Mitsubishi Graphic Operation Terminal
GOT2000 Series
GOT Mobile Function Quick Start Guide

The GOT Mobile function offers remote equipment monitoring.

GOT2000

Graphic Operation Terminal

● SAFETY PRECAUTIONS ●

(Be sure to read these instructions before using this product.)

When designing the system, always read the relevant manuals, pay full attention to safety, and handle the product correctly.

[Precautions for Training with this Manual]

⚠WARNING

● Do not touch the terminals when the power is ON. There is a risk of electric shock.

● Before opening the safety cover, always turn the power OFF or confirm that safety is sufficiently ensured.

● If GOT Mobile functions are used to perform remote control of control equipment, the field operator may not notice the remote control, possibly leading to an accident.
In addition, a communication delay or interruption may occur depending on the network environment, and remote control of control equipment cannot be performed normally in some cases.
Before using GOT Mobile functions to perform remote control, fully grasp the circumstances of the field site and ensure safety.

⚠CAUTION

● Always turn the power OFF before mounting or removing the unit.
Failure to do so can cause the unit to fail or malfunction.

● Stop use immediately if an abnormality occurs.

* GT Designer3 (GOT2000) Version 1.144A is used for the explanations in this manual.
The displayed menus and screens may vary depending on the version being used.

HOW TO READ MARKS

Point   Refers to information required for operation and precautions.

Hint   Refers to useful information.

Reference   Introduces reference manuals and pages that describe details.

INDEX

GOT Mobile

Monitor your worksite anytime, anywhere.

Check the equipment status using a web browser.

The GOT Mobile function improves visualization accessibility and reduces total cost of ownership.

Improve productivity

Monitor production from outside of the clean room

The status of equipment can be monitored using tablets from outside of the clean room.
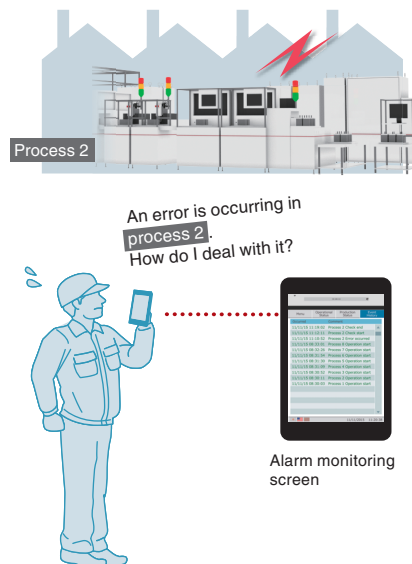
Production site

Monitoring connected devices on a tablet via GOT

Reduce downtime

Monitor production remotely

The status of equipment can be monitored remotely with your smartphone. In addition, you can view maintenance manuals to quickly check error details and find solutions.

Production site

An error is occurring in process 2. How do I deal with it?
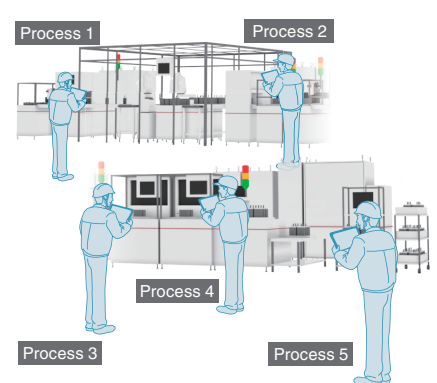
Alarm monitoring screen

Improve setup procedure

Monitor production by multiple operators

When the equipment is large, up to five operators can efficiently work at the same time to check and make settings.
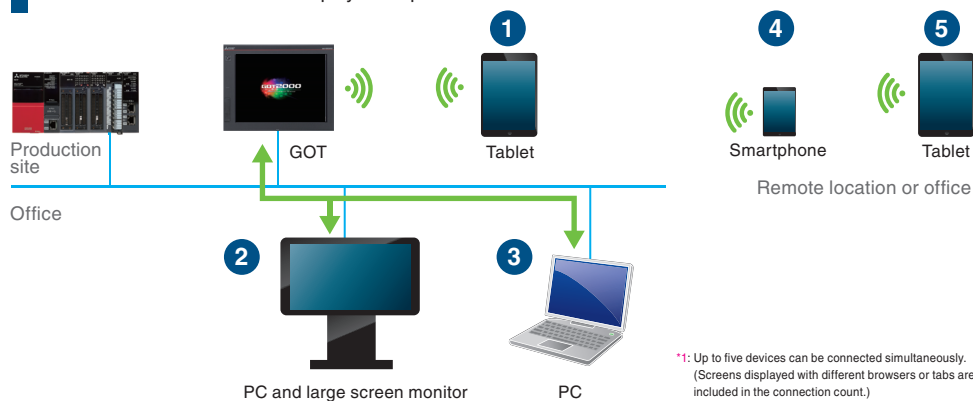
Production site

Process 1
Process 2
Process 4
Process 3
Process 5

Each operator can efficiently check a different screen.

GOT Mobile Features

Five information devices can access a GOT at the same time.[*1]

Each information device can display and operate a different screen.[*2]

Production site

GOT

1 Tablet

4 Smartphone

5 Tablet

Remote location or office

Office

2 PC and large screen monitor

3 PC

*1: Up to five devices can be connected simultaneously. (Screens displayed with different browsers or tabs are included in the connection count.)

*2: You can prevent simultaneous operation on the same network. For details, please see appropriate manual.

Easily change screen sizes depending on used devise.

You can design screens easily using the GOT screen design software, GT Works3.

Smartphone size
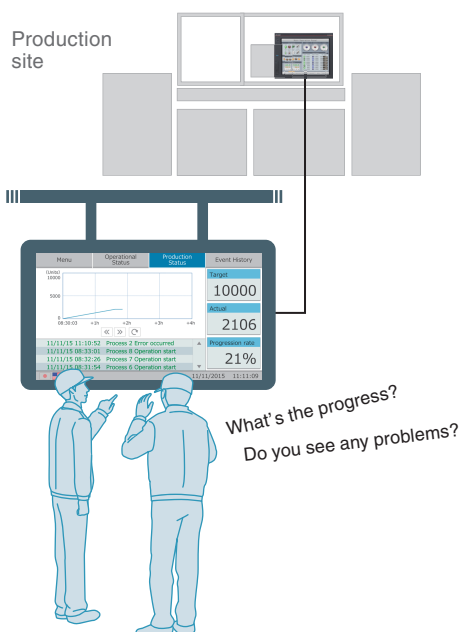
Tablet size

PC size

Full HD size
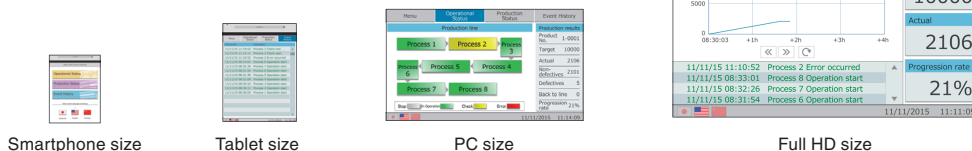
Mitsubishi FA Integrated Solution e-F@ctory

Increase production rate
Monitor production on a large screen

The function visualizes your production site by showing the production targets and results on a large Andon screen.

Production site

What's the progress?

Do you see any problems?

Improve maintenance
Monitor production from your office

The status of equipment can be monitored on your PC via GOT on the production site.

Production site

Error!

What is the problem cause?

Office
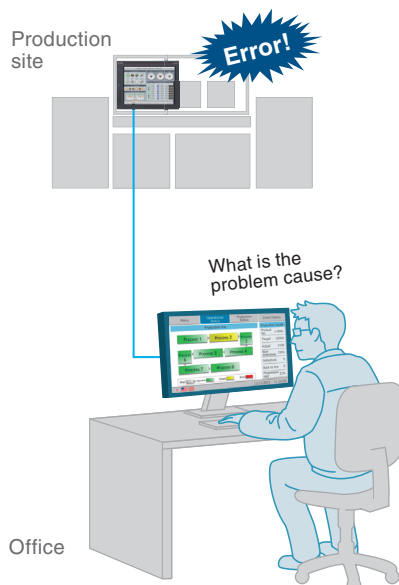
Improve maintenance
Monitor production with one PC

One PC can be connected to several GOTs to check the condition of equipment. Even large-scale systems can be easily monitored.

