Human Machine Interface (HMI) GOT

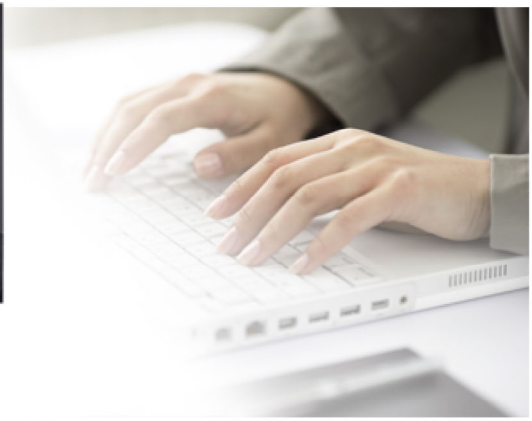
GT Works3 (GT Designer3) Basics (Screen Design Introduction)

This online training system (e-learning) is intended for those who operate the screen design software GT Works3 (GT Designer3) for the first time.

L(NA)00245ENG

Introduction Purpose of the Course

In this course, we will learn the features and screen layout of the screen design software GT Works3 (GT Designer3), and how to create projects.
GT Designer3 is included in the software package "GT Works3" that comprehensively supports screen design for Mitsubishi Electric HMIs.



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)
- GOT2000 Basics (Connection Introduction)
- GOT2000 Basics (H/W Introduction)
- FA Equipment for Beginners (PLCs)
- PLC MELSEC iQ-R series Basics

Introduction

Course Structure

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

Chapter 1 GT Designer3 Overview

We will learn the GT Designer3 screen layout, features, and how to use Help.

Chapter 2 From Project Creation to Saving

We will learn the procedure from creating a new project to saving it.

Chapter 3 Data Transfer

We will learn how to transfer data created in GT Designer3 to the GOT.

Appendix: Screen Design Software Update and e-Manual

We will learn supplementary information such as software update and e-Manual.

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

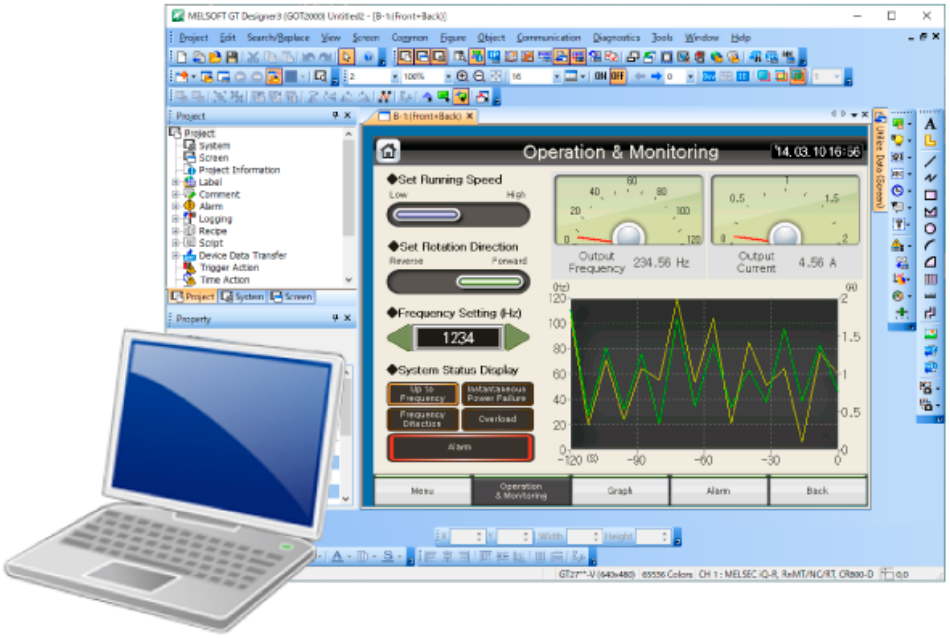
When you learn based on using actual products, please carefully read the safety precautions in the corresponding manuals.

Chapter 1 GT Designer3 Overview

In this chapter, we will learn the GT Designer3 screen layout and features.

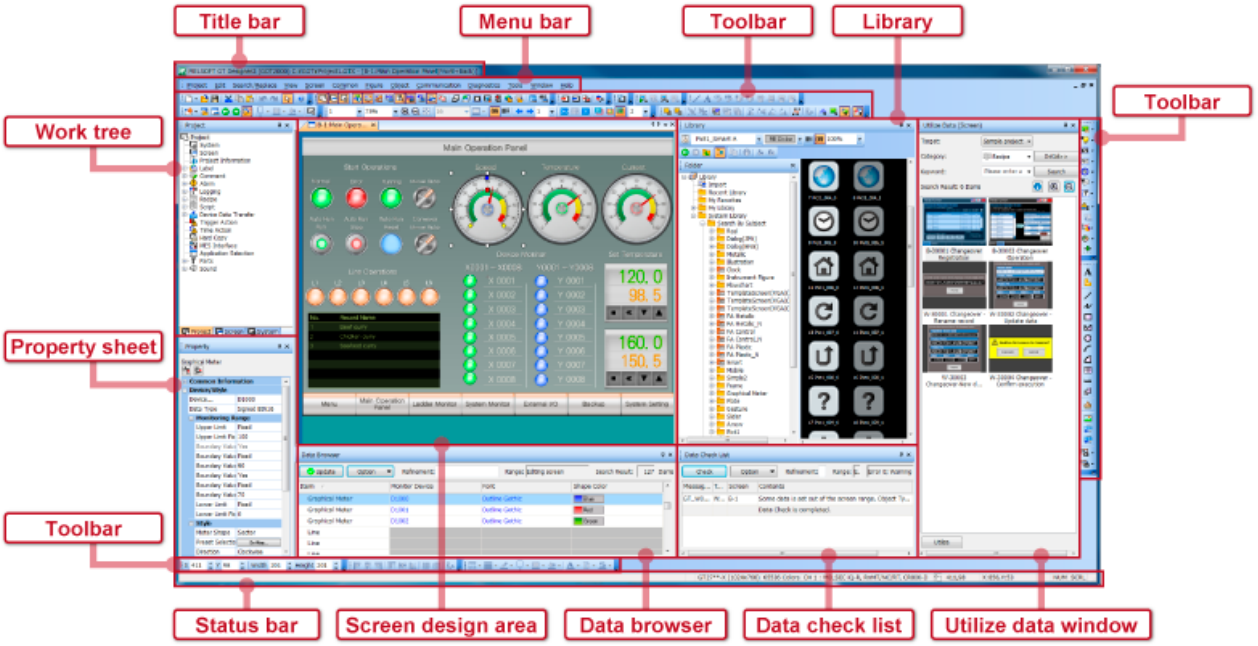
1.1 GT Designer3

GT Designer3 is software used to create screens for GOT2000 series.
The software is included in the software package "GT Works3" that comprehensively supports screen design for Mitsubishi Electric HMIs.
Useful functions of GT Designer3 enable you to create organized screens easily.



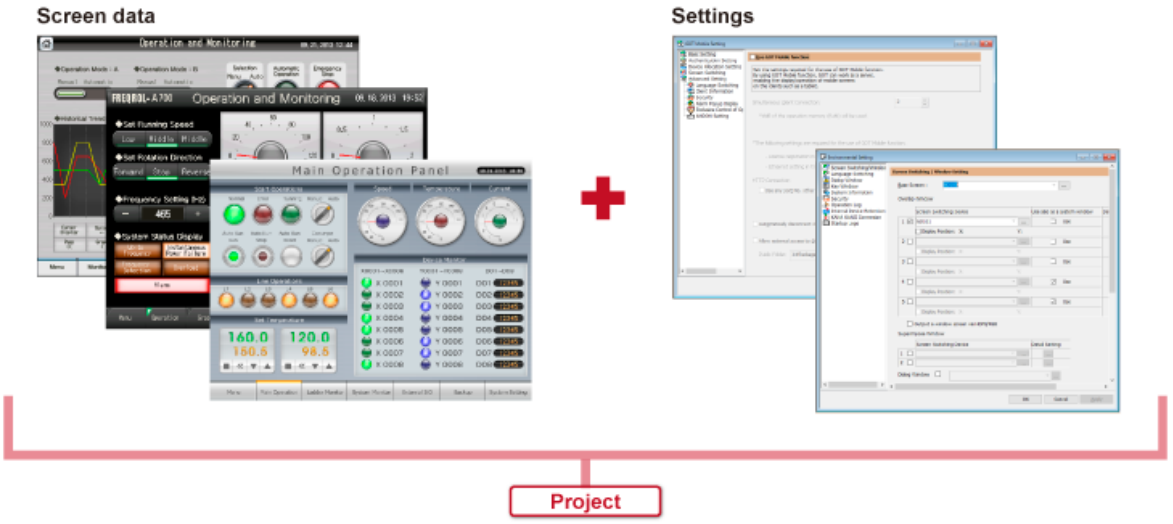
1.2 GT Designer3 screen layout

The following shows the GT Designer3 screen layout.
The screen is divided by function so that you can find a target item quickly.
For details on each function, refer to the GT Designer3 (GOT2000) Screen Design Manual.



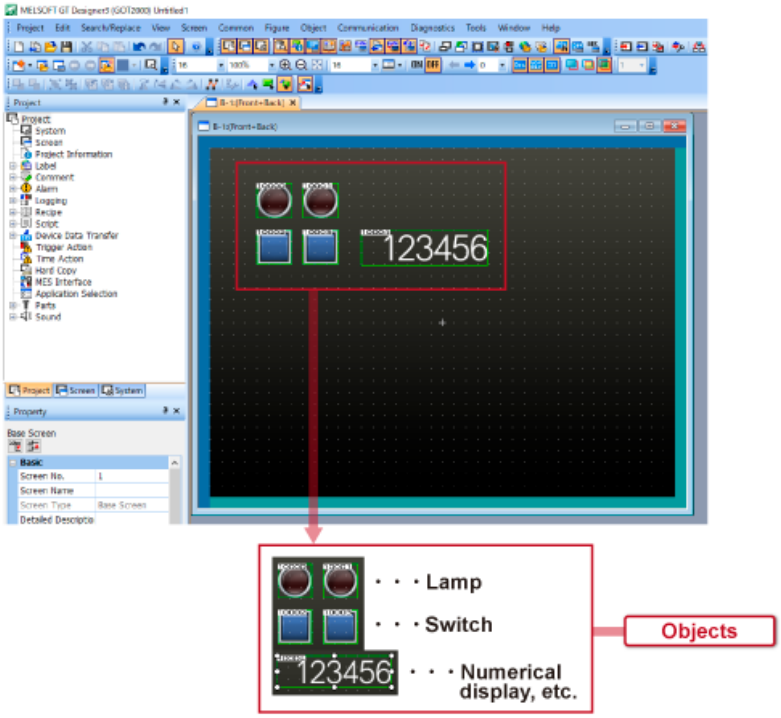
1.3 Project

A project refers to a set of data such as created screen data, GOT type settings, and controller settings in GT Designer3.



