal, Alarm, External, Clock, Week or Time  |
| Condition Setting  | Combination: OR or AND<br>Analog signal: Rising (High), Falling (Low), Window-in, Window-out<br>Logic signal: Pattern (combination of each input signal in high or low)<br>Pulse (number of count): Rising (High), Falling (Low), Window-in, Window-out  |
| Pulse input function   | Rotation count (RPM) mode: Counts the number of pulses per sampling interval and converts to rpm (rotations per minute). Number of pulses for one rotation can be set to 50, 500, 5000, 50k, 500k, 5M, 50M, 500M rpm/F.S. (rpm/Full Scale)<br>Accumulating count mode: Accumulates the number of pulses from the start of measurement<br>Instant count mode: Counts the number of pulses per sampling interval<br>50, 500, 5000, 50k, 500k, 5M, 50M, 500M C/F.S. (Counts/Full Scale) |
| Calculation function   | Between channels: Addition, Subtraction, Multiplication, and Division for analog input<br>Statistical: Select two calculations from Average, Peak, Maximum, Minimum, RMS   |
| Search function  | Search for analog signal levels, values of logic or pulse or alarm point in captured data  |
| Interface to PC  | Ethernet, USB 2.0 (Hi-speed)   |
| Replay data (in GBD or CSV format)                           | Replays captured data that was saved in the GL840  |
| Scaling (Engineering unit) function                          | Measured value can be converted to specified engineering unit<br>• Analog voltage: Converts using four reference points (gain, offset)<br>• Temperature: Converts using two reference points (offset)<br>• Pulse count: Converts using two reference points (gain)   |
| Action during data capture                                   | • Displaying past data (using dual display mode (Current + Past data))<br>• Hot-swapping the SD memory card<br>• Saving data in between cursors  |
| Display (LCD)  | Size: 7-inch color TFT (WVGA: 800 x 480 dots)<br>Language: English, French, German, Chinese, Korean, Russian, Spanish, Japanese  |
| Operating environment  | 0 to 45 °C, 5 to 85 % RH (non condensed)<br>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 (1 pc of adapter is attached as standard accessory)<br>DC power: 8.5 to 24 V DC (DC drive cable (option B-514) is required)<br>Battery pack: Mountable battery pack (battery pack (option B-517): 7.2V DC, 2900mAh)  |
| External dimensions (W x D x H in mm, Excluding projections) | GL840-M: Approx. 240 x 158 x 52.5 GL840-WV: Approx. 240 x 166 x 52.5   |

#### Options and Accessories

| Item                                      | Model number | Description   |
|---|--------------|---|
| Input terminal (Multi-input)              | B-564        | 20ch input terminal, multi-input type, for GL840                      |
| Input terminal (Withstand voltage)        | B-565        | 20ch input terminal, withstand-high-voltage type, for GL840           |
| Base unit for input terminal              | B-566        | Base unit for input terminal (B-564 or 565), for GL840                |
| Connection cable for extension terminal   | B-567-05     | Cable to connect GL840 and B-566, 50 cm long                          |
| terminal                                  | B-567-20     | Cable to connect GL840 and B-566, 2 m long                            |
| Battery pack                              | B-569        | Rechargeable Lithium-ion battery (7.2 V, 2900mAh)                     |
| Bracket for DIN rail (GL840 main body)    | B-570        | Bracket for DIN rail (GL840 main body), for GL840, Build-to-order     |
| Bracket for DIN rail (extension terminal) | B-540        | Bracket for DIN rail (B-566 terminal base), for GL840, Build-to-order |
| 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        | With 3 m long signal cable (with power plug)                          |
| Shunt resistor                            | B-551-10     | 250 ohms (it converts the signal to the "1-5V" from the "4-20mA")     |
| AC power adapter                          | ACADP-20     | Input: 100 to 240 V AC, Output: 24 V DC                               |
| Temp & Humidity sensor                    | GS-TH        | Temperature and humidity measurement, for GL840                       |
| Illuminance & UV sensor                   | GS-LXUV      | Illuminance and UV measurement, cable 20cm long, for GL840            |
| Carbon Dioxide (CO2) sensor               | GS-CO2       | CO2 measurement, cable 20cm long, for GL840                           |
| Acceleration & Temp sensor                | GS-3AT       | Acceleration and temp. measurement, cable 20cm long, for GL840        |
| Thermistor input terminal                 | GS-4TSR      | Temp measurement (using a Thermistor), cable 20cm long, for GL840     |
| Thermistor sensor (Normal type)           | GS-103AT-4P  | Temperature sensor (-40 to 105 °C), 3m long, 4pcs/set, for GS-4TSR    |
| Thermistor sensor (UltraThin type)        | GS-103JT-4P  | Temperature sensor (-40 to 120 °C), 3m long, 4pcs/set, for GS-4TSR    |
| AC current sensor adapter                 | GS-DPA-AC    | Current measurement (using a CT), cable 20cm long, for GL840          |
| AC current sensor (50A)                   | GS-AC50A     | Current sensor (CT) 50A, cable 20cm long, for GS-DPA-AC               |
| AC current sensor (100A)                  | GS-AC100A    | Current sensor (CT) 100A, cable 20cm long, for GS-DPA-AC              |
| AC current sensor (200A)                  | GS-AC200A    | Current sensor (CT) 200A, cable 20cm long, for GS-DPA-AC              |
| Voltage & Temp input terminal             | GS-4VT       | Voltage or Temp (using a thermocouple), cable 20cm long, for GL840    |
| Module extension cable                    | GS-EXC       | Extension cable for the sensor/terminal, 1.5m long, for GL840         |
| Dual port adapter                         | GS-DPA       | Connect up to 2 sensor modules, for GL840                             |

