

Chapter 6

Alarm History Screen

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Alarm History Screen

Instruction

The alarm history screen helps you to improve the line maintenance, the production efficiency, etc. by displaying alarm messages with their triggered and recovered times as a history.

Also you can display the detail contents or countermeasures of alarms in a sub screen. Anyone can recover occurred abnormality easily using this feature.



- 1) Display alarm history in a list. (→ See page 6-2.)
- 2) Get data when alarms generate.(→ See page 6-12.)
- 3) Edit contents of alarm history or changes the display order. (→ See page 6-15.)
- 4) Display countermeasures if you touch the alarm message. (→ See page 6-18.)
- 5) Display active alarms in the banner. (→ See page 6-27.)



One Point

Alarm Occurrence Switches

If you touch a switch from [Line A] to [Line D], switches for alarm occurrence demonstration above the switch will be displayed. The red switches from 1 to 3 are for history display and the yellow switch, F is for banner message display.





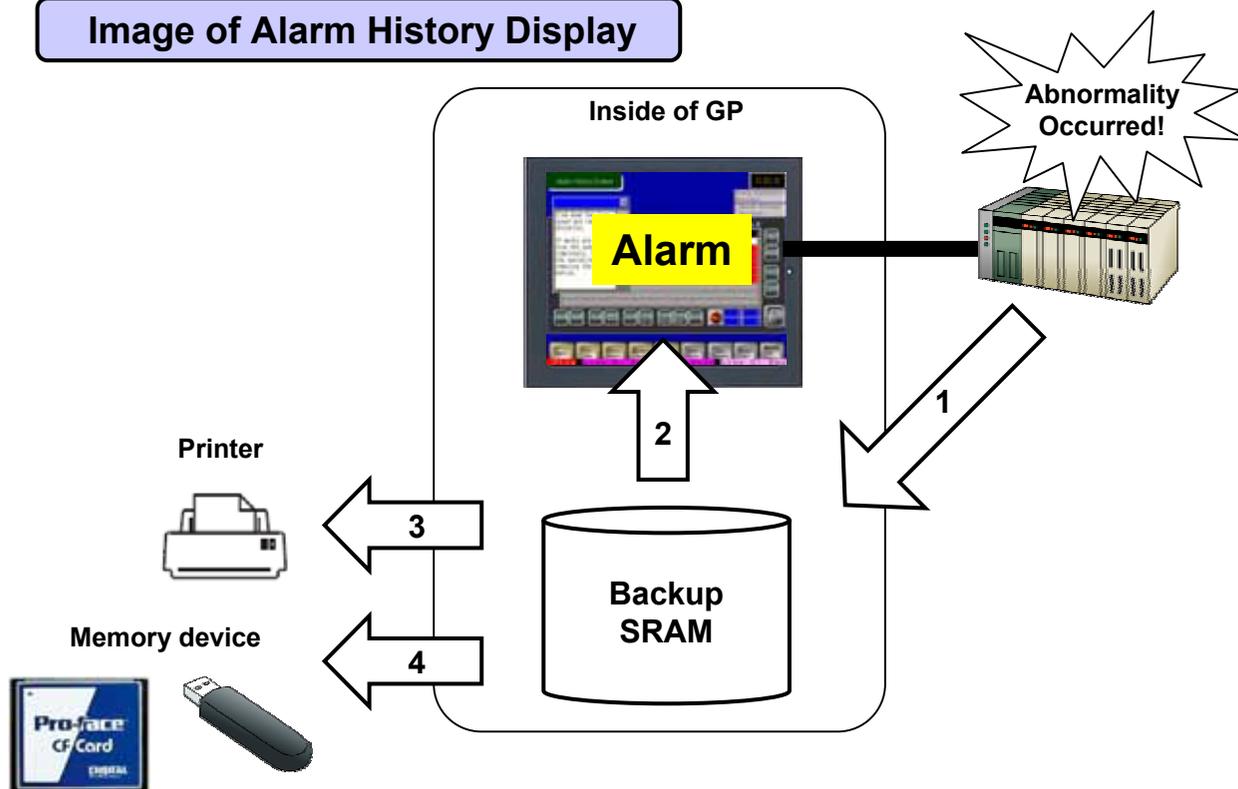
Instruction

Display Alarm History in List

Every time any of addresses registered in a PLC changes, a message is saved with the occurred time in the GP backup SRAM and displayed in an alarm list on the GP screen.

Data in the backup SRAM can be printed out or saved in a memory device.

Image of Alarm History Display



- 1) **PLC → SRAM:** Backs up an alarm history to the backup SRAM in the GP.
- 2) **SRAM → Alarm:** Displays data in the backup SRAM on a GP screen.
- 3) **Print:** Prints out alarm history data from the GP.
- 4) **Save in Memory Device:** Backs up an alarm history from the backup SRAM to a memory device.

★ One Point

Data backed up from SRAM to a memory device is saved in CSV format. You can edit the data on your PC easily.

Memory device



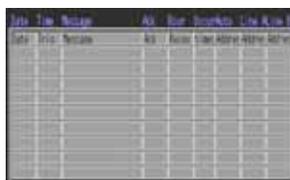
Setup Procedures of Alarm History Display

- 1) Register bit addresses and messages with [Bit Monitoring] in the Alarm settings.



Number	Bit Address	Trigger Condition	Message	Level	Display Timeout (Sec)
1	PLC1M001	ON	Line A: Abnormal Speed	3	1
2	PLC1M002	ON	Line A: Abnormal Electricity	3	2
3	PLC1M003	ON	Line A: Line Blockage	3	3
4	PLC1M004	ON	Line A: Emergency Stop	3	4
5	PLC1M005	ON	Line B: Abnormal Speed	2	1
6	PLC1M006	ON	Line B: Abnormal Electricity	2	2
7	PLC1M007	ON	Line B: Line Blockage	2	3
8	PLC1M008	ON	Line B: Emergency Stop	2	4
9	PLC1M009	ON	Line C: Abnormal Speed	1	1
10	PLC1M010	ON	Line C: Abnormal Electricity	1	2
11	PLC1M011	ON	Line C: Line Blockage	1	3
12	PLC1M012	ON	Line C: Emergency Stop	1	4
13	PLC1M013	ON	Line D: Abnormal Speed	0	1
14	PLC1M014	ON	Line D: Abnormal Electricity	0	2
15	PLC1M015	ON	Line D: Line Blockage	0	3
16	PLC1M016	ON	Line D: Emergency Stop	0	4

- 2) Place an [Alarm] to display alarms and make settings.