1.4 Object

You will place switches, lamps, numerical displays, or other parts on the screen design area in GT Designer3. Such screen parts are referred to as "objects".

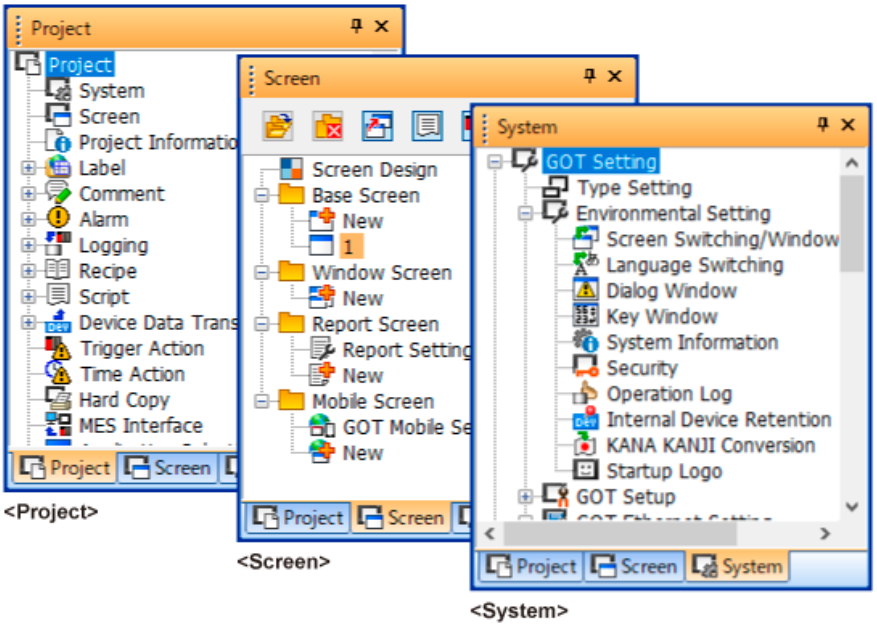


1.5 Features

We will learn the features of GT Designer3.

1.5.1 Categorized setting items (work tree)

The setting items in a project fall under "Project", "System", or "Screen" tab. You can switch between the tabs to display the setting items in each tab. This enables you to find a target setting item quickly.



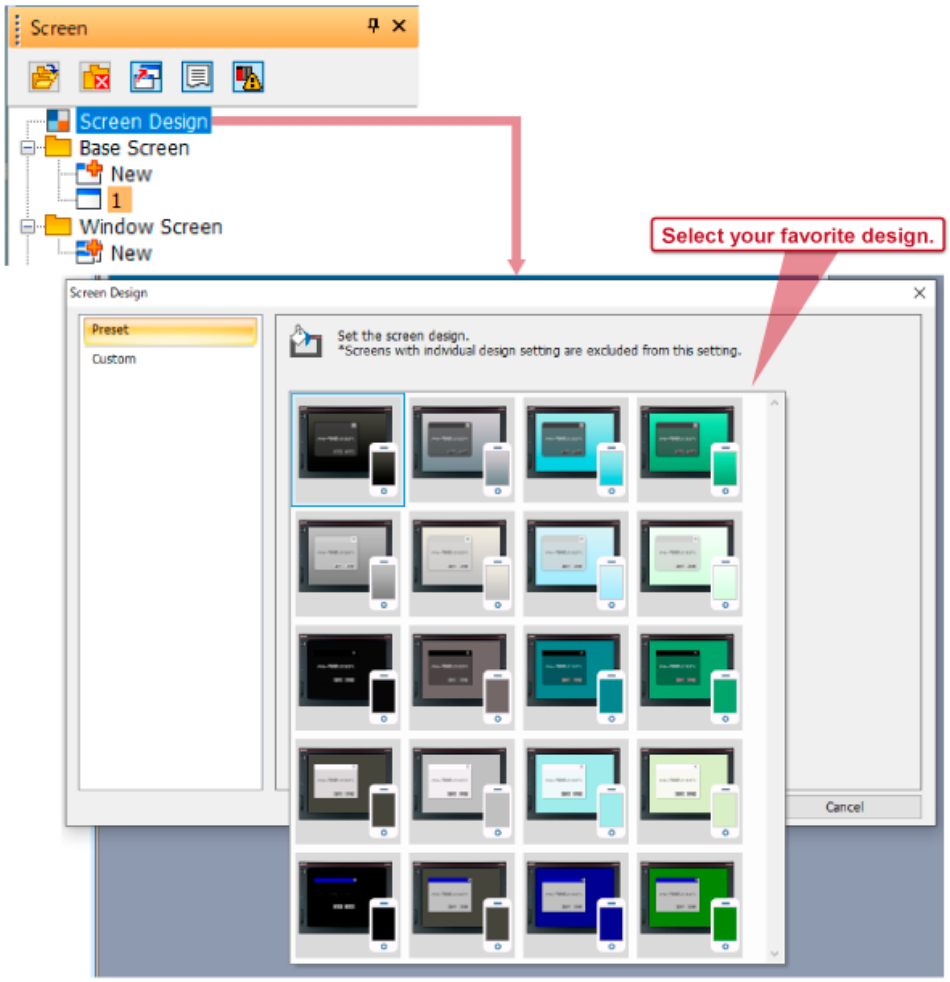
<Project>

<Screen>

<System>

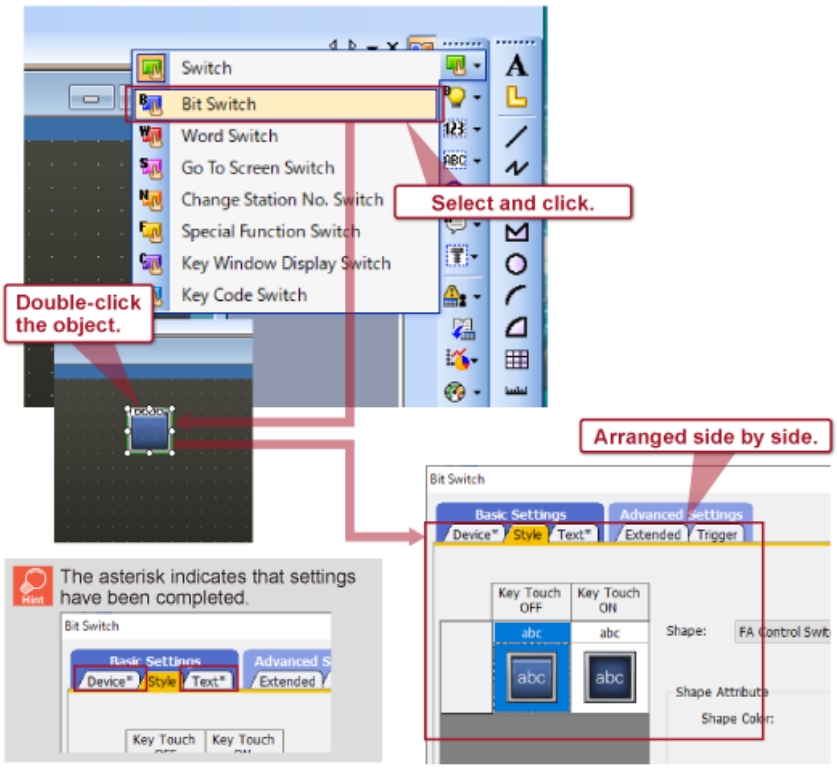
1.5.2 Screen design options

You can simply select a favorite one from the screen design options.
The selected screen design can be reflected to all screens (base screen, window screen, and mobile screen). This eliminates the need of settings for each screen.
Gradation can be set so that the screen looks stylish.



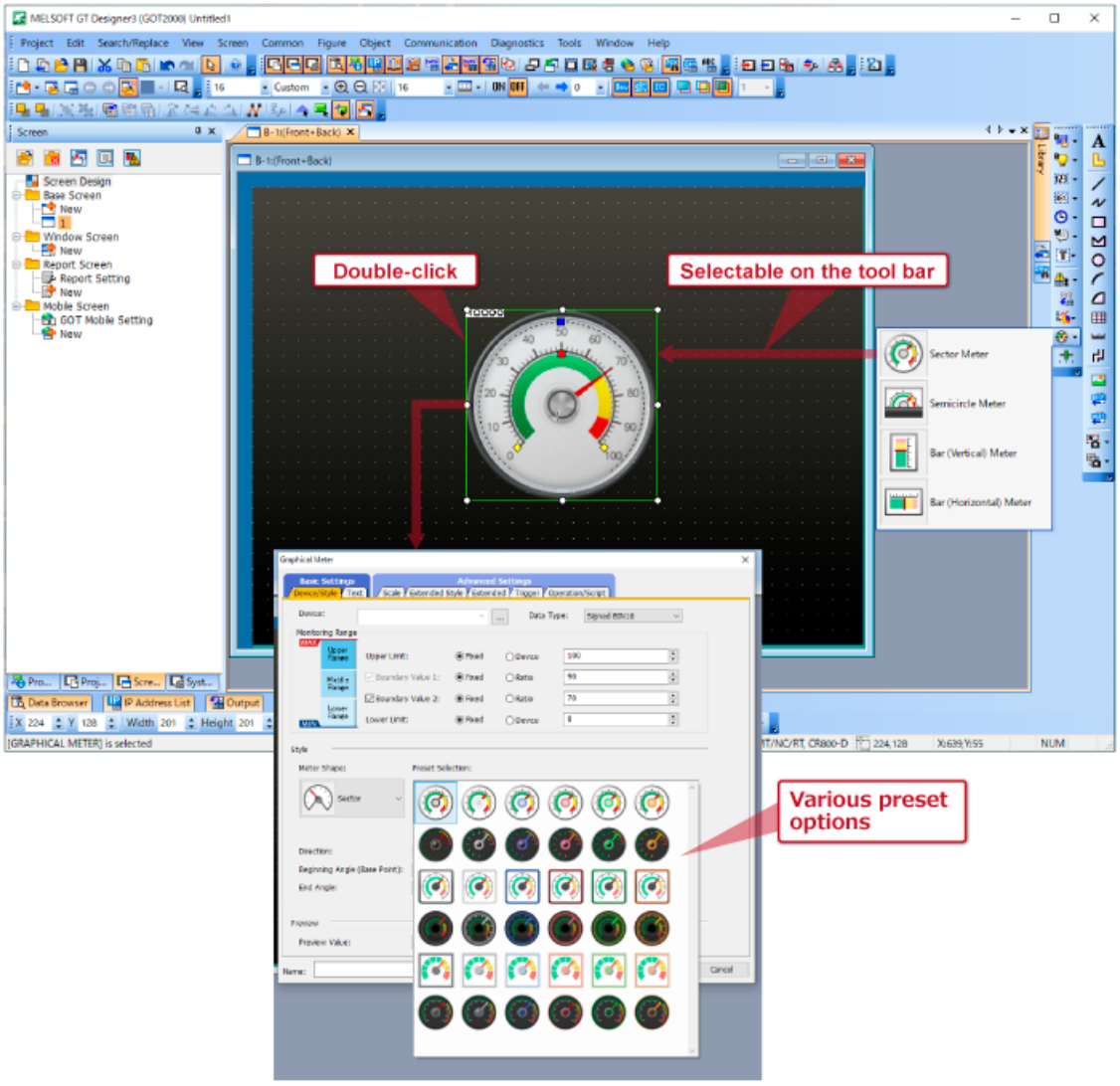
1.5.3 Easy object settings

Select an object and click anywhere on the screen design area to place the object.
Double-click the object to configure the advanced settings.
In the setting dialog, the status of the lamp, switch, or other objects can be checked with the displayed image.



