Chapter 7

Error State Log Screen

Chapter 7 Error State Log Screen (displays summaries of the alarms triggered in the past)

7.1

Error State Log screen

Here, it will be explained what screen the “Error State Log” is.

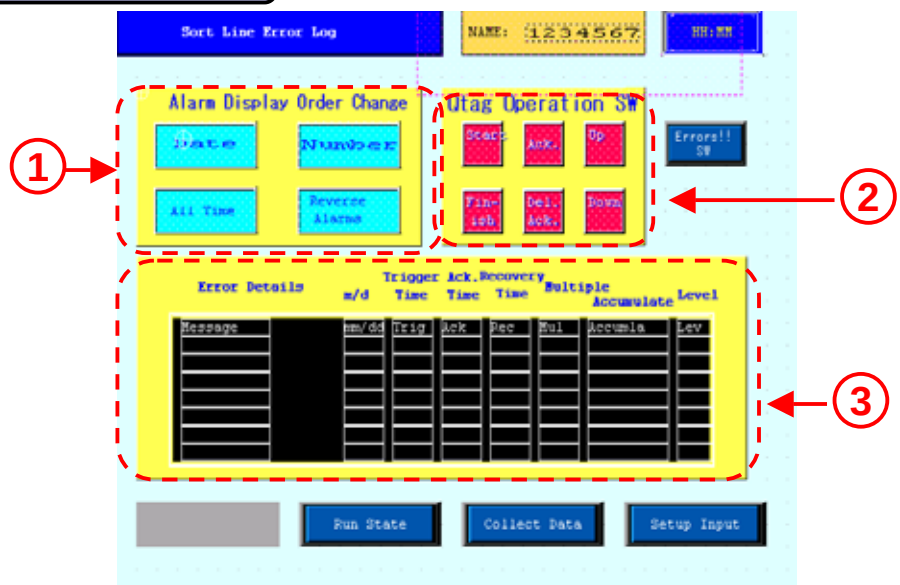
What's Error State Log Screen?

• What's possible ?

1. When Alarm occurs, it's possible to display alarm messages in a list and to record a history. Displaying alarm histories in a list is useful for upkeep of the system and improvement of a suspension rate.

2. Using Sub Display Feature enables details and countermeasures of each alarm to display with pictures or guidance. Instructing countermeasures linked to alarms can make the least damage and enables anybody to restore the damaged surely.

• Error State Log Screen



1

It's possible to change the order of displaying alarm messages.

2

It's possible to operate the displayed descriptions of Q tag.

3

It's possible to display the summary of messages according to alarms. Also if you touch a message, the countermeasure for it will be displayed.

7.2

Alarm Summary

Here, it will be explained how alarms are displayed in a summary.

How to display alarms in a summary

• How to display alarms in a summary?

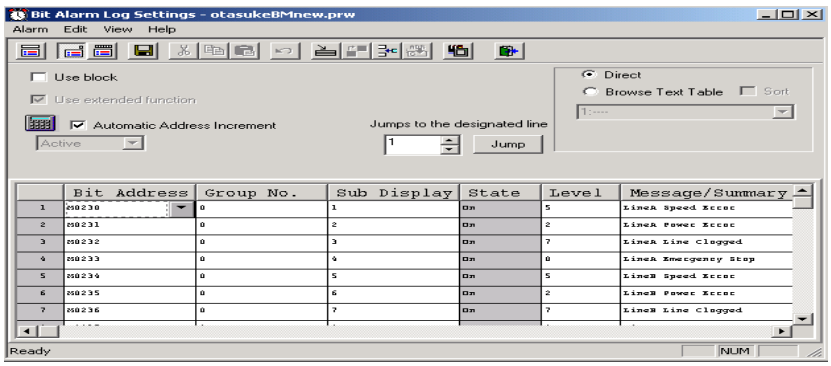
• In order to display alarms in a summary, it's required to register alarm monitor addresses and messages at first. The registered messages are displayed on the screen with Q tag (Alarm Summary Display Feature). By using Q tag, it's possible to display triggered alarm messages in a summary with time.

Point!

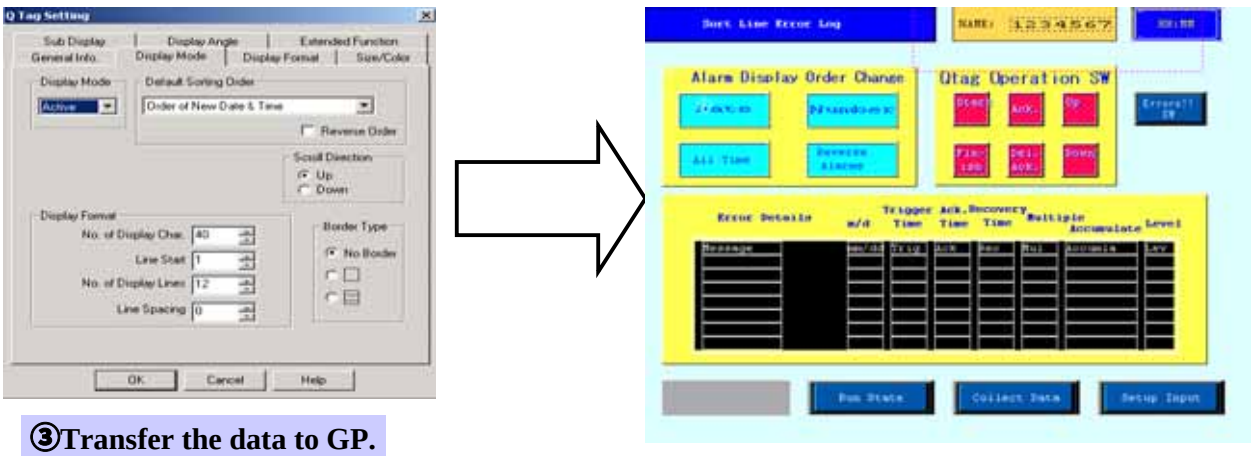
The number of messages recorded by Q tag is up to 768. (GP2000・77R series)
When the number exceeds the max., the messages are deleted in the order of the older.

Procedures of settings for Alarm Summary

①In Alarm Editor, register alarm monitor bits or messages etc..



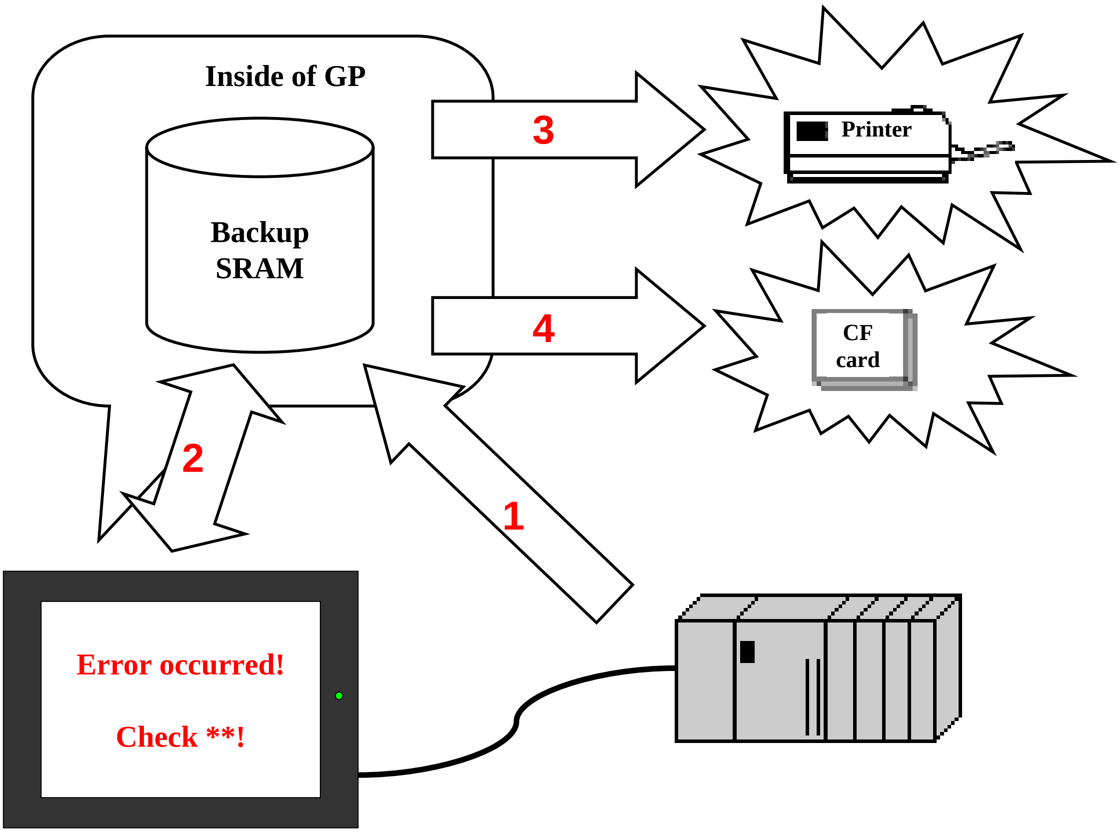
②Place on the screen Q tag to display alarms.



③Transfer the data to GP.

Error Details	m/d	Trigger Time	Ack. Time	Recovery Time	Times	Cumulative Time	Level
LineB Power Error	03/03	16:30			1	0:00:00	2
LineC Emergency Stop	03/03	16:30			3	0:09:29	0
LineB Line Clogged	03/03	16:21		16:30	1	0:09:11	7
LineD Line Clogged	03/03	16:21		16:30	1	0:09:11	7
LineC Emergency Stop	03/03	16:20	16:21	16:30	3	0:09:29	0
LineA Line Clogged	03/03	16:20	16:20	16:30	2	0:09:30	7
LineA Power Error	03/03	16:20		16:30	1	0:09:27	2
LineA Emergency Stop	03/03	16:20	16:20	16:30	1	0:09:28	0

• Flow of alarm data



1

PLC->SRAM: When errors occur, alarm data is backuped in SRAM.

2

SRAM<-->Q tag: The alarm data backuped in SRAM is displayed or edited on the screen.

3

Print out: Connect a printer to GP and print the alarm data.

4

Save to CF card: Save the alarm data backuped in SRAM in the CF card.

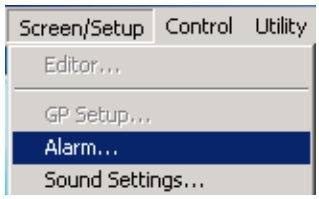
How to register addresses to monitor and alarm messages

• Here the way to register addresses to monitor and alarm messages will be explained. The addresses to monitor and the alarm messages will be registered via Alarm Editor.

(1) How to open Alarm Editor

1

Select [Alarm] from [Screen/Setup] of the menu bar.

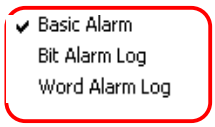


Or click on the [Alarm] icon.

(2) How to select an alarm type

1

Select an alarm type from [Alarm] of the menu bar.



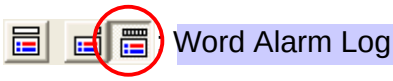
Or select an alarm type from the icons on Alarm Editor.


:Basic Alarm

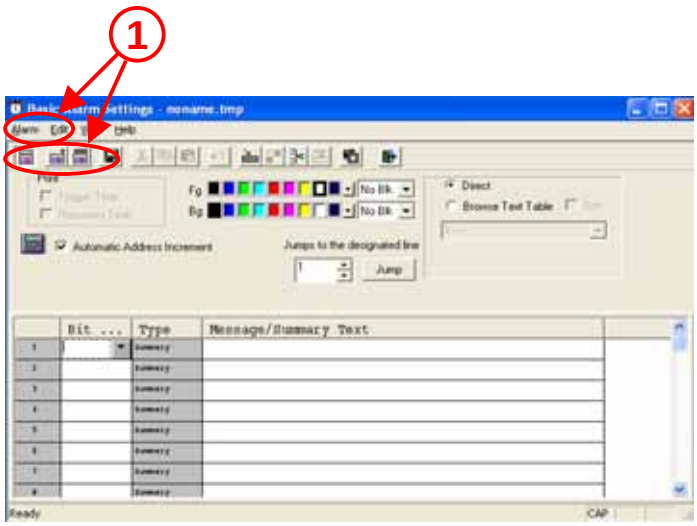
Not used for Q tag


:Bit Alarm Log

The monitor address is a bit address.When the designated bit is ON or OFF, messages display.

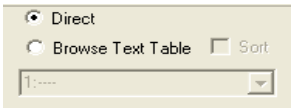

:Word Alarm Log

The monitor address is a word address. When the designated word address data is equal to the setup alarm value, messages display.



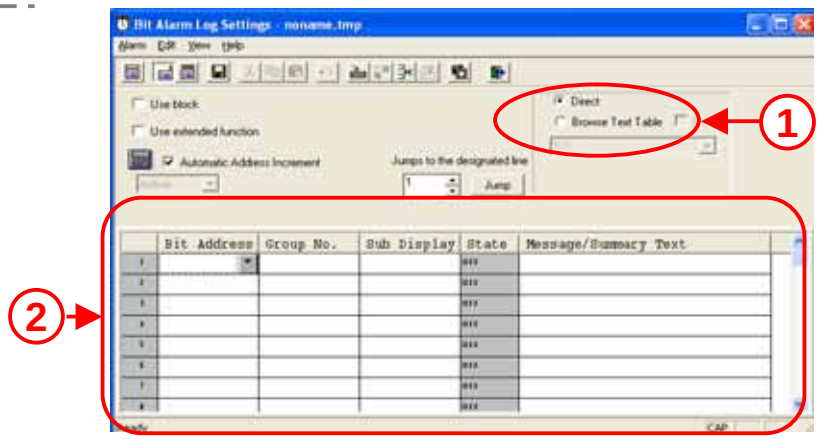
(3) Alarm Editor (Bit Log) Settings

1



Direct: Enter messages directly on Editor.

Browse Text Table: Using text registered in Text Table Editor, change messages.



2

	Bit Address	Group No.	Sub Display	State	Mess
1	x0100	0	10	On	Alarm1
2	x0101	0	11	On	Alarm2

Bit Address: Designate a bit address to monitor

Group No.: It's possible to store counts of triggered alarms set with the same group number in the LS Area. If it's set to 0, nothing is counted. The LS Area for storage can be set via [Q tag Settings] of [System Setup].

Sub Display: Designate the screen number for Sub Display

State: Make a setting that Alarm is triggered when the monitor address is either On or Off.

Message: Input alarm messages to display

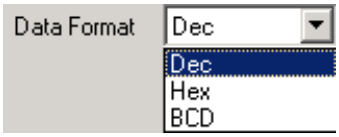
Point

The maximum number(Bit Log Alarm + Word Log Alarm) of registered messages is as follows;

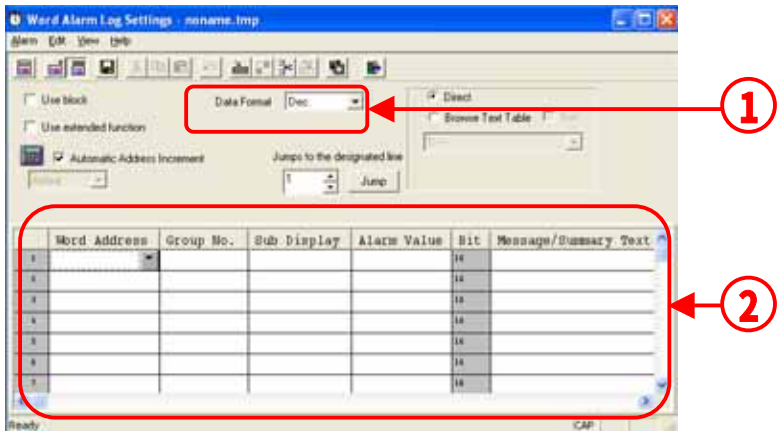
- GP270, GP-H70, GP370 series: 512
- GP70, 77R series except the above : 768
- GP2000 series : 2048

(4) Alarm Editor (Word Log) Settings

①



Data Format: Set an input format of alarm values.



②

	Word Address	Group No.	Sub Display	Alarm Value	Bit	Message/Summary Text
1					16	
2					16	

Word Address: Set a word address to monitor

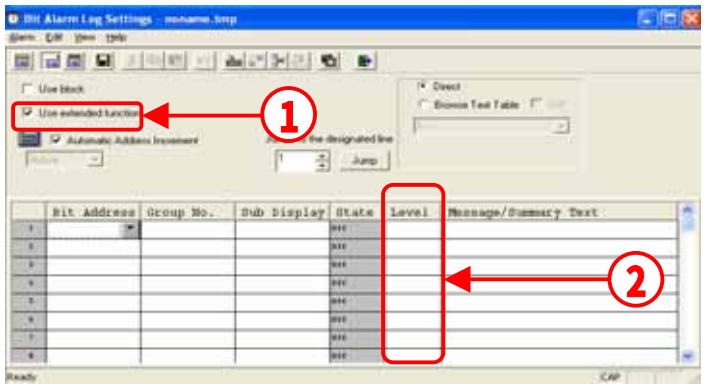
Alarm Values: Set what value of word address data triggers alarm.

Bit: In the case of monitor with 1 word; [16], with 2 words;[32].

(5) Settings for the time when using Extended Function

①

When using Extended Function, the following functions are added. (ST series, GP2000 series only)



1 . Display items like triggered alarm counts, cumulative time, level
2 . Sort Function of display items (Active, History only)
3 . Display Color Setting for each level
4 . No. of Blocks is extended to 8 blocks
5 . Acquiring ID of a currently selected alarm message
6 . Erasing the occurrence time, the cumulative time via an external operation
7 . Adding operation items of Q tag selection key (T tag)
8 . Q tag Border Type Setting

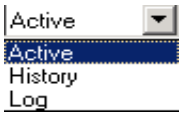
②

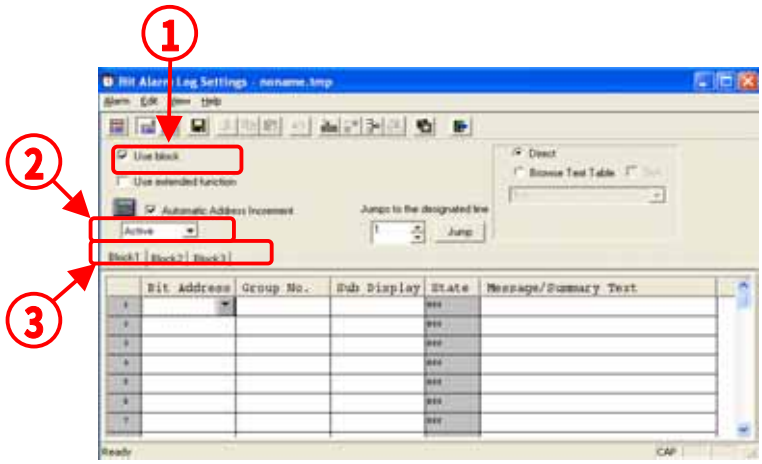
Check on [Use Extended Function], and [Level] will be added in the item on Alarm Editor. For levels, 8 levels from 0 to 7 can be set and a display color of a message can be set for each level.

