

Mitsubishi Inverter
FR-E800 Series

Sample Screen Manual

Mitsubishi Electric Corporation

Using the Samples

The sample screen data and files such as the instruction manual can be used upon agreement to the following matters.

- (1) This data is available for use by customers currently using or considering use of Mitsubishi products.
- (2) The intellectual property rights of the files provided by Mitsubishi (hereinafter referred to as the "Files") belong to Mitsubishi.
- (3) Alteration, reproduction, transfer, or sales of the Files is prohibited.
This does not apply when the content, in part or full, is used for Mitsubishi products incorporated in a device or system created by the customer. Furthermore, this does not apply to the transfer, reproduction, reference, or change of layout in the specifications, designs, or instruction manuals of built-in products prepared by the customer using Mitsubishi products.
- (4) Mitsubishi will not be held liable for any damages resulting from the use of the Files or the data extracted from the Files. The customer is responsible for all use.
- (5) If any usage conditions are appended to the Files, those conditions must be observed.
- (6) The Files may be deleted or the contents changed without prior notice.
- (7) When using the Files, please always read the corresponding manuals and related manuals indicated therein. Please pay special attention to safety, and correctly handle the product.

■Reference document

Manual	Control No.	Revised
INVERTER FR-E800 Instruction Manual (Function)	IB(NA)-0600868ENG-A	Dec. 2019
INVERTER FR-E800 Instruction Manual (Communication)	IB(NA)-0600871ENG-A	Dec. 2019
INVERTER FR-E800 Instruction Manual (Maintenance)	IB(NA)-0600874ENG-A	Dec. 2019
三菱電機汎用インバータ E800 取扱説明書(機能編)	IB(名)-0600867-A	Dec. 2019
三菱電機汎用インバータ E800 取扱説明書(通信編)	IB(名)-0600870-A	Dec. 2019
三菱電機汎用インバータ E800 取扱説明書(保守編)	IB(名)-0600873-A	Dec. 2019
三菱电机通用变频器 E800 使用手册 (功能篇)	IB(NA)-0600869CHN-A	Dec. 2019
三菱电机通用变频器 E800 使用手册 (通讯篇)	IB(NA)-0600872CHN-A	Dec. 2019
三菱电机通用变频器 E800 使用手册 (维护篇)	IB(NA)-0600875CHN-A	Dec. 2019

CONTENTS

REVISIONS	5
1. OUTLINE.....	6
2. SYSTEM CONFIGURATION	6
3. GOT.....	7
3.1 Supported Models	7
3.2 System Applications that are Automatically Selected.....	7
3.3 Controller Settings of Screen Design Software	7
3.4 GOT Ethernet Setting of Screen Design Software	8
3.5 Graphics mode (Graphics Setting)	8
4. Inverter FR-E800-E	9
4.1 Inverter FR-E800-E Communication Settings	9
4.2 The Input Terminal Assignment Settings	10
4.3 The Output Terminal Assignment Settings	10
5. SCREEN SPECIFICATIONS	11
5.1 Screen Specifications	11
5.1.1 Common Items of Each Screen.....	11
5.1.2 Main Menu (B-12000).....	12
5.1.3 Parameter (List) (B-12100).....	13
5.1.4 Parameter (Bookmark) (B-12110)	14
5.1.5 Op. Cmnd (Op. Procedure) (B-12120)	15
5.1.6 Op. Cmnd (Op. during inv. op.) (B-12121).....	16
5.1.7 Batch Monitor 1 to 2 (B-12200 to 12201)	17
5.1.8 Alarm History (Inverter) (B-12300)	18
5.1.9 Machine diag.(load char. meas.) (B-12310)	19
5.1.10 Inverter Life Diagnosis 1 to 2 (B-12320 to 12321).....	20
5.1.11 Manual Display (B-12900)	21
5.1.12 Station Number Switching (B-14000)	22
5.1.13 Parameter Storage (Recipe) (B-14100).....	23
5.1.14 Parameter Copy (Recipe) (B-14101).....	24
5.1.15 Backup Execution (B-14103).....	25
5.1.16 Restoration Execution (B-14104)	26
5.1.17 Copy Execution (B-14105)	27
5.1.18 Machine Diagnosis Execution (B-14301)	28
5.1.19 Machine Diagnosis Start Warning (B-14302)	29
5.1.20 Logging (B-14900).....	30
5.1.21 Option Settings (B-32000)	31
5.1.22 System Alarm (GOT) (B-32001)	32
5.2 Screen Operation	33
5.2.1 How to Register/Remove Parameters in [Parameter(Bookmark)]	33
5.2.2 How to Operate Machine Diagnosis (Load Characteristics Measurement)	35
5.3 Device List	38
5.3.1 Controller Devices	38
5.3.2 GOT Internal Devices	38
5.3.3 Label (GT Desinger3)	41
5.4 Comment	42
5.5 Recipe.....	42
5.6 Script.....	43

6.	Utilize Sample Screen	44
6.1	Checks Before Utilization	45
6.2	Utilization Procedure	46
6.2.1	How to Open the Sample Screen Installed to GT Designer 3	47
6.2.2	Preparation before Utilization	48
6.2.3	Utilize Another Project	50
6.3	Works after Utilization.....	52
6.3.1	Settings of Label (GT Designer3).....	52
6.3.2	Settings of GOT Environmental Setting	53
6.3.3	Settings of Project Script	56
7.	User Customize.....	57
7.1	How to Display the Specified Parameters in [Parameter (List)] Screen	57
7.2	Document Data Used in [Manual Display (B-12900)] Screen	59
7.3	RS-485 Connection	62
7.3.1	Controller Setting of GOT	62
7.3.2	Inverter FR-E800 Communication Settings.....	63
7.3.3	Settings of Sample Screen	64
7.4	Connecting GOT and Inverter via PLC (Ethernet).....	65
7.4.1	Controller Setting of GOT	66
7.4.2	PLC Side Settings (GX Works3).....	67
7.4.3	Inverter FR-E800-E Communication Settings	68
7.4.4	Settings of Sample Screen	68
7.5	Connecting GOT and Inverter via PLC (CC-Link IE TSN).....	69
7.5.1	Controller Setting of GOT	70
7.5.2	PLC Side Settings (GX Works3).....	70
7.5.3	Inverter FR-E800-E Communication Settings	71
7.5.4	Settings of Sample Screen	71
7.5.5	Precautions.....	71
7.6	Changing the Communication Settings of the Inverter from CH1 in [Controller Setting]	72
7.7	Changing the Inverter Network No. and Station No.	73
8.	Limitations	76
8.1	Limitations of Link Devices	76
8.2	Switching from the User Screen	76
8.3	SD Card.....	76
9.	Precautions	77
9.1	When Having Changed the Settings of Recipe Function Set in This Sample Screen	77
9.2	Trigger of Recipe Function	77
9.3	When the SD Card or the SRAM User Area of the GOT Does Not Have the Sufficient Available Space....	77
10.	Trademarks	78

REVISIONS

Sample Screen Manual

Date	Control No.*	Description
2020/4	BCN-P5999-1305	First edition
2020/4	BCN-P5999-1305-1a	Correction of errors <ul style="list-style-type: none"> Corrected the screen No. of "5.1.4 Parameter (Bookmark)"
2020/9	BCN-P5999-1305-1b	Correction of errors <ul style="list-style-type: none"> Add remarks of "5.1.10 Inverter Life Diagnosis 1 to 2" Corrected the Set value of "7.3.2 Inverter FR-E800 Communication Settings" Corrected the Set value of "7.7 Changing the Inverter Network No. and Station No. "

* The control No. is noted at the lower right of each page.

Project Data

Date	Project Data	GT Designer3*	Description
2020/4	MITSUBISHI_FR-E800-E_V_Ver1_E.GTX	1.235V	First edition
2020/4	MITSUBISHI_FR-E800-E_V_Ver1a_E.GTX	1.235V	No revision
2020/9	MITSUBISHI_FR-E800-E_V_Ver1b_E.GTX	1.235V	Corrected the Parameter name

* The version number of screen design software used to create the project data is listed. Please use the screen design software with the listed version or later versions.

* GOT Graphic Ver.2 is used as graphics setting.

1. OUTLINE

This manual explains the sample screens of GOT2000 connected to a FR-E800-E inverter via Ethernet. The sample screens can be used to change the running speed, rotation direction, and the parameters as well as to monitor the current values and execute machine diagnosis (load characteristics measurement).

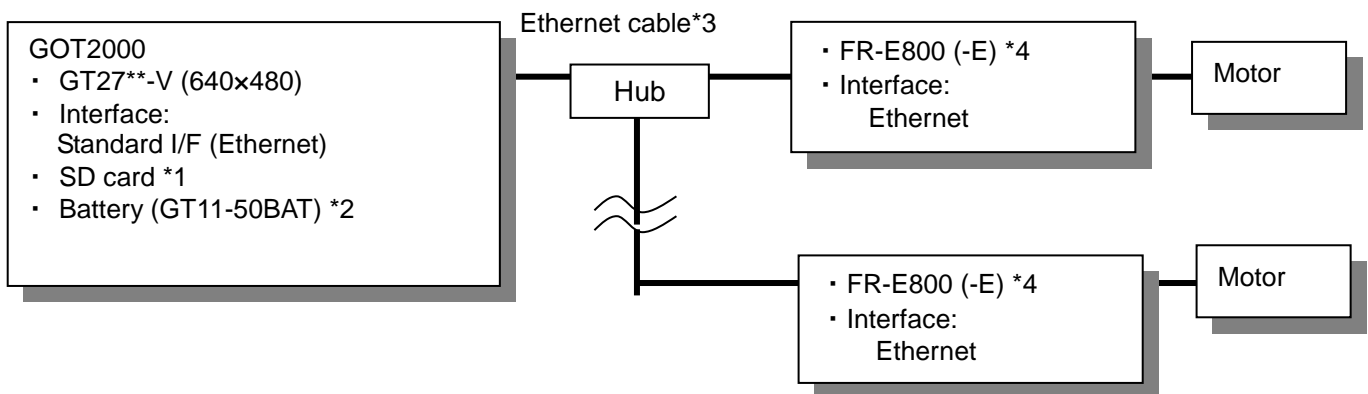
By changing the controller settings, the following connections are supported.

(a) When connecting GOT2000 to inverter FR-E800 in RS-485 connection.

(b) When connecting GOT2000 to MELSEC iQ-R/Q/L series PLC and then connecting the PLC to inverter FR-E800-E via Ethernet interface unit/CC-Link IE TSN master/local module.

Please refer to "7. User Customize" for how to change [Controller Setting] and "8. Limitations" for the limitations regarding CC-Link IE TSN.

2. SYSTEM CONFIGURATION



*1: The SD card is used for the recipe function and document display function.

*2: The battery is used to back up the clock data and the recipe data in the SRAM user area in case of power failures. (The battery is included as standard in the GOT.)

*3: For more details on the cable, please refer to "GOT2000 Series Connection Manual (Mitsubishi Products)".

*4: The recommended number of devices is up to 16 in this sample screen.

■ Additional Explanation

- This sample screen can also be used for connecting the GOT to inverters via PLC. Please refer to "7. User Customize" for details.
- This sample screen assumes the inverter connection via the channel No.1, network No.1 and station No.1 to 16. When the inverter is connected via other channels, networks or station numbers, please refer to "7. User Customize".

3. GOT

3.1 Supported Models

The following GOTs are compatible with this sample screen.

- GT27 model
- GT25 model

* This sample screen is created in GT27**-V (640x480).

Please refer to "GT Designer3 (GOT2000) Screen Design Manual" for how to change the GOT model.

3.2 System Applications that are Automatically Selected

Type	System Application Name		
Standard Function	Standard System Application		
	Standard Font	Japanese	
Communication Driver	Ethernet Connection	Ethernet (FREQROL (Batch monitor)), Gateway	
Extended Function	Standard Font	Chinese (Simplified)	
	Outline Font	Gothic	Alphanumeric/Kana
			Japanese(Kanji)
			Chinese(Simplified)
	Key Window Design Information		
	Recipe Display (Record List)		
	Document Display	Document Display (PDF)	
PDF Search/Bookmark function			

3.3 Controller Settings of Screen Design Software

Setting for Each Channel

CH	Item	Set value	Remarks
CH1	Manufacturer	MITSUBISHI ELECTRIC	
	Controller Type	FREQROL 800/E700NE (Batch monitor)	
	I/F	Ethernet:Multi	
CH2		None	
CH3		None	
CH4		None	

CH1 Detail Setting

Item	Set value	Remarks
GOT NET No.	1	
GOT Station	18	
GOT Communication Port No.	5036	
Retry (Times)	3	
Startup Time (Sec)	3	
Timeout Time (Sec)	3	
Delay Time (ms)	0	

CH1 Connected Ethernet Controller Setting

	Host	Net No.	Station	Unit Type	IP Address	Port No.	Communication
1	*	1	1	FREQROL	192.168.3.50	5001	UDP

3.4 GOT Ethernet Setting of Screen Design Software

GOT IP Address Setting

Port	Item	Set value	Remarks
Standard Port	Update GOT Ethernet Standard Port setting	Checked	
	GOT IP Address	192.168.3.18	
	Subnet Mask	255.255.255.0	
Extended Port	None		
Wireless LAN	None		

GOT Ethernet Common Setting

Item	Set value	Remarks
Default Gateway	0.0.0.0	
Peripheral S/W Communication Port No.	5015	
Transparent Port No.	5014	

3.5 Graphics mode (Graphics Setting)

Graphics mode is GOT Graphic Ver.2.

4. Inverter FR-E800-E

4.1 Inverter FR-E800-E Communication Settings

Set the parameters of communication settings with PU (operation panel or parameter unit). An inverter reset after the setting is required for the parameters of the communication settings.

Item	Parameter	Set value	Remarks
Operation mode selection	Pr.79	0 (Default value)	*2
Communication startup mode selection	Pr.340	10 (Default value)	*2
Communication EEPROM write selection	Pr.342	0 (Default value)	*2
PLC function operation selection	Pr.414	0 (Default value)	*2 *3
Stop mode selection at communication error	Pr.502	0 (Default value)	*2
Protocol selection	Pr.549	0 (Default value)	
NET mode operation command source selection	Pr.550	5	*2
Operation frequency during communication error	Pr.779	9999 (Default value)	*2
Ethernet communication network number	Pr.1424	1 to 239	*1
Ethernet communication station number	Pr.1425	1 to 120	*1
Link speed and duplex mode selection	Pr.1426	0 (Default value)	*2
Ethernet function selection 1	Pr.1427	5000 to 5002, 5006 to 5008	*1
Ethernet function selection 2	Pr.1428	9999	*2
Ethernet function selection 3	Pr.1429	9999	*2
Ethernet signal loss detection function selection	Pr.1431	0	*2
Ethernet communication check time interval	Pr.1432	9999	*2
Ethernet IP address 1	Pr.1434	0 to 255	*1
Ethernet IP address 2	Pr.1435		*1
Ethernet IP address 3	Pr.1436		*1
Ethernet IP address 4	Pr.1437		*1
Subnet mask 1	Pr.1438	255 (Default value)	*1 *2
Subnet mask 2	Pr.1439	255 (Default value)	*1 *2
Subnet mask 3	Pr.1440	255 (Default value)	*1 *2
Subnet mask 4	Pr.1441	0 (Default value)	*1 *2

*1: Settings of the GOT can be changed. When changing the settings, also change the settings of the inverter.

*2: Change the settings depending on the operation environment.

*3: Because the default value of the inverter is "0: disabled", change the value to 1 or 2 when using PLC function.

[Additional Explanation]

When trying to monitor the devices of the PLC such as X and Y at the time when Pr.414 "PLC function operation selection" is "0: disabled", the system alarm "322 Dedicated device is out of range. Confirm device range." is output.

4.2 The Input Terminal Assignment Settings

In this sample, operation commands are input on the GOT screen with the following functions of input terminals. The input terminals and the assigned functions are listed in the table below.

Item	Parameter	Set Value	Function
RL terminal function selection	Pr.180	0	Low-speed operation command
RM terminal function selection	Pr.181	1	Middle-speed operation command
RH terminal function selection	Pr.182	2	High-speed operation command

4.3 The Output Terminal Assignment Settings

In this sample, the functions are assigned to the output terminals and the output signals are displayed on the GOT screen. The output terminals and the assigned functions are listed in the table below.

Item	Parameter	Set Value	Function
Output Terminal ABC	Pr.192	99	Abnormal

5. SCREEN SPECIFICATIONS

5.1 Screen Specifications

This section explains the details of the screens in this sample.

Operations performed according to instructions in the screens described as "****execution" in this manual.

5.1.1 Common Items of Each Screen

Batch Monitor 1 03/27/2020 13:54

St. St.12 Axis 1

No.	Name	Present Value	No.	Name	Present Value
1	Output Frequency	123.45Hz	11	Converter Output Voltage Peak Value	1234.5V
2	Output Current	1234.56A	12	Output Power	1234.56kW
3	Output Voltage	1234.5V	13	Load Meter	123.4%
4	Frequency Setting Value	123.45Hz	14	Motor Excitation Current	1234.56A
5	Speed/Machine Speed	12345	15	Cumulative Energization Time	12345h
6	Motor Torque	123.4%	16	Actual Operation Time	12345h
7	Converter Output Voltage	1234.5V	17	Motor Load Factor	123.4%
8	Regenerative Brake Duty	123.4%	18	Cumulative Power	12345.67kW
9	Electronic Thermal O/L Relay Load Factor	123.4%	19	Torque Command	123.4%
10	Output Current Peak Value	1234.56A	20	Torque Current Command	123.4%

Navigation buttons: Batch Monitor, Alarm History (Inverter), Machine Diagnosis, Inverter Life Diagnosis

Outline

Functions and settings common in each screen are described. The common items are not applied to the screens below.

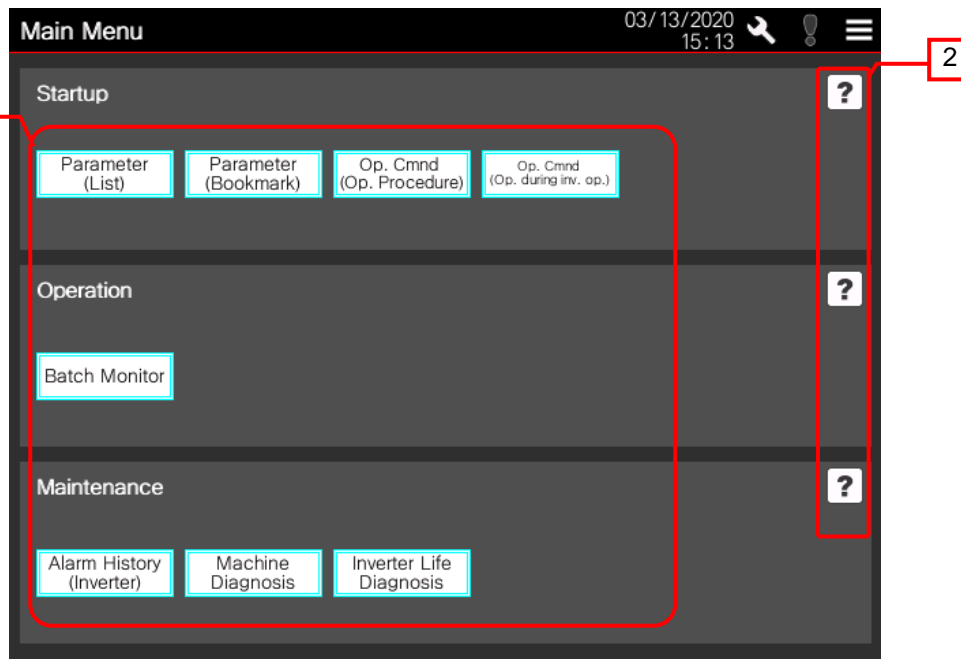
- [Station Number Switching] screen (B-14000) to [Machine Diagnosis Start Warning] screen (B-14302)
- [Option Settings] screen (B-32000)
- [System Alarm (GOT)] screen (B-32001).

Description

1. Switches to [Station Number Switching] screen.
2. Displays the station number and the axis name selected on [Station Number Switching] screen. Axis name can be changed to the name specified by the user. When changing the axis name, edit comment No.1 to 16 of the comment group No.340.
3. Notifies users of the alarm occurrence of the inverter. Lights red when an alarm is occurring. Touch this icon to switch to [Alarm History (Inverter)] screen.
4. Displays the current date and time. Touch the date and time to switch to [Option Settings] screen.
5. Displays [Option Settings] screen.
6. Notifies users of the system alarm occurrence of the GOT. Lights yellow when an alarm is occurring. Touch this icon to switch to the system alarm screen.
7. Switches to [Main Menu] screen.
8. Switches to the previously displayed screen.
9. Switches between the screens. The blue switch that indicates the currently displayed screen does not switch the screen. Touch the arrow icon to switch the destination screen.

Remarks

5.1.2 Main Menu (B-12000)



Outline

This screen is displayed when turning on the sample screen. Each function screen can be switched to from this screen.

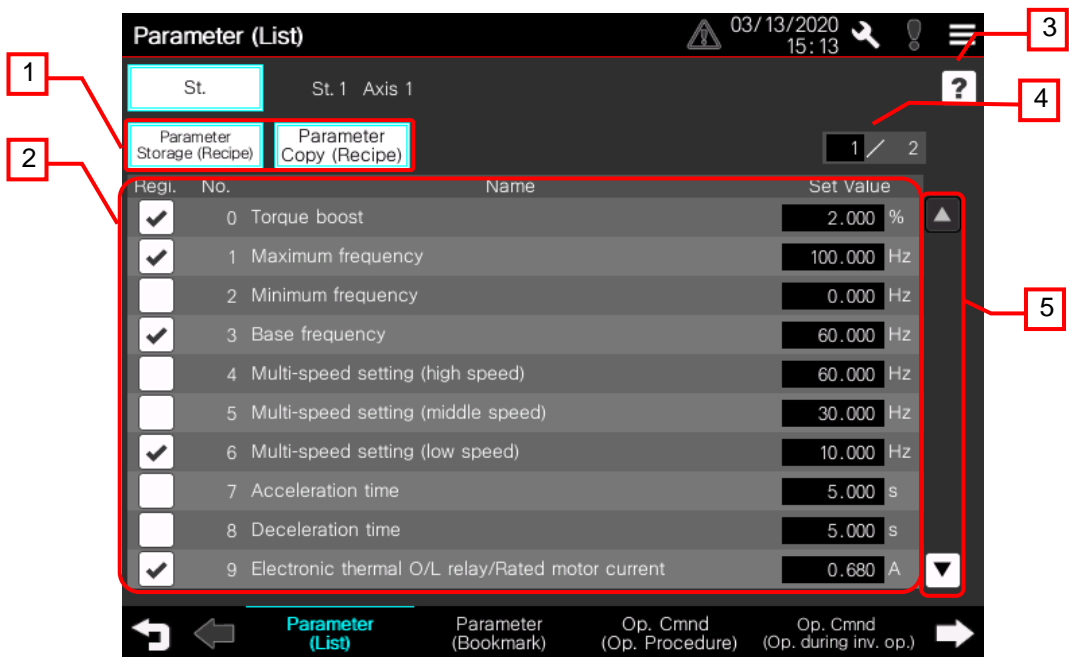
Description

1. Switches between the screens.
2. Switches to [Manual Display] screen.
"3. Parameters" of "INVERTER FR-E800 Instruction Manual (Function)" is displayed in Startup and Operation.
"2. Protective Functions" of "INVERTER FR-E800 Instruction Manual (Maintenance)" is displayed in Maintenance.

Remarks

- Reads the data required for the operation of the sample screen everytime the main menu is displayed after turning on the GOT. The screen cannot be operated during reading the data.

5.1.3 Parameter (List) (B-12100)



Outline

This screen is used to display and set the parameters of the inverter connected to the GOT.