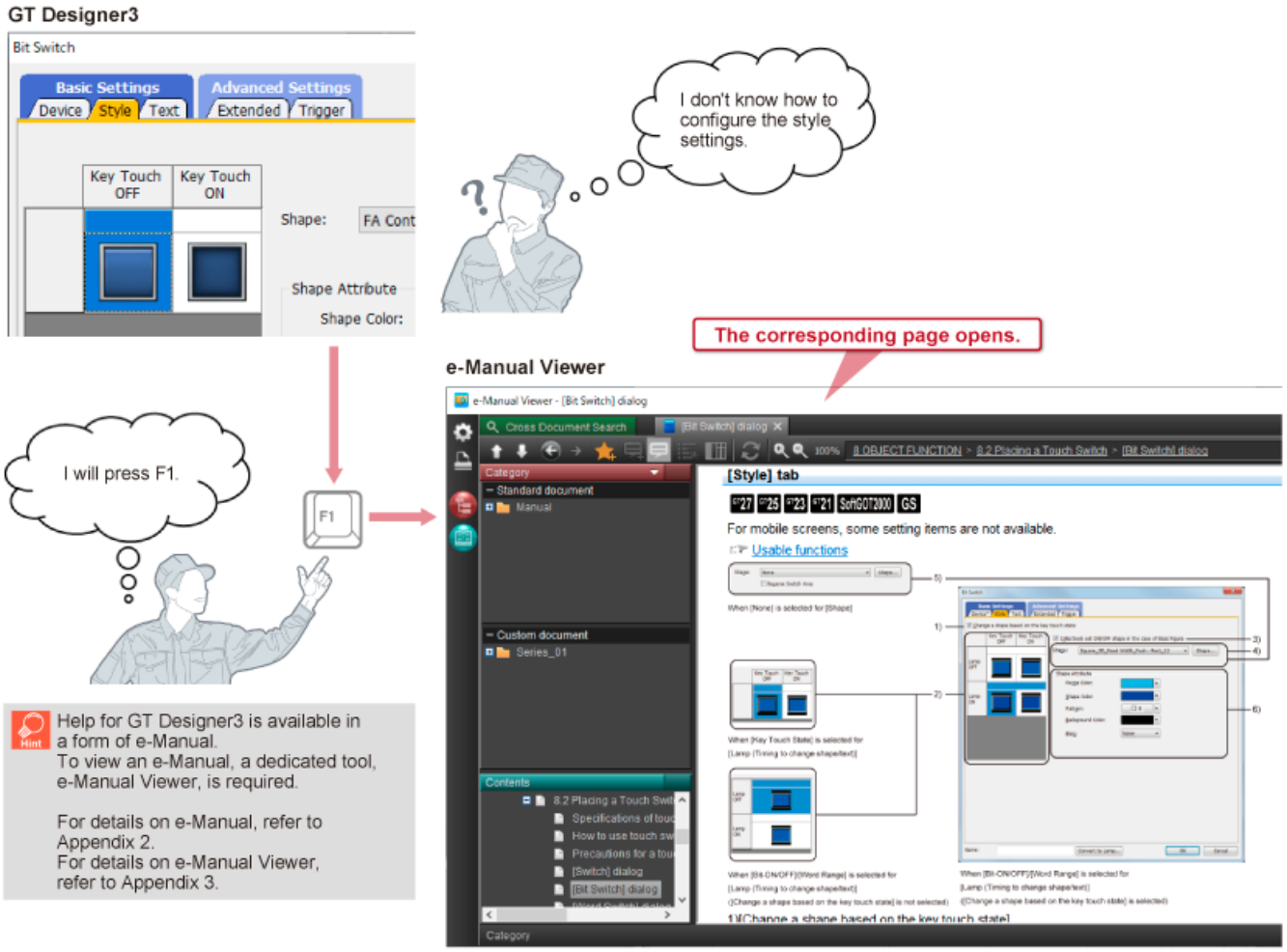
1.5.4 Simple and tidy meters (graphical meters)

Select one from the tool bar and place it, and a simple and tidy meter is created.
Various preset options are available for changing the design easily.



1.5.5 Useful help function

If you want to know the setting procedure while creating a screen in GT Designer3, press the [F1] key with the dialog open. A manual opens with the page relevant to the dialog displayed.

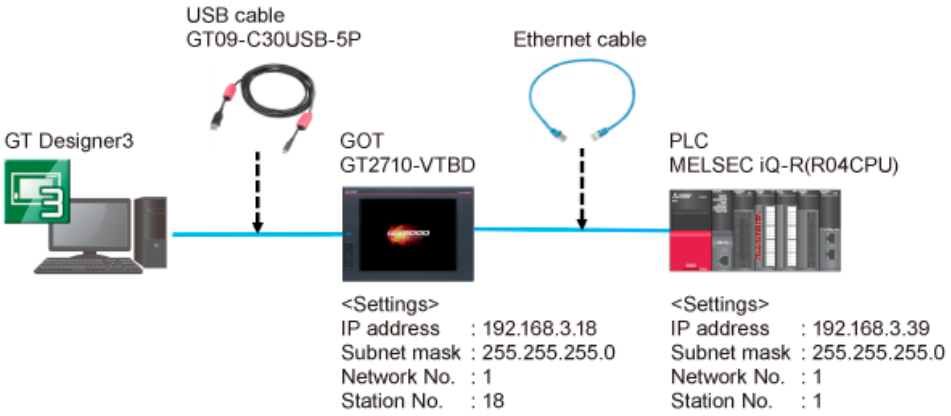


Chapter 2 From project creation to saving

In this chapter, we will learn the procedure from creating a new project to saving it.

2.1 System configuration

We will learn the setting procedure for the following system configuration.

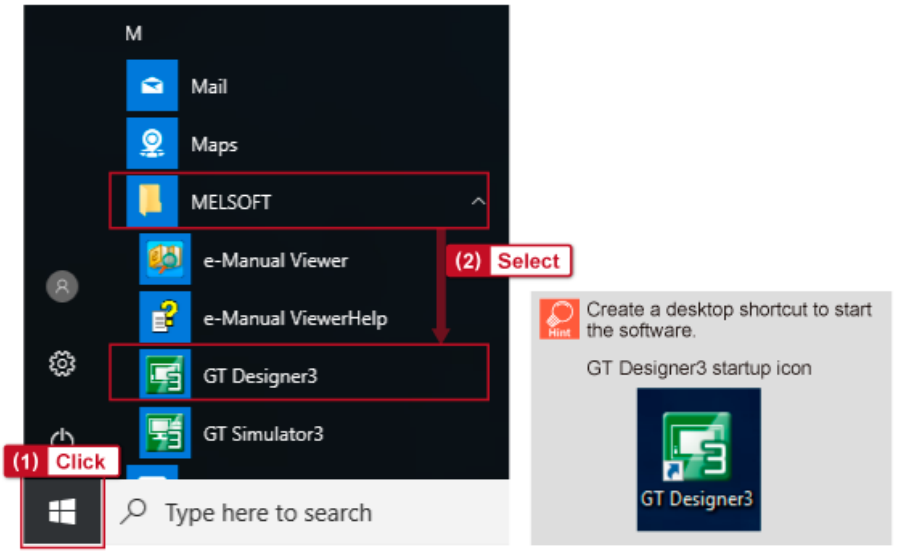


2.2 Starting GT Designer3

Start GT Designer3 from Windows® start menu.

(1) Click Windows® start menu.

(2) Select [MELSOFT] → [GT Designer3].

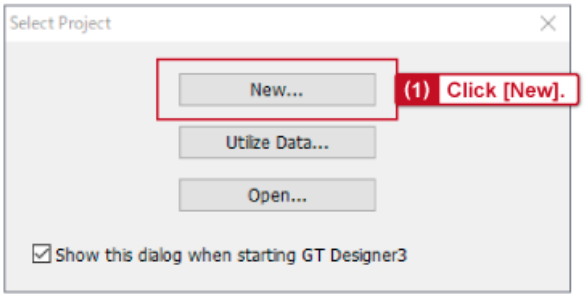


* Windows is a registered trademark or trademark of Microsoft Corporation in the United States and other countries.

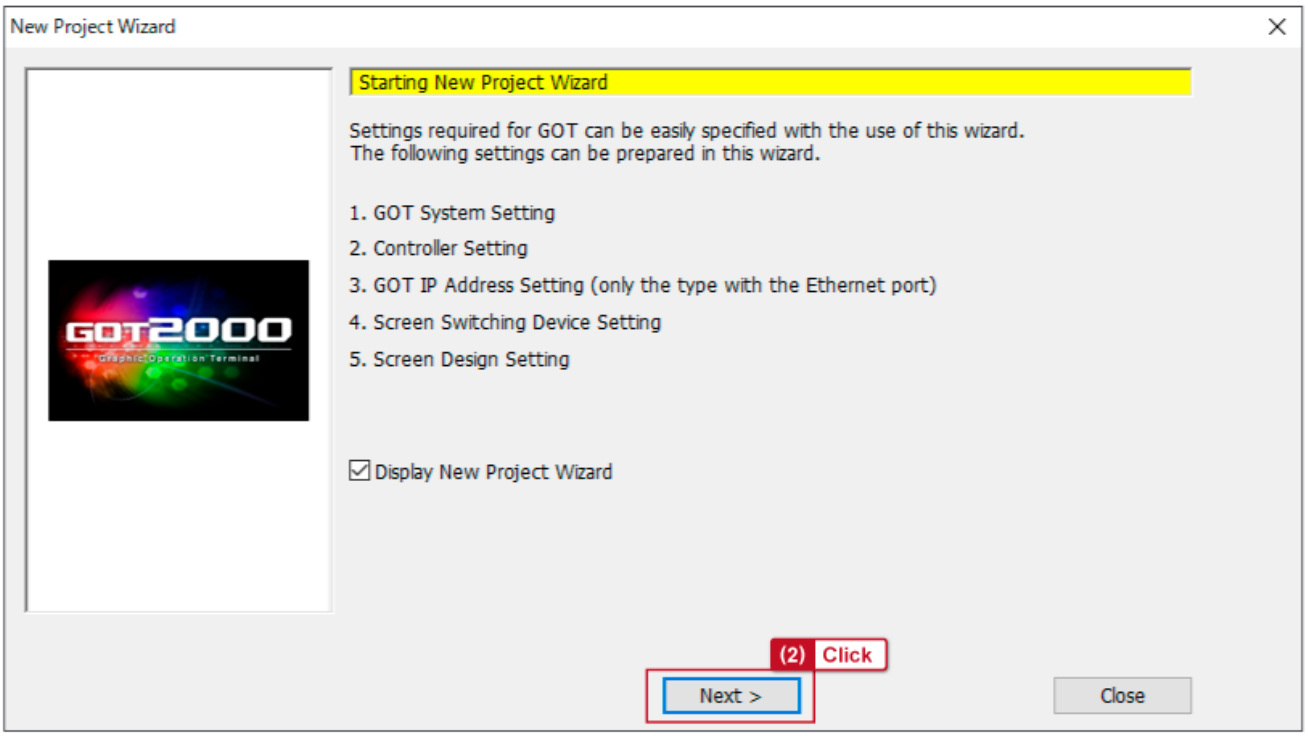
2.3 Creating a project

Create a project according to the new project wizard.

