Human Machine Interface (HMI) GOT

Logging (Introduction)

This training course is intended for those who use the logging function of the GOT2000 Series HMI for the first time.

L(NA)00256ENG

Introduction

Purpose of the Course

This course is intended for those who use the logging function of the GOT2000 Series HMI for the first time. In this course, we will learn the overview of logging such as the things we can do with logging, flow of logging data, and items required for logging.

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)
- GT Works3 (GT Designer3) Basics (Elementary Screen Design)

Introduction Course Structure

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

Chapter 1 Overview of Logging

We will learn the overview of logging such as how to use the logging function and the things we can do with logging.

Chapter 2 Logging Mechanism

We will learn the flow of logging data and logging types.

Chapter 3 Preparing the Items Required for Logging

We will learn the items required for logging.

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	TOC	"Table of Contents" will be displayed, enabling you to navigate to the desired page.
Exit the learning	X	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 of Logging

We will learn the overview of logging such as how to use logging and the things we can do with logging.

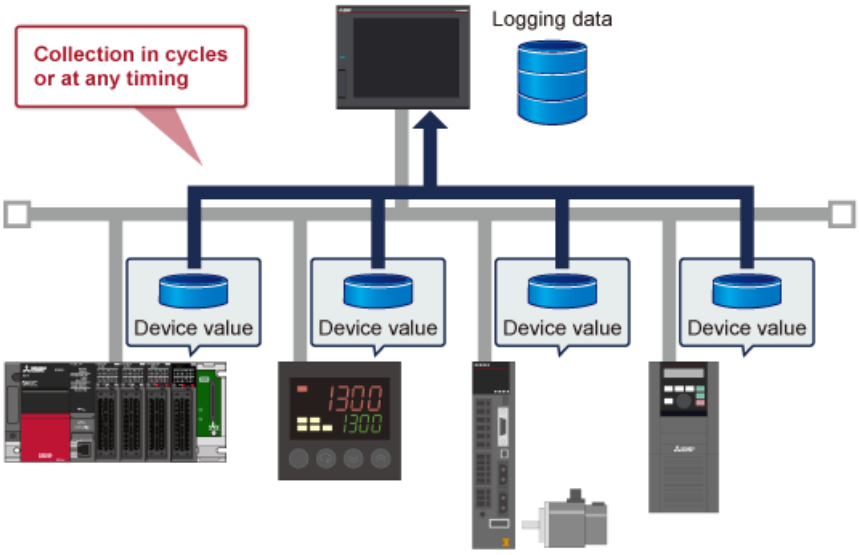
1.1 What is logging?

1.2 Things we can do with logging data (visualization)

1.3 Things we can do with logging data (analysis)

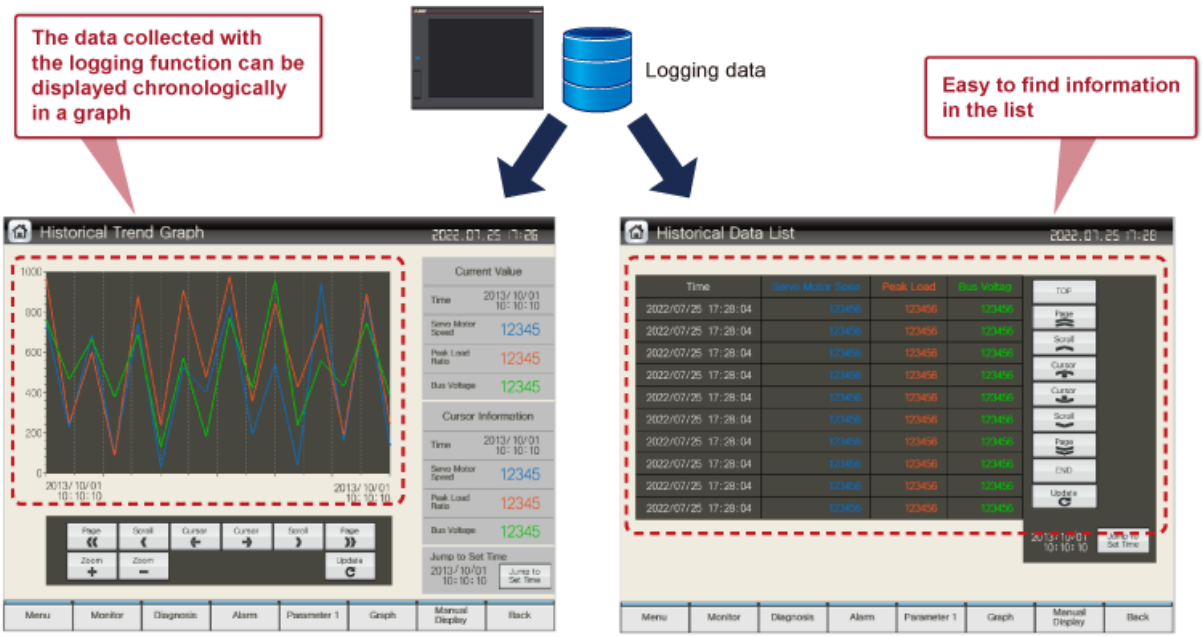
1.1 What is logging?