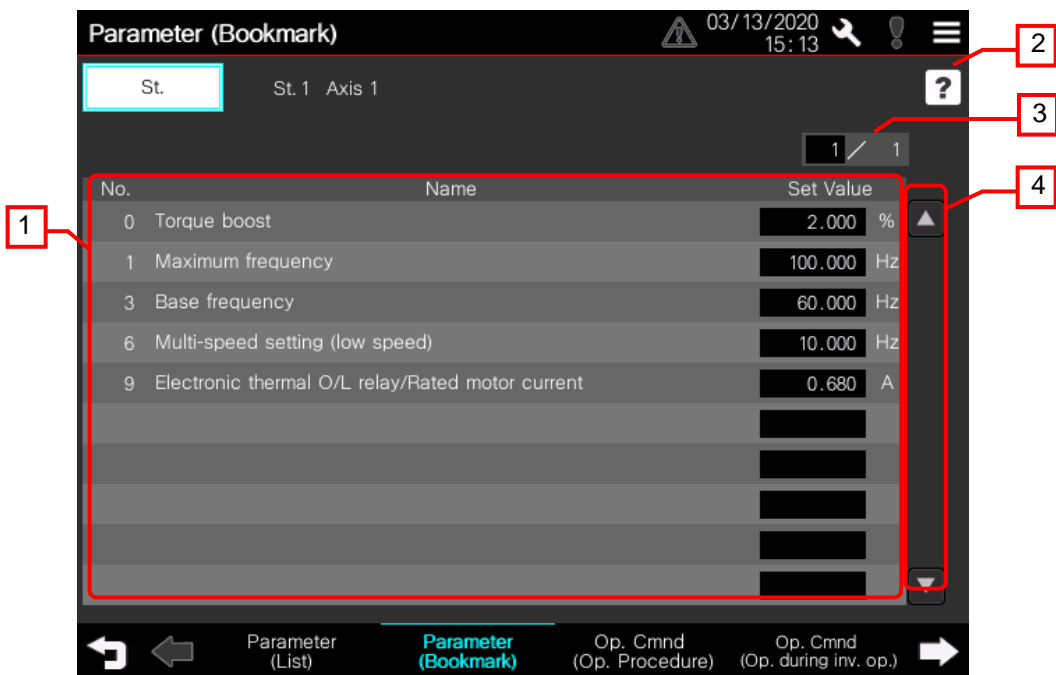
Description

1. Switches between the screens.
2. Displays parameter names and set values. Touch the set values to change them. Touch the switches in [Regi.] column to register the parameters as bookmarked parameters and display them in [Parameter (Bookmark)] screen. Touch the switch again to deselect the registered bookmarked parameters.
3. Switches to [Manual Display] screen. (Displayed manual: "3. Parameters" of "INVERTER FR-E800 Instruction Manual (Function)")
4. Displays the current page number and the total number of pages of Parameter (List). Touch the current page number to change the page to display.
5. Switches the displayed page of the parameters.

Remarks

- The units of the parameters cannot be changed.
- Bookmark registration is common in the all station numbers.
- When inputting the value which is out of the setting range of the inverter, the system alarm "315 Device writing error. Correct device." occurs.

5.1.4 Parameter (Bookmark) (B-12110)



Outline

This screen is used to display and set the parameters registered in the Parameter (List) screen.

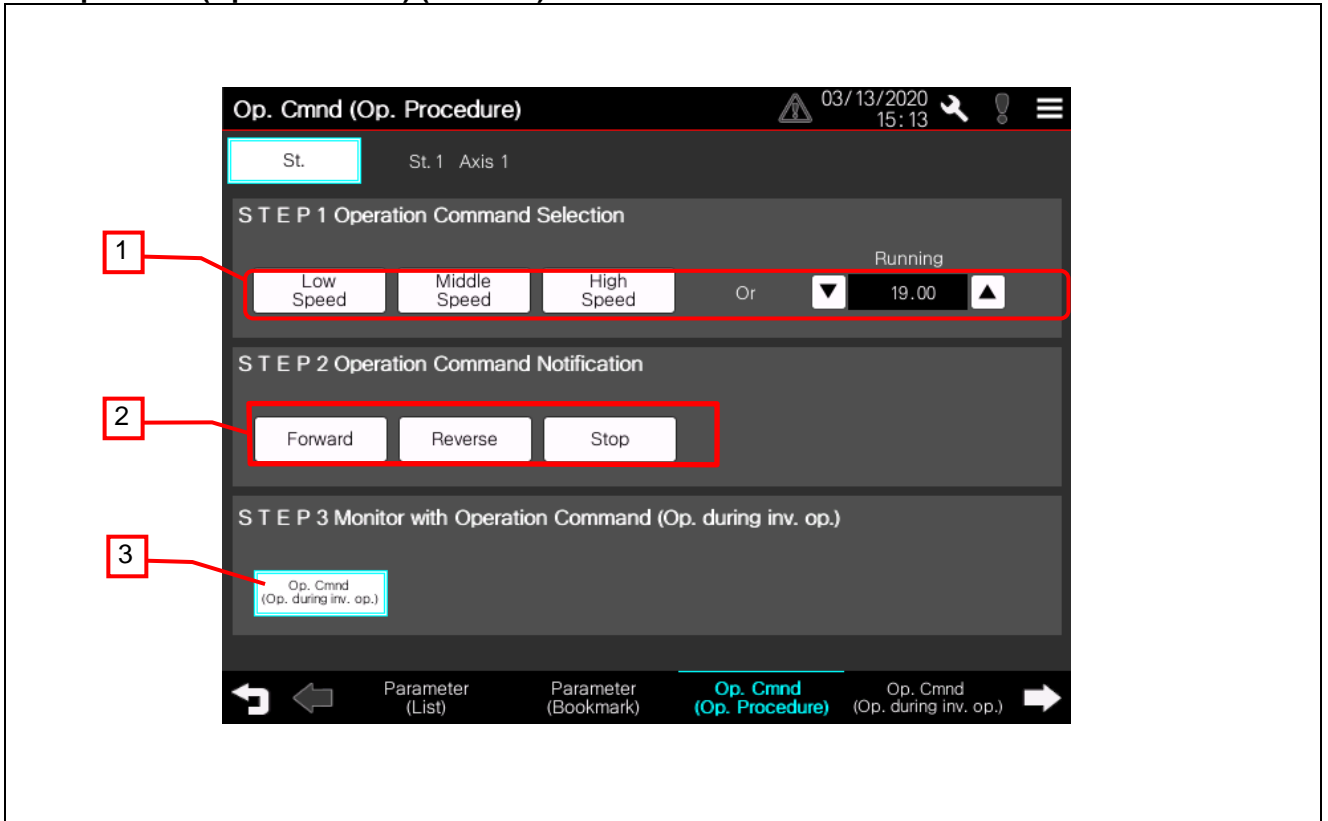
Description

1. Displays parameter names and set values. Touch the values to change them.
2. Switches to [Manual Display] screen.
(Displayed manual: "3. Parameters" of "INVERTER FR-E800 Instruction Manual (Function)")
3. Displays the current page number and the total number of the pages of Parameter (Bookmark). Touch the current page number to change the page to display.
4. Switches the displayed page of the parameters.

Remarks

- The units of the parameters cannot be changed.
- Bookmark registration is common in the all station numbers.
- When inputting the value which is out of the setting range of the inverter, the system alarm "315 Device writing error. Correct device." occurs.

5.1.5 Op. Cmnd (Op. Procedure) (B-12120)



Outline

This screen explains how to execute operation commands to the inverter connected to the GOT. Operation commands are performed according to the order (STEP) on the screen.

Description

- Sets the speed or the operation frequency of the inverter operation.

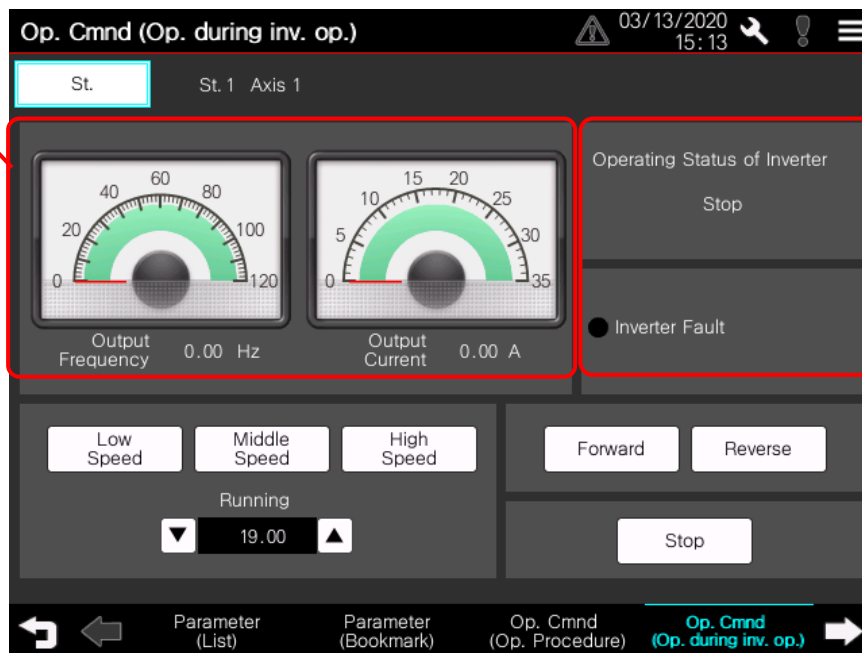
Low Speed/Middle Speed/High Speed : Selects the speed of the inverter operation from 3-speed operation ([Low Speed], [Middle Speed] or [High Speed]). Touch [STOP] switch to deselect the selected speed operation switch.

Running Frequency (Hz) : Sets the operation frequency of the inverter. Sets the frequency by inputting a numeric value or incrementing or decrementing the frequency by 1Hz with touch switches on the left and right sides of the value input area (the switches can be held down). When 3-speed operation is enabled, the settings of 3-speed operation have priority.
- Notifies the inverter of the operation command. The motor rotates and stops according to the operation of each switch.
- Switches to [Op. Cmnd (Op. during inv. op.)] screen.

Remarks

- When the inverter is in the NET operation mode, commands can be input to the inverter by the GOT. When using this screen, please use the inverter in the NET operation mode.
- When connecting GOT2000 to the inverter via CC-Link IE TSN, [Forward] or [Reverse] cannot be performed. Please refer to "8.1 Limitations of Link Devices" for details.
- Selection status of 3-speed operation switch is the status selected in the GOT last time.

5.1.6 Op. Cmnd (Op. during inv. op.) (B-12121)



Outline

This screen is used to execute operation commands and operate the inverter connected to the GOT.

Description

- The output frequency and the output current are displayed. The panel meters operate with the numerical displays.
- Displays the inverter status.

Operating Status of Inverter	: Displays Stop/Forward Rotation/Reverse Rotation/Machine Error Occurring.
Inverter Fault	: Lights red when an ALM (fault) is occurring.

Remarks

- When the inverter is in the NET operation mode, commands can be input to the inverter by the GOT. When using this screen, please use the inverter in the NET operation mode.
- When connecting GOT2000 to the inverter via CC-Link IE TSN, [Forward] or [Reverse] cannot be executed. Please refer to "8.1 Limitations of Link Devices" for details.
- "Machine Error Occurring" is displayed when an ALM (fault) is occurring.
- Selection status of 3-speed operation switch is the status selected in the GOT last time.

5.1.7 Batch Monitor 1 to 2 (B-12200 to 12201)

Batch Monitor 1 03/13/2020 15:13

St. St. 1 Axis 1

No.	Name	Present Value	No.	Name	Present Value
1	Output Frequency	0.00Hz	11	Converter Output Voltage Peak Value	298.9V
2	Output Current	0.00A	12	Output Power	0.00kW
3	Output Voltage	0.0V	13	Load Meter	0.0%
4	Frequency Setting Value	19.00Hz	14	Motor Excitation Current	0.00A
5	Speed/Machine Speed	0r/min	15	Cumulative Energization Time	73h
6	Motor Torque	0.0%	16	Actual Operation Time	0h
7	Converter Output Voltage	298.0V	17	Motor Load Factor	0.0%
8	Regenerative Brake Duty	0.0%	18	Cumulative Power	0.00kW
9	Electronic Thermal O/L Relay Load Factor	0.0%	19	Torque Command	0.0%
10	Output Current Peak Value	0.00A	20	Torque Current Command	0.0%

Batch Monitor Alarm History (Inverter) Machine Diagnosis Inverter Life Diagnosis

Outline

This screen is used to monitor the monitoring items of the inverter connected to the GOT in a batch.

Description

1. Displays names and the current values of monitoring items
2. Switches the monitoring items to display.

Remarks

5.1.8 Alarm History (Inverter) (B-12300)

Alarm History (Inverter) 03/26/2020 18:46

St. St.12 Axis 1

Current Fault: E_OC1 Overcurrent Trip During Acceleration

	Symbol	Name	Output Frequency	Output Current	Output Voltage	Power-on Time	Occurred At
Latest	E_OC1	Overcurrent Trip During Acceleration	123.45Hz	123.45A	1234.5V	123456h	1234/12/12 12:12:00
2nd	E_OC1	Overcurrent Trip During Acceleration	123.45Hz	123.45A	1234.5V	123456h	1234/12/12 12:12:00
3rd	E_OC1	Overcurrent Trip During Acceleration	123.45Hz	123.45A	1234.5V	123456h	1234/12/12 12:12:00
4th	E_OC1	Overcurrent Trip During Acceleration	123.45Hz	123.45A	1234.5V	123456h	1234/12/12 12:12:00
5th	E_OC1	Overcurrent Trip During Acceleration	123.45Hz	123.45A	1234.5V	123456h	1234/12/12 12:12:00
6th	E_OC1	Overcurrent Trip During Acceleration	123.45Hz	123.45A	1234.5V	123456h	1234/12/12 12:12:00
7th	E_OC1	Overcurrent Trip During Acceleration	123.45Hz	123.45A	1234.5V	123456h	1234/12/12 12:12:00
8th	E_OC1	Overcurrent Trip During Acceleration	123.45Hz	123.45A	1234.5V	123456h	1234/12/12 12:12:00

*Reset/Clear can be performed with a 3-second long press.

Inverter Reset Alarm All Clear

Batch Monitor Alarm History (Inverter) Machine Diagnosis Inverter Life Diagnosis

Outline

This screen is used to confirm the fault (failure) currently occurring and the alarm history of the inverter connected to the GOT.

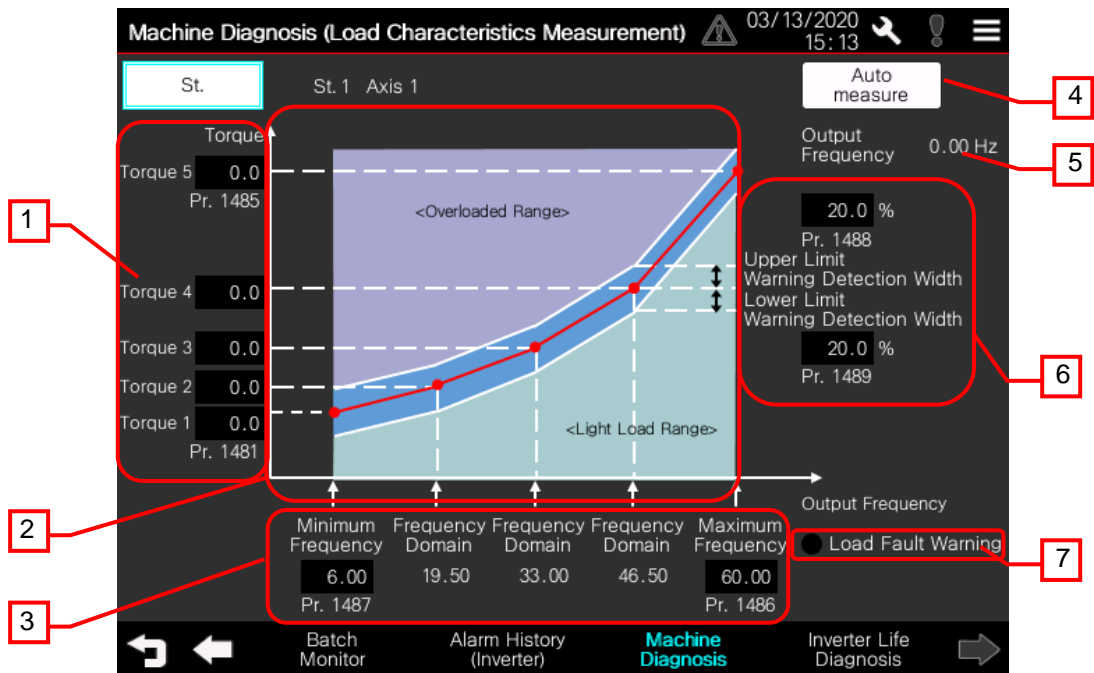
Description

1. Displays the fault (failure) currently occurring.
2. Displays the alarm history of the latest eighth faults (failure).
3. Switches to [Manual Display] screen. (Displayed manual: "2. Protective Functions" of "INVERTER FR-E800 Instruction Manual (Maintenance)").
4. Executes the inverter reset. (Operates when holding down the switch for 3 seconds). Use this switch when performing the inverter reset after completing dealing with the fault (failure) currently occurring.
5. Executes the all clear of the alarm history. (Operates when holding down the switch for 3 seconds).

Remarks

- The system alarm "401 An error response has been received from the connected device" occurs when connecting the GOT to the inverter via PLC with CC-Link IE TSN and executing the inverter reset. Therefore display [Alarm History (Inverter)] screen again after the communication with the inverter recovers to restart the monitoring.

5.1.9 Machine diag.(load char. meas.) (B-12310)



Outline

This screen is used to display and set the parameters regarding load characteristics of the inverter connected to the GOT. Touch [Auto measure] switch to notify the inverter of the start command of load characteristics measurement.

Description

1. Sets the standard value for the normal load characteristics.
2. Displays the image (PNG file) of the overload and normal load ranges for load characteristics measurement. The graph is being fixed and does not move.
3. Sets the speed (minimum and maximum frequency) for performing the load characteristics measurement.
4. Displays [Machine Diagnosis Execution] screen.
5. Displays the output frequency being measured.
6. Sets the upper and lower limit warning detection width.
7. Lights yellow when Load Fault Warning is occurring.

Remarks

- When the inverter is in the NET operation mode, commands can be input to the inverter by the GOT. When using this screen, please use the inverter in the NET operation mode.
- When connecting GOT2000 to the inverter via CC-Link IE TSN, [Auto measure] cannot be performed. Please refer to "8.1 Limitations of Link Devices" for details.
- Perform the machine diagnosis after confirming that warnings are not occurring on the inverter side.

5.1.10 Inverter Life Diagnosis 1 to 2 (B-12320 to 12321)

Inverter Life Diagnosis1 03/26/2020 18:47

St. St.12 Axis 1

! The measured life shown is an estimated lifespan. The actual life may vary depending on applications and the installation environment. If any abnormality is detected, replacement is required.

Warning	Name	Life	Details
	Main Circuit Capacitor (standard model /IP55 compatible model)	100 %	The last measured value of main circuit capacitor life is shown. 85% or less is a guideline for replacement
	Main Circuit Capacitor estimated (standard model /IP55 compatible model)	100 %	Even when the power supply cannot be turned off, the remaining life of the main circuit capacitor can be estimated without stopping the operation. When the value falls below 10, it is recommended to replace the capacitor.
	Control-Circuit Capacitor	100 %	When the value is 10% or less, it is recommended to replace it.
	Inrush Current Limit Circuit (standard model /IP55 compatible model)	100 %	When the value is 10% or less, it is recommended to replace it.
	Power cycle	100.00 %	Remaining life of the inverter module. When the value is 15% or less, it is recommended to replace it.

Batch Monitor Alarm History (Inverter) Machine Diagnosis **Inverter Life Diagnosis**

Outline

This screen displays the life information of the inverter parts connected to the GOT.

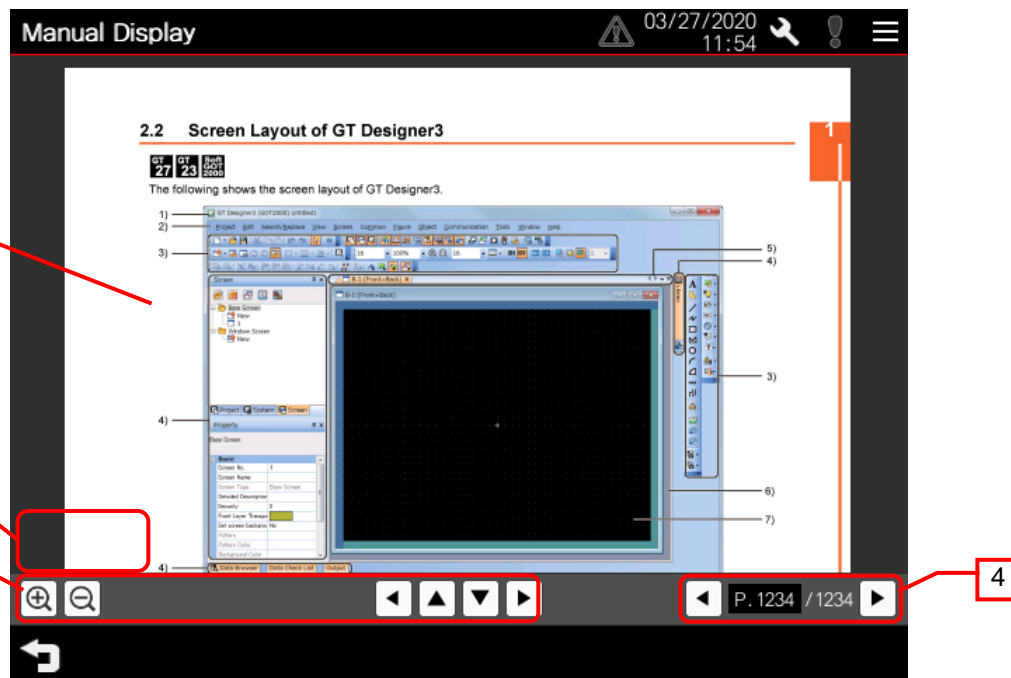
Description

1. Displays the life information of the inverter parts.
When reaching the life alarm output level, and the inverter outputs the warning, **!** is displayed.
2. Switches the life information of the inverter parts to display.

Remarks

- Corrosion level is available only for coated models(-60).








5.1.11 Manual Display (B-12900)



Outline

This screen displays the manual written in the currently displayed language.

Description

- Displays a document of the document ID 12000 to 12002 and 12010 to 12012 according to the selected language. Displayed manual is different depending on the screen before switching. Flick the document whose all edges are displayed on the screen to switch the pages. Pinch in or pinch out the screen to enlarge or reduce the document between 25% to 400%.
- Displays [Bookmark] and [Search] button when touching the document.
 -  : Displays [Bookmark] window.
Touch [Bookmark] to display the corresponding page.
 -  : Displays [Search] window.
Input the search keyword in [Search] window to search through the PDF file.
- Operates a displayed document.
 -  : Enlarges or reduces the displayed document.
 -  : Scrolls the document to left and right.
 -  : Scrolls the displayed document up and down.
- Operates a displayed page of a document.
 -  : Displays the page number of the currently displayed page. Touch the page number to change it.
 -  : Switches to a previous page or next page of the document.

Remarks

- The language of the document displayed on [Manual Display] screen is switched in accordance with the display language. The table below shows the relation of the column No. in the comment group, language, and document ID.

Column No. in comment group	Language	Document ID
1	English	12000 and 12010
2	Japanese	12001 and 12011
3	Chinese (Simplified)	12002 and 12012

- For the details of document data for manual display, please refer to "7.2 Document Data used in [Manual Display (B-12900)] screen".

5.1.12 Station Number Switching (B-14000)



Outline

This screen is used to switch the station which the GOT monitors.

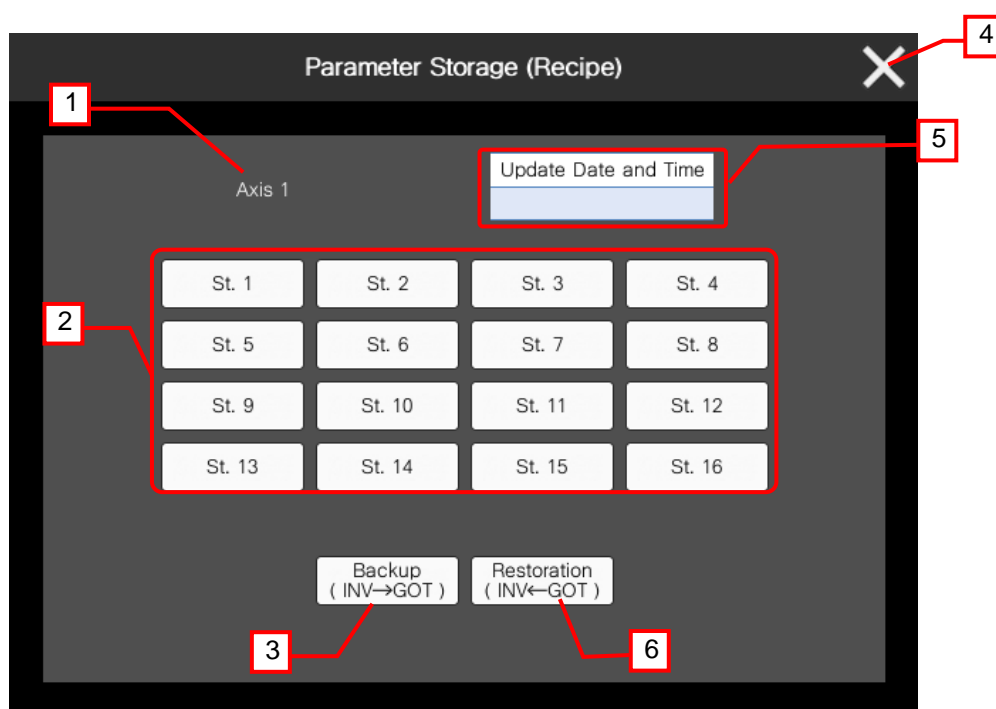
Description

1. Touch the station to switch the station for monitoring to the touched station.
2. Switches to the previously displayed screen.