- 3) Save the project file and transfer it to the GP.

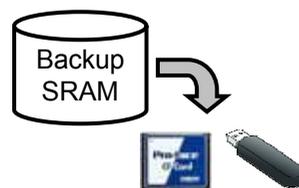


NOTE

The maximum number of alarms that can be stored in the backup SRAM is 768.

When the number of triggered alarms exceeds the specified number, the oldest alarm will be deleted.

If you keep saving a history for a long term, we recommend you use a memory device.



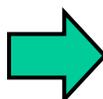
Memory device

✓ Practice **Let's Display Alarm History**

<Practice Screen>



<Completed Screen>



- [Setup Procedure]
1. Open the Alarm settings window.
 2. Register monitor addresses and messages.
 3. Select, place and set the Alarm on the base screen "6".

(1) Select Alarm

Click the [Alarm] settings icon on the tool bar.



(2) Common Settings

Click the [Common] tab.

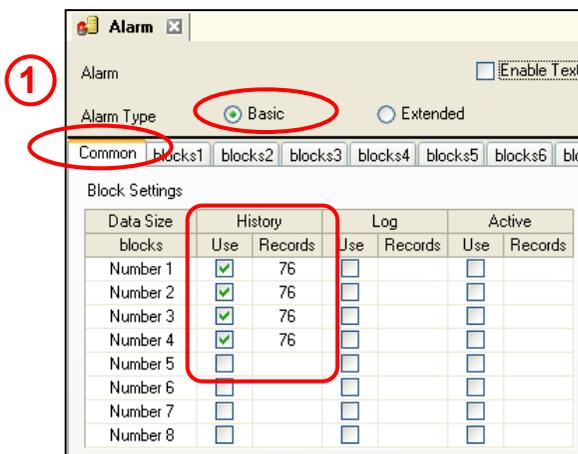
1) Alarm Type:

Select Basic.

Block Settings:

Set the display method of an alarm history and the number of records for Block 1 to 8.

Here, check [History: Use] and set [Record] to "76" in [Block: Number 1] to [Number 4].



- 2)** Do not check the other items, [Backup History], [External Operation], [Print Settings], and [Enable the Group Feature].

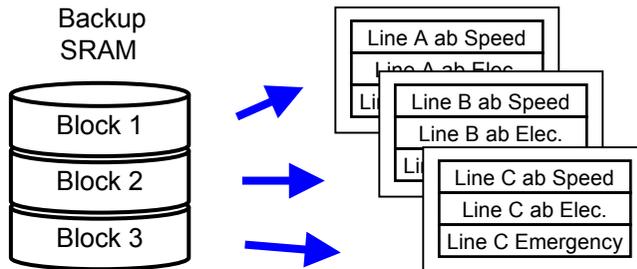
In order to have the previous history remain after the power of the display is turned on again, you need to check [Backup History].

★ One Point

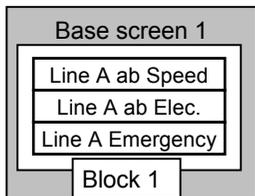
Sort out several alarms (Block)

Alarm histories can be sorted in each block and displayed.

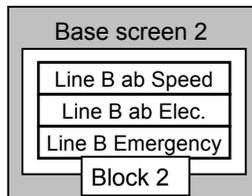
Ex) Messages of A,B, and C lines can be sorted into each block and displayed. (Up to 8 blocks)



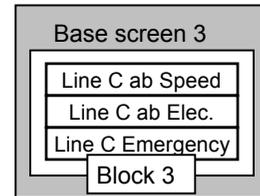
1. To fix the block to be displayed on one screen



On Base screen 1, history of Block 1 is displayed.



On Base screen 2, history of Block 2 is displayed.

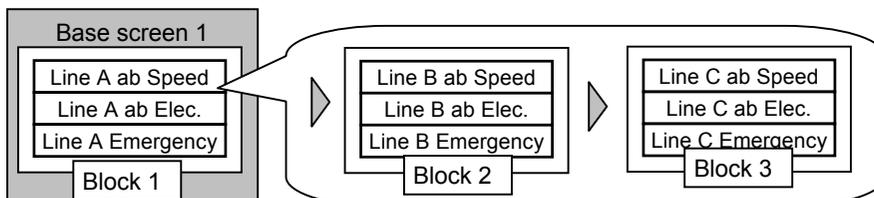


On Base screen 3, history of Block 3 is displayed.

For [Display Format] of Alarm on each base screen, select [Direct] for [Block] and the block to be displayed for [Display Block].

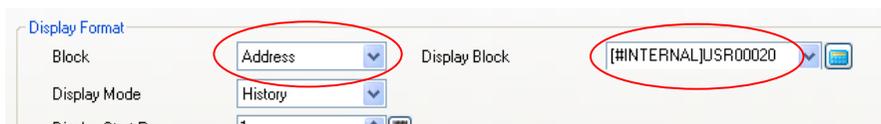


2. To change histories of multiple blocks and display them on one screen



On the base screen 1, Block 1 is changed to Block 2 and then Block 3.

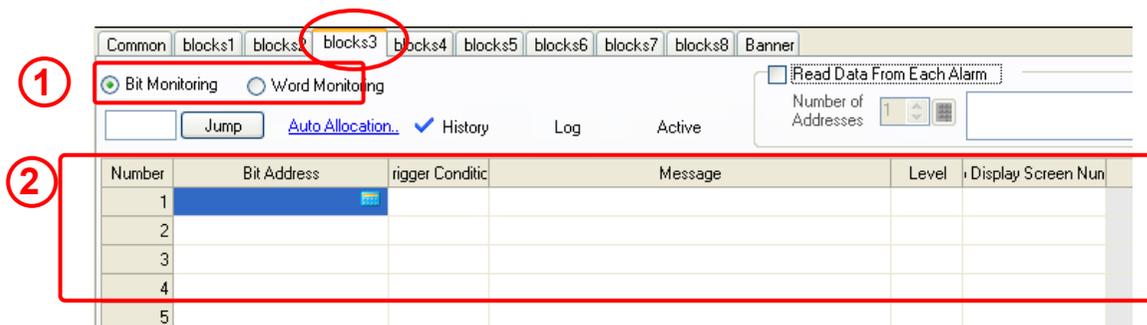
For [Display Format] of Alarm on the base screen, select [Address] for [Block], and enter the numeric value of the block to be displayed into the set address. Then the display will change.



