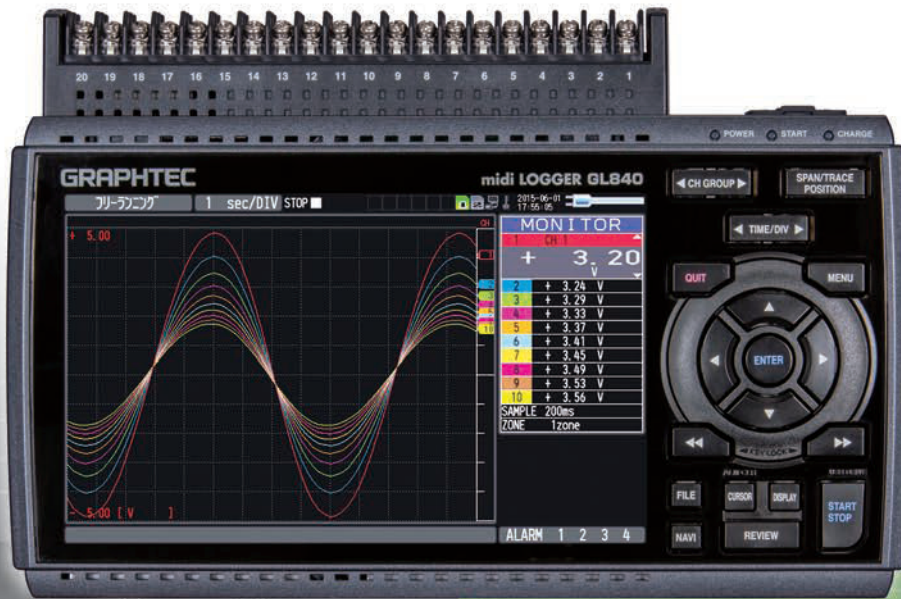


# GRAPHTEC

## midi LOGGER GL840 series

New!



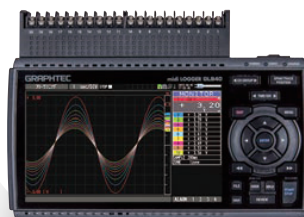
### More Value with two types of input terminal

- Flexible input system for wide array of applications
- Wireless LAN capability for remote monitoring and remote data logging system
- Extended memory capacity using SD memory card
- Maximum sampling interval up to 10ms

**NEW** Multi-input model  
midi LOGGER GL840-M



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



Sensors

Expandable with  
GL100 and GS sensors!!



GL840 Main unit 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 (20 channels / terminal), standard config: 1	
Type of analog input terminal	Multi-input type, Withstand-voltage type	
Port for digital sensor	1 port for the sensor/input terminal/adaptor of the GL100	
External input/output *1	Input *2	Output *3
Sampling interval	Trigger or Sampling (1 channel), Logic/Pulse (4 channels)	
Time scale of waveform display	Alarm (4 channels)	
Trigger	10 ms to 1 hour (10ms to 50ms: voltage only) *4, External signal	
Alarm function	1 sec. to 24 hour /division	
Condition Setting	Trigger action	Start or stop capturing data by the trigger
	Repeat action	Off, On (auto rearmed)
	Trigger source	Start: Off, Measured signal, Alarm, External, Clock, Week or Time Stop: Off, Measured signal, Alarm, External, Clock, Week or Time
Alarm output	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
	Alarm output	Outputs a signal when alarm condition occurs in the input signal *5
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)
	Accumulating count mode	Accumulates the number of pulses from the start of measurement 50, 500, 5000, 50k, 500k, 5M, 50M, 500M C/F.S. (Counts/Full Scale)
	Instant count mode	Counts the number of pulses per sampling interval 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
	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 (10 BASE-T/100 BASE-TX), USB (Hi-speed), WLAN (using B-568 option)	
Storage device	Media	SD memory card (Support SDHC, up to 32 GB), supports 2 slots *6
	Saved contents	Captured data, Setting conditions, Screen copy
Capturing mode	Mode: Normal, Ring, Relay Ring: Saves most recent data (Number of capturing data: 1000 to 2000000 points) *7 Relay: Saves data to multiple files without losing data until data capturing is stopped	
Replay data	Replays captured data that was saved in the GL840 (in GBD or CSV format)	
Scaling (Engineering unit) function	Measured value can be converted to specified engineering unit • Analog voltage: Converts using four reference points (gain, offset) • Temperature: Converts using two reference points (offset) • Pulse count: Converts using two reference points (gain)	
Action during data capture	• Displaying past data (using dual display mode (Current + Past data)) • Hot-swapping the SD memory card • Saving data in between cursors	
Display	Size	7-inch TFT color LCD (WVGA: 800 x 480 dots)
	Language	English, French, German, Chinese, Korean, Russian, Spanish, Japanese
Operating environment	Information *8	Waveform in Y-T with digital values, Waveform only, Digital value, Digital values and statistics values
	Operating environment	0 to 45 °C, 5 to 85 % RH (non condensed) (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)
	DC power	8.5 to 24 V DC (DC drive cable (option B-514) is required)
	Battery pack	Mountable two battery packs (battery pack (option B-517): 7.2V DC, 2900mAh)
Power consumption *9	Max. 38 VA	
External dimensions (W x D x H in mm, Excluding projections)	Approx. 240 x 158 x 52.5	Approx. 240 x 166 x 52.5
	Weight *10	Approx. 1010 g