Remarks

- This sample screen uses the station No. switching function of GOT2000. Please refer to "GT Designer3 (GOT2000) Screen Design Manual" for the details of the station No. switching function.

5.1.13 Parameter Storage (Recipe) (B-14100)



Outline

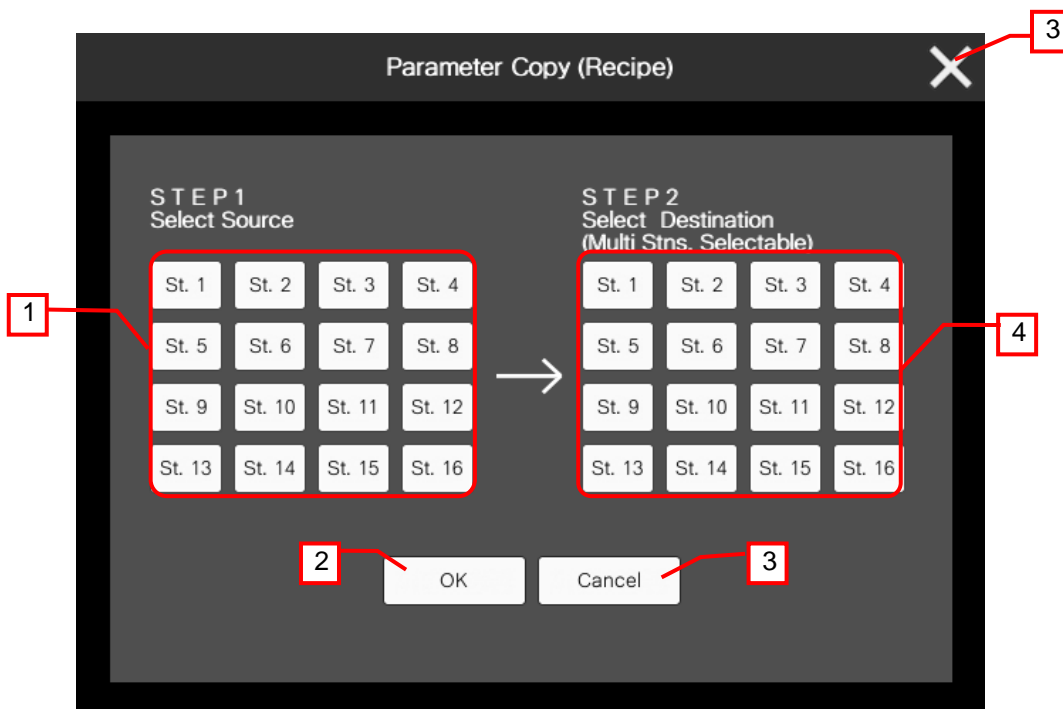
This screen is used to back up/restore the parameters of the specified station number with the recipe function.

Description

1. Displays the axis name of the selected station.
2. Touch the station to select the station to back up/restore.
3. Touch the switch to store the parameters of the inverter in the recipe file of the GOT. Displays the confirmation dialog at the time of execution.
4. Switches to the previously displayed screen.
5. Displays the update date and time of the recipe file of the selected station.
6. Touch the switch to write the parameters stored in the recipe file in the inverter. Displays the confirmation dialog at the time of execution.

Remarks

5.1.14 Parameter Copy (Recipe) (B-14101)



Outline

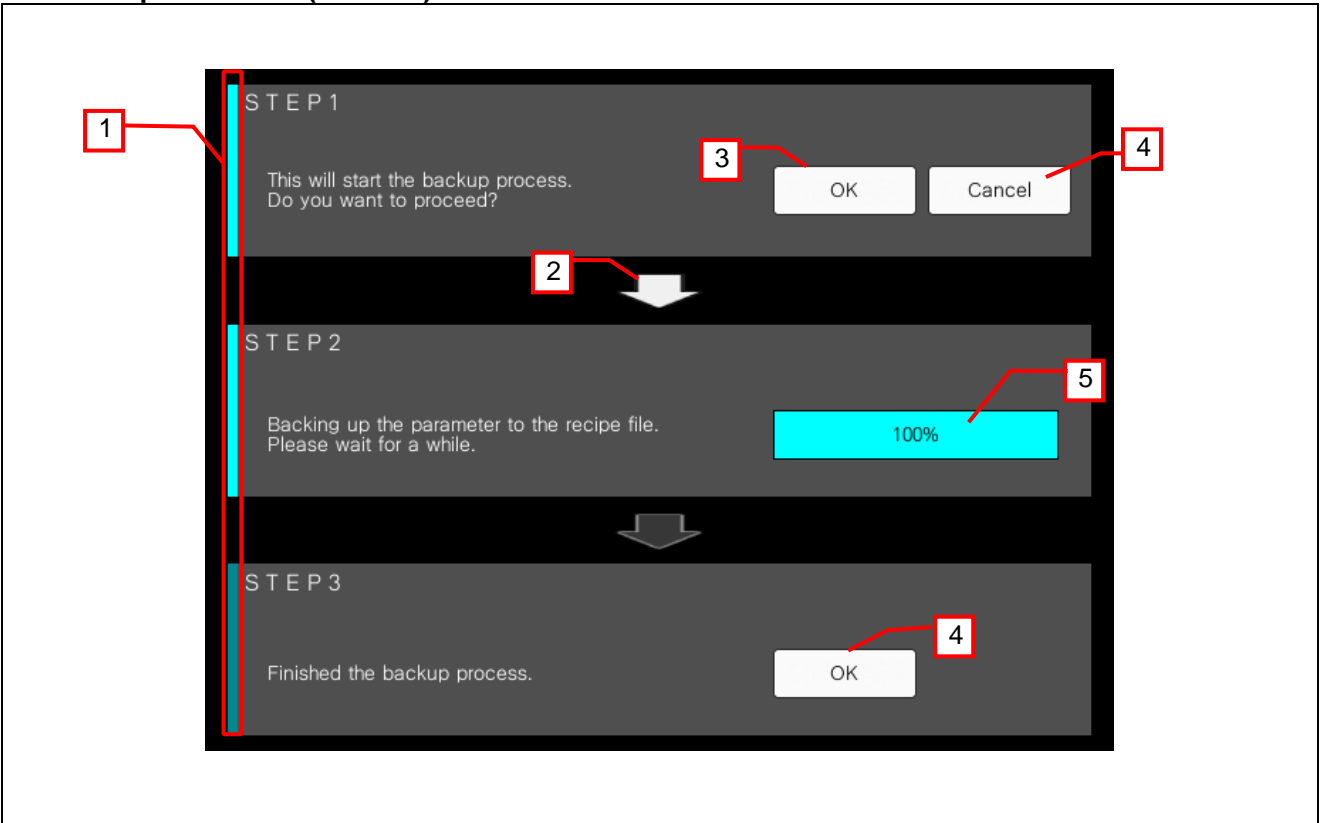
Copy the set value backed up with the recipe function in [Parameter Storage (Recipe)] screen to the recipe function of another station. When reflecting the copied set value to the inverter, execute restoration after copy.

Description

1. Selects the copy source station of the recipe function. The selected station lights green.
2. Executes the copy of the parameter recipe.
3. Switches to the previously displayed screen without executing the copy of the parameter recipe.
4. Selects the copy destination station of the recipe function. Multiple stations are selectable. The selected stations light green. When selecting the station lights green again, the station is deselected.

Remarks

5.1.15 Backup Execution (B-14103)



Outline

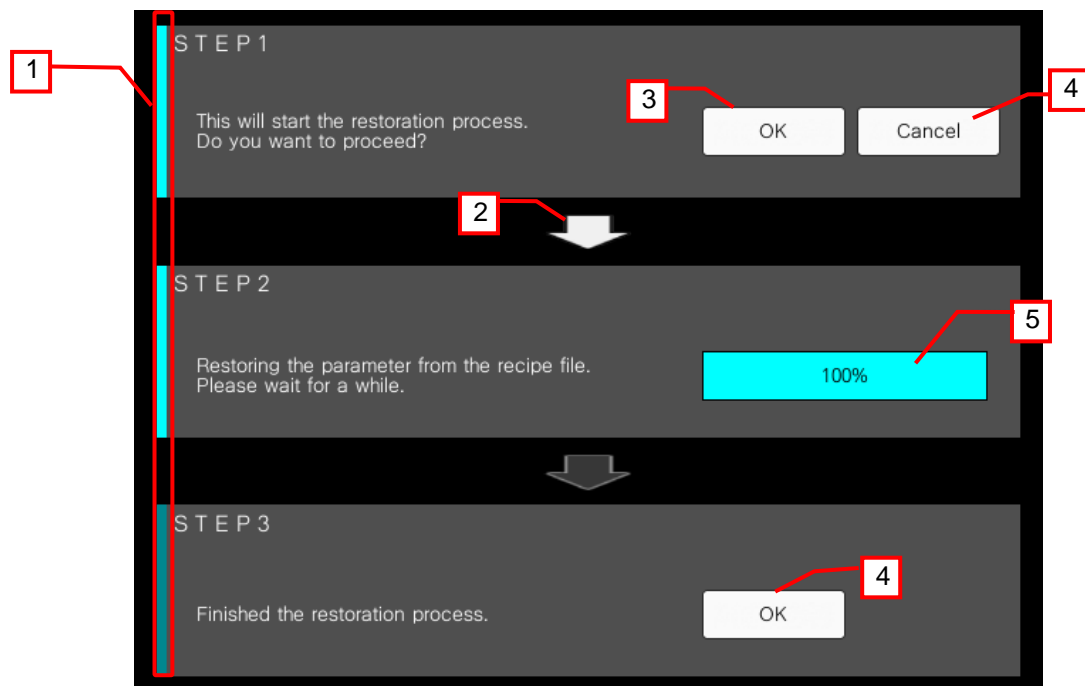
This screen is displayed when backing up the parameters of the inverter in the recipe file.

Description

1. Displays the execution steps of [Backup Execution] screen. The step during execution and the completed step light sky blue.
2. When the process switches to the next step, the arrow icon lights white.
3. Executes the backup process.
4. Switches to the previously displayed screen.
5. Notifies the user of the progress status of the backup. The progress is displayed as 0%, 50% or 100%.

Remarks

5.1.16 Restoration Execution (B-14104)



Outline

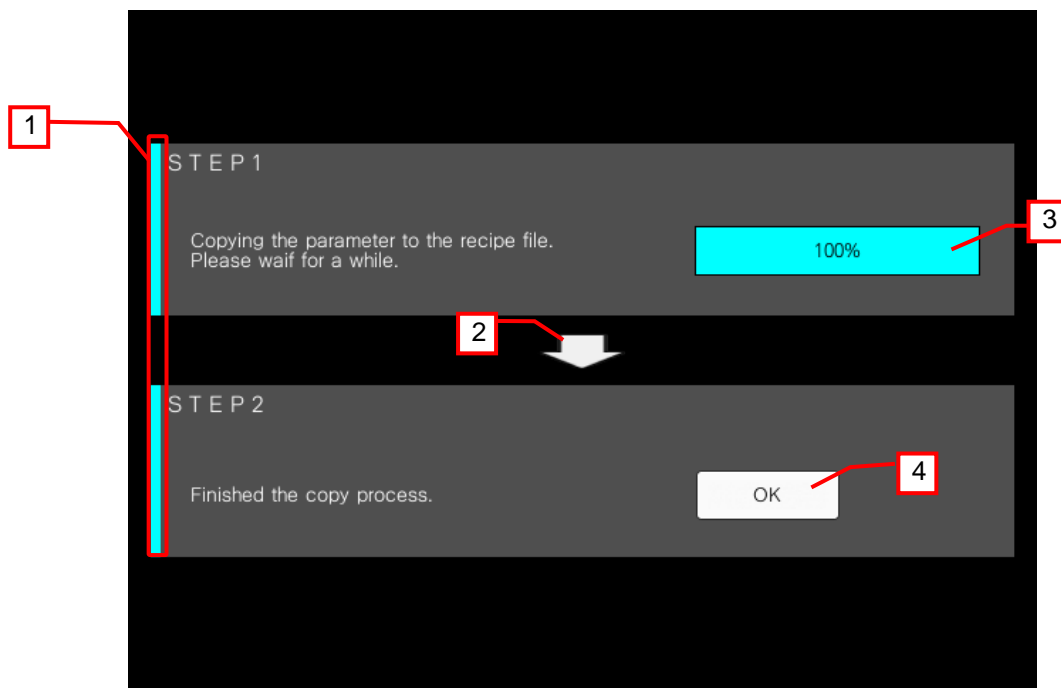
This screen is displayed when restoring the parameters of the inverter from the recipe file.

Description

1. Displays the execution steps of [Restoration Execution] screen. The step during execution and the completed step light sky blue.
2. When the process switches to the next step, the arrow icon lights white.
3. Executes the restoration process.
4. Switches to the previously displayed screen.
5. Notifies the user of the progress status of the backup. The progress is displayed as 0%, 50% or 100%.

Remarks

5.1.17 Copy Execution (B-14105)



Outline

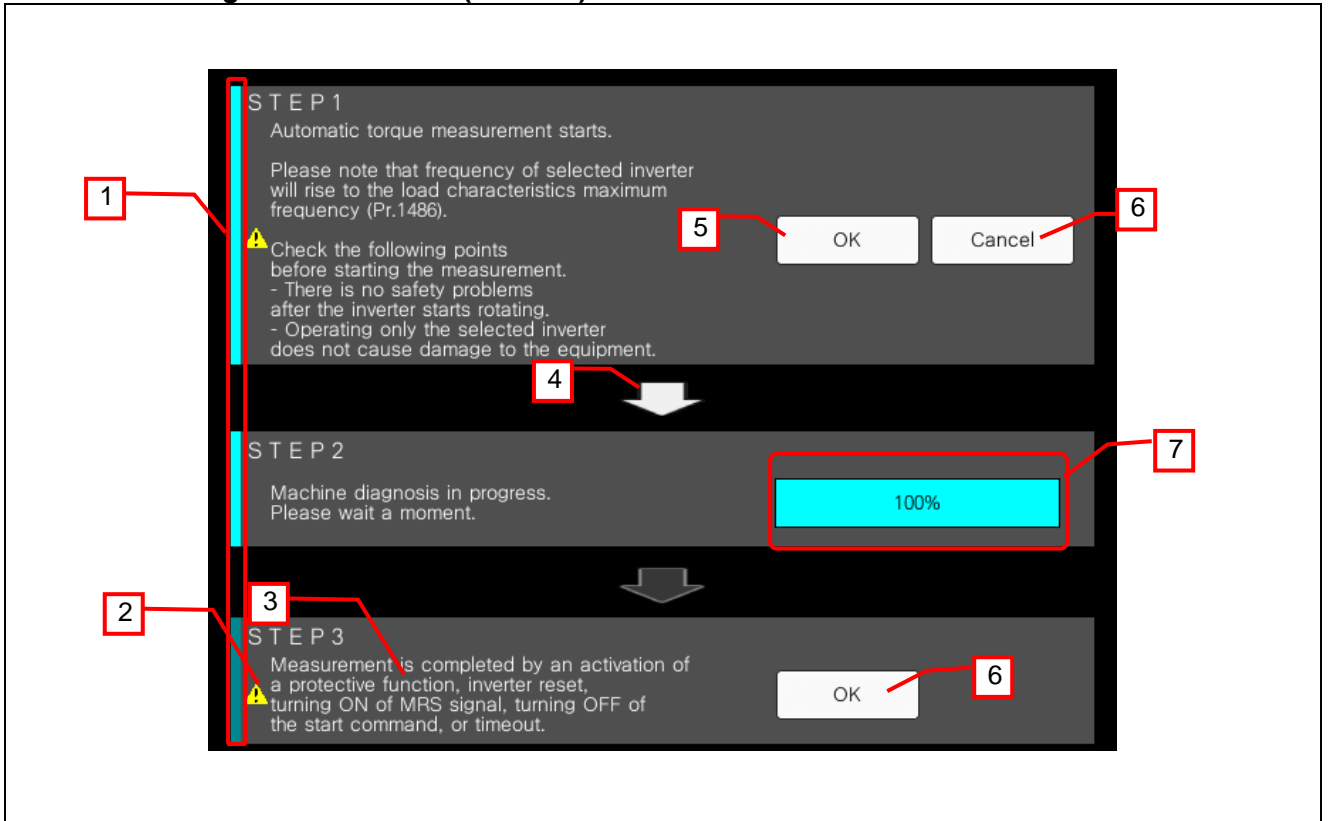
This screen is displayed when copying the parameters of the inverter from the recipe file.

Description

1. Displays the execution steps of [Copy Execution] screen. The step during execution and the completed step light sky blue.
2. When the process switches to the next step, the arrow icon lights white.
3. Notifies the user of the progress status of the copy. The progress is displayed as 0%, 50% or 100%.
4. Switches to the previously displayed screen.

Remarks

5.1.18 Machine Diagnosis Execution (B-14301)



Outline

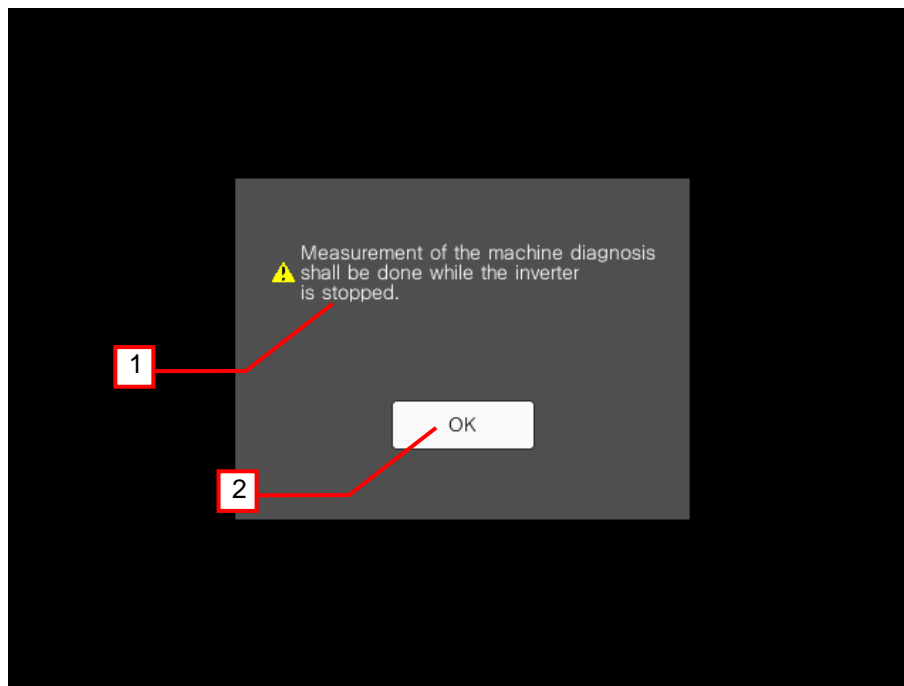
This screen is displayed when executing the machine diagnosis (load characteristics measurement).

Description

1. Displays the execution steps of the machine diagnosis (load characteristics measurement). The step during execution and completed step light sky blue.
2. Displayed when the machine diagnosis ends abnormally.
3. Displays the status of the machine diagnosis. The following messages are displayed.
 Machine diagnosis completion : "Machine diagnosis is completed successfully."
 Machine diagnosis abnormality : "Measurement is completed by an activation of a protective function, inverter reset, turning ON of MRS signal, turning OFF of the start command, or timeout."
4. When the process switches to the next step, the arrow icon lights white.
5. Executes the machine diagnosis (load characteristics measurement).
6. Switches to the previously displayed screen.
7. Notifies the user of the progress status of the machine diagnosis (load characteristics measurement). The progress is displayed as 0%, 20%, 40%, 60%, 80% or 100%.

Remarks

5.1.19 Machine Diagnosis Start Warning (B-14302)



Outline

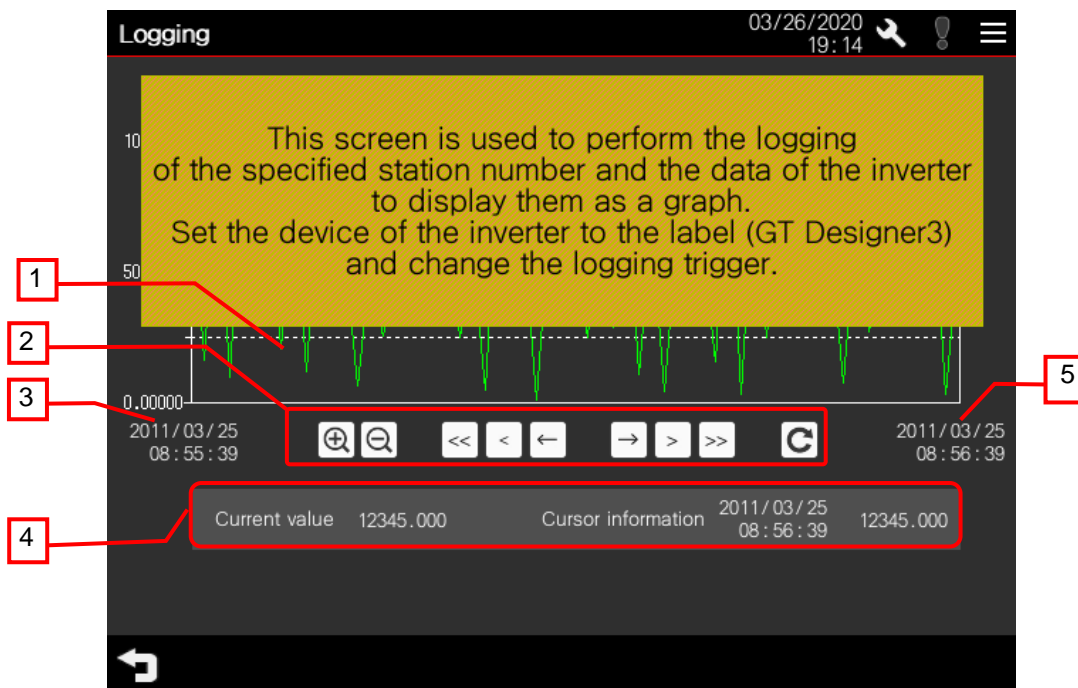
This is a confirmation screen to be displayed ahead of machine diagnosis when executing machine diagnosis during inverter operation or inverter error.

Description

1. Displays the following warnings according to the inverter status.
 - During inverter operation : "Measurement of the machine diagnosis shall be done while the inverter is stopped."
 - During alarm occurrence : "Measurement of the machine diagnosis shall be done after clearing inverter alarms."
 - Operation mode is set to other than NET operation mode : "Change the inverter operation mode to the NET operation mode."
 - Abnormal setting of the frequency : "Set the maximum frequency (Pr.1486) to a value which is larger than the minimum frequency (Pr.1487)."
2. Touch this switch to close the window screen.

Remarks

5.1.20 Logging (B-14900)



Outline

This is the screen part that the device can be displayed as a historical trend graph by setting the device of the inverter to monitor by user.

