GL100-N/GL100-WL

Quick Start Guide

604309261   MANUAL-GL100-E

Please read this manual thoroughly before attempting to use this GL100 Petit LOGGER to ensure that you use it correctly.

Notes on Use

Be sure to read all of the following notes before attempting to use the GL100 Petit LOGGER.

1. Note on the CE Marking

The GL100 Petit LOGGER complies with the following standards.
- EN 61326-1 (Class A) standard based on the EMC directive (2004/108/EC)
- EN 61010-1:2010 3rd standard based on the LVD directive (2006/95/ EC)
- EN 301 489-17/-1, EN 300 328 standards based on the R&TTE directive (1999/5/EC)

Although the GL100 complies with the above-mentioned standards, be sure to use it correctly in accordance with the instructions and notes provided in this manual.
Moreover, use of the GL100 by incorrect procedures may result in damage to the GL100 or may invalidate its safeguards. Please confirm all of its notes regarding use and other related information to ensure correct use.

2. Warning

This is a Class A product according to the EMC directive. In a domestic environment, this product may cause radio interference or may be affected by radio interference to the extent that proper measurement cannot be performed.

3. Notes on Radio Law

This GL100-WL contains a wireless module that Radio Law certified. Make sure to note the following points:

- Do not remove the technical standards compliance label. Do not use the device if it does not have a label on it.
- This GL100 uses the 2.4GHz frequency band.
  The following devices and transmitters use the same frequencies and should not be used near this GL100:
  - Microwave ovens
  - Pacemakers and other industrial, science, and medical devices
  - Radio transmitters used in mobile body identification devices on factory production lines, etc. (transmitters requiring licensing)
  - Specified low-power radio transmitters (transmitters not requiring licensing)
  Communications may become slower or impossible due to radio interference.
- The signal may be weak or communications may become slower or impossible depending on the circumstances this GL100 is used in. Take particular note of steel-reinforced, metal, concrete, and other structural materials that can inhibit radio waves.
- This GL100 is meant for use in Japan, the US, and Europe. It has not been certified for use under any other country's radio laws.
  The following are each region's certification marks.

Japan
® 201-135002

US
Contains FCC ID:YOPGS1011MIPS

Canada
Contains IC ID:9154A-GS1011MIPS

Europe
CE Mark

4. Notes for Safe Operation

(1) When connected to high-voltage signal through an analogue signal from 4ch voltage / temperature terminal (GS-4VT), do not touch the central line of the input terminal's signal line.
There is a risk of electric shock due to high voltage.

5. Notes on Functions and Performance

(1) Use AA alkaline batteries. Using other types of batteries may cause damage to the device.

(2) Using the module, sensor, etc. with the vent hole covered may result in inaccurate measurements.

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(3) Using this GL100 in the following environments may cause inaccurate measurements or damage:
- Places with high temperatures or high humidity, such as direct sunlight and heaters.
  Allowable temperature range: -10 to 50°C, allowable humidity range: 0 to 80% RH, non-condensing

If Condensation Occurs
Condensation occurs in the form of water droplets on the device surfaces and interior when the GL100 is moved from a cold location to a warm one. Using the GL100 with condensation will cause the GL100 to malfunction. Wait until the condensation has evaporated before turning on the power.

CAUTION
When Temperature and humidity sensors (GS-TH) and GL100-N/GL100-WL are used at the same time, they should be used in the GL100-N/GL100-WL operating environment.

- Locations subject to excessive salt spray or heavy fumes from corrosive gas or solvents.
- Excessively dusty locations.
- Locations subject to strong vibrations or shock.
- Locations subject to surge voltages and/or electromagnetic interference.

(4) If the GL100 becomes soiled, wipe it off using a soft, dry cloth. Do not use the organic solvents (such as thinner or benzene).

(5) Do not use the GL100 in the vicinity of other devices which are susceptible to electromagnetic interference.

(6) Measured results may not conform to the stated specifications if the GL100 is used in an environment which is subject to strong electromagnetic interference.

(7) Position the input signal cables as far away as possible from any other cables which are likely to cause electromagnetic interference.

(8) GS-TH Temperature and Humidity Sensors:
- Humidity sensors measure the change in dielectric capacity of water adsorption. As a result, humidity from organic materials such as fine particles or exhaust gas may have an effect on the sensor. Use in environments with large quantities of these organic materials may lead to significant measurement inaccuracies.