Logging is a function that collects and accumulates device values of various pieces of equipment connected with the GOT. The collected and accumulated device values are called logging data. Device values can be collected in the set cycle or at any timing.



1.2 Things we can do with logging data (visualization)

Accumulated logging data can be displayed on a historical trend graph or historical data list display on the GOT screen. Data can be visualized and the information can be checked without a personal computer on site.

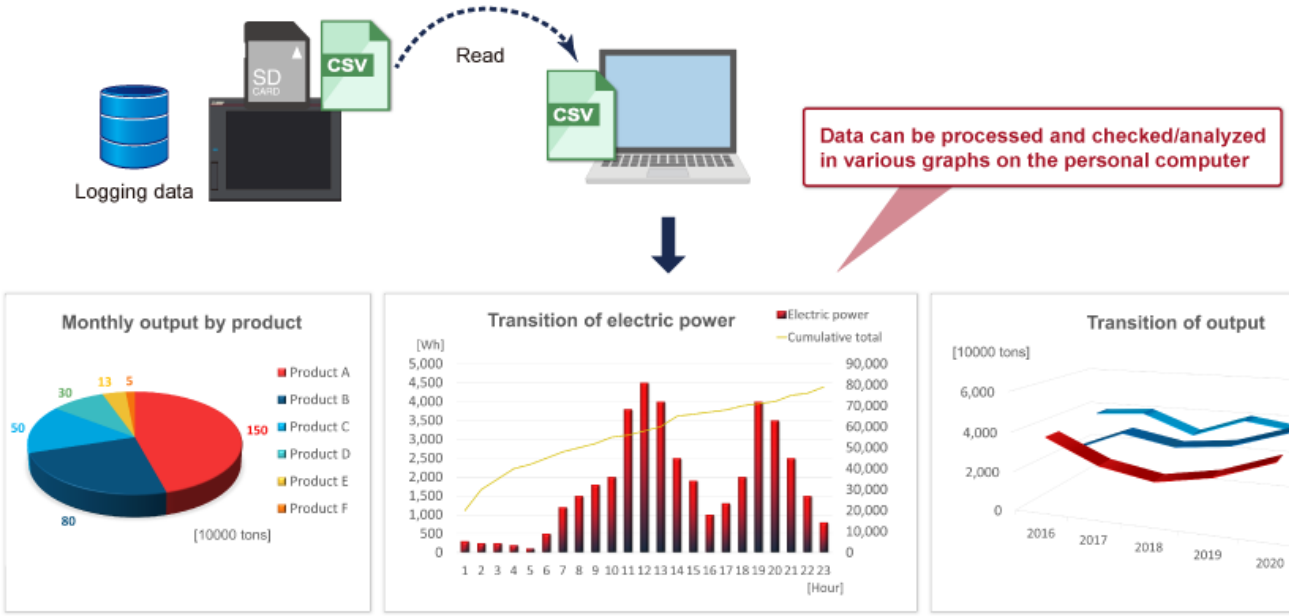


Historical trend graph

Historical data list display

1.3 Things we can do with logging data (analysis)

Logging data can be stored in a CSV file. The CSV file can be viewed on the personal computer. You can process the logging data in the file and display the data in graphs and tables on the personal computer. You can use the created graphs for analysis or other purposes by comparing the graphs.