(1) Click [New] in the [Select Project] dialog.



(2) [New Project Wizard] is displayed.
Check the description and click [Next].

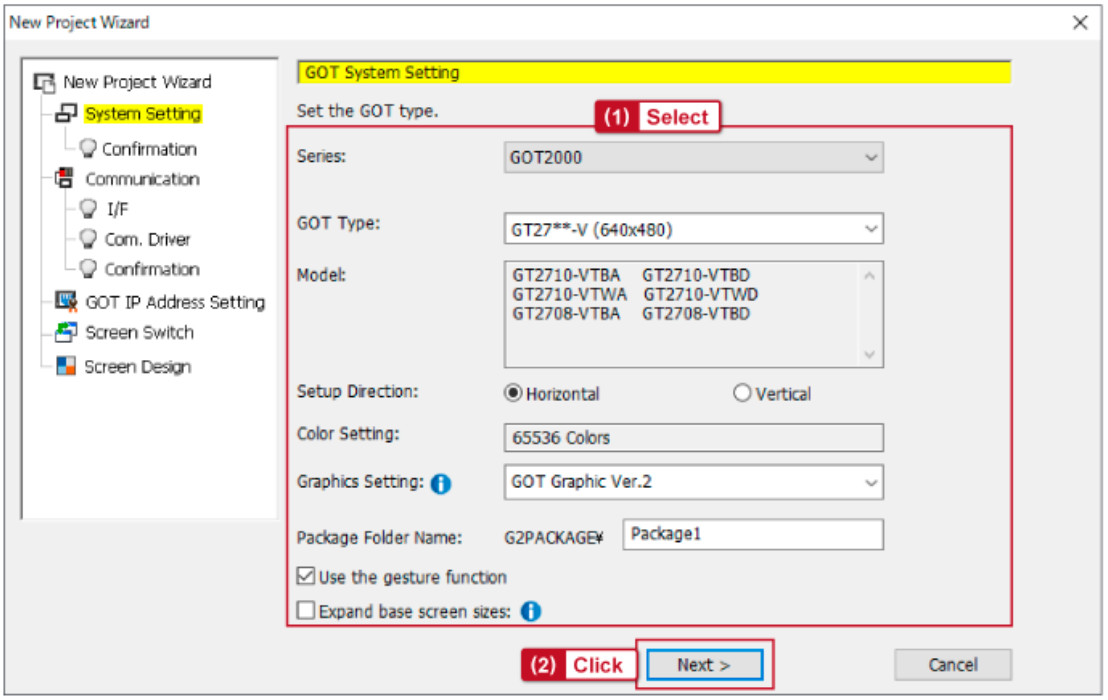


2.3.1 System setting 1

Set the GOT type information in [GOT System Setting].

(1) Select the setting items according to the specifications of the GOT to be used.

(2) Click [Next].

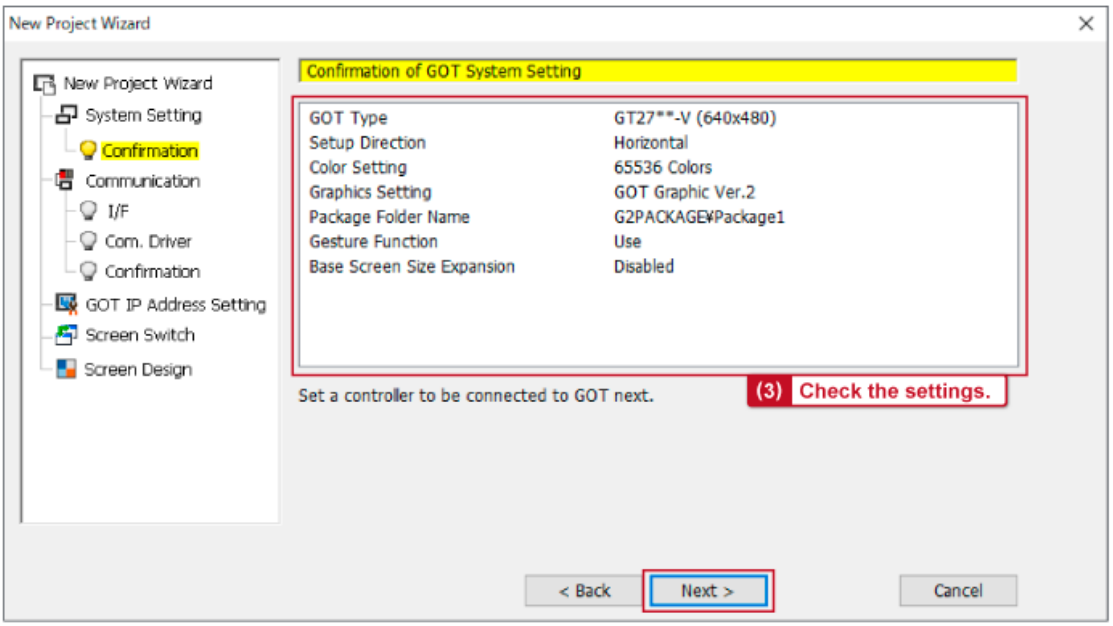


Item	Settings	Remarks
Series	GOT2000	Select GOT series. Change the setting when operating GOT1000 series.
GOT Type	GT2710-VTBD	Select the model to be used from the list.
Setup Direction	Horizontal	Select the setup orientation of the GOT.
Graphics setting	GOT Graphic Ver.2	Select a graphics mode. "GOT Graphic Ver.2" is suitable for GOT2000 series.
Use the gesture function	Selected	Select this option when using the gesture function. (GT27 only)

2.3.1 System setting 2

Check the settings configured in [Confirmation of GOT System Setting].

(3) Click [Next].



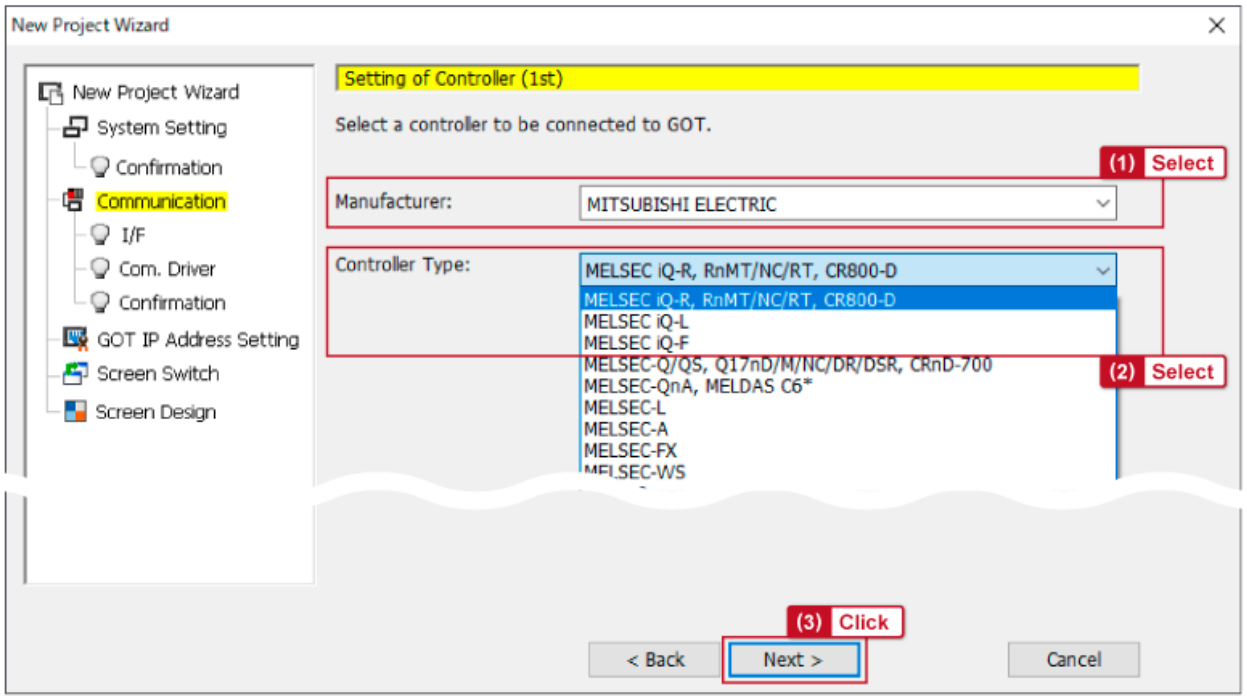
2.3.2 Controller setting

Set the controller to be connected in [Setting of Controller].

(1) Select [Manufacturer] of the PLC to be connected.

(2) Select [Controller Type] of the PLC to be connected.

(3) Click [Next].



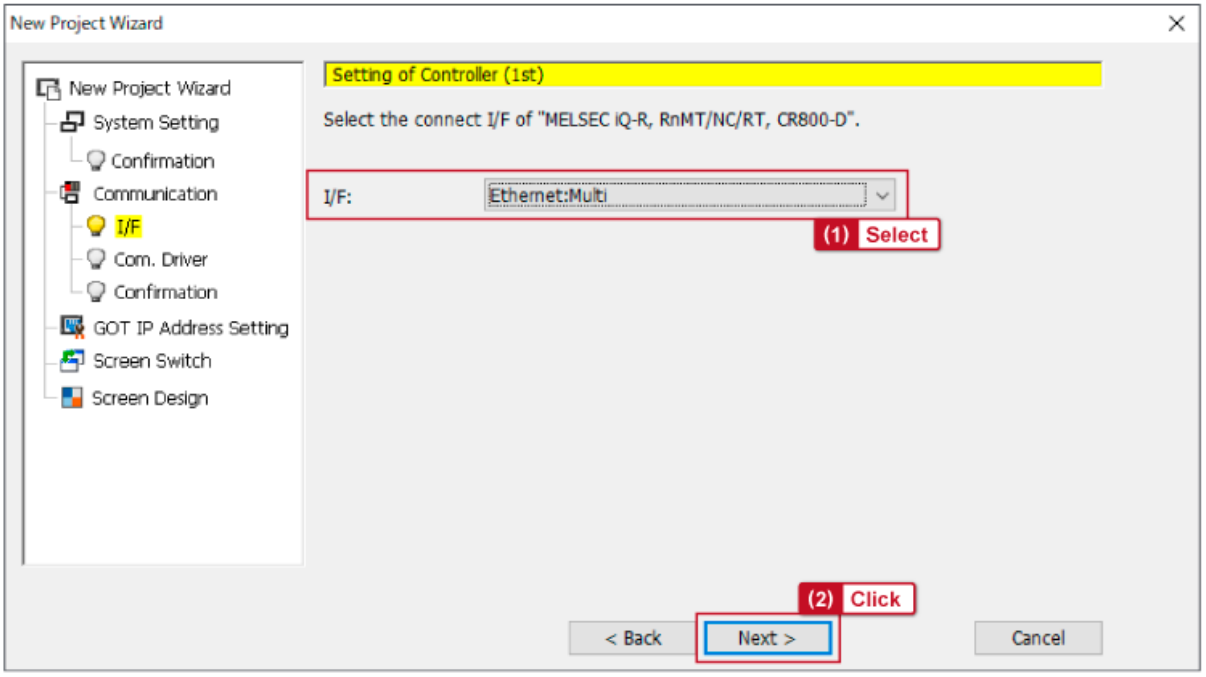
Item	Settings
Manufacturer	MITSUBISHI ELECTRIC
Controller type	MELSEC iQ-R, RnMT/NC/RT, CR800-D

2.3.3 Interface setting

Set the interface of the GOT to be connected with the controller.