- 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.
- Specifications 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.

## For Smart device (GL-Connect)

Apps for the smart devices are available on the Android OS and iOS platforms. Download them free from the individual stores.



\* Please type "graphtec" to search for the app.

### ■ Monitoring captured data

Real time captured data can be displayed as digital values in real time on the smart device apps. The saved data on the GL840 main body can also be displayed in waveform display format.

\* Captured data will not be saved on the smart device.

### ■ Set and control simple functions

Dedicated control features allow remote start and stop, setting the sampling interval, and setting the alarm conditions.

### ■ Control the settings remotely

Web server function of the GL840 allows remote control and monitoring using this application.



#### Analog input specifications

| Item                       | Description   |   |                         |
|----------------------------|---|---|-------------------------|
| Model number               | GL840 series  |   |                         |
| Input method               | All channels isolated balanced input. Scans channels for sampling. Screw terminal (M3)  |   |                         |
| Measurement range          | Voltage: 20, 50, 100, 200, 500 mV, 1, 2, 5, 10, 20, 50, 100 V, and 1-5V F.S. (Full Scale)<br>Thermocouple: Type: K, J, E, T, R, S, B, N, W (WRsE-26). Range: 100, 500, 2000 °C<br>RTD (Resistance Temperature Detector): Type: Pt100, JPt100 (JIS), and Pt1000 (IEC751) Range: 100, 500, 2000 °C<br>Humidity: 0 to 100 % RH - using the humidity sensor (option B-530)<br>Off, 2, 5, 10, 20, 40 (moving average in selected number) |   |                         |
| Filter                     |   |   |                         |
| Measurement accuracy       |   |   |                         |
| Model number               | GL840-M, Input terminal B-564   |   |                         |
| Voltage                    | GL840-WV, Input terminal B-565<br>± 0.1% of F.S. (Full Scale) ± (0.05% of F.S. + 10µV)  |   |                         |
| Temperature (Thermocouple) |   |   |                         |
| Type                       | Measurement range   | Measurement accuracy                                      | Measurement accuracy    |
| R/S                        | 0 ≤ TS ≤ 100 °C   | ± 5.2 °C  | ± 4.5 °C                |
|                            | 100 < TS ≤ 300 °C   | ± 3.0 °C  | ± 3.0 °C                |
|                            | R: 300 < TS ≤ 1600 °C   | ± (0.05% of rdg. + 2.0 °C)                                | ± 2.2 °C                |
|                            | S: 300 < TS ≤ 1760 °C   | ± (0.05% of rdg. + 2.0 °C)                                | ± 2.2 °C                |
| B                          | 400 ≤ TS ≤ 600 °C   | ± 3.5 °C  | ± 3.5 °C                |
|                            | 600 < TS ≤ 1820 °C  | ± (0.05% of rdg. + 2.0 °C)                                | ± 2.5 °C                |
| K                          | -200 ≤ TS ≤ -100 °C   | ± (0.05% of rdg. + 2.0 °C)                                | ± 1.5 °C                |
|                            | -100 < TS ≤ 1370 °C   | ± (0.05% of rdg. + 1.0 °C)                                | ± 0.8 °C                |
| E                          | -200 ≤ TS ≤ -100 °C   | ± (0.05% of rdg. + 2.0 °C)                                | ± 1.0 °C                |
|                            | -100 < TS ≤ 800 °C  | ± (0.05% of rdg. + 1.0 °C)                                | ± 0.8 °C                |