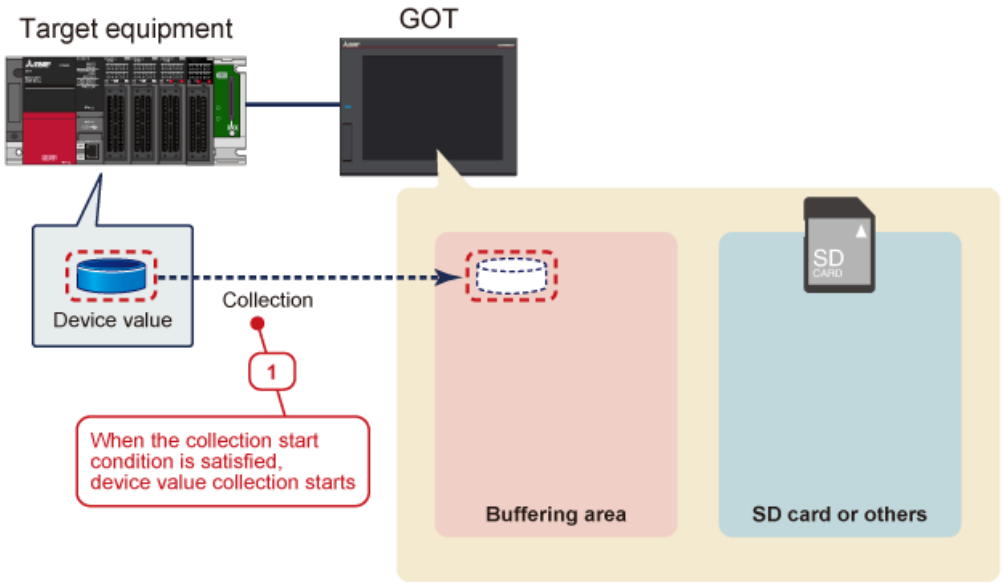


Chapter 2 Logging Mechanism

This chapter describes the flow of logging data from collection to a file and the logging types.

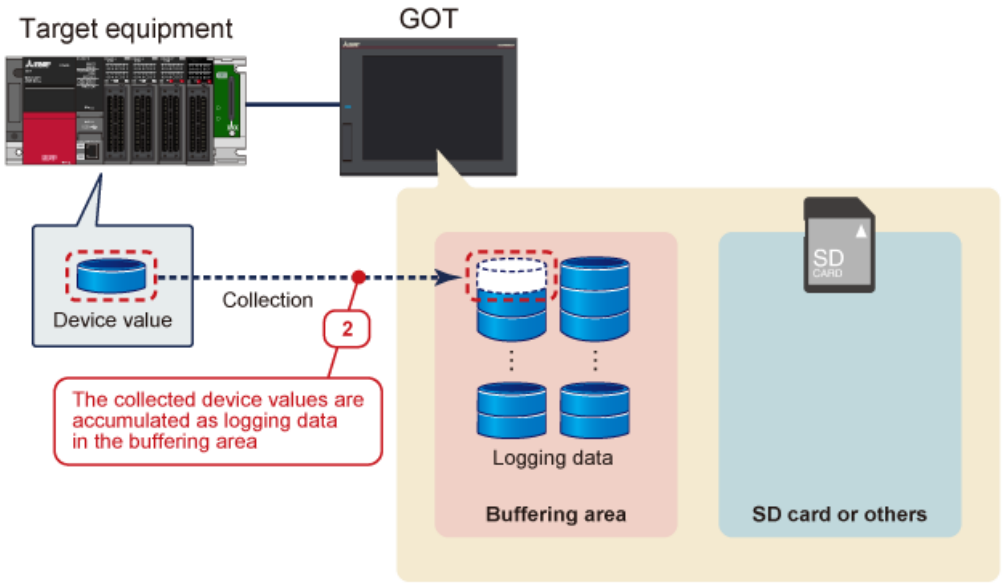
2.1 Flow of logging data - 1

When the collection start condition is satisfied, device value collection starts.