(9) GS-CO2 CO_2 Sensor:
- Because exhaled CO_2 may have an effect on the sensor readings, do not use the sensor to take measurements near the face.
  Additionally, should air flow to the sensor be blocked, it will result in inaccurate readings, so be sure to keep vent holes open.

(10) GS-LXUV Illumination / Ultraviolet Sensor
- When measuring illumination or ultraviolet light that can have harmful effects on the eyes or skin, be sure to use protective eyewear, shielding, etc.
- If the sensor becomes dirty it may affect measurements, so wipe it with a soft cloth when it becomes dirty.
- Take care to avoid cracking the sensor when handling it. If the sensor is damaged or cracked it may affect measurements, so replace the sensor.

(11) Others
- The GS-TH temperature and humidity sensor, the GS-CO2 CO_2 sensor, and the S-LXUV illumination / ultraviolet sensor may gradually deteriorate over time depending on usage circumstances and environment, so we recommend periodically replacing these sensors every year or so.
- The GL100-N/GL100-WL units meet IP54 standards when the sensor or sensor module is connected and then the connector cover and battery cover are closed.
  Note that you cannot use the GL100-N/GL100WL units with devices that do not meet IP54 standards (except for the 3-axis acceleration sensor) when sensors and sensor modules are located in the same environments.
  Additionally, when there is deterioration or damage to the gasket on the connector cover or battery cover of the GL100-N/GL100-WL, it no longer meets IP54 standards, so be sure to either periodically replace them or have them repaired.
- If the non-optional device is connected to the GL100-N/GL100-WL's module connection terminal or the GS-DPA branch adapter connector, the GL100-N/GL100-WL or branch adapter may be damaged. Please do not connect it.

6. Operating Environment

This section explains the operating environment for the GL100.

1) Ambient Temperature and Humidity (Use the GL100 within the following ranges)
- Temperature range: -10 to 50°C
- Humidity range: 20% to 80% RH, non-condensing

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2) Environment (This GL100 is designed for indoor use. Do not use in the following locations.)
- This GL100 meets IP54 standards for simple waterproofing and dustproofing but should not be used in environments that the sensor and/or module are not designed for.
- See part (3) of Section 5 (Notes on Function and Performance).

3) Installation Category (Overvoltage Category)
- The GL100 belongs to Installation Category II defined in IEC 60664-1.
- Never use the GL100 for Installation Category III or IV.

4) Overvoltage Category
- Overvoltage categories as defined by IEC 61010 are as follows:
  GL100-N/GL100-WL: Overvoltage category I
  When connected to a PC/AC adapter: Overvoltage category II
  * Be sure to use either a commercially available AC adapter or a PC (with a IEC 60950-1 certified Limited Power Source USB output) with this GL100.
  * Furthermore, do not use this GL100 with IEC 61010-defined overvoltage category III or IV.

5) Altitude
- This GL100 can be used at altitudes up to 2,000m.

6) Power
- Two alkaline batteries or a USB cable connection (5V, 200 mA or higher) can be used to provide power.

7) Degree of Contamination
- This GL100 is IEC 60664-1-certified for use in up to Contamination Degree 2.

8) Use
- This GL100 is intended for use as industrial equipment.

Notes on the Use of This Manual

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(2) The specifications and other information in this manual are subject to change without notice.
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Conventions Used in This Manual

To promote safe and accurate use of the GL100 as well as to prevent human injury and property damage,safety precautions provided in this manual are ranked into the five categories described below. Be sure you understand the difference between each of the categories.

⚠ DANGER	This category provides information that, if ignored, is highly likely to cause fatal or serious injury to the operator.
⚠ WARNING	This category provides information that, if ignored, is likely to cause fatal or serious injury to the operator.
⚠ CAUTION	This category provides information that, if ignored, could cause physical damage to the GL100.
⚠ HIGH TEMPERATURE	This category provides information that, if ignored, is likely to cause burns or other injury to the operator due to contact with high temperature.
⚠ ELECTRICAL SHOCK	This category provides information that, if ignored, is likely to expose the operator to electrical shock.

Description of Safety Symbols

⚠	The ⚠ symbol indicates information that requires careful attention (which includes warnings). The point requiring attention is described by an illustration or text within or next to the ⚠ symbol.
🚫	The 🚫 symbol indicates action that is prohibited. Such prohibited action is described by an illustration or text within or next to the 🚫 symbol.
❗	The ❗ symbol indicates action that must be performed. Such imperative action is described by an illustration or text within or next to the ❗ symbol.