(1) Select the interface for connection from the [I/F] pull-down menu.

(2) Click [Next].



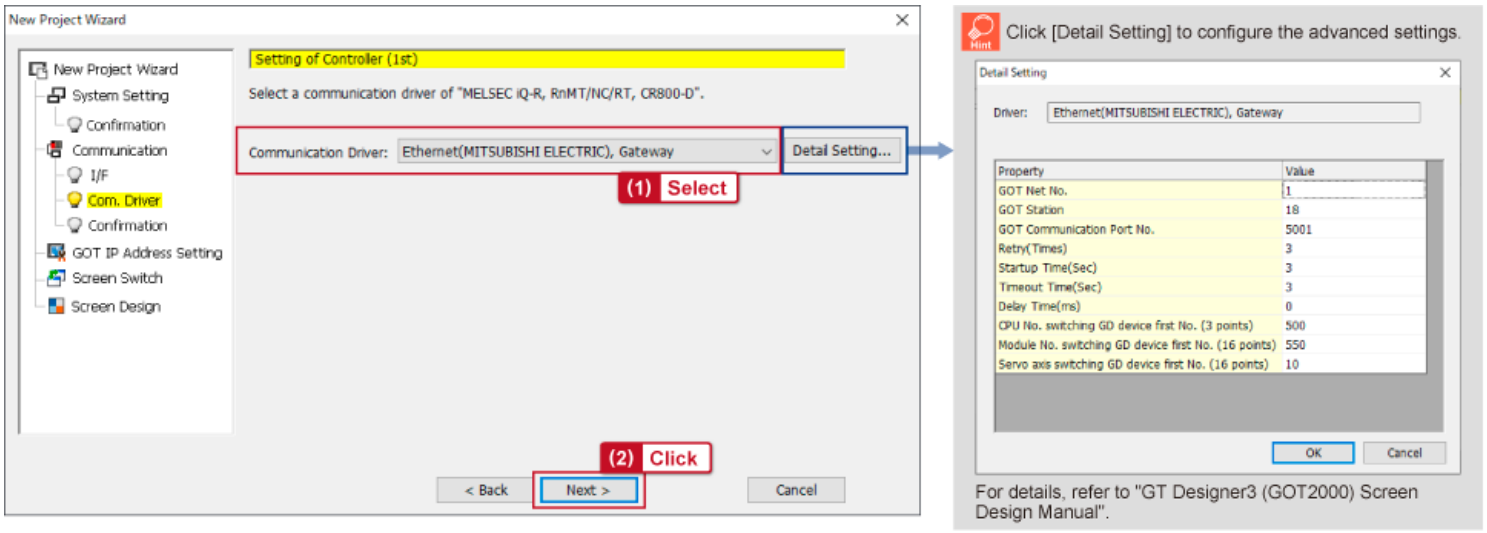
Item	Settings
I/F	Ethernet:Multi

2.3.4 Communication driver setting

Set a communication driver to be used.

(1) Select a communication driver to be used from the [Communication Driver] pull-down menu.

(2) Click [Next].

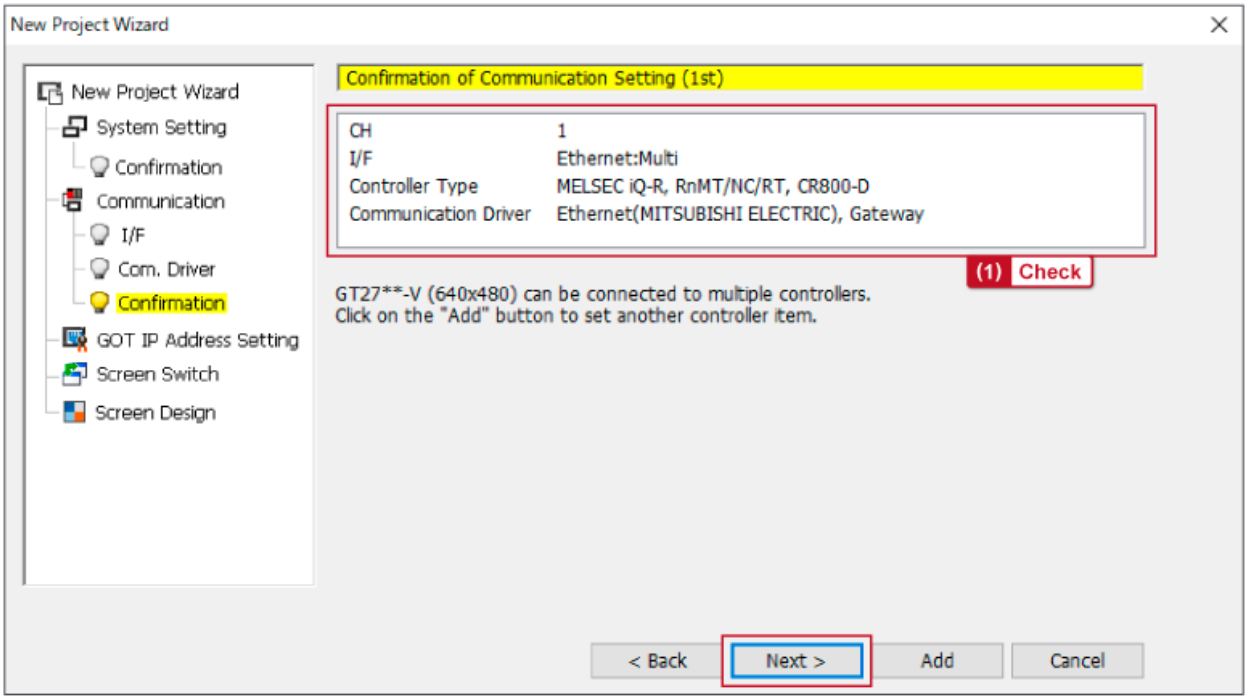


Item	Settings
Communication Driver	Ethernet (MITSUBISHI ELECTRIC), Gateway

2.3.5 Confirmation of the controller settings

Check the configured settings in [Confirmation of Communication Setting].

(1) Check the settings and click [Next].

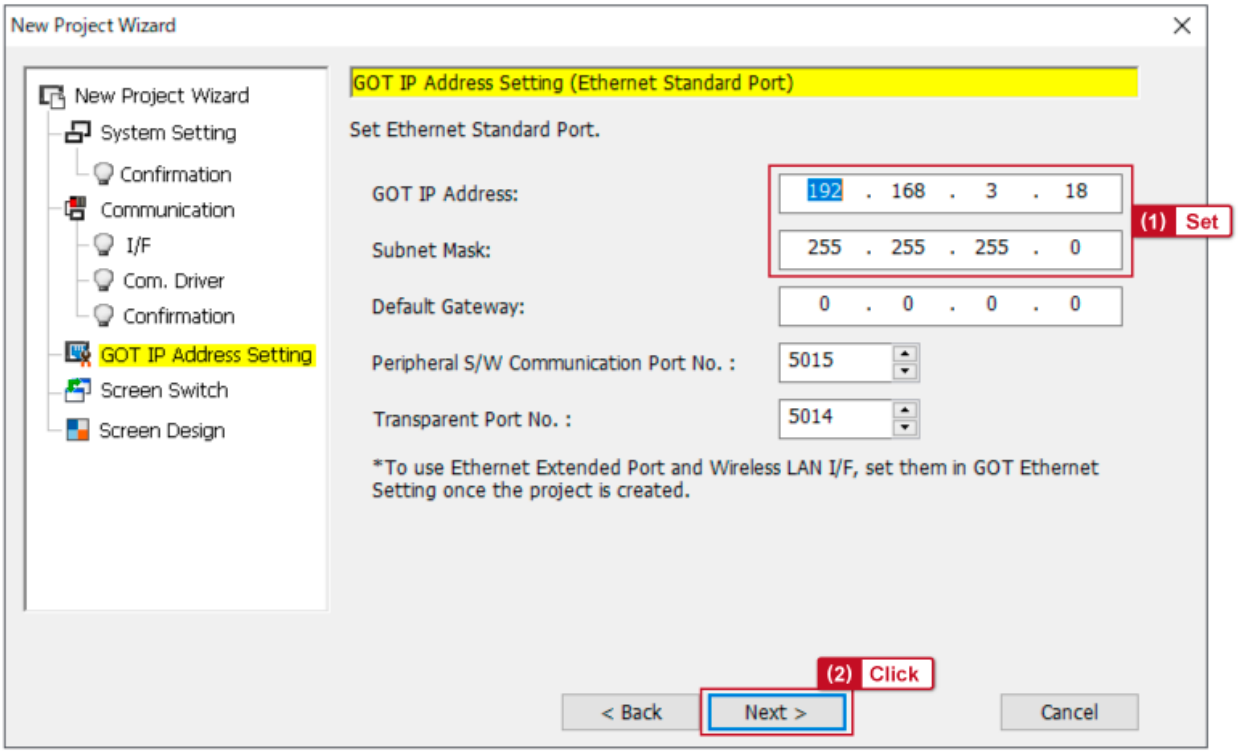


2.3.6 GOT IP address setting

Set the IP address of the GOT in [GOT IP Address Setting].

(1) Set [GOT IP Address] and [Subnet Mask].

(2) Click [Next].



