Human Machine Interface (HMI) GOT

Logging (Basic Setting)

This online training system (e-learning) is intended for those who use the logging function of the GOT2000 Series HMI for the first time.

L(NA)00251ENG

Introduction

Purpose of the Course

In this course, we will learn how to configure the logging function settings using the screen design software GT Designer3.

In this course, we will learn the process of configuring the logging settings using the screen design software GT Designer3, executing logging with the GOT, and checking the logging data on the personal computer.

As prerequisites for this course, you should have already completed the following courses or possess the equivalent knowledge in:

- FA Equipment for Beginners (HMIs)
- GOT2000 Basics (GOT Introduction)
- GT Works3 (GT Designer3) Basics (Screen Design Introduction)
- Logging for Beginners
- FA Equipment for Beginners (PLCs)
- PLC MELSEC iQ-R Series Basics
- PLC Programing Basic (Ladder)

Introduction Course Structure

The contents of this course are as follows.
We recommend that you start from Chapter 1.

Chapter 1 Overview

The overview of this course is provided.

Chapter 2 Configuring a Logging Setting

We will learn how to configure the logging function settings in GT Designer3.

Chapter 3 Logging with the GOT

We will learn how to perform logging with the GOT using the project set in Chapter 2.

Chapter 4 Checking the Logging Data

We will learn how to check the logging file created in Chapter 3 with the GOT and how to check the logging data in the CSV file on a personal computer.

Final Test

Passing grade: 60% or higher.

Introduction How to Use This e-Learning Tool

Following is an explanation of how to use the graphical user interface.

Go to the next page		Go to the next page.
Back to the previous page		Back to the previous page.
Move to the desired page		"Table of Contents" will be displayed, enabling you to navigate to the desired page.
Exit the learning		Exit the learning. Window such as "Contents" screen and the learning will be closed.

Cautions for Use

Safety precautions

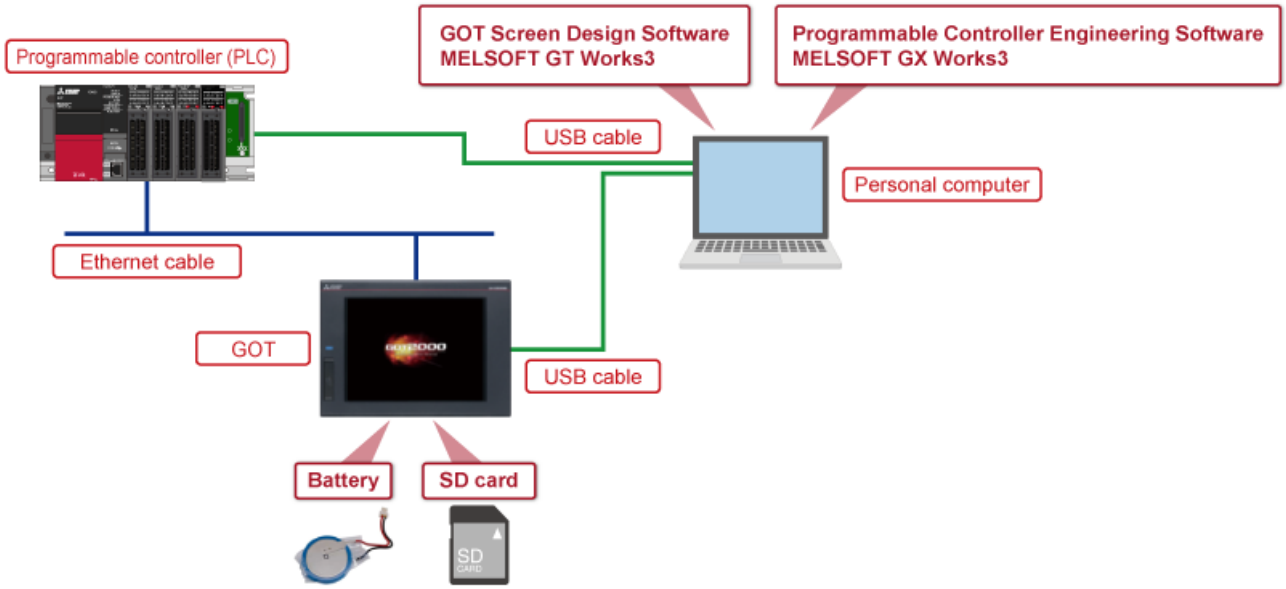
When you learn based on using actual products, please carefully read the safety precautions in the corresponding manuals.

Chapter 1 Overview

In this course, we will learn the process of configuring the logging settings using the screen design software GT Designer3, executing logging with the GOT2000 series, and checking the logging data on a personal computer.

1.1 Configuration of the learning equipment

The following diagram shows configuration of the learning equipment.



1.2 Learning equipment list - 1

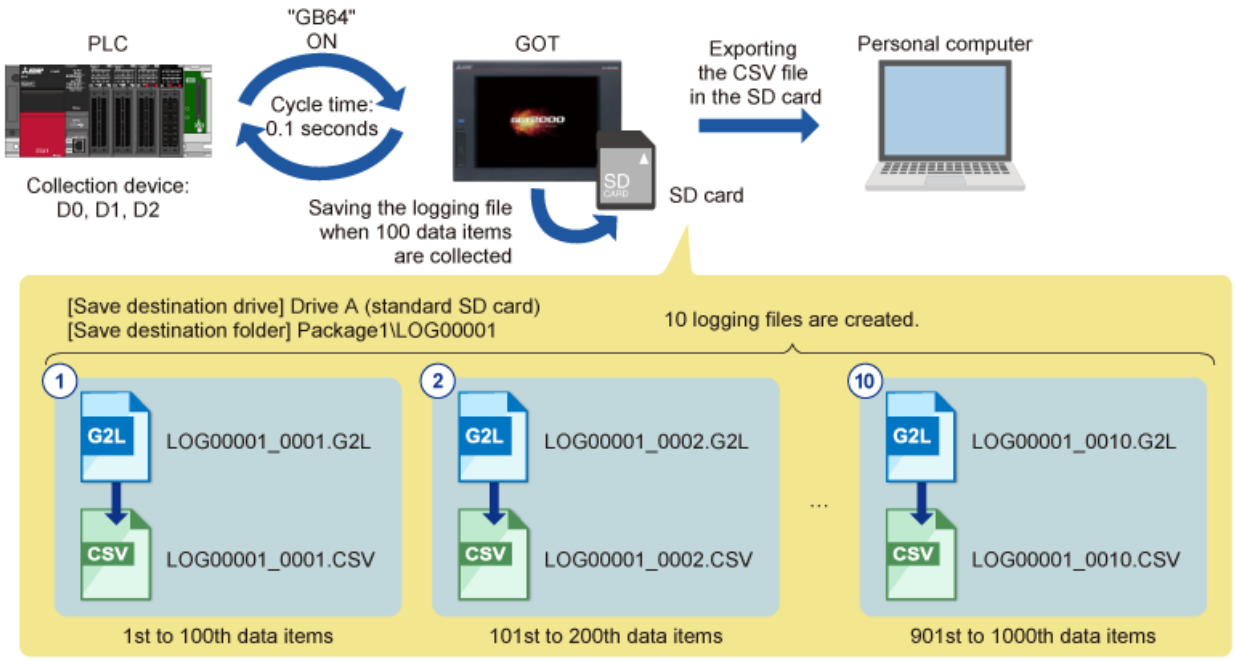
Photo/illustration	Name	Application/setting
	Personal computer	Used to create GOT project data and transfer the data to the GOT. Also used to create sequence programs to check the operation of the created GOT project data, and write the programs to the PLC.
	GOT Screen Design Software MELSOFT GT Works3	Includes GT Designer3 (software for creating project data) and GT Simulator3 (software for simulating the GOT). Install GT Designer3 on the personal computer. (Model: SW1DND-GTWK3-E)
	Programmable Controller Engineering Software MELSOFT GX Works3	Engineering tool for configuring settings, programming, debugging, and maintenance for PLCs including the MELSEC iQ-R/MELSEC iQ-F series. Install the software on the personal computer.
	GOT	Displays the created project data on the screen to monitor or operate PLCs. (Model: GT2710-VTBD)
	USB cable	Used to connect the GOT and the personal computer. (Model: GT09-C30USB-5P)
	PLC	Used to run the sequence programs. (Model: R04CPU)
	Ethernet cable	Used to connect the GOT and the PLC. * Use a commercially available Ethernet cable that meets the 100BASE-TX standard (recommended to use Category 5 or higher shielded cable). * Ethernet is a registered trademark of Fuji Xerox Co., Ltd.

1.2 Learning equipment list - 2

Photo/illustration	Name	Application/setting
	SD card	Stores logging data. Install it on drive A of the GOT. (Model: NZ1MEM-16GBSD)
	Battery	Used to keep the logging data stored in the buffering area even while the GOT power supply is turned off (power failure backup). (Model: GT11-50BAT)

1.3 Logging settings for learning

In this course, we will configure the logging settings for the following operation, and learn the GOT's logging function.
■ Collecting 100 values of the PLC devices "D0, D1, and D2" in 0.1 second cycles, saving the 100 data items in one file, and creating 10 files



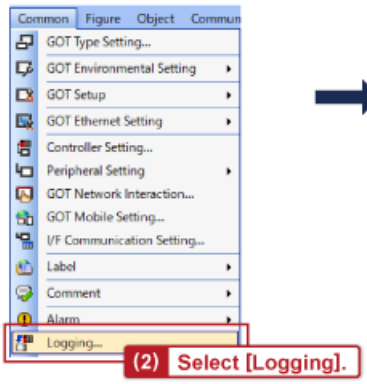
Chapter 2 Configuring a Logging Setting

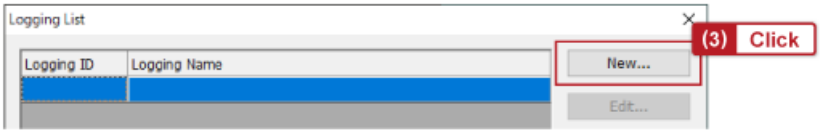
In this chapter, we will learn how to configure the logging function settings.

