GRAPHTEC

Comprehensive Data Logger

20 channel Portable Logger
midi LOGGER GL820

Voltage | Temp. | Humidity | Pulse | Logic

20CH | Fast Sampling 10ms | Wide LCD 5.7inch | Built-in memory 2GB | Ring memory

20 insulated channels, each with multifunction input capacity

Contains an insulated input system which ensures signals do not cause any distortions among other channels. Suitable for recording 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: Measured the humidity easily using the optional sensor
- Pulse / Logic: Supports 4 channels pulse or logic digital I/O using optional cable B-513.

Built-in 2GB Flash memory for reliable long term measurement

The 2GB Flash Memory enables a securelong term data measurement usage without applying an external storage device.

Supports USB memory with Real-Time Swaps

Supports USB 2.0 memory sticks for external storage.
The GL820 saves measured data directly on to the USB memory sticks. The device can be replaced during measurement without loosing any data.

Maximum 10ms Sampling

Provides faster sampling rates for voltage measurements.
Achieves up to 10ms sampling interval when limiting the number of channels in use.

5.7 inch TFT colour LCD

Utilises an industry leading 5.7-inch TFT color LCD monitor (VGA: 640 x 480 dots) . Providing enhanced ability to read data in waveform and digital forms to measure and analyze data in real time.

Ring memory function

The most recent data is saved when internal memory or external memory is configured in ring memory mode.

GL820 main unit specifications

Item		Description
Number of analog input channels		20 ch, Expandable up to 200 ch by unit of 20 ch
External input output	Input *8	Trigger or Sampling input 1 ch, Logic or Pulse input 4 ch
	Output *8	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 triggerr
	Source	Start: Off, Input signal, Alarm, External *8, Clock, Week or Time
		Stop: Off, Input signal, Alarm, External *8, 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, 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 *8	4 channels, Output type: Open collector (pulled-up to 5 V by resistor 10 kΩ)
Pulse input function *8	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		Ethernet (10 BASE-T/100 BASE-TX), USB (Full speed)
Storage device		Built-in Flash memory (2 giga-bytes), USB memory device *9
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 when in Ring Mode)
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	5.7 inch TFT color LCD (VGA: 640 x 480 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) *10, Battery pack *10
Power consumption		32 VA or lower (when operating with AC adapter, displaying LCD, charging battery pack)
External dimensions (W□D□H)		approx. 232 x 152 x 50 mm
Weight		approx. 900 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 GL820, Real-time data capture, Replay data, Data format conversion
GL820 settings control	Input settings, Memory settings, Alarm settings, Trigger settings
Controlled units	Up to 10 units or 500 channels
Captured data	Transfers data in real-time (in binary or CSV format), saved data in GL820 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 reply only)
Warning functions	Sends E-mail to the specified address when the alarms occur
File format conversions	Converts the specified period data or all data to the CSV format (thinning function is available)
Report functions	Creates the daily or monthly report automatically (can also export directly to Excel)

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 *12	B-530	3 m long (with power plug)
Extension terminal base kit	B-537	Terminal base, cable
20 ch extension terminal set	B-538	Terminal base, terminal unit (20 ch), fixing plate

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)	
			Resistance Temperature Detectors (RTDs): Pt100, JPt100(JIS), Pt1000(IEC751)	
	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 *11	Voltage		0.1 % of F.S.	
	Tempe-rature	Thermocouple	Measurement range	Measurement 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	
		RTD	Measurement range	Measurement accuracy
		Pt100	-200 °C to 850 °C (FS = 1050 °C)	±1.0 °C
		JPt100	-200 °C to 500 °C (FS = 700 °C)	±0.8 °C
		Pt1000	-200 °C to 500 °C (FS = 700 °C)	±0.8 °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)	

*8 : 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

*9 : Size of the USB memory device is unlimited. Maximum file size is limited to 2GB.

*10: DC drive cable (B-514) or battery pack (B-517) option is required.

*11: Subject to the following conditions;
- Room Temperature is 23°C ±5°C.
- When 30 minutes or more have elapsed after power was turned on.
- Filter is set to 10.
- Sampling rate is set to 1s with 20 channels.
- GND terminal is connected to ground.

Logic alarm cable (B-513)

DC drive cable (B-514)

Battery pack (B-517)

Humidity sensor (B-530) *12

Extension terminal base kit (B-537)

20ch extension terminal set (B-538)

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

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