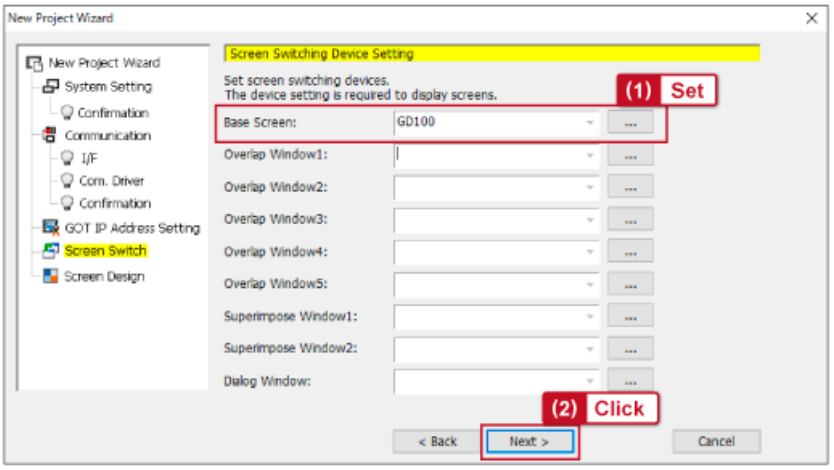
Item	Settings	Remarks
GOT IP Address	192.168.3.18	Set the IP address of the GOT.
Subnet Mask	255.255.255.0	Set the subnet mask for the GOT.

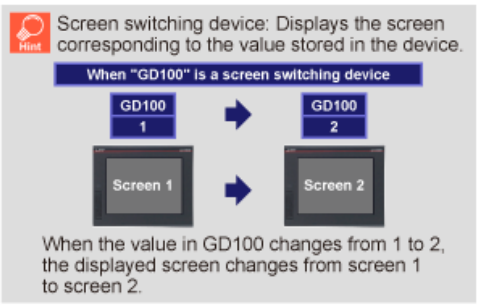
2.3.7 Screen switching settings

Set a device used to switch the GOT screen in [Screen Switching Device Setting].

(1) Set a screen switching device for [Base Screen].

(2) Click [Next].





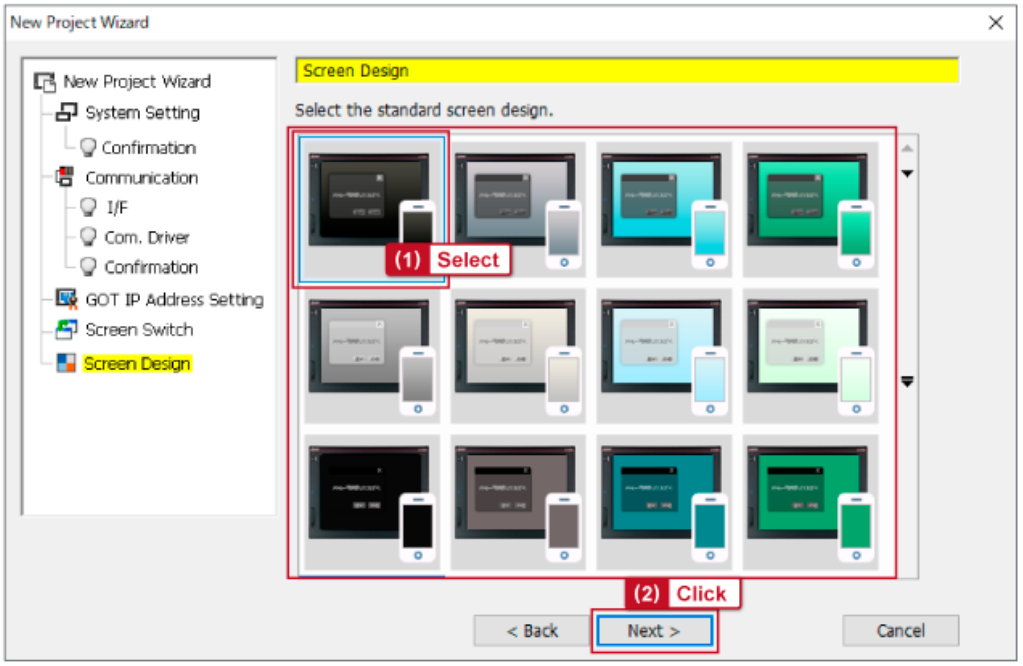
Item	Settings	Remarks
Base Screen	GD100	Set a base screen switching device.

2.3.8 Screen design setting

Select a screen design in [Screen Design].

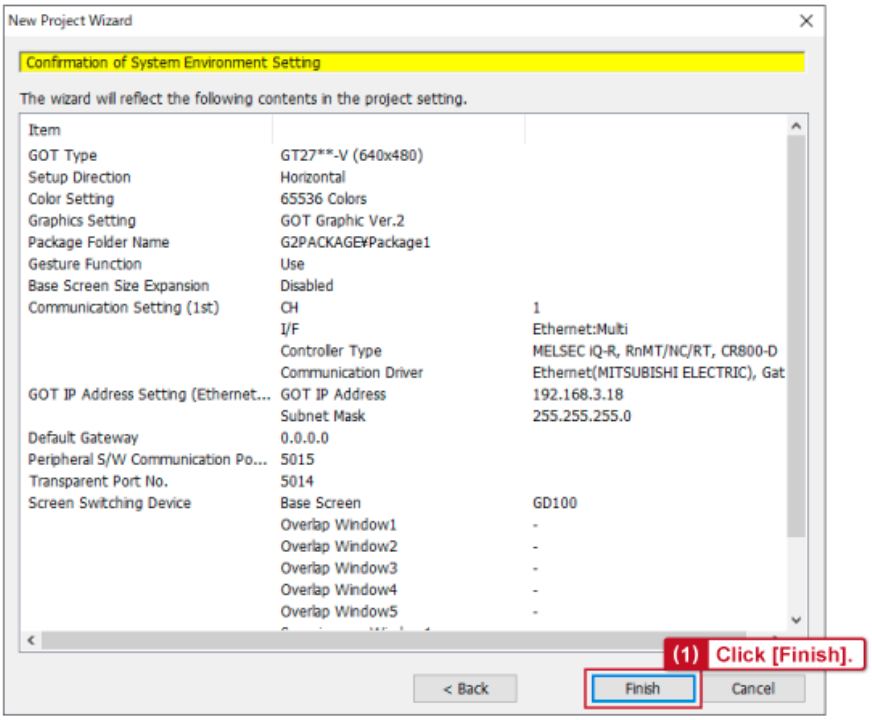
(1) Select a screen design to be used. In this course, we will select the upper left screen.

(2) Click [Next].

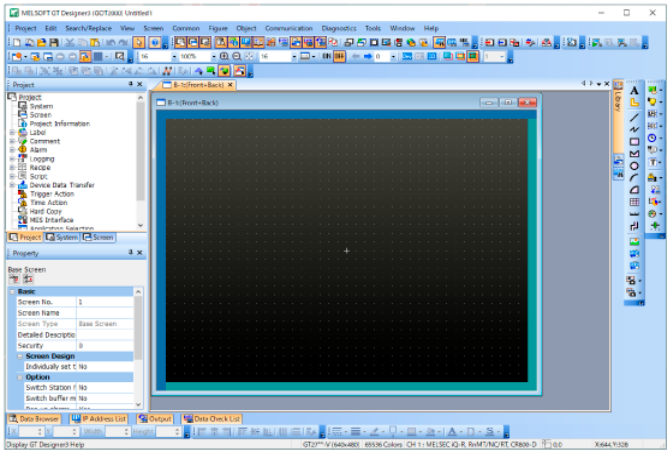


2.3.9 Confirmation of system environment settings

(1) The settings so far are displayed. Check the settings and click [Finish].



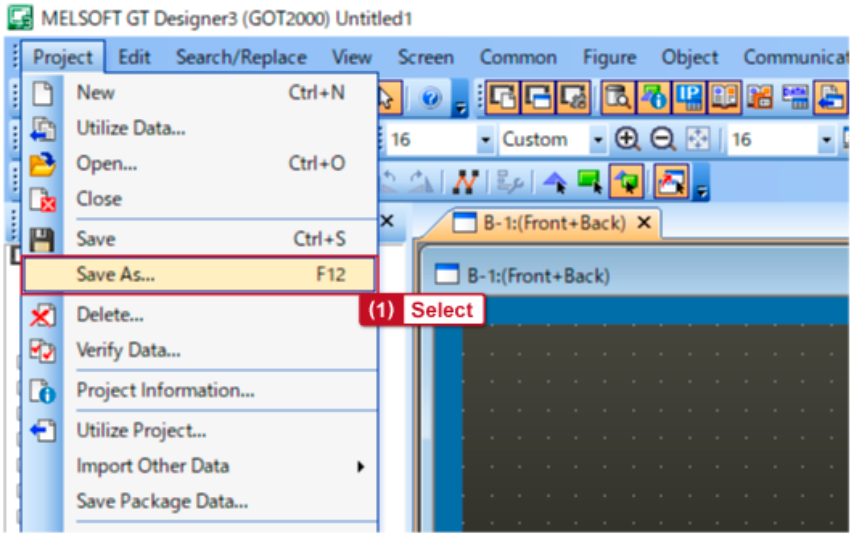
(2) New screen design area is displayed.



2.4 Saving the project 1

We will learn how to save the created project.
In this course, we will save the project in the single file format (*.GTX).

(1) Select [Project] → [Save As] from the menu.

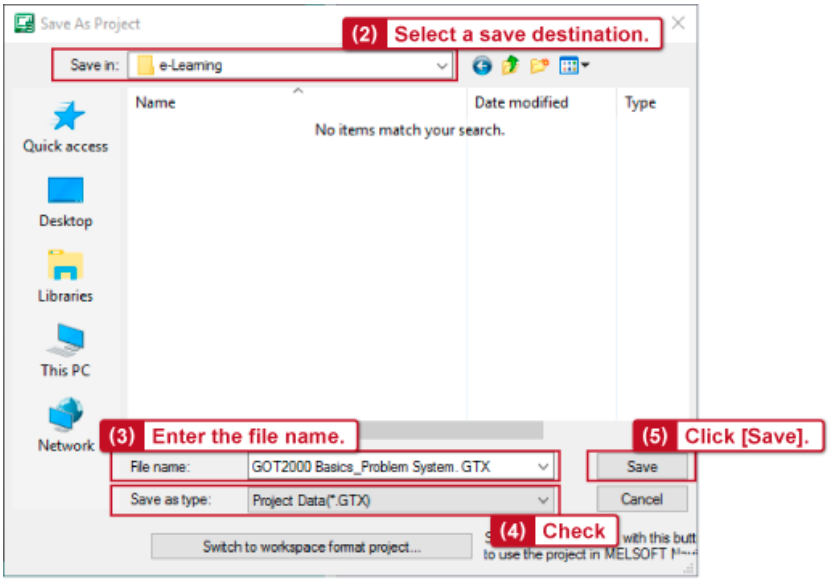


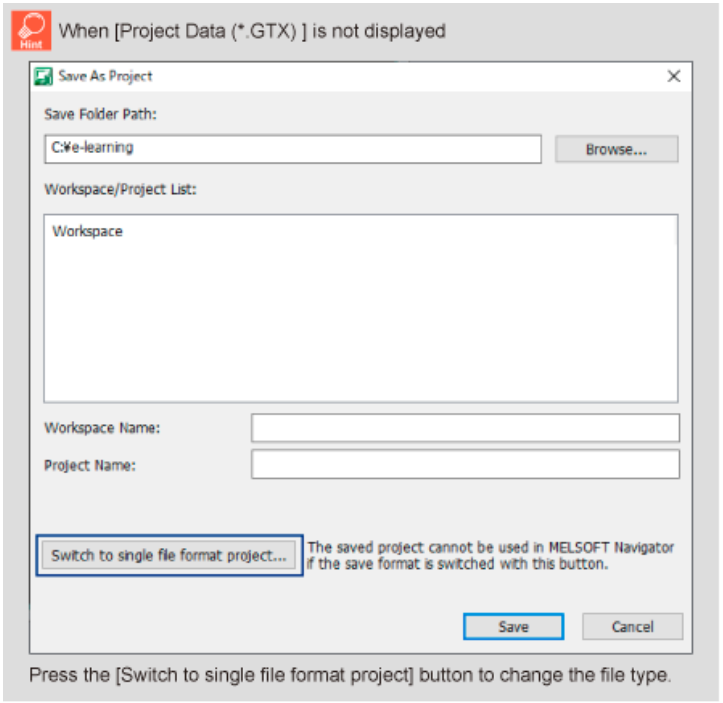
(2) Select [Save in] location.
* Set the destination to save the project.