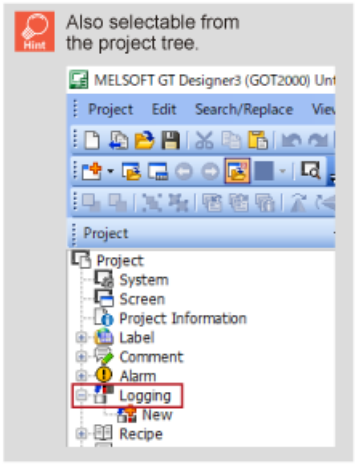
2.1 Starting a logging setting - 1

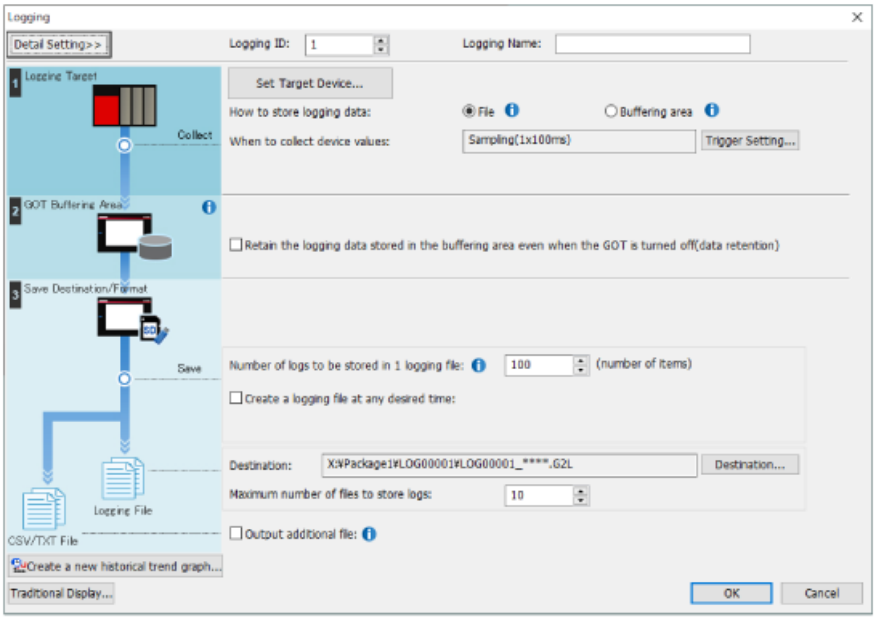
Display the [Logging] dialog in GT Designer3 and start a logging setting.

(1) Start GT Designer3 and create a project.
(2) Select [Common] → [Logging] from the menu to display [Logging List].
(3) In the [Logging List] dialog, select [New] to display the [Logging] dialog.



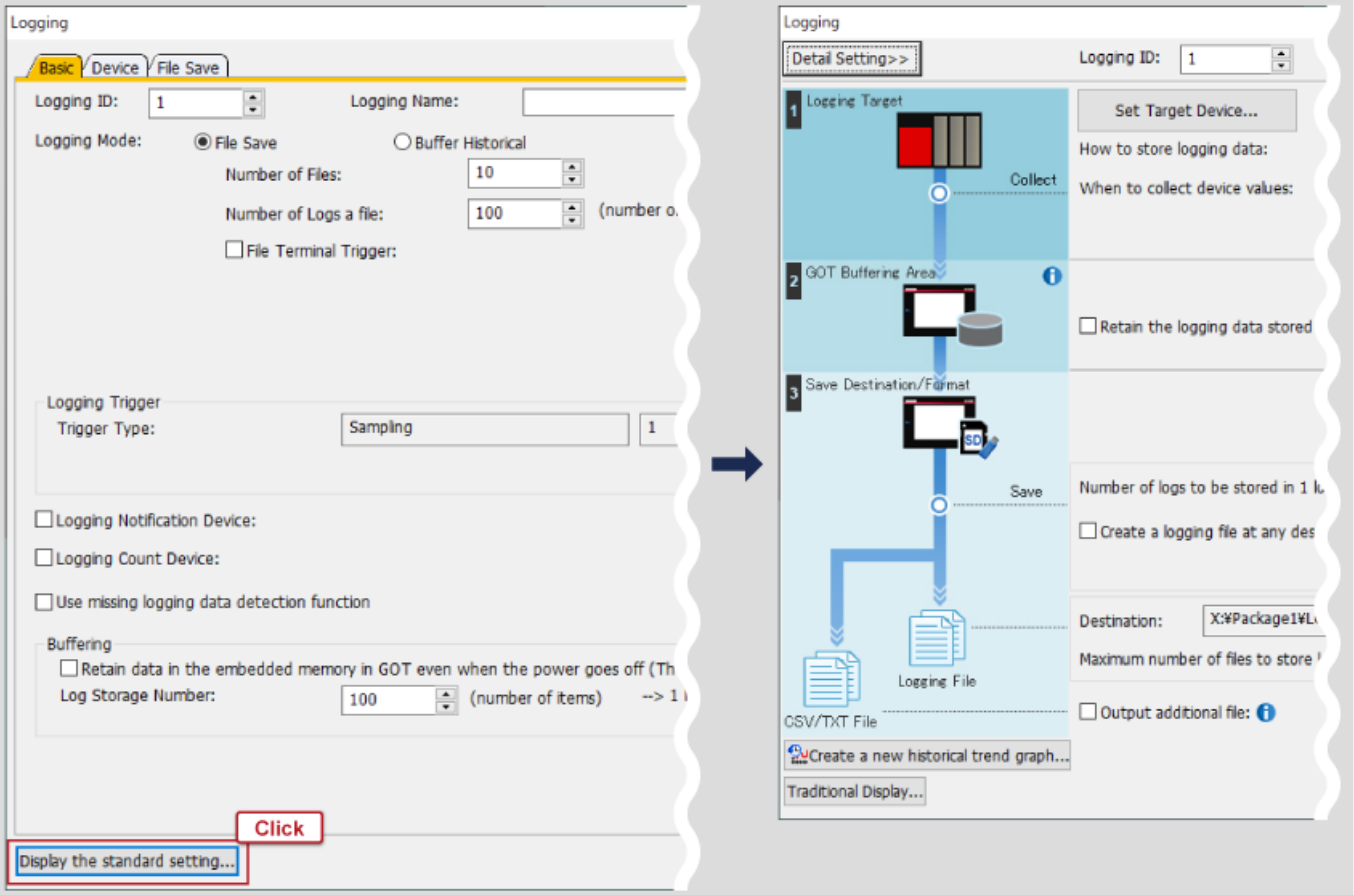






2.1 Starting a logging setting - 2

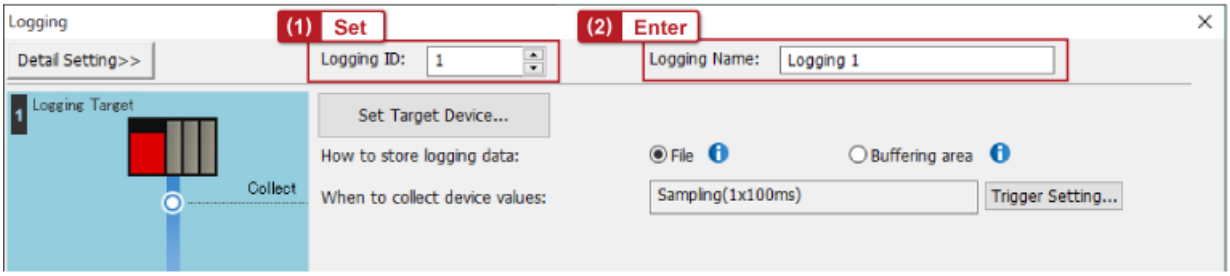
If the [Logging] dialog is as shown below, click [Display the standard setting]. The dialog is switched to the [Logging] dialog used for operation in (3).



2.2 Setting a logging name

Set a logging name ([Logging ID] and [Logging Name]).

(1) Set [Logging ID].
(2) Set [Logging Name].

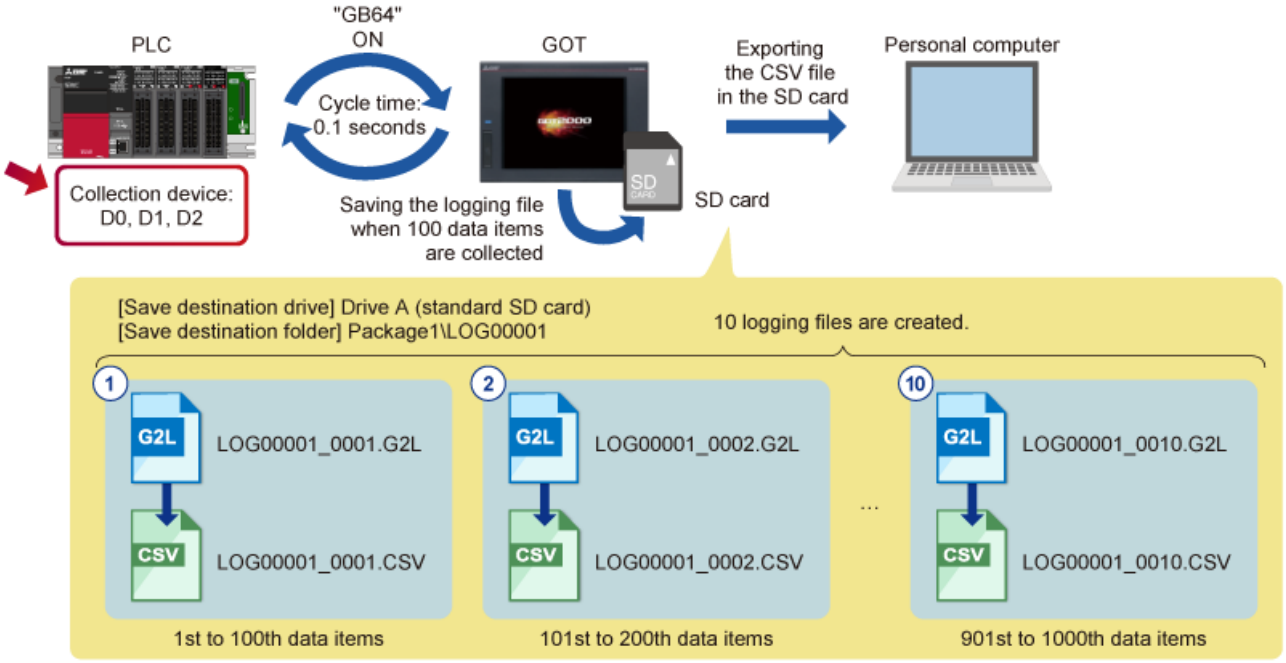


Item	Setting example
Logging ID	1
Logging name	Logging 1

Hint
[Logging ID] identifies the logging setting.
For [Logging Name], set a name that describes the purpose or the like of logging.

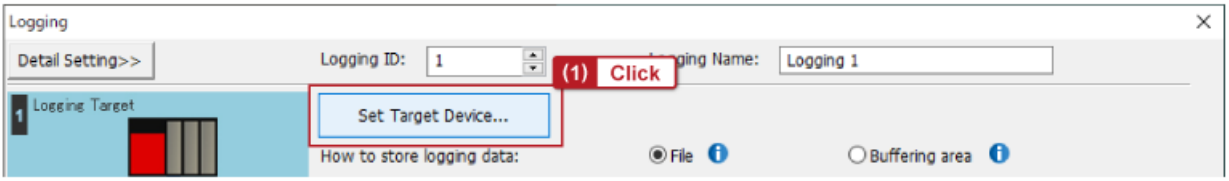
2.3 Setting a target device for data collection - 1

Set a target device for logging data collection.