(6) Settings for the time when using Block Function

① Using Block Function enables you to control alarms divided into up to 8 blocks.

② Select Display Mode.





Active: Displays currently triggered alarms only.

History: Displays alarms for Trigger, Ack, Recover together in a line.

Log: Displays alarms in each line every time for Trigger, Ack, Recover.

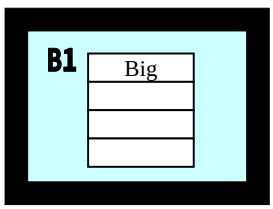
③ Blocks can be selected.
Select block 1 to 3 and enter messages in each.
With Extended Function, the number of selectable blocks is 8 blocks.

Point

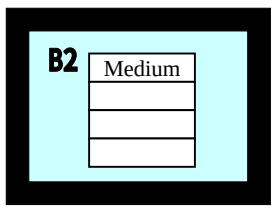
• What's Block Function?

Using Block Function enables you to divide blocks to register messages into up to 8 blocks (using Extended Function) for control. Therefore, it's possible to divide alarms by rating and display them on GP.

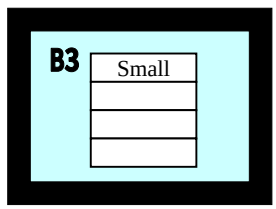
Ex.) When displaying alarms with different rating in every screen,



Only alarms of big trouble display in B1.



Only alarms of medium trouble display in B2.



Only alarms of small trouble display in B3.

Displaying messages divided by rating enables you to confirm the rating of the message at a glance.

実習

Let's register alarm messages!

Let's register alarm messages via Alarm Editor

[Setup Flow]
1.Open Alarm Editor.
2.Register addresses to monitor and messages.

(1) Open Alarm Editor

① ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ―

Click the [Alarm] tab.

(2) Register monitor addresses, messages, levels etc.

① ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ―

Click the [Bit Log] icon.

② ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ―

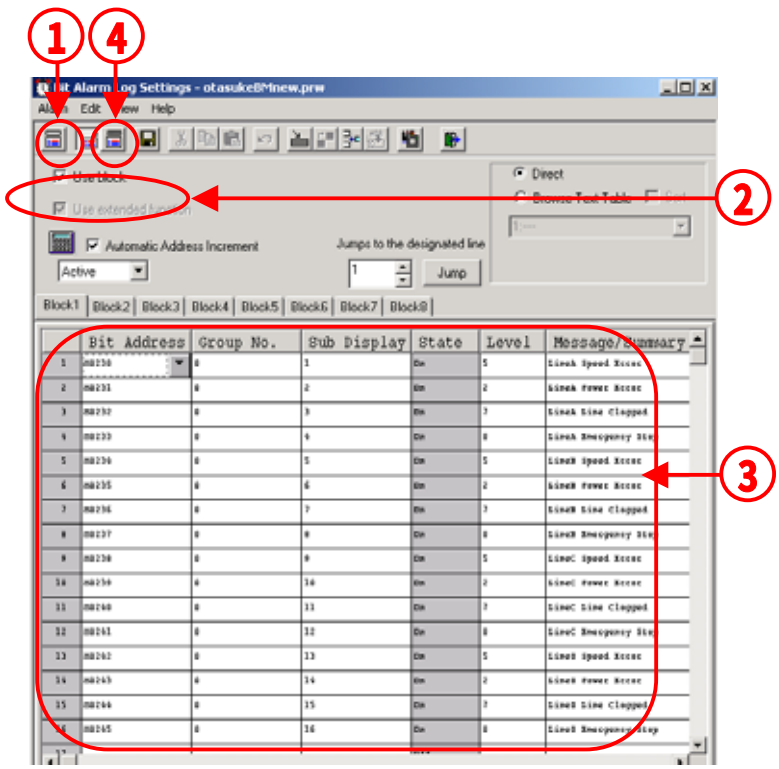
Check on [Use Extended Function].

③ ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ―

Set [Bit Address], [Group No.], [Sub Display], [State], [Level], [Messages] as shown in the frame.

④ ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ―

After completing all settings, click [Save].



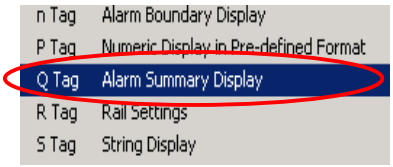
How to display alarm messages

• In order to display on a screen alarm messages registered on Alarm Editor, use Q tag.

(1) How to select Q tag (Alarm Summary Display Feature)

① ― ― ― ― ― ― ― ― ― ― ― ― ― ―

Select [Q tag] from [Tag] of the menu bar.



Or click the [Q tag] icon.

• **Menu Bar**

• **Tag Tool Bar**

(2) Display Mode Settings

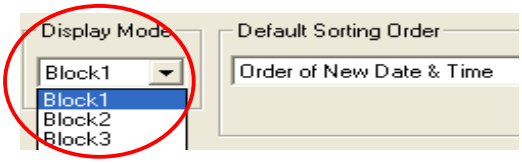
① ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ―

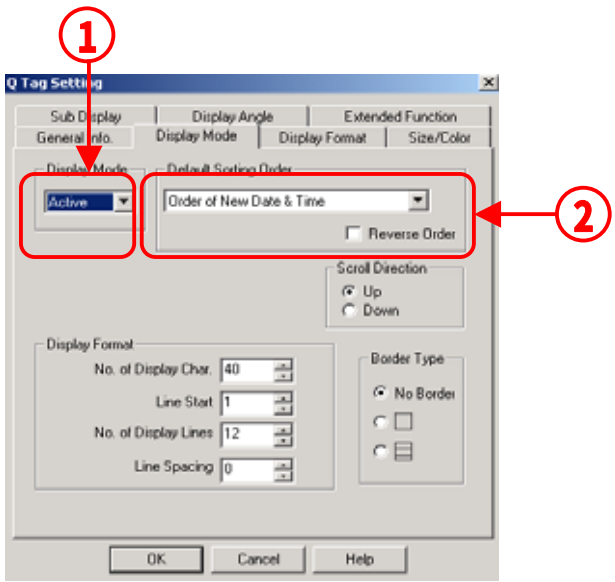
When using Block, select Display Mode here.
Active: Displays currently triggered alarms only.

History: Displays alarms for Trigger, Ack, Recover together in a line.

Log: Displays alarms in each line every time for Trigger, Ack, Recover.

Note: When using Block Function, the setting is changed to the setting of block numbers.



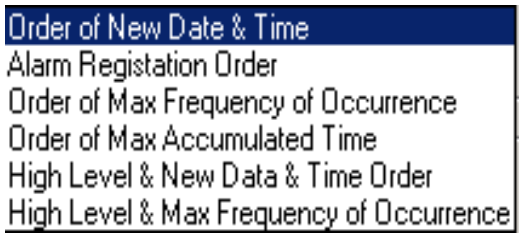


The settings of [Active], [History], and [Log] can be made on Alarm Editor.

② ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ―

Set the order of displaying alarm messages.

Select it from the followings.



Point

- **Display Example of each display mode (Active, History, Log)**

[Active]: Displays currently triggered alarm messages only.

After the recovery, the display disappears and no summary is left.

Ex.)

Trigger Date	Trigger Time	Message
11/01	9:00	The temperature is too high.
11/01	12:00	Run Time exceeded.

[History]: Every time a new alarm message is triggered, the line is sent to the next and the summary is displayed. Ack, Recovery time is added to the same line.

Ex.)

Trigger Date	Trigger Time	Message	Ack. Time	Recovery Time
11/01	9:00	The temperature is too high.	15:30	16:00
11/01	12:00	Run Time exceeded.		18:00
11/01	14:00	Pressure Error	14:30	

[Log]: Displays each message with summary in every new line for each time of Trigger, Recovery, Ack.

Ex.)

Trigger Date	Trigger Time	Message	Ack. Time	Recovery Time
11/01	9:00	The temperature is too high.		
11/01	12:00	Run Time exceeded.		
11/01	14:00	Pressure Error		
11/01		Pressure Error	14:30	
11/01		The temperature is too high.	15:30	
11/01		The temperature is too high.		16:00
11/01		Run Time exceeded.		18:00

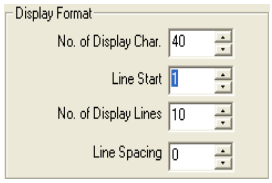
Point

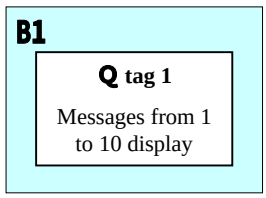
• Example of using Display Line Start

Set Display Line Start when you wish to display the sequel to an alarm at every Q tag without scrolling after several alarms occur.

• Display the alarm messages from the 1st to the 10th line via Q tag1

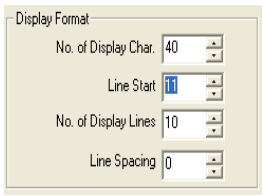
Set [1] for Line Start and [10] for No. of Display lines.

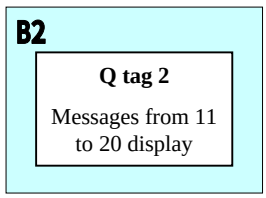




• Display the alarm messages from the 11th to the 20th lines via Q tag2

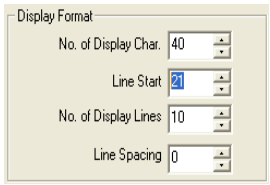
Set [11] for Line Start and [10] for No. of Display lines.

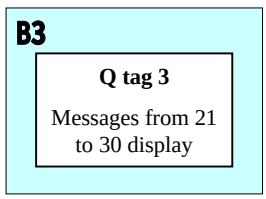




• Display the alarm messages from the 21st to the 30th lines via Q tag3

Set [21] for Line Start and [10] for No. of Display lines.



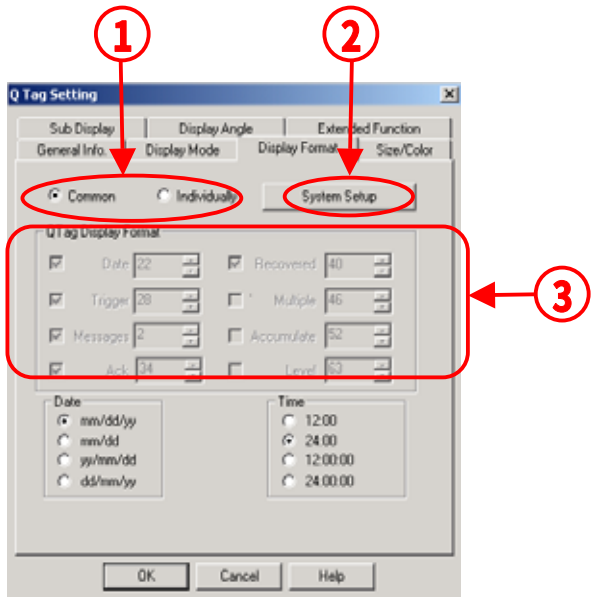


(3) Display Format Settings

①

Common: Used when the plural Q tags to place have the same display format type.
The format can be set at [System Setup].

Individually: Used when the plural Q tags to place have different display format types. The format can be set at [Q tag Display Format].



②

[Q tag Settings] is displayed.
For the detailed settings, refer to [(4) Q tag Settings].

③

Set a display format individually.
Check items to display and set which character is displayed from for each item. In order to set [Multiple], [Accumulate], and [Level], check [Use Extended Function] on Alarm Editor.

(4) Q tag Settings

①

Set the number of memory of alarms for each display mode. Set the total of Active/History/Log to 768 or less.
When using Block, set the number of memory for each block.

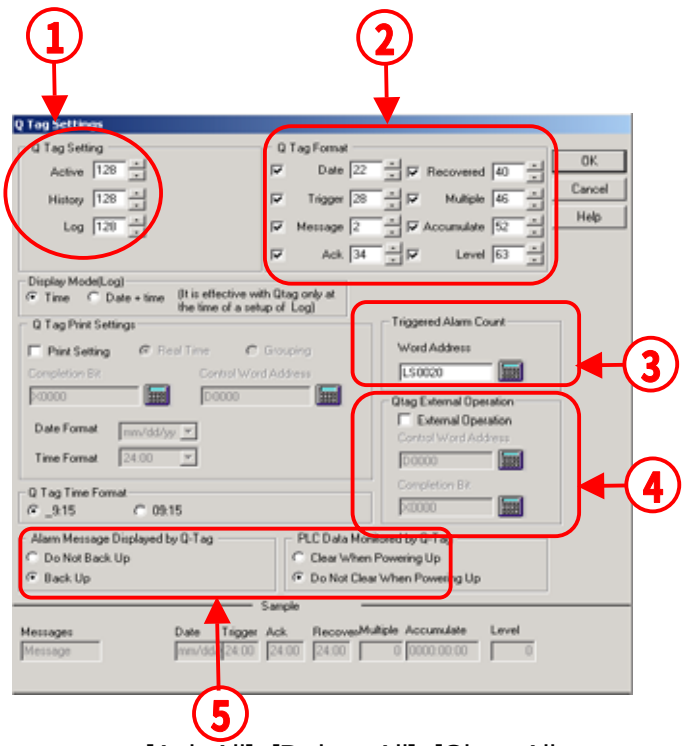
②

Set Q tag Display Format when the display format is set to [Common].

③

Set a start address of the LS area to which counts of a triggered alarm with Group No. set on Alarm Editor are written.

④



Storing commands in Control Address enables you to operate [Ack All], [Delete All], [Clear All Number*], [Clear All Times*] from outside.

*supported by GP2000 series only. Operation is possible only when using [Extended Function + Block Function].

⑤

Alarm Message Displayed by Q-Tag: Set whether alarm messages displayed by Q tag is backed up or not when the power of the unit turns OFF.

PLC Data Monitored by Q-Tag: Set whether PLC data monitored by Q-tag is held or not when the GP power turns OFF.

Point!

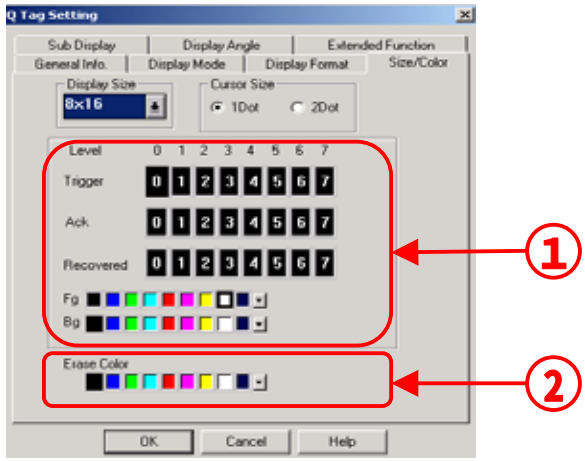
Selecting [Q tag Setting] from [Extended Settings] of [GP Setup] of Project Manager allows you to open [Q tag Setting].

(5) Size/Color Settings

① Set a char. color/a background color of Alarm at the time of Trigger, Ack, Recovery.

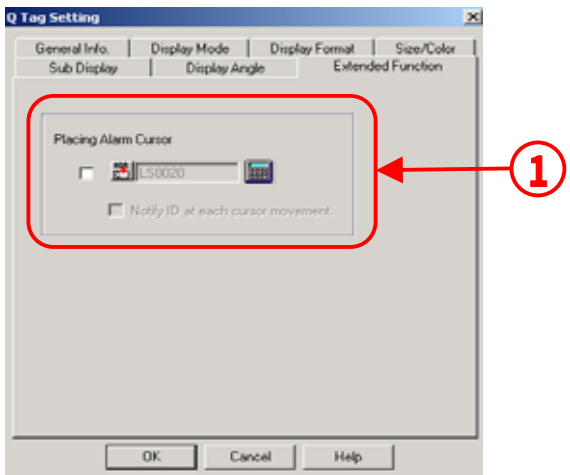
When using Extended Function, it's possible to set Trigger, Ack, Recovery colors for each level.

② Set a color at the time of Alarm Clear



(6) Extended Function Settings

① It's possible to store the alarm number of the currently selected alarm message in the LS area set here.



• Alarm Number

	Bit Address	Group No.	Sub Display	State	Level	Mes
1	LS0230	0	1	On	5	Line1
2	LS0231	0	2	On	2	Line1
3	LS0232	0	3	On	7	Line1
4	LS0233	0	4	On	0	Line1
5	LS0234	0	5	On	5	Line1

When[Notify ID at each cursor movement] is not checked, an alarm number is stored in the LS area every time [Alarm information acquisition function] of [Q-tag selection key] of [T tag] is touched. When [Notify ID at each cursor movement] is checked, an alarm number is automatically stored in the LS area at each cursor movement.

実習

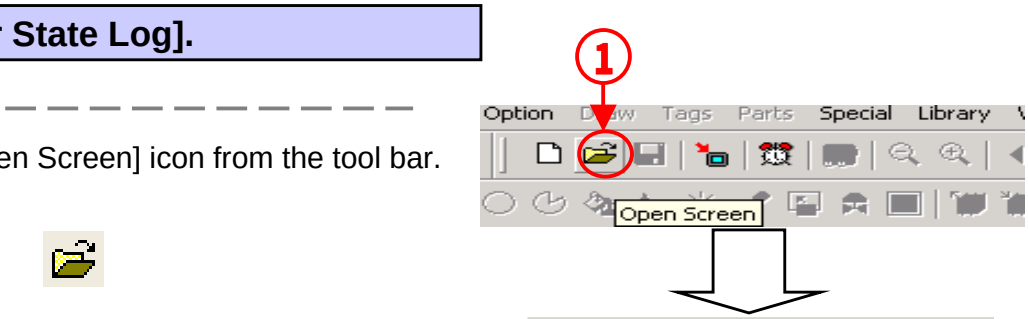
Let's display alarm messages.

Let's display Alarm Summary using Q tag.

Here, the way to display on a screen the alarm messages registered via Alarm Editor by using Q tag will be described.

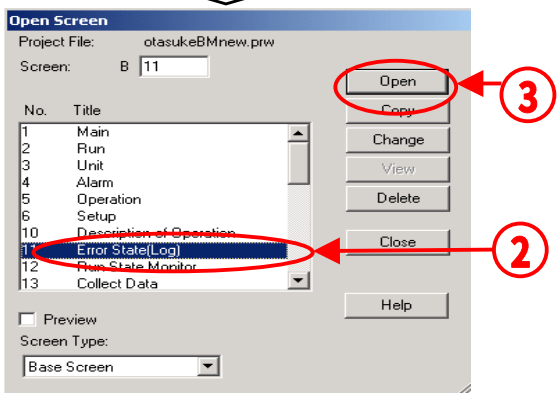
(1) Open [Error State Log].

① Click on the [Open Screen] icon from the tool bar.