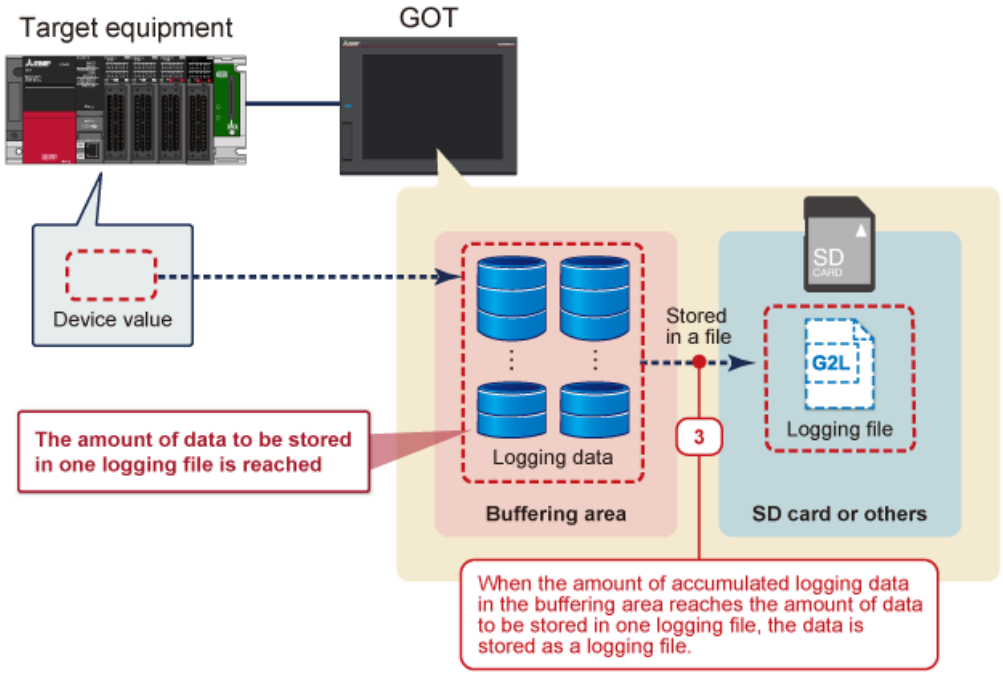
2.1 Flow of logging data - 2

The collected device values are accumulated as logging data in the buffering area of the GOT.

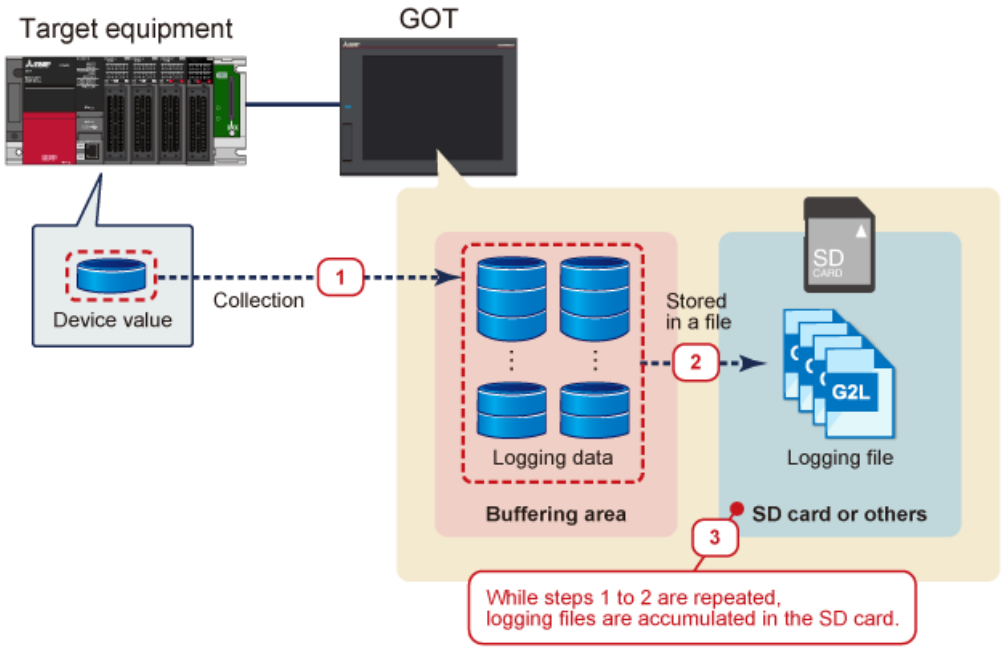


2.1 Flow of logging data - 3

When the amount of logging data accumulated in the buffering area reaches the amount of data to be stored in one logging file, the data is stored as a logging file.