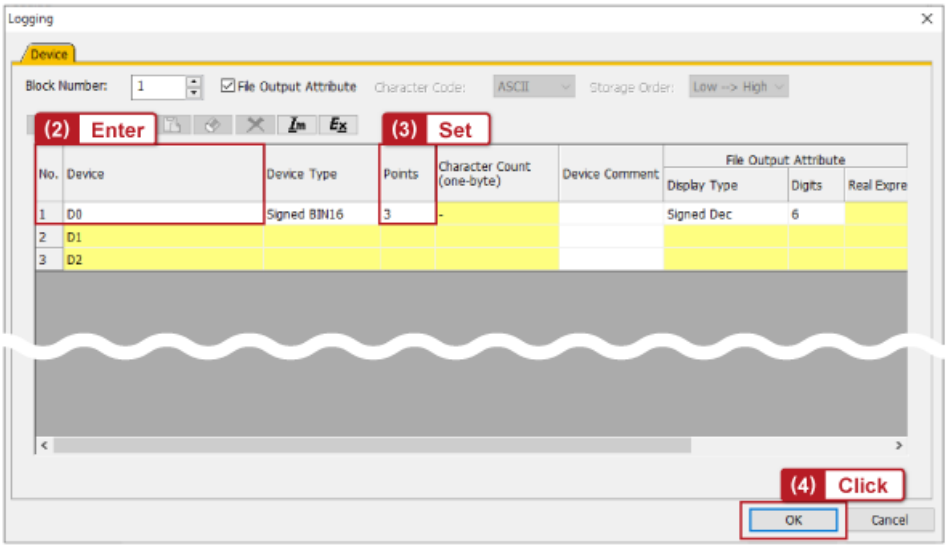


2.3 Setting a target device for data collection - 2

(1) Click [Set Target Device].



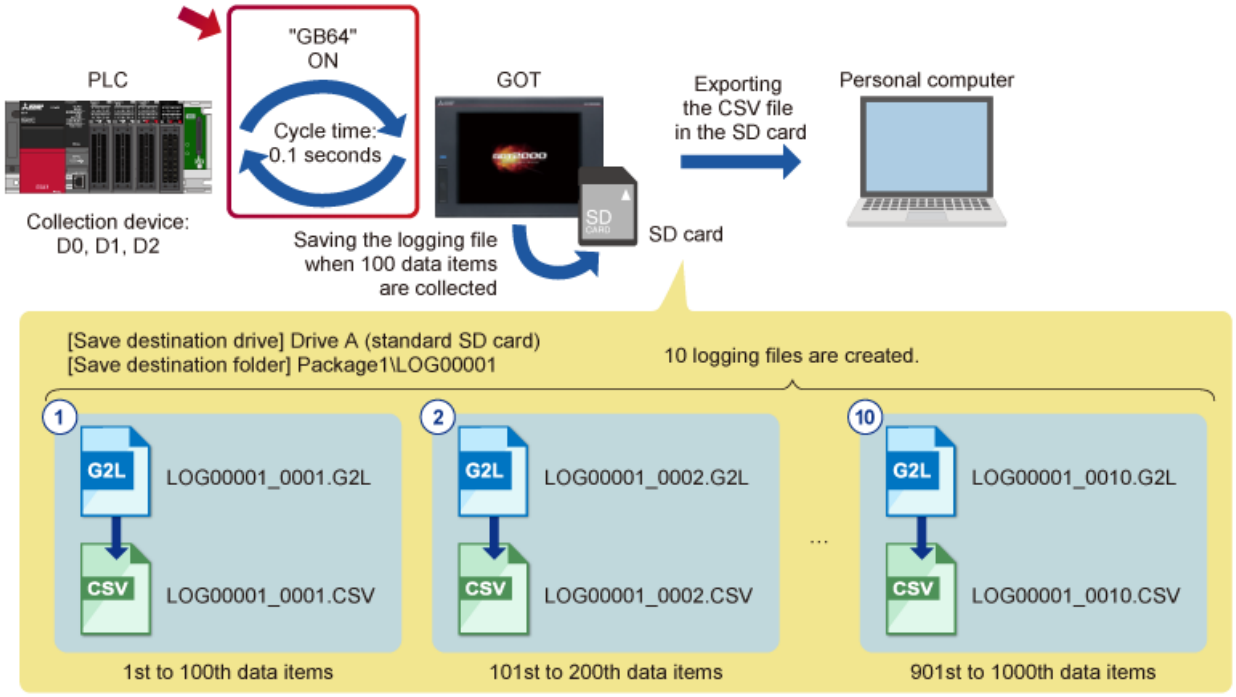
(2) Enter a target device for logging data collection.
(3) Set the number of target devices for logging data collection. In this example, No. 2 and No. 3 devices are automatically set.
(4) Click the [OK] button.



Item		Setting example
Point		3
Device	No.1	D0
	No.2	D1 (automatically set)
	No.3	D2 (automatically set)

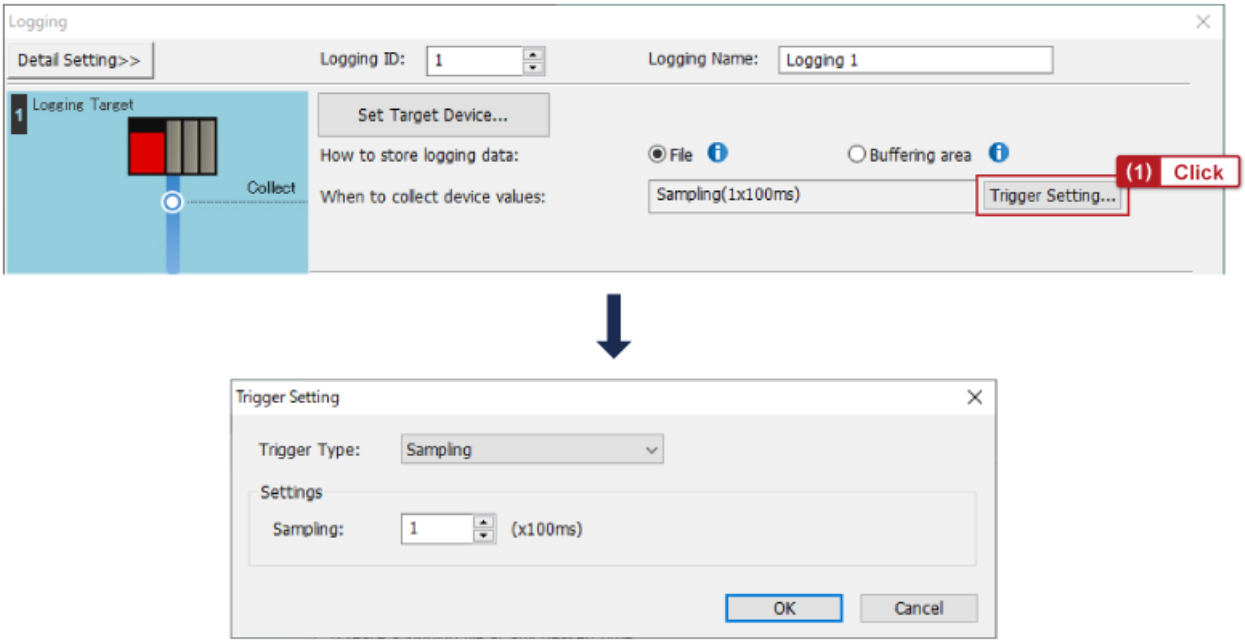
2.4 Setting a logging data collection interval - 1

Set a logging data collection interval.



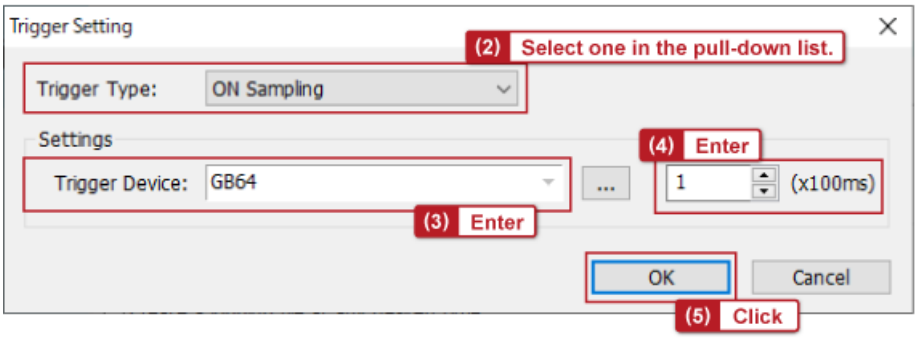
2.4 Setting a logging data collection interval - 2

(1) Click [Trigger Setting] to open the [Trigger Setting] dialog.



2.4 Setting a logging data collection interval - 3

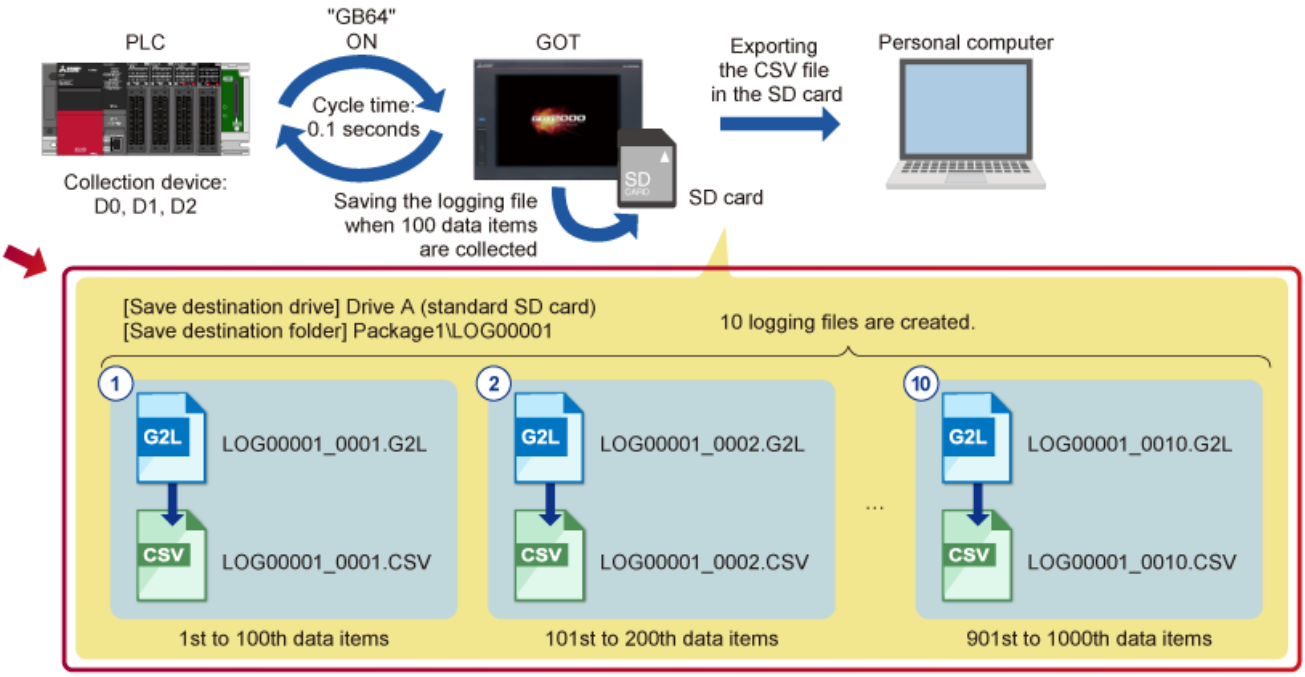
(2) Select a logging data collection timing in the [Trigger Type] pull-down list.
(3) Set a device used as a trigger condition for [Trigger Device].
(4) Enter a cycle time for logging data collection in units of 100 ms.
(5) Click the [OK] button.



