GRAPHTEC

Handy-Type Portable Logger

10 channel comprehensive
midi LOGGER GL220

Voltage	Temp.	Humidity	Pulse	Logic

GRAPHTEC

midi LOGGER GL220

Max 10ch | Faster Sampling at max10ms | Wide LCD 4.3inch | Built-in memory of 4GB | Ring memory

10 insulated channels
With multifunctional input

Contains an Insulated input system which ensures that signals are not corrupted by inputs to other channels. Suitable for voltage, temperature, humidity, pulse, and logic signals.

Voltage	20mV to 50V wide range
Temp.	Supported 9 type of thermocouples: R, S, B, K, E, T, J, N, W
Humidity	Measures the humidity using optional sensor B-530
Pules	Supports 4 channels of pulse/logic digital I/O
Logic	using optional cable

Built-in 4GB Flash memory
for reliable long term measurement

The 4GB Flash Memory enables secured long term data measurement without the use of an external storage device.

Supports USB memory with Real-Time Swap

The GL220 saves measured data directly to USB memory sticks. Memory sticks can be replaced during measurement without any data loss.

Maximum 10ms Sampling

Provides faster sampling rates for voltage measurements.
10ms sampling interval is achieved for 1 channel. 20ms for 2 channels. 50ms for 5 channels. 100ms for all 10 channels.

4.3-inch TFT colour LCD

Utilizes a bright and clear 4.3-inch wide TFT color LCD monitor (WQVGA: 480 x 272 dots). Provides an easy-to-read waveform data in digital form and allows you to check your measurement parameter settings anytime.
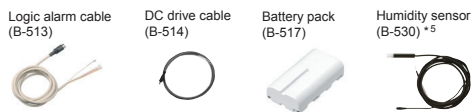
Ring memory function

The most recent data is saved and updated to the internal or the external memory device during the ring memory mode as new data erases the old data unless files are incrementally saved via series-identified files.

http://www.graphtecamerica.com/instruments.html

GL220 main unit specifications

Item		Description
Number of analog input channels		10 ch
External input/output	Input *1	Trigger or Sampling input 1 ch, Logic or Pulse input 4 ch
	Output *1	Alarm output 4 ch
Sampling interval		10 ms to 1 h (in 10ms to 50ms, voltage only and limited channel), Extrnal
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 *1, Clock, Week or Time
		Stop: Off, Input signal, Alarm, External *1, 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 *1	4 channels, Output type: Open collector (pull-up resistor 10 kΩ)
Pulse input function *1	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, 500 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 (4 giga-bytes), USB memory device *2
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: 1,000 to 2,000,000 points (Size of the capture data will be limited to 1/3 of the 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) *3, Battery pack *3
Power consumption		29 VA or lower (when operating with AC adapter, displaying LCD)
External dimensions (W×D×H)		approx. 7.63in x 4.63in x 1.65in
Weight		approx. 520 g (Excluding AC adapter and battery pack)

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 *4	Voltage		0.1 % of F.S.	
	Tempe-rature	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
			100 °C < TS ≤ 1100 °C	± (0.05 % of reading + 1.0 °C)
		N	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: 1/40,000 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)	

*1: Logic alarm cable (B-513) option is required.
  Input signal for External sampling, Logic, Pulse; Maximum voltage: 24 V, Threshold: approx. 2.5 V, Hysteresis: approx. 0.5 V.
*2: Size of the USB memory device is unlimited. Maximum file size is limited to 2GB.
*3: DC drive cable (B-514) or battery pack (B-517) option is required.
*4: Subject to the following conditions;
  • Room Temperature is 23°C ±5°C.
  • When 30 minute or more have elapsed after power has turned on.
  • Filter is set to 10.
  • Sampling rate is set to 1s with 10 channels.
  • GND terminal is connected to the ground.

Software specifications

Item	Description
Supported OS	Windows XP / Vista / 7 (32 bits and 64 bits edition)
Functions	GL220 Link-up and control, 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 to binary or CSV format, can save data in GL220 or 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 a specified address when the alarm occurred
File format conversions	Converts the specified period data or all data to 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 *5	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) *5

*5: Operating environment: -25 to 80 °C

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