Safety Precautions ⚠ WARNING

In the event of a malfunction, remove the batteries and do not attempt to use the device.
- Attempting to use the device when malfunctioning may cause an electrical shock or fire. Remove the batteries immediately and request repairs.

Do not use the device in the event that it is producing smoke, is unusually hot, is producing an unusual smell, or other similar circumstances.
- Attempting to use the device when malfunctioning may cause an electrical shock or fire. Immediately move the device to a non-flammable location and, after confirming it is safe, remove the batteries and request for repairs.
(Use prohibited)

Do not allow the device to get wet.
- This can cause an electrical shock or fire hazard. Be especially careful when using the device near windows during rain or snow or in coastal areas.
(Avoid water)

If fluid or foreign matters enters inside the GL100, turn off the Power switch and disconnect the power cord from the electrical socket.
- Use in such status may cause a fire hazard due to electrical shock or current leakage.
- Contact your sales representative or nearest Graphtec vendor to request repair.
(Use prohibited)

Do not use the device for unintended purposes.
- Do not use the device for uses other than measuring.

Do not insert foreign objects into the device.
- Inserting metallic objects or flammable objects into the device may cause an electrical shock or fire.

Keep away from children.
- Do not setup the device in a place within the measuring location that children can reach. They may swallow the device and/or injure themselves.

Do not use the device if it is damaged.
- This can cause an electrical shock or fire hazard.
(Use prohibited)

Never disassemble or remodel the GL100.
- Modifying this GL100 may cause an electrical shock or fire due to short circuiting and generating heat.
(No disassembly)

Do not input voltage that exceeds the permissible input voltage range that is specified on the GL100's label.
- Exceeding the specified voltage input range may cause electrical shock or a fire hazard.
(Use prohibited)

Safety Precautions ⚠ CAUTION

Do not put the device in any of the following places when installing it:
- locations in direct contact with oily smoke or steam
- locations with direct sunlight
- locations that experience temperatures outside the operating range
- Putting the device into places like these may cause short circuiting, heat, deformation of the case, electrical shocks, fires and malfunctions.

Do not use the device in locations with severe mechanical vibration or large amounts of electrical static.
- Such location may impair the GL100's performance.

Use the specified batteries.
- Using the device with other batteries may cause electrical shock or fire hazard.
- The batteries and exterior of the LOGGER may be very hot.
(⚠ HIGH TEMPERATURE   ❗ Strict observance)

Do not touch the device with wet hands.
- This can cause an electrical shock or malfunction.
(Don't touch with wet hands)

When using the GL100-WL, note the following:
- If you have an implantable pacemaker or implantable defibrillator installed, radio signals from the device may have an effect on the operation of your implantable pacemaker or implantable defibrillator.
(❗ Strict observance)

When using the GL100-WL, note the following:
- Turn off the device in places where wireless radio signal use is restricted, such as on aircrafts and in hospitals. The device can have an effect on electronic devices, medical devices, etc., and may cause malfunctions.
(Prohibited)

Do not use the device in any way not specified in this instruction manual. There is a danger that protective provisions will have not been put in place.
(Prohibited)

Do not put heavy objects on top of the device nor climb on top of the device.
- Loss of balance may cause falling, which may cause injury or malfunction.

Do not insert fingers or other foreign objects into connectors or gaps in the device.
- This can cause injury or malfunction.

Do not clean the logger using a volatile solvent (such as thinner or benzine).
- Cleaning with volatile solvents may impair the GL100's performance. If the GL100 becomes dirty, wipe it with a clean, soft cloth.
(Prohibited)

Be careful of gradual deterioration over time.
- Vibration and/or gradual deterioration over time may cause battery terminal contacts to not work properly.