Production site

Equipment A

Equipment B

Equipment C

Equipment D

Equipment B has an error

Office
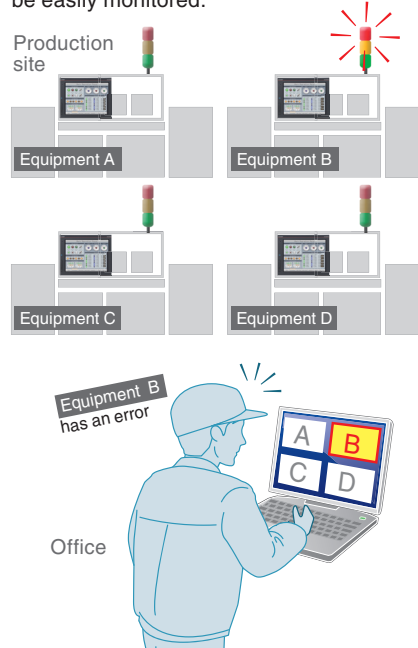
Features

Screens used with the GOT Mobile function

The screen displayed on the information devices with the GOT Mobile function is called the "Mobile Screen". To use the GOT Mobile function, the screen to be displayed (mobile screen) must be created with the HMI/GOT screen design software GT Designer3. Created mobile screens are displayed on the browser of the information device, such as a tablet and smartphone.
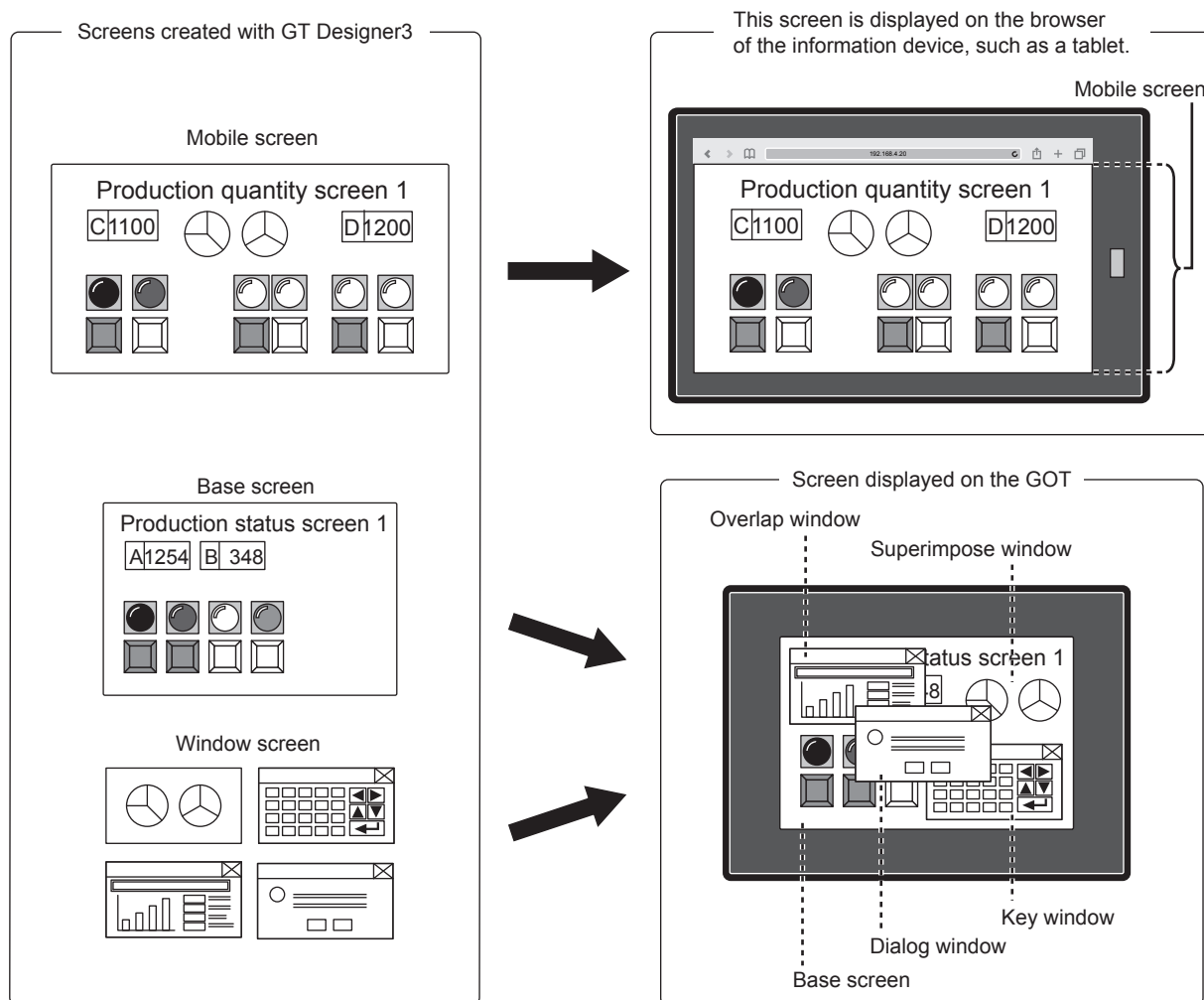
Explanations in this manual use the following system configuration with a wireless LAN communication unit.

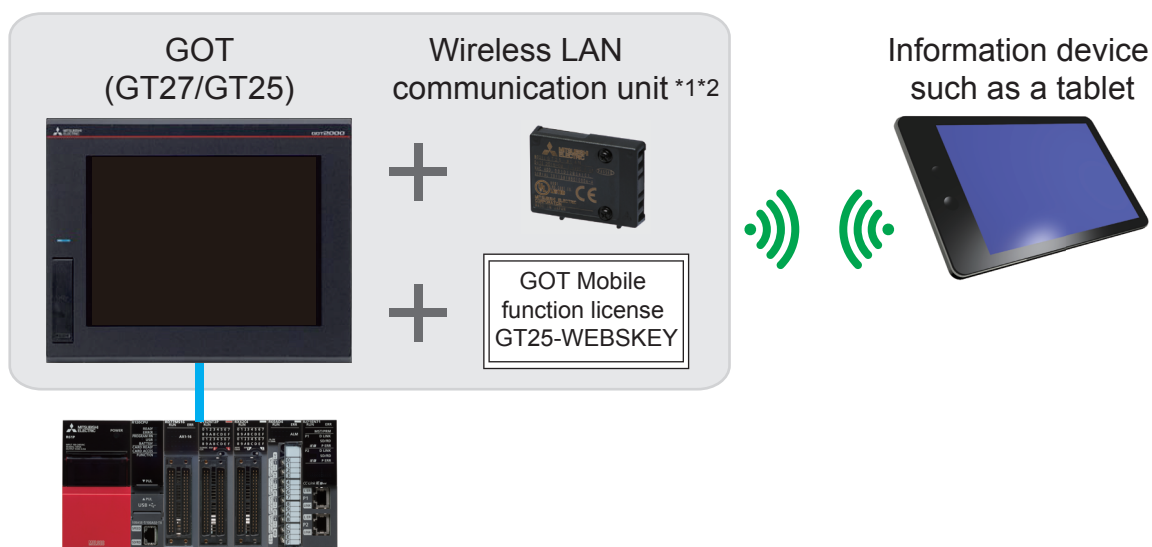| Equipment	IP Address	Subnet Mask
Wireless LAN communication unit	192.168.4.20	255.255.255.0
Tablet	192.168.4.21	255.255.255.0

*1   In this system, the wireless LAN communication unit is used as an access point.

*2   The wireless LAN communication unit can also be used as a station to configure a system that uses a wireless LAN access point separate from the GOT.

Preparing the Devices

Preparing the devices required for the GOT Mobile function

The following devices are required to use the GOT Mobile function with the GOT wireless LAN.

Wireless LAN communication unit (GT25-WLAN)

+

GOT2000 (GT27/GT25)

+

GOT Mobile function license GT25-WEBSKEY

Information device such as a tablet

USB cable (GT09-C30USB-5P)

GT Designer3 (GOT2000) Ver. 1.144A or higher
GT Designer3 (GOT2000) Help

Personal computer

Ethernet cable

Controller

Point

The information device, such as a tablet, must have a browser installed.

The browser must satisfy the following conditions.

- Google Chrome for Android (version 43 or later)
- Google Chrome for Windows (version 43 or later)
- Safari 8.0 or later

Refer to the following section for details on the operation environment of the information device, such as tablet.

➡ Appendix1 Operation environment of information device, such as tablet

Reference

Refer to the following section for details on installing GT Designer3 (GOT2000) and GT Designer3 (GOT2000) Help.

- GT Works3 Version1 Installation Procedure Manual (BCN-P5999-0065)

Refer to the following section for details on connecting the GOT and controllers.

- GOT2000 Series Connection Manual (Mitsubishi Products) For GT Works3 Version1 (SH081197ENG)

This manual explains how to access the GOT from a tablet using the GOT Mobile function and display the mobile screen.
Only the basic operations are covered in this manual. Refer to the following manuals for details on other functions and settings.

GT Designer3 (GOT2000) Help

1. Creating a new project

Start up GT Designer3 (GOT2000), and follow the wizard to complete the settings.
The setting details and setting values are listed below.

Setting screen or setting item	Setting contents	Setting value	Remarks
Selecting project	[New], [Open]	[New]	-
System settings	[Series]	GOT2000	-
	[Type]	GT27**-V(640×480)	Select GT27 or GT25.
	[Use the gesture function]	Selected	GT27 only
	[Standard Language]	[English]	-
	[Outline Font]	[Alphanumeric/Kana]: Selected	-
		[Kanji]: Selected	-
		[Hangul]: Not selected	-
Controller settings	[Manufacturer]	[MITSUBISHI]	Set according to the connected device.
	[Controller Type]	[MELSEC iQ-R, RnMT]	
	[I/F]	[Standard I/F (Ethernet): Multi]	-
	[Driver]	[Ethernet (MELSEC), Q17nNC, CRnD-700, Gateway]	-
	[Detail Setting]	Set according to the GOT and PLC connection configuration.	-
Screen switching	[Base Screen]	[GD100] (default value)	-

Check the details set with the wizard, and then click the [Finish] button.
The GT Designer3 (GOT2000) edit screen will open, and the base screen 1 will be created.

Using the GOT Mobile Function
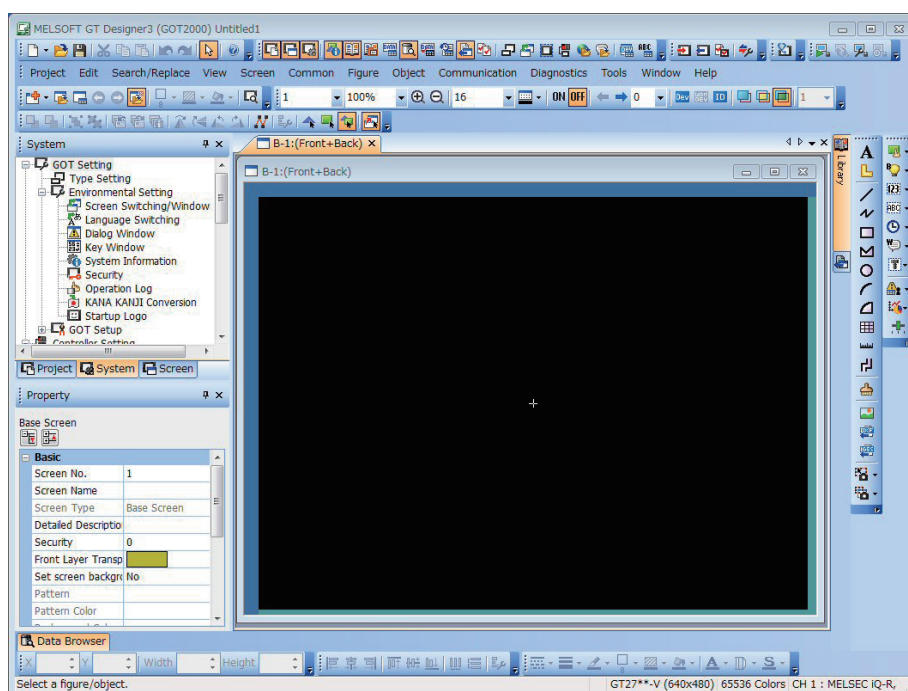
With the GOT Mobile function, the GOT acts as the server and the information device such as a tablet acts as a client.
The connected device can be monitored from the client via the server (GOT).