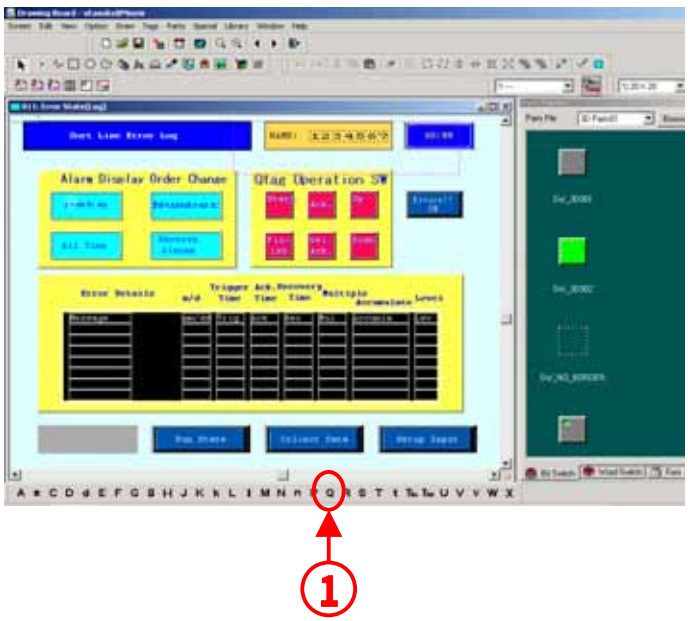
② Select [Error State (Log)] of B11

③ Click [Open].



(2) Open Q tag Setting.

① Click the [Q tag] icon from the tag tool bar.



(3) Set Display Mode

① ―

Set [History] for Display Mode and [Order of New Date & Time] for Default Sorting Order

② ―

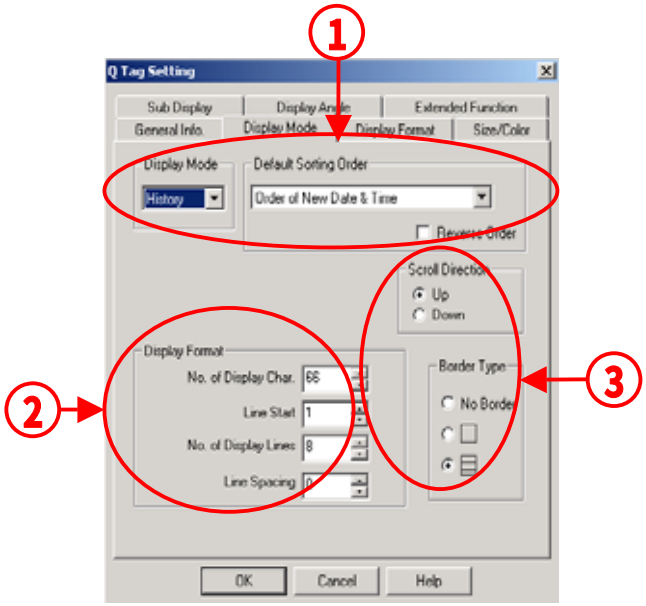
Set Display Format as shown below.

[No. of Display Char.: 66], [Line Start: 1],

[No. of Display Lines: 8], [Line Spacing: 0]

③ ―

Set [Scroll Direction] and [Border Type] as you like.



(4) Set Display Format.

① ―

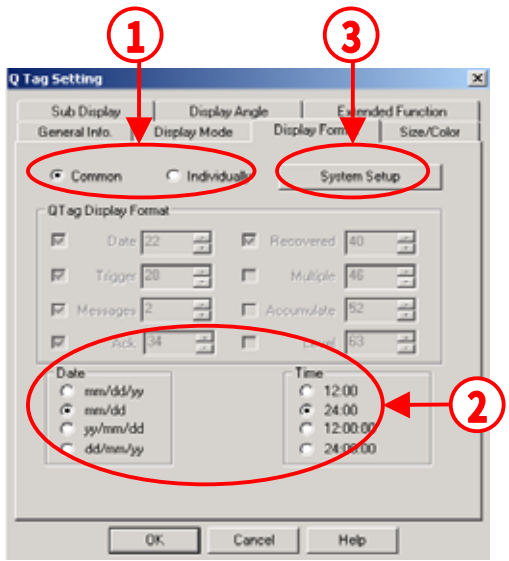
Check [Common].

② ―

Set [mm/dd] for Date and [24:00] for Time.

③ ―

Click [System Setup].
The following [(5) Q tag Setting] will be displayed.



(5) Set Q tag settings.

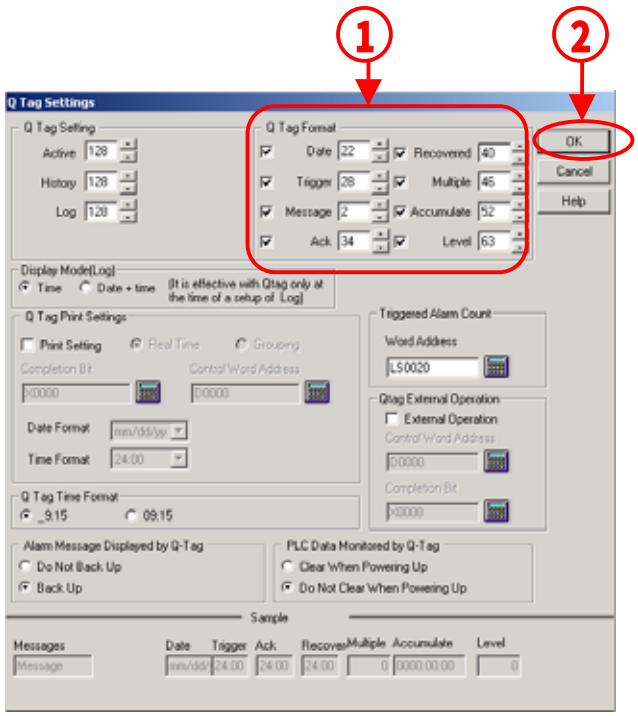
① ―

Check every item in Q tag Display Format and set them as shown below.

[Date: 22] [Trigger: 28] [Message: 2]
[Ack.: 34] [Recovery: 40] [Multiple: 46]
[Accumulate: 52] [Level: 63]

② ―

Click [OK].



(6) Set Size/Color.

① – – – – – – – – – – – – – – – – – –

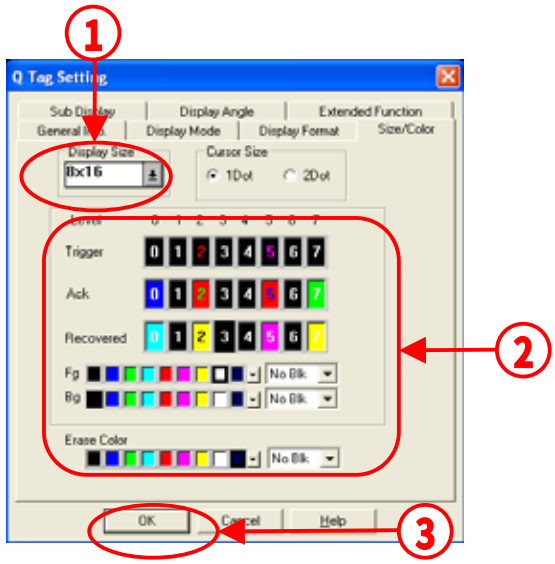
Set [1x1 (f)] for Display Size.

② – – – – – – – – – – – – – – – – – –

For Level, 0, 2, 5, and 7 each, set colors of Trigger, Ack, Recovery as you like.

③ – – – – – – – – – – – – – – – – – –

Click [OK].



(7) Place Q tag on the screen.

① – – – – – – – – – – – –

Place Q tag.

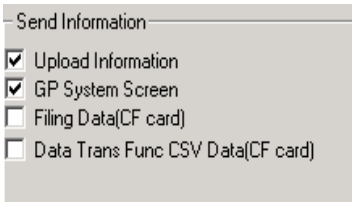
Note !

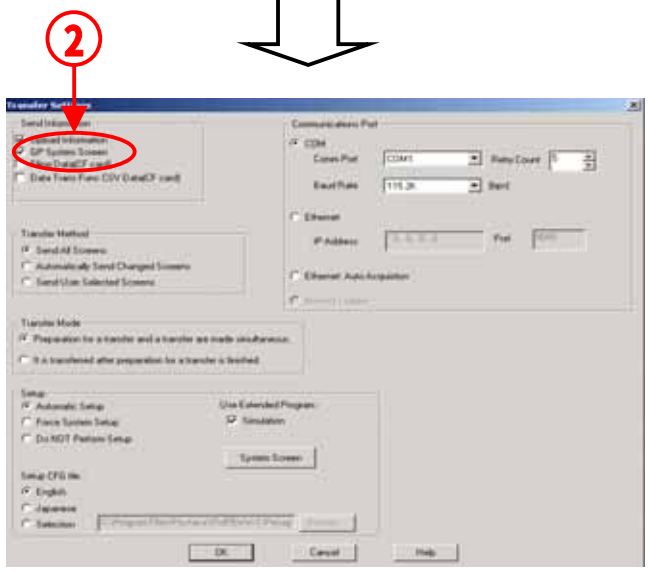
If Common is set for Display Format, it's necessary to transfer [GP setup] together with it when transferring data to GP. Without transferring [GP setup], data is not displayed in the set display format.

See the steps shown below.

① In transferring data, click [Transfer Settings] of [Setup] from the menu bar.

② Check [GP system screen].





7.3

Alarm Operation

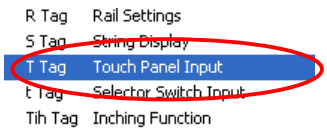
Here, the way to operate the alarm messages displayed by Q tag will be described.

How to operate alarm messages of Q tag

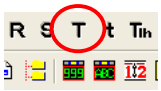
• Alarm messages displayed by Q tag can be operated.
In order to operate them, use [Q tag selection key] from [Special] of [T tag].
For operation, what you do is just placing [Q tag selection key] on the screen where Q tag has been placed.

(1) How to select T tag (Touch Panel Input)

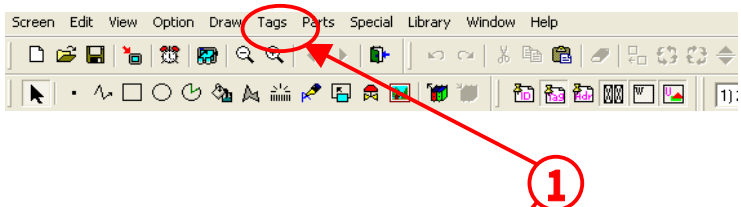
① Select [T tag] from [Tag] of the menu bar.



Or click the [T tag] icon.



• **Menu Bar**

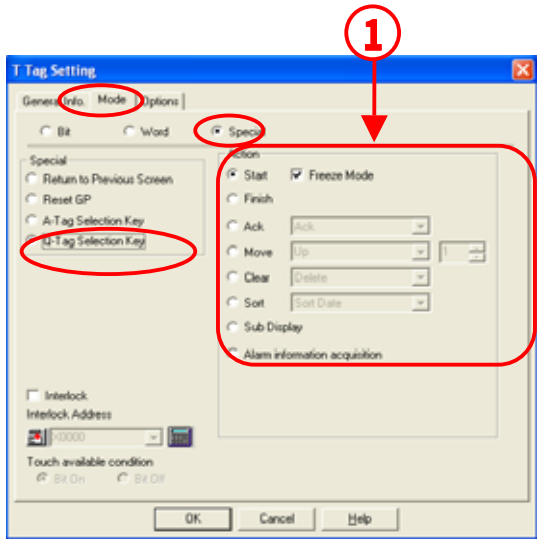


• **Tag Tool Bar**

(2) Action of Q tag selection key

• Select [Q tag selection key] from [Special] of the [Mode] tab.

① Select each action and place them on the screen where Q tag has been placed. In the case of operation within Q tag Display Area, a Start key is necessary. Touch the Start key, and a cursor will appear in the Q tag Display Area.



Note!

When plural Q tags are placed on one screen, T tag does not operate.

(3) Each Action of Q tag selection key

Start		This key begins operations in the Q-tag display area. Pressing this key causes a cursor to appear in the display area. "Freeze Mode"- Pressing the Start key twice holds the Q tag's display and even when alarms are triggered, acknowledged, or recovered, the messages are not renewed. In order to release the Freeze Mode, press the Finish key. When it's released, the alarms triggered, acknowledged, or recovered during the Freeze Mode are displayed at a time.	
Finish		This key ends key entry operations as the cursor disappears.	
Ack	**Ack**	Pressing the Ack key will display the Ack time in the row the cursor is currently displaying.	
	Ack All	Pressing the Ack All key will attach (and display) the Ack time on all the messages displayed that do not yet have an Ack time.	
Move	**Up**	Moves the highlighted cursor up in the Q-tag display area.	
	Down	Moves the highlighted cursor down in the Q-tag display area.	
	Roll Up	With this key, the specified number of lines' display data will be rolled up.	
	Roll Down	With this key, the specified number of lines' display data will be rolled down.	
Clear	**Delete**	Erases the message in the current row.	
	Delete All	Erases all the Q-tag messages displayed.	
	Clear Recovered Alarm	Recovered messages will be deleted from the currently selected alarms.	
	Clear Acknowledged Alarm	Acknowledged messages will be deleted from the currently selected alarms.	
	Clear All Recovered Alarms	Erases all the recovered alarms.	
	Clear All Acknowledged Alarms	Erases all the acknowledged alarms.	
	Clear All Numbers	Erases all alarm count numbers.	The operation is possible only when using [Extended Function + Block]
	Clear Option Numbers	Erases the number of alarm counts for the currently selected alarm.	
	Clear All Times	Erases all accumulated alarm times.	
	Clear Option Time	Erases the accumulated alarm times for the currently selected alarms.	
Sort	**Sort Date**	Displays the alarms in descending order by time of alarm occurrence.	The operation is possible only when using [Extended Function]
	Sort Number	Displays the alarms in descending order by the number of alarm occurrences.	
	Sort All Time	Displays the alarms in descending order by the accumulated time of alarm occurrences.	
	Sort Alarm	Displays the alarms in the order registered in the Alarm Editor.	
	Sort Level & Date	Displays alarms in descending order, according to the alarm levels set. When the same level is set for multiple alarms, the alarms are listed in time stamp order, with the newest alarms first.	
	Sort Level & Number	Displays alarms in descending order, according to the alarm levels set. When the same level is set for multiple alarms, the alarms are listed in number of alarm counts, with the most alarm counts first.	
	Sort Reverse Alarm	Displays the alarms in the reverse order of the sorting in the Q tag display currently displayed on the GP.	
Sub-display		Pressing the Sub-display Key with Q-tag's sub-display selected calls up the designated sub-display screen.	
Alarm Information acquisition		Pressing this key acquires the Alarm number of the Alarm message that is currently selected. The acquired numerical value is stored in the device address specified with the "Placing Alarm Cursor Position Control".	The operation is possible only when using [Extended Function]

実習

Let's place an alarm message operation key!

Let's edit Q-tag's display messages with T-tag.

Here, it will be described how an ack. time is put in the alarm message displayed by Q tag and how to create a SW to delete the recovered alarms using Q tag selection key of T tag.

(1) Open T-tag Setting.

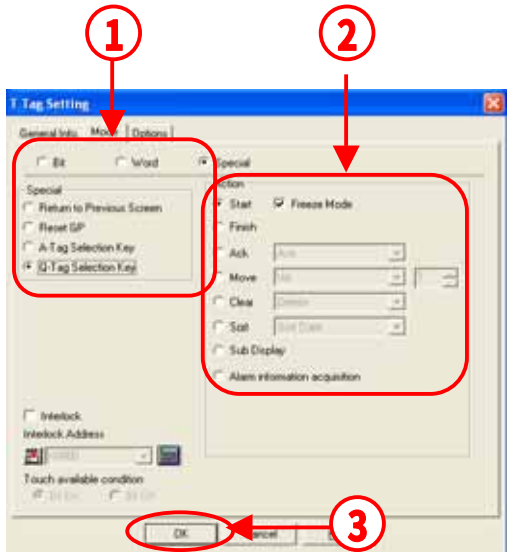
① Click the [T tag] icon from the tag tool bar.

(2) Set Q-tag selection key (Start).

① Select [Q-tag selection key] from [Special] in [Mode].

② Select [Start] and check [Freeze Mode].

③ Click [OK].



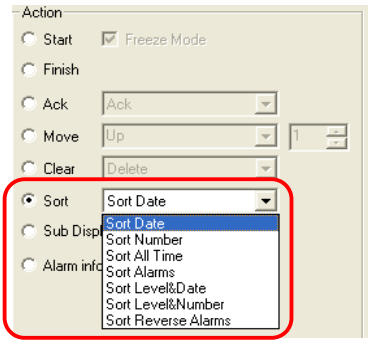
(3) Place Q-tag selection key (Start).

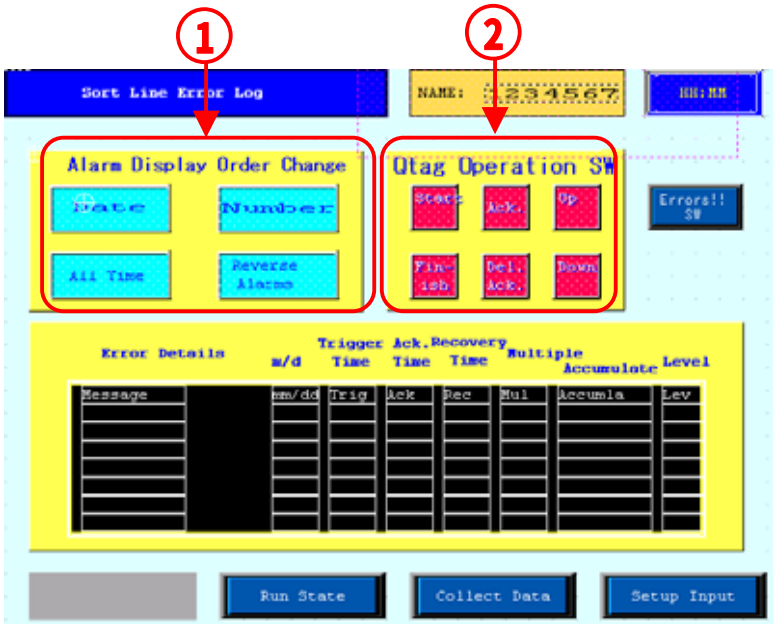
① Place T-tag as drawing a square on Start.

(4) Set [Q-tag selection key] for other operations.

① The [Q-tag selection key] to change the alarm display order can be selected from [Sort] of [Action]. Place T-tag for the following operations over the picture of the SW on the screen.

Date:[Sort Date]
Number:[Sort Number]
All Time:[Sort All Time]
Reverse Alarms:[Sort Reverse Alarms]





② Select other [Q-tag selection key] to operate Q tag from [Action].
Place T tags for the following operations over the pictures of the switches on the screen.

Finish:[Finish] 

Ack:[Ack] of [Ack] 

Clear:[Clear All Ack Alarms] of [Clear] 

Up: [Up] of [Move] 

Down:[Down] of [Move] 

7.4

Sub-display

Here, the way to display the details and the countermeasure of the selected alarm message that is displayed by Q tag will be described.

How to display details and countermeasures of each alarm

• With Sub-display function, it's possible to display the details and the countermeasures of the selected alarm message by selecting an alarm message displayed by Q-tag with pictures and characters.

(1) Example of Sub-display action

① Touch the message displayed on Q tag.

② The sub-display screen according to the message displays on the screen.