Be careful of static electricity.
- Static electricity may damage the device. To prevent this from happening, touch a different metal object to discharge any built-up static electricity before touching the GL100.
(⚠ CAUTION)

Remove the batteries when the device is not used for long periods.
- Battery leakage may cause malfunction.
(❗ Strict observance)

When using the GL100-WL in a medical establishment, note the following rules:
- Please turn off the power of this product in hospital wards.
- Each medical institution has its own usage prohibitions in various areas. Be sure to follow these.
(❗ Strict observance)

When using the GL100-WL, note the following:
- In the event that the device has an effect on automatic electronic devices such as cars or elevators, immediately turn the GL100-WL off.
(Prohibited)

The module connection terminal is for use only with separately sold sensors and modules. Do not connect any other devices. Doing so may damage the GL100.
(Prohibited)

This GL100 is not meant for use with lifesaving devices or devices with mission-critical high reliability or high safety requirements (medical devices, aerospace devices, shipping devices, nuclear power devices, etc.). In the event that this GL100 causes injury or property damage when used under these circumstances, the maker assumes absolutely no responsibility and is not liable.

GRAPHTEC

GL100 Series — PetitLOGGER

GL100-N/GL100-WL
Quick Start Guide

Thank you very much for buying this GRAPHTEC product.

This product can measure according to the application by connecting a wide variety of measurement sensors, terminals, and adapters (hereafter "modules"), which are sold separately from the GL100-N/GL100-WL.

These directions describe preparations and cautions before measurement.

For connection and operation instructions for each module, please refer to the corresponding USER'S MANUAL.

To ensure safety, please read the operation instructions, etc.

For details on the warnings and how to handle this module, please read the USER'S MANUAL included on the CD-ROM (included in the GL100 packaging)

Confirmation of the exterior

After opening the package, please confirm that there are no problems (scratches and dirt) on the exterior before use.

Confirmation of the attached items.

- Quick Start Guide (this book): 1 • CD-ROM: 1
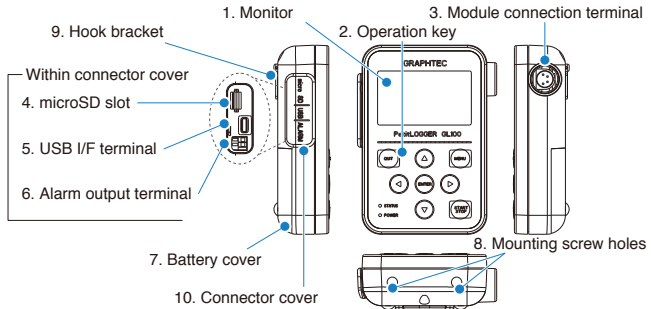- USB cable (MicroB-A approximate 0.5 m): 1

If by any chance faults are found, please contact the store where you bought the item.

* Please note that items mentioned in this book may change without prior notice.
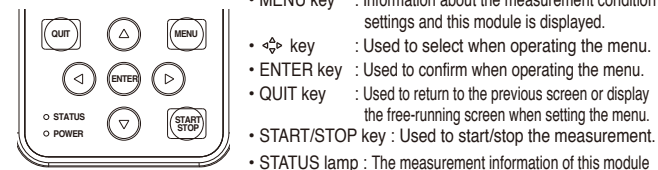
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1 Part Names

This section describes the name and function of each part.

1. Monitor
2. Operation key
3. Module connection terminal
4. microSD slot
5. USB I/F terminal
6. Alarm output terminal
7. Battery cover
8. Mounting screw holes
9. Hook bracket
10. Connector cover

- • MENU key : Information about the measurement condition settings and this module is displayed.
- • ◇ key : Used to select when operating the menu.
- • ENTER key : Used to confirm when operating the menu.
- • QUIT key : Used to return to the previous screen or display the free-running screen when setting the menu.
- • START/STOP key : Used to start/stop the measurement.
- • STATUS lamp : The measurement information of this module is displayed in orange.
- • POWER lamp : The power supply status is displayed in green.

3. Module connection terminal ... Used to connect to various measurement module.
4. microSD slot .... Used to insert microSD card.
5. USB I/F terminal .... Used to communicate and power supply with USB cable.
6. Alarm output terminal .... Alarm signal is output from this terminal.
7. Battery cover .... Two AA batteries are housed in the alkaline battery cover.
8. Mounting screw holes ... The size of the mounting screw holes is M4 × L5.
9. Hook bracket .... A metal fixing that suspends and secures the product.
10. Connector cover .... This is the cover for each connector.

1. Monitor .... The settings and measured values are displayed.
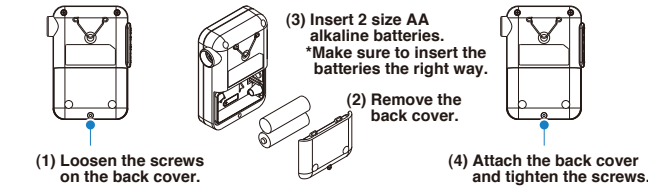2. Operation key .... Key operation is performed on the screen.