(3) Message registration for each block

Select [blocks3].

For [blocks1], [blocks2], and [blocks4], data has been already entered.



1) Select an alarm monitoring address, either [Bit Monitoring] or [Word Monitoring].

Bit Monitoring: When a specified bit address turns on or off, a registered message will be displayed.

Word Monitoring: When a value of a specified word address is equal to an alarm value or out of the range, a registered message will be displayed.

Here, select [Bit Monitoring].

2) Make settings of [Bit Monitoring].

Bit Address: Register monitor bit addresses.

Trigger Condition: Set to trigger an alarm either when the monitor bit address turns on or when it turns off.

Message: Register alarm messages to display.

Level: Select an alarm level for each in the range of 0 to 7.

Sub Display Screen Number: Set the number of screen to display as a sub screen.

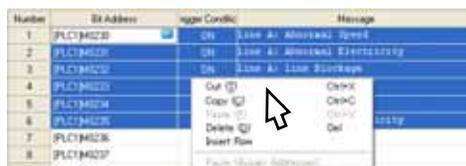
* If you do not set a sub display, set "0".

Here, enter [Bit address], [Trigger Condition], [Message], [Level], and [Sub Display Screen Number] as shown below.

Number	Bit Address	Trigger Condition	Message	Level	Display Screen Number
1	[PLC1]M0236	ON	Line C: Emergency Stop	0	1
2	[PLC1]M0237	ON	Line C: Abnormal Speed	0	2
3	[PLC1]M0238	ON	Line C: Line Blockage	0	3
4					

★ One Point

To edit addresses in the Alarm settings, you can use Cut, Copy, Paste, etc. by right-click.



(4) Select/Place Alarm

1) Click the [Alarm] icon on the tool bar.



2) Drag the range to place the alarm.

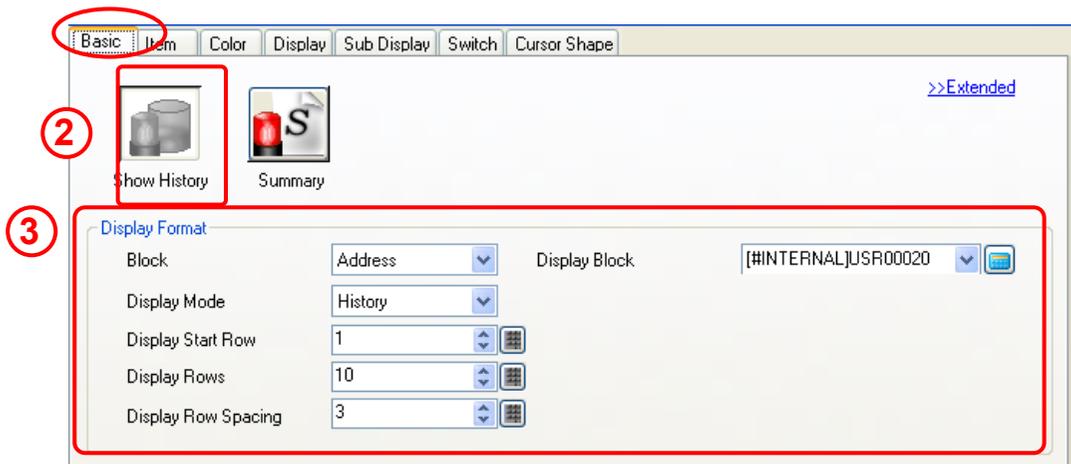
2



(5) Basic Settings

1) Double-click the placed alarm.

2) Select [Show History].



3) Make settings as below.

- Display Block: Block 1
- Display Mode: History
- Display Start Row: 1
- Display Rows: 10
- Display Row Spacing: 3

 **One Point**

Example of Display Mode (Active/History/Log)

Active: Only active alarms are displayed.
The recovered alarm is cleared and no history remains.

e.g.)

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

History: A newly triggered alarm is displayed in a new row.
The time when the alarm is acknowledged or recovered is added onto the same row.

e.g.)

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: An alarm is displayed by the triggered time, acknowledged time, and recovered time separately in different rows.
It is useful in cases that the triggered and recovered times are on different dates.

e.g.)

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

* When you use multiple blocks, you can use different display modes by blocks.
For example, you can use the "Active" mode which does not leave histories for a line with low level of importance, the "Log" mode to leave histories for a line with high level of importance, etc.

(6) Item Settings

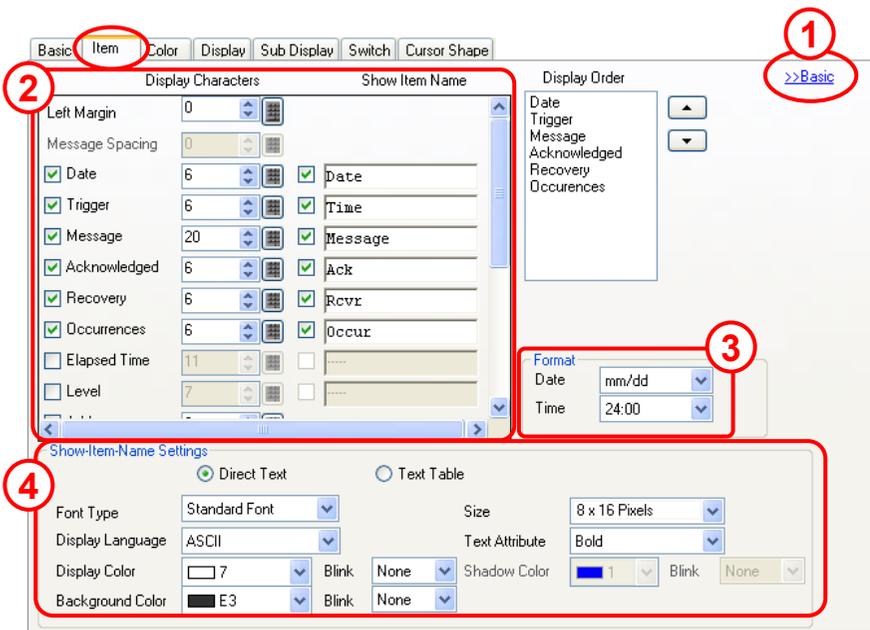
1) Click [>>Extended](#) and open the [Extended] settings.