(3) Enter the file name.
* Set a file name.

(4) Check that [Project Data (*.GTX)] is selected for [Save as type].

(5) Click the [Save] button.



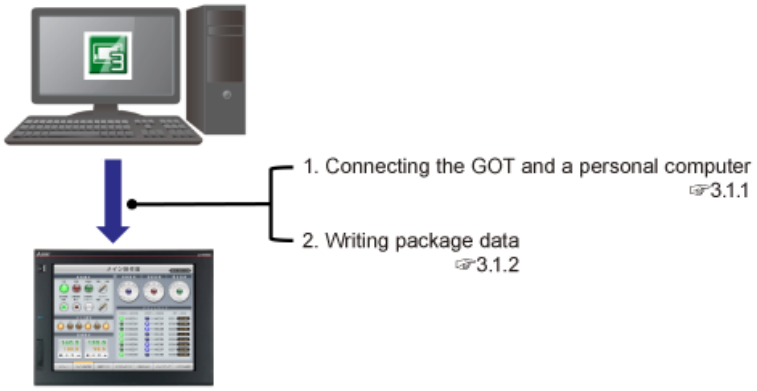


Chapter 3 Data Transfer

In this chapter, we will learn how to transfer data created in GT Designer3 to the GOT.

3.1 Data transfer procedure

The following sections describe how to transfer data to the GOT.

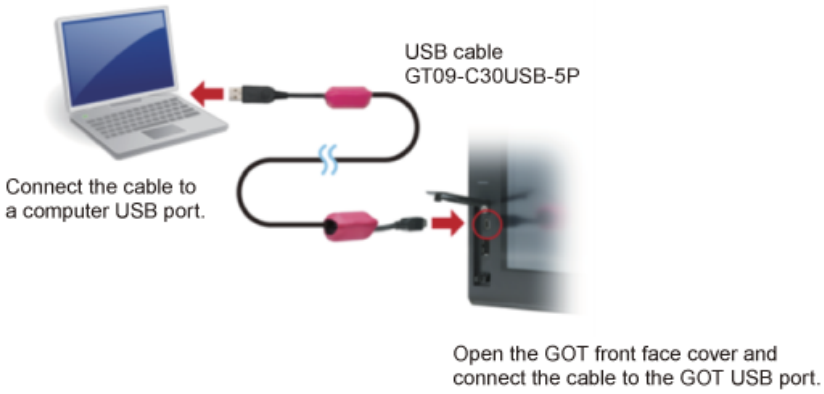


3.1.1 Connecting a personal computer and the GOT

Connect a personal computer and the GOT with a USB cable.

(1) Check that the GOT is powered off, and then connect the GOT and a personal computer with a USB cable.

(2) Power on the GOT.

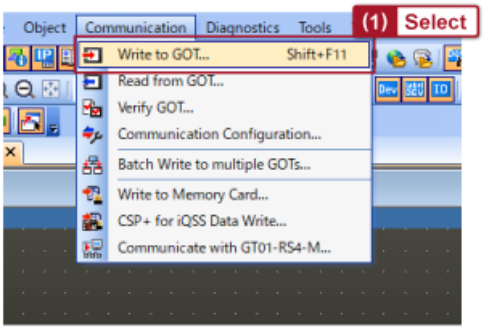


Open the GOT front face cover and
connect the cable to the GOT USB port.

3.1.2 Writing package data 1

Write the package data to the GOT.

(1) Select [Communication] → [Write to GOT].



Hint Package data: Project, system applications (standard/extended functions), and communication drivers contained in a package

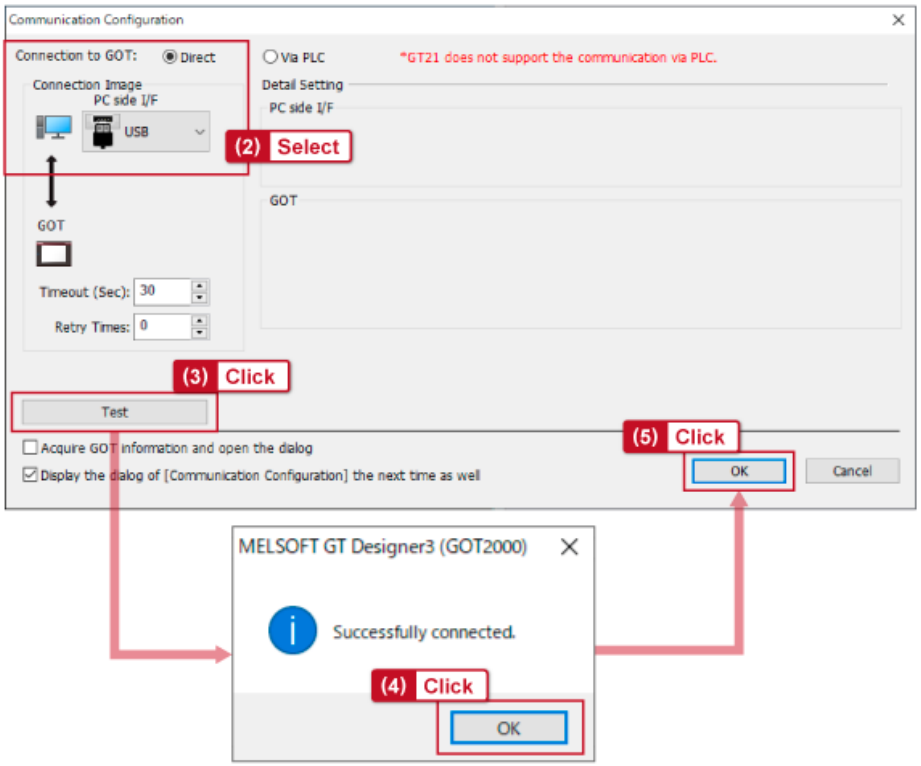
3.1.2 Writing package data 2

(2) Select [Connection to GOT] and [PC side I/F].

(3) Click the [Test] button.

(4) When connection is established, "Successfully connected." message appears. Click [OK].

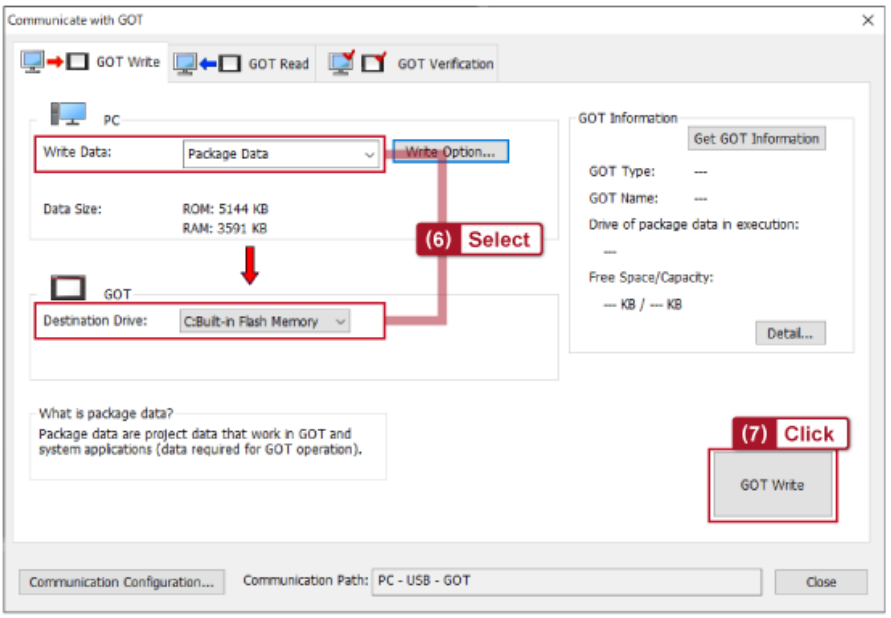
(5) Click [OK].



3.1.2 Writing package data 3

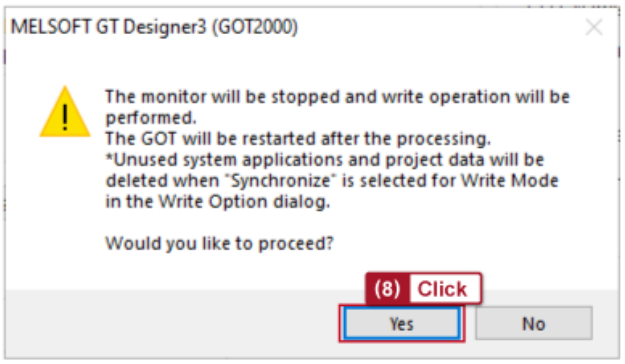
(6) The [Communicate with GOT] dialog appears. Select [Write Data] and [Destination Drive].

(7) Configure the settings and click the [GOT Write] button.

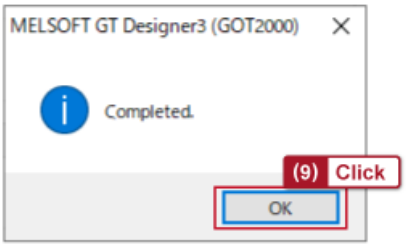


Item	Settings	Remarks
Write Data	Package data	Select the type of the data to be written to the GOT.
Destination Drive	C:Built-in Flash Memory	Select the GOT drive to which the package data is written. Normally, you will selected [C:Built-in Flash Memory]. For details, refer to "GT Designer3 (GOT2000) Screen Design Manual".

(8) The dialog prompting you to confirm the settings appears. Check the settings and click the [Yes] button to start the writing.



(9) When the writing is completed, the completion message appears. Click [OK].