Item	Setting example
Trigger type	ON Sampling
Trigger device	GB64
Cycle time	1 (x100ms)

2.5 Selecting how to save logging data - 1

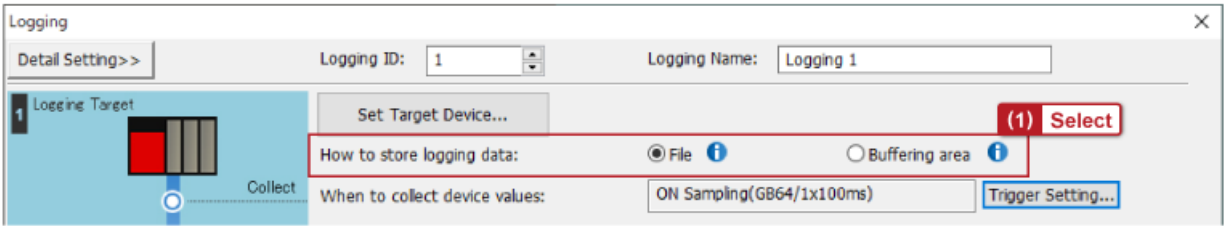
Select how to save logging data.



2.5 Selecting how to save logging data - 2

The following explains how to save logging data. In this course, we will configure the settings for saving multiple logging files in an SD card.

(1) Select [File] for [How to store logging data].



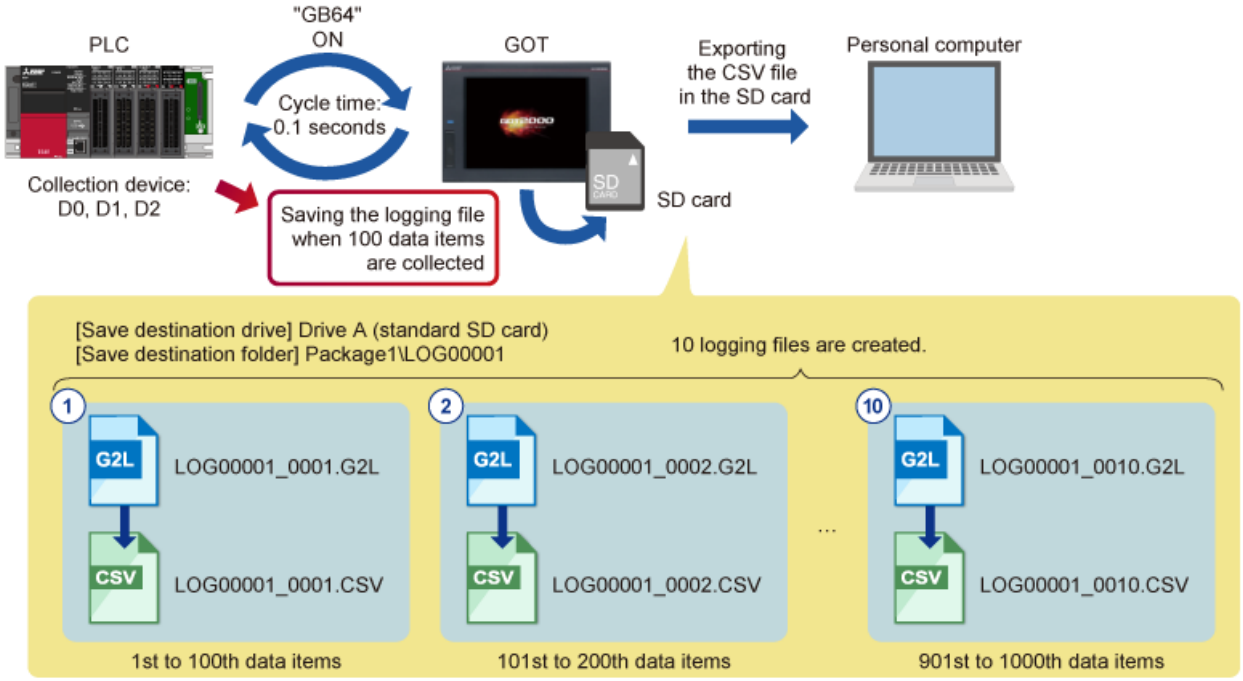
[File] and [Buffering area] are selectable for [How to store logging data].
The following shows the main features.

Item	File (file save mode)	Buffering area (buffer historical mode)
Favorite processing	Saving large amount of logging data	High-speed logging and high-speed display of a historical trend graph or historical data list display
Number of logging files that can be created	Multiple	1 (when an SD card is installed) *1
Creating a logging file according to the specified number of data items	Available	Not available
Creating a logging file at intended timing	Available	Available *2
Data storage such as an SD card	Required	Not required *3

*1 When an SD card is installed on the GOT and [Yes] is selected for [Store logging data to the file]
*2 When an SD card is installed on the GOT and the setting is configured for [When to store logs to the logging file] by clicking the [Detail Setting] button
*3 If an SD card is not installed, no logging file is created at power failure.

2.6 Setting the number of logs to be saved in one file - 1

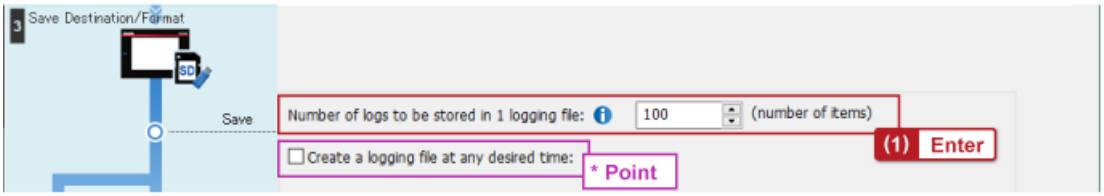
Set the number of logging data items to be stored in one logging file.



2.6 Setting the number of logs to be saved in one file - 2

Set the number of logging data items to be stored in one logging file. In this course, we will configure the setting for creating a logging file for 100 data items each.

(1) Set [Number of logs to be stored in 1 logging file].

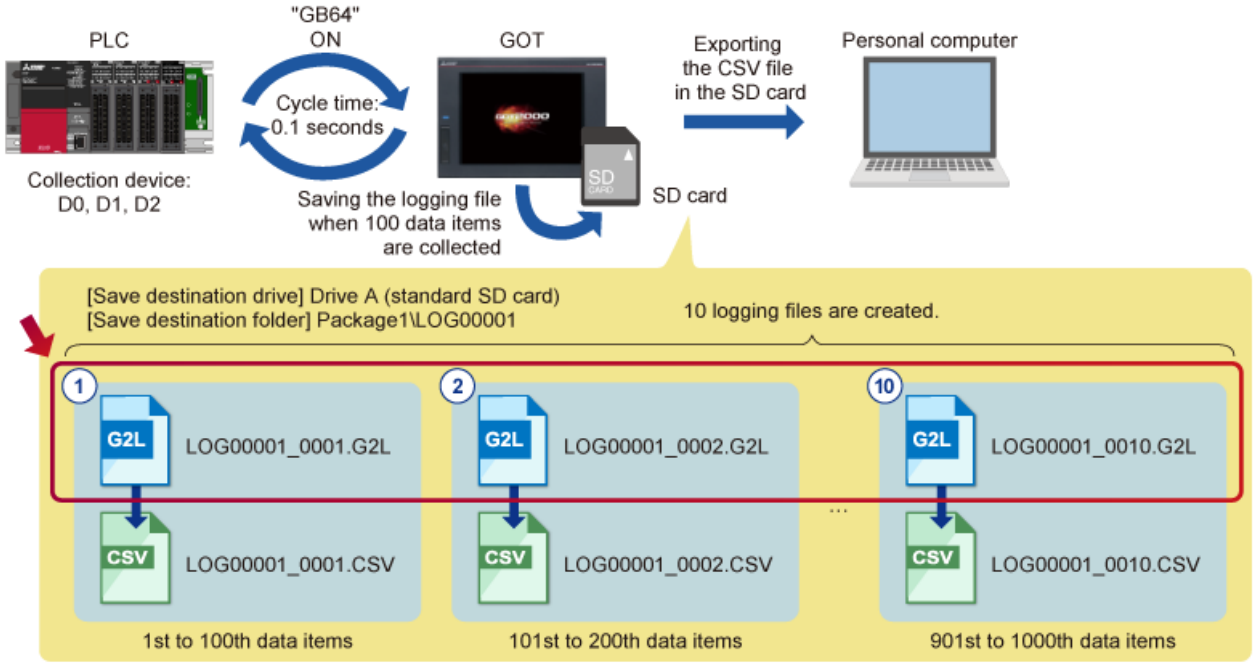


Item	Setting example
Number of logs to be stored in one logging file	100

Select [Create a logging file at any desired time] to create a logging file at intended timing regardless of the setting for [Number of logs to be stored in 1 logging file].

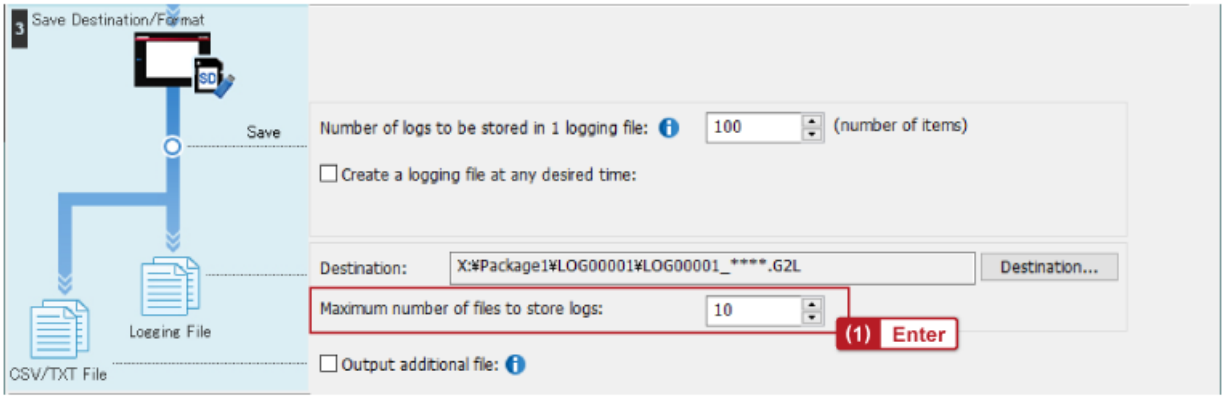
2.7 Setting the number of logging files - 1

Set the number of logging files to be created in an SD card.