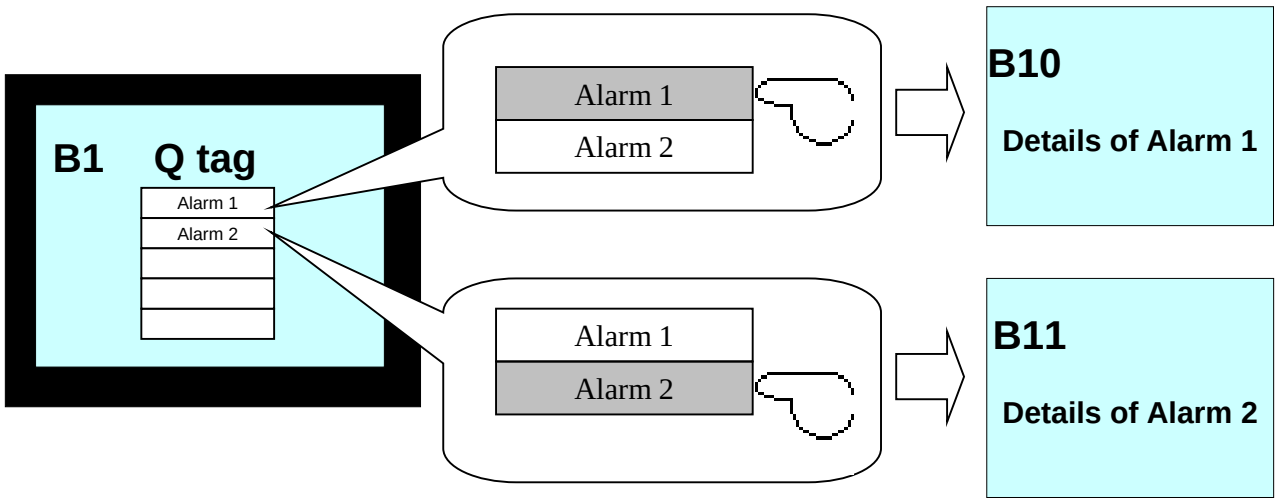
(2) Types of Sub-display

• There are 6 kinds of settings as shown below for Sub-display function.

Base screen	**Change Screen**	Changes the display screen to another screen according to each message.
	Library Display	Calls and displays a library (picture) according to each message.
	Text Display	Calls and displays a text (sentences) according to each message.
Active Window	**Change Screen**	Calls a base screen according to each message via a window and displays it.
	Library Display	Calls a picture (library) according to each message via a window and displays it.
	Text Display	Calls a text (sentences) according to each message via a window and displays it.

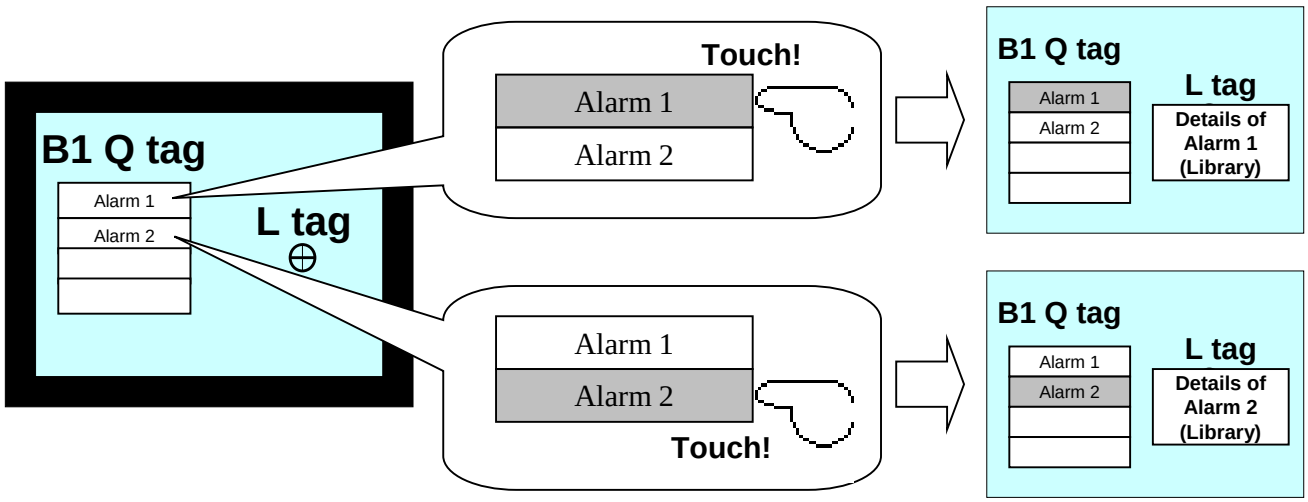
1. [Base Screen] -> [Change Screen] (Sub-display using Change Screen)

• If you select the alarm message display by Q-tag, the display screen can be changed to a screen according to each alarm message.



2. [Base Screen] -> [Library Display] (Sub-display using Library Display)

• If you select the alarm message displayed by Q tag, a library (picture) according to each message can be called and displayed.

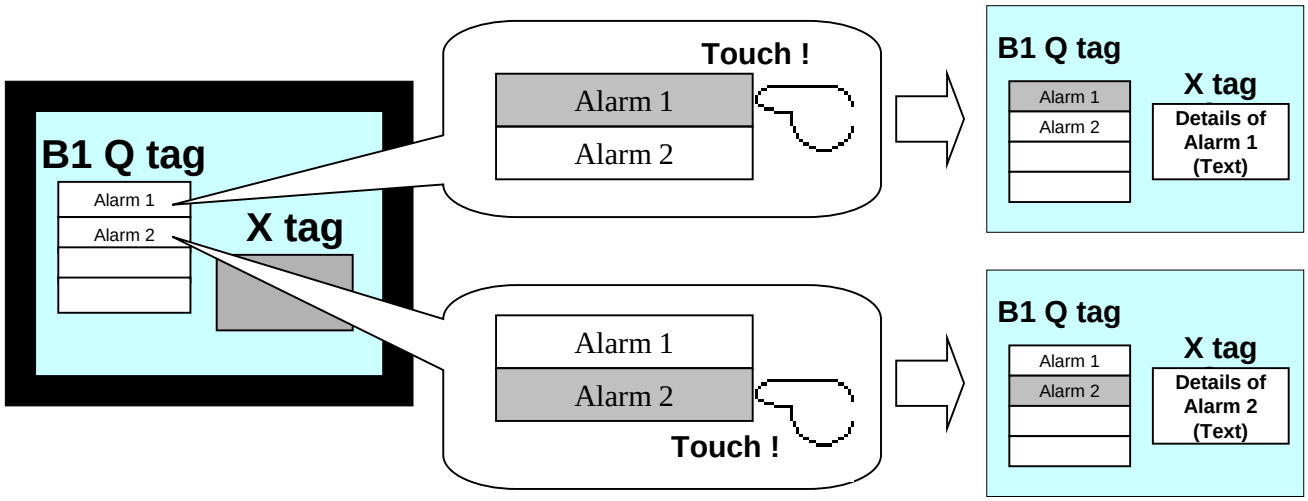


Note!

• Only pictures can be called and displayed. Parts and tags cannot be called and displayed.
• On the base screen, the space is needed for a sub-screen. When it displays overlapping other objects, it's impossible to delete the sub screen only.
• A sub-screen called by L-tag is called so that the center of the screen overlaps L tag.

3. [Base Screen] -> [Text Display] (Sub-display using Text Display)

• If you select the alarm message displayed by Q tag, it's possible to call a text (sentences) according to each message and display it.

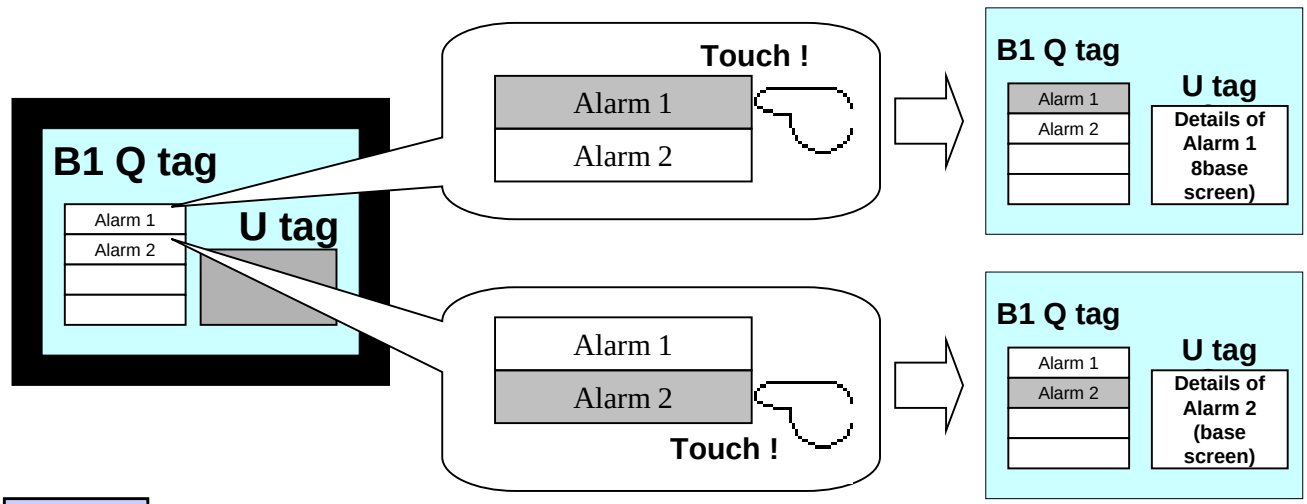


Note !

- Only texts (sentences) registered in Text Screen can be called and displayed.
- On the base screen, the space is needed for a sub screen.
- When the sub screen overlaps other objects, it's impossible to delete the sub screen only.

4. [Window]->[Change Screen] (Sub-display using Window)

• If you select the alarm message displayed by Q tag, it's possible to call and display a window screen according to each message.

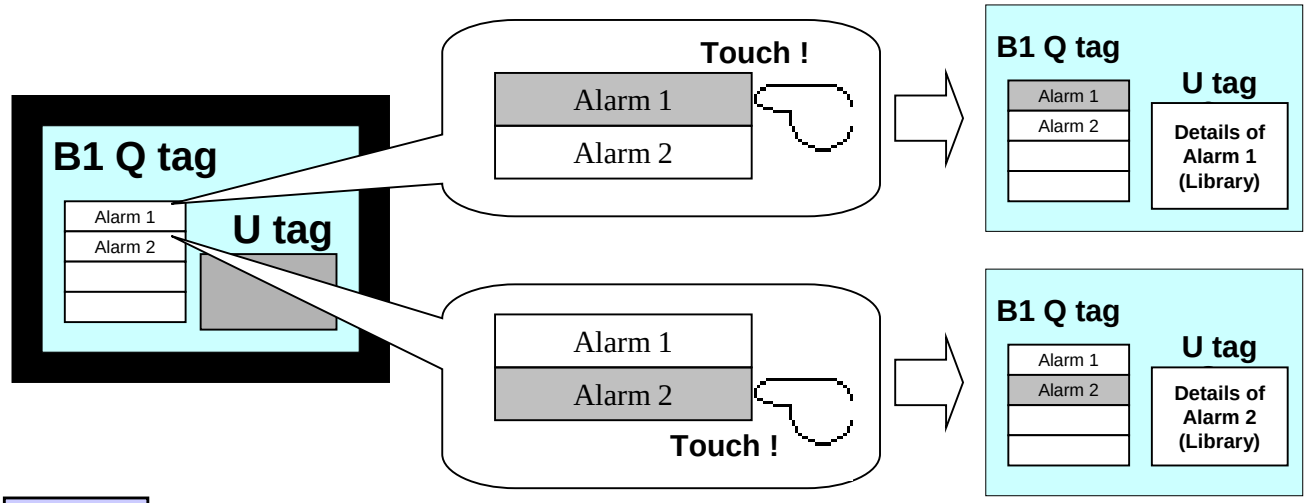


Note !

- It's Window that can be called and displayed.
- On the base screen for the sub-display, no special space for a sub screen is necessary.
- Even when the sub screen overlaps other objects, it's possible to delete the called sub screen only.

5. [Window]->[Library Display](Sub-display using Window and Library Display)

• If you select the alarm message displayed by Q tag, it's possible to call and display a library (picture) according to each message.

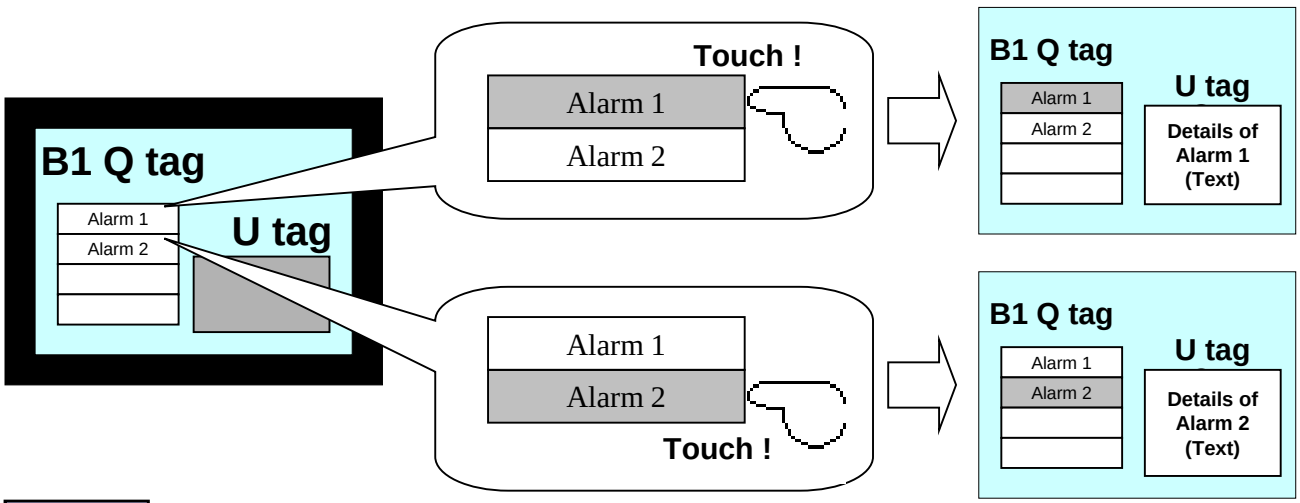


Note !

- It's a base screen that can be called and displayed.
- On the base screen for the sub-display, no special space is necessary for a sub screen.
- Even when the sub screen overlaps other objects, it's possible to delete the called sub screen only.

6. [Window]->[Text Display] (Sub-display using Window and Text Display)

• If you select the alarm message displayed by Q tag, it's possible to call and display a text (sentences) according to each message.



Note !

- It's a text screen that can be called and displayed.
- On the base screen for the sub-display, no special space is necessary for a sub screen.
- Even when the sub screen overlaps other objects, it's possible to delete the called sub screen only.

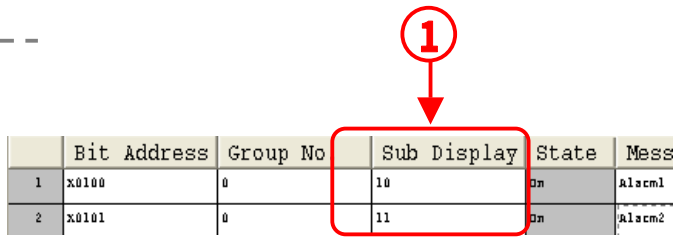
Sub-display using Change Screen

(1) Flow of Sub-display Setting (Base Screen -> Change Screen)

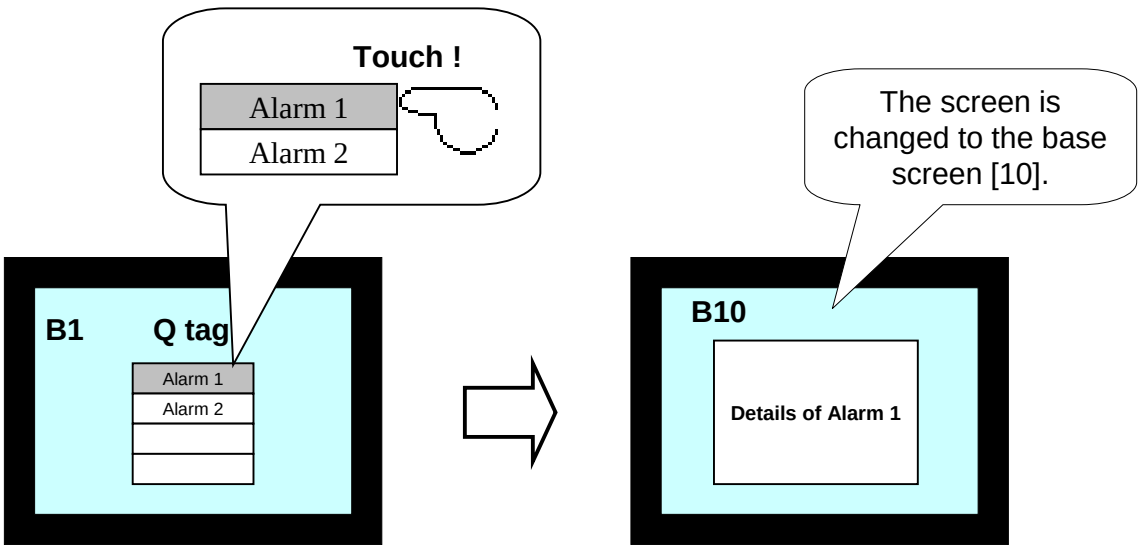
1. Create a sub screen (a base screen) for each alarm message
↓
2. Register a sub-display screen number of each message with Alarm Editor.
↓
3. Set Sub-display function in Q tag.

(2) Setting on Alarm Editor

① The number of a screen of sub-display can be set via Sub Display Screen Number on Alarm Editor.



Ex.) Set [10] for Sub Display Screen Number of [Alarm 1].



If you select [Alarm 1], the screen will be changed to the B10 screen.

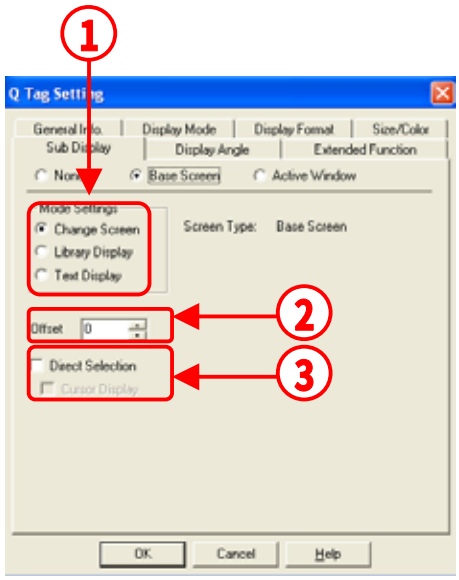
(3) Q tag Settings

① Select [Change Screen] of [Base Screen].

② The screen of a sub display registration No. that is set on Alarm Editor + an offset value is displayed.

③ With [Direct Selection] checked, touching the message displayed by Q tag displays the sub screen. Without [Direct Selection] checked, using T tag's [Q tag selection key] allows the sub screen to display.