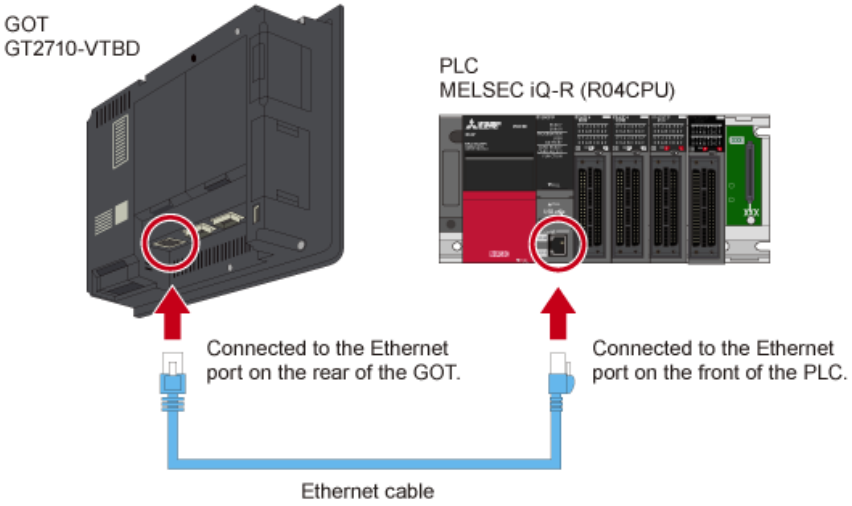
(10) The GOT automatically restarts.

3.2 Connecting a PLC 1

Connect the GOT and a PLC with an Ethernet cable.

(1) Power off the PLC and the GOT.

(2) Connect the GOT and a PLC with an Ethernet cable.



Power on the PLC and ensure that no error is displayed.

(3) Power on the PLC and the GOT.

(4) When the language selection screen appears, touch [English].

(5) Check that no communication error is displayed on the GOT screen.

3.3 Summary

The contents of this chapter are:

- GT Designer3 Overview
- From creating a new project to saving it
- Writing data created in GT Designer3 to the GOT

Important points to consider:

GT Designer3 Overview	• GT Designer3 • GT Designer3 screen layout • GT Designer3 features
From creating a new project to saving it	• System configuration • Starting GT Designer3 • Creating a project • Saving the project
Writing data created in GT Designer3 to the GOT	• Data transfer procedure • Connecting a personal computer and the GOT • Writing package data • Connecting a PLC (Ethernet connection)

You can learn how to design objects such as switches, lamps, and numerical displays using GT Designer3 in another e-learning course, **GT Works3 (GT Designer3) Basics (Elementary Screen Design)**.
For your next step, we recommend GT Works3 (GT Designer3) Basics (Elementary Screen Design).

Appendix 1 Screen design software update

For the latest version of the screen design software, please contact your local sales office.

Appendix 2 e-Manual features

e-Manual refers to the Mitsubishi Electric FA electronic book manuals that can be browsed using a dedicated tool (e-Manual Viewer).
The tool enables browsing through multiple manuals. This eliminates the need for checking each manual and thus reduces engineering costs.

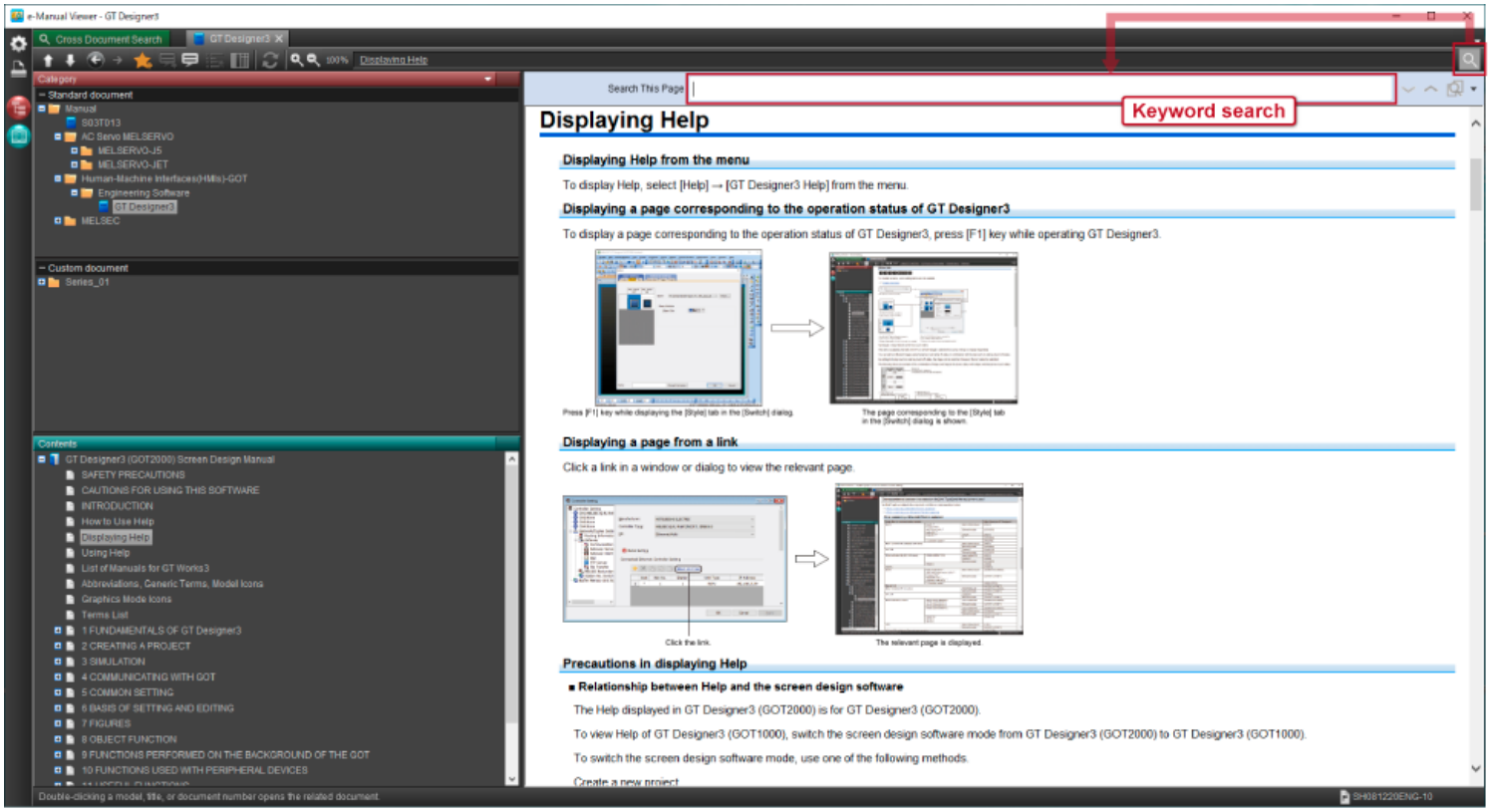
1. Install e-Manual Viewer.

2. Always download the latest manuals.
Update is easy with one button.

3. Smooth searches improve screen design efficiency.

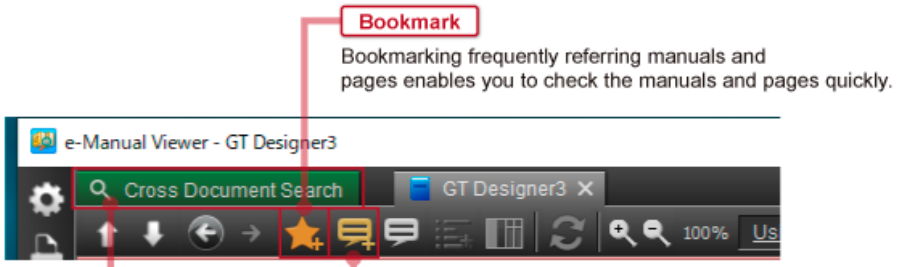
Appendix 3 e-Manual Viewer 1

e-Manual refers to a dedicated tool to browse e-Manuals (Mitsubishi Electric FA electronic book manuals).
The tool enables keyword search in the manual.



Appendix 3 e-Manual Viewer 2

The tool has various functions including keyword search across multiple manuals, bookmarking, and the Add Note function.



Bookmark

Bookmarking frequently referring manuals and pages enables you to check the manuals and pages quickly.

Cross Document Search

Required information can be cross-searched using keywords in multiple manuals.
Quick search is possible without opening each manual.

Add Note

Manuals can be annotated with know-how or other information.
Select a sentence and press this button to add a note.

Test Final Test

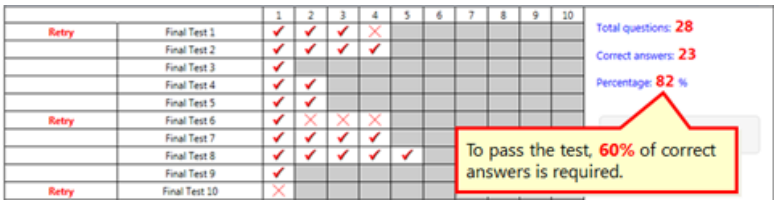
Now that you have completed all of the lessons of the **GT Works3 (GT Designer3) Basics (Screen Design Introduction)** course, you are ready to take the final test. If you are unclear on any of the topics covered, please take this opportunity to review those topics.

There are a total of 7 questions (10 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**

Select the correct answer.

What is the software used to create screens displayed on the GOT or configure the settings for the controller connected with the GOT?

Q1

- (●) **GT Designer3**
- ( ) **GX Works3**
- ( ) **GX Developer**
- ( ) **GT Simulator3**

Test **Final Test 2**

Complete the following sentence.

A [Q2] refers to a set of data such as [Q1], GOT type settings, and controller settings in GT Designer3.

Q1 Screen data

Q2 Project

Test **Final Test 3**

Select the correct answer.

What are the screen parts to be placed on the screen (switches, lamps, numerical displays, and others) referred to?

Q1

- ○ **Project**
- ◉ **Object**
- ○ **Database**
- ○ **Screen data**

Test **Final Test 4**

Complete the following sentences.

The setting items in a project fall under "Project", "System,", or "Screen" tab. You can switch between the tabs to display the setting in each tab. The menu is called [Q1].

Q1

- ○ **Property sheet**
- ○ **Library**
- ◉ **Work tree**
- ○ **Toolbar**

Test **Final Test 5**

Complete the following sentences.

If you want to know the setting procedure while creating a screen in GT Designer3, press [Q1] with the dialog open. [Q2] opens with the page relevant to the dialog displayed.

Q1 F1 key

Q2 Manual

Test **Final Test 6**

Select the correct answer.

Select the correct operation when connecting the GOT and a PLC.

Q1

- ○ **Power off the PLC and power on the GOT.**
- ○ **Power on the PLC and Power off the GOT.**
- ◉ **Power off the PLC and the GOT.**
- ○ **Power on the PLC and the GOT.**

Test **Final Test 7**

Complete the following sentence.

[Q1] refers to the Mitsubishi Electric FA electronic book manuals that can be browsed using a dedicated tool ([Q2]).

Q1 e-Manual

Q2 e-Manual Viewer

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	✓	✓								
	Final Test 6	✓									
	Final Test 7	✓	✓								

Total questions: **10**

Correct answers: **10**

Percentage: **100** %

Clear

You have completed the GT Works3 (GT Designer3) Basics (Screen Design 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