2) Here on this tab, you can make each setting such as showing/Hiding items, Show Item Names, and Display Order.

Check from [Date] up to [Occurrences].
Set [Display Characters] as below.

- Left Margin: 0
- Date: 6
- Trigger: 6
- Message: 20
- Acknowledged: 6
- Recovery: 6
- Occurrences: 5

Check all of [Show Item Names] and register item names to display as above.



3) In [Format], set [Date] to “mm/dd” and [Time] to “24:00”.

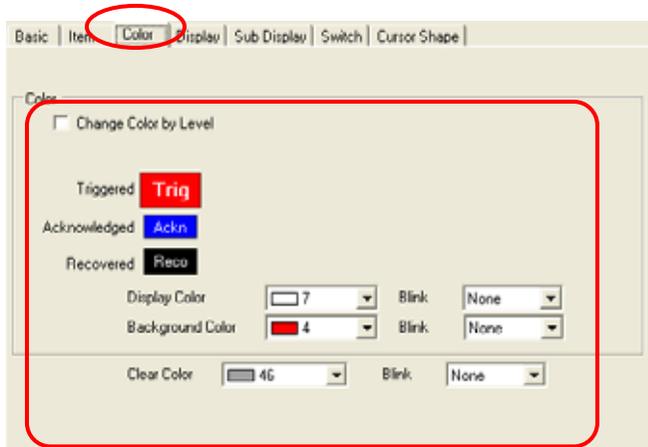
4) In [Show-Item-Name Settings], select [Direct Text] and make settings as below.

- Font Type: Standard Font
- Size: 8 x 16 Pixels
- Display Language: ASCII
- Text Attribute: Normal
- Display Color: 7
- Blink: None
- Background Color: Transparent

(7) Color Settings

Set [Display Color], [Background Color], and [Blink] as you like.

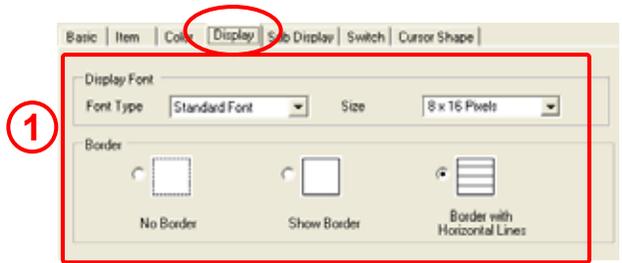
Set [Clear Color] as you like.



(8) Display Settings

- 1) Select "Standard Font" for [Font Type] and "8 x 16 Pixels" for [Size].

Select "Border with Horizontal Lines" for [Border].



- 2) Click [OK] to finish settings.



★ One Point

Enhanced Image Font

As you can use the Windows' font on a part such as the Alarm, Data Display, and Message Display, using one font on one screen makes display unified.

Example



★ One Point

Useful features of Alarm History Settings (Alarm Expansion Function)

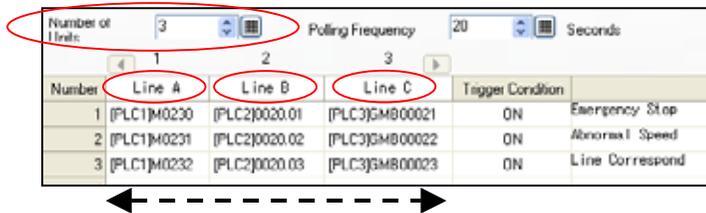
1. The number of each block's alarm messages to register can be expanded to up to 32,767. It's useful for controlling lots of alarms in such a case as communicating with multiple devices/PLCs.

Number	Trigger Condition	Message
1	[PLC1]M0230	ON Emergency Stop
2	[PLC1]M0231	ON Abnormal Speed
3	[PLC1]M0232	ON Line Correspond
.....		
32765	[PLC1]X00000	ON Abnormal Pressure
32766	[PLC1]X00000	ON Abnormal Power
32767	[PLC1]X00000	ON Abnormal Communication

} Up to 32,767 for 1 block.

2. Multiple addresses (up to 256 units) can be allocated to one message and it's not necessary to repeatedly register similar messages. That can reduce work processes of drawing.

Example: Registration of alarm settings



Example: Display of the display's screen

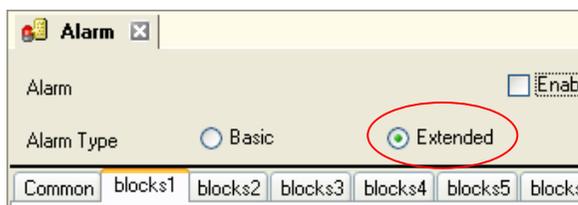
Date	Time	Message	Ack	Rcvr
02/04	23:39	Line A Abnormal Speed		
02/04	23:39	Line C Line Correspond		
02/04	23:39	Line A Line Correspond		23:39
02/04	23:39	Line C Abnormal Speed		

On the screen of the display, the registered unit name and messages are displayed in the Message column.

NOTE

To use Alarm Expansion Function

To use the 2 functions described above, it's necessary to attach a function-expanding memory, GP3000-EXDM01 (separately sold) to the main unit. Select [Extended] for [Alarm Type] of Alarm Settings and change the system settings, and the aforementioned settings will be possible.



For details, refer to the Reference Manual.
19.10.1 Common (Alarm) Settings Guide

7.5" or larger GP3000 series support it. The way to install the function-expanding memory differs depending on a model. (The picture shows GP3600T)

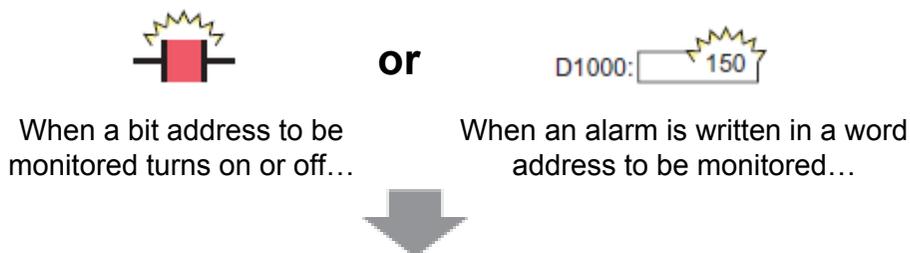


Read Data when Alarms Occur

Instruction

When a bit address to be monitored turns on/off, or an alarm is written in a word address to be monitored, data will be read according to the states of the triggered, acknowledged or recovered alarms.