Software specifications for PC		
Item	Description	
Model name	GL100_240_840-APS	
Supported OS	Windows 8.1, 8, 7, Vista (32/64-bit edition)	
Supported device	GL840 (USB, Ethernet, WLAN), GL240 (USB, WLAN), GL100 (USB, WLAN)	
Functions	Control the GL series, Real-time data capture, Replay data, and Data format conversion	
Supported units & channels	Up to 1000 channels total, Up to 4 groups (number of units is limited by model)	
Settings control	Input condition, Capturing condition, Trigger/Alarm condition, Report, etc.	
Capturing data	Saved to PC	Saves captured data in real time (in GBD binary or CSV format)
	Saved to GL unit	Saves to the SD memory card (in GBD binary or CSV format)
Displayed information	Y-T waveform, Digital values, Report, X-Y graph (specified period of data, data reply only), Two displays for the current and past data, and Statistical calculation	
File operation	Converting data format to CSV from GBD binary, merge multiple data files in the time axis or as an additional channel	
Warning function	Send e-mail to the specified address when the alarms occur	
Statistical calculation	Maximum, Minimum, and Average during data capturing	
Report function	Creates the daily or monthly report automatically	

Software specifications for Smart device		
Item	Description	
Model name	GL-Connect	
Supported OS	Android 4.1 to 4.4, iOS 7/8	
Supported device	GL840 (WLAN), GL240 (WLAN), GL100 (WLAN)	
Functions	Control the GL series, Display measured data in waveform or digital value	
Supported units	Up to 10 units	
Settings control	Start/Stop, Sampling interval	
Capturing data	Saves captured data in the GL main body (data cannot be saved in the smart device)	
Displayed information	Data captured in real time by digital value, Replay the data stored in the GL body by the waveform	

Wireless LAN unit (option) specifications		
Item	Description	
Model number	B-568	
Supported device	GL840, GL240	
Communication method	Wireless communication (using radio waves in the 2.4GHz band)	
Supported WLAN system	IEEE802.11b/g/n	
	WPS: Push button or PIN method Security protocols: WEP64, WEP128, WPA-PSK/WPA2-PSK, AKIP/AES Communication distance: Approx. 40m (depending on the conditions of radio communication)	
Installed location	Attached to the SD CARD slot number 2 on the GL840/GL240 * 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/GL240) Station mode: Communicate with PC or Smart device (control GL840/GL240 and transfer the data from GL840/GL240)	
Connected number of GL100-WL	GL840: Up to 5 units of the GL100-WL GL240: 1 unit of the GL100-WL	