1. Enable the GOT Mobile function
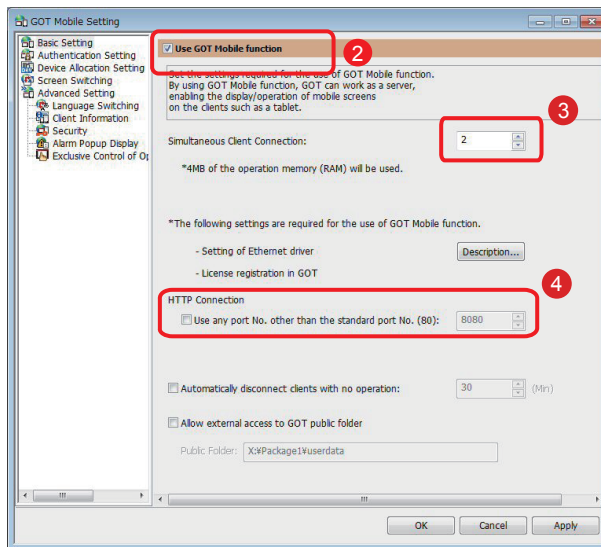
❶ Click [Common] → [GOT Mobile Setting].

❷ Select [Use GOT Mobile function].

❸ Set [Simultaneous Client Connection] to the default value [2].

❹ Do not check [Use any port No. other than the standard port No. (80)]. Use the port No. [80].

> **Hint**
> Simultaneous client connection
> Set the number of information devices (clients) such as tablets to connect.
> Up to five units can be set for one GOT.

2. Items to check before setting the authentication setting

(1) Check the GOT unit's CoreOS version.
Check that the GOT unit's CoreOS version is Version L or later.
For the procedure to check the version, refer to the following manual.

> **Reference** GOT2000 Series User's Manual (Utility) (SH-081195ENG)

(2) If the GOT unit's CoreOS version is not Version L or later
The CoreOS Version L or later must be written to the GOT using GT Designer3 Ver. 1.144A or later.
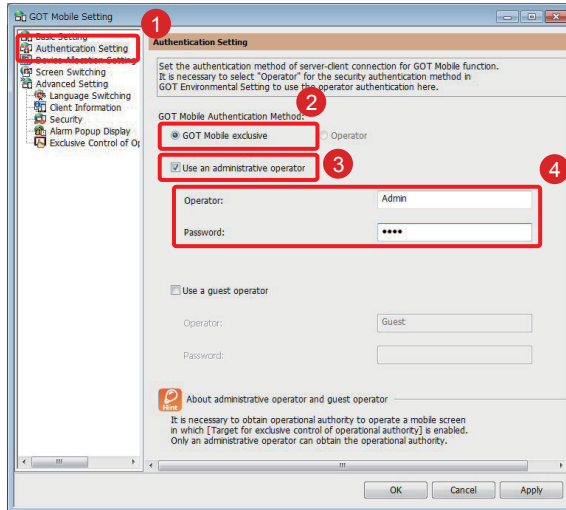For the CoreOS writing methods, refer to the following manual.

> **Reference** GT Designer3 (GOT2000) Help
> (To display a Help page corresponding to the operation status of GT Designer3, press [F1] key while operating GT Designer3.)

3. Set the authentication setting

Set the [Operator] and [Password] required when accessing the GOT from an information device, such as a tablet.

1 Click [Authentication Setting].

2 Confirm that [GOT Mobile exclusive] is selected.

3 Select [Use an administrative operator].

4 Input any characters for [Operator] and [Password]. In this example, input the following name and password.
[Operator]   : Admin
[Password]   : 1234

> **Hint**
> Administrative operator and guest operator
> Operation rights must be acquired before operating a mobile screen for which [Target for exclusive control of operational authority] is valid. An administrative operator can acquire the operation rights, but a guest operator cannot.

4. Set the device allocation setting

Assign GOT Mobile devices (VGD, VGB) that are used with mobile screens to GOT internal devices.
The GOT Mobile devices (VGB and VGD) are virtual devices usable for clients.
Multiple clients can be controlled individually since different GOT internal devices are assigned for each client.
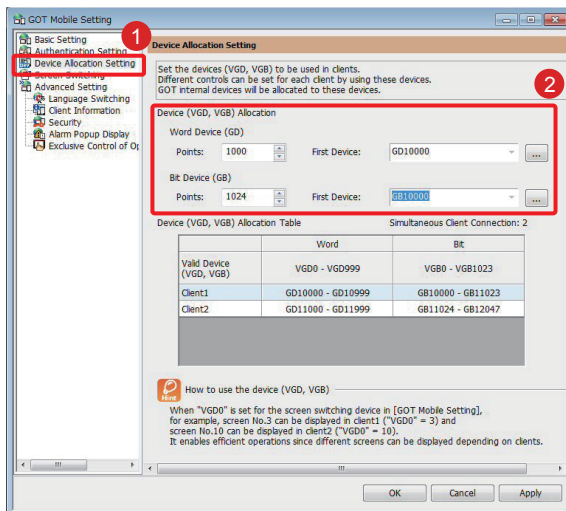
1 Click [Device Allocation Setting].

2 Set the [Device (VGD, VGB) Allocation].
Setting the [Word Device (GD)]
　　Points: 1000
　　First Device: GD10000
Setting the [Bit Device (GB)]
　　Points: 1024
　　First Device: GB10000
With this setting, the following relation is established between the devices (VGD, VGB) used with mobile screens and the GOT internal devices.

■Relation of GOT Mobile devices and GOT internal devices (for word device)

GOT Mobile device (VGD)	Client 1	Client 2
VGD0	GD10000	GD11000
VGD1	GD10001	GD11001
VGD2	GD10002	GD11002
VGD3	GD10003	GD11003
•	•	•
•	•	•
•	•	•
VGD999	GD10999	GD11999

Using the GOT Mobile Function STEP2 | 4

5. Setting a screen switching device

Set the screen switching device of mobile screens that are displayed on an information device such as a tablet.
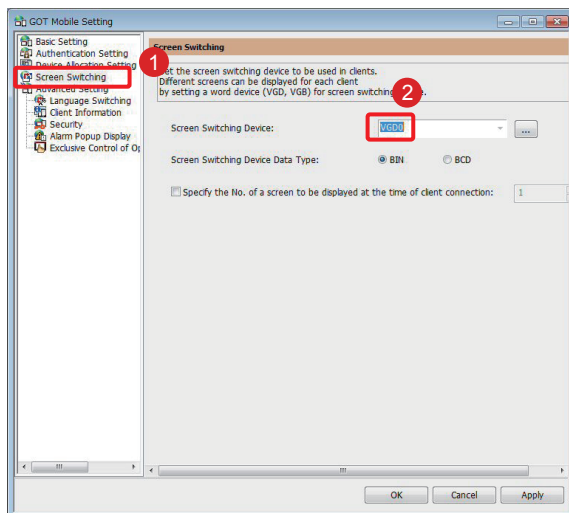
1 Click [Screen Switching].

2 Set [Screen Switching Device].
Use the default value [VGD0] in this example.

With these settings, an individual screen can be displayed for each client as shown below.

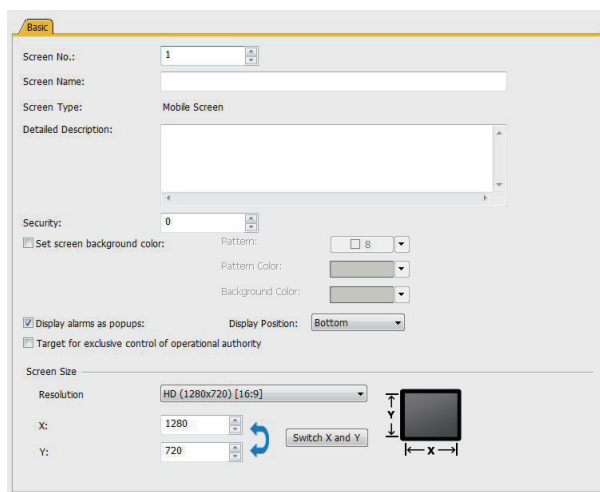| Screen switching GOT Mobile device (VGD)	Client 1	Client 2
VGD0	GD10000	GD11000

Point

Precautions for using GOT Mobile function
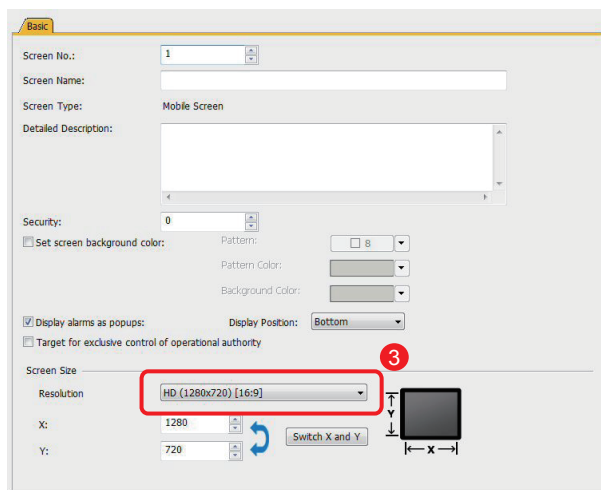Refer to the Technical Bulletin No. GOT-A-0090.