Analyzing data values shortens the time to find a cause of the triggered alarm.



Data will be displayed according to the triggered, acknowledged, or recovered time of the active alarm.

Procedures of Setup

- 1) Register addresses to read data value when alarms occur in the alarm settings.
- 2) Make settings to display data by reading with the alarm parts.

★ One Point

Alarm Interlocking Log

You can get an error message and device values from the device/PLC at the same time, which allows you to find a cause of the error quickly. Also, since it is possible to save logged data in CSV format, you can analyze data on your computer afterward.

Date	Time	Error	Press.	Temp.	Flow Rate
2007/5/31	10:02:00	Heater Error	20	800	49
2007/5/31	10:03:01	A/C Overheat	10	120	43
2007/5/31	10:12:18	Heater Error	10	80	22
2007/5/31	10:32:57	Freezer Fan Error	7	65	31

✓ Practice **Let's Read Data when Alarms Occur**

Let's display the alarm detail, the triggered time, and the data which causes an alarm when a bit address to be monitored is on!

[Setup Procedure]

1. Open the Alarm settings window.
2. Set number of addresses to read data to and addresses.
3. Set items of [Alarm].

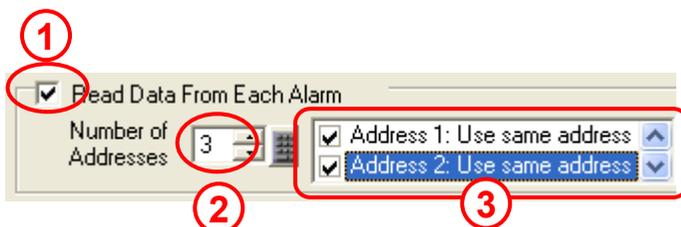
(1) Select Alarm Settings

Click the [Alarm] settings icon on the tool bar.

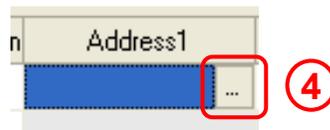


(2) Set Block 3

- 1) Select Block3 and check [Read Data From Each Alarm].
- 2) Set [Number of Addresses] to "3".
- 3) Check [Use same address] for all of the addresses from Address 1 to Address 3.
Doing so reads data using the same addresses when alarms occur, regardless of the messages.



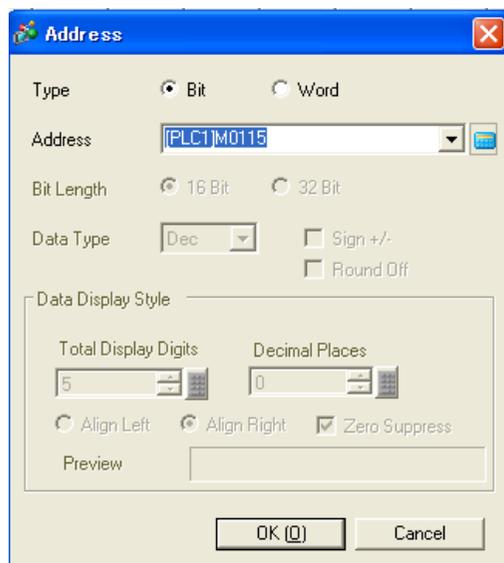
- 4) Click the  icon of [Address 1] to open the [Address] settings dialog box.



Select "Bit" for [Type] and set [Address] to "M115" and click [OK] to close the window.

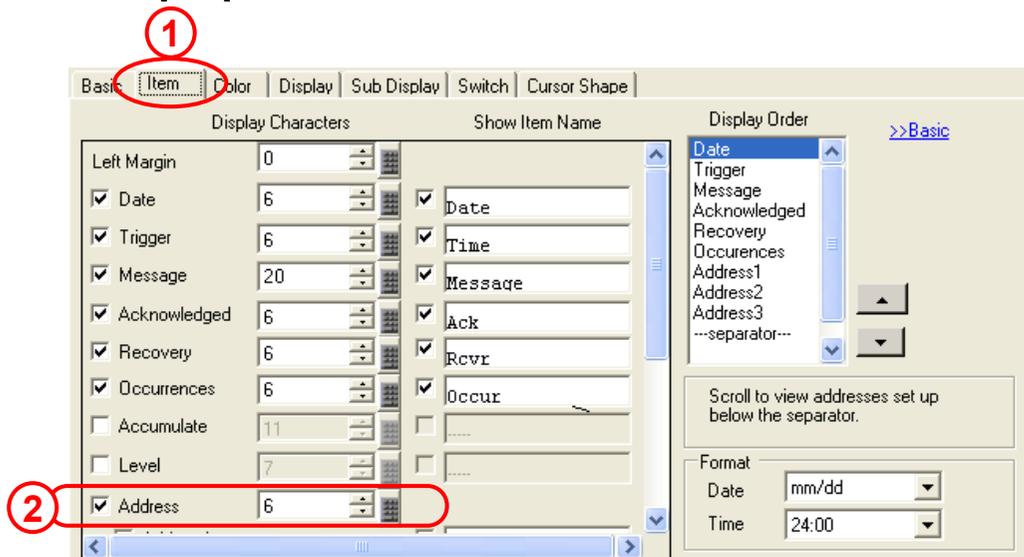
In the same way, set addresses as below.

[Address 2] Type: Word, Address: D57
 [Address 3] Type: Word, Address: D302



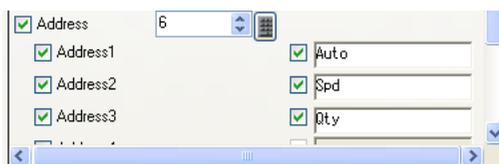
(3) Item Settings

- 1) Open the base screen “6” and double-click the placed alarm. Select the [Item] tab.



- 2) Check [Address] and set [Display Characters] to “6”.
Check from [Address 1] to [Address 3] and set the item names as follows.