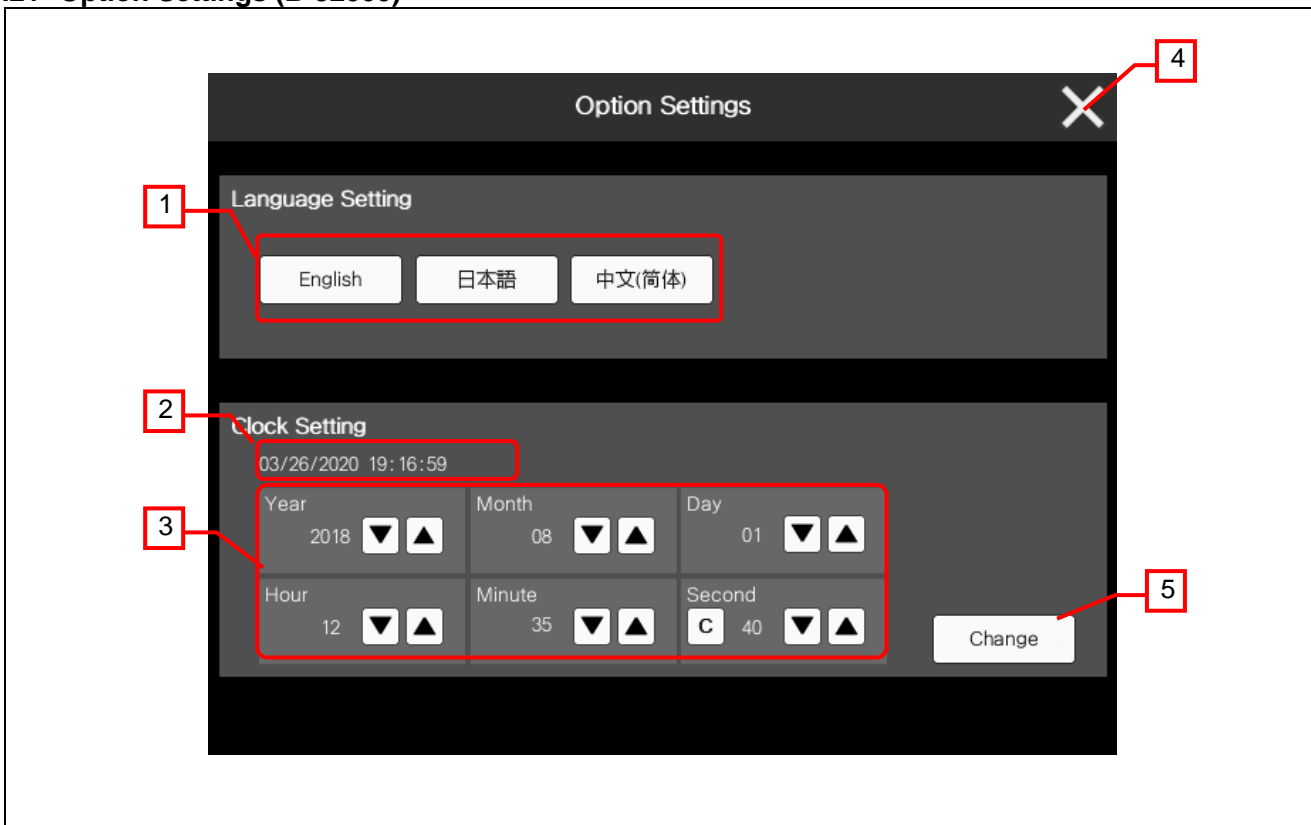
Description

1. Displays the data collected by logging as a historical trend graph.
2. Operates the historical trend graph.
 - << >> : Switches the displayed page of the historical trend graph.
 - < > : Scrolls the historical trend graph.
 - ← → : Moves the cursor displayed in the historical trend graph.
 - ⊕ ⊖ : Enlarges/reduces the time axis of the historical trend graph.
 - Ⓒ : Updates the historical trend graph.
3. Displays the end position time of the waveform displayed in the historical trend graph.
4. Displays the current value of the monitor device of the target device and the information of the cursor position when the cursor is displayed in the historical trend graph.
5. Displays the beginning position time of the waveform displayed in the historical trend graph.

Remarks

- [Go To Screen] switch to [Logging] screen is not placed. [Go To Screen] switch to [Logging] screen needs to be created by the user.
- The target device of the logging is the device set to "flt_Logging_dev" of the label group No.121 "INV_E800_Label" in label (GT Designer 3). Because "GD19990" is set in the default setting, change the device to the device of the inverter to perform the logging.
- This screen is excluded from the target of station number switching. For the details of the station No. switching function, please refer to "GT Designer3 (GOT2000) Screen Design Manual".
- Logging trigger cannot be operated in the default setting. Therefore change the settings of the logging trigger according to the timing to perform logging.

5.1.21 Option Settings (B-32000)



Outline

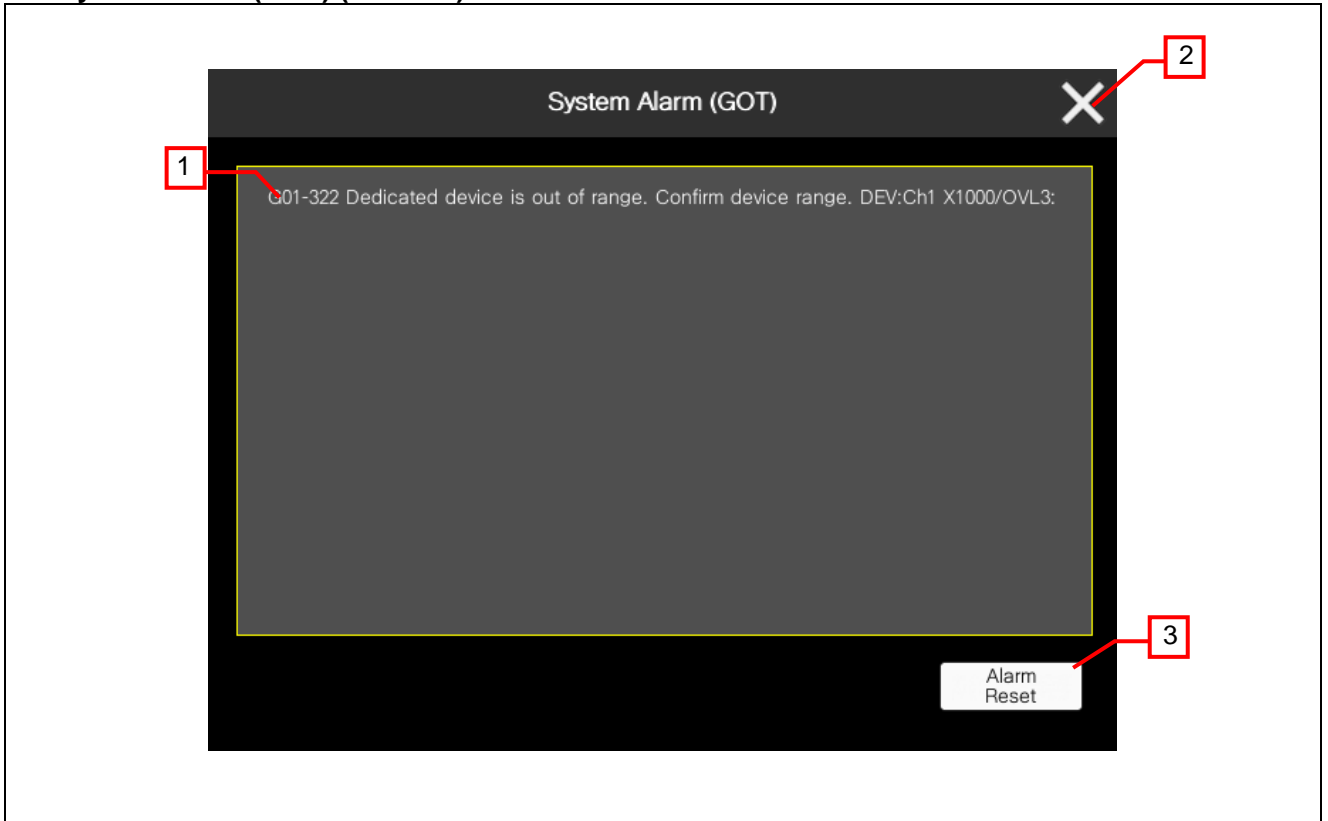
This screen is used to change the displayed language and the clock data of the GOT.

Description

1. Touch the switch to switch the language.
2. Displays the current date and time.
3. Change the date and time with switches. Holding down the switches increases or decreases the numbers consecutively.
Touch switch to set "0" to the second.
4. Switches to the previously displayed screen.
5. Touch this switch to update the GOT clock data with the newly set date and time.

Remarks

5.1.22 System Alarm (GOT) (B-32001)



Outline

This screen is used to check the system alarms of the GOT currently occurring.

Description

1. Displays the system alarms currently occurring. (Maximum 12 system alarms are displayed.)
Touch the displayed system alarm to scroll the message.
2. Switches to the previously displayed screen.
3. Resets system alarms currently occurring.

Remarks

5.2 Screen Operation

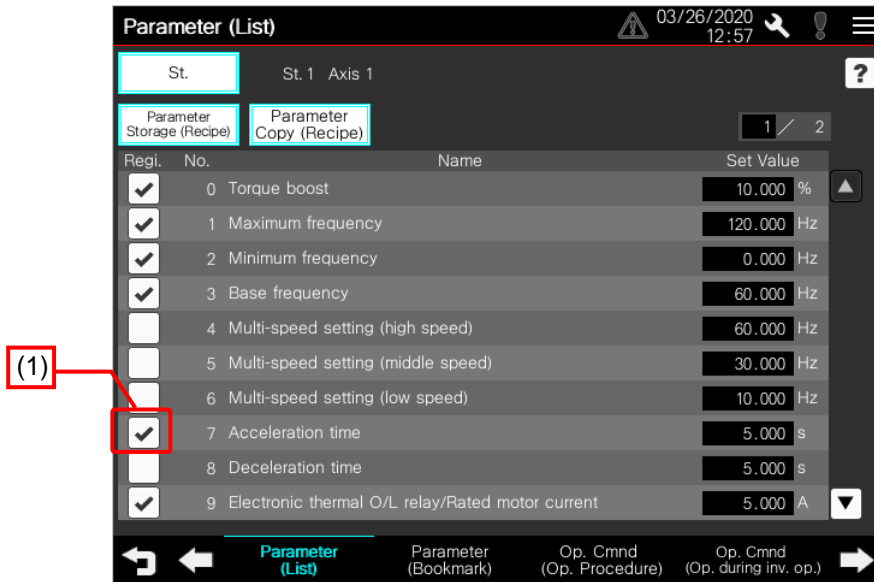
5.2.1 How to Register/Remove Parameters in [Parameter(Bookmark)]

How to register/remove parameters in [Parameter (Bookmark)] screen is as below.

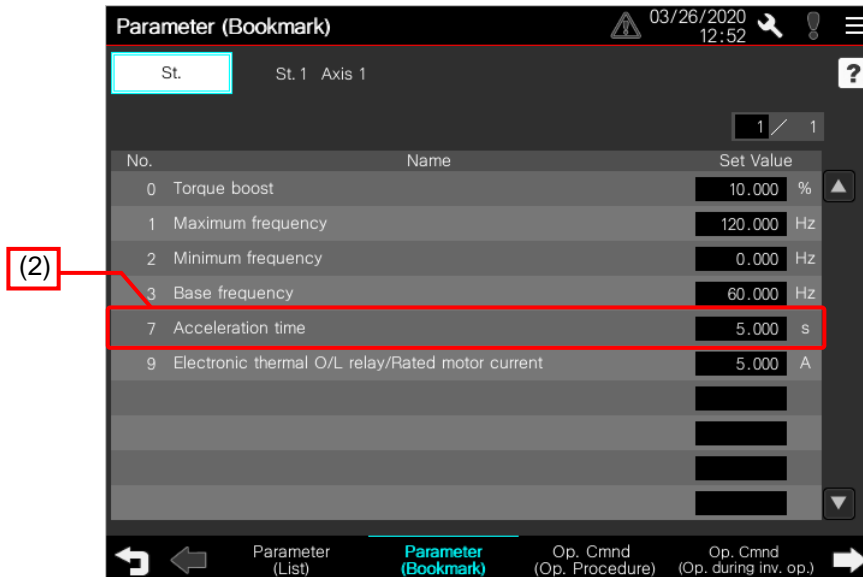
■How to register parameters in [Parameter (Bookmark)] screen

Example: Register "Pr.7 Acceleration time" in [Parameter (Bookmark)].

- (1) Touch the registration (Regi.) switch placed on the line of "Pr.7 Acceleration time" in [Parameter (List)] screen to check.

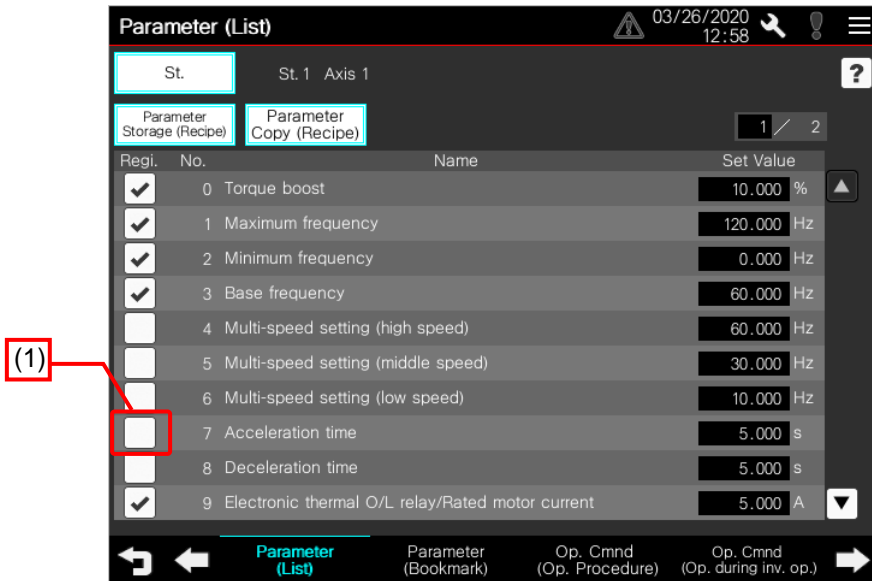


- (2) Switch to [Parameter (Bookmark)] screen to confirm that "Pr.7 Acceleration time" is displayed.

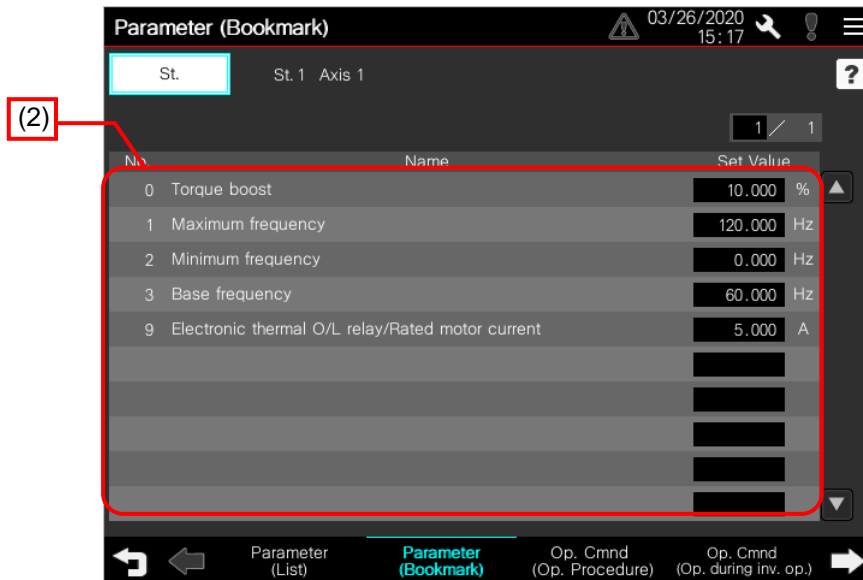


- How to remove parameters from [Parameter (Bookmark)] screen
 Example: Remove "Pr.7 Acceleration time" from [Parameter (Bookmark)].

(1) Touch the registration (Regi.) switch placed on the line of "Pr.7 Acceleration time" in [Parameter (List)] screen to deselect.



(2) Switch to [Parameter (Bookmark)] screen to confirm that "Pr.7 Acceleration time" is not displayed.



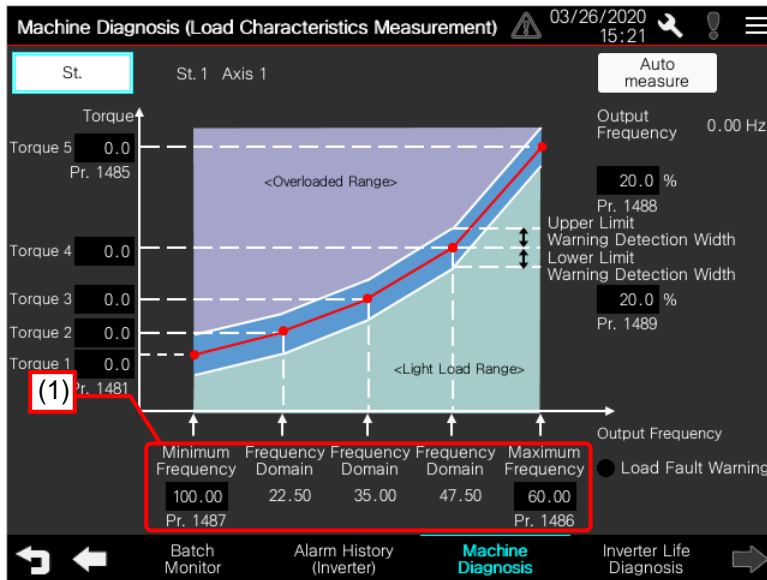
5.2.2 How to Operate Machine Diagnosis (Load Characteristics Measurement)

How to perform the load characteristics measurement of the inverter in Machine Diagnosis (Load Characteristics Measurement) screen is as below.

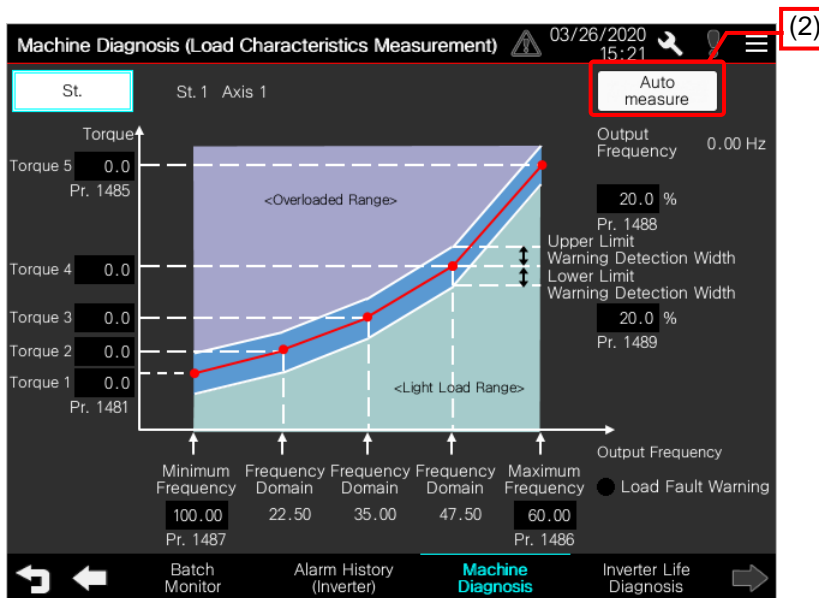
Example: Set "10" to [Minimum Frequency] and "60" to [Maximum Frequency] and perform the load characteristics measurement.

(1) Set detection range frequency of load characteristics fault.

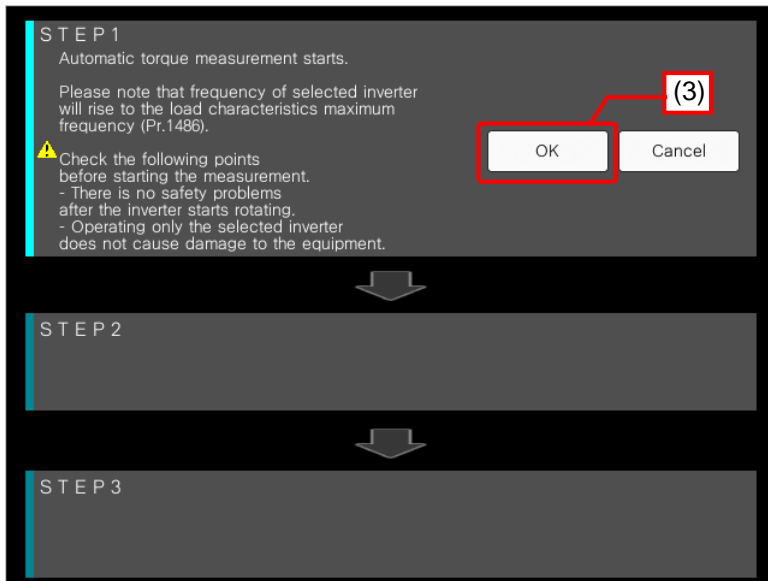
Set [Minimum Frequency] and [Maximum Frequency] to set [Frequency Domain] automatically according to the settings.



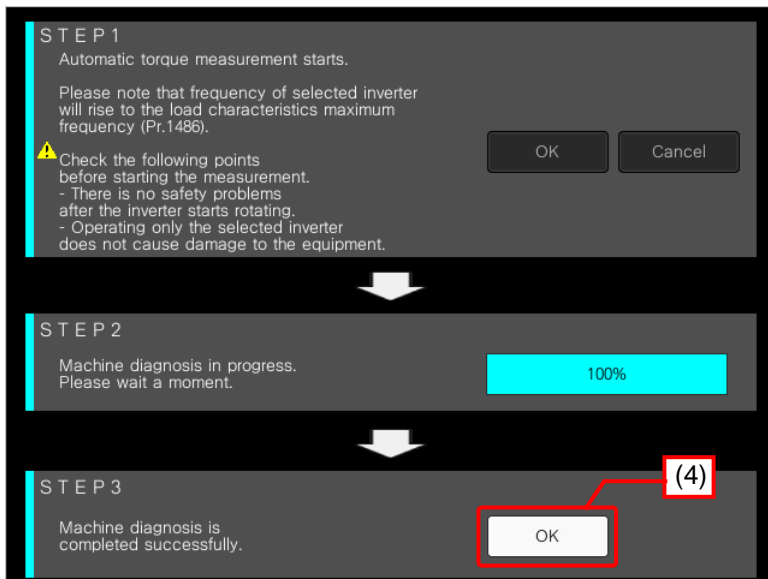
(2) Touch [Auto measure] switch to execute the auto measure.



(3) [Machine Diagnosis Execution] screen is displayed. Then touch "OK".
The inverter starts the load characteristics measurement.

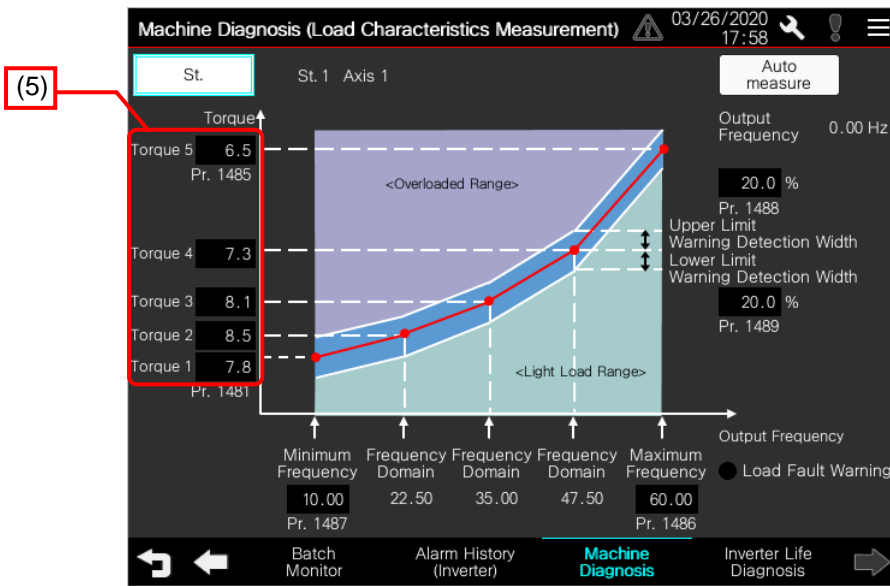


(4) STEP3 is displayed when the load characteristics measurement is completed. Then touch "OK".



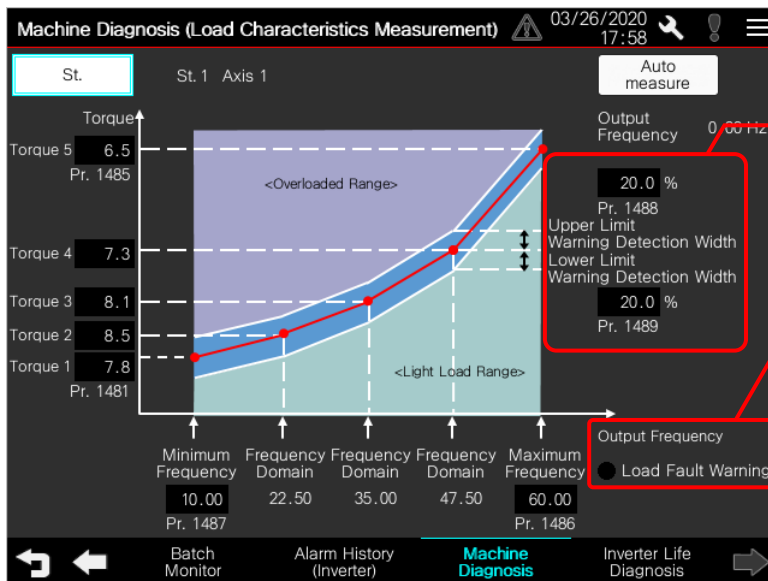
(5) After the measurement is completed, the standard values for load characteristics calculated by the inverter are displayed.

When adjusting the value, touch the value to change it manually.



(6) Set the detection widths (threshold value) of upper limit and lower limit warnings compared with the standard values for load characteristics.

The default setting of the inverter is 20%.



When the value is out of the set [Upper Limit Warning Detection Width] and [Lower Limit Warning Detection Width], the lamp lights.

5.3 Device List

Some of the devices specified to the on-screen switches and lamps, etc., are also used for common settings of functions such as scripts. Using [Batch Edit] is recommended to change these devices in a batch. For the details on [Batch Edit], please refer to "GT Designer3 (GOT2000) Screen Design Manual".

