

PetitLOGGER GL100-WL

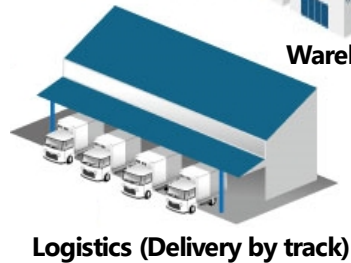
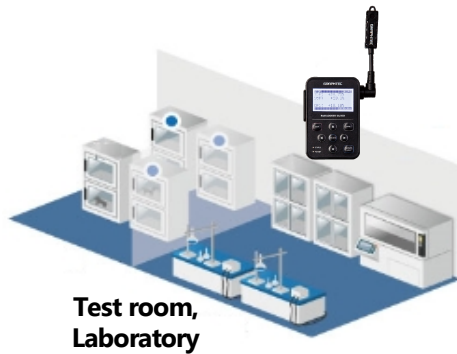
Application Examples

GRAPHTEC

Application Examples using compact data logger (WLAN)

Requirements

- ✓ 1. Measurement of various signals
- ✓ 2. Increase the number of measurement channels
- ✓ 3. Longer distance between main unit and sensor
- ✓ 4. Easy transfer of captured data to PC
- ✓ 5. Data review from remote location
- ✓ 6. Remote data monitoring
- ✓ 7. Notification when unusual condition is detected
- ✓ 8. Signal output to turn the indicator on when unusual condition is detected
- ✓ 9. Long time data capturing
- ✓ 10. Multiple power source to operate
- ✓ 11. Small measurement system by GL100/240/840



etc.



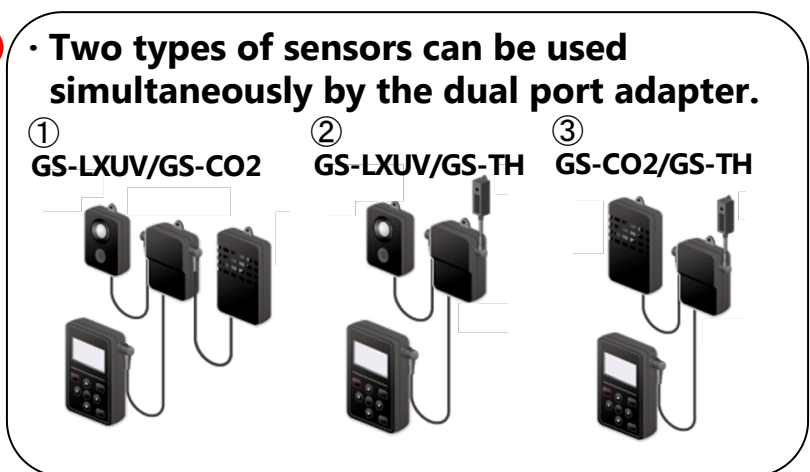
✓ 1: Measurement of various signals

Solution · Seven sensors available



✓ 2: Increase the number of measurement channels

Solution · Two types of sensors can be used simultaneously by the dual port adapter.



Terminal module supports 4 channels.

Voltage/Temp. input terminal

- 4 ch in Voltage or Temp. (TC: K or T) (V or T can each be separately selected.)
- 4 ch in Logic/Pulse (select either one)

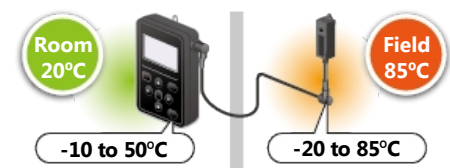
Temp. (Thermistor) terminal

- 4 ch in of Temp. using Thermistor sensor (GS-103AT-4P/GS-103JT-4P)
- 4 ch in Logic/Pulse (select either one)

✓ 3: Increasing distance of the sensor and GL100 body

Solution · Distance can be extended with 1.5m long cable

Module extension cable GS-EXC (1.5m long)



✓ 4: Easy transfer of captured data to PC

Solution · Memory card reader not required.



Data file is able to transfer to the PC from GL100 by just connect between the PC and GL100 using the USB cable.