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2 Preparations Before Measurement

This module can be powered by alkaline batteries, an AC adapter (USB cable connection) or a PC (USB cable connection).
* When the power is supplied, it is ready for operation by holding down the [MENU] key.

1. How to install the batteries

(1) Loosen the screws on the back cover.
(2) Remove the back cover.
(3) Insert 2 size AA alkaline batteries. *Make sure to insert the batteries the right way.
(4) Attach the back cover and tighten the screws.

CAUTION Make sure to use two size AA alkaline batteries. Do not use zinc-carbon batteries or nickel hydride (rechargeable) batteries.

2. How to connect to power supply (USB cable connection)

(1) Connecting AC adapter

Connect this module to a commercial AC adapter using a USB cable.

Connect USB I/F terminal.
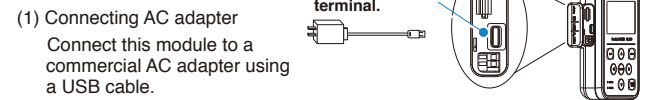
CAUTION
- • Make sure to use an AC adapter rated 5V (at least 1A)
- • Smartphone chargers cannot be used, because they usually have overcharge protection lines that may identify this module as being fully charged and stop output.

(2) How to connect to PC

Use the attached USB cable and connect the USB I/F terminal to a PC.

CAUTION
- • Make sure to use a USB cable connection rated 5V (at least 200mA)
- • Do not connect via a USB hub.

Reference 1: The recommended power sources for each combination of modules are listed below.

Setting items	Sensor module connected	Built-in alkaline battery	USB cable connection
Temperature and humidity measurement	GS-TH	B	A
3-axis acceleration / Temperature Measurement	GS-3AT	B	A
4ch voltage / temperature measurement	GS-4VT	C	A
4ch thermistor temperature measurement	GS-4TSR	B	A
Illuminance / Ultraviolet measurement	GS-LXUV	B	A
CO2 measurement	GS-CO2	D	A
AC current / power measurement	GS-DPA-AC	B	A
Temperature and humidity + CO2 measurement	GS-DPA+GS-TH+GS-CO2	D	A
Temperature and humidity + illumination / UV measurement	GS-DPA+GS-TH+GS-LXUV	B	A
CO2 + illumination / UV measurement	GS-DPA+GS-CO2+GS-LXUV	D	A

*: The GS-DPA listed is a measurement that uses the branch adapter for GS.
A : Full operation
B : This works on alkaline batteries.
C : This works on alkaline batteries, but power consumption is relatively high, the operating time will be shorter.
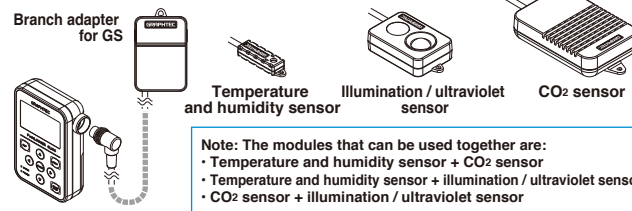D : Cannot be used as a power source

3. How to connect modules

When powered on, the main module will automatically recognize sensors when they are connected.
Please connect the module in accordance with the message on the screen.

(1) How to connect modules directly

This module can be connected directly to a sensor.

(2) How to use a branch adapter and connect a module

When using the branch adapter for GS (GS-DPA, sold separately) you can use two modules.

Branch adapter for GS

Temperature and humidity sensor   Illumination / ultraviolet sensor   CO2 sensor

Note: The modules that can be used together are:
- • Temperature and humidity sensor + CO2 sensor
- • Temperature and humidity sensor + illumination / ultraviolet sensor
- • CO2 sensor + illumination / ultraviolet sensor

(3) How to connect using extension cable

When connecting and using the extension cable for GS (GS-EXC, sold separately) between this module and a sensor or a branch adapter for GS, the module's cable can be lengthened by 1.5 m.

CAUTION
- • When using a branch adapter, please connect it to the module after attaching the module to the branch adapter.
- • The sensor module cannot be recognized when it is attached directly after the branch adapter has been connected to the module. If it is not recognized, please reconnect it.
- • Do not connect a main module other than connectable modules to branch adapter.