5.3.1 Controller Devices

For the virtual devices of the inverter used in this sample screen, please refer to "GOT2000 Series Connection Manual (Mitsubishi Electric Products)".

5.3.2 GOT Internal Devices

■GB Devices (Unchangeable)

Type	Device No.	Application
Bit	GB40	Script trigger (Always ON)
	GB41	Logging trigger (Always OFF)

■GB Devices (Changeable)

Type	Device No.	Application
Bit	GB15000 to GB16499	Bookmark registration status 1 to 1499
	GB16600	Bookmark recipe read completion flag
	GB16605	Bookmark page switch (previous page) execution trigger
	GB16606	Bookmark page switch (next page) execution trigger
	GB16607	Bookmark page switch (previous page) operating condition flag
	GB16608	Bookmark page switch (next page) operating condition flag
	GB16610	Bookmark recipe write trigger
	GB16611	Bookmark recipe read trigger
	GB16620 to GB16629	Bookmark display/hide flag (line 1 to 10)
	GB16700	Station No. power-failure backup write trigger
	GB16701	Station No. power-failure backup read trigger
	GB16705	PDF display switch flag
	GB16715	Alarm batch clear operation trigger
	GB16716	Inverter reset operation trigger
	GB16720	Machine diagnosis: measurement start trigger
	GB16721	Machine diagnosis: forward rotation command ON trigger
	GB16735	Recipe backup preparation trigger
	GB16736	Recipe restoration preparation trigger
	GB16750 to GB16765	3-speed operation selection flag (Station No. 1 to 16)
	GB16800	Initialization at GOT startup trigger
	GB16801	Recipe process management script execution trigger
	GB16810 to GB16811	Screen switching tab blue line display/hide flag 1 to 2
	GB16850 to GB16865	Stop command selection flag (Station No. 1 to 16)
	GB17000	Parameter list page switch (previous page) execution trigger
	GB17001	Parameter list page switch (next page) execution trigger
	GB17002	Parameter list page switch (previous page) operating condition flag
	GB17003	Parameter list page switch (next page) operating condition flag
	GB17005	Screen control execution trigger
	GB17006	Parameter selection recipe write trigger
	GB17010	Copy process start trigger
	GB17011	Copy source/destination selection status initialization trigger
	GB17015	Copy process initialization execution flag
	GB17020	Bookmark storage process execution trigger
	GB17030 to GB17045	Copy destination selection status flag (station No. 1 to 16)
	GB17050	Sample screen judgement flag (Used in the project script added at the time of utilization)
	GB17100 to GB17109	Parameter list display/hide flag (line 1 to 10)
	GB17200	Backup STEP 2 execution trigger
	GB17201	Backup STEP 3 execution trigger
	GB17210	Restoration STEP 2 execution trigger

Type	Device No.	Application
Bit	GB17211	Restoration STEP 3 execution trigger
	GB17220	Copy STEP 2 execution trigger
	GB17230	Machine diagnosis STEP 2 execution trigger
	GB17231	Machine diagnosis STEP 3 execution trigger

■GD Devices (Changeable)

Type	Device No.	Application
Bit	GD65231.b13	System alarm reset
	GD65290.b0	Recipe common control read trigger
	GD65290.b1	Recipe common control write trigger
	GD65293.b0	Recipe-shared Write-in-progress signal
	GD65293.b1	Recipe-shared Read-in-progress signal
Word	GD15000 to GD15199	Parameter selection parameter No. storage device
	GD15250 to GD15259	Parameter list parameter No. storage device (line 1 to 10)
	GD15270	Bookmark storage execution process order storage device
	GD15281	Parameter selection recipe record No. storage device
	GD15285	Parameter list page No.
	GD15286	Parameter list the total number of pages
	GD15297	Copy process process execution number
	GD15299	Copy source recipe ID storage device
	GD15300 to GD15315	Copy destination recipe ID storage device (station No. 1 to 16)
	GD15400	Copy process order storage device
	GD16000 to GD16009	Bookmark system area
	GD16010	Bookmark registration number
	GD16011	Bookmark the total number of pages
	GD16012	Bookmark Page No.
	GD16020 to GD16029	Reference pointer operation result storage device (line 1 to 10)
	GD16030	Parameter No. reference pointer storage device
	GD16040 to GD16049	Parameter No. (line 1 to 10)
	GD16500	Station No. power-failure backup record No. storage device
	GD16501	Display language back up device
	GD16505	Power saving effect unit switching
	GD16506	Cumulative energy saving unit switching
	GD16507	Rotation speed/machine speed unit switching
	GD16510	OP3 lower byte storage device
	GD16520	AL0 lower byte storage device
	GD16522	AL100 lower byte storage device
	GD16524	AL200 lower byte storage device
	GD16526	AL300 lower byte storage device
	GD16528	AL400 lower byte storage device
	GD16530	AL500 lower byte storage device
	GD16532	AL600 lower byte storage device
	GD16534	AL700 lower byte storage device
	GD16536	AL800 lower byte storage device
	GD16560	Machine diagnosis progress display device
	GD16570	Display warning switching device
	GD16740	3-speed operation status reference pointer storage device
	GD16750 to GD16765	3-speed operation status (station No.1 to 16)
	GD16800	Recipe process control device
	GD16810	Screen switching tab status display
	GD16820	Backup process control device
	GD16821	Backup progress device
	GD16825	Restoration process control device
GD16826	Restoration progress device	
GD16830	Load characteristics measurement process control device	
GD16831	Load characteristics measurement progress device	

Type	Device No.	Application
Word	GD16840	Copy process control device
	GD16860 to GD16863	Cursor position time storage device
	GD16870 to GD16873	Beginning position time storage device
	GD16880 to GD16883	End position time storage device
	GD17000 to GD17499	Copy target parameter storage device
	GD18000 to GD19499	Bookmark parameter No. storage device
	GD19990	Logging device
	GD65200	Base screen screen switching device
	GD65221	Language switching device
	GD65222	System language switching device
	GD65231	System information read device
	GD65241	System information write device
	GD65280	Document display ID storage device
	GD65281	Document display page No. storage device
	GD65283	Document display final page No. notice device
	GD65290	Recipe common setting external control device
	GD65291	Recipe common setting recipe No. storage device
	GD65292	Recipe common setting external control record No. storage device
	GD65296	Station No. switching device
	GD65297	System alarm monitor occurrence number storage
GD65300 to GD65305	Digital switch for clock	
Double word	GD16700	Frequency display device 1
	GD16702	Frequency display device 2
	GD16704	Frequency display device 3
	GD16850	Logging cursor information storage device

■GS Devices (Unchangeable)

Type	Device No.	Application
Bit	GS512.b0	Change time information
	GS523.b2	Document display common control: high quality display ON
	GS1010.b2	Recipe status notice (during recipe special control execution)
	GS1800.b2	Recipe control (recipe control execution)
	GS1802.b0	Recipe special control type specification (record information)
	GS1802.b1	Recipe special control type specification (record update date and time)
	GS1802.b2	Recipe special control type specification (device value of the record)
Word	GS513 to GS516	Change time
	GS650 to GS652	Current time
	GS1801	Recipe special control operation specification
	GS1803	Recipe special control start GD device No. specification
	GS1805	Recipe special control recipe No. specification
	GS1806	Recipe special control record No. specification

■Script parts temporary device area *1

Type	Device No.	Application
Word	PTMP800~PTMP996	For script operation

*1 A PTMP is a local variable that is accessible by the scripts of each script parts object.

5.3.3 Label (GT Desinger3)

■Label: No.100 Com_Label

Label name	Data type	Assigned (Device)	Application
u16_Com_CngBsDv	Unsigned BIN16	GD65200	Screen switch device (base screen)
u16_Com_CngOvrRpDv1	Unsigned BIN16	GD65201	Screen switch device (overlap window 1)
u16_Com_CngOvrRpDv2	Unsigned BIN16	GD65204	Screen switch device (overlap window 2)
u16_Com_CngOvrRpDv3	Unsigned BIN16	GD65207	Screen switch device (overlap window 3)
u16_Com_CngOvrRpDv4	Unsigned BIN16	GD65210	Screen switch device (overlap window 4)
u16_Com_CngOvrRpDv5	Unsigned BIN16	GD65213	Screen switch device (overlap window 5)
u16_Com_CngSprInpsDv1	Unsigned BIN16	GD65216	Screen switch device (superimpose window 1)
u16_Com_CngSprInpsDv2	Unsigned BIN16	GD65217	Screen switch device (superimpose window 2)
u16_Com_CngDlgDv	Unsigned BIN16	GD65218	Screen switch device (dialog window)
s16_Com_CngLngDv	Signed BIN16	GD65221	Language switching device
s16_Com_CngSytmLanDv	Signed BIN16	GD65222	System language switching device
s16_Com_StmInfRd	Signed BIN16[0..2]	GD65231	System information: read device
s16_Com_StmInfWt	Signed BIN16[0..38]	GD65241	System information: write device
u16_Com_DocIDNum	Unsigned BIN16	GD65280	Document display: ID
u16_Com_DocPageNum	Unsigned BIN16	GD65281	Document display: page No.
u16_Com_DocStNtcDspDv	Unsigned BIN16	GD65282	Document display: state display notice device
u16_Com_DocEndPageNum	Unsigned BIN16	GD65283	Document display: final page No. notice device
u16_Com_RcpCmCntlDv	Unsigned BIN16[0..2]	GD65290	Recipe common settings external control information
u16_Com_RcpCmNtcDv	Unsigned BIN16[0..2]	GD65293	Recipe common settings external notice information
u16_Com_StChgDv	Unsigned BIN16	GD65296	Station number switching device
u16_Com_StmAlmNumOfOccStr	Unsigned BIN16	GD65297	System alarm monitor occurrence number storage

■Label: No.121 INV_E800_Label

Label name	Data type	Assigned (Device)	Application
flt_Logging_dev	Real (32bit)	GD19990	Logging device

5.4 Comment

Characters displayed on the screen can be displayed in 3 languages: Japanese, English, and Chinese (simplified). Characters of each language are registered to Column No.1 to 3 of comment group No.300 to 340 and 500. Store the column No. in the language switching device to display the language corresponding to the column No.

Column No.	Language
1	English
2	Japanese
3	Chinese (Simplified)

Comment group No.	Application
300	Comments regarding the screen titles are registered.
301	Comments used in the screens are registered.
310	Parameter names of the inverter are registered. The parameter names are registered to comment No. obtained by parameter No. + 1.
311	Units of parameters are registered. The Units of the parameters are registered to comment No. obtained by parameter No. + 1.
320	Items monitored in batch monitors are registered. The comments are registered according to device No. of virtual device PV.
330	Names of abnormality displays (faults) displayed on the operation panel are registered. The names displayed on the operation panel are registered to comment No. same as data code.
331	Alarm names of abnormality displays (faults) are registered. The alarm names are registered to comment No. same as data code.
340	Axis names displayed with the station numbers are registered. When connecting the GOT to the inverter in RS-485 connection, the comment No. obtained by station number + 1 is displayed to change the settings of the object whose axis name is displayed. Please refer to "7.3.3 Settings of Sample Screen" for changing the settings of objects.
500	Comments used commonly in the sample screen are registered.

5.5 Recipe

Recipe Common Settings

External Control Information	
External control device	\$Com_Label:u16_Com_RcpCmCntlDv[0]
Recipe No. storage device	Assigned to device obtained by external control device + 1.
Record No. storage device	Assigned to device obtained by external control device + 2.
External Notice Information	
External notice device	\$Com_Label:u16_Com_RcpCmNtcDv[0]
Recipe No. notice device	Assigned to device obtained by external notice device + 1.
Record No. notice device	Assigned to device obtained by external notice device + 2.

Recipe

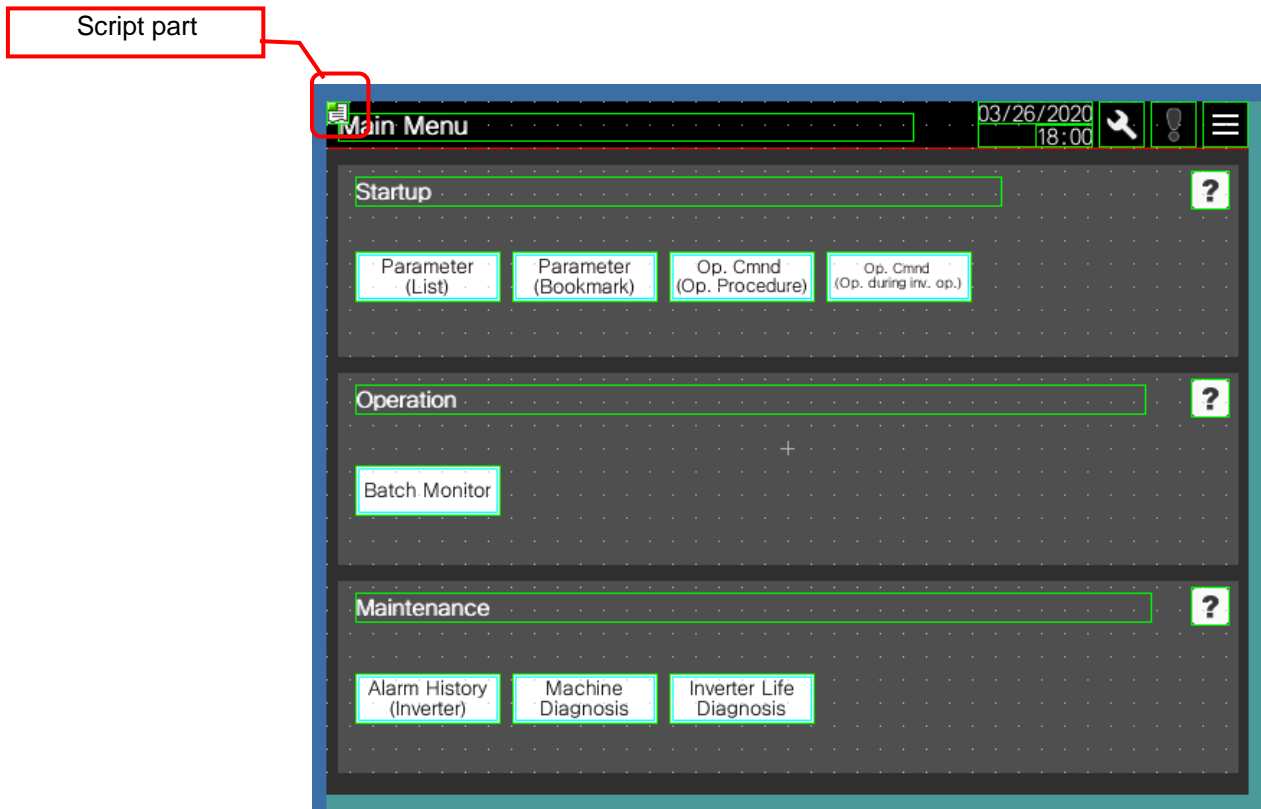
Recipe No.	Application
12000	Backup of the station number information.
12001 to 12016	Parameter backup/restoration of the inverter set in station number 1 to 16.
12100	List of the parameter numbers to display in the parameter screen.
12200	Store the bookmark registration status registered in the parameter screen.

5.6 Script

Item	Script No./Object ID	Setting screen
Project script	No	-
Screen script	No	No
Object script	Yes (ID 10062)	B-12900
Script parts	Yes (Placed on the upper left of each screen)	B-12000 to 12900, B-14103 to 14301 and B-32000

■ Position of Script Parts

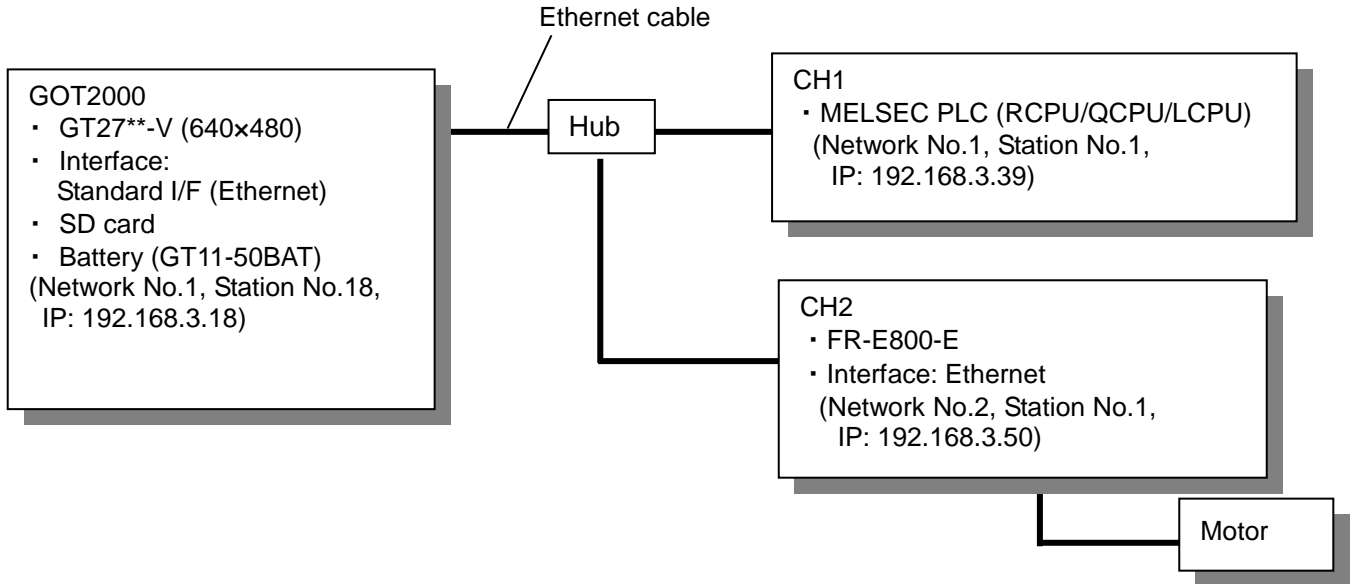
Example: [Main Menu] screen (B-12000)



6. Utilize Sample Screen

This section explains how to incorporate (hereafter utilize) this sample screen in the project data of GOT users in the following system configuration. When actually utilizing this screen in the user's project data, apply the user's system configuration to the following system configuration.

Example: When utilizing this sample screen as the connected controller CH2 in the user's project data which sets the MELSEC iQ-RCPU to the connected controller CH1.



6.1 Checks Before Utilization

Check and perform the following items before utilizing this screen.

(1) Backup

The settings of user's project data are changed by utilizing this sample screen in the project data.
Make sure to back up the project data before utilizing this sample screen.

(2) CH of [Controller Setting]

A CH of [Controller Setting] is occupied by utilizing this sample screen in the project data.
When all channels (CH1 to 4) are used in the project data before utilizing this sample screen, prepare an unused CH.

(3) Change GOT internal device

GOT internal device is used in this sample screen.

Please refer to "5.3 Device List" and change the applicable range of the GOT internal device of this sample screen or the user's project data when the applicable range of the GOT internal device overlaps.

6.2 Utilization Procedure

After performing "6.1 Checks Before Utilization", utilize this sample screen according to the following procedures.

- (1) Open this sample screen.
Users who have installed this sample screen from the installer of GT Works3 *1
⇒"6.2.1 How to Open the Sample Screen Installed to GT Designer 3"
- (2) Add the settings of the inverter to CH2 of [Controller Setting] in this sample screen and user's project data to utilize the inverter as CH2 of the controller.
⇒"6.2.2 Preparation before Utilization"
- (3) Utilize this sample screen whose settings have been changed in (2) in user's project data.
⇒"6.2.3 Utilize Another Project"

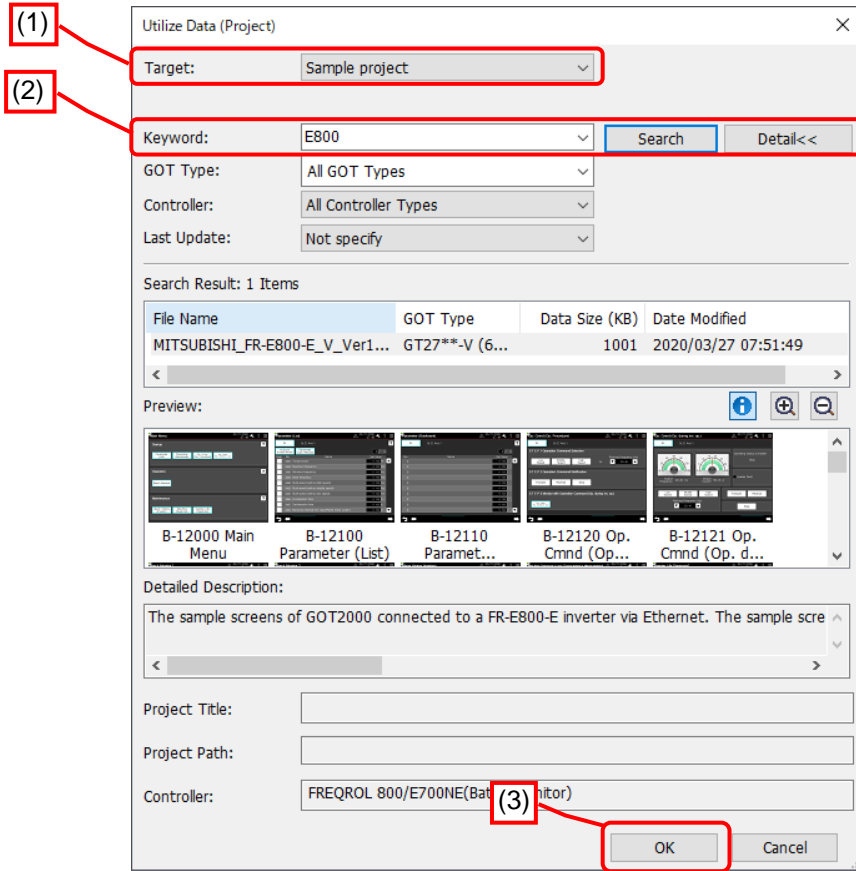
*1 For the following users

- Users who executed SETUP.EXE in GTSample_E folder stored in disc 2 of GT Works3 product DVD.

6.2.1 How to Open the Sample Screen Installed to GT Designer 3

Select [Project] and then [Utilize Data], and perform the operations below to open the sample screen.

- (1) Set "Sample project" to [Target].
- (2) Select [Detail>>] and input "E800" to [Keyword]. Then select [Search].
- (3) Select [OK].

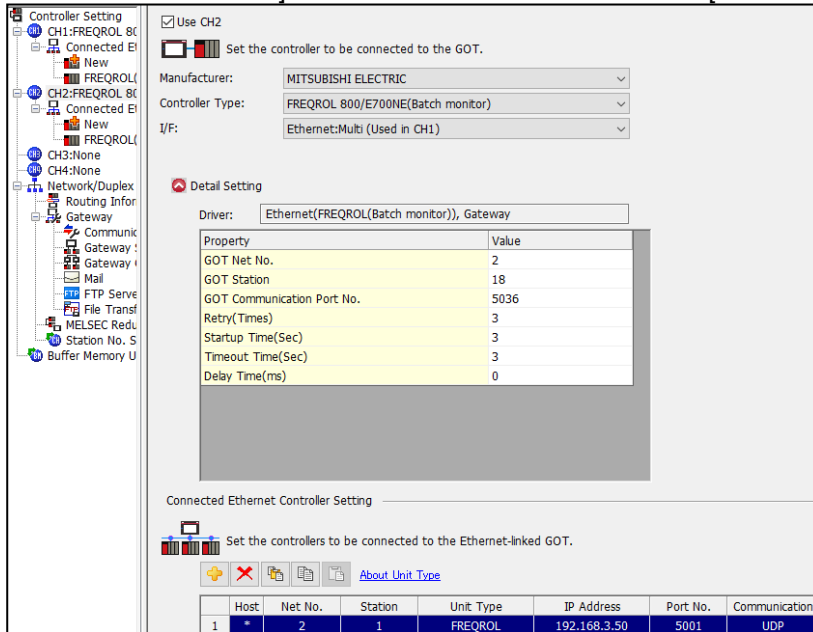


6.2.2 Preparation before Utilization

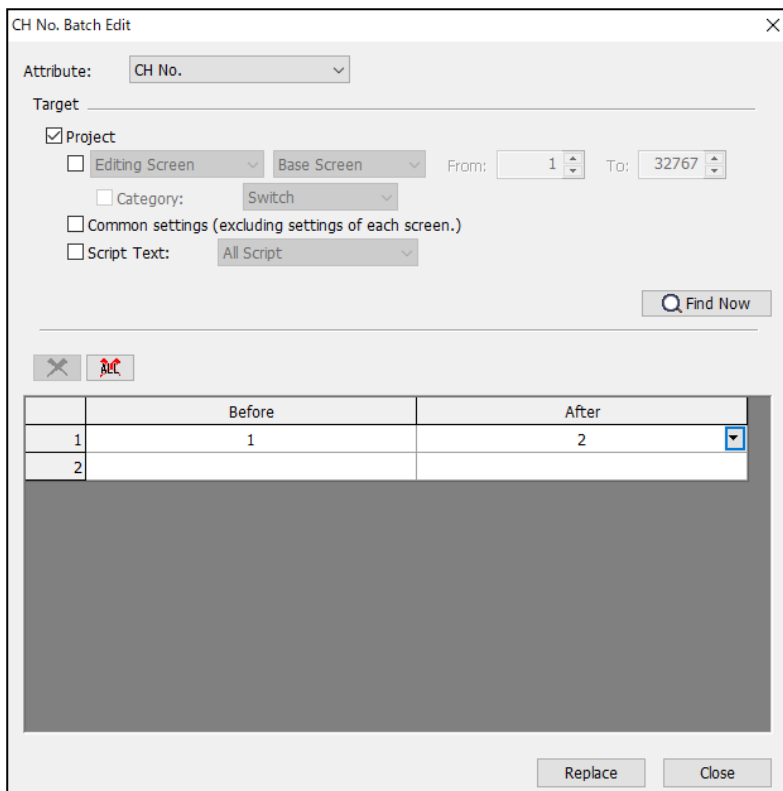
To utilize [Controller Setting] of the inverter in this sample screen as CH2 with [Utilize Project] function, [Controller Setting] of this sample screen needs to be changed from CH1 to CH2, and the setting for the inverter also needs to be set to CH2 of [Controller Setting] in user's project data before utilization. Perform the setting of the sample screen according to the procedures below.