2.7 Setting the number of logging files - 2

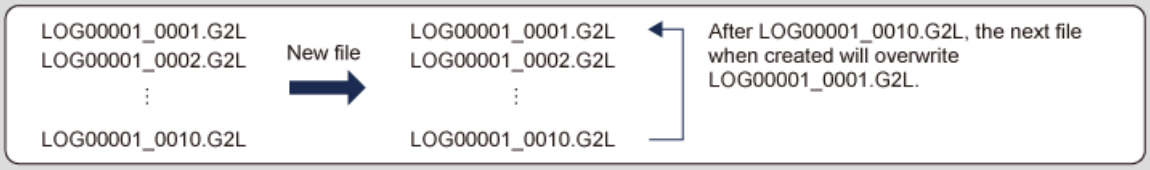
(1) Enter the number of logging files to be saved in [Maximum number of files to store logs].



Item	Setting example
Maximum number of files to store logs	10

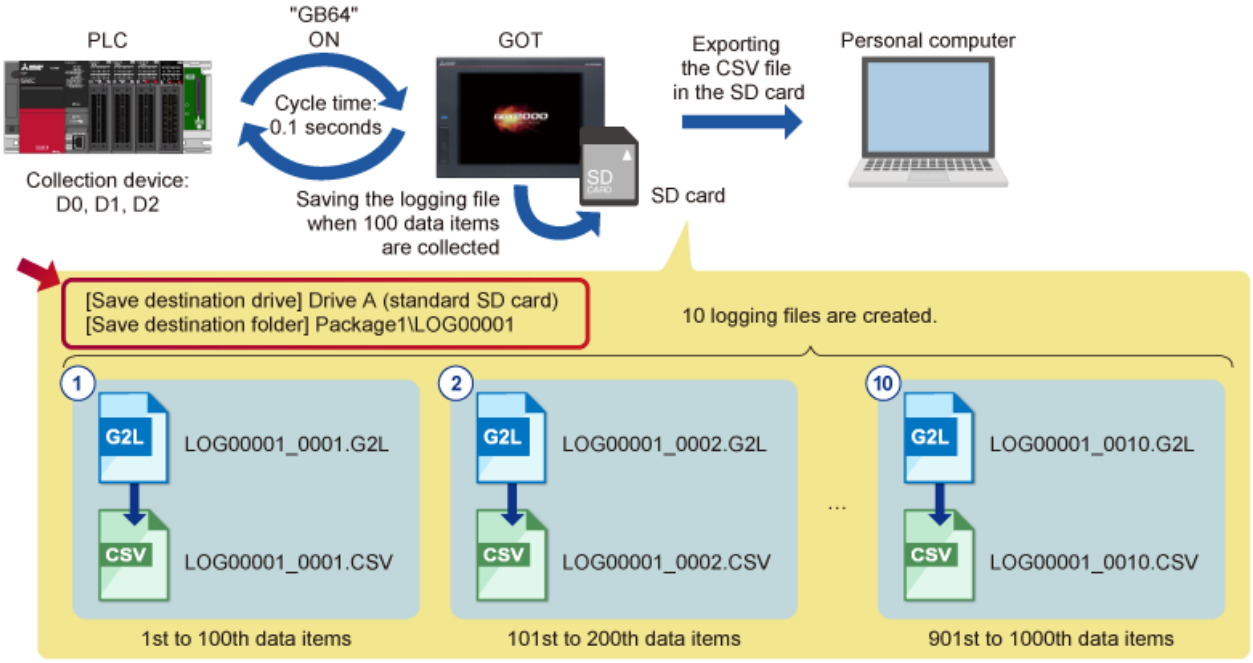
Hint

After the number of logging files reaches the value specified for [Maximum number of files to store logs] during logging, the oldest logging file is overwritten.



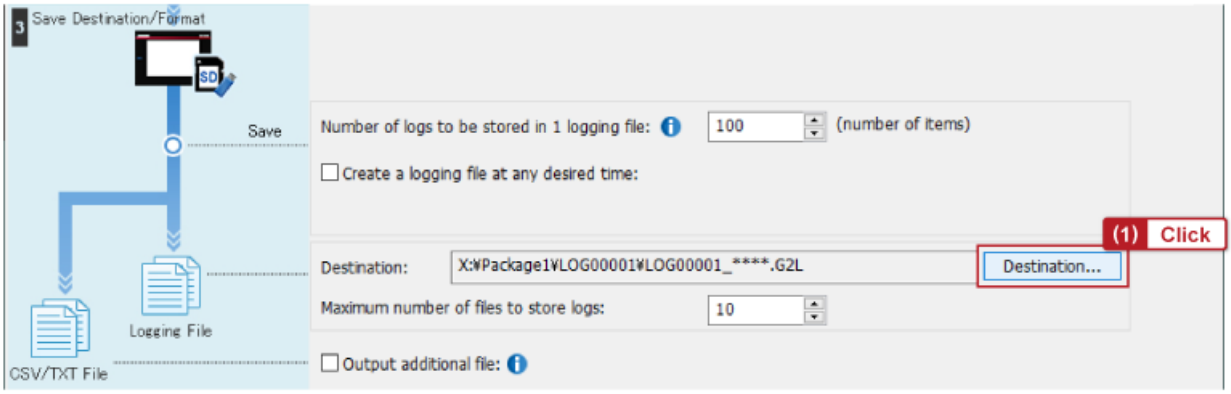
2.8 Setting the save destination of logging files - 1

Set a save destination of logging files.



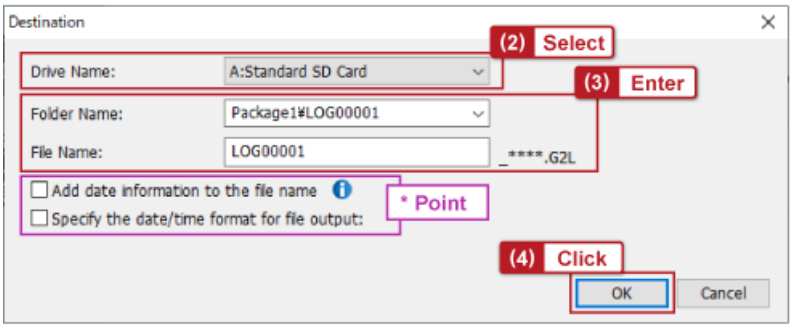
2.8 Setting the save destination of logging files - 2

(1) Click [Destination].



2.8 Setting the save destination of logging files - 3

(2) Select a save destination for [Drive Name].
(3) Enter the save destination data in [Folder Name] and [File Name].
(4) Click the [OK] button.



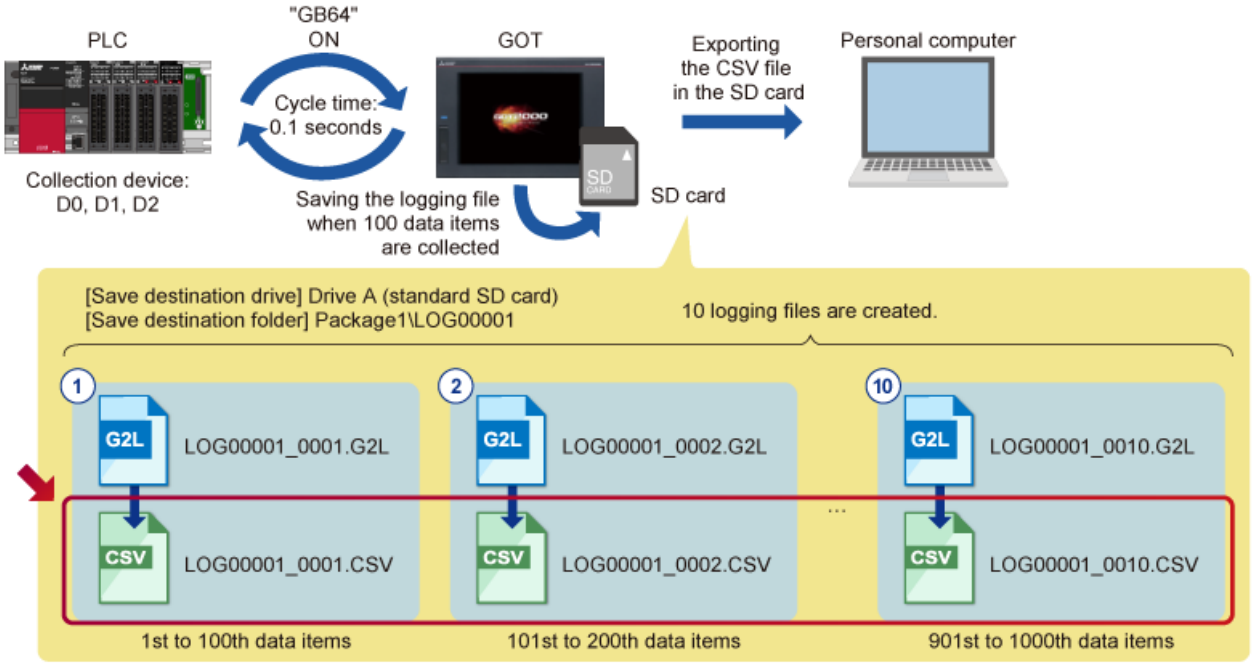
Select [Add data information to the file name] to add the date (year, month, and day) and time (hour, minute, and second) to the file name.
We do not select this option in this course.

Select [Specify the date/time format for file output] to set the format of the date and time displayed in a Unicode text file or CSV file.
We do not select this option in this course.