1. Creating a mobile screen

Create a mobile screen displayed on a browser of an information device such as a tablet.

1 Click [Screen] → [New] → [Mobile Screen].

**2** The [Screen Property] of the mobile screen will open.

3 Set [Screen Size] according to the size of the screen of the information device, such as tablet. Set the screen size by inputting the screen size, or by selecting the following screen size.
- [VGA (640x480) [4:3]]
- [SVGA (800x600) [4:3]]
- [XGA (1024x768) [4:3]]
- [QXGA (2048x1536) [4:3]]
- [WXGA (1280x800) [16:10]]
- [HD (1280x720) [16:9]]
- [FWXGA (1366x768) [16:9]]
- [Full HD (1920x1080) [16:9]]
- [iPhone4 (960x640) [-]]
- [iPhone5 (1136x640) [-]]
- [iPhone6 (1334x750) [-]]

In this example, select [Full HD (1920x1080) [16:9]].

Screen No. [M-1]
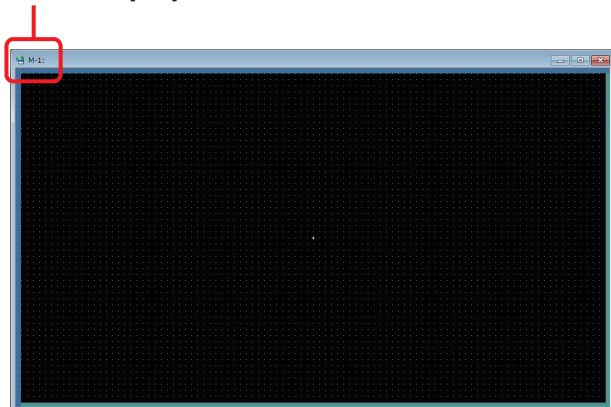
4 The screen number [M-1] mobile screen has been prepared.

The mobile screens are created in the same manner as the base screen.
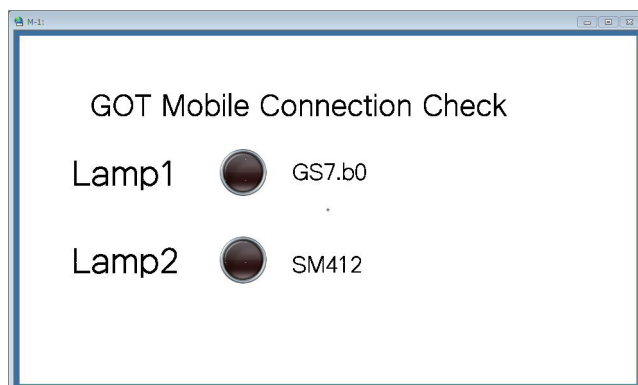
For details on creating the screen, refer to the following manual.

Mitsubishi Graphic Operation Terminal GOT2000 Series Quick Start Guide (L(NA) 08311ENG)

GT Designer3 (GOT2000) Help

GOT Mobile Connection Check

Lamp1   ●   GS7.b0

Lamp2   ●   SM412

5 In this example, create the mobile screen shown on the left.

There are restrictions to the objects and functions created on the mobile screen. For details, refer to the following.

➠ Appendix2 Functions, images and objects usable with mobile screen

     Appendix3 Mobile screen object sizes and layout

> **Hint** The mobile screen has a higher resolution than the base screen, so it may be difficult to see the entire mobile screen. It is recommended to select a screen scale of 50% using the [Zoom out] button.

Lamp name	Device No.	Device operation
Lamp1	GS7.b0	This is the GOT's binary counter. Turns ON/OFF at a 1-second cycle.
Lamp2	SM412	This is the PLC's system clock. Turns ON/OFF at a 1-second cycle.

1. Set the IP address of the wireless LAN communication unit

Mount a wireless LAN communication unit on the GOT to connect the GOT to an information device, such as a tablet. Set the IP address of the connected wireless LAN communication unit.
Click [Common] → [GOT Setup] → [Advanced Setting] → [Wireless LAN Setting].
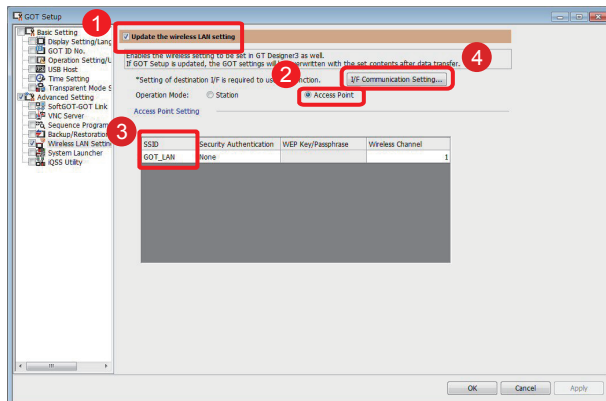
① Select [Update the wireless LAN setting].

② Select [Access Point] to use the wireless LAN communication unit as an access point.

③ Input an arbitrary name in [SSID].
This name will be the name of the wireless LAN network controlled by GOT.
Input [GOT_LAN] in this example.

④ Click [I/F Communication Setting].
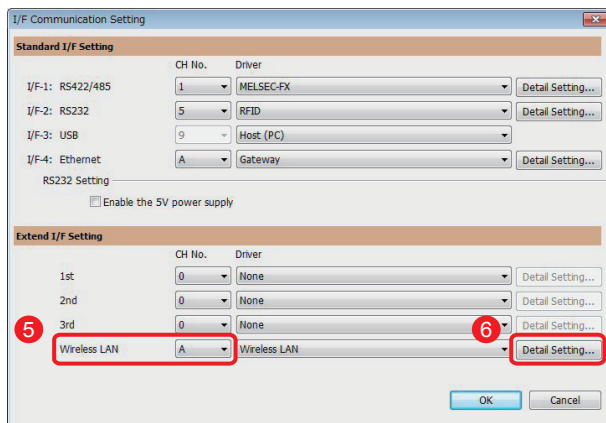
⑤ Set the [Wireless LAN] [CHNo.] to [A].

⑥ Click [Detail Setting].

⑦ Set the IP address of the wireless LAN communication unit. Click [GOT Wireless LAN I/F Setting].

8 Use the default value [192.168.4.20] for the [GOT IP Address].
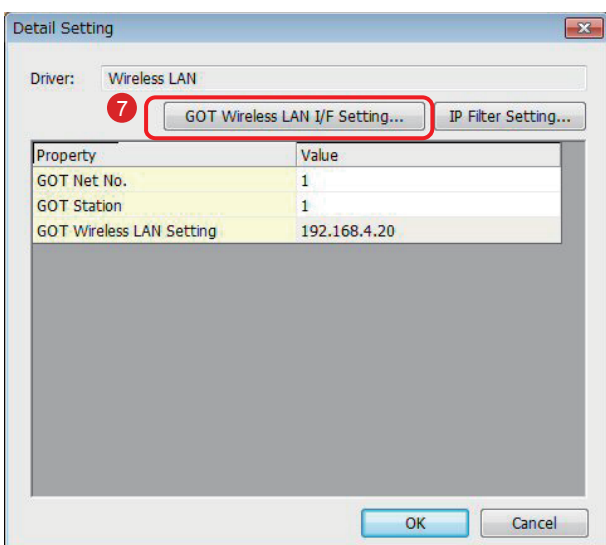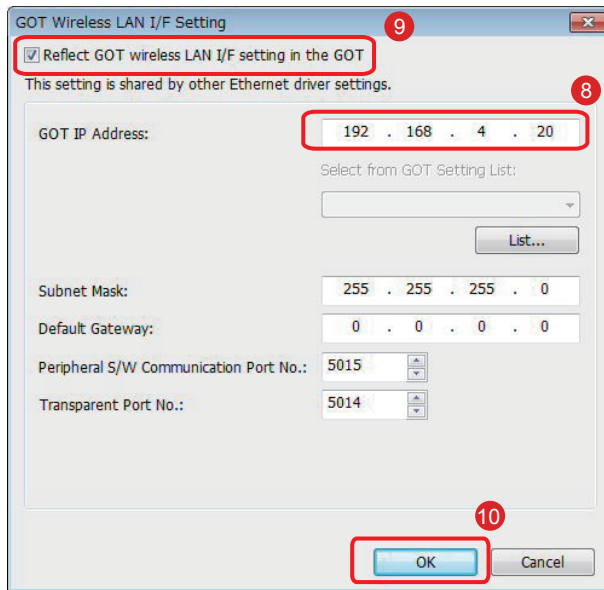
9 Select [Reflect GOT wireless LAN I/F setting in the GOT].

10 Click the [OK].

Hint Number of connected information devices, such as tablets
If the wireless LAN communication unit is set as an access point, up to five information devices, such as tablets, can be connected simultaneously to one GOT.

Hint Wireless LAN security authentication
This manual explains only the basic usage methods, so the security authentication method is not set.
When the security authentication method is not used, anyone can access the GOT. Setting the security authentication method is recommended when using the wireless LAN function.