■How to change [Controller Setting] of this sample screen from CH1 to CH2

- (1) Go to [Common] - [Controller Setting] and check [Use CH2] to perform the setting of the connected inverter. Because the same value cannot be set to [GOT Communication Port No.] of CH1 and CH2, change the [GOT Communication Port No.] of CH1 to "5037" and set "5036" to [GOT Communication Port No.] of CH2.



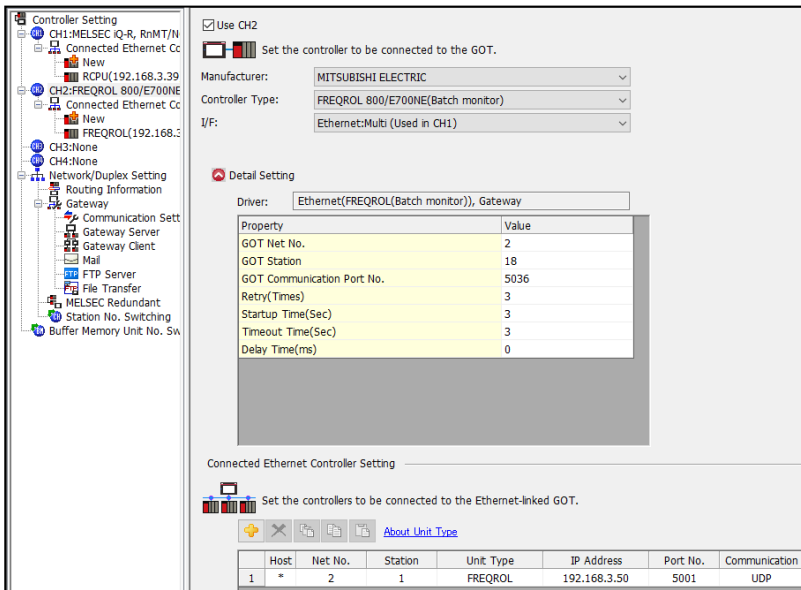
- (2) Go to [Search/Replace] - [Batch edit] to select [CH No.]. Check [Project] under [Target] and click [Find Now] to display "1" in [Before] and [After]. Change the "1" in [After] to "2" and click [Replace]. By this operation, devices set in the screen are set to the settings of CH2 from CH1.



- (3) Refer to "7.7 Changing the Inverter Network No. and Station No." and modify Net No. and Station No. to the ones set in CH2.
- (4) Refer to "7.6 Changing the Communication Settings of the Inverter from CH1 in [Controller Setting]" and check CH2 of [CH No. for Station No. Switching] which is connected to the inverter in [Station No.Switching].
- (5) Select [Project] and then [Save As Project] to save as another project data.

■ How to set CH2 of [Controller Setting] in user's project data.

Add the same setting as [Controller Setting] of the inverter set in (1) of " How to change [Controller Setting] of this sample screen from CH1 to CH2" to CH2 of [Controller Setting] in user's project data.

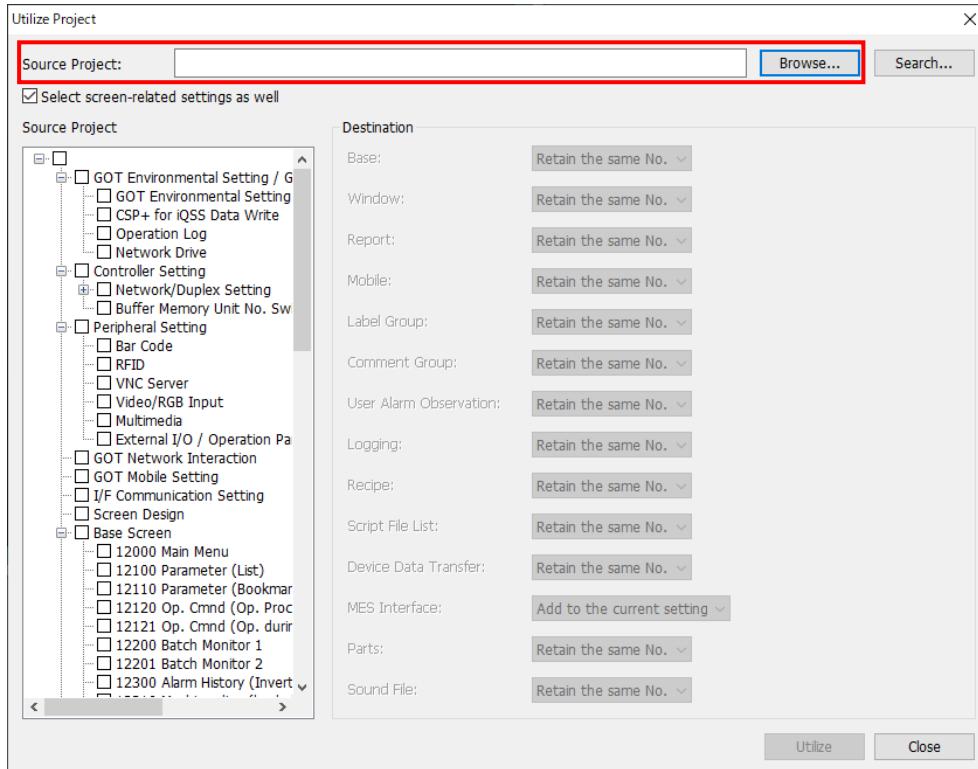


■ Perform "6.2.3 Utilize Another Project "after completing all procedures.

6.2.3 Utilize Another Project

Utilize the project data created in "6.2.2 Preparation before Utilization" in the user's project data according to the procedures below.

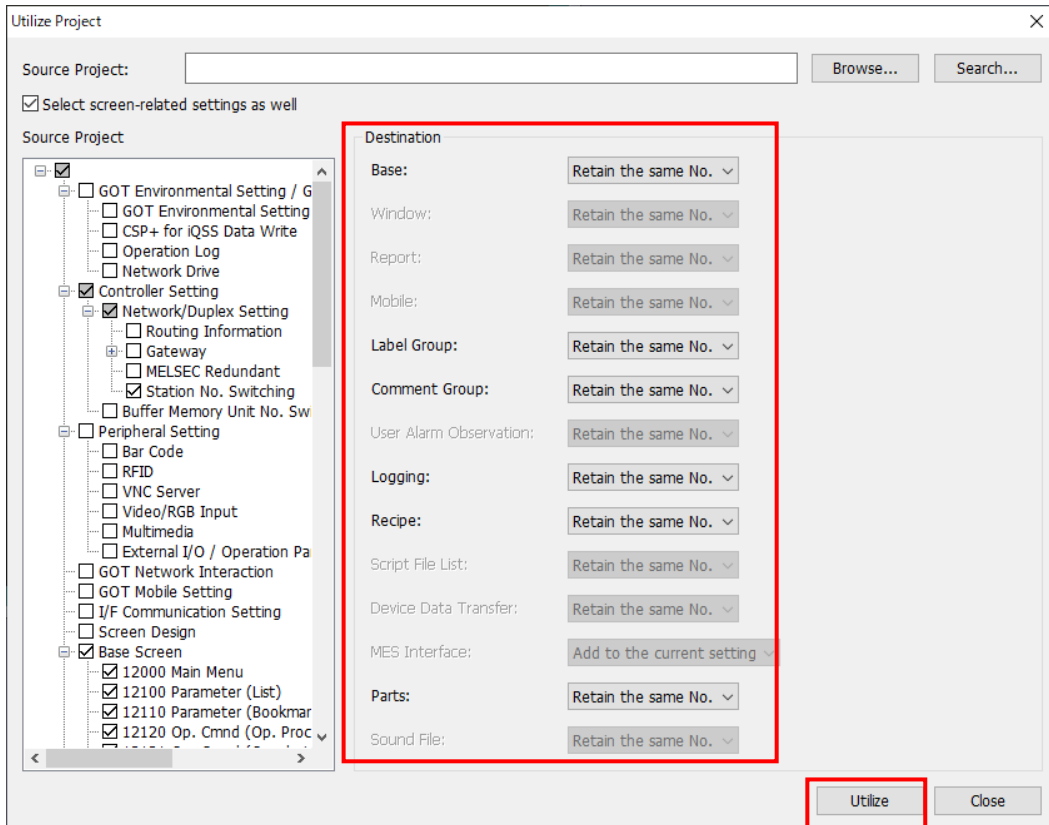
- (1) Open the user's project data by GT Designer3.
- (2) Go to [Project] and select [Utilize Data (Project)].
- (3) Select [Browse] and open the project data created in "6.2.2 Preparation before Utilization".



- (4) Check the following items.

Item	
Controller Setting	Check [Station No. Switching].
Base Screen	Check all.
Label	Check all.
Comment	Check all.
Alarm	Check [System Alarm Observation].
	Check [Alarm Popup Display].
Logging	Check [14900 Logging].
Recipe	Check all.
Parts	Check [30200 None_parts]
	Check [30201 Warning_parts]
	Check [30202 Alarm_OFF]
	Check [30203 Alarm_ON]
	Check [30204 Warning_mini_parts]

(5) Set [Retain the same No.] to [Destination] and select [Utilize].



(6) Perform "6.3 Works after Utilization".

6.3 Works after Utilization

For this sample screen, function addition and change of the settings are needed to be performed according to the user's system configuration after utilization. Please refer to the items below for works after utilization.

⇒"6.3.1 Settings of label (GT Designer3)"

⇒"6.3.2 Settings of GOT Environmental Setting"

⇒"6.3.3 Settings of Project Script"

6.3.1 Settings of Label (GT Designer3)

Change [Assign (Device)] of label (GT Designer3) according to the device assignment of each setting set in the user's project data.

■Label Group No.100 Com_Label

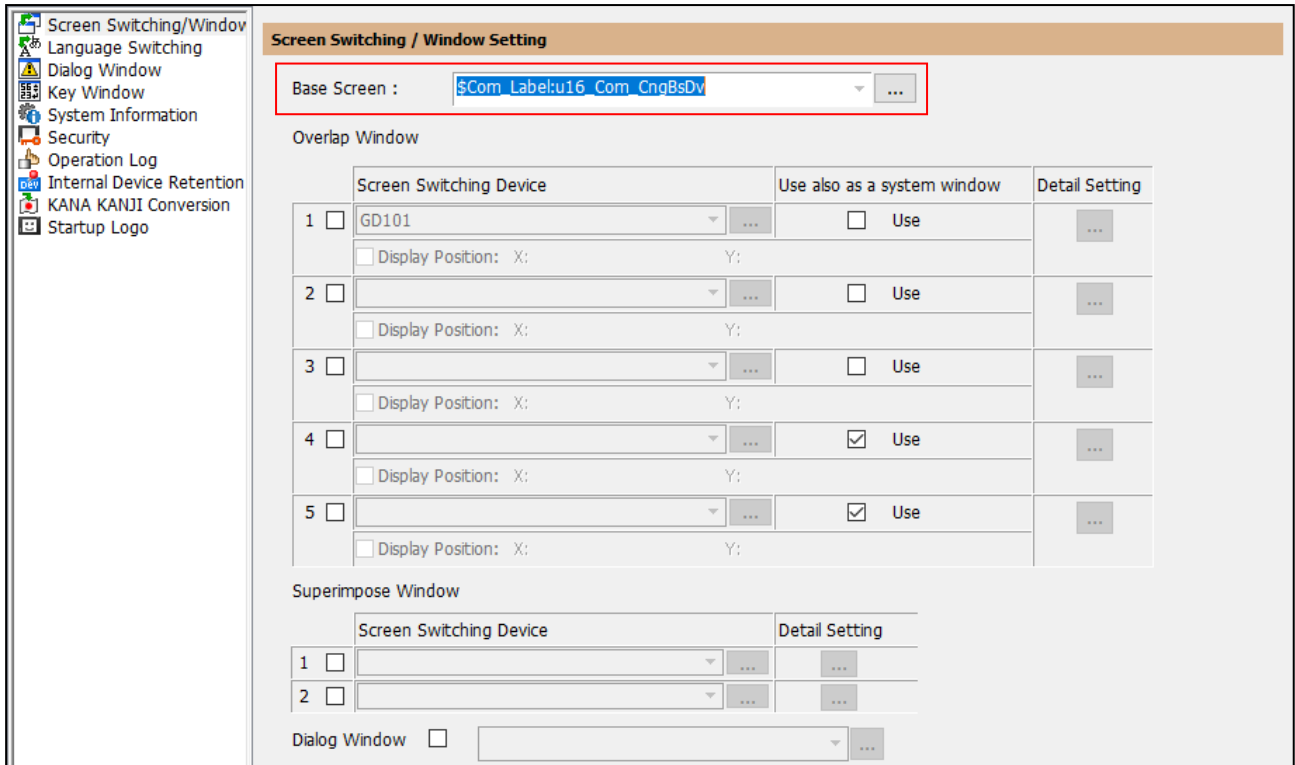
Label Name	Data Type	Assign(Device) Default Value *1	Application
u16_Com_CngBsDv	Unsigned BIN16	GD65200	Screen switch device(base screen)
s16_Com_StmInfRd	Signed BIN16[0..2]	GD65231	System information read device
s16_Com_StmInfWt	Signed BIN16[0..38]	GD65241	System information write device
u16_Com_RcpCmCntlDv	Unsigned BIN16[0..2]	GD65290	Recipe common settings external control information
u16_Com_RcpCmNtcDv	Unsigned BIN16[0..2]	GD65293	Recipe common settings external notice information
s16_Com_CngLngDv	Signed BIN16	GD65221	Language switching device
s16_Com_CngSytmLanDv	Signed BIN16	GD65222	System language switching device
u16_Com_StmAlmNumOfOccStr	Unsigned BIN16	GD65297	System alarm monitor occurrence number storage

*1: For the function not used in the user's project data, it is not required to change [Assign (Device)] of the label.

6.3.2 Settings of GOT Environmental Setting

Change and add the following settings in the project data after utilization.

(1) [Screen Switching/Window Setting]



■Base Screen

Change the screen switch device of [Base Screen] to the following.

Item	Setting
[Screen Switching Device]	\$Com_Label:u16_Com_CngBsDv

(2) [Language Switching Device]

Language switching is supported in this sample screen.

When using language switching, go to [Common] - [GOT Environmental Setting] - [Language Switching] to open the setting screen and set the following items.

When not using language switching, the settings are not required.

Please refer to "5.4 Comment" for language switching.

Use Language Switching

Language Switching Device: \$Com_Label:s16_Com_CngLngDv ...

Alternative Display (when the language switching device value is out of the range (1-30) or comment column No. does not exist):
 Not Display Display Comment Column No.: 1

Comment column No. to be previewed on the editor: 1

Region Setting

Set the date format of each function when changing the sort setting along with language switching.

	Standard	Comment Column No.	Remark (Region Name)	Date Format	Decimal Marker
1	*	1	USA	mm/dd/yy	. (period)
2		2	JPN	yy/mm/dd	. (period)
3		3	CHN	yy/mm/dd	. (period)

*Date will appear in the standard format if language switching device value is out of the range or comment column No. is not set above.

Use System Language Switching

System Language Device: r_Label:s16_Com_CngSytmLanDv ... System Language Setting...

Item	Setting
[Use Language Switching]	Checked
[Language Switching Device]	\$Com_Label:s16_Com_CngLngDv
Alternative Display (when the language switching device value is out of the range (1-30) or comment column No. does not exist)	Display
	Comment Column No.1
[Use System Language Switching]	Checked
[System Language Device]	\$Com_Label:s16_Com_CngSytmLanDv

(3) [System Information]

In this sample screen, the switch which can reset system alarms when system alarms of the GOT occur is set.

When using the reset function of system alarms, go to [Common] - [GOT Environmental Setting] - [System Information] to open the setting screen and set the following items

When not using the reset switch of system alarms, the settings are not required.

Please refer to "5.1.22 System Alarm (GOT) (B-32001)" for the reset switch of system alarms.

Item	Setting
[Use System Information]	Checked
[First Device] of [Read Device (Controller->GOT)]	\$Com_Label:s16_Com_StmInfRd[0]
[First Device] of [Write Device (Controller->GOT)]	\$Com_Label:s16_Com_StmInfWt[0]

6.3.3 Settings of Project Script

Station number switching function is set in this sample screen. In the cases such as when station number switching is used in user's project data or the screen for the inverter is created by the user, there is a possibility that unintentional stations are monitored.

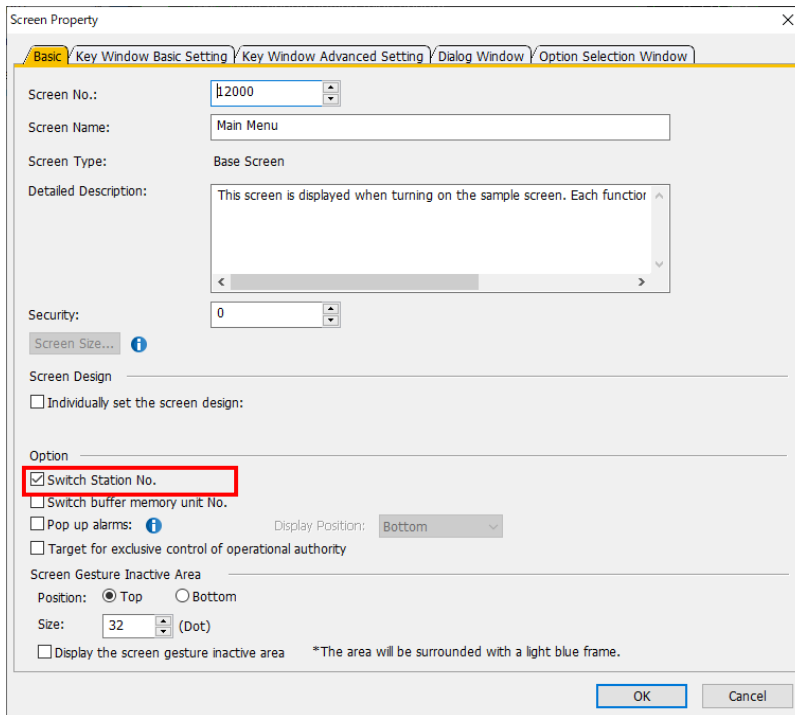
By adding the project script below, the monitor target of the station is set to the station set by the object when switching to a screen other than the screens of the sample.

Script No.	12000	Script name	Script12000
Comment	Station No. switching device initialization		
Data type	Signed BIN16	Trigger type	Ordinary
<pre>// When the value in the screen switching device is for sample screens (12000-14302) if(((12000 <= [<\$.Com_Label:u16_Com_CngBsDv>]) && ([<\$.Com_Label:u16_Com_CngBsDv>]<= 14302) && [b:GB17050] == OFF){ set([b:GB17050]); //Turns ON the station number switching flag } }else{ //When the value in the screen switching device is for other than sample screens, switches the station number switching device to the host station. if(([<\$.Com_Label:u16_Com_CngBsDv>] < 12000) ([<\$.Com_Label:u16_Com_CngBsDv>] > 14302)) && [b:GB17050] == ON){ [<\$.Com_Label:u16_Com_StChgDv>] = 0x00FE; //Switches the monitor target to the station set by the object. rst([b:GB17050]); // Turns OFF the station number switching flag } } }</pre>			

■Availability of station number switching function

Can be checked by [Screen Property] of base screen.

Go to [Screen Property] – [Basic] tab and confirm [Switch Station No.] in [Option].



When [Switch Station No.] is checked, there is a possibility that station number switching is used because the screen is the target of station number switching function.

When [Switch Station No.] is not checked, station number switching is not used because the screen is not the target of station number switching function.

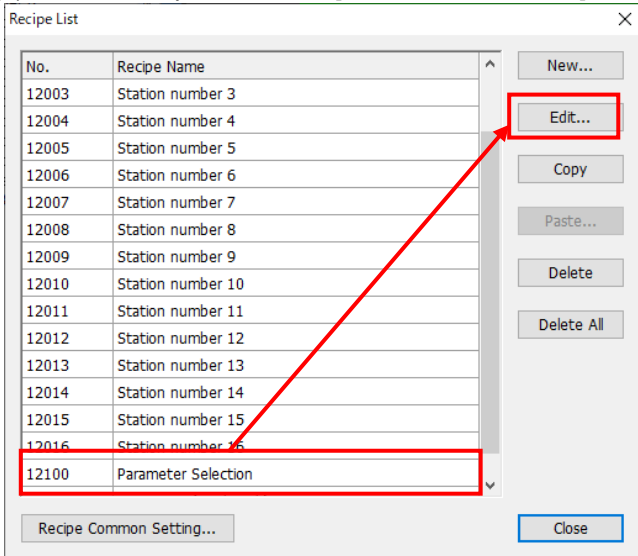
*When a new base screen is created, [Switch Station No.] is not checked in the default setting.

7. User Customize

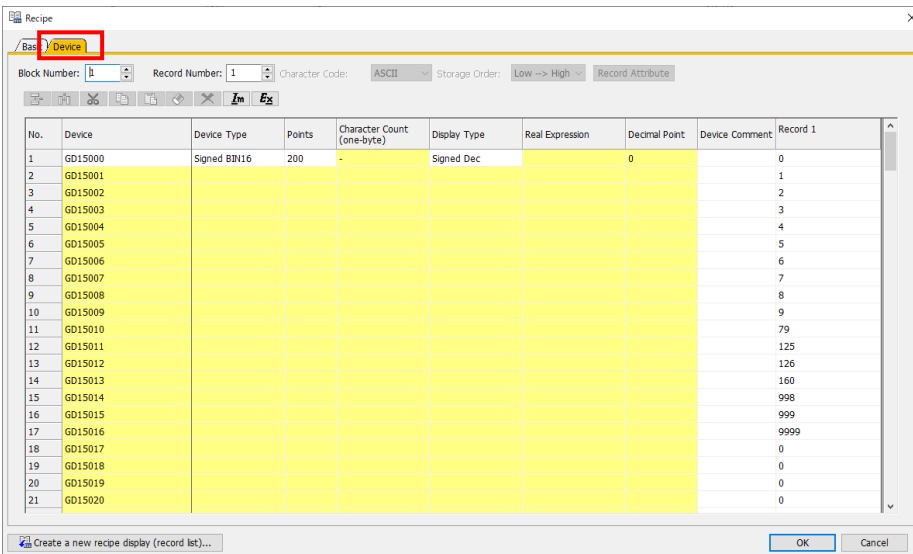
7.1 How to Display the Specified Parameters in [Parameter (List)] Screen

How to change the settings is explained below with the example of displaying [Pr.165 Stall prevention operation level for restart] in [Parameter (List)] screen.

- (1) Go to [Common] - [Recipe] and select [Recipe].
- (2) Select Recipe No.12100 [Parameter selection] and click [Edit].