Address 1: Auto
Address 2: Spd
Address 3: Qty



★ One Point

Separator

When you set [Address], a “separator” appears in the Display Order field. On the GP, you can display the items above the separator without scrolling.



Date	Time	Error	Press.	Temp.	Flow Rate	Power	speed
2007/5/31	10:02:00	Heater Error	20	800	49	199	50
2007/5/31	10:03:01	A/C Overheat	10	120	43	200	48
2007/5/31	10:12:18	Heater Error	10	80	22	201	48
2007/5/31	10:32:57	Freezer Fan Error	7	65	31	200	49



Practice Let's Edit Alarm Message

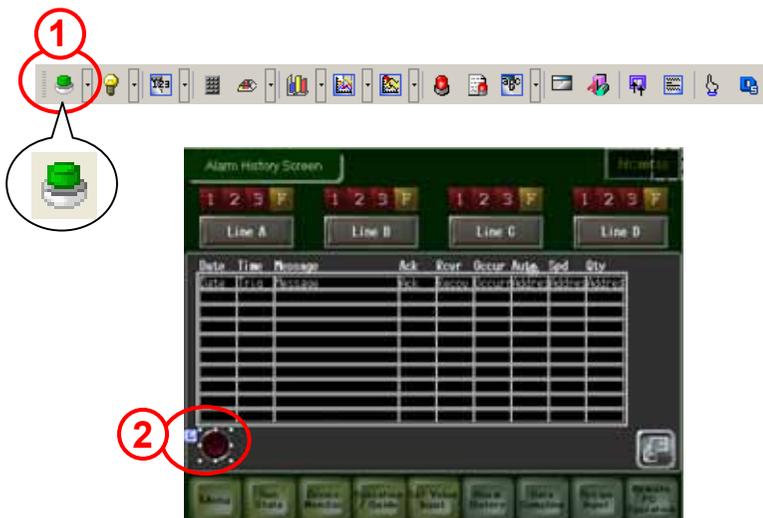
Let's place a switch to edit alarm messages!

[Setup Procedure]

1. Open the base screen "6".
2. Make the Switch settings for the Alarm.

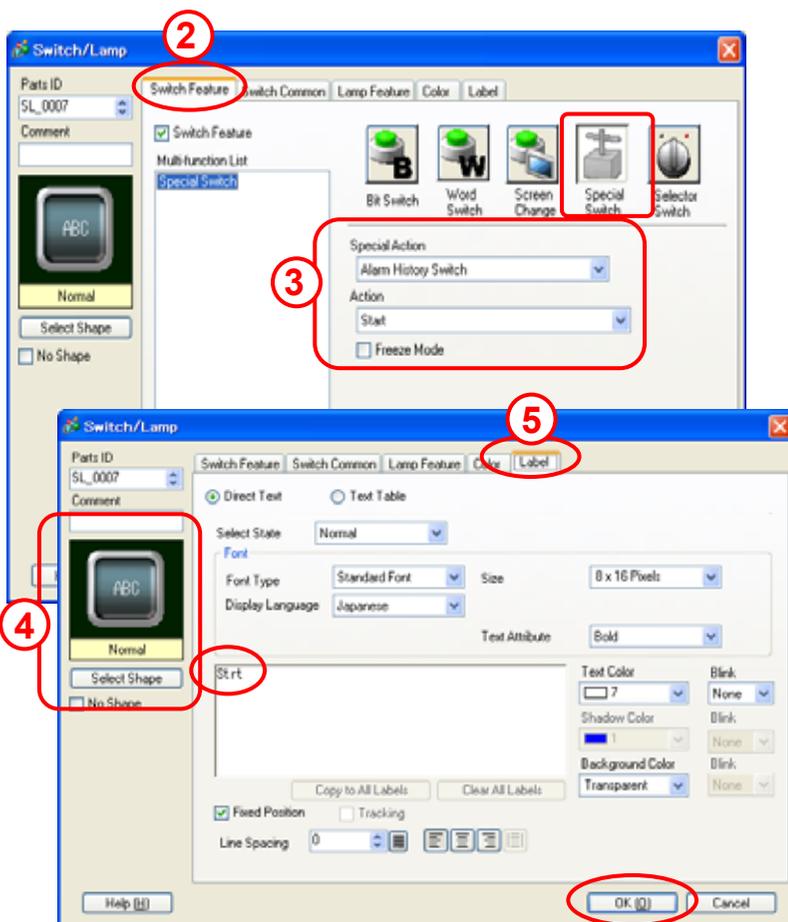
(1)Switch Settings

- 1) Open the base screen, [6] and click the [Switch] icon on the tool bar.
- 2) Place the switch on the location on the right figure by drag.

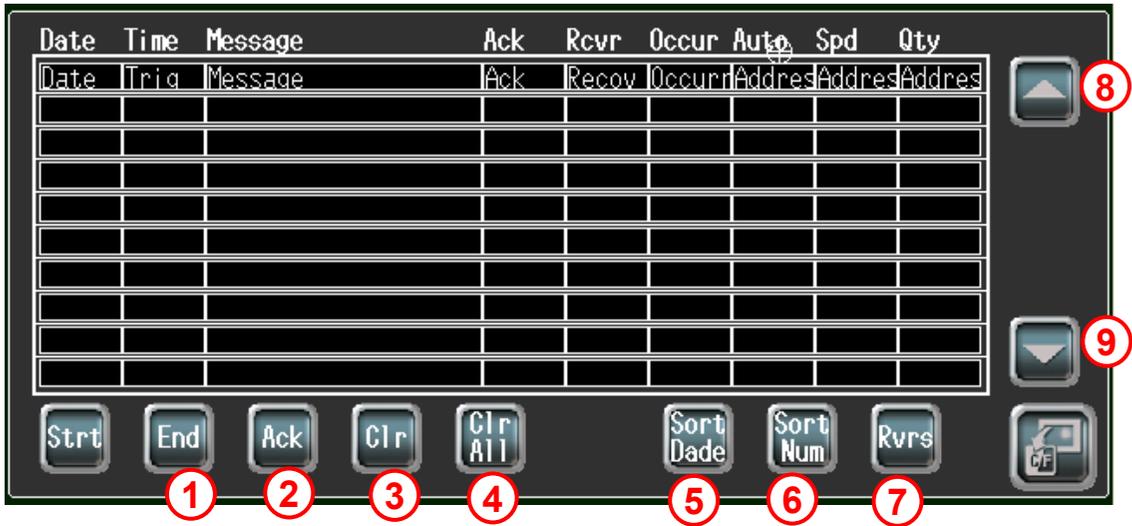


(1)Switch Settings

- 1) Double click the placed switch to open the dialog box.
- 2) Select [Special Switch] on the [Switch Feature] tab.
- 3) Set [Alarm History Switch] for [Special Action] and [Start] for [Action].
- 4) Select the shape you like in [Select Shape].
- 5) Enter [Strt] on the [Label] tab and click [OK].