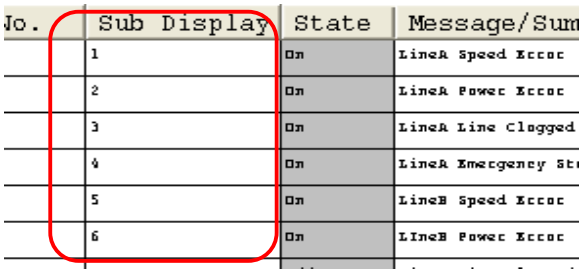
With [Cursor Display] checked, a cursor displays on the selected message.



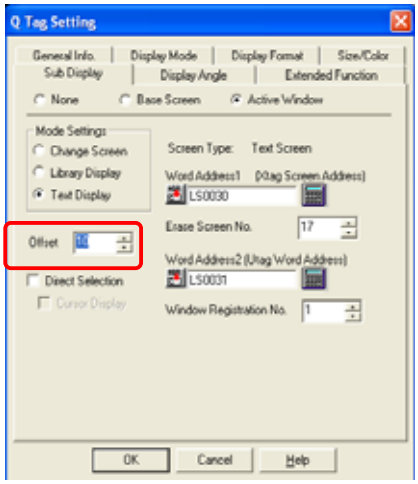
Point!

How to use Offset

Q: I set Sub Display Screen No. in the ascending order from [1] via Alarm Editor. But since the base screens , [1 to 10] have been already used for the display screen, I had to create a sub screen from the base screen , [11]. Do I have to re-register the sub display screen no. via Alarm Editor?



A: In this case, using [Offset] allows you to call and display the sub screen registered from B11 without re-registering the sub display screen no. via Alarm Editor. If [10] is set for Offset, when the message registered as a sub display screen no., [1] is sub-displayed, the screen of the screen no., [11] (Offset [10] + Sub Display Screen No. [1]) is displayed as a sub screen.



Sub-display using Library Display

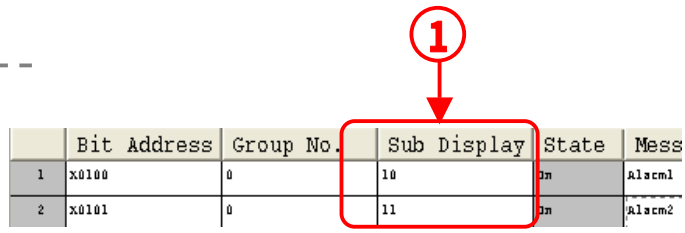
(1) Flow of Sub-display settings (Base screen -> Library display)

1. Create a sub screen (base screen) for each alarm message.
↓
2. Register a sub display screen number for each message via Alarm Editor.
↓
3. Set Sub Display Function to Q tag.
↓
4. Set L-tag on the screen to which the sub screen is called.

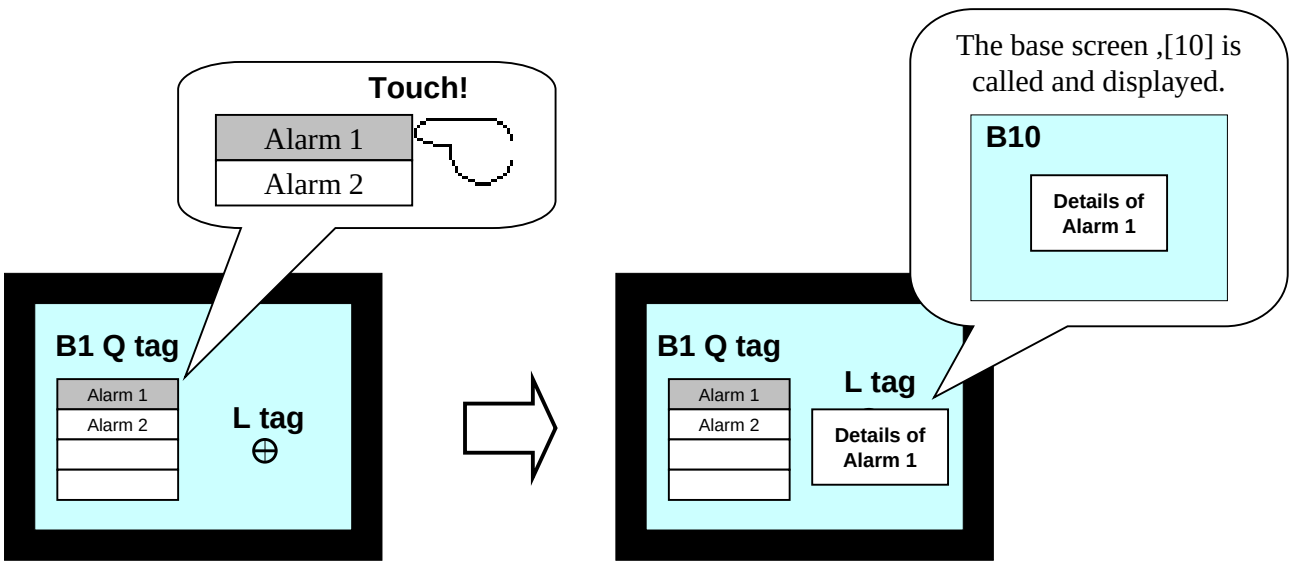
(2) Settings on Alarm Editor

①

A screen number of sub-display can be set in Sub Display Screen No. on Alarm Editor.



Ex.) When the sub display screen no. of [Alarm 1] is [10],



If you select [Alarm 1], the base screen, [10] is called as a sub screen.

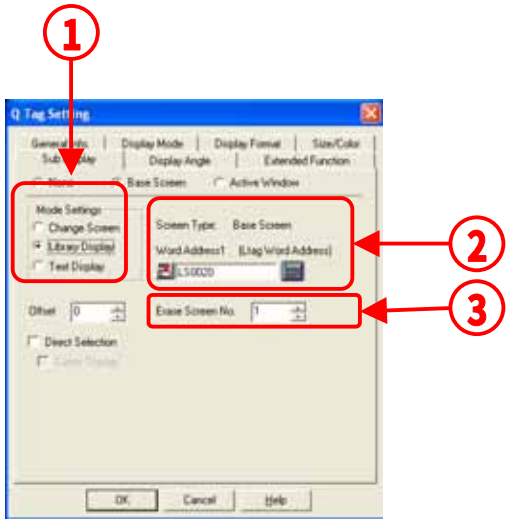
(3) Q tag Settings

①

Select [Library Display] from [Base Screen].

②

The screen number of the base screen of sub-display is stored in the word address set here. The address must be the same as the word address of L-tag used for Sub Display.



③

Set the number of the screen displayed when selecting the message with the sub display screen no. defined as [0] via Alarm Editor (without the sub screen). Reference: P8-37)

(4) L tag Settings

• When using L tag with Sub Display's [Base Screen]-> [Library Display], make the following settings.

①

Select [Indirect] from the Designated Screen tab.

②

Select [None] for Trigger Type.

③

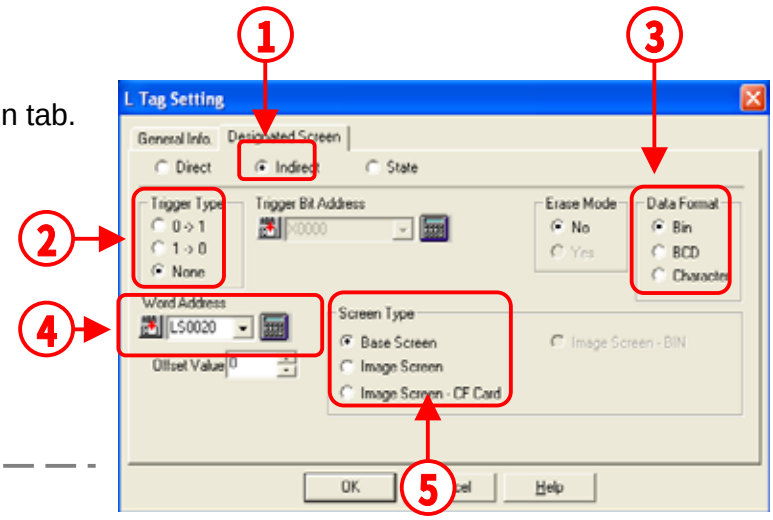
Select [Bin] for Data Format.

④

Set the same address as the word address set in Sub Display of Q tag for Word Address.

⑤

Select [Base Screen] for Screen Type.



Point!

• The word address set in Sub Display can use LS area only.

Point!

What's Erase Screen No.?

The Erase Screen No. is set when an alarm message with a sub screen and an alarm message without a sub screen (the sub display screen no. is set to [0]) are mixed.
If you sub-display an alarm without a sub screen without setting an erase screen no., the previously displayed sub screen will remain. When an erase screen no. is set, if an alarm without a sub screen is selected, the already prepared erase screen (the screen registered in Erase Screen No.) will be written over the previously displayed sub screen. Therefore the sub screen is not displayed.

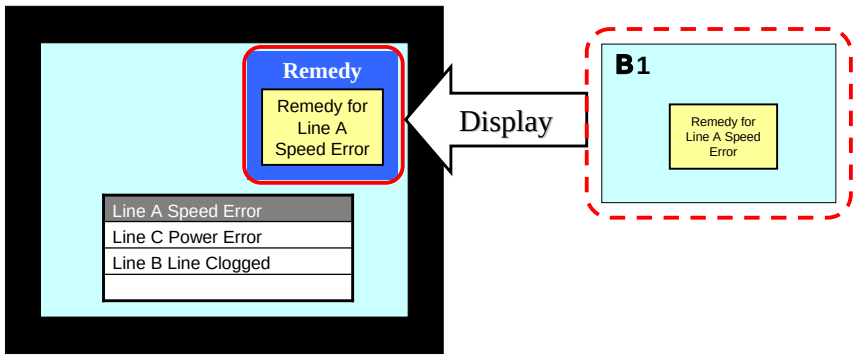
Ex.) When messages with the sub display screen no. set to [0] are mixed,

No.	Sub Display	State	Message/Sum
	1	On	LineA Speed Error
	2	On	LineA Power Error
	0	On	LineA Line Clogged
	3	On	LineA Emergency St
	4	On	LineB Speed Error
	5	On	LineB Power Error
	0	On	LineB Line Clogged

Prepare an erase screen and set it to Q-tag's Erase Screen No.

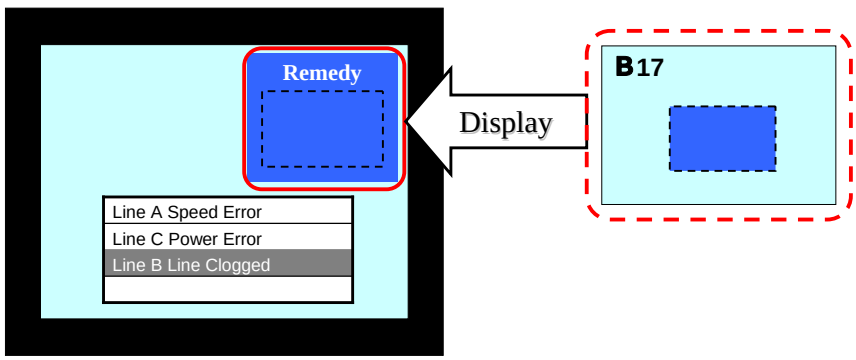
Touch [Line A Power Error].

The sub screen registered in Sub Display Screen No. is displayed.



Touch [Line B Line Clogged].

The screen registered in Erase Screen No. is displayed.



Sub-display using Text Display

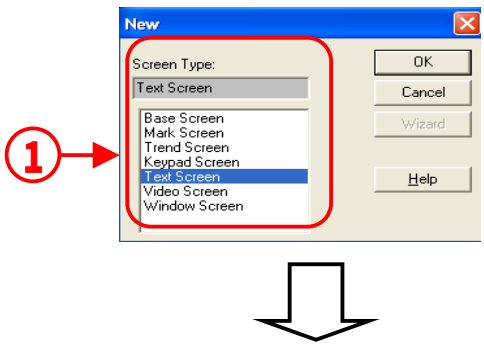
(1) Flow of Sun Display Settings (Base Screen -> Text Display)

1. Create a sub screen for each alarm message (a text screen).
↓
2. Register a sub display screen no. for each message via Alarm Editor.
↓
3. Set Sub Display Function to Q tag.
↓
4. Set X tag on the screen to which the sub screen is called.

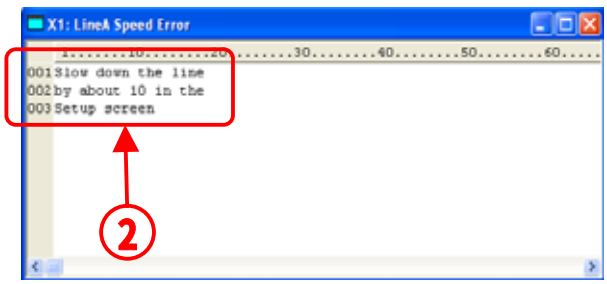
(2) Create a sub screen (a text screen)

• Create a screen of sub-display with Text Screen.

① Open [Editor] and select [Text Screen] from [New].



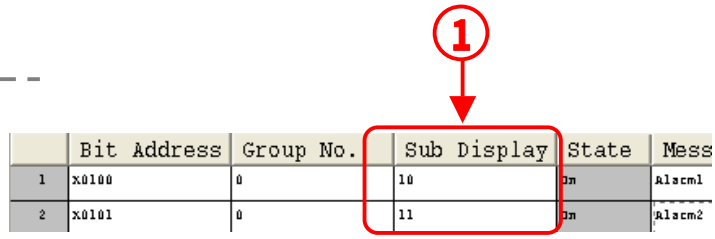
② Create a text (sentences) of sub-display for each message and save it.



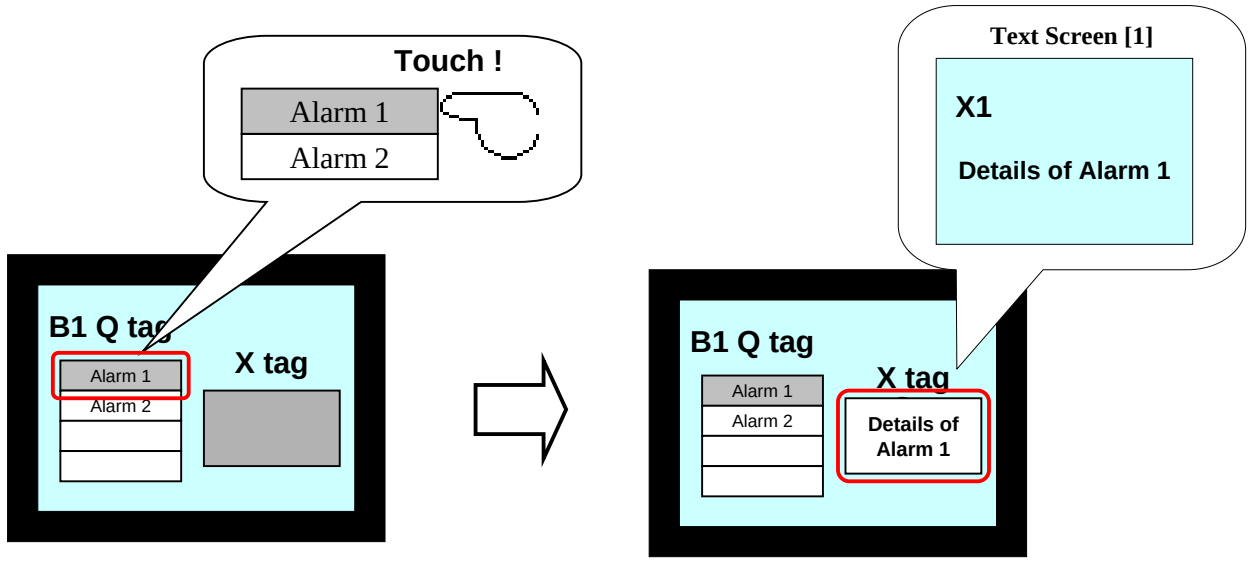
(3) Settings on Alarm Editor

①

A screen number of sub-display can be set in Sub Display Screen No. of Alarm Editor



Ex.) Set [1] for a sub display screen no. of [Alarm 1].



If you select [Alarm 1], the text screen, [1] will be called as the sub screen.

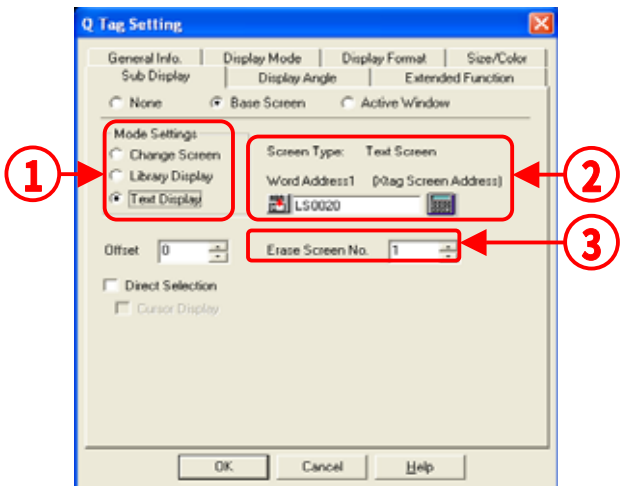
(4) Q tag Settings

①

Select [Text Display] of [Base Screen].

②

The screen no. of the text screen for sub-display is stored in the word address set here. The address must be the same as the [Text Screen Word Address] of X tag used for Sub Display.

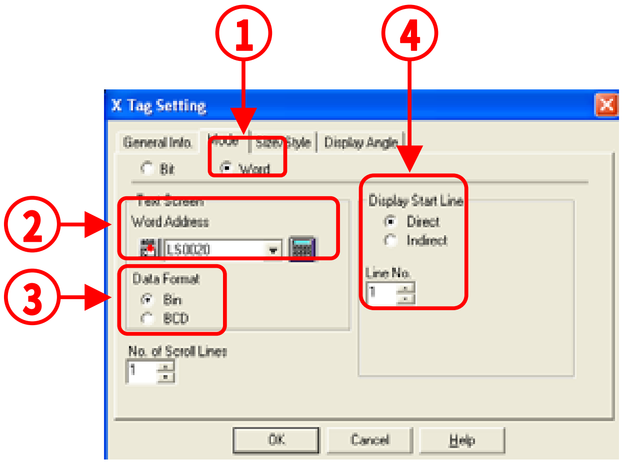


③

Set the number of the screen displayed when selecting the message with the sub display screen no. defined as [0] via Alarm Editor (without the sub screen). Reference: P8-37)

(5) X tag Settings

• When using X-tag with [Base Screen]->[Text Display] of Sub Display, make the following settings.



①

Select [Word] for Mode.

②

Set the same address as the word address set in Sub Display of Q tag for Text Screen Word Address.

③

Select [Bin] for Data Format.

④

Select [Direct] for Display Start Line and set [1] for Line No..