Mount the wireless LAN communication unit into the GOT unit.
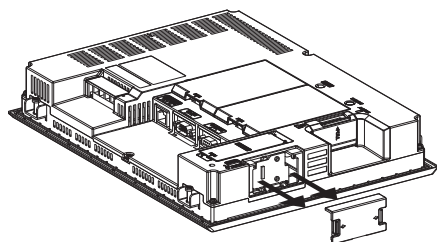
❶ Turn OFF the GOT power.
Remove the side interface cover from the GOT.
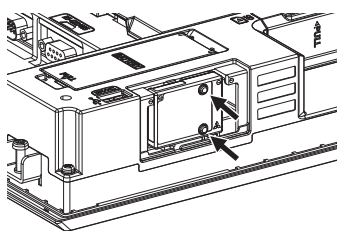
❷ Align the positioning projection on the wireless LAN communication unit with the positioning groove on the GOT, and mount into the connector.
Tighten the two mounting screws provided on the wireless LAN communication unit with a No.1 Phillips screwdriver to a torque of 0.10 N•m to 0.14 N•m.
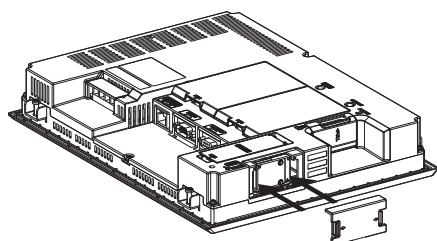
❸ Mount the side interface cover onto the GOT.

For details on the wireless LAN communication unit, refer to the following manual.
GOT2000 Series Wireless LAN Communication Unit User's Manual (IB-0800522)

7

Using the GOT Mobile Function STEP5

1. Connecting the personal computer to the GOT

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

Personal computer

USB cable
(GT09-C30USB-5P)

GOT

Connect to a
USB interface

Open the front cover and
connect the cable to the
USB interface.
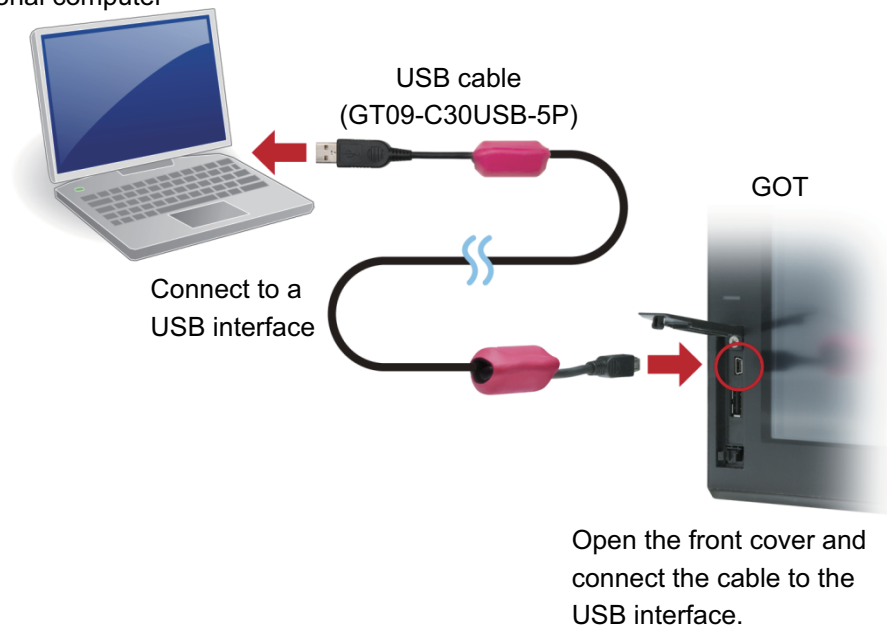
*   The USB driver must be installed to enable USB communication with the GOT.
   The USB driver is automatically installed in the personal computer at the first connection.
   Data can also be transferred with connection methods other than a USB cable or by using an SD memory card.

Reference   Refer to the GT Designer3 (GOT2000) Help for details on connection methods other than a USB cable and for transferring data by using an SD memory card.

2. Communication setting

Set the personal computer and GOT for communication. Turn on the GOT power before starting the settings.
Click [Communication] → [Write to GOT].
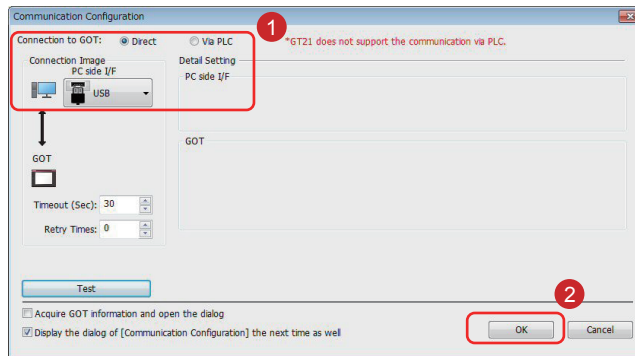
1 Confirm that the settings are as shown below.
Connection to GOT   : Direct
PC side I/F   : USB

2 Click the [OK] button.

Hint

[Test] button

Click the [Test] button, and confirm that the personal computer and GOT communicate correctly.

3. Transferring project data

Transfer the project data from the personal computer to the GOT.
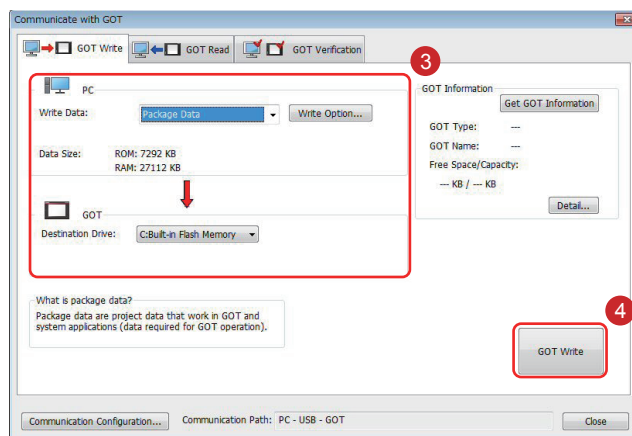
3 Confirm that the settings are as shown below.
Write data   : Package Data
Destination Drive   : C: Built-in Flash
                          Memory

4 Click the [GOT Write] button.
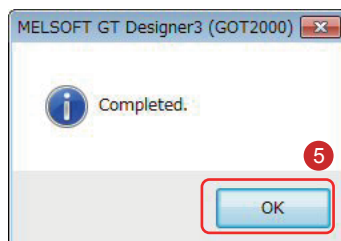
5 A dialog will appear when the writing is completed.
Click the [OK] button.

Register the GOT Mobile function license number required for using the GOT Mobile function in the GOT unit.

Utility call key
Touch point at upper left corner

1 Hold down the point at the upper left corner of the GOT screen for 2 seconds or more.
(The touch position and touch length can be changed from the GOT Setup screen.)

2 Touch [Ext. func. set] → [License management].

3 At [GOT Mobile function] → [License number], input the number given on the license certificate for the GOT Mobile function and touch the [Regist] button.

Hint Trial period

If the license number is not registered, the following message will appear on the tablet's mobile screen and display of the mobile screen in this state will be limited to 30 minutes. When the GOT is restarted, the screen can be displayed in the trial state again.
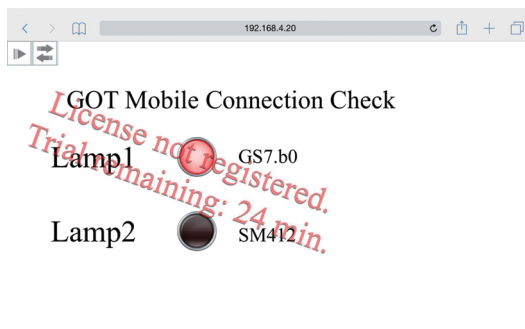
Hint When [GOT Mobile Function] does not appear

Check the settings in STEP 2.

9 Using the GOT Mobile Function STEP7

1. Setting the tablet's Wi-Fi
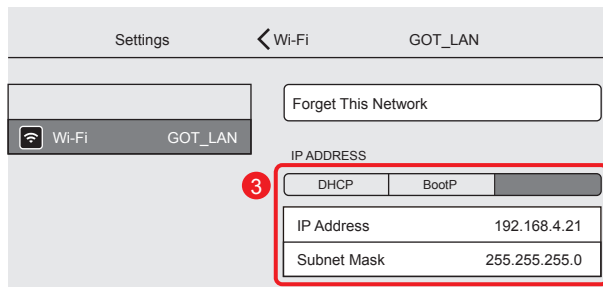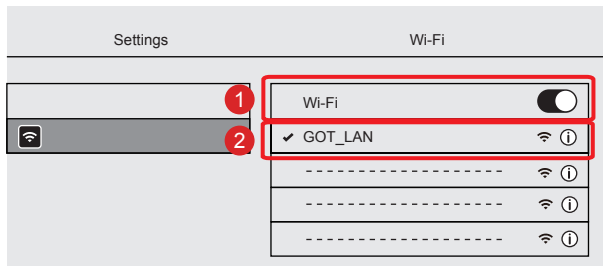
1 Activate the tablet's Wi-Fi.

2 Confirm that the network name [GOT_LAN] set in STEP 4 is displayed in the network names of the tablet's Wi-Fi settings and tap [GOT_LAN]. If [GOT_LAN] is not displayed in the network names, check the STEP 4 settings.

3 Set the IP address and the subnet mask.
   IP address[*1]   : 192.168.4.21
   Subnet Mask   : 255.255.255.0
   *1 Make sure that the IP address is not duplicated with the [GOT Wireless LAN Setting] IP address set in STEP 4.

2. Accessing GOT from the tablet
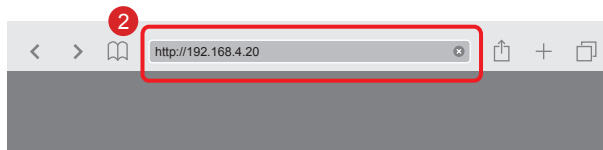
1 Open the tablet's browser.

2 Enter the following URL in the browser's address bar.

$$http://192.168.4.20$$

[GOT Wireless LAN Setting]
IP address set in STEP 4

Hint If the Login screen does not appear, check the STEP 2 and STEP 4 settings.
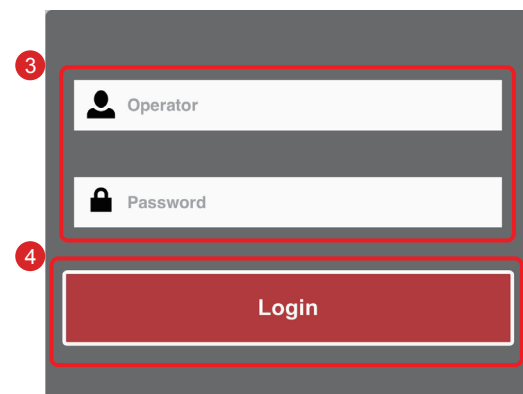
3 Input the following values for [Operator] and [Password].
   [Operator][*1]   : Admin
   [Password][*1]   : 1234
   *1 Input the information set in STEP 2.