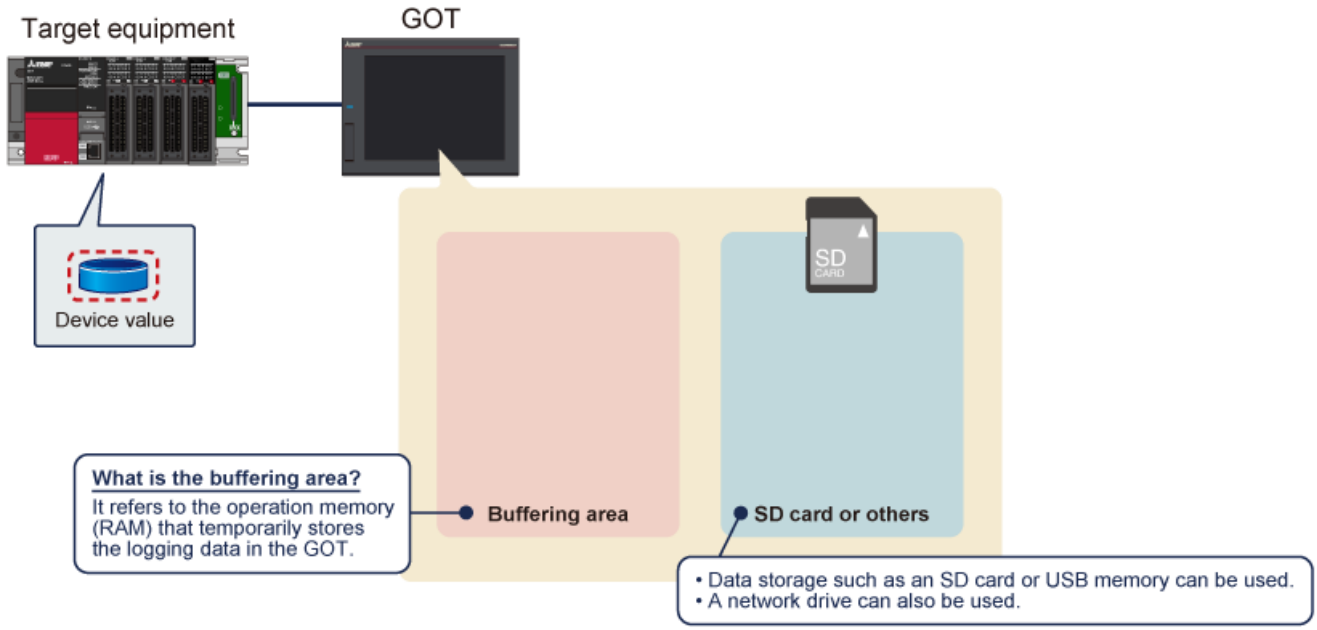


While steps 1 to 2 are repeated, logging files are accumulated in the SD card.



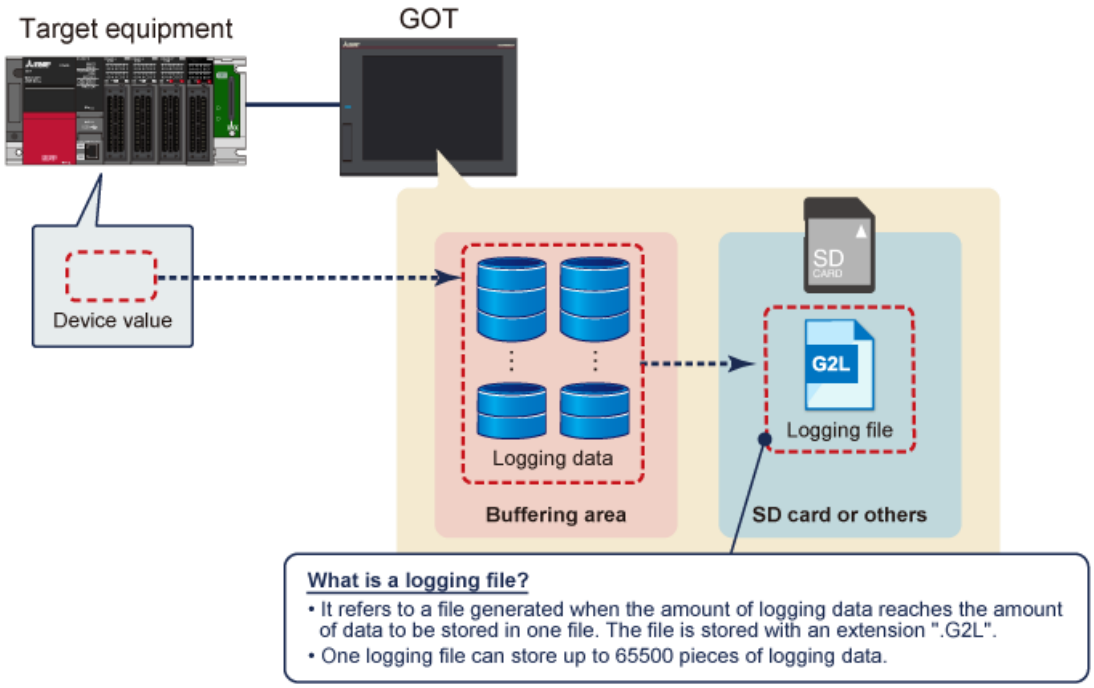
2.1 Flow of logging data (glossary) - 1

The following describes the buffering area and data storage.