**GRAPHTEC**  
Graphtec Corporation

GL840 Analog input specifications																																																																															
Item	Description																																																																														
Model number	GL840-M, Input terminal B-564	GL840-WV, Input terminal B-565																																																																													
Input method	All channels isolated balanced input *11, Scans channels for sampling																																																																														
Type of input terminal	Screw terminal (M3 screw)																																																																														
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, W (WR5-26) Range: 100, 500, 2000 °C *12																																																																													
	RTD (Resistance Temperature Detector)	Type: Pt100, JPt100 (JIS), Pt1000 (IEC751) Range: 100, 500, 2000 °C *12																																																																													
Humidity	0 to 100 % RH - using the humidity sensor (option B-530)																																																																														
Filter	Off, 2, 5, 10, 20, 40 (moving average in selected number)																																																																														
Measurement accuracy *13	Voltage	± 0.1% of F.S. (Full Scale)	± (0.05% of F.S. + 10µV)																																																																												
	Temperature (Thermocouple) *14	<table border="1"> <thead> <tr> <th>Type</th> <th>Measurement range (TS: Temp Sense)</th> <th>Measurement accuracy</th> <th>Measurement accuracy</th> </tr> </thead> <tbody> <tr> <td rowspan="3">R</td> <td>0 ≤ TS ≤ 100 °C</td> <td>± 5.2 °C</td> <td>± 4.5 °C</td> </tr> <tr> <td>100 &lt; TS ≤ 300 °C</td> <td>± 3.0 °C</td> <td>± 3.0 °C</td> </tr> <tr> <td>300 &lt; TS ≤ 1600 °C</td> <td>± (0.05% of rdg. + 2.0 °C)</td> <td>± 2.2 °C</td> </tr> <tr> <td rowspan="3">S</td> <td>0 ≤ TS ≤ 100 °C</td> <td>± 5.2 °C</td> <td>± 4.5 °C</td> </tr> <tr> <td>100 &lt; TS ≤ 300 °C</td> <td>± 3.0 °C</td> <td>± 3.0 °C</td> </tr> <tr> <td>300 &lt; TS ≤ 1760 °C</td> <td>± (0.05% of rdg. + 2.0 °C)</td> <td>± 2.2 °C</td> </tr> <tr> <td rowspan="2">B</td> <td>400 ≤ TS ≤ 600 °C</td> <td>± 3.5 °C</td> <td>± 3.5 °C</td> </tr> <tr> <td>600 &lt; TS ≤ 1820 °C</td> <td>± (0.05% of rdg. + 2.0 °C)</td> <td>± 2.5 °C</td> </tr> <tr> <td rowspan="2">K</td> <td>-200 ≤ TS ≤ -100 °C</td> <td>± (0.05% of rdg. + 2.0 °C)</td> <td>± 1.5 °C</td> </tr> <tr> <td>-100 &lt; TS ≤ 1370 °C</td> <td>± (0.05% of rdg. + 1.0 °C)</td> <td>± 0.8 °C</td> </tr> <tr> <td rowspan="2">E</td> <td>-200 ≤ TS ≤ -100 °C</td> <td>± (0.05% of rdg. + 2.0 °C)</td> <td>± 1.0 °C</td> </tr> <tr> <td>-100 &lt; TS ≤ 800 °C</td> <td>± (0.05% of rdg. + 1.0 °C)</td> <td>± 0.8 °C</td> </tr> <tr> <td rowspan="2">T</td> <td>-200 ≤ TS ≤ -100 °C</td> <td>± (0.1% of rdg. + 1.5 °C)</td> <td>± 1.5 °C</td> </tr> <tr> <td>-100 &lt; TS ≤ 400 °C</td> <td>± (0.1% of rdg. + 0.5 °C)</td> <td>± 0.6 °C</td> </tr> <tr> <td rowspan="2">J</td> <td>-200 ≤ TS ≤ -100 °C</td> <td>± 2.7 °C</td> <td>± 1.0 °C</td> </tr> <tr> <td>-100 &lt; TS ≤ 100 °C</td> <td>± 1.7 °C</td> <td>± 0.8 °C</td> </tr> <tr> <td rowspan="2">N</td> <td>100 &lt; TS ≤ 1100 °C</td> <td>± (0.05% of rdg. + 1.0 °C)</td> <td>± 0.6 °C</td> </tr> <tr> <td>-200 ≤ TS &lt; 0 °C</td> <td>± (0.1% of rdg. + 2.0 °C)</td> <td>± 2.2 °C</td> </tr> <tr> <td rowspan="2">W</td> <td>0 ≤ TS ≤ 1300 °C</td> <td>± (0.1% of rdg. + 1.0 °C)</td> <td>± 1.0 °C</td> </tr> <tr> <td>0 ≤ TS ≤ 2000 °C</td> <td>± (0.1% of rdg. + 1.5 °C)</td> <td>± 1.8 °C</td> </tr> <tr> <td>R.J.C.</td> <td colspan="2">± 0.5 °C</td> <td>± 0.3 °C</td> </tr> </tbody> </table>		Type	Measurement range (TS: Temp Sense)	Measurement accuracy	Measurement accuracy	R	0 ≤ TS ≤ 100 °C	± 5.2 °C	± 4.5 °C	100 < TS ≤ 300 °C	± 3.0 °C	± 3.0 °C	300 < TS ≤ 1600 °C	± (0.05% of rdg. + 2.0 °C)	± 2.2 °C	S	0 ≤ TS ≤ 100 °C	± 5.2 °C	± 4.5 °C	100 < TS ≤ 300 °C	± 3.0 °C	± 3.0 °C	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	
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R.J.C.	± 0.5 °C		± 0.3 °C																																																																												
Temperature (RTD) *15	Type	Measurement range (TS: Temp Sense)	Accuracy																																																																												
	Pt100	-200 ≤ TS ≤ 100 °C 100 < TS ≤ 500 °C 500 < TS ≤ 850 °C	± 1.0 °C ± 0.8 °C ± 1.0 °C																																																																												
JPt100	-200 ≤ TS ≤ 100 °C 100 < TS ≤ 500 °C	± 0.8 °C ± 0.8 °C																																																																													
Pt1000	-200 ≤ TS ≤ 100 °C 100 < TS ≤ 500 °C	± 0.8 °C ± 0.8 °C																																																																													
A/D converter	Sigma-Delta type, 16 bits (effective resolution: 1/40000 of the measuring full range)																																																																														
Maximum input voltage	Between (+) / (-) terminal	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																																																																												
Max. voltage (withstand)	Channel / GND	60 Vp-p	300 Vp-p																																																																												
	Between channels	350 Vp-p (1 minute)	600 Vp-p																																																																												
Channel / GND	350 Vp-p (1 minute)	2300 Vrms AC (1 minute)																																																																													