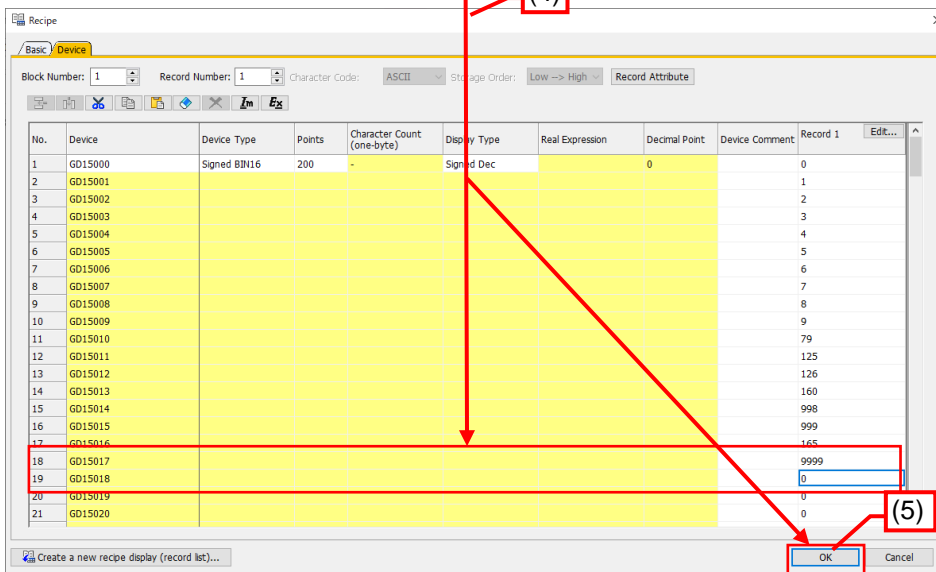
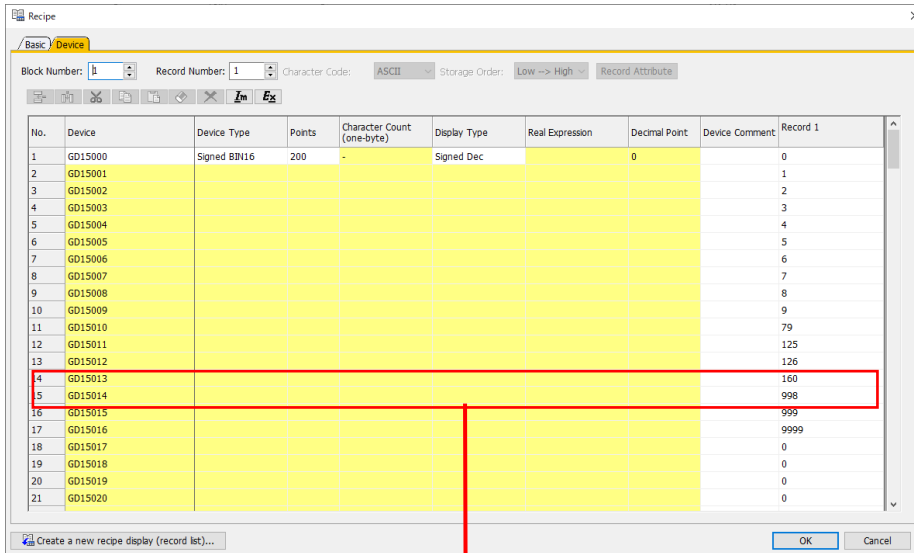
- (3) Select [Device] tab.



(4) Set "9999" which is set in No.17 of [Record 1] to No.18 and set "165" which is the parameter No. to add to No.17.

*The setting of "9999" is not required when [Record 1] of 200 devices are set which is the maximum number. When the set devices are less than 200, make sure to set "9999" to the final No.

(5) Click [OK].



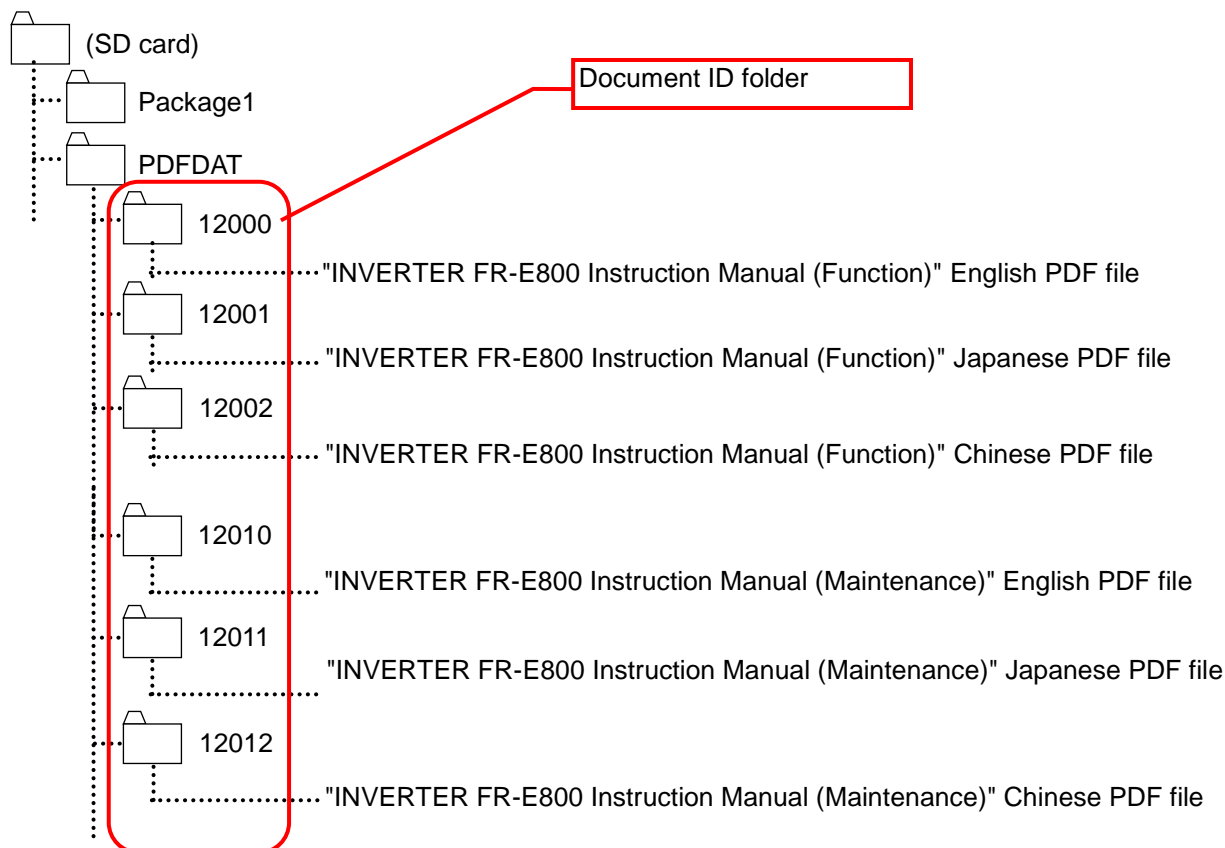
■Precautions

- Do not register calibration parameters (Pr.900 to Pr.935)
Regarding calibration parameters (Pr.900 to Pr.935), because [Bias/gain value] or [Analog input value] is required to be set with object, create a screen to change parameters when changing parameters with the GOT.

7.2 Document Data Used in [Manual Display (B-12900)] Screen

A manual in a PDF format can be displayed without conversion. For more details on the document display function, please refer to "GT Designer3 (GOT2000) Screen Design Manual". Please note that the language switching cannot be performed with the document display function. Therefore, in the sample screens, the document language is switched by changing the document ID in accordance with the selected display language.

- (1) Store the manuals in the following folder configuration.
For the document ID and corresponding language, please refer to the table in (2).



SD card folder configuration

- (2) Correspondence table of document ID and display language

Document ID	Language	Manual
12000	English	"INVERTER FR-E800 Instruction Manual (Function)" English
12001	Japanese	"INVERTER FR-E800 Instruction Manual (Function)" Japanese
12002	Chinese (Simplified)	"INVERTER FR-E800 Instruction Manual (Function)" Chinese
12010	English	"INVERTER FR-E800 Instruction Manual (Maintenance)" English
12011	Japanese	"INVERTER FR-E800 Instruction Manual (Maintenance)" Japanese
12012	Chinese (Simplified)	"INVERTER FR-E800 Instruction Manual (Maintenance)" Chinese

- (3) Displayed manual is different depending on the screen before switching.
- (a) Operation, Startup or Parameter screen of the main menu.
 ⇒Open "INVERTER FR-E800 Instruction Manual (Function) 3. Parameters".
 - (b) Maintenance or Alarm History screen of the main menu
 ⇒Open "INVERTER FR-E800 Instruction Manual (Maintenance) 2.Protective Functions"

For the versions and pages for "INVERTER FR-E800 Instruction Manual (Function)" and "INVERTER FR-E800 Instruction Manual (Maintenance)" at the creation of this sample screen, please refer to the table below.

INVERTER FR-E800 Instruction Manual (Function)	English	Japanese	Chinese (Simplified)
Revised	December 2019	December 2019	December 2019
Manual Number	IB(NA)-0600868ENG-A	IB(名)-0600867-A	IB(NA)-0600869CHN-A
3. Parameters	Page 51	Page 45	Page 43

INVERTER FR-E800 Instruction Manual (Maintenance)	English	Japanese	Chinese (Simplified)
Revised	December 2019	December 2019	December 2019
Manual Number	IB(NA)-0600874ENG-A	IB(名)-0600873-A	IB(NA)-0600875CHN-A
2.Protective Functions	Page 12	Page 12	Page 12

- (4) When updating the manual, obtain the manual written in (2) and store the PDF file of the manual in the document ID folder of the corresponding language. Delete the older manual. Then refer the following table to modify the page number specified in the script parts (Script 1 and 2) that has been set for the base screen 12900 [Manual Display].

Manual to be updated	Modification
English Manual	Change the constant of word set [<\${Com_Label:u16_Com_DocPageNum}>] from 51 to the page number of “3. Parameters” in the English manual.
	Change the constant of word set [<\${Com_Label:u16_Com_DocPageNum}>] from 12 to the page number of “2. Protective Functions” in the English manual.
Japanese Manual	Change the constant of word set [<\${Com_Label:u16_Com_DocPageNum}>] from 45 to the page number of “3. Parameters” in the Japanese manual.
	Change the constant of word set [<\${Com_Label:u16_Com_DocPageNum}>] from 12 to the page number of “2. Protective Functions” in the Japanese manual.
Chinese Manual	Change the constant of word set [<\${Com_Label:u16_Com_DocPageNum}>] from 43 to the page number of “3. Parameters” in the Chinese manual.
	Change the constant of word set [<\${Com_Label:u16_Com_DocPageNum}>] from 12 to the page number of “2. Protective Functions” in the Chinese manual.

Example: Where to change settings in Script1 (Updating the English manual)

```

1 //Script decides the PDF or the page to display on the manual display screen
2
3 if([b:GB16705] == 0){
4     switch([<${Com_Label:s16_Com_OngLngDv}>]){
5         case 1:
6             [<${Com_Label:u16_Com_DocIDNum}>] = 12000;
7             [<${Com_Label:u16_Com_DocPageNum}>] = 51;
8             break;
9         case 2:
10            [<${Com_Label:u16_Com_DocIDNum}>] = 12001;
11            [<${Com_Label:u16_Com_DocPageNum}>] = 45;
12            break;
13         case 3:
14            [<${Com_Label:u16_Com_DocIDNum}>] = 12002;
15            [<${Com_Label:u16_Com_DocPageNum}>] = 43;
16            break;
17         default :
18            [<${Com_Label:u16_Com_DocIDNum}>] = 12000;
19            [<${Com_Label:u16_Com_DocPageNum}>] = 51;
20            break;
21     }
22 }else{
23     switch([<${Com_Label:s16_Com_OngLngDv}>]){
24         case 1:
25            [<${Com_Label:u16_Com_DocIDNum}>] = 12010;
26            [<${Com_Label:u16_Com_DocPageNum}>] = 12;
27            break;
28         case 2:
29            [<${Com_Label:u16_Com_DocIDNum}>] = 12011;
30            [<${Com_Label:u16_Com_DocPageNum}>] = 12;
31            break;
32         case 3:
33            [<${Com_Label:u16_Com_DocIDNum}>] = 12012;
34            [<${Com_Label:u16_Com_DocPageNum}>] = 12;
35            break;
36         default :
37            [<${Com_Label:u16_Com_DocIDNum}>] = 12010;
38            [<${Com_Label:u16_Com_DocPageNum}>] = 12;
39            break;
40     }
41 }
42 [s16:GD16501] = [<${Com_Label:s16_Com_OngLngDv}>];

```

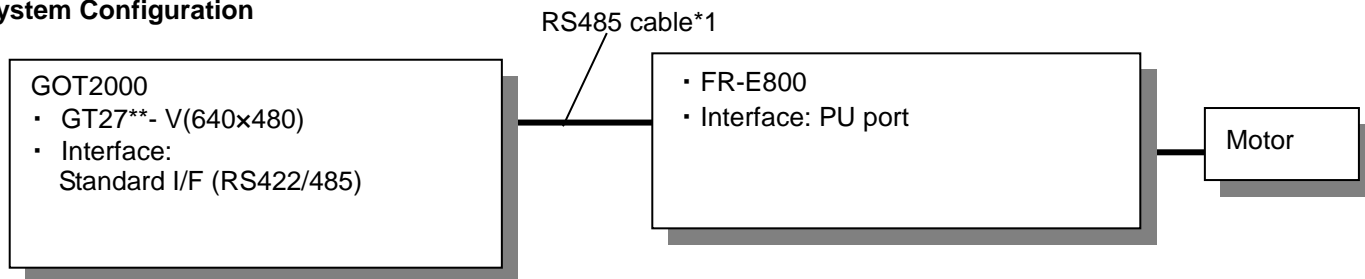
Change 51 to the page number of “3. Parameters” in the English manual. 12001

Change 12 to the page number of “2. Protective Functions” in the English manual. 2011

7.3 RS-485 Connection

This sample screen can also be used for RS-485 connection of GOT2000 and FR-E800 inverter. The setting example is as below.

System Configuration



*1: For more details on the cable, please refer to "GOT2000 Series Connection Manual (Mitsubishi Products)".

7.3.1 Controller Setting of GOT

(1) Controller Setting

Item	Set Value	Remarks
Manufacturer	MITSUBISHI ELECTRIC	
Controller Type	FREQROL 800/E700NE (Batch monitor)	
I/F	Standard I/F(RS422/RS485)	

(2) Detail Setting

Item	Set Value	Remarks
Transmission Speed (BPS)	115200	
Data Bit	8bit	
Stop Bit	1bit	
Parity	Odd	
Retry (Times)	0	
Timeout Time (Sec)	3	
Host Address	0	Make sure to set the station number of the inverter connected to the GOT to [Host address] when connecting the GOT to the inverter in RS-485 connection.
Delay Time (ms)	10	
Negotiation Time (Sec)	5	
Initialization Wait Time (Sec)	3	
Automatic Negotiation	Yes	

7.3.2 Inverter FR-E800 Communication Settings

Set the parameters of the communication settings with PU (operation panel or parameter unit).
An inverter reset after the setting is required for the parameters of the communication settings.

Item	Parameter	Set Value	Remarks
PU communication station number	Pr.117	0 (Default value)	
PU communication speed	Pr.118	1152	*1
PU communication stop bit length / data length	Pr.119	0	*1
PU communication parity check	Pr.120	1	*1
PU communication retry count	Pr.121	9999	
PU communication check time interval	Pr.122	9999	
PU communication waiting time setting	Pr.123	5	*1
PU communication CR/LF selection	Pr.124	1 (Default value)	
Protocol selection	Pr.549	0 (Default value)	
Operation mode selection	Pr.79	0 (Default value)	
Communication startup mode selection	Pr.340	1	
Communication EEPROM write selection	Pr.342	0 (Default value)	
PLC function operation selection	Pr.414	0 (Default value)	*2

*1: Settings of the GOT can be changed. When changing the settings, also change the settings of the inverter.

*2: Because the default value of the inverter is "0: disabled", change the value to 1 or 2 when using PLC function.

[Additional Explanation]

When trying to monitor the devices of the PLC such as X and Y at the time when Pr.414 "PLC function operation selection" is "0: disabled", the system alarm "322 Dedicated device is out of range. Confirm device range." is output.

7.3.3 Settings of Sample Screen

When connecting the GOT to the inverter in RS-485 connection, the minimum station number can be set in the inverter is "0".

When communicating with the station number "0", the setting of the object which displays the axis name*1 is required to be changed.

How to change the setting is shown below.

(1) Axis name

Regarding the display of axis name, the axis name of comment No. same as the selected station number is displayed.

Although the minimum station number is "0" in RS-485 connection, the minimum comment No. is "1". Therefore the comment No. obtained by the value of station number + 1 is required to be referred.

Example: Change the settings of the object which displays the axis name in [Parameter (List)] screen (B-12100).

The screenshot shows the 'Parameter (List)' screen with a table of parameters. The 'Axis 1' parameter is selected. The 'Operation/Script' tab is open, showing the 'Data Operation' setting. The 'Edit Data Expression' dialog is open, showing the expression '\$\$ + 1' and a table with a constant value of '1'.

Regi.	No.	Name
<input type="checkbox"/>	3456	Torque boost
<input type="checkbox"/>	3456	Maximum frequency
<input type="checkbox"/>	3456	Minimum frequency
<input type="checkbox"/>	3456	Base frequency
<input type="checkbox"/>	3456	Multi-speed setting (high speed)
<input type="checkbox"/>	3456	Multi-speed setting (middle speed)

Term Type	Value
A	\$\$ Monitor Device
B	Constant 1

*1: Please refer to "5.4 Comment "for axis name.

(2) Station Number Switching

In this sample screen, station No. can be switched between 1 and 16 in the default setting. When switching to the number other than 1 to 16 such as station number 0, please refer to "7.7 Changing the Inverter Network No. and Station No." and change the settings according to the system configuration.

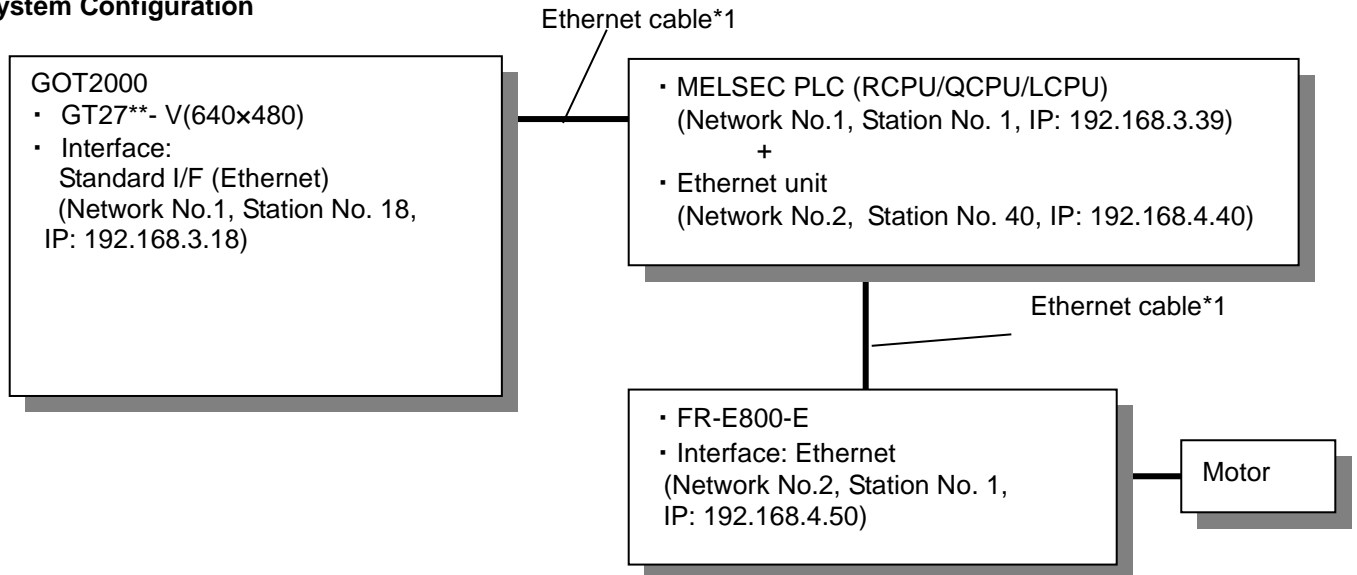
7.4 Connecting GOT and Inverter via PLC (Ethernet)

This sample screen can also be used for connecting GOT2000 and MELSEC iQ-R/Q/L series PLC via Ethernet and then connecting the PLC and the inverter*1 via Ethernet interface unit.

The setting example for connection via MELSEC iQ-R CPU and the Ethernet interface unit is as below.

*1: For the FR-E800-E inverter

System Configuration



*1: For more details on the cable, please refer to "GOT2000 Series Connection Manual (Mitsubishi Products)".

7.4.1 Controller Setting of GOT

(1) Controller Setting

Item	Set Value	Remarks
Manufacturer	mitsubishi electric	
Controller Type	MELSEC iQ-R,RnMT/NC/RT,CR800-D *1	
I/F	Ethernet: Multi	

*1: Change [Controller Type] according to the CPU.

QCPU: MELSEC iQ-L

LCPU: MELSEC-Q/QS, Q17nD/M/NC/DR/DSR, CRnD-700

(2) Detail Setting

Item	Set Value	Remarks
GOT NET No.	1	
GOT Station	18	
GOT Communication Port No.	5001	
Retry (Times)	3	
Startup Time (Sec)	3	
Timeout Time (Sec)	3	
Delay Time (ms)	0	

(3) GOT Ethernet Setting

Item	Set Value	Remarks
Update GOT Ethernet Standard Port Setting	Checked	
GOT IP Address	192.168.3.18	
Subnet Mask	255.255.255.0	
Default Gateway	0.0.0.0	
Peripheral S/W Communication Port No.	5015	
Transparent Port No.	5014	

(4) Connected Ethernet Controller Setting

	Host	Net No.	Station	Unit Type	IP Address	Port No.	Communication
1	*	1	1	RCPU *2	192.168.3.39	5006	UDP

*2: Change [Unit Type] according to the CPU.

QCPU: QnUD (P)/QnUDE(H)

LCPU: LCPU

(5) Routing Information Settings

Routing information setting is required in order to connect to a different network. Set as below.

	Transfer Net No.	Relay Net No.	Relay Station No.
CH1	2	1	1

7.4.2 PLC Side Settings (GX Works3)

(1) Select [Parameter]-[Module Information] and add RJ71EN71.

[RJ71EN71 (E-E)] - [Port 1 Module Parameter (Ethernet)] - [Basic Settings] - [Own Node Settings]

Item	Set Value	Remarks
IP Address	192.168.4.40	Ethernet unit IP address
Communications by Network No./Station No.	Enable	
Setting Method for Network No. and Station Number	Not Use IP Address	
Network No.	2	
Station Number	40	

(2) Go to [Parameter] - [Module Information] - [RJ71EN71 (E-E)] - [Port 1 Module Parameter (Ethernet)] - [Application Settings] - [Network Station No. <-> IP Information] and set the destination network number, station number, and IP address after setting [Table Conversion System] to [Setting System].*1

Item	Set Value	Remarks
Setting System	Table Conversion System	

Network No.	Station	IP Address	Remarks
2	40	192.168.4.40	Set the Ethernet module's station number and IP address.
2	1	192.168.4.50	Set the inverter's station number and IP address*2.

*1: For QCPU and LCPU, go to [Parameter] - [Network Parameter (Ethernet/CC IE Field)] in GX Works2 and add Ethernet to the module 1, and apply the settings above under [Station No. <-> IP Information].

*2: Apply settings to all the connected inverters.

For detail, please refer to the user's manual of the devices in use.

7.4.3 Inverter FR-E800-E Communication Settings

Set the parameters of the communication settings with PU (operation panel or parameter unit).

An inverter reset after the setting is required for the parameters of the communication settings.

Item	Parameter	Set Value	Remarks
Operation mode selection	Pr.79	0 (Default value)	*2
Communication startup mode selection	Pr.340	10 (Default value)	*2
Communication EEPROM write selection	Pr.342	0 (Default value)	*2
PLC function operation selection	Pr.414	0 (Default value)	*2 *3
Stop mode selection at communication error	Pr.502	0 (Default value)	*2
Protocol selection	Pr.549	0 (Default value)	
NET mode operation command source selection	Pr.550	5	*2
Operation frequency during communication error	Pr.779	9999 (Default value)	*2
Ethernet communication network number	Pr.1424	1 to 239	*1
Ethernet communication station number	Pr.1425	1 to 120	*1
Link speed and duplex mode selection	Pr.1426	0 (Default value)	*2
Ethernet function selection 1	Pr.1427	5000 to 5002,5006 to 5008	*1
Ethernet function selection 2	Pr.1428	9999	*2
Ethernet function selection 3	Pr.1429	9999	*2
Ethernet signal loss detection function selection	Pr.1431	0	*2
Ethernet communication check time interval	Pr.1432	9999	*2
Ethernet IP address 1	Pr.1434	0 to 255	*1
Ethernet IP address 2	Pr.1435		
Ethernet IP address 3	Pr.1436		
Ethernet IP address 4	Pr.1437		
Subnet mask 1	Pr.1438	255 (Default value)	*1 *2
Subnet mask 2	Pr.1439	255 (Default value)	*1 *2
Subnet mask 3	Pr.1440	255 (Default value)	*1 *2
Subnet mask 4	Pr.1441	0 (Default value)	*1 *2

Set the parameters of the communication settings with PU (operation panel or parameter unit).