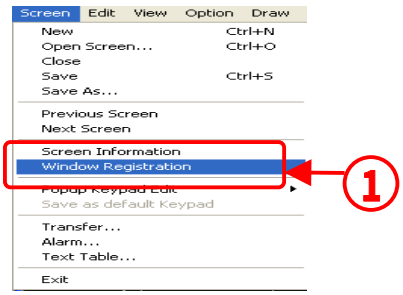
Sub-display using Active Window

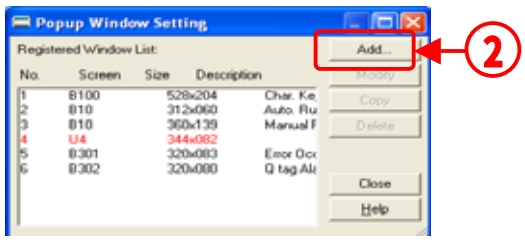
(1) Flow of Sub Display Settings (Active Window -> Change Screen)

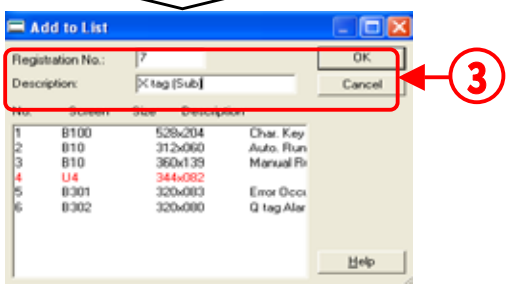
1. Create a sub screen for each alarm message (Base Screen).
↓
2. Window-register the created sub screen.
↓
3. Register a sub display screen no. of each message via Alarm Editor.
↓
4. Set Sub Display Function to Q tag.
↓
5. Set U tag on the screen to which the sub screen is called.

(2) Window Registration of a sub screen

• Create a screen of sub-display on a base screen and window-register each screen.





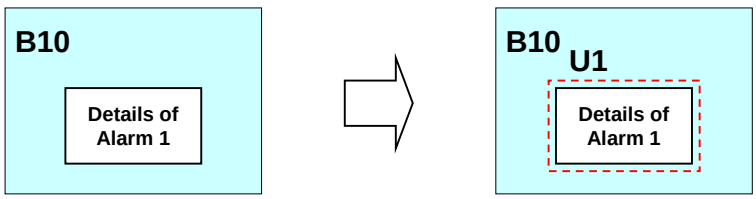


① Create a sub screen on a base screen and save it. After saving it, select [Window Registration] from [Screen] of the menu bar.

② Click on [Add] and surround the place desired for Window Registration with a frame.

③ Enter the window number in Registration No. and click [OK].

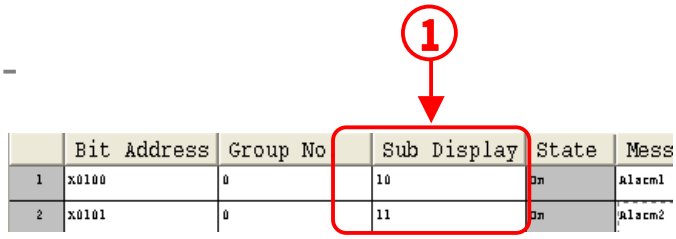
Ex.) Create a sub screen on the base screen, [10] and register it in Window [1].



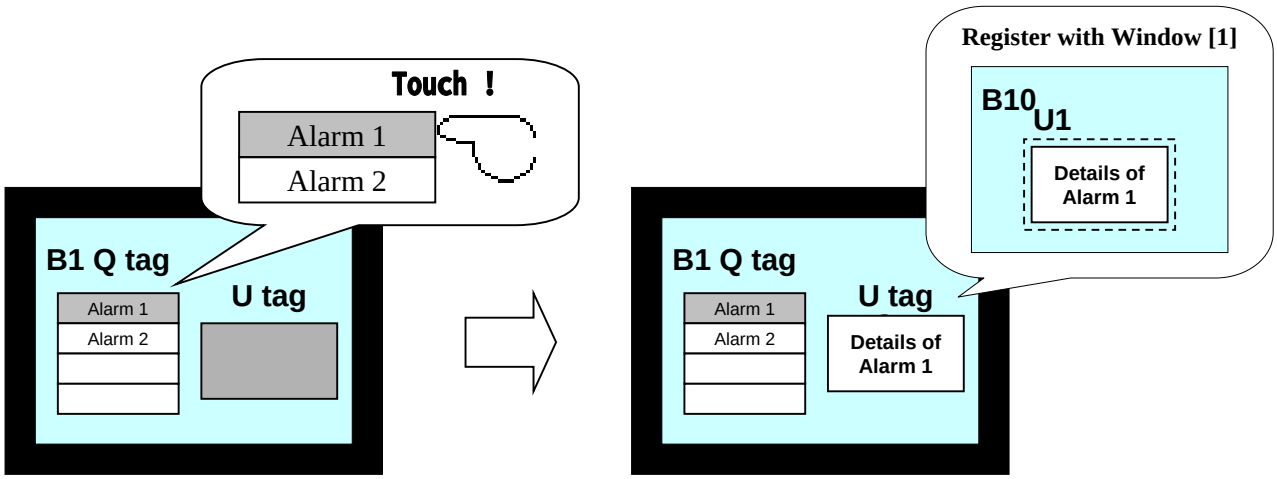
(3) Settings on Alarm Editor

①

A screen number of sub-display can be set in Sub Display Screen No. on Alarm Editor.



Ex.) Set [1] for Sub Display Screen No. of [Alarm 1].



If you select [Alarm 1], the Window [1] will be called as a sub screen.

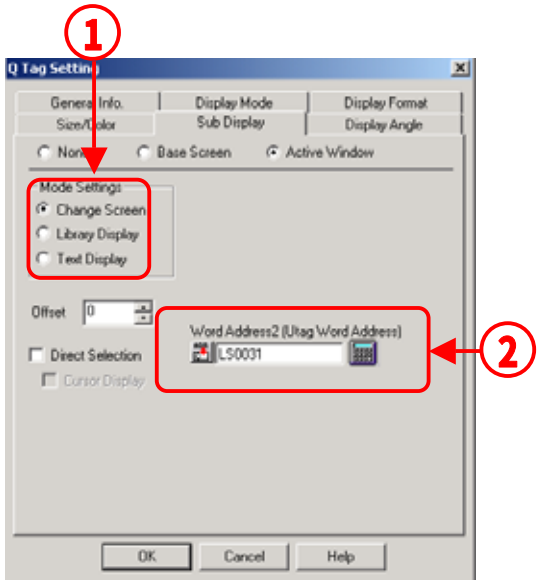
(4) Q tag Settings

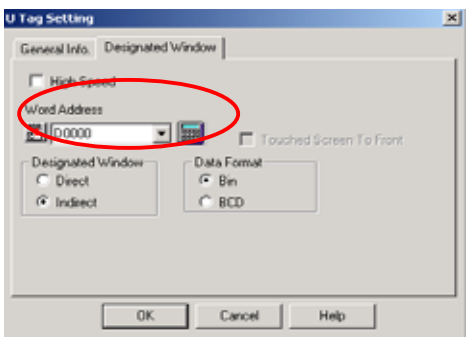
①

Select [Change Screen] of [Active Window]

②

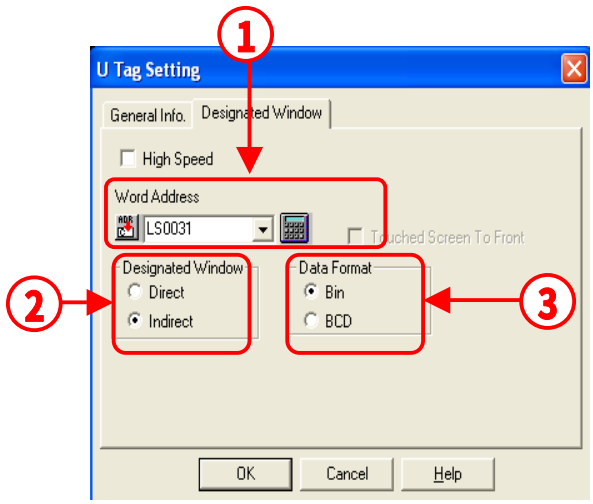
A screen number of a text screen for sub-display is stored in the word address set here.The address must be the same as the [word address] of U tag used for Sub Display.





(5) U tag Settings

• When using U tag with Sub Display, [Active Window] -> [Change Screen], make the following settings. And it will be fine wherever you place the set U tag on the screen.



① The word address must be the same as the word address 2 that has been set in Sub Display of Q tag.

② Select [Indirect] for Designated Window.

③ Select [Bin] for Data Format.

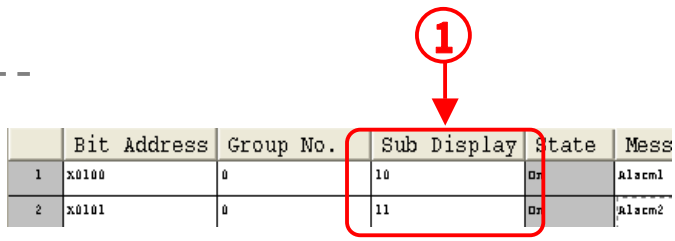
Sub-display using Active Window and Library Display

(1) Flow of Sub Display Settings (Active Window -> Library Display)

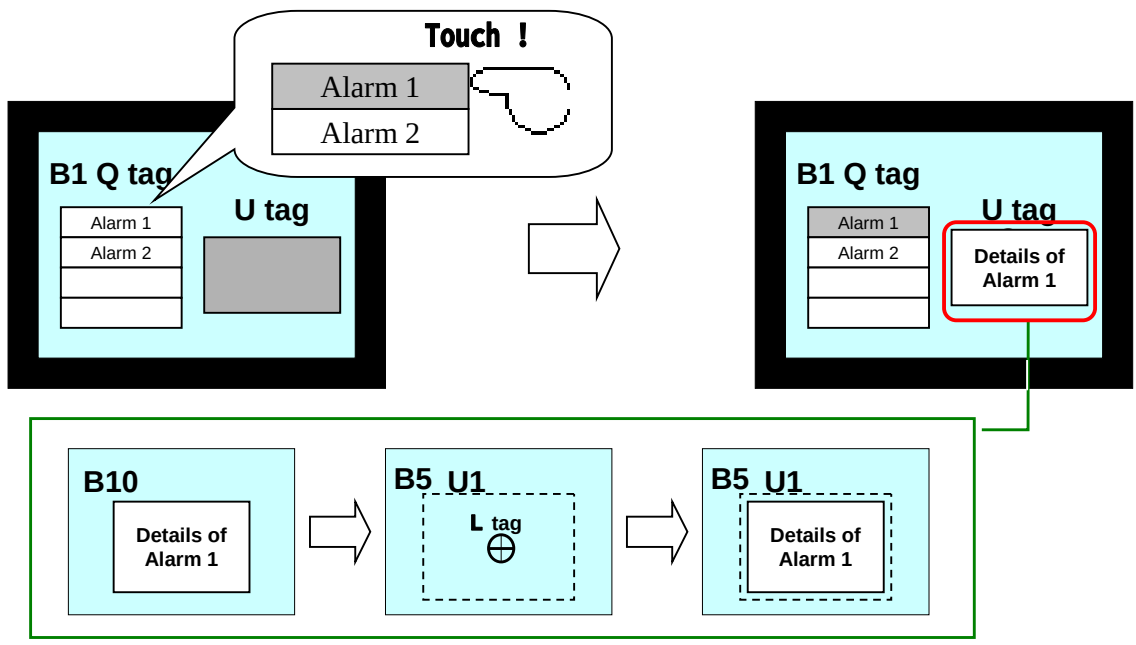
1. Create a sub screen for each alarm message (a base screen).
↓
2. Register a sub display screen number of each message via Alarm Editor.
↓
3. Set L tag on a new base screen.
↓
4. Window-register the created L tag.
↓
5. Set Sub Display Function to Q tag.
↓
6. Set U tag on the screen to which a sub screen (L tag) is called.

(2) Settings on Alarm Editor

① A screen number of sub display can be set in Sub Display Screen No. of Alarm Editor.



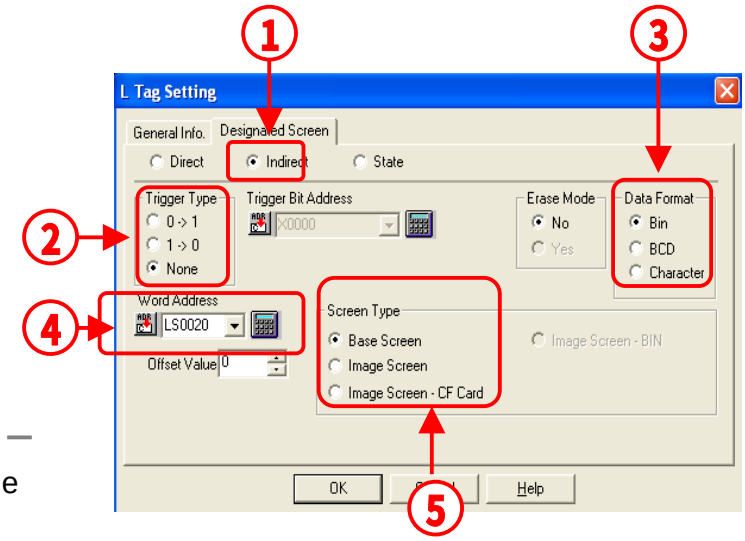
Ex.) Set [10] for Sub Display Screen No. of [Alarm 1].



If you select [Alarm 1], the base screen , [10] will be called to L tag. That L tag is called to the base screen, [1] via U tag and sub-displayed.

(3) L tag Settings

• When using L tag with Sub Display, [Active Window]->[Library Display], make the following settings. For L tag, create a new screen separately from the screen of sub display (the screen where Q tag is placed) and then place it.



① ― ― ― ― ― ― ― ― ― ― ― ― ― ―

Select [Indirect] for Designated Screen.

② ― ― ― ― ― ― ― ― ― ― ― ― ― ―

Select [None] for Trigger Type.

③ ― ― ― ― ― ― ― ― ― ― ― ― ― ―

Select [Bin] for Data Format.

④ ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ―

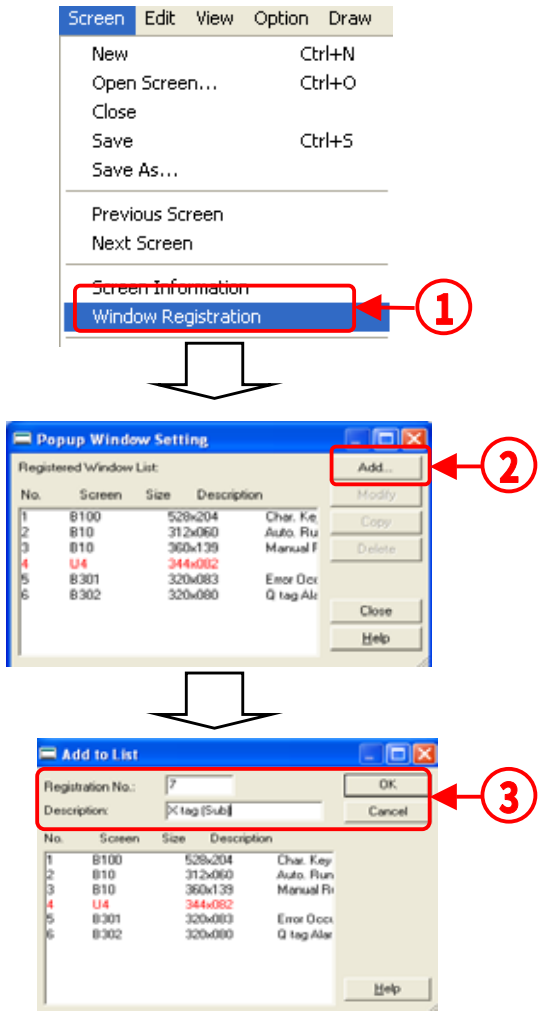
The word address to set must be the same as the [Word Address (L tag Word Address)] set in Sub Display of Q tag.

⑤ ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ―

Select [Base Screen] for Screen Type.

(4) Window Registration of Sub Screen

• Window-register the screen on which L tag is placed.



① ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ―

Create a sub screen on a base screen and save it. After saving it, select [Window Registration] from [Screen] of the menu bar.

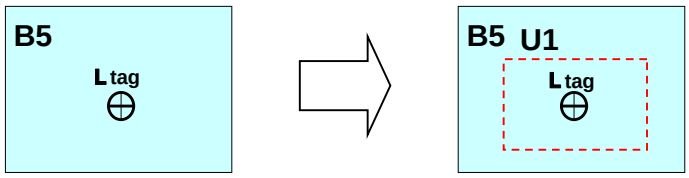
② ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ―

Click [Add] and surround the place desired for Window Registration with a frame.

③ ― ― ― ― ― ― ― ― ― ― ― ― ― ― ― ―

Enter the window number in Registration No. and click [OK].

Ex.) Place L tag on the base screen, [5]. Register the placed L tag in Window [1].



Before window-registering L tag, consider the display position and the size of the sub screen called to L tag. The part out of the window-registered range is not sub-displayed.

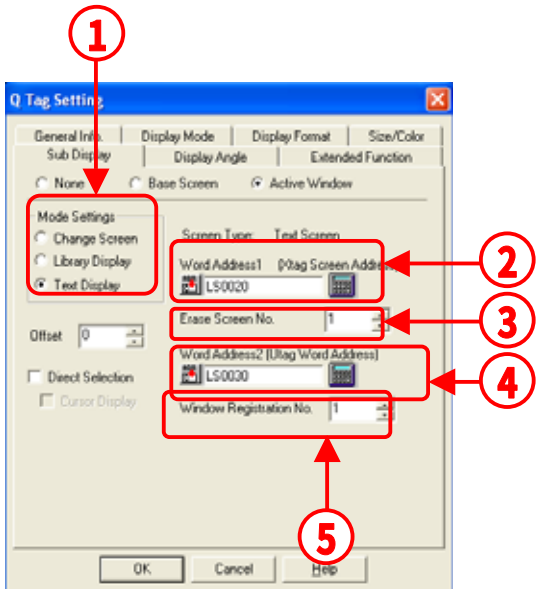
(5) Q tag Settings

①

Select [Library Display] of [Active Window].

②

A screen number of a text screen for sub display is stored in the word address set here. The address must be the same as the [Word Address] of L tag used for Sub Display.

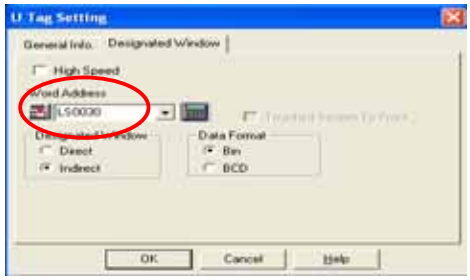


③

Set the number of the screen displayed when selecting the message with the sub display screen no. defined as [0] via Alarm Editor (without the sub screen). Reference: P8-37)

④

The word address must be the same as the [Word Address] of U tag used for Sub Display.



⑤

Set the registration number of the window in which L tag has been registered.