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3 Operating Procedure
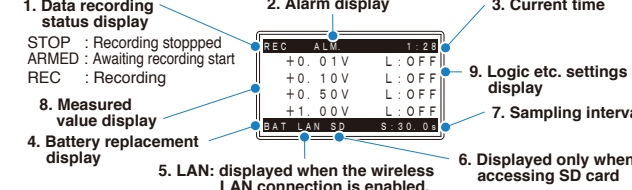
1. Measurement condition setting

After connecting a module, a variety of measurement settings are enabled.

(1) Press [ENTER] key after connecting the module.

```
GL100-**
Sleeping!!
ENTER key to start
QUIT key to Power Off
BAT LAN
```
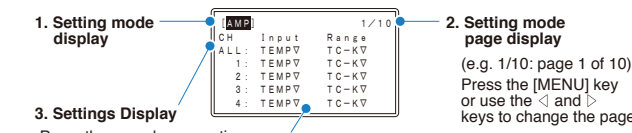
- When the message above is displayed, the module can be replaced.
- When the [QUIT] key is pressed during this message is displayed, it goes into power-off mode. The GL100 is ready for operation by holding down [MENU] key.

(2) The sensor conditions are loading into the product.

```
GL100-***
Initializing!!
```

CAUTION When the message above is displayed, the module should not be replaced.

(3) After processing, free-running screen is displayed.

1. Data recording status display
STOP : Recording stoppped
ARMED : Awaiting recording start
REC : Recording

2. Alarm display
3. Current time
8. Measured value display
4. Battery replacement display
5. LAN: displayed when the wireless LAN connection is enabled.
6. Displayed only when accessing SD card
7. Sampling interval
9. Logic etc. settings display

(4) Pressing [MENU] key goes to setting menu mode.

1. Setting mode display
2. Setting mode page display
(e.g. 1/10: page 1 of 10)
Press the [MENU] key or use the ◁ and ▷ keys to change the page.

3. Settings Display
Press the △ and ▽ operation keys to move the cursor. The item the cursor is on can be changed.

4. Setting items
Press the [ENTER] key to display the setting screen for the item with ▽ displayed (e.g. TEMP ▽).

Reference 2: Example settings listing for a 4ch voltage / temperature terminal sensor module.

Page	Setting mode	Example of items
1/10	AMP	Input (4ch)
2/10	LOGIC	Input Mode (4ch)
3/10	DATA	Sampling
4/10	TRIGGER	TRIG Setting
5/10	ALARM	Alarm
6/10	I/F	WLAN (Available for GL100-WL only)
7/10	MAIL	Notification (Available for GL100-WL only)
8/10	OTHER-1	Date/Time
9/10	OTHER-2	TEMP UNIT
10/10	INFORMATION	Body, sensor 1, sensor 2

< Example of operation >

We will now explain the temperature setting procedures for a 4ch voltage / temperature terminal.
1. Press the [MENU] key to display the settings mode screen.
2. Press the ▽ key and move to the CH input you want to set.
3. Press the [ENTER] key. Move to TEMP using the △ and ▽ keys, then press the [ENTER] key to select it.
4. Next, move to the range using the ◁ and ▷ keys, then press the [ENTER] key to select it. Move to TC-K using the △ and ▽ keys, then press the [ENTER] key to select it.
5. Press the [QUIT] key to return to the free-running screen from the setting screen.

Other items can also be set using the same procedure.

CAUTION The setting items may vary depending on the module connected.
Please refer to the USER'S MANUAL for each module.

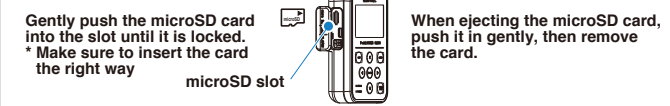## 2. Initial setting (OTHER-1 setting screen)

```
OTHER-1              7/10
Date/Time :    ▽
Screen Sav:Off▽
LCD Brightness:Off▽
Language:    English▽
Factory INT:   ▽
```

1. Date / Time setting
- • Set Date/Time ([ENTER] key).
- • Mode: Display mode can be changed
- • Date/Time: Use △▽ keys to change the date

2. Screen Sav (screen saver) setting
After the set amount of time, the screen will automatically turn off. Press a key to turn the screen back on.

3. LCD brightness setting
The LCD brightness can be set to one of four levels.

4. Language setting (The default display language is English.)
Onscreen content can be switched between English and Japanese.