· Easy transfer by microSD memory card



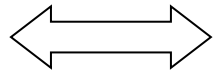
Data file is able to transfer to the PC by just insert the microSD memory card to the PC.

✓ 5: Data review from remote location

Solution · GL 100-WL has WLAN (Wireless Local Area Network) connection and supports multiple method to review captured data



WLAN
IEEE802.11b
(2.4GHz band)



Access point for the peer-to-peer connection,
Station for the LAN connection

PC

Smart device

* The GL100-WL uses radio waves in the 2.4GHz band. It may interfere with other devices that use radio waves in the same frequency band. Some actions are required to avoid radio interference when necessary.

✓ 6: Remote data monitoring

Solution · Captured data can be reproduced by smart device using the WLAN (wireless LAN) connection

Peer-to-Peer connection

GL100 can work as access point.

Smart device or PC can communicate with the GL100 in peer-to-peer connection condition by WLAN.



Available functions by the smart device

Displaying the waveform or digital value

Changing the settings (simple)

Control (start/stop)

Multiple connection

When WLAN access point is available, the GL100 can work as child device.

Smart device or PC can communicate with up to ten units GL100 by WLAN.



Available functions by the smart device

Displaying the waveform or digital value

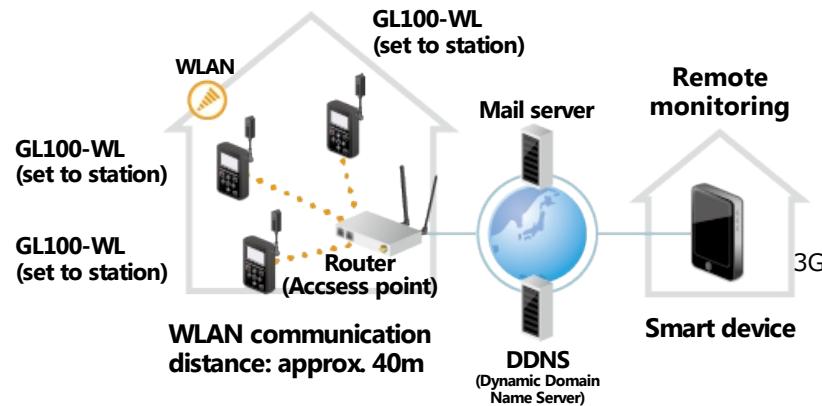
Changing the settings (simple)

Control (start/stop)

Solution

· When the DDNS (Dynamic Domain Name Server) service or static global IP address is available, data can be monitored from anywhere.

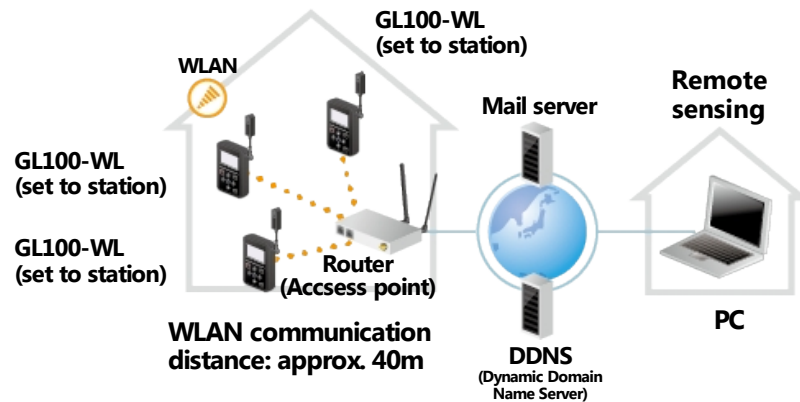
When the DDNS service is available, captured data by GL100 can be monitored from anywhere using the internet. The settings of GL100 can be also changed.



Available functions by the smart device

- Displaying the waveform or digital value
- Changing the settings (simple)
- Control (start/stop)
- Receive message via email

The "Receive message via email" is only available if the DDNS or static global IP is not available.