Item	Setting example
Drive name	A: Standard SD card
Folder name	Package1\LOG00001
File name	LOG00001_****.G2L

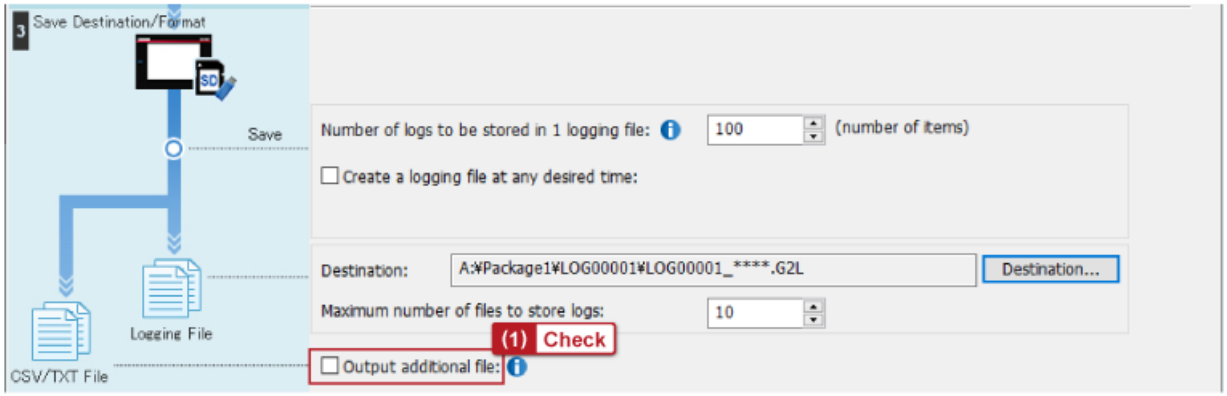
2.9 Saving a logging file to a CSV file - 1

Configure the settings to save a logging file to a CSV file.

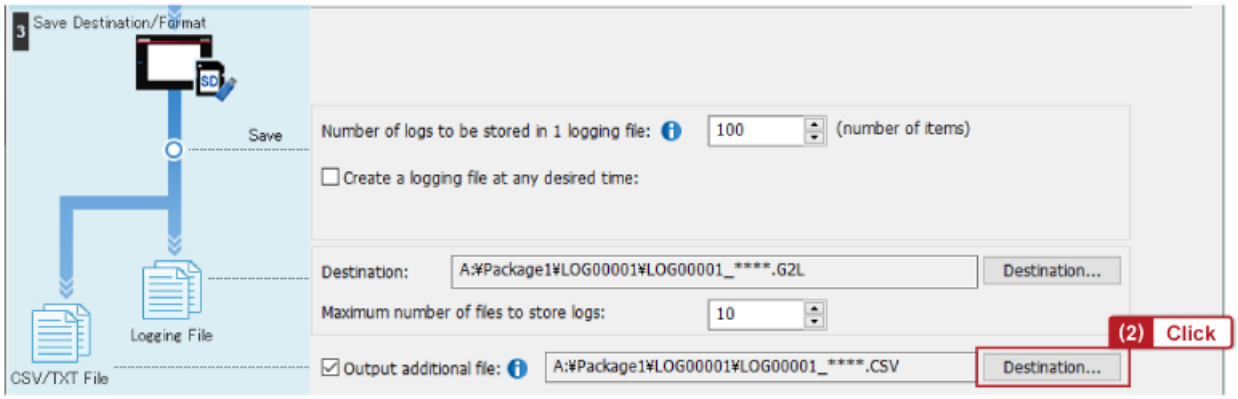


2.9 Saving a logging file to a CSV file - 2

(1) Select [Output additional file].



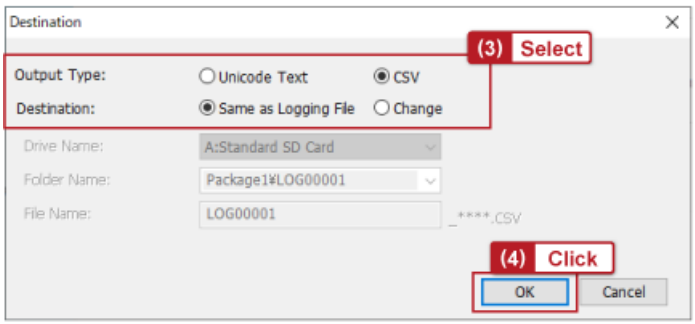
(2) Click [Destination].



2.9 Saving a logging file to a CSV file - 3

(3) Set [Output Type] and [Destination].

(4) Click the [OK] button.



Hint
Select [Change] for [Destination] to save a Unicode text file or CSV file in a location different from the location of logging files (G2L).

Item	Setting example
Output type	CSV
Destination	Same as Logging File

2.10 Saving the logging data before outputted to a logging file

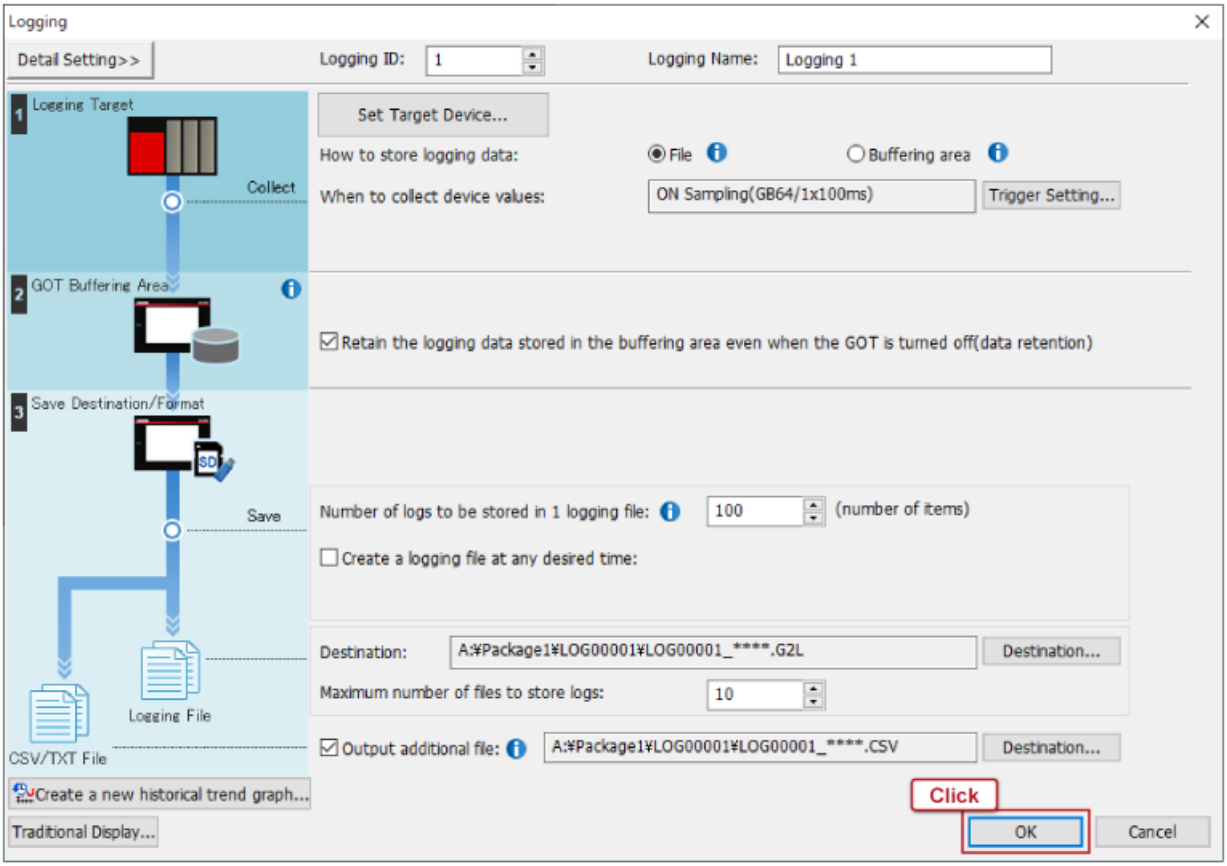
The collected logging data is cached in the GOT before the data is saved to an SD card as a logging file. We will configure the setting so that the cached data is retained when the GOT is powered off.

(1) Select [Retain the logging data stored in the buffering area even when the GOT is turned off(data retention)].

Hint [Retain the logging data stored in the buffering area even when the GOT is turned off (data retention)] is available for GT27 and GT25 models only. The option is not available for GT21 models.

2.11 Exiting the logging setting

The logging settings are completed. Click [OK] in the [Logging] dialog.



Chapter 3 Logging with the GOT

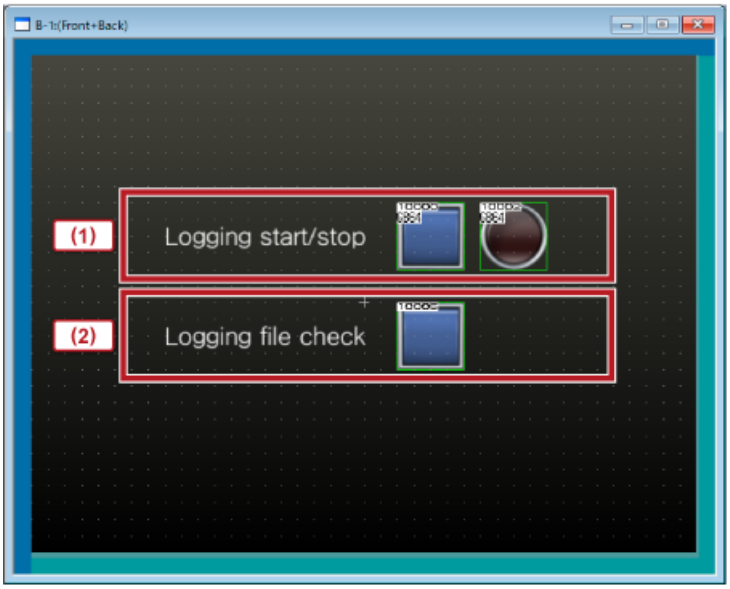
In Chapter 3, we will learn how to perform logging with the GOT.

3.1 Creating GOT project data

Place the following objects on the base screen of a project with the logging settings configured.

(1) Place the objects and figures used for logging start/stop operation.

(2) Place the objects and figures used to check the created logging file.

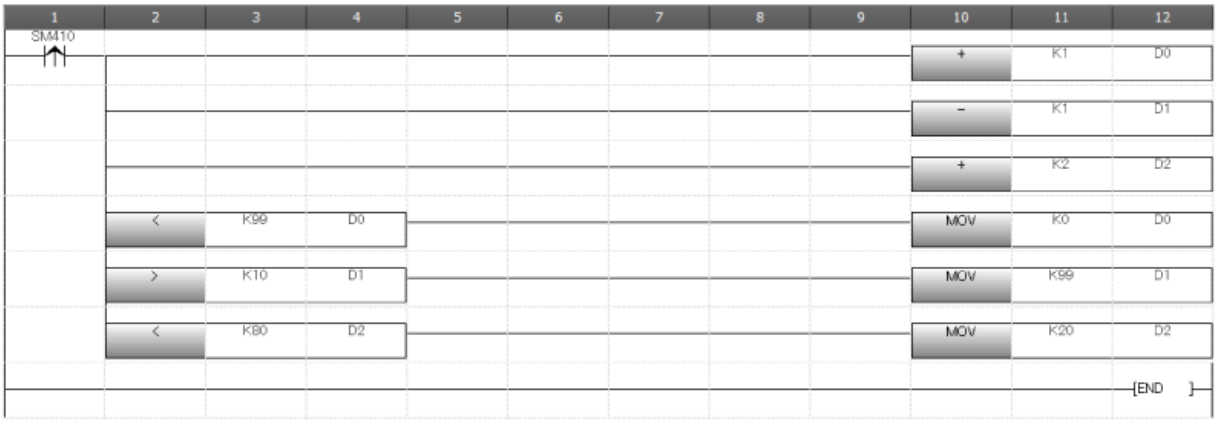


	Item	Object/figure	Setting	Application
(1)	Logging start/stop	Text	Text: Logging start/stop	
		Bit switch	Device: GB64 Action: Alternate	Touch to start logging. Touch again to stop logging.
		Bit lamp	Device: GB64	The lamp lights up while logging is being executed.
(2)	Logging file check	Text	Text: Logging file check	
		Special function switch	Switch Action: Logging Information	Transitions to the [Logging information] screen of the utility.

