

# GRAPHTEC

## 10-channel handy-type logger **midi LOGGER GL220**



**Voltage | Temp. | Humidity | Pulse | Logic**

- 10 isolated channels, each with multifunction input
- Maximum sampling rate of up to 10ms
- Large easy-to-read 4.3-inch wide TFT color LCD
- Built-in 2GB Flash memory
- Includes a ring memory function



<http://www.graphteccorp.com>

## GL220 main unit specifications

Item	Description
Number of analog input channels	10 ch
External input/output	Input <sup>*9</sup> : Trigger or Sampling input 1 ch, Logic or Pulse input 4 ch Output <sup>*9</sup> : Alarm output 4 ch
Sampling interval	10 ms to 1 h (in 10ms to 50ms, voltage only and limited channel), External
Time scale	1 sec to 24 hour /division
Trigger function	Action: Start or stop capturing data by the trigger Source: Start: Off, Input signal, Alarm, External <sup>*9</sup> , Clock, Week or Time Stop: Off, Input signal, Alarm, External <sup>*9</sup> , Clock, Week or Time Combination: OR or AND condition at the level of signal or edge of signal Condition: Analog: Rising, Falling, Window-in, Window-out Pulse: Rising, Falling, Window-in, Window-out Logic: Rising or Falling
Alarm function	Detecting method: Level or edge of signal Condition: Analog: Rising, Falling, Window-in, Window-out Pulse: Rising, Falling, Window-in, Window-out Logic: Rising, Falling Alarm output <sup>*9</sup> : 4 channels, Output type: Open collector (pull-up resistor 10 kΩ)
Pulse input function <sup>*9</sup>	Accumulating count mode: Accumulating the number of pulses from the start of measurement Range: 50, 500, 5 k, 50 k, 500 k, 5 M, 50 M, 500 M counts/F.S. Instant count mode: Counting the number of pulses per sampling interval Range: 50, 500, 5 k, 50 k, 500 k, 5 M, 50 M, 500 M counts/F.S. Rotation count (RPM) mode: Counting the number of pulses per second and then it is converted to RPM Range: 50 rpm, 500 rpm, 5 krpm, 50 krpm, 5 Mrpm, 50 Mrpm, 500 Mrpm /F.S. Max. input pulse rate: 50 k pulses/sec or 50k counts per sampling interval (16 bits counter is used)
Calculation function	Between channels: Addition, Subtraction, Multiplication and Division for analog input Statistical: Select two calculations from Average, Peak, Max., Min., RMS
Search function	Search for analog signal levels, values of logic or pulse or alarm point in captured data
Interface to PC	USB (Full speed)
Storage device	Built-in Flash memory (2 giga-bytes), USB memory device <sup>*10</sup>
Data saving function	Captured data: Direct saving of data into built-in Flash memory or USB memory device Others: Setting conditions, Screen copy
Ring capturing mode	Function: ON/OFF, Number of capturing point: 1000 to 2000000 (size of the capture data will be limited to 1/3 of available memory)
USB memory device emulation	USB Memory emulation mode (Transfer or delete the file in built-in memory)
Engineering scale function	Set based on the reference point of the scaled output and input signal for each channel (Voltage measurement: four points are necessary to scale the output, Temperature measurement: two points are necessary to scale the output).
Display	Size: 4.3 inch TFT color LCD (WQVGA: 480 x 272 dots) Formats: Waveform + Digital, Waveform only, Calculation + Digital, Expanded digital
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, 50/60 Hz), DC power (8.5 to 24 V DC, max. 26.4 V) <sup>*11</sup> , Battery pack <sup>*11</sup>
Power consumption	29 VA or lower (when operating with AC adapter, displaying LCD)
External dimensions (W×D×H)	approx. 194 x 117 x 42 mm
Weight	approx. 520 g (Excluding AC adapter and battery pack)

## Software specifications

Item	Description
Supported OS	Windows XP / Vista / 7 (32 bits and 64 bits edition)
Functions	Control GL220, Real-time data capture, Replay data, Data format conversion
GL220 settings control	Input settings, Memory settings, Alarm settings, Trigger settings
Captured data	Transfers data in real-time (in binary or CSV format), saved data in GL220 or the USB memory
Displayed information	Analog waveforms, Logic waveforms, Pulse waveforms, Digital values
Display modes	Y-T waveforms, Digital values, Report, X-Y graph (specified period of data, data replay only)
Warning functions	Sends E-mail to the specified address when the alarm occurred
File format conversions	Converts the specified period data or all data to the CSV format (thinning function is available)
Report functions	Creates a daily or monthly report automatically (can also export directly to Excel)
Displayed Max. Min.	Displays the maximum, minimum and current value in measurement