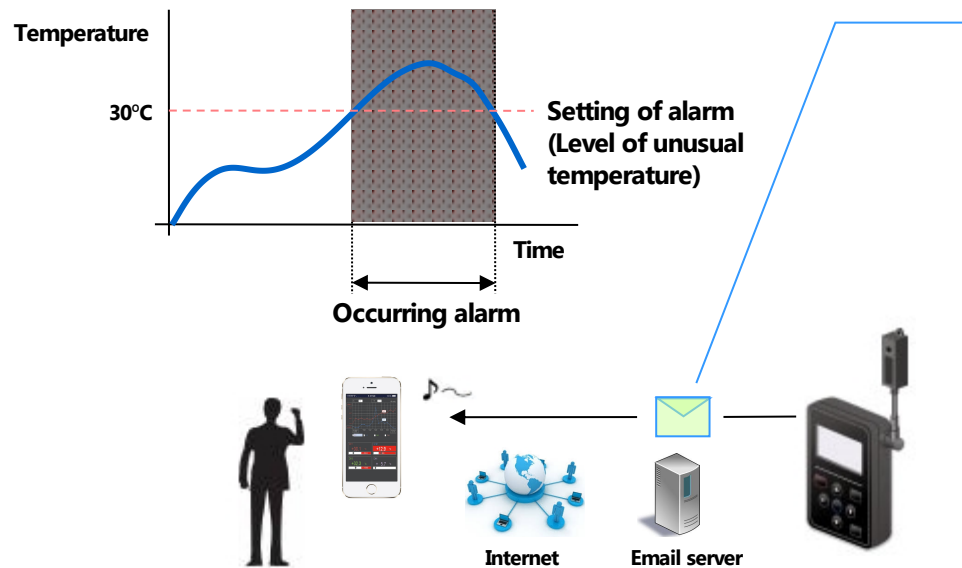
Available functions by the PC

- Displaying the waveform or digital value
- Changing the settings (full) Saving data to PC
- Control (start/stop)
- Receive message via email

The "Receive message via email" is only available if the DDNS or static global IP is not available.

7: Notification when unusual condition is detected

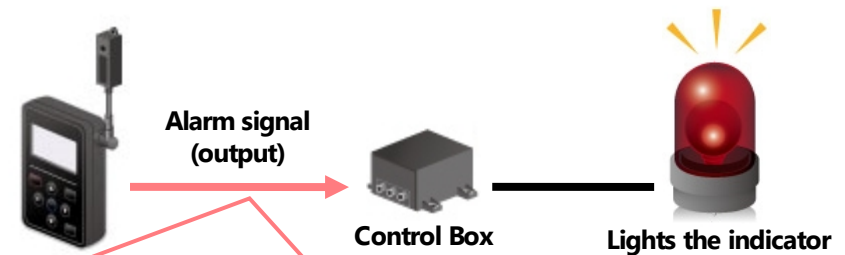
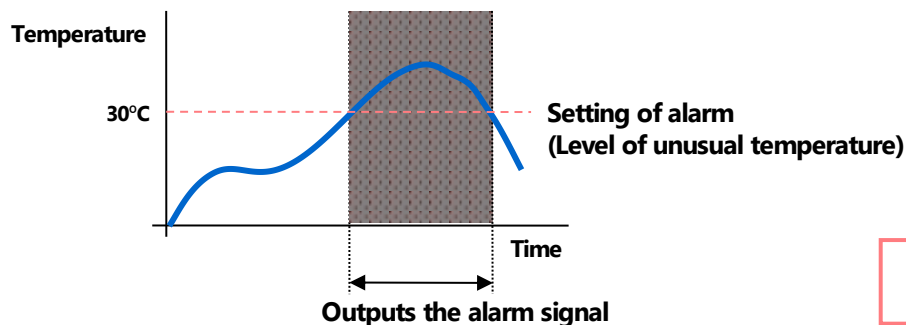
Solution · Notification email to designated recipient.



- **Alarm message**
When the alarm occurs by the captured data, message is sent via email.
- **Summary data**
Sending summary data that are the current value, value of maximum, minimum, and average in specified period.
- **Low battery warning**
If the level of dry battery is low, message is sent.
- **Setting change confirmation**
When the settings has been changed, message is sent.

8: Signal output to turn the indicator on when unusual condition is detected

Solution · When temperature becomes higher than setting, GL100 can output a signal to other equipment using alarm function. The alarm signal can be used to turn on the indicator.