3.2 Creating a sequence program

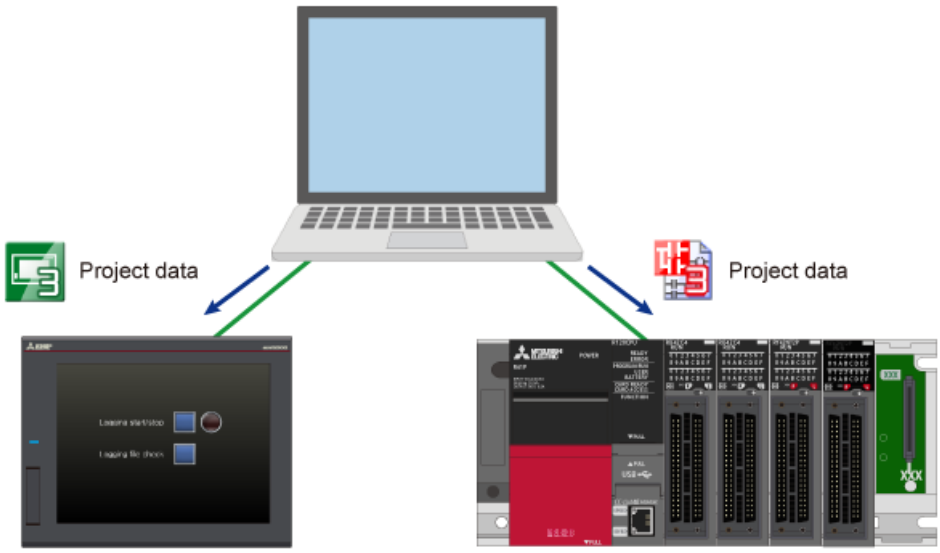
Create a sequence program used in the PLC.

Example:
(1) Incrementing the value of D0 by 1 starting from 0 at 0.1 second intervals. The value after 99 returns to 0.
(2) Decrementing the value of D1 by 1 starting from 99 at 0.1 second intervals. The value after 10 returns to 99.
(3) Incrementing the value of D2 by 2 starting from 20 at 0.1 second intervals. The value after 80 returns to 20.



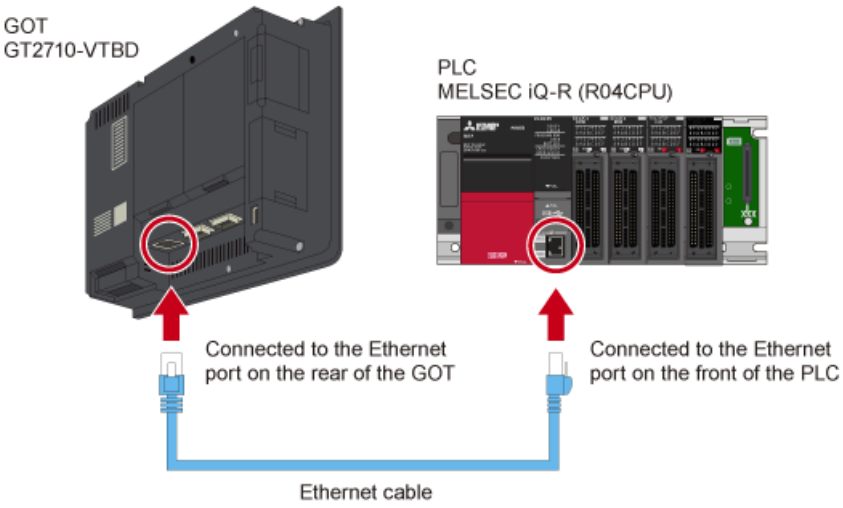
3.3 Transferring data to the GOT and the PLC

Transfer the created GOT project data to the GOT and PLC data to the PLC.



3.4 Connecting the GOT and the PLC with an Ethernet cable

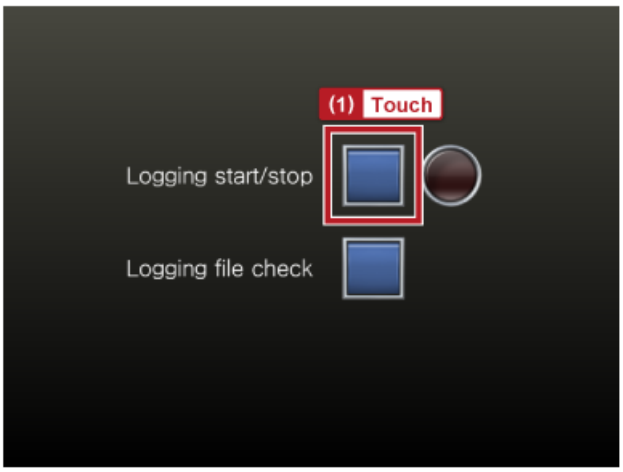
Connect the GOT and the PLC with an Ethernet cable.



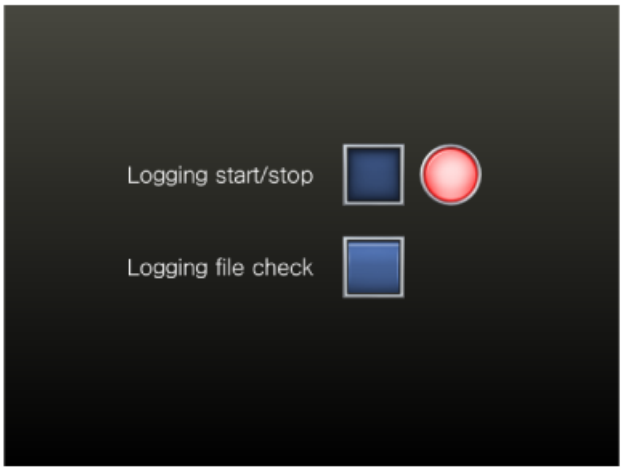
3.5 Starting logging

Start logging with the GOT.

(1) Touch the [Logging start/stop] switch.



(2) The lamp lights up while logging is being executed.

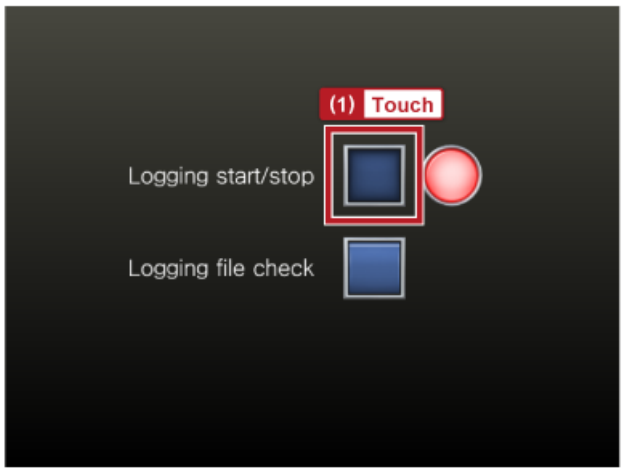


Point
After a lapse of a specified time period (about three minutes) since pressing of the logging start button, a logging file is created.

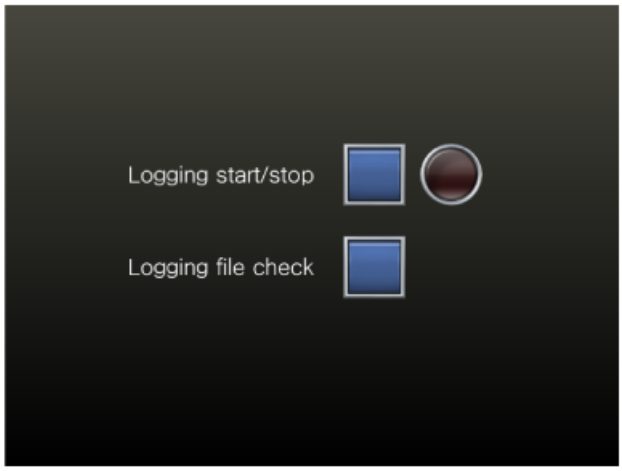
3.6 Stopping logging

Stop logging with the GOT.

(1) After a lapse of a specified time period (about three minutes), touch the [Logging start/stop] switch to stop logging.



(2) The logging stops and the lamp lights out.



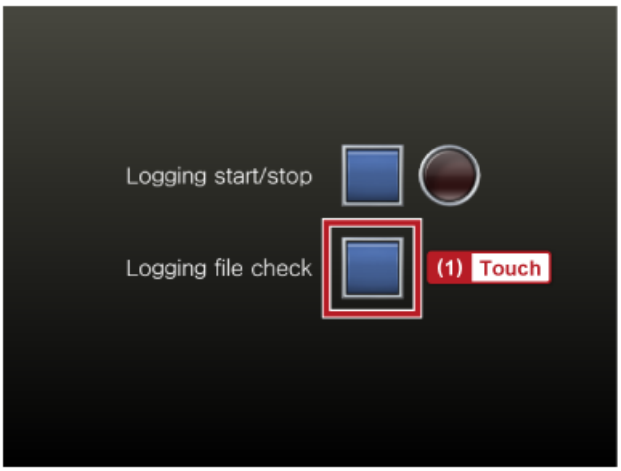
Chapter 4 Checking the Logging Data

In Chapter 4, we will learn how to check the logging file created in Chapter 3 with the GOT and how to check the logging data in the CSV file on a personal computer.

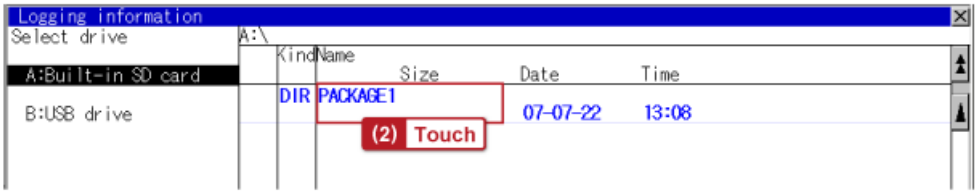
4.1 Checking the created logging file with the GOT - 1

Check the logging file created with the GOT.