| T                          | -200 ≤ TS ≤ -100 °C   | ± (0.1% of rdg. + 1.5 °C)                                 | ± 1.5 °C                |
|                            | -100 < TS ≤ 400 °C  | ± (0.1% of rdg. + 0.5 °C)                                 | ± 0.6 °C                |
| J                          | -200 ≤ TS ≤ -100 °C   | ± 2.7 °C  | ± 1.0 °C                |
|                            | -100 < TS ≤ 100 °C  | ± 1.7 °C  | ± 0.8 °C                |
| N                          | 100 < TS ≤ 1100 °C  | ± (0.05% of rdg. + 1.0 °C)                                | ± 0.6 °C                |
|                            | -200 ≤ TS < 0 °C  | ± (0.1% of rdg. + 2.0 °C)                                 | ± 2.2 °C                |
| W                          | 0 ≤ TS ≤ 1300 °C  | ± (0.1% of rdg. + 1.0 °C)                                 | ± 1.0 °C                |
|                            | 0 ≤ TS ≤ 2000 °C  | ± (0.1% of rdg. + 1.5 °C)                                 | ± 1.8 °C                |
| R.J.C.                     |   | ± 0.5 °C  | ± 0.3 °C                |
| Temperature (RTD)          |   |   |                         |
| Type                       | Measurement range   | Measurement accuracy                                      | Measurement accuracy    |
| Pt100                      | -200 ≤ TS ≤ 100 °C  | ± 1.0 °C  | ± 0.6 °C                |
|                            | 100 < TS ≤ 500 °C   |   | ± 0.8 °C                |
|                            | 500 < TS ≤ 850 °C   |   | ± 1.0 °C                |
| JPt100                     | -200 ≤ TS ≤ 100 °C  | ± 0.8 °C  | ± 0.6 °C                |
|                            | 100 < TS ≤ 500 °C   |   | ± 0.8 °C                |
| Pt1000                     | -200 ≤ TS ≤ 100 °C  | ± 0.8 °C  | ± 0.6 °C                |
|                            | 100 < TS ≤ 500 °C   |   | ± 0.8 °C                |
| Maximum input voltage      | Between (+) / (-)   | 20 mV to 2 V range: 60 Vp-p, 5 V to 100 V range: 110 Vp-p |                         |
|                            | Channels (-) / (-)  | 60 Vp-p   | 600 Vp-p                |
|                            | Channel / GND   | 60 Vp-p   | 300 Vp-p                |
| Max. voltage (withstand)   | Between channels  | 350 Vp-p (1 minute)                                       | 600 Vp-p (1 minute)     |
|                            | Channel / GND   | 350 Vp-p (1 minute)                                       | 2300 Vrms AC (1 minute) |

#### Wireless LAN unit (option) specifications

| Item                         | Description   |
|------------------------------|---|
| Model number                 | B-568   |
| Supported device             | GL840   |
| Communication method         | Wireless communication (using radio waves in the 2.4GHz band)   |
| Supported WLAN system        | IEEE802.11b/g/n<br>WPS: Push button or PIN method<br>Security protocols: WEP64, WEP128, WPA-PSK/WPA2-PSK, AKIP/AES<br>Communication distance: Approx. 40m (depending on the conditions of radio communication)                    |
| Installed location           | Attached to the SD CARD slot number 2 on the GL840<br>* When the wireless LAN unit is installed, the SD memory card cannot be used in slot number 2   |
| Function                     | Access Point mode: Communicate with the GL100-WL as a remote sensor (captured data in the GL100-WL is transferred to GL840)<br>Station mode: Communicate with PC or Smart device (control GL840 and transfer the data from GL840) |
| Connected number of GL100-WL | GL840: Up to 5 units of the GL100-WL  |

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