An inverter reset after the setting is required for the parameters of the communication settings.

Do not change the parameters of the communication settings with the GOT. There are cases where the inverter cannot communicate with the GOT when the parameters are changed with the GOT.

*1: Settings of the GOT can be changed. When changing the settings, also change the settings of the inverter.

*2: Change the settings depending on the operation environment.

*3: Because the default value of the inverter is "0: disabled", change the value to 1 or 2 when using PLC function.

[Additional Explanation]

When trying to monitor the devices of the PLC such as X and Y at the time when Pr.414 "PLC function operation selection" is "0: disabled", the system alarm "322 Dedicated device is out of range. Confirm device range." is output.

7.4.4 Settings of Sample Screen

Station Number Switching

In this sample screen, station No. can be switched between 1 and 16 in the default setting. When switching to the number other than 1 to 16 such as station number 17, please refer to "7.7 Changing the Inverter Network No. and Station No." and change the settings according to the system configuration.

7.5 Connecting GOT and Inverter via PLC (CC-Link IE TSN)

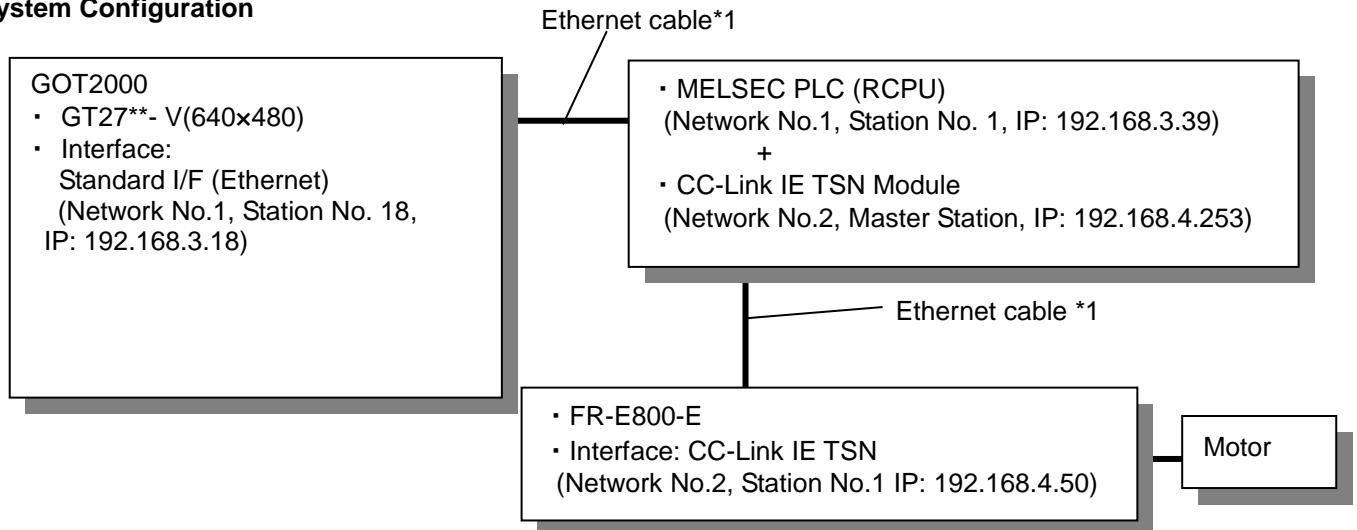
This sample screen can also be used for connecting GOT2000 and MELSEC iQ-R series PLC via Ethernet and then connecting the PLC and the inverter *1 via CC-Link IE TSN master/local module. *2

The setting example for connection via MELSEC iQ-R CPU and CC-Link IE TSN master/local module is as below.

*1: For the FR-E800-E inverter

*2: Connection via CC-Link IE TSN limits the operation of the operation command screens and [Machine Diagnosis (Load Characteristics. Measurement)] screen. For details, please refer to "8.Limitations".

System Configuration



*1: For more details on the cable, please refer to "GOT2000 Series Connection Manual (Mitsubishi Products)".

7.5.1 Controller Setting of GOT

(1) Controller Setting

Item	Set Value	Remarks
Manufacturer	mitsubishi electric	
Controller Type	MELSEC iQ-R, RnMT/NC/RT, CR800-D	
I/F	Ethernet: Multi	

(2) Detail Setting

Item	Set Value	Remarks
GOT NET No.	1	
GOT Station	18	
GOT Communication Port No.	5001	
Retry (Times)	3	
Startup Time (Sec)	3	
Timeout Time (Sec)	3	
Delay Time (ms)	0	

(3) GOT Ethernet Setting

Item	Set Value	Remarks
Update GOT Ethernet Standard Port Setting	Checked	
GOT IP Address	192.168.3.18	
Subnet Mask	255.255.255.0	
Default Gateway	0.0.0.0	
Peripheral S/W Communication Port No.	5015	
Transparent Port No.	5014	

(4) Connected Ethernet Controller Setting

	Host	Net No.	Station	Unit Type	IP Address	Port No.	Communication
1	*	1	1	RCPU	192.168.3.39	5006	UDP

(5) Routing Information Settings

Routing information setting is required in order to connect to a different network. Set as below.

	Transfer Net No.	Relay Net No.	Relay Station No.
CH1	2	1	1

7.5.2 PLC Side Settings (GX Works3)

(1) Select [Parameter]-[Module Information] and add RJ71GN11-T2.

Set the station type and network number under [Required Settings] - [Station Type].

Item	Set Value	Remarks
Station Type	Master Station	
Network No.	2	
IP Address	192.168.4.253	

(2) Set the network configuration under [Basic Settings] - [Network Configuration Settings].

For detail, please refer to the user's manual of the devices in use.

7.5.3 Inverter FR-E800-E Communication Settings

Set the parameters of the communication settings with PU (operation panel or Parameter unit). An inverter reset after the setting is required for the parameters of the communication settings.

Item	Parameter	Set Value	Remarks
Ethernet function selection 1	Pr.1427	5001	
Ethernet function selection 2	Pr.1428	45237 (Default value)	
Ethernet function selection 3	Pr.1429	45238 (Default value)	
Ethernet function selection 4	Pr.1430	9999	
Ethernet IP address 1	Pr.1434	0 to 255	*1
Ethernet IP address 2	Pr.1435		
Ethernet IP address 3	Pr.1436		
Ethernet IP address 4	Pr.1437		
Subnet mask 1	Pr.1438	255 (Default value)	*1 *2
Subnet mask 2	Pr.1439	255 (Default value)	*1 *2
Subnet mask 3	Pr.1440	255 (Default value)	*1 *2
Subnet mask 4	Pr.1441	0 (Default value)	*1 *2

*1: Settings of the GOT can be changed. When changing the settings, also change the settings of the inverter.

*2: Change the settings depending on the operation environment.

7.5.4 Settings of Sample Screen

Station Number Switching

In this sample screen, station No. can be switched between 1 and 16 in the default setting. When switching to the number other than 1 to 16 such as station number 17, please refer to "7.7 Changing the Inverter Network No. and Station No." and change the settings according to the system configuration.

7.5.5 Precautions

When connecting GOT2000 to the inverter via CC-Link IE TSN, the value cannot be written to the link devices (RX, RY, RWw, RWr) which the functions (signals) are assigned to by GOT.

Forward command is assigned to RYn0, and reverse command is assigned to RYn1. Therefore forward/reverse command cannot be input by [Forward] and [Reverse] switches in the operation command screens (B-12120 and B-12121) and [Auto measure] switch in [Machine diag.(load char. meas.)] screen (B-12310).

Change the link devices (RX, RY, RWw, RWr) of the master station to control the link devices (RX, RY, RWw, RWr) value.

The screens below have the limitations in this sample screen.

Screen	Limitations
B-12120, B-12121	[Forward] or [Reverse] cannot be performed.
B-12310	[Auto measure] cannot be performed.

For the functions (signals) assigned to the link devices, please refer to "INVERTER FR-E800 Instruction Manual (Communication)".

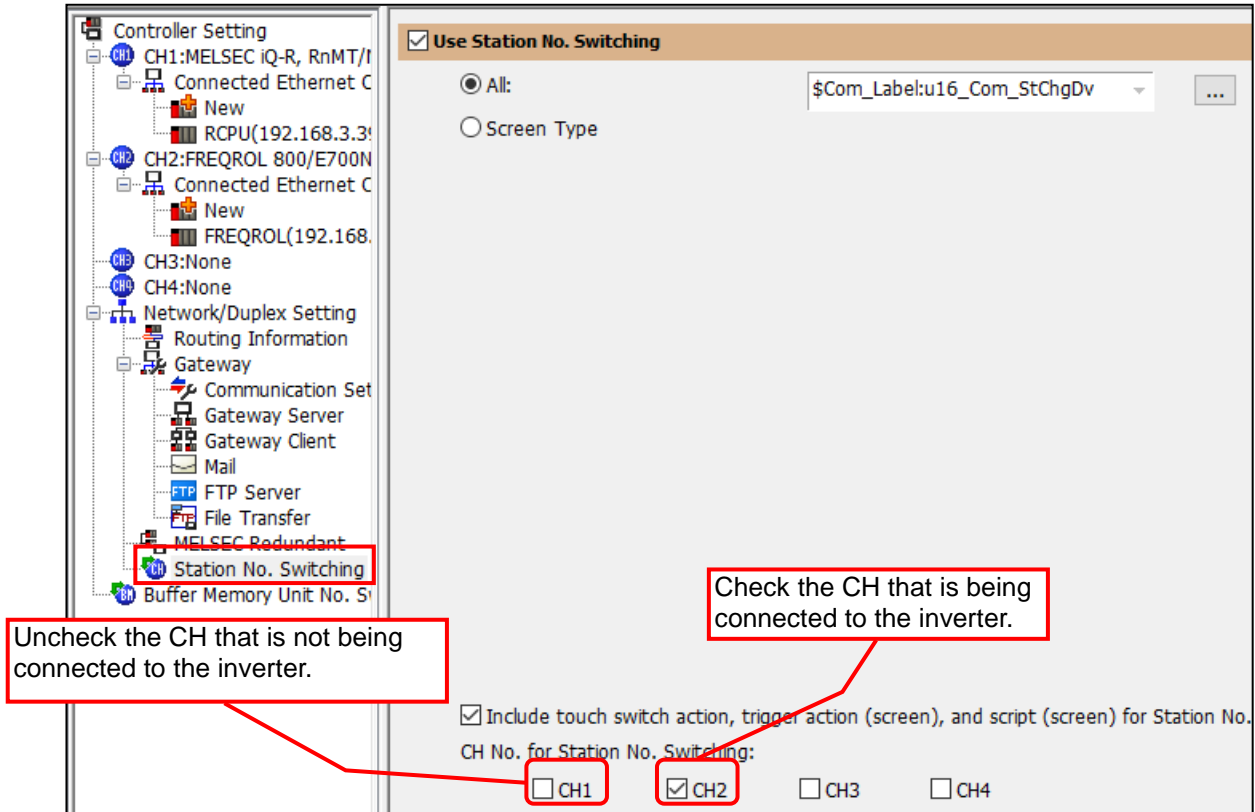
7.6 Changing the Communication Settings of the Inverter from CH1 in [Controller Setting]

In this sample, the statuses of the inverters are monitored by connecting the GOT's CH1 to multiple inverters, and switching the station number of monitoring destination of CH1.

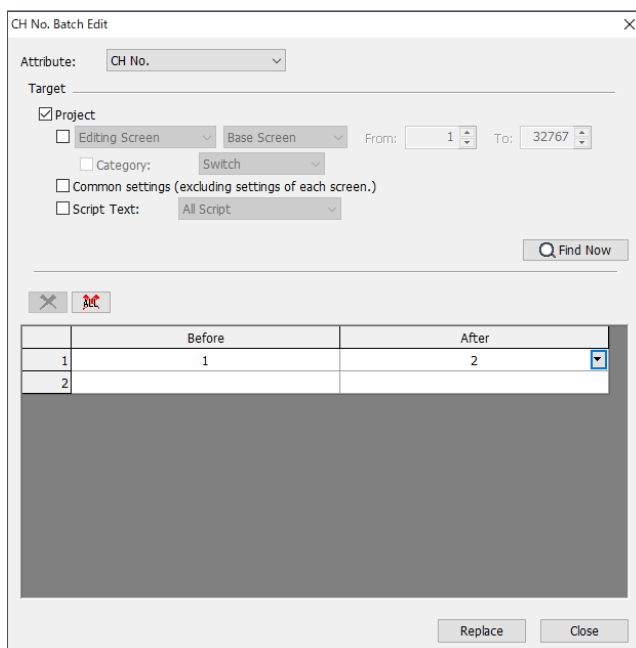
When connecting inverters to the channels other than the CH1, change the settings as below.

■ Setting Example: When connecting the inverter to CH2

- (1) Open [Station No. Switching] in the [Controller Setting] tree and check the CH that is being connected to the inverter under [CH No. for Station No. Switching].



- (2) Go to [Search/Replace] - [Batch edit] to select [CH No.]. Check [Project] of [Target] and click [Find Now] to display "1" in [Before] and [After]. Change the "1" in "After" to "2" and click "Replace".



7.7 Changing the Inverter Network No. and Station No.

Apply the settings below in order to change the inverter network number and station number.

Switches in B-14000 [Station Number Switching] Screen

- (1) Open the [Station No. Switching] under [Action List] and change the network number and station number.
- (2) Change the [Constant] of the [Lamp] function to the same network number and station number that have been changed in (1)*1.

The screenshot shows the 'Station Number Switching' interface. A grid of buttons labeled 'St. 1' through 'St. 14' is visible. Overlaid on this are several configuration windows. The 'Station No. Switching' window shows an 'Action List' where 'Station No. Switching' is selected. Below it, a 'Constant Data Type' window shows 'Hex' selected and a value of '119'. Another window shows the 'ON Range' set to '281 == \$Com_Labelu16_Com_StChgDv'. Red boxes and arrows highlight these key settings.

*1 The structure of the value stored in the station number switching device is as below.

Set the constant in hexadecimal format.

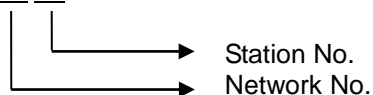
· Upper 8 bits: Network No.

· Lower 8 bits: Station No.

■ Ethernet and CC-Link IE TSN

Example 1: Network No.1 and Station No.25

01 19



■ RS-485 connection

Example 2: Network No.0 and Station No.0

00 00



Recipe Settings

The recipe settings for the station number 1 to 16 have been set with the recipe number 12001 to 12016. When the network number and the station number are changed, setting of the devices registered in the recipe settings also needs to be changed.

(1) Change devices of recipe settings using [Batch Edit] in GT Designer3.

In GT Designer3, go to [Search/Replace] – [Batch Edit] and select [Network] and make changes from the [Network Batch Edit] dialog.

- (a) Select [Project] under [Target].
- (b) Click [Find Now].
- (c) Select "1-1" and click displayed [▼].
- (d) Input the network number and station number you wish to change in the [After] column.
- (e) Click [Replace].

Network Batch Edit

Attribute: Network

Target: Project

Editing Screen Base Screen From: 1 To: 32767

Category: Switch

Common settings (excluding settings of each screen.)

Script Text: All Script

	Before	After
1	0-FF	0-FF
2	1-1	1-1
3	1-2	1-2
4	1-3	1-3
5	1-4	1-4
6	1-5	1-5
7	1-6	1-6
8	1-7	1-7
9	1-8	1-8
10	1-9	1-9
11	1-10	1-10

Recipe device for each station number.
The start device is the network number and the station number.

(d) Change to the new network number and station number.

CH1 FREQROL 800/E700NE(Batch monitor)

Network: Host Other Network No.: 1 Station No.: 25

Open the [Device] tab in the recipe setting for the station number you are changing and confirm that the devices have been changed.

Project

B-12000:Main Me...

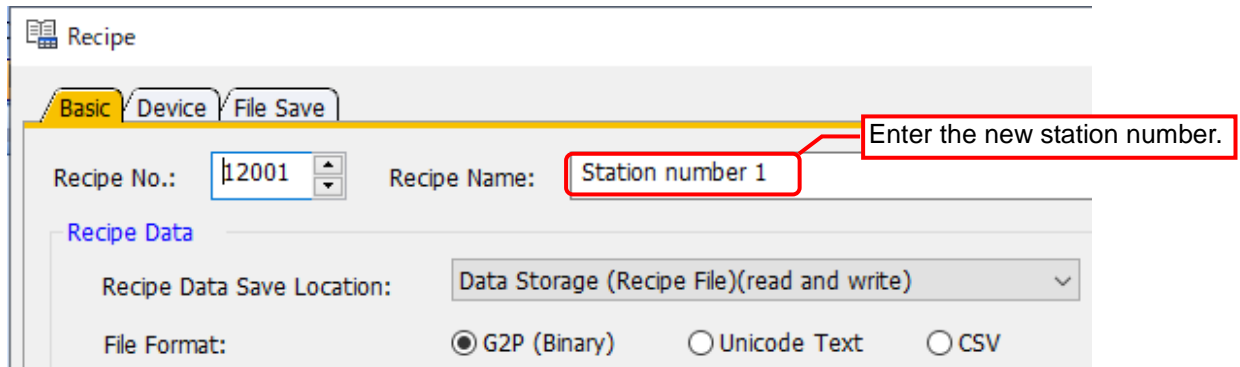
Recipe

Block Number: 1 Record Number: 1 Character Code: ASCII Storage Order: Low -> High Record Attribute

No.	Device	Device	Units	Character Count (one-byte)	Display Type	Real Expression	Decimal Point	Device Comment	Record 1 No.1
1	1-1 LPr0	1-25 LPr0		-	Real	Fixed Decimal	3		
2	1-1 LPr1	1-25 LPr1		-					
3	1-1 LPr2	1-25 LPr2		-					
4	1-1 LPr3	1-25 LPr3		-					
5	1-1 LPr4	1-25 LPr4		-					
6	1-1 LPr5	1-25 LPr5		-					
7	1-1 LPr6	1-25 LPr6		-					
8	1-1 LPr7	1-25 LPr7		-					
9	1-1 LPr8	1-25 LPr8		-					
10	1-1 LPr9	1-25 LPr9		-					
11	1-1 LPr79	1-25 LPr79		-	Real	Fixed Decimal	3		
12	1-1 LPr125	1-25 LPr125		-	Real	Fixed Decimal	3		
13	1-1 LPr126	1-25 LPr126		-					
14	1-1 LPr160	1-25 LPr160		-	Real	Fixed Decimal	3		
15	1-1 LPr999	1-25 LPr999		-	Real	Fixed Decimal	3		

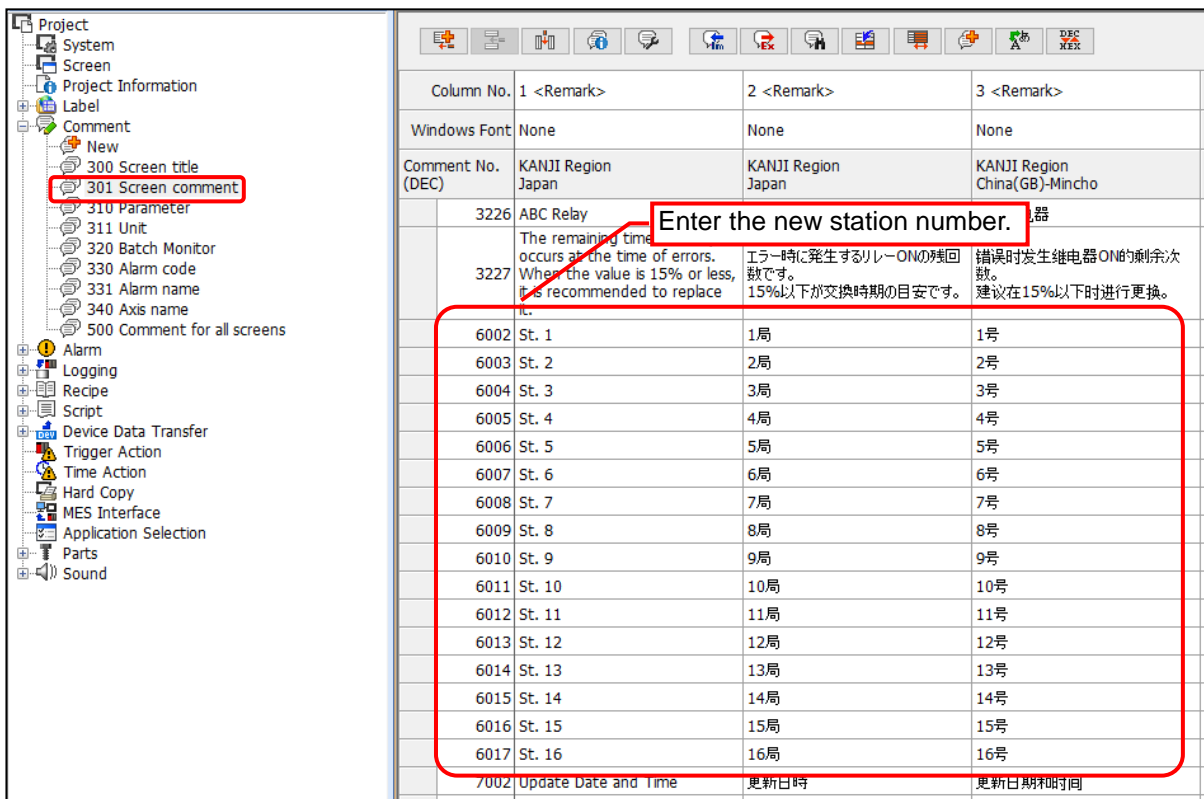
(2) Open the recipe settings of the station number you are changing and change the [Recipe Name] to the new station number name under the [Basic] tab.

* Do not change the [Recipe No.] under the [Basic] tab, otherwise the parameter recipe will not work properly.



(3) Change the comment of each switch in the B-14000 [Station Number Switching] screen.

Change the comments for the station number you are changing that have been set in the comment number 6002 to 6017 in the comment group number 301.



8. Limitations

Limitations of this sample screen is explained below.

8.1 Limitations of Link Devices

When connecting GOT2000 to the inverter via CC-Link IE TSN, the value cannot be written to the link devices (RX, RY, RWw, RWr) which the functions (signals) are assigned to by GOT.

Forward command is assigned to RYn0, and reverse command is assigned to RYn1. Therefore forward/reverse command cannot be input by [Forward] and [Reverse] switches in the operation command screens (B-12120 and B-12121) and [Auto measure] switch in [Machine diag.(load char. meas.)] screen (B-12310).

Change the link devices (RX, RY, RWw, RWr) of the master station to control the link devices (RX, RY, RWw, RWr) value.

The screens below have the limitations in this sample screen.

Screen	Limitations
B-12120, B-12121	[Forward] or [Reverse] cannot be performed.
B-12310	[Auto measure] cannot be performed.

8.2 Switching from the User Screen

When switching from the user screen to this sample screen, make sure to switch via [Main Menu] screen (B-12000). If switching without switching to [Main Menu] screen (B-12000), there is a possibility that the GOT does not operate correctly.

8.3 SD Card

When using this sample screen, make sure to insert the SD card to the GOT before turning on the GOT. If inserting the SD card after turning on the GOT, there is a possibility that the GOT does not operate correctly.

9. Precautions

Precautions of this sample screen is explained below.

9.1 When Having Changed the Settings of Recipe Function Set in This Sample Screen

When having changed the settings of the recipe function in this sample screen, clear the SRAM of the GOT and delete the recipe files stored in the SD card.

When the clearing and deleting is not performed, there is a possibility that a system alarm occurs in the GOT, and the recipe function does not operate correctly.

9.2 Trigger of Recipe Function

When using the recipe function in user's project data, make sure to perform the setting to turn off the write trigger device and the read trigger device of the recipe after the recipe starts to operate.

Otherwise, the recipe setting of this sample screen does not operate correctly.

9.3 When the SD Card or the SRAM User Area of the GOT Does Not Have the Sufficient Available Space

Recipe function is used in this sample screen, and the data of the recipe function is stored in the SD card and the SRAM area of the GOT. When the SD card or the SRAM user area of the GOT does not have the sufficient available space at the time of storage, the following system alarms occur.

■When the SRAM user area does not have the sufficient available space
System alarm "527 Insufficient SRAM capacity".

■When the SD card does not have the sufficient available space
System alarms "582 Cannot generate Advanced recipe file." and "330 Insufficient memory media capacity. Confirm M-card capacity."

When the system alarms occur, reserve free space of the SD card or the SRAM user area of the GOT.
For SRAM user area, please refer to "GOT2000 Series User's Manual (Utility)".

10. Trademarks

MELDAS, MELSEC, iQ Platform, MELSOFT, GOT, CC-Link, CC-Link/LT, and CC-Link IE are trademarks or registered trademarks of Mitsubishi Electric Corporation in Japan and other countries.

Ethernet is a registered trademark of Xerox Corporation in the United States.

Other company and product names herein are trademarks or registered trademarks of their respective owners.