- Input/Output cable for GL (option B-513) is required to connect the signal.
- Input signal;
  - Voltage range: Up to 24V (common ground)
  - Signal type: Voltage, Open collector, Contact (relay)
  - Threshold: Approx. + 2.5 V (Hysteresis: Approx. 0.5V (2.5V to 3V))
- Output signal: Open collector (pull-up to 5V by 10kΩ resistor)
  - <Maximum rating of the output transistor>
  - Voltage: Max. 30V, Current: Max. 0.5A, Collector dissipation: Max. 0.2W
- Minimum interval varies by number of channels used.
- Output port can be specified in each input channel.
- 4GB SD memory card is installed to slot 1 as standard accessory.
- Size of the capture data will be limited to 1/3 of available memory.
- Display mode is switched every time the dedicated key is pressed. In magnified digital value mode, the displayed channel number can be specified. In the waveform display mode, the changing of the time scale will be effective from the point of the next displayed data.
- Rating under maximum power consumption using the AC adapter, with LCD display on, and battery pack(s) being charged.
- Excludes AC adapter and battery pack.
- The terminal "b" for using the RTD is connected each other across all channels.
- If the specifications of the temperature sensor is lesser or greater than the selected measurement range, GL840 can measure up to the specifications of the sensor.
- Subject to the following conditions;
  - Room temperature is 23 °C ± 5 °C.
  - When 30 minutes or more have elapsed after power has turned on.
  - Filter is set to 10.
  - Sampling rate is set to 1 sec, using 20-channel in GL840-M and 10-channel in GL840-WV.
  - GND terminal is connected to ground.
- Wire size of thermocouple used is 0.32mm diameter in the T type and 0.65mm diameter in other types.
- Supports 3-wire type sensor.

Options and Accessories		
Item	Model number	Description
Input terminal (Multi-inputs)	B-564	20ch input terminal, multi-input type
Input terminal (Withstand voltage)	B-565	20ch input terminal, withstand-high-voltage type
Base unit for input terminal	B-566	Base unit for input terminal (B-564 or 566)
Connection cable for extension terminal	B-567-05	Cable to connect GL840 and B-566, 50 cm long
Wireless LAN unit	B-568	WLAN adapter, IEEE802.11b/g/n
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), Build-to-order
Bracket for DIN rail (extension terminal)	B-540	Bracket for DIN rail (Input terminal), 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
Illuminance & UV sensor	GS-LXUV	Illuminance and UV intensity measurement, cable 20cm long
Carbon Dioxide (CO2) sensor	GS-CO2	CO2 measurement, cable 20cm long
Acceleration & Temp sensor	GS-3AT	Acceleration and temperature measurement, cable 20cm long
Thermistor input terminal	GS-4TSR	Temp measurement (using a Thermistor), cable 20cm long
Thermistor sensor (Normal type)	GS-103AT-4P	Temperature sensor (-40 to 105 °C), 3m long, 4pcs/set
Thermistor sensor (Ulathrin type)	GS-103JT-4P	Temperature sensor (-40 to 120 °C), 3m long, 4pcs/set
AC current sensor adapter	GS-DPA-AC	Current measurement (using a CT), cable 20cm long
AC current sensor (50A)	GS-AC50A	Current sensor (CT) 50A, cable 20cm long
AC current sensor (100A)	GS-AC100A	Current sensor (CT) 100A, cable 20cm long
AC current sensor (200A)	GS-AC200A	Current sensor (CT) 200A, cable 20cm long
Voltage & Temp input terminal	GS-4VT	Voltage or Temperature (using a thermocouple), cable 20cm long
Module extension cable	GS-EXC	Extension cable for the sensor/terminal/adaptor module, 1.5m long
Dual port adapter	GS-DPA	Connect up to 2 sensor modules