## Standard accessories

Item	Description	Quantity
AC adapter	100 to 240 V AC, 50 / 60 Hz (with specified type of power cord)	1 set
CD-ROM	User's manual (PDF format), Application software	1 piece
Quick Start Guide		1 copy

## Options and accessories

Item	Model number	Remarks
Logic alarm cable	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)
Battery pack	B-517	1 piece (7.4 V 2200 mAh, 17Wh)
Humidity sensor <sup>*13</sup>	B-530	3 m long (with power plug)

Logic alarm cable  
(B-513)

DC drive cable  
(B-514)

Battery pack  
(B-517)

Humidity sensor  
(B-530)<sup>\*13</sup>



<sup>\*13</sup>: Operating environment: -25 to 80 °C

## Analog input specifications

Item		Description		
Type of input terminal		Screw terminal (M3 screw)		
Input method		Scans by the photo-MOS-relay, all channels isolated, balanced input		
Measurement range	Voltage	20, 50, 100, 200, 500 mV, 1, 2, 5, 10, 20, 50 V, and 1-5 V /F.S.		
	Temperature	Thermocouple: K, J, E, T, R, S, B, N, and W (WRe5-26)		
	Humidity	0 to 100% (using humidity sensor (B-530 optional), power is supplied to only one sensor)		
Filter	Off, 2, 5, 10, 20, 40 (moving average in selected number)			
Measurement accuracy <sup>*12</sup>	Voltage Temperature	Thermocouple	Measurement range	Accuracy
		R/S	0 °C ≤ TS ≤ 100 °C	± 5.2 °C
			100 °C < TS ≤ 300 °C	± 3.0 °C
			R: 300 °C < TS ≤ 1600 °C	± (0.05 % of reading + 2.0 °C)
			S: 300 °C < TS ≤ 1760 °C	± (0.05 % of reading + 2.0 °C)
		B	400 °C ≤ TS ≤ 600 °C	± 3.5 °C
			600 °C < TS ≤ 1820 °C	± (0.05 % of reading + 2.0 °C)
		K	-200 °C ≤ TS ≤ -100 °C	± (0.05 % of reading + 2.0 °C)
			-100 °C < TS ≤ 1370 °C	± (0.05 % of reading + 1.0 °C)
		E	-200 °C ≤ TS ≤ -100 °C	± (0.05 % of reading + 2.0 °C)
			-100 °C < TS ≤ 800 °C	± (0.05 % of reading + 1.0 °C)
		T	-200 °C ≤ TS ≤ -100 °C	± (0.1 % of reading + 1.5 °C)
			-100 °C < TS ≤ 400 °C	± (0.1 % of reading + 0.5 °C)
		J	-200 °C ≤ TS ≤ -100 °C	± 2.7 °C
			-100 °C < TS ≤ 100 °C	± 1.7 °C
N	100 °C < TS ≤ 1100 °C	± (0.05 % of reading + 1.0 °C)		
	0 °C ≤ TS ≤ 1300 °C	± (0.1 % of reading + 1.0 °C)		
W	0 °C ≤ TS ≤ 2000 °C	± (0.1 % of reading + 1.5 °C)		
		Reference Junction Compensation (R.J.C.): ±0.5 °C		
A/D Converter		ΣΔ type, 16 bits (effective resolution: 1/40000 of measuring full range)		
Maximum input voltage	Between + / - terminal	60 V p-p		
	Between channels	60 V p-p		
	Between channel / GND	60 V p-p		
Withstand voltage	Between channels	350 V p-p (1 minute)		
	Between channel(-)/ GND	350 V p-p (1 minute)		

<sup>\*9</sup>: Logic alarm cable (B-513) option is required.

Input signal of External sampling, Logic, Pulse; Maximum voltage: 24 V, Threshold: approx. 2.5 V, Hysteresis: approx. 0.5 V

<sup>\*10</sup>: Size of the USB memory device is unlimited. Maximum file size is limited to 2GB.

<sup>\*11</sup>: DC drive cable (B-514) or battery pack (B-517) option is required.

<sup>\*12</sup>: Subject to the following conditions;

- Room Temperature is 23°C ±5°C.
- When 30 minute or more have elapsed after power was turned on.
- Filter is set to 10.
- Sampling rate is set to 1s with 10 channels.
- GND terminal is connected to the ground.

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RoHS Compliant model

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