2.1 Flow of logging data (glossary) - 2

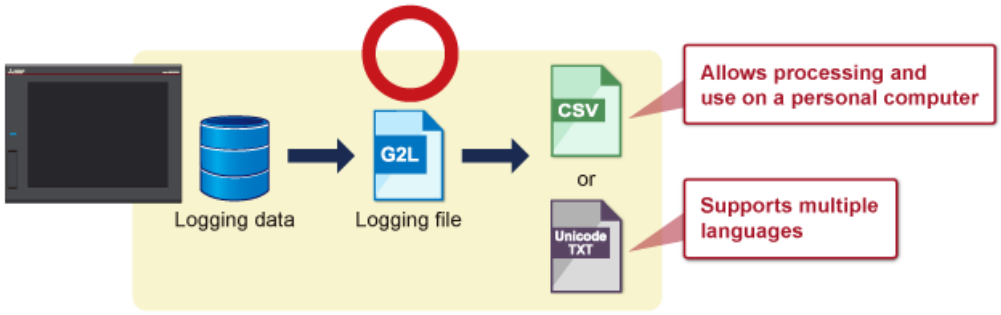
The following describes a logging file.



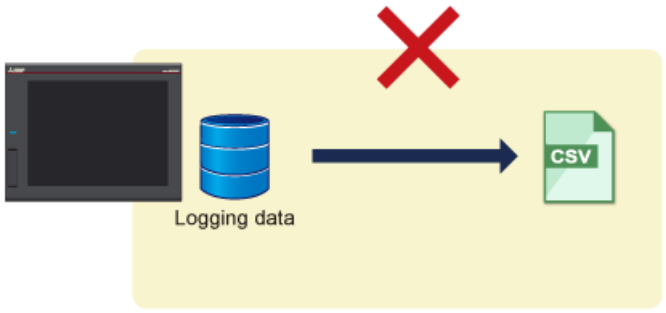
2.2 Using a logging file

A CSV file can be created from the generated logging file. A Unicode text file can also be created from the logging file.
* A CSV file cannot be created directly from logging data.

A CSV file or Unicode text file can be created from a logging file.



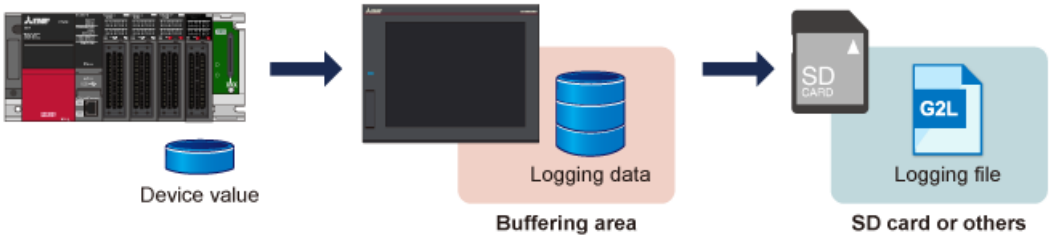
A CSV file cannot be created directly from logging data.



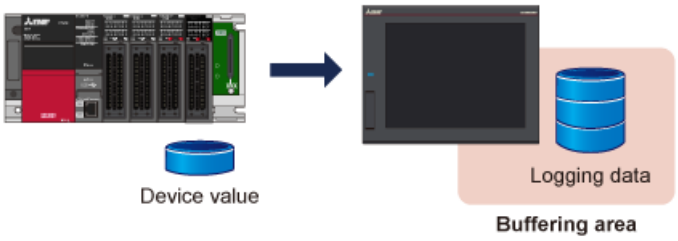
2.3 Logging types - 1

Two storage modes ([File] and [Buffering area]) are available to store logging data (collected data in the GOT).
We will learn the features of the modes.

Storage in a file (file save mode)
Collected data is temporarily stored in the buffering area and then stored in a data storage such as an SD card.



Storage in the buffering area (buffer historical mode)
Collected data is temporarily stored in the buffering area.



Hint

Retaining the data at power failure when selecting [Buffering area]

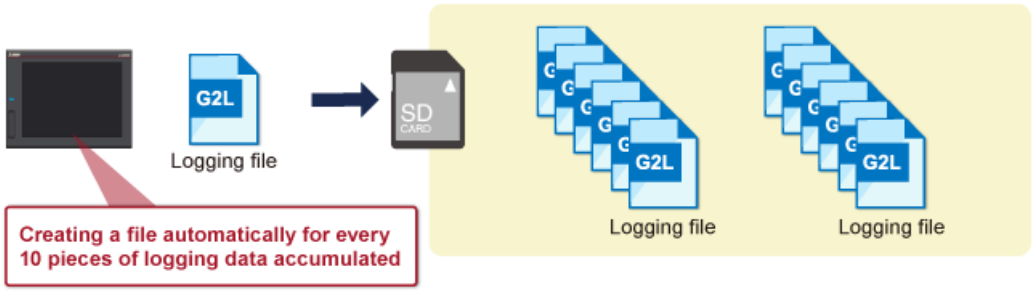
If a data storage such as an SD card is installed on the GOT, one logging file is created and the file can retain data as a protective measure against power failure. With this setting, only one file can be created and always this file is overwritten.