5. Factory INT (factory initialization) setting
The settings are reset to default values (factory default setting).
The information other than some functions of the language and I/F, etc. will be reset, so please use caution.

---

4 Measurement Procedure

1. Measurement start / stop

(1) Set the measurement conditions according to various modules.

(2) Set the settings below when recording the data.
- • Set the sampling in DATA setting screen.
- • Set the data recording conditions in TRIGGER setting screen.
- • When recording the data into the microSD card, insert the microSD card into the microSD slot.

Gently push the microSD card into the slot until it is locked.
* Make sure to insert the card the right way

microSD slot

When ejecting the microSD card, push it in gently, then remove the card.

When mounting, the STATUS lamp will turn on while it checks the amount of available space. Please wait until it turns off.

(3) Press the [START/STOP] key when the settings are complete to begin measuring.

(4) To stop the measurement, press the [START/STOP] button once more.

CAUTION After stopping, data will be written onto the microSD card. Please do not remove the card until the module's STATUS lamp turns off. Removing the microSD card too early may cause data to not be written correctly.

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5 Wireless LAN Connection (GL100-WL only)

1. Connecting Wireless LAN (GL100-WL only)

When using a wireless LAN connection, it is necessary to set a receiving PC, cell phone connection, etc.
(For details, refer to the USER'S MANUAL (PDF) on the CD-ROM included with this module.)

(1) Display I/F screen

```
I/F                    */*
WLAN Mode:AP▽
DHCP:Off▽
TCP/IP :     ▽
SSID:GL100_a1beee▽
Security:WPA2▽
Key:********▽
```

(2) Set wireless conditions in WLAN MODE.
AP (base unit), Station (child unit)

(3) Set a variety of other settings
DHCD, TCP/IP, SSID, Security, Key

CAUTION The communication distance may change depending on the obstructions and structures in the area.
Real-time data transfer has a maximum speed of 500 ms.
Be sure to check the measurement conditions before use.

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6 Specifications

GL100-N / GL100-WL specifications

Item		Contents
Input channel number		This depends on the type of module to be used.
Input terminal shape		
Input method		
External input/output		Alarm output 1 channel
PC I/F		USB (Micro-B connector)
		Wireless LAN (GL100-WL only)
		* ON/OFF can be set (It is set to ON at the factory.)
Built-in memory device		Main Memory: approximate 4.9M Byte
		External memory: microSD card (Please use a commercially available product)
		* 1 file cannot exceed 1.9GB.
		* A microSD card which supports sleep mode is recommended TS4GUSDHC4 (Transcend) etc.
Backup function		Setup conditions: EEPROM
		Clock: Backup capacitor
		Time need for backup during battery exchange: approx. 10 hours (at 23°C)
Monitor		Graphic monochrome display (128×64 dot)
Display contents		Measured values, settings, etc.
		Note: Recorded data cannot be viewed on this module. Please use the included application software.
Wireless LAN (GL100-WL only)		Standards: IEEE 802.11b
		Communication distance: approx. 40 m
		* It depends on the surrounding obstacles and environmental conditions
		Real-time data transfer rate: 500 ms
Functions	USB I/F	Real-time display, measured data readout, module settings (PC application)
	Wireless LAN	Real-time display, measurement data readout, module settings (Android / iOS smartphone application), Email reception function
		Note: GL100-WL only
Alarm output type		Insulation switching type by photo coupler
		Rating: 30V, 50 mA (power dissipation 150 mW)
Memory content		Recorded Data
Simple waterproof body		IP54 *1
Vibration proof		Automobile parts Type 1 Class A equivalent
Rated power		GL100-N: Max. 3.0VA, GL100-WL: Max. 3.5VA
		* It depends on the type of module to be used.
Power supply		AA alkaline batteries 2 pcs., USB Bus power (5V 200mA or more)
		* USB cable for Micro B-A is included.
		Batteries and USB AC adapter (5V 1A or more) are not included
Usage environment		-10 to 50°C, 80% RH or less (non-condensing)
External dimensions [W×D×H] (approximate)		66 × 100 × 27 mm (not including protruding parts)
Weight (approximate)		GL100-N : 125 g, GL100-WL : 130 g

*1: The IP54 can only be used when the GL100 and module are connected, and the connector cover and battery cover are closed. We recommend replacing the packing periodically.