4 Tap [Login].

10

Using the GOT Mobile Function STEP8
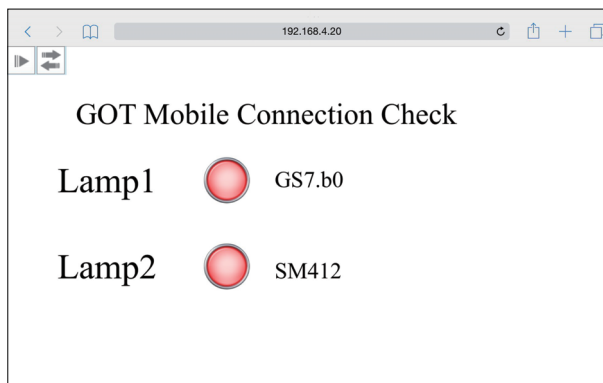
⑤ The mobile screen will appear.
The mobile screens can be operated in the same manner as the GOT screens.

3. Operation menu bar on the mobile screen

When the arrow [▶] at the upper left of the mobile screen is tapped, the operation menu used for adjusting the display will open.

(1)　(2)　(3)　　　　(4)　(5)
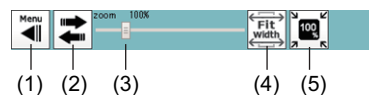
(1)　Expand/collapse button
Expands or collapses the operation menu bar.
On a tablet or smartphone, you can scroll the screen by a swipe or flick operation.

> 🔍 **Point**　Screen operations
> The screen cannot be operated (switches turned ON/OFF, values input, etc.) while the
> operation menu is displayed. Tap [Menu ◀], and minimize the operation menu.

(2)　Button to move the operation menu bar
Moves the operation menu bar from side to side.

(3)　Zoom slider
Zooms in or out the mobile screen display.
Move the slider control to the right to zoom in the display, and move the slider control to the left to zoom out the display.
The setting range is 10 to 500%.

(4)　[Fit Width] button
Adjusts the mobile screen display to fit on the width of the browser window.

(5)　[100%] button
Displays the mobile screen display at its original magnification (100%).

4. Useful functions

(1) Hyperlink function
This object is dedicated for the mobile screen. The following operation can be set.

(a) Opening a website
You can access a website by specifying the URL.
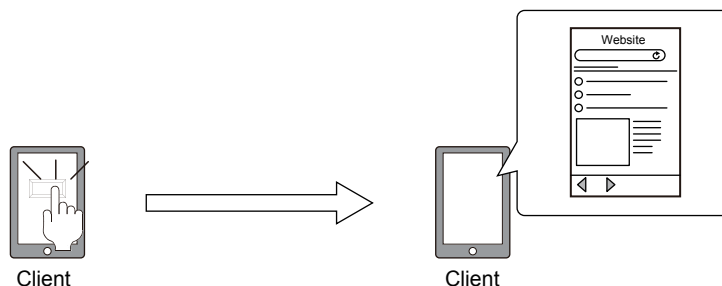
For the setting method, refer to the following manual.

 GT Designer3 (GOT2000) Help

(b) Opening a file in the public folder
You can access or download a file in the GOT public folder through a browser.
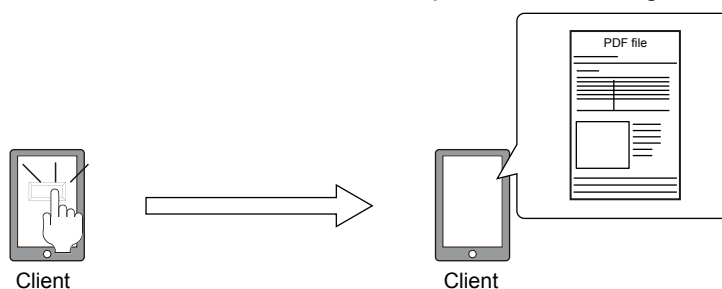
For the setting method, refer to the following manual.

 GT Designer3 (GOT2000) Help

(c) Making a phone call
The specified phone number can be called only when the information device in use is equipped with a telephone function.
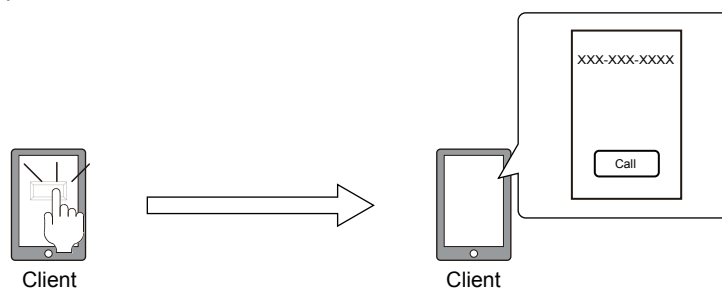
For the setting method, refer to the following manual.

 GT Designer3 (GOT2000) Help

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Using the GOT Mobile Function STEP8

(2) Exclusive control of operational authority
This prevents simultaneous operation from several information devices, such as tablets, and the GOT.
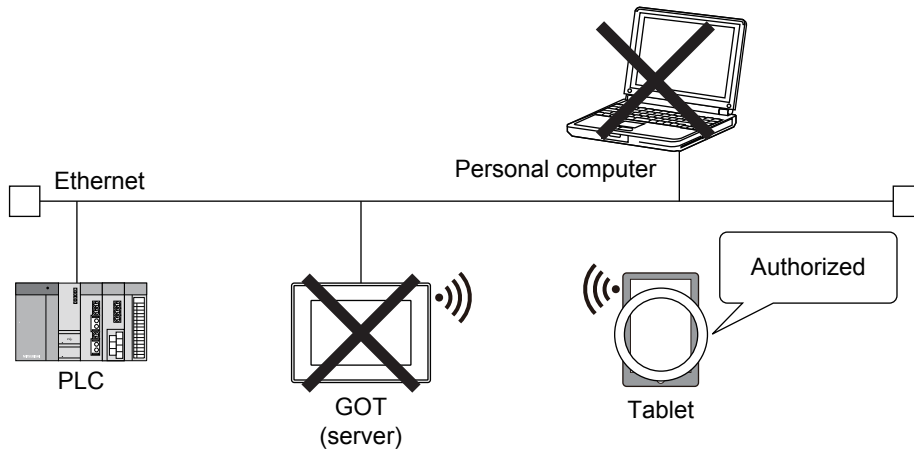
For the setting method, refer to the following manual.

 GT Designer3 (GOT2000) Help

(3) Public folder
Files (various manuals, work instructions, etc.) stored in the GOT can be viewed from an information device, such as a tablet. Note that the files in the public folder can be accessed without authentication. Once the device is connected to the GOT by Ethernet, anyone can obtain the files in the public folder. Therefore, do not store your important data in the folder. For the setting method, refer to the following manual.

 GT Designer3 (GOT2000) Help

Precautions

1. User memory area required for each client
   2 MB of user memory area is required for each client that is connected.
   Consider the available space in the user memory area when setting [Simultaneous Client Connection].

2. Mobile screen size
   To determine the mobile screen size, consider the screen resolution and OS of the information device, and the browser characteristics.
   If you set the mobile screen size the same as the resolution of the information device, a portion of the screen may not be displayed depending on the location of the OS status bar, browser tabs, or other conditions.

3. Mobile screen switching device
   When you use multiple clients simultaneously, specify a GOT Mobile device as the mobile screen switching device.
   If any device other than GOT Mobile devices is specified as the screen switching device, all clients display the same screen upon screen switching.

4. Values of the GOT Mobile devices at the start of accessing the GOT
   When a client starts accessing the GOT or becomes disconnected from the GOT, the values of the GOT Mobile devices (the assigned GOT internal devices) are not cleared automatically.
   (The values stored before the access are retained.)
   Configure the settings so that the values of the GOT mobile devices (VGB and VGD) are cleared when a client starts accessing the GOT or becomes disconnected from the GOT.
   Note that client numbers are assigned to clients in the order in which the clients access to the GOT. When a client accesses the GOT for a second time, the GOT internal devices assigned for the client may differ if the client number of the client is changed.
   Therefore, the GOT Mobile devices may store different values at the second connection.

5. Placing an object in the location of the operation menu bar on a mobile screen
   When you place an object, make sure that the object and the operation menu bar do not overlap each other.
   Otherwise, the object is hidden under the menu bar and you cannot touch the object.

6. Data size of the project containing a BMP image
   When the GOT Mobile function is enabled, if a BMP image is used in a mobile screen or is registered as a part, the image is automatically converted to the PNG format and saved as a new file.
   (Even if you do not use the BMP image registered as a part in a mobile screen, the image is converted to the PNG format and saved as a new file.)
   Since the project contains both the BMP image and the PNG image, the project size becomes larger.

7. Using the GOT Mobile devices (VGB and VGD) for the GOT
   Use the GOT Mobile devices (VGB and VGD) in the following settings only.
   • Setting for an object on a mobile screen
   • Setting in the [GOT Mobile Setting] window
   • Setting in the [Alarm Popup Display (GOT Mobile Setting)] dialog
   If you set the GOT Mobile devices for objects on screens other than mobile screens and for functions configured in the project, these objects and functions do not operate properly.

8. Precautions for the license
   When you incorporate the GOT into your product, if the GOT Mobile function is enabled in the GOT, make sure to register the license to the GOT.
   If the license is unregistered, the GOT Mobile function is usable for 30 minutes only.
   Upon the lapse of a cumulative amount of 30 minutes, the GOT forcibly disconnects the client.
   The disconnection is performed even while you are operating the client. Therefore, the target controller may exhibit unintended behavior.