(1) Touch the [Logging file check] switch to display the [Logging information] screen of the utility.

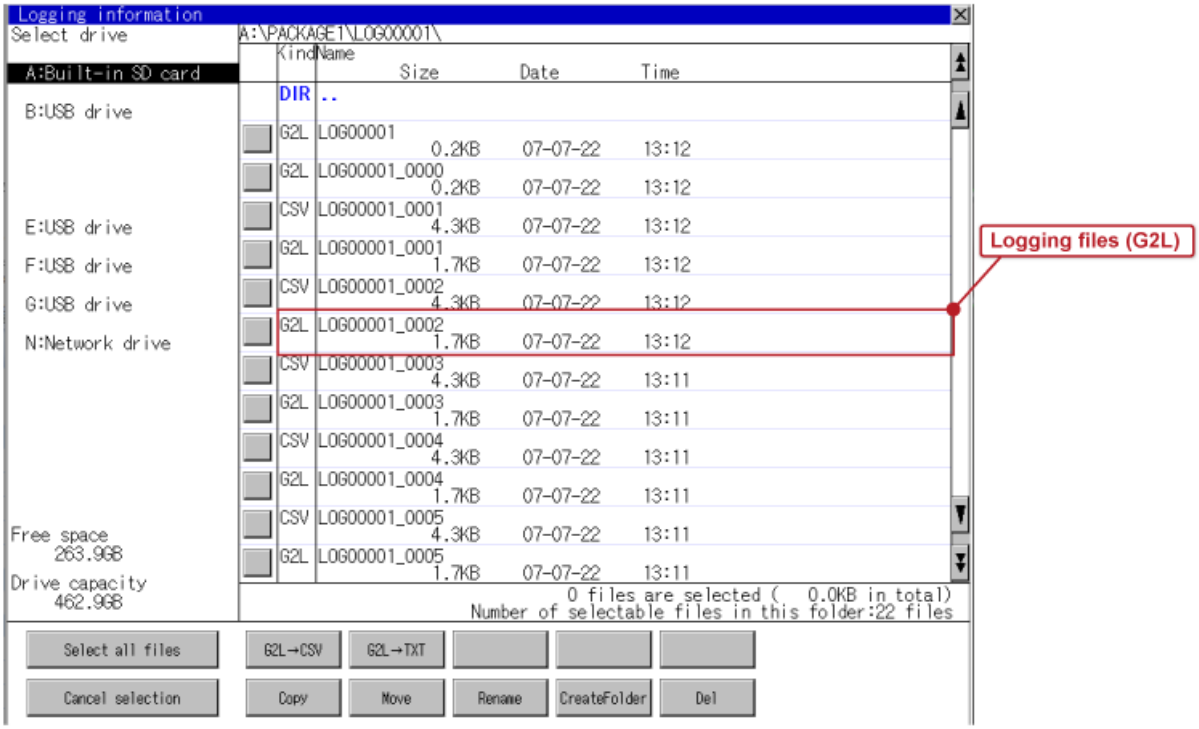


(2) Touch [PACKAGE1].

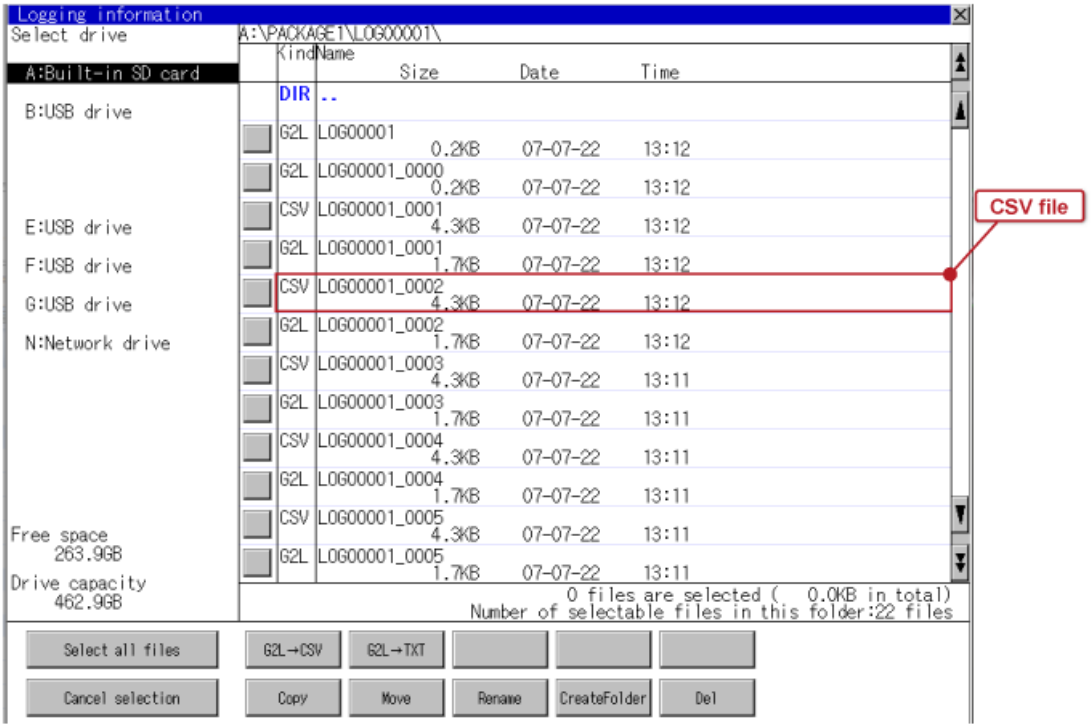


(3) Touch [LOG00001].

(4) Make sure that the logging file (G2L) is listed.



(5) Make sure that the CSV file is listed.



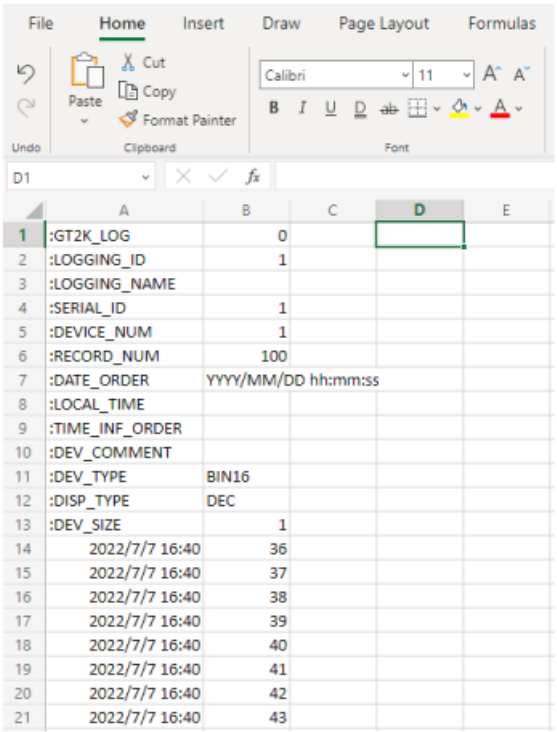
4.2 Checking the logging data in the CSV file on a personal computer

Check the logging file outputted to a CSV file on a personal computer.

(1) Remove the SD card from the GOT and set it on a personal computer.

(2) Find the CSV file using Explorer of the personal computer and double-click the file.
(3) The logging data details are displayed.

Example: Display of Microsoft® Excel



	A	B	C	D	E
1	:GT2K_LOG	0			
2	:LOGGING_ID	1			
3	:LOGGING_NAME				
4	:SERIAL_ID	1			
5	:DEVICE_NUM	1			
6	:RECORD_NUM	100			
7	:DATE_ORDER	YYYY/MM/DD hh:mm:ss			
8	:LOCAL_TIME				
9	:TIME_INF_ORDER				
10	:DEV_COMMENT				
11	:DEV_TYPE	BIN16			
12	:DISP_TYPE	DEC			
13	:DEV_SIZE	1			
14	2022/7/7 16:40	36			
15	2022/7/7 16:40	37			
16	2022/7/7 16:40	38			
17	2022/7/7 16:40	39			
18	2022/7/7 16:40	40			
19	2022/7/7 16:40	41			
20	2022/7/7 16:40	42			
21	2022/7/7 16:40	43			

Test Final Test

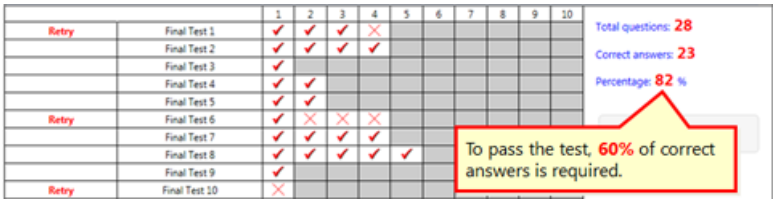
Now that you have completed all of the lessons of the **Logging (Basic Setting)** course, you are ready to take the final test. If you are unclear on any of the topics covered, please take this opportunity to review those topics.

There are a total of 5 questions (5 items) in this Final Test.

You can take the final test as many times as you like.

Score results

The number of correct answers, the number of questions, the percentage of correct answers, and the pass/fail result will appear on the score page.



Test **Final Test 1**

What is the number that identifies the logging setting? Select the correct answer from the options.

Q1

- Logging name
- **Logging ID**
- Logging title

Test **Final Test 2**

Select the minimum unit of logging data collection cycle in the GOT.

Q1

- (●) **100 ms**
- ( ) **500 ms**
- ( ) **1 s**
- ( ) **5 s**

Test **Final Test 3**

What is the term for retaining the logging data stored in the buffering area when the GOT is powered off? Select the correct answer from the options.

Q1

- Temporary save
- Power failure backup
- Power retention

Test **Final Test 4**

When 10 is set for the number of logging data items to be stored in one logging file, how many logging files are created when 100 logging data items are collected? Select the correct answer from the options.

Q1

- 100
- 10
- 1
- 1000

Test **Final Test 5**

When 10 is specified for [Maximum number of files to store logs], which of the following options describes the 11th file?

Q1

- (●) **The oldest file is overwritten.**
- ( ) **The 11th file is created.**
- ( ) **The file is not created.**
- ( ) **The newest file is overwritten.**

Test Score

You have completed the Final Test. You results area as follows.
To end the Final Test, proceed to the next page

		1	2	3	4	5	6	7	8	9	10
	Final Test 1	✓									
	Final Test 2	✓									
	Final Test 3	✓									
	Final Test 4	✓									
	Final Test 5	✓									

Total questions: **5**

Correct answers: **5**

Percentage: **100** %

Clear

You have completed the Logging (Basic Setting) course.

Thank you for taking this course.

We hope you enjoyed the lessons and the information you acquired in this course will be useful in the future.

You can review the course as many times as you want.

Review

Close