(3) Copy switches

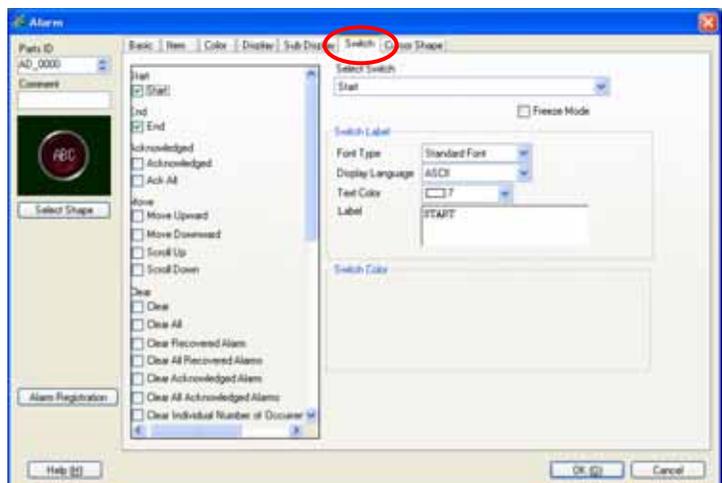


Create [Alarm History Switch] after the 1st one in the figure above.

<Operation>	<Detailed Operation>	<Label>
1) End	---	End
2) Acknowledged	Acknowledged	Ack
3) Clear	Clear	Clr
4) Clear	Clear All	Clr All
5) Sort	In Reverse Order of Trigger Date	Sort Date
6) Sort	In Order of Number of Occurrences	Sort Num
7) Sort	Reverse Order Display	Rvrs
8) Move	Upward	(triangle)
9) Move	Downward	(inverted triangle)

★ One Point

Open the [Switch] tab of Alarm, and you'll be able to create a switch (with alarm options).





Alarm History Switch

Alarm History Switch: Types and Actions

Types of Switches		Description
Start		If you touch [Start], a cursor will appear to operate the history. When the Freeze Mode is set, it suspends the currently displayed alarms by touching [Start] twice and prohibits the screen display from refreshing even when an alarm occurs, is acknowledged, or is recovered. To cancel the Freeze Mode, touch [End]. When you cancel it, the stored alarms will be all refreshed and displayed at one time.
End		If you touch [End], the cursor will disappear and the key operation will be terminated.
Acknowledge	Acknowledge	Shows the acknowledged time in the selected message.
	Acknowledge All	Shows the acknowledged times in all of the displayed messages.
Move	Move Upward	Moves the cursor one row up.
	Move Downward	Moves the cursor one row down.
	Scroll Up	Moves the cursor up by a given number of rows.
	Scroll Down	Moves the cursor down by a given number of rows.
Clear	Clear	Erases the selected message.
	Clear All	Erases all the displayed messages.
	Clear Recovery Alarm	Erases the selected alarm, which has been recovered.
	Clear All Recovery Alarms	Erases all the recovered alarms.
	Clear Acknowledged Alarm	Erases the selected alarm which has been acknowledged.
	Clear All Acknowledged Alarm	Erases all the acknowledged alarms.
	Clear Individual Number of Occurrences	Clears the number of occurrences of the selected message.
	Clear All Number of Occurrences	Clears all the numbers of occurrences of the displayed messages.
	Clear Individual Accumulated Time	Clears the accumulate time of the selected message.
	Clear All Accumulated Time	Clears all the accumulate times of the displayed messages.
Sort	In Reverse Order of Trigger Date	Displays alarm messages in order of latest occurrence.
	In Number of Occurrences Order	Displays alarm messages in descending order of occurrence frequency.
	In Descending Order of Accumulated Time	Displays alarm messages in descending order of accumulated time.
	Level & In Reverse Order of Trigger Date	Displays alarm messages in descending order of level. If multiple messages with the same level exist, they will be displayed in order of latest occurrence.
	Level & In Descending Order of Number of Occurrences	Displays alarm messages in descending order of level. If multiple messages with the same level exist, they will be displayed in descending order of occurrence frequency.
	Alarm Registration Order	Displays alarm messages in order of registration.
	Reverse Order	Displays alarm messages in reverse order of the current sorting.
Sub Display		Displays a sub screen of the selected message.
Alarm Number Acquisition		Obtains the alarm message number (the row number registered in [Alarm]) of the message at the current cursor position.



Instruction

Display Details/Countermeasures of Each Alarm

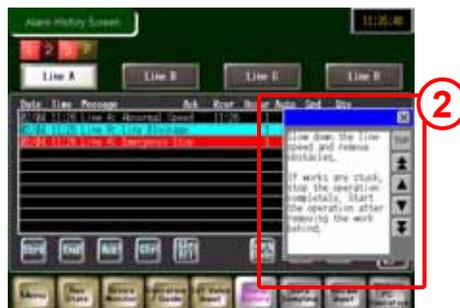
To display details or countermeasures of each alarm message, use the “Sub Display” feature. Touching a displayed alarm message directly displays a sub screen.

Example of Sub Display

- 1) Touch a displayed alarm message directly.



- 2) A sub screen corresponding to the selected alarm message will appear.