9. Using the browser's [Back], [Forward], and [Refresh] buttons
   Do not use the browser's [Back], [Forward] or [Refresh] buttons while the mobile screen is displayed.
   The connection with the GOT will be cut off, and the screen will return to the Login screen.

10. Browser's Zoom In/Zoom Out display
    Do not enlarge or reduce the browser. Doing so may cause an unintended display.

11. GOT Mobile device information indicated by the system alarm
    If a system alarm occurs in the process using GOT Mobile device data, the system alarm indicates the relevant GOT Mobile device as supplementary information.
    The GOT internal device assigned to the GOT Mobile device is not indicated.

12. Displaying the mobile screens in multiple languages
    The display language of the mobile screens depends on the client OS.
    To display the mobile screens in multiple languages, check that the client OS supports relevant languages.

13. Long time use of the browser
    If you use a browser for a long time, the connection with the GOT may be disconnected depending on the browser.
    In such a case, perform authentication again to connect to the GOT.

Appendix1 Operation environment of information device, such as tablet

1. Operation environment of information device, such as tablet

Item		Description
OS	Tablet, smartphone	Android 4.0 or later iOS 8 or later
	Personal computer	• Microsoft Windows 8.1 • Microsoft Windows 8 • Microsoft Windows 7 Service Pack 1 or later
Browser	Tablet, smartphone	Browser that supports HTML5, CSS3, JavaScript, and WebSocket Protocol (RFC 6455) The following shows the recommended browsers.[1] • Google Chrome for Android (version 43 or later) • Safari 8.0 or later
	Personal computer	Browser that supports HTML5, CSS3, JavaScript, and WebSocket Protocol (RFC 6455) The following shows the recommended browsers.[1][2] • Google Chrome for Windows (version 43 or later)
Others		Network environment

[1]　Make sure to validate the operations of your browser.
[2]　Internet Explorer is not supported.

Point Precautions for using GOT Mobile function
Refer to the Technical Bulletin No. GOT-A-0090.

The functions, images and objects usable with the mobile screen are explained below.
Images and objects that cannot be used with the mobile screen are displayed in gray on the GT Designer3 menu, and cannot be arranged on the mobile screen.
When copying images and objects arranged on the base screen onto the mobile screen, they will not be copied if they cannot be used on the mobile screen.
For details, refer to the following manual.

Reference GT Designer3 (GOT2000) Help

1. Usable functions

The functions usable with the mobile screen are listed below.

(1) Common functions

○: Available, ×: Not available

Function	Availability	Remarks
System font display	×	• The standard font of each client is used.
Option font display	×	-
Superimposition of objects	○	-
Base screen display	○	• A mobile screen is used as a base screen on a client.
Overlap window display	×	-
Superimpose window display	×	-
Key window display	○	• The standard key window for mobile screens is used.
Screen switching	○	• The screen switching setting for mobile screens is used.
Station No. switching	×	• The GOT monitoring target cannot be switched for each mobile screen independently. Although the station No. switching can be performed on a client, the change is applied to all the clients.
Buffer memory unit No. switching	×	• The GOT monitoring target cannot be switched for each mobile screen independently. Although the buffer memory unit No. switching can be performed on a client, the change is applied to all the clients.
Language switching	○	• The language switching setting for mobile screens is used.
System information	○	• The GOT system information can be used on a client.
Security authentication	○	-
Alarm observation	○	• The operation results of the function on the GOT can be used on a client.
Alarm popup display	○	• The alarm popup display setting for mobile screens is used.
Trigger action (project)	○	• The operation results of the function on the GOT can be used on a client.
Trigger action (screen)	×	• The operation results of the trigger action (screen) on the GOT can be used on a client.
Time action	○	• The operation results of the function on the GOT can be used on a client.
Hard copy function	×	-
Comment	○	-
Figure	○	➡ 2. Figures that can be placed
Object	○	➡ 3. Objects that can be placed
GOT internal device	○	• The GOT internal devices can be used for clients through the GOT Mobile devices (VGB and VGD). • The GOT internal devices (GB and GD) can also be specified for clients without using the GOT Mobile devices (VGB and VGD).
Move the cursor	×	-
Operation log	○	• The operation results of the function on the GOT can be used on a client.
Logging	○	
Recipe	○	
Project script	○	

Function	Availability	Remarks
Screen script	×	• No screen script is settable for a mobile screen. However, script operating results on the GOT can be used on a client.
Object script	×	• No object script is settable for an object on a mobile screen. However, script operating results on the GOT can be used on a client.
Multi-channel connection	×	-
Vertical display	○	• The size of a mobile screen is settable in the screen property.

(2) Utility function
   The utility function cannot be used.

(3) Extended functions
   The following extended functions are usable.
   • GOT network interaction
   • Operator authentication

2. Figures that can be placed

The figures that can be arranged on the mobile screen are shown below.

○: Available, ×: Not available

Figure	Availability	Restrictions
Text	○	• [Font], [Direction], and [KANJI Region] are not settable.
Logo text	○	-
Line	○	• The [Lamp Feature] and [Trigger] tabs are not settable.
Line freeform	○	
Rectangle	○	
Polygon	○	
Circle	○	
Arc, sector	○	-
Table	○	-
Scale	○	-
Piping	○	• The [Lamp Feature] and [Trigger] tabs are not settable. • [Layer] is not settable.
Paint	×	-
Import image data	○	-
Import DXF data	○	-
Import IGES data	○	-

3. Objects that can be placed

The following shows the objects that can be placed on mobile screens.

○: Available, ×: Not available

Object		Availability	Restrictions
Touch switch	Switch	○	• In [Action List] of the [Action] tab, [Station No. Switching] and [Key Window Display] are not selectable. • In the [Style] tab, [Reverse switch area] is not settable. • In the [Text] tab, [Font] is not settable. • The [Script] tab is not settable. • In the [Extended] tab, [Buzzer], [KANJI Region], and [Layer] are not settable.
	Bit switch	○	• In the [Text] tab, [Font] is not settable. • In the [Extended] tab, [KANJI Region] and [Layer] are not settable.
	Word switch	○	
	Special function switch	○	• In the [Action] tab, items other than the following ones are not selectable for [Action]. [Password (Security Level)] [Login/Logout (Operator Authentication)] [Password Change (Operator Authentication)] • In the [Text] tab, [Font] is not settable. • In the [Extended] tab, [Buzzer], [KANJI Region], and [Layer] are not settable.
	Go to screen switch	○	• In the [Next Station] tab, [Screen Type] is fixed to [Mobile]. • In the [Text] tab, [Font] is not settable. • In the [Extended] tab, [Buzzer], [KANJI Region], and [Layer] are not settable.
	Change station No. switch	×	-
	Key window display switch	×	-
	Key code switch	○	• In the [Key Code] tab, items other than the following ones are not selectable for [Key Code Type]. [Numerical/Text Input] [Alarm] [Historical Trend Graph/Historical Data List] • In the [Text] tab, [Font] is not settable. • In the [Extended] tab, [Buzzer], [KANJI Region], and [Layer] are not settable.
Lamp	Bit lamp	○	• In the [Text] tab, [Font] is not settable. • In the [Extended] tab, [KANJI Region] and [Layer] are not settable. • The [Script] tab is not settable.
	Word lamp	○	• In the [Text] tab, [Font] is not settable. • In the [Extended] tab, [KANJI Region] and [Layer] are not settable. • The [Operation] tab is displayed instead of the [Operation/Script] tab. The object script settings are not available.
	Lamp area	×	-
Numerical display		○	• In the [Device] tab, [Font] is not settable. • In the [Extended] tab, [Display Mode], [KANJI Region], and [Layer] are not settable. • The [Operation] tab is displayed instead of the [Operation/Script] tab. The object script settings are not available.
Numerical input		○	• In the [Device] tab, [Font] is not settable. • In the [Extended] tab, the following items are not settable. [Display Mode], [Move Destination ID], [Display input value on destination object location], [Input data using Bar Code/RFID], [KANJI Region], and [Layer] • The [Operation] tab is displayed instead of the [Operation/Script] tab. The object script settings are not available.
Text display		○	• In the [Device/Style] tab, [Font] and [Reverse] are not settable. • In the [Extended] tab, [Display Mode], [KANJI Region], and [Layer] are not settable. • The [Operation] tab is displayed instead of the [Operation/Script] tab. The object script settings are not available.

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Appendices

Object		Availability	Restrictions
Text input		○	• In the [Device/Style] tab, [Font] and [Reverse] are not settable. • In the [Extended] tab, the following items are not settable. 　[Display Mode], [Move Destination ID], [Display input value on destination object location], [KANA KANJI Conversion], [Input data using Bar Code/RFID], [KANJI Region], and [Layer] • The [Operation] tab is displayed instead of the [Operation/Script] tab. 　The object script settings are not available.
Date/Time display		×	-
Comment display	Bit comment	○	• In the [Comment] tab, [Font] and [Reverse] are not settable. • In the [Extended] tab, [Display Mode], [KANJI Region], and [Layer] are not settable.
	Word comment	○	
	Simple comment	○	• [Font], [Reverse], and [Layer] are not settable.
Parts display		×	-
Parts movement		×	-
Historical data list display		×	-
Alarm display (user)		○	• In the [Alarm Setting] tab, [Operation] is not selectable for [Touch Mode]. • In the [Text] tab, [Font] and [KANJI Region] are not settable. • In the [Style] tab, [Text color on cursor display] is not settable. • In the [Extended] tab, [Layer] is not settable.
Alarm display (system)		○	
Simple alarm display		×	-
System alarm display		○	• [Font] and [Layer] are not settable.
Panel meter display		×	-
Historical trend graph		○	• In the [Style] tab, [Font] is not settable. • In the [Extended] tab, [Layer] is not settable. • The [Operation] tab is displayed instead of the [Operation/Script] tab. 　The object script settings are not available.
Line graph		×	-
Trend graph		×	-
Bar graph		×	-
Scatter graph		×	-
Statistics graph		×	-
Level display		×	-
Slider		×	-
Video/RGB display object		×	-
Set overlay screen		○	• In the [Set Overlay Screen] window, only mobile screens are listed in the [Screen Selection] tree. • In the [Number Specification] window, [Screen Type] is fixed to [Mobile Screen].
Window position		×	-
Key window object		×	-
Hyperlink		○	-

Objects (switches, lamps, etc.) created with the mobile screen must have a sufficient operability and recognizability with the browser of the information device, such as a tablet.
The guidelines shown below should be taken into consideration when creating objects with the mobile screen.
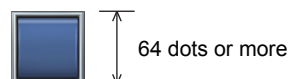
1. Button size, lamp size, key pitch, text size

The optimum size may differ depending on the model of information device, such as tablet.