Solid state switch with optical isolation. (Max. load: 30V, 50mA)
The signal will be sent when the alarm alarm occurs.

✓ **9: Long time data capturing**

Solution · Large size of memory for long-term measurement (Built-in memory or the microSD)



microSD memory card
(Data capturing time: over 2 years)

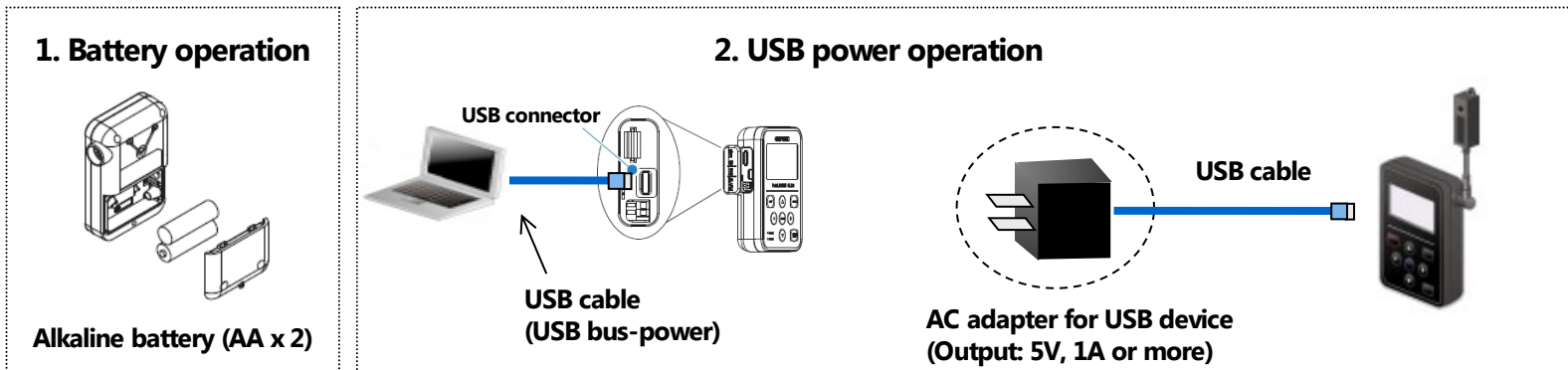
Data capturing time (Used the built-in memory 4.9MB)

Measuring items	Module type	Capturing time (approx. days)	
		Sampling 30 sec	Sampling 1 min.
Temp./Humidity	GS-TH	127	254
Acceleration/Temp.	GS-3AT	148	297
Voltage/Temp.(TC)	GS-4VT	81	162
Temp.(Thermistor)	GS-4TSR	46	93
Illuminance/UV	GS-LXUV	111	223
AC current	GS-DPA-AC	89	178
Carbon dioxide (CO2)	GS-CO2	297	594
Temp./Humidity & CO2	GS-TH + GS-CO2	111	223
Temp./Humidity & Illuminance/UV	GS-TH + GS-LXUV	68	137
CO2 & Illuminance/UV	GS-CO2 + GS-LXUV	99	198

When the data is saved to the microSD memory card, the data capturing time is approximately 380 times of value in above table.
File size for captured data is up to 1.9GB on the microSD memory card.
(Rate 380 = (microSD 1.9GB) / (built-in memory 4.9MB))

✓ **10: Multiple power source to operate**

Solution · It has the 2-way power drive system.



✓ **11: Small measurement system by GL100/240/840**

Solution · GL100 can work as satellite sensor for GL240/840

Up to 5 GL100-WL can be connected to GL840 as satellite sensor



GL840 can use up to 5 units of GL100-WL as his remote sensor !!



Sensors and input terminals/adapters for the GL100

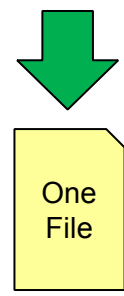


Average communication distance: approx. 40m (varies by condition)

GL840: supports up to five units of the GL100-WL

Example: Complex test for air conditioner

- Temperature distribution
- Operating condition of compressor
- Outside temperature
- Estimated power consumption



Plus GS sensor