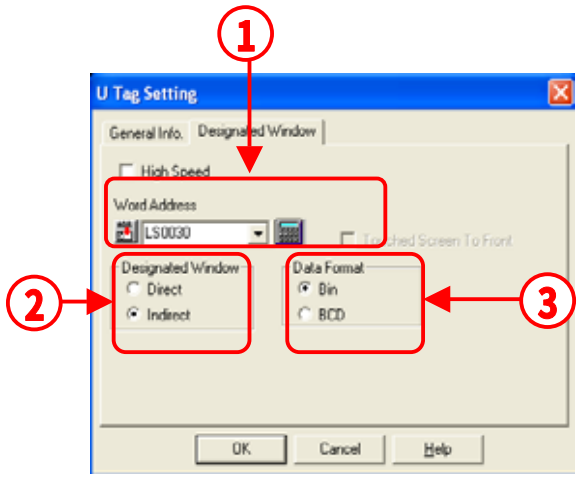
(6) U tag Settings

• When using U tag with Sub Display, [Active Window] -> [Library Display], make the following settings. And it will be fine wherever you place the set U tag on the screen.

① The word address must be the same as the Word Address 2 set in Sub Display of Q tag.

② **Select [Indirect] for Designated Window.**

③ Select [Bin] for Data Format.



Sub-display using Active Window and Text Display

(1) Flow of Sub Display Settings (Active Window ->Text Display)

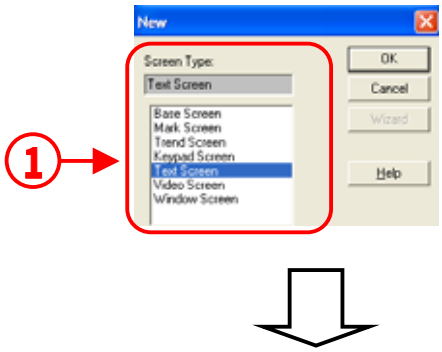
1. Create a sub screen (a text screen) for each alarm message.
↓
2. Register a sub display screen no. of each message via Alarm Editor.
↓
4. Set X tag on a new base screen.
↓
5. Register the created X tag.
↓
3. Set Sub Display Function to Q tag.
↓
6. Set U tag on the screen to which the sub screen (X tag) is called.

(2) Create a sub screen (text screen)

• Create a screen for sub display via Text Screen.

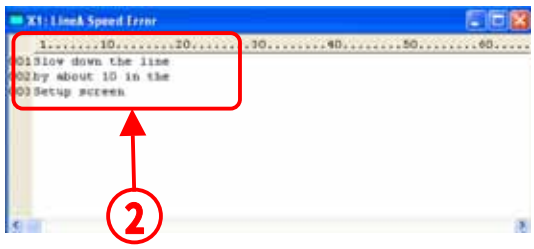
① – – – – – – – – – – – – – – – – – –

Open [Editor] and select [Text Screen] from [New].



② – – – – – – – – – – – – – – – – – –

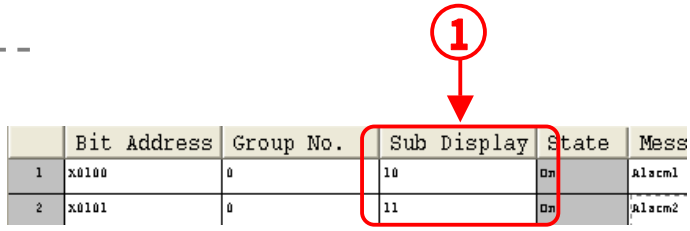
Create a text (sentences) of sub display.



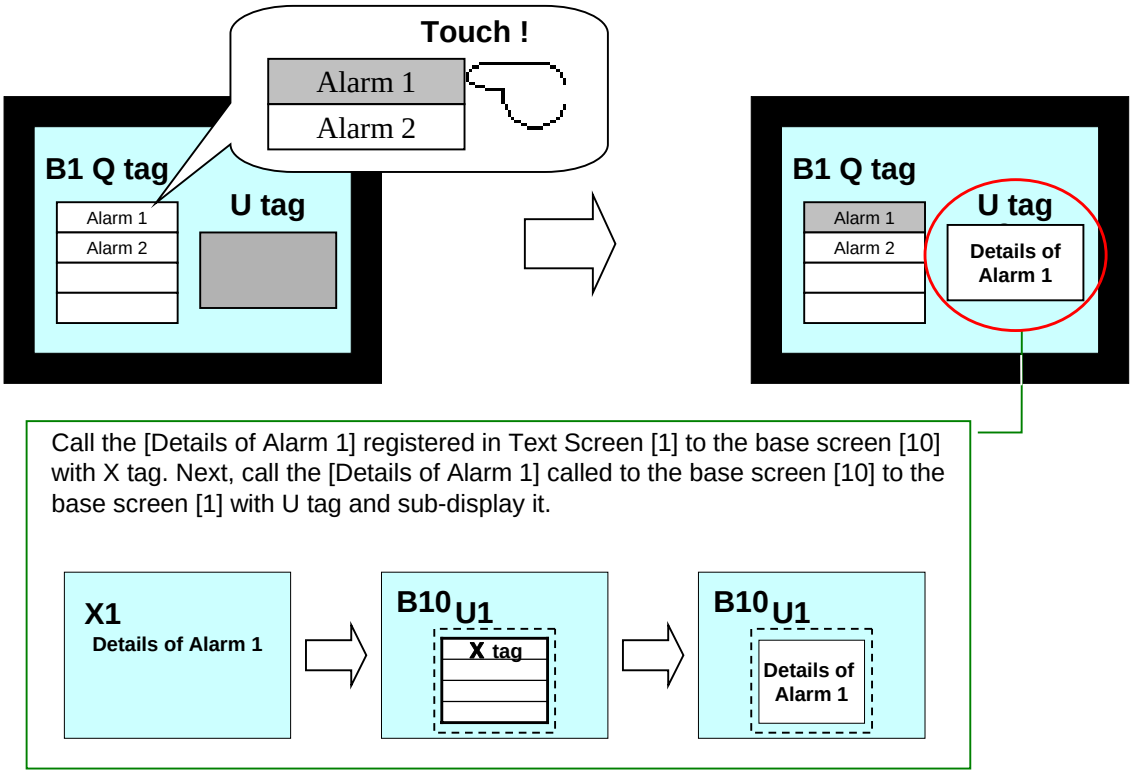
(3) Settings on Alarm Editor

① – – – – – – – – – – – – – – – – – –

A screen number of sub display can be set in Sub Display Screen No. of Alarm Editor.



Ex.) Set [1] for Sub Display Screen No. of [Alarm 1].



If you select [Alarm 1], the text screen [1] will be called to X tag. That X tag is called to the base screen [1] with U tag and sub-displayed.

(4) X tag Settings

• When using X tag with Sub Display, [Active Window]-> [Text Display], make the following settings.

① – – – – – – – – – – – – – –

Select [Word] for Mode.

② – – – – – – – – – – – – – –

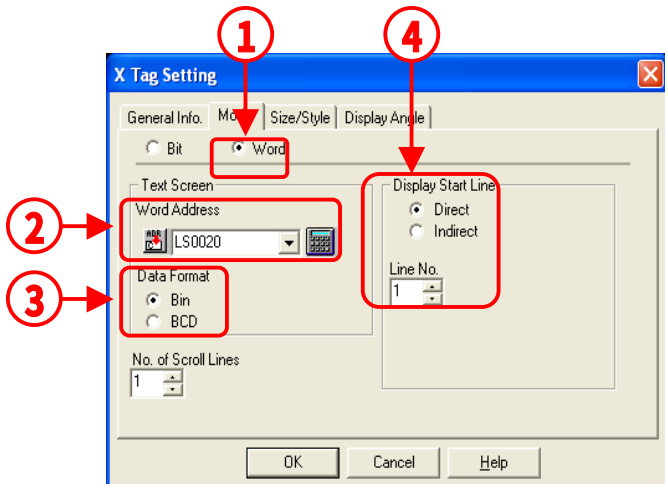
The text screen word address must be the same as the word address set in Sub Display of Q tag.

③ – – – – – – – – – – – – – –

Select [Bin] for Data Format.

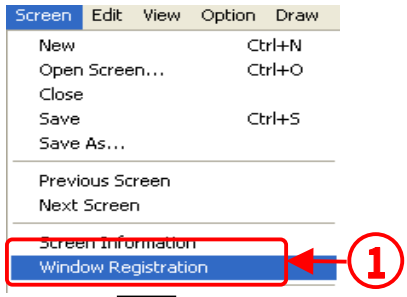
④ – – – – – – – – – – – – – – – – – –

Select [Direct] for Display Start Line and set [1] for Line No.

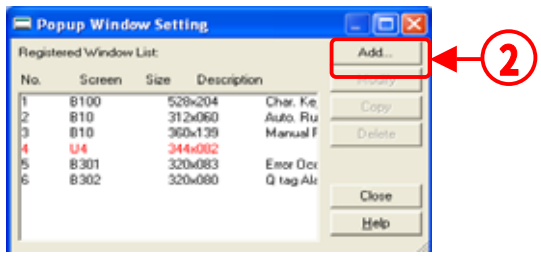


(5) Window Registration of Sub Screen

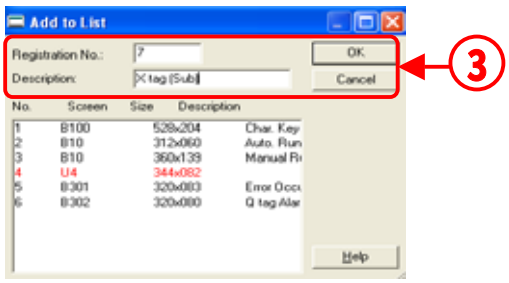
• Window-register the screen on which L tag has been placed.



① Create a sub screen on a base screen and save it. After saving it, select [Window Registration] from [Screen] of the menu bar.。



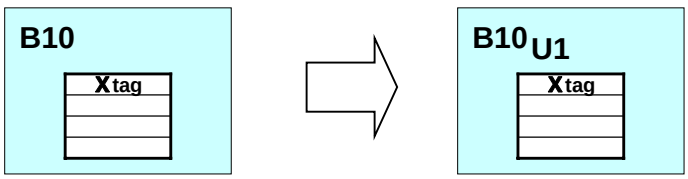
② Click [Add] and surround the place desired for Window Registration.



③ Enter the window number in Registration No. and click [OK].

Ex) Place X tag on the base screen [10]. Register the placed X tag in Window [1].

Ex.) Place X tag on the base screen [10]. Register the placed X tag in Window [1].

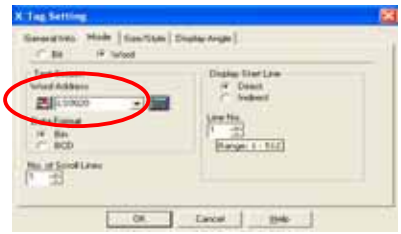


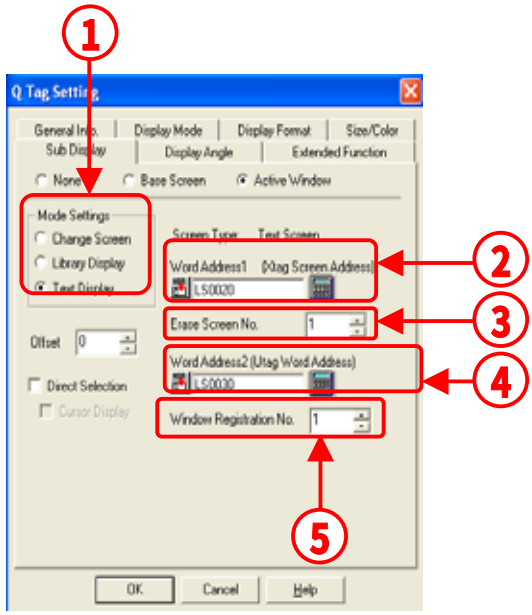
Before window-registering L tag, consider the display position and the size of the sub screen called to L tag. The part out of the window-registered range is not sub-displayed.

(6) Q tag Settings

① Select [Library Display] of [Active Window].

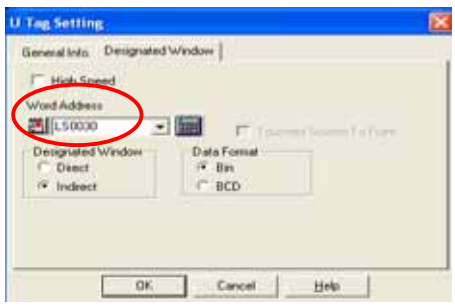
② A screen number of a text screen for sub-display is stored in the word address set here. The address must be the same as the [Text Screen Word Address] of X tag used for Sub Display.





③ Set the number of the screen displayed when selecting the message with the sub display screen no. defined as [0] via Alarm Editor (without the sub screen). Reference: P8-37)

④ The word address must be the same as the [Word Address] of U tag used for Sub Display.



⑤ Set the registration number of the window in which X tag has been registered.

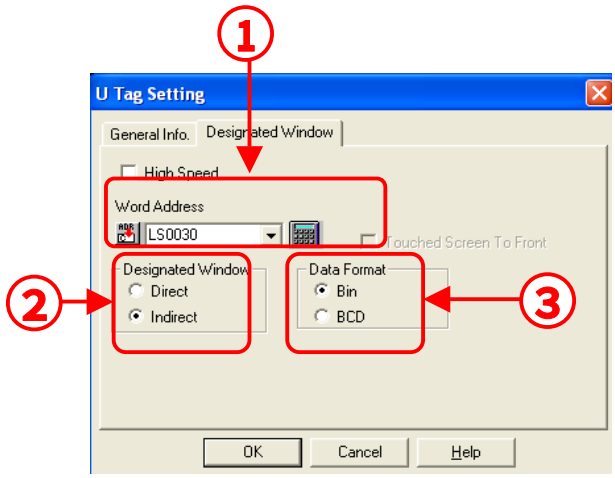
(7) U tag Settings

• When using U tag with Sub Display, [Active Window]->[Text Display], make the following settings. It will be fine wherever on the screen you place the set U tag.

① The word address must be the same as the Word Address set in Sub Display of Q tag.

② Select [Indirect] for Designated Window.

③ Select [Bin] for Data Format.



Let's display Sub Screen.

Let's display Alarm Summary using Q tag.

The way to create Alarm Summary Display Extended Function (Q tag) in order to display Alarm Summary will be described. Here, the initial remedy method for Alarm will be carried out with Sub Display of X tag. The explanation will go in the order of message registration on Alarm Editor, Q tag Setting, and X tag Setting.

• Flow of Sub Display Function Settings

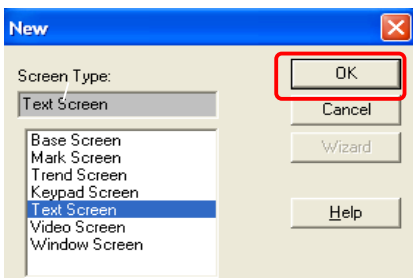
1. Create a sub screen(X1 to X17) for each alarm message.
↓
2. Register a sub display screen number of each alarm on Alarm Editor.
↓
3. Set Sub Display Function to Q tag of B11.
↓
4. Create a window screen to display a detailed screen.
(B303：X Settings, Window Registration)
↓
5. Set U tag to call the window screen on B11.

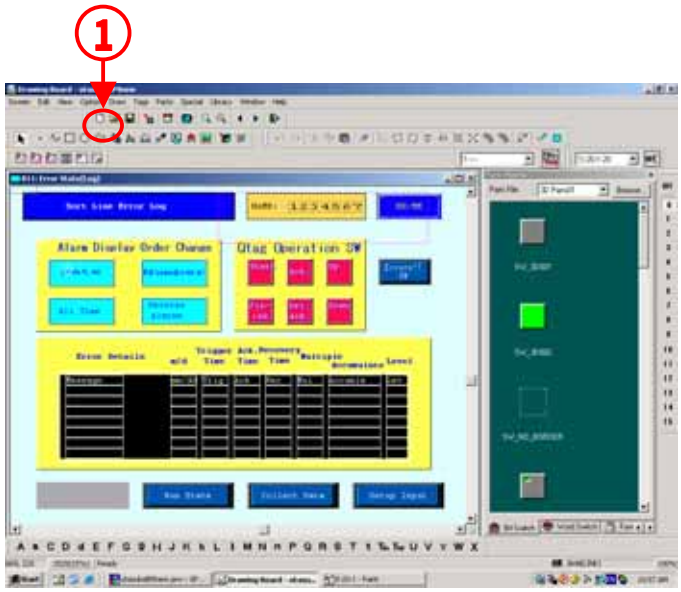
(1) Create a sub screen. Open Text Screen.

• Set Sub Display using [Text Display] of [Active Window] this time.
Prepare the sub screen via Text Screen.

①

Click the New icon, select [Text Screen], and click [OK].

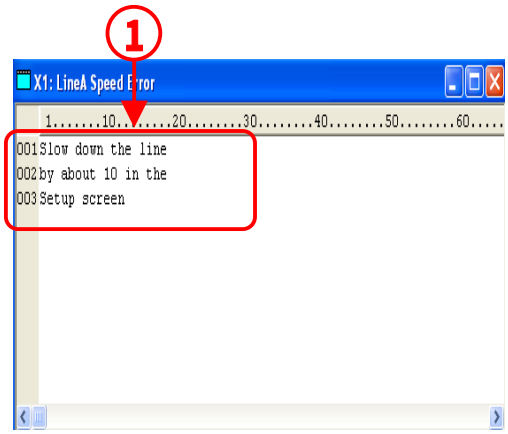




(2) Enter [Details] or [Remedies (countermeasure)] in the Text Screen.

①

Enter the remedy shown in the frame in the text screen.
After entering it, save it as Text Screen [1].



(3) Let's set Sub Display.

Open [Sub Display] of [Q tag Settings] and select [Active Window].

①

Check [Text Display] of [Mode Settings].

②

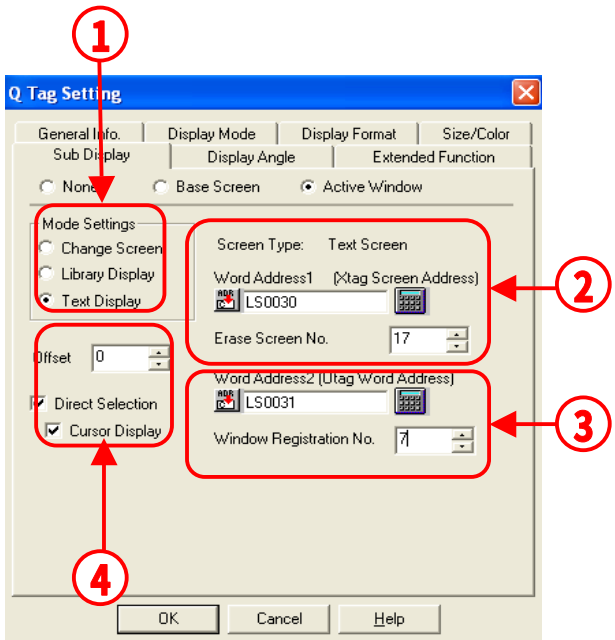
Set [LS30] for the word address (the same address of X tag) and [17] for Erase Screen No..

③

Set [LS31] for the Word Address (the same address as U tag and [7] for the Window Registration No..