(1) Button size (touchable object)

88 dots or more

Screen size: 2048 x 1536 dots

64 dots or more

Screen size: 640 x 1136 dots

(2) Lamp size

28 dots or more
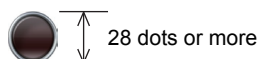
Screen size: 2048 x 1536 dots
Screen size: 640 x 1136 dots

(3) Key pitch (distance between centers of buttons)

115 dots or more

88 dots or more
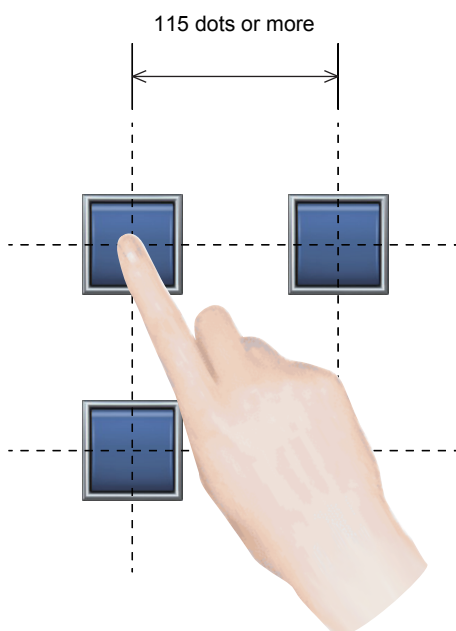
Screen size: 2048 x 1536 dots
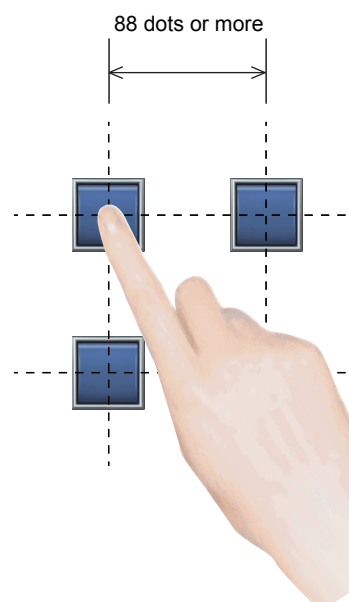
Screen size: 640 x 1136 dots

(4) Text size
Select from the following four types.
•Standard size . . . . .32 dots
•Title . . . . .48 dots (Screen size: 2048 x 1536 dots)
　　　　　　　　　　　　　　　　　　　　　　36 dots (Screen size: 640 x 1136 dots)
•Icon with main menu name, etc. . . . . . . .28 dots
•Numerical notation in graph, etc. . . . . .24 dots

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Appendices

2. Arranging objects using grid display

The following example shows the case to set the switch size to 64 dots and the key pitch to 88 dots or more when using the 640 x 1136-dot screen size.

1 Set the [Grid Pitch] vertical and horizontal settings both to [64].

2 Adjust the size of the switch so it fits into the grid.

3 Leave one grid open, and arrange the switches.
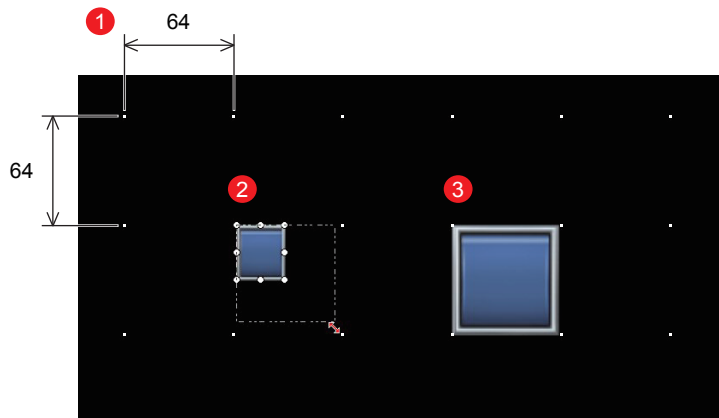
For details on setting the [Grid Pitch], refer to the following manual.

GT Designer3 (GOT2000) Help

3. Arranging objects (switches, lamps, etc.) and figures

The operation menu to adjust the display is shown in the browser of the information device, such as a tablet.
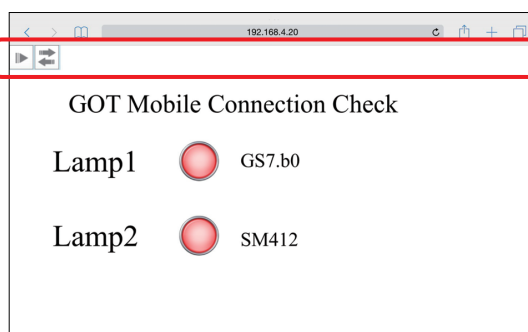
It is recommended to provide a blank space at the top of the mobile screen and arrange objects (switches, lamps, etc.) and figures under the blank space.
Use the following example as a guide for the blank space.

Screen size: 2048 x 1536 dots   Screen size: 640 x 1136 dots
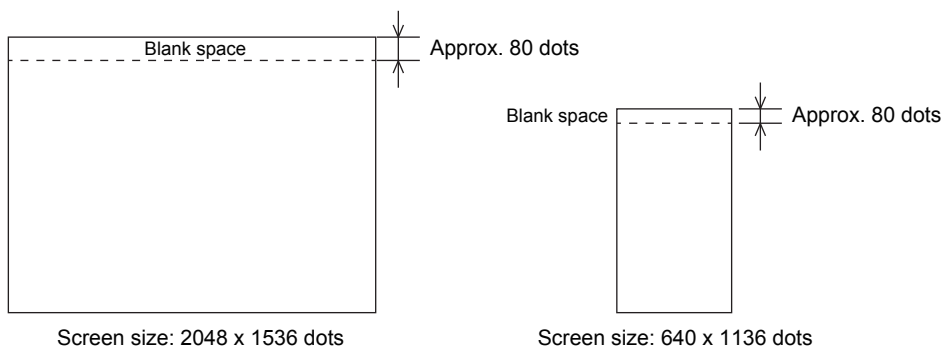
The required blank space may differ according to the type of information device, such as tablet.

The difference between the GOT Mobile function and VNC server function is explained below.

Item	GOT Mobile function	VNC server function
Simultaneous client connection	○ Available (up to 5)	× Not available
Switching of independent screens for each terminal	○ Available	× Not available
Browsing application	○ Web browser (Google Chrome, Safari)	△ VNC Viewer application (free software)
Authorization management control (exclusive control)	○ (Exclusive control is possible for each screen)	○ (Exclusive control between GOT and client)
Screen display	△ Some functions differ from the GOT screen	○ Equivalent to GOT
Various monitor functions (ladder monitor, etc.)	× Not available	○ Equivalent to GOT

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Appendices

GOT2000 Series related manuals

Manual name	Included/Sold Separately	Manual number
GOT2000 Series User's Manual (Hardware)	Included in DVD-ROM	SH-081194ENG
GOT2000 Series User's Manual (Utility)	Included in DVD-ROM	SH-081195ENG
GOT2000 Series User's Manual (Monitor)	Included in DVD-ROM	SH-081196ENG
GOT2000 Series Connection Manual (Mitsubishi Products) For GT Works3 Version1	Included in DVD-ROM	SH-081197ENG
GT Designer3 (GOT2000) Screen Design Manual	Included in DVD-ROM	SH-081220ENG

* The above manual (PDF) can be installed together with the screen design software.

The actual color may differ slightly from the pictures in this catalog.
The actual display may differ from what are shown on GOT screen images.

Precautions before use

This publication explains the typical features and functions of the products herein and does not provide restrictions or other information related to usage and module combinations. Before using the products, always read the product user manuals. Mitsubishi Electric will not be held liable for damage caused by factors found not to be the cause of Mitsubishi Electric; opportunity loss or lost profits caused by faults in Mitsubishi Electric products; damage, secondary damage, or accident compensation, whether foreseeable or not, caused by special factors; damage to products other than Mitsubishi Electric products; or any other duties.

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Mitsubishi Graphic Operation Terminal
GOT2000 Series GOT Mobile Function Quick Start Guide

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ISO 14001 JACO EC97J1113 051 — UKAS MANAGEMENT SYSTEMS

ISO 9001 BUREAU VERITAS Certification — BUREAU VERITAS 1828 — UKAS MANAGEMENT SYSTEMS 008
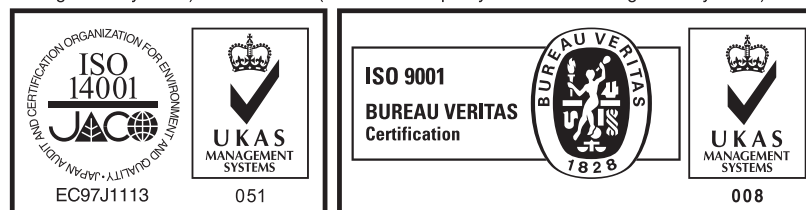
The release date varies depending on the product and your region. For details, please contact your local sales office.

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