2.3 Logging types - 2

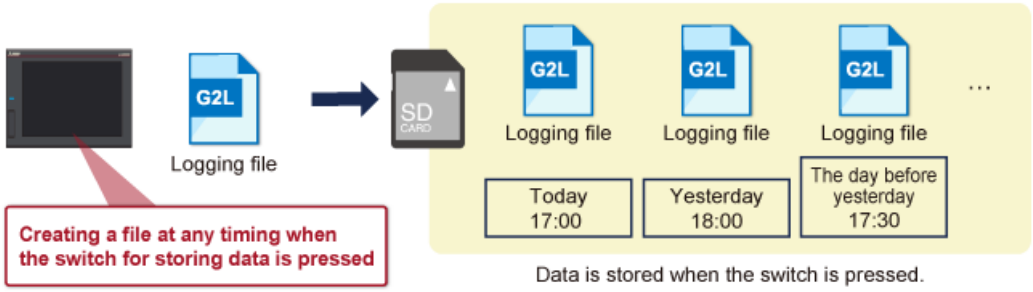
(1) Storage in a file (A data storage such as an SD card is required.)

Multiple logging files can be created. Large amounts of logging data can be stored.
Logging files can be created automatically or at any timing according to the purpose.

Example 1: Storing large amounts of logging data

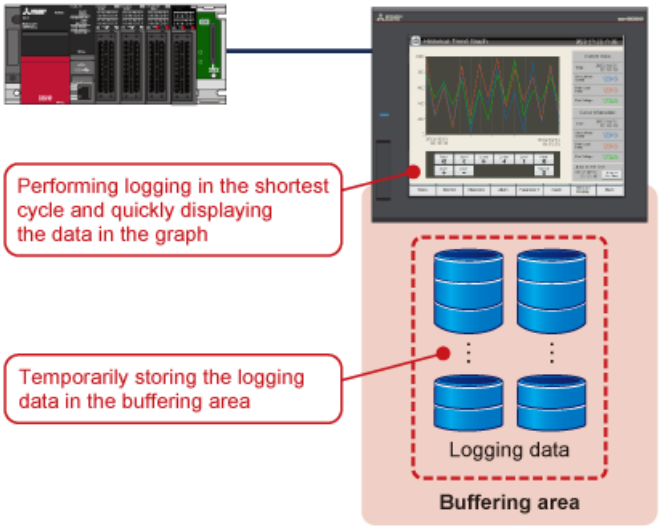


Example 2: Creating and storing a file at any timing



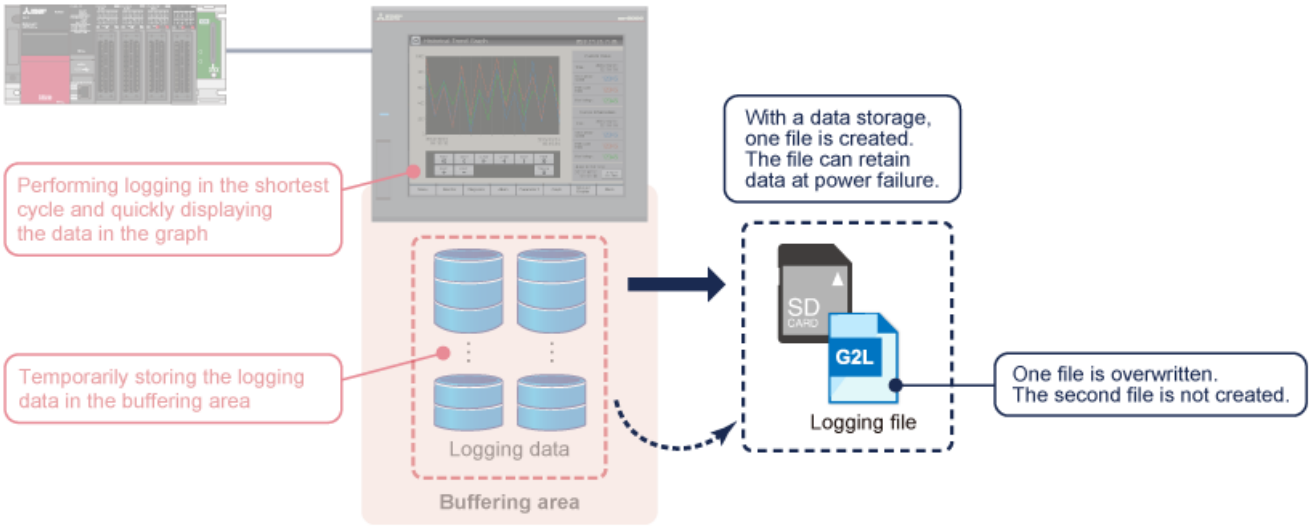
2.3 Logging types - 3

(2) Storage in the buffering area (A data storage such as an SD card is not required.)
No logging file is created; therefore, logging data can be displayed quickly on a historical trend graph or historical data list display.



