## Analog input specifications

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of analog input channels</td>
<td>20 ch, Expandable up to 200 ch by unit of 20 ch</td>
</tr>
<tr>
<td>Type of input terminal</td>
<td>Screw terminal (M3 screw)</td>
</tr>
</tbody>
</table>

### External input/output

- **Measurement**
  - 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)

- **Start or stop capturing data by the trigger**
- **Trigger function**
  - (using humidity sensor (B-530 optional), power is supplied to only one sensor)

- **Isolated input, multi-channel logger**

- **Filter**
  - Off, 2, 5, 10, 20, 40 (moving average in selected number)

- **Stop**
  - Off, Input signal, Alarm, External, Clock, Week or Time

### Measurement accuracy

- **Voltage** 0.1 % of F.S.
- **Condition**
  - Measurement range: Temperture: 0 °C ≤ TS ≤ 100 °C ± 5.2 °C
  - 300 °C ± 3.0 °C

- **Alarm function**
  - Detecting method: Level or edge of signal
  - Analog: Rising, Falling, Window-in, Window-out
  - Pulse: Rising, Falling, Window-in, Window-out

- **Range**
  - 50, 500, 5 k, 50 k, 500 k, 5 M, 50 M, 500 M counts/F.S.

### Pulse input

- **Condition**
  - Measurement range: Temperture: 0 °C ≤ TS ≤ 100 °C ± 5.2 °C
  - 300 °C ± 3.0 °C

### 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**

### Others

- **A/D Converter**
  - ΣΔ

### Maximum input voltage

- **Between channel / GND** 350 V p-p (1 minute)

### 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)**

### Software specifications

- **Captured data**
  - Transfers data in real-time (in binary or CSV format), saved data in GL820 or the USB memory

- **Display modes**
  - Y-T waveforms, Digital values, Report, X-Y graph (specified period of data, data reply only)

- **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

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC adapter</td>
<td>1 set</td>
</tr>
<tr>
<td>Quick Start Guide</td>
<td>1 copy</td>
</tr>
<tr>
<td>Options and accessories</td>
<td></td>
</tr>
<tr>
<td>Logic alarm cable (B-513)</td>
<td>2 m long (no clip on end of cable)</td>
</tr>
<tr>
<td>Battery pack (B-517)</td>
<td>1 piece (7.4 V 2200 mAh, 17Wh)</td>
</tr>
<tr>
<td>Modular system allows expansion up to 200 channels</td>
<td></td>
</tr>
<tr>
<td>All channels are isolated, each with multifunction input</td>
<td></td>
</tr>
<tr>
<td>Huge built-in 2GB Flash memory</td>
<td></td>
</tr>
<tr>
<td>Large easy-to-read 5.7-inch TFT colour LCD</td>
<td></td>
</tr>
<tr>
<td>PC -friendly, supports USB memory stick, has USB and LAN ports</td>
<td></td>
</tr>
</tbody>
</table>

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Huge 2GB Flash Memory, modular system allows expansion up to 200 channels

Isolated channels, each with multifunction input

It contains an isolated input system which ensures that signals are not corrupted by inputs to other channels, thus eliminating wiring concerns. The GL820’s multiple inputs are suitable for voltage, temperature, humidity, pulse, and logic signals, enabling combined measurements of different phenomena like temperature/humidity and voltage.

- Voltage
  - Pt100 types: P100000(12075), P100000(12751) 0 to 1000 mV using the optional PT100 sensor
  - Humidity sensor (0-50% relative humidity)
- Pulse
  - 4 channels
- Logic
  - 4 channels

*1: Select either Pulse input or Logic input, and use the optional logic input cable (B-513 option).

Maximum sampling rate of up to 10ms

Provides faster sampling rates for voltage measurements. Can achieve 10ms sampling interval when limiting the number of channels in use.

<table>
<thead>
<tr>
<th>Sampling interval</th>
<th>10ms</th>
<th>20ms</th>
<th>50ms</th>
<th>100ms</th>
<th>200ms</th>
<th>500ms</th>
<th>1s</th>
<th>2s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of channel</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>10</td>
<td>20</td>
<td>50</td>
<td>100</td>
<td>200</td>
</tr>
</tbody>
</table>

*2: Select either Pulse input or Logic input, and use the optional logic input cable (B-513 option).

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

The 2GB Flash Memory enables secure long term data measurement without using an external storage device. Data is retained even when power is turned off because flash memory is used. Also supports popular USB memory sticks for external storage. The GL820 saves measured data directly to USB memory sticks. USB memory sticks can be replaced during measurement without data loss.

Captive time (20 Analogue channels being used)

<table>
<thead>
<tr>
<th>Sampling interval</th>
<th>10ms</th>
<th>20ms</th>
<th>50ms</th>
<th>200ms</th>
<th>500ms</th>
<th>1s</th>
<th>10s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built-in USB memory</td>
<td><strong>1GB</strong></td>
<td><strong>506 days</strong></td>
<td><strong>101 days</strong></td>
<td><strong>72 days</strong></td>
<td><strong>29 days</strong></td>
<td><strong>5</strong></td>
<td><strong>10</strong></td>
</tr>
<tr>
<td>USB memory stick</td>
<td><strong>12GB</strong></td>
<td><strong>1296 days</strong></td>
<td><strong>129 days</strong></td>
<td><strong>22 days</strong></td>
<td><strong>10</strong></td>
<td><strong>10</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

*3: The above figures are approximate. *4: The sampling rate is limited by the number of channels in use.

Ring memory function

The most recent data is saved when internal memory or external memory is configured in ring memory mode. Captured data size in ring memory mode is limited to 1/3 of available memory.

Supports USB memory devices, Easy connection to PC via USB or Ethernet

Captured data can be saved directly to USB memory sticks when these are chosen for external storage. In addition, the GL820 can be controlled by a PC connected to its USB cable, allowing transfer of data to a PC in real time. If you need to move large data files to your PC then the GL820 can emulate an external USB drive for quick data transfer.

The WEB & FTP server function, FTP client-server function and FTP client function are supported when the GL820 is connected to the LAN via the Ethernet port.

5.7-inch VGA TFT colour LCD

Utilities a bright clear 5.7-inch wide TFT color monitor (VGA: 640x480 dots). Makes it easy to read data in waveform or digital form and to check your measurement parameter settings.

Standard unit has 20 analogue input channels, expandable up to 200 channels

The standard configuration has 20 analogue input channels. It can be expanded up to 200 channels by adding optional 20 channel extension terminal kits. The following shows how a standard configuration is expanded to 80 channels.

1. The terminal unit is removed from the GL820.
2. The extension terminal base (B-537) is connected to the GL820 using the cable.
3. The terminal unit that was removed from the GL820 is connected to the extension terminal base (B-537).
4. Two additional 20th extension terminal sets (B-538) are also connected to the extension terminal base (B-537).

Configuration for additional channels

<table>
<thead>
<tr>
<th>Number of channels</th>
<th>20ch</th>
<th>40ch</th>
<th>100ch</th>
<th>200ch</th>
</tr>
</thead>
<tbody>
<tr>
<td>GL820 unit</td>
<td>1set</td>
<td>1set</td>
<td>1set</td>
<td>1set</td>
</tr>
<tr>
<td>Extension terminal base kit (B-537)</td>
<td>4sets</td>
<td>4sets</td>
<td>4sets</td>
<td>4sets</td>
</tr>
<tr>
<td>20th extension terminal set (B-538)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Alarm output function

Alarm signals can be output when alarm conditions occur. Four alarm output ports are fitted.

*4. The Logic input cable (B-513 option) is needed to connect the alarm output ports.