④

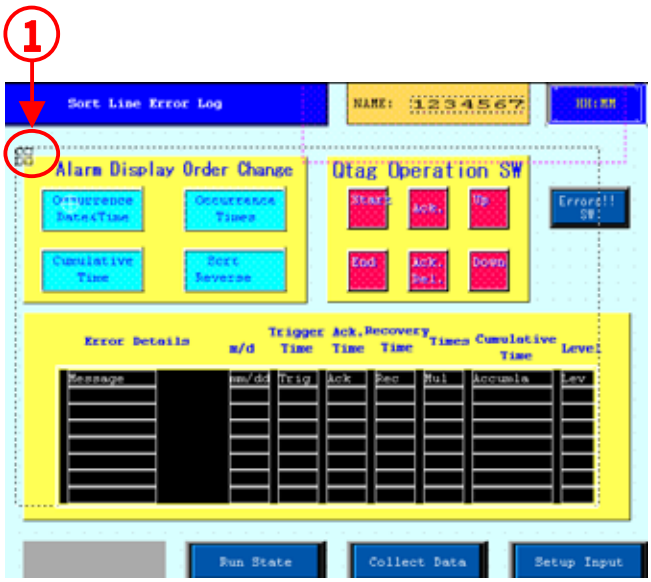
Check [Direct Selection] and [Cursor Display].



(4) Set the display position of the Sub Screen.

①

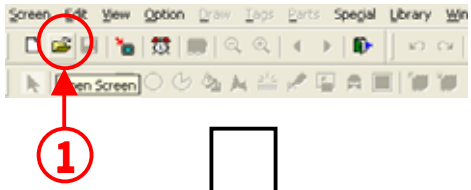
After completing the Sub Display Settings, click the [OK] icon, ⊕ will appear. Place ⊕ on the position desired to display the Sub Screen. The position where ⊕ has been placed overlaps with the upper-left part of the called Sub Screen.



(5) Open the base screen ,[B303].

①

Click the [Open Screen] icon from the tool bar.

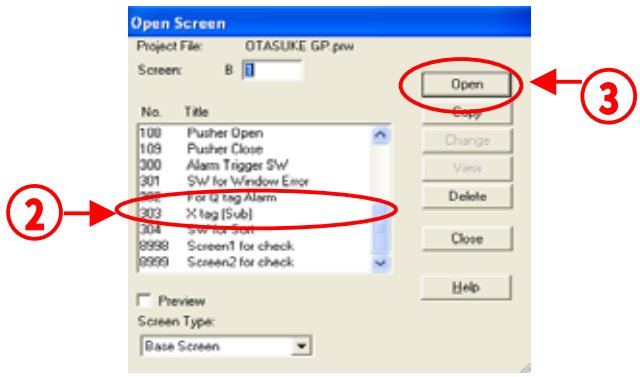


②

Select [X tag (Sub)] of B303.

③

Click [Open].

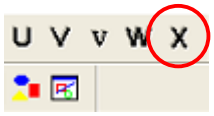


(6) Open X tag Settings to call the text screen.

At first, open the base screen, [B303].

① – – – – – – – – – – – –

Click the [X tag] icon from the tag tool bar.



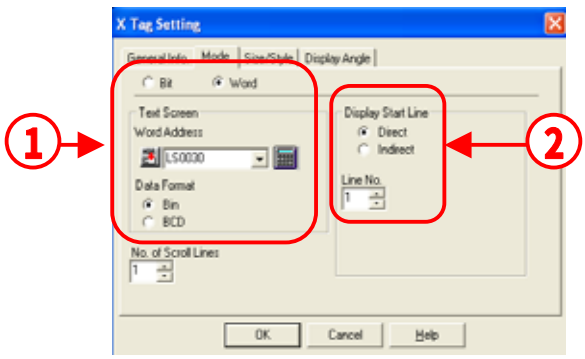
(7) Set [Mode] of X tag.

① – – – – – – – – – – – – – – – –

Check [Word] and set [LS30] for Word Address and [Bin] for Data Format.

② – – – – – – – – – – – – – – – –

Select [Direct] for Display Start Line and [1] for Line No.



(8) Set [Size/Style] of X tag.

① – – – – – – – – – – – – – – – –

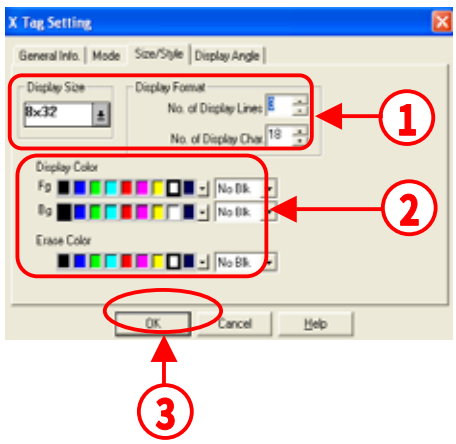
Set [1x2(f)] for Display Size, [3] for No. of Display Lines, and [18] for No. of Display Char.

② – – – – – – – – – – – – – – – –

Set Display Color as you like.

③ – – – – – – – – – – – – – – – –

After setting them, click [OK].



Point

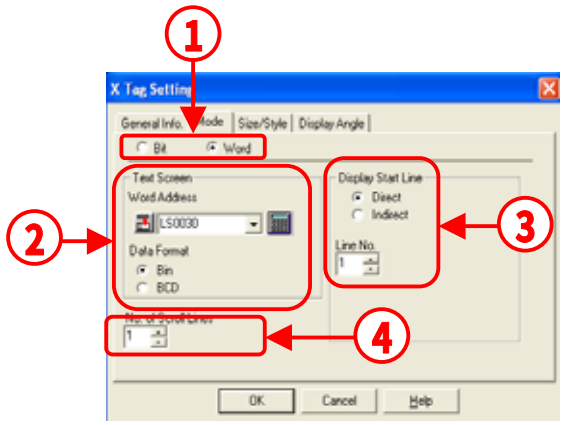
X tag Settings

X tag causes the text created via Text Screen to display on a screen.

①

Bit: A text screen to display is fixed.

Word: A text screen to display is variable. Store a screen No.in a word address and designate a text screen to display.



②

Text Screen Word Address: Set a word address where a screen No. Of a text screen to display is stored.

Data Format: Set the data format of the text screen No. that is stored in the word address.

③

Set the Display Start Line of the text screen to display via X tag.

Direct: The Start Line is fixed.

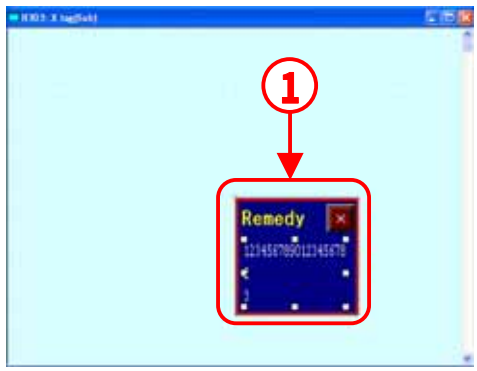
Indirect: Set a word address, store the display start line, and designate it.

④

Set how many messages are scrolled by the change of the display start line.
The display start line via X tag can be calculated with the formula shown below.

1 + ([Line No.] – 1) X [No. of Scrolling]

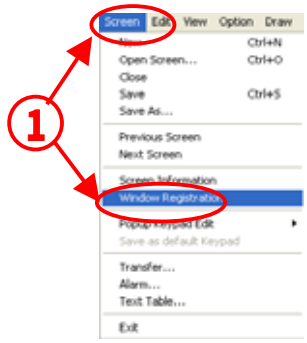
(9) Place X tag on the screen.



① ―

Place X tag on a likely position of the screen.
After placing it, save it.

(10) Window-register X tag.

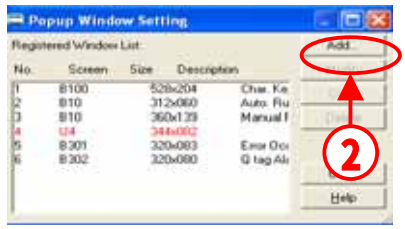


① ―

Select [Window Registration] from [Screen] of the menu bar.

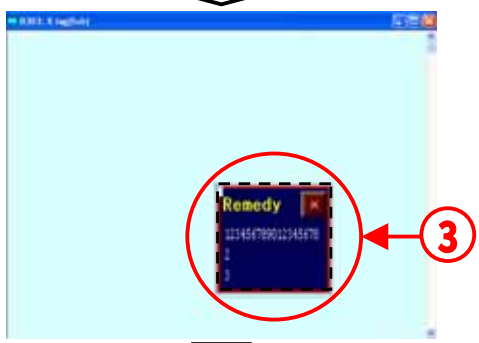
② ―

Click [Add].



③ ―

Surround the range to register as Window.
The registered range is called as Sub Screen.

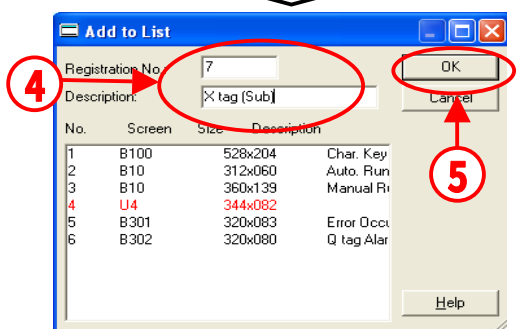


④ ―

Set [7] for Registration No. and set [Description] as you like.

⑤ ―

Click [OK].



(11) Place U tag to call X tag.

Open the base screen [B11].

① – – – – – – – – – – –

Click the [U tag] icon from the tag tool bar.

(12) Set U tag.

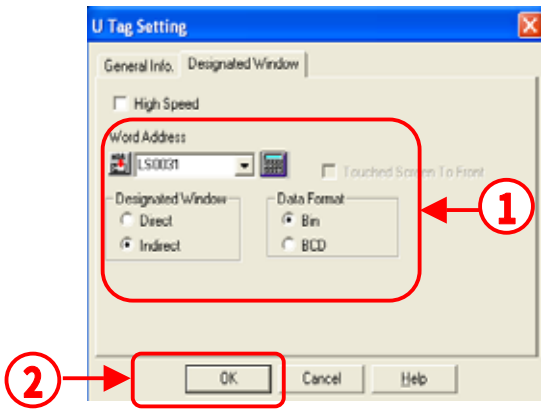
Open [Designated Window] at first.

① – – – – – – – – – – – – – – – – – –

Set [LS31] for Word Address, [Indirect] for Designated Window and [Bin] for Data Format.

② – – – – – – – – – – – – – – – – – –

Click [OK].



(13) Place U tag.

① – – – – – – – – – – – – – – – – –

Place U tag on an optional position. There'll be no problem wherever on the screen it is placed.

(14) Transfer the screen and check the operation.

① – – – – – – – – – – – – – – – – –

If you touch the alarm message displayed in the Q tag display area, the countermeasure for the touched alarm message will be displayed on the screen.

7.5

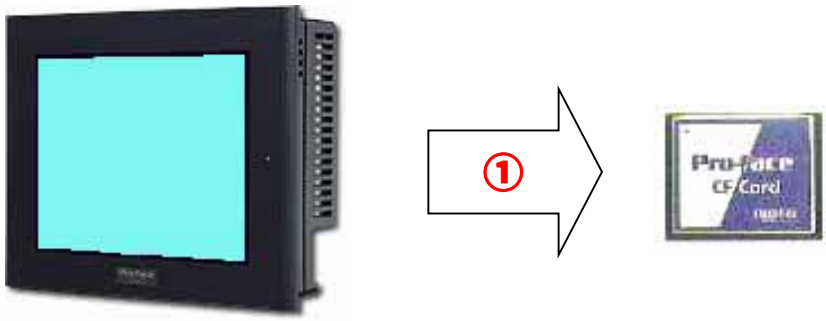
CF Card Save Setting

The way to save the alarm data saved in the Back Up SRAM in a CF Card as CSV File will be described here.

How to save the recorded alarm data in a CF Card

- The data displayed via Q tag is saved in GP's SRAM.
  The way to save the alarm data saved in the SRAM in a CF Card will be described here.

• In order to save the alarm data?



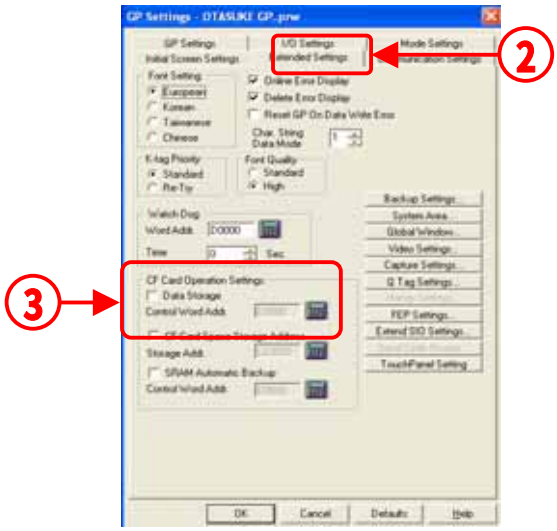
① In order to save the alarm data saved in SRAM in the CF Card, go to [GP Setup]->[Extended Function Settings]->[CF Card Operation Settings] for the setting.

(1) How to open CF Card Operation Settings

- Open Project Manager.

① Click [GP Setup].

② Click [Extended Function Settings].



③ Set [CF Card Operation Settings].

(2) CF Card Operation Settings

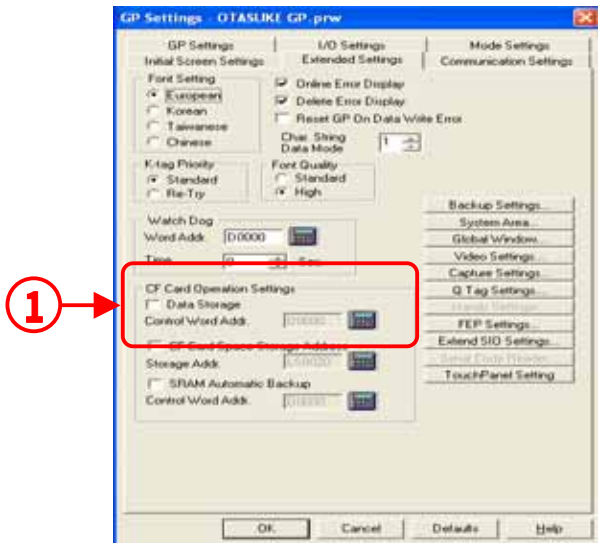
①

In order to save the alarm data in the CF Card, check [Data Storage] and set [Control Word Address].

[Control Word Address] is divided into [Mode] where commands and status are written and [File No.] which designates the number of the file to save.

EX.)
Control Word Address: In the case of D100

D100	Mode
D101	File No.



(3) How to save the backup data in the CF Card

In order to save the data saved in SRAM in the CF Card, set the number of the file to save into [File No.] at first and write commands in [Mode]. After this process, the status is written in [Mode] as a result. Details of each command/status are shown in the table below.

Mode	Word Data	Description
Command	0001h	Filing Data
	0002h	Logging data
	0003h	Trend graph data
	0004h	Sampling data
	0005h	**Alarm active/block-1 data**
	0006h	**Alarm history/block-2 data**
	0007h	**Alarm log/block-3 data**
	0008h	**Block-4 data**
	0009h	**Block-5 data**
	000Ah	**Block-6 data**
	000Bh	**Block-7 data**
	000Ch	**Block-8 data**
	0020h	Logging loop auto-save start
	0021h	Logging loop auto-save finish
Status	0000h	Completed successfully
	0100h	Write error
	0200h	Multi Unit not installed/CF Card not inserted/CF Card access switch OFF
	0300h	No data to be loaded (when no data is specified)
	0400h	File No. Error

When saving alarm data, pick up data from 0005h to 000Ch and write the data in the control word address (Mode). After saving it properly, the status, 0000h is written. If saving it is not properly completed, status except 0000h is written.

(4) File Name of the data saved in the CF Card

• **Data is saved as the following file names.**

Folder	Data to save	File Name
\file	Filing data	ZF*****.BIN
	CSV Transfer Function data	ZR*****.CSV
\log	Logging data	ZL*****.CSV
\date	Image screen	ZI*****.BIN
	Sound data	ZO*****.BIN
\capture	Screen Capture	CP*****.JPG
	Video Capture	
\mrm	GP Back UP data (MRM File)	ZC00001.MRM
\trend	Trend Graph data	ZT*****.CSV
	Sampling data	ZS*****.CSV
\alarm	Alarm data	
	Active/Block-1 data	ZA*****.CSV
	History/Block-2 data	ZH*****.CSV
	Log/Block-3 data	ZG*****.CSV
	Block-4 data	Z4*****.CSV
	Block-5 data	Z5*****.CSV
	Block-6 data	Z6*****.CSV
	Block-7 data	Z7*****.CSV
	Block-8 data	Z8*****.CSV

Ex.) Save alarm data

• When saving the alarm data saved in the SRAM via History in the CF Card with the file No. [2], (the control word address is set to [D100])

①

D100	0000h	Mode
D101	**0002h**	File No.

Set the number of the file to save in the control address + 1(D101)
(Ex.:Write [0002h] to D101)

②

D100	**0006h**	Mode
D101	0002h	File No.

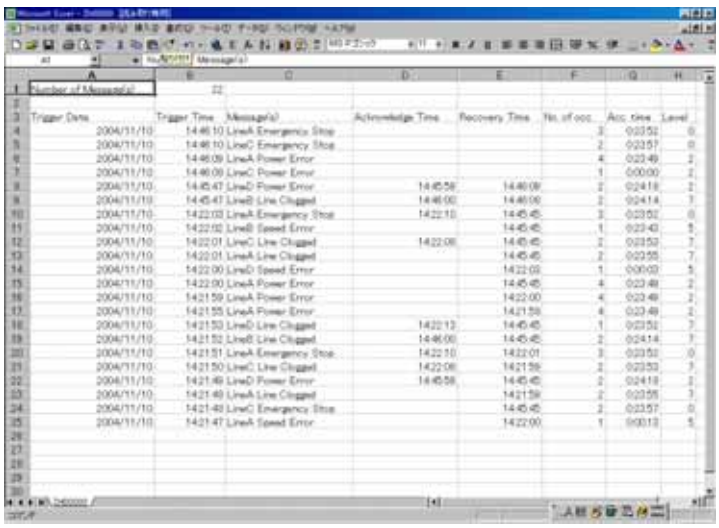
If you write commands of [0005h to 000Ch] to the control word address + 0 (D100), each alarm data will be saved. Commands to be written vary depending on a type of alarm data.
(Ex:Write [0006h] to D100)

③

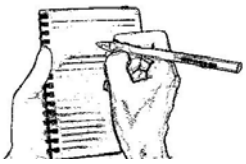
D100	**0000h**	Mode
D101	0002h	File No.

After saving the data correctly, [0000h] is written in the control word address + 0 . When saving the data incorrectly, other error status is written.
(Ex.:After saving the data correctly, the file, [ZH00002.CSV] is generated)

④ Open the saved alarm data (History), and the following will be displayed.



* The display format at the time of opening the alarm data saved via CSV with Excel is different from the one displayed on the screen of GP.



Note (Use this free space for notes)