When [Buffering area] is selected

With a data storage such as an SD card, one logging file is created and stored.
The file can retain data as a protective measure against power failure.
With this setting, only one file can be created and this file is overwritten.



The following table shows the differences between the two modes.

Item	File (file save mode)	Buffering area (buffer historical mode)
Suitable application	Storing large amounts of logging data	High-speed logging and quickly displaying the data on 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 for every specified amount of data	Available	Not available
Creating a logging file at any 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.

2.4 Differences among GOT models

Logging features various functions. Some of the functions are not available for some GOT models.

○: Available, ×: Not available

	GT27	GT25	GT21	
			Other than the right	GT2103-PMBLS
Logging	○	○	○*1	×
Power-failure backup (without an SD card)	○	○	×	×
Power-failure backup (with an SD card)	○	○	○*1	×

*1 Some models require an option unit to use an SD card.

Precautions for using the power-failure backup function:
The battery needs to be connected to enable power failure backup. The battery is not connected when the GOT is shipped from the factory.

Chapter 3 Preparing the Items Required for Logging

This chapter describes the items to be prepared to start logging.

3.1 Items to be prepared to start logging

Prepare the following items to start logging.

Items required for logging settings and screen design

(1) Personal computer

(2) GOT Screen Design Software
MELSOFT GT Works3

Items to be prepared as required

(1) USB cable

(2) Engineering Software
MELSOFT GX Works3

Items required for logging

(1) Data collection target equipment

(2) GOT

(3) SD card or others
(Data storage usable for the GOT used)

* Some GOT models require an option unit to use an SD card.

3.2 Summary

This is the end of the Logging (Introduction) course.
Finally, let's summarize what we have learned in this course.

Chapter 1 Overview of Logging	• What is logging? • Things we can do with logging data (visualization) • Things we can do with logging data (analysis)
Chapter 2 Logging Mechanism	• Flow of logging data • Using a logging file • Logging types • Differences among GOT models
Chapter 3 Preparing the Items Required for Logging	• Items to be prepared to start logging

You can learn how to configure the logging settings in another e-learning course, **Logging (Basic Setting)**.
For your next step, we recommend Logging (Basic Setting).

Test | Final Test

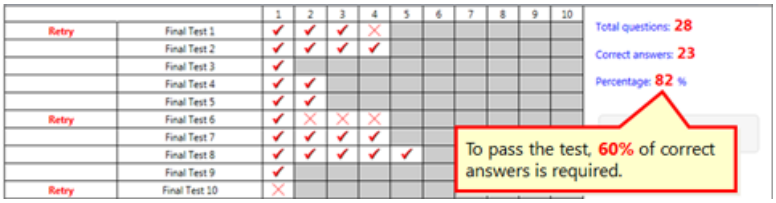
Now that you have completed all of the lessons of the **Logging (Introduction)** course, you are ready to take the final test. If you are unclear on any of the topics covered, please take this opportunity to review those topics.

There are a total of 4 questions (6 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**

Complete the following sentences.

Logging is a function that collects and accumulates [Q1] of various pieces of equipment connected with the GOT. The collected and accumulated data is called [Q2].

The collected [Q1] are accumulated as [Q2] in the [Q3] area of the GOT.

Q1	Device values
Q2	Logging data
Q3	Buffering

Test **Final Test 2**

Complete the following sentence.

Logging data can be displayed on a [Q1] trend graph or [Q1] data list display on the GOT screen.

Q1

- ○ **Record**
- ○ **Document**
- ◉ **Historical**
- ○ **Chronological**

Test Final Test 3

Select file types that allow conversion from a logging file (binary file). Select all correct answers.

Q1

- [x] CSV file
- [ ] Word file
- [ ] PDF file
- [x] Unicode text file

Test **Final Test 4**

Select features of [File] (storage mode for the logging data collected in the GOT). Select all correct answers.

Q1

- [x] **Storing at any timing is possible.**
- [x] **Large amounts of logging data can be stored.**
- [ ] **Logging data can be stored quickly.**

Test **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	✓									

Total questions: **6**

Correct answers: **6**

Percentage: **100** %

Clear

You have completed the Logging (Introduction) 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