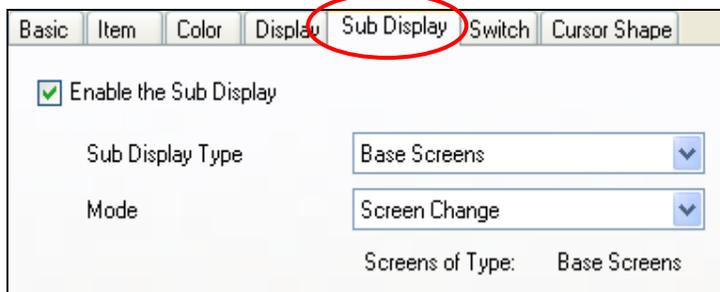


★ One Point

Sub Display

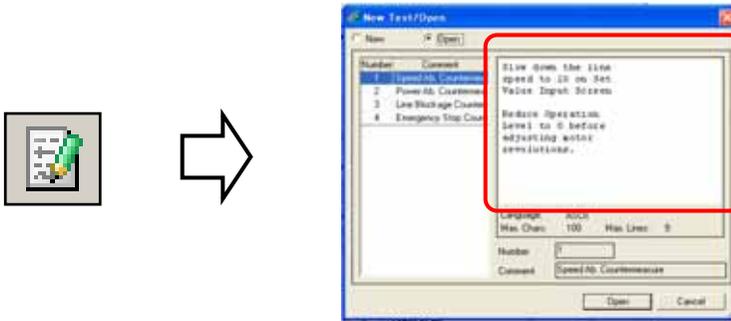
Entering the extended settings screen allows you to create a sub window displaying images, movies, etc.

For details, see GP-Pro EX Reference Manual Chapter 19 Alarms, Chapter 27 Recording and Playing Video

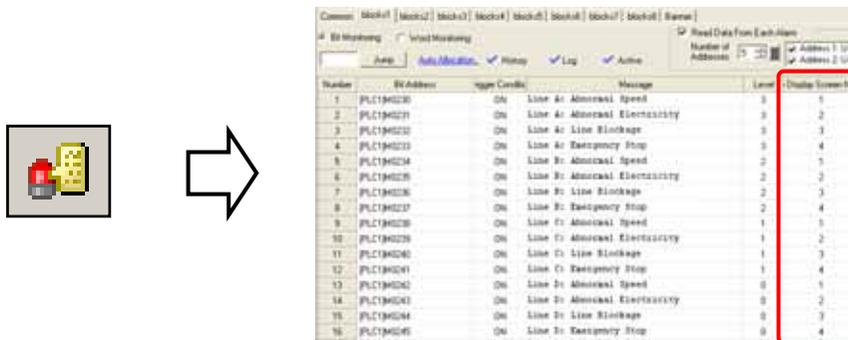


Setup Procedures of Sub Screen Display

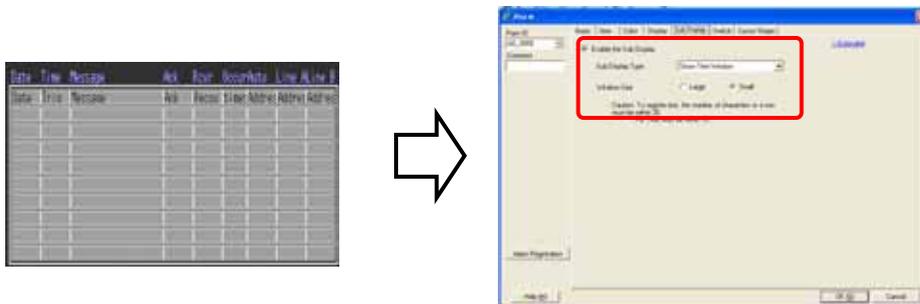
- 1) Create a Sub Screen (Text) to be displayed.



- 2) Allocate Sub Display Screen Numbers to messages in the Alarm settings.



- 3) Open the Alarm dialog box and make the [Sub Display] settings.



- 4) Save the project file and transfer it to the GP.

Practice Let's Display Details of Each Alarm Message

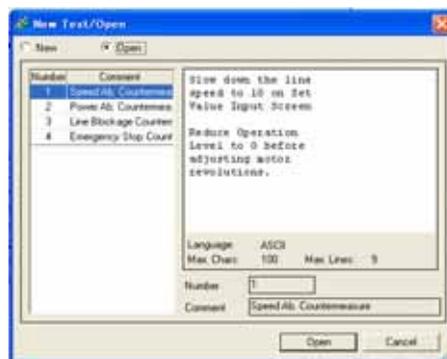
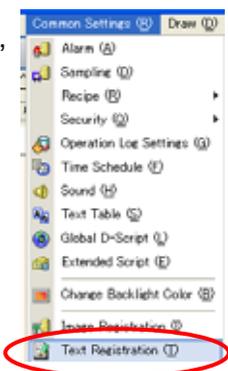
Let's display details by touching each alarm message directly!

[Setup Procedure]

1. Create a Sub Display screen.
2. Register the Sub Display Screen Number.
3. Make the Sub Display settings of Alarm.

(1) Create Sub Screen

On the [Common Settings] menu, select [Text Registration]. Or click the [Text Registration] icon on the tool bar.



* In this practice project file, comments are registered as texts beforehand.

(2) Set Sub Display Screen Number

- 1) Select the [Alarm] settings icon on the tool bar.



- 2) Register [Sub Display Screen Number] for each alarm message as shown right.

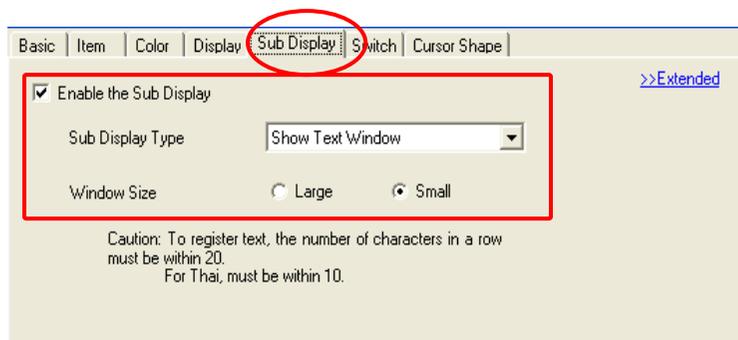
Number	Bit Address	Trigger Condition	Message	Level	Sub Display Screen Number
1	[PLC1]M0236	ON	Line C: Emergency Stop	0	1
2	[PLC1]M0237	ON	Line C: Abnormal Speed	0	2
3	[PLC1]M0238	ON	Line C: Line Blockage	0	3
4					

2

(3) Sub Display Settings

Open the base screen “6”.
Double-click the placed alarm.

- 1) Check [Enable the Sub Display].
Select “Show Text Window” for [Sub Display Type] and “Small” for [Window Size].



The maximum number of characters that can be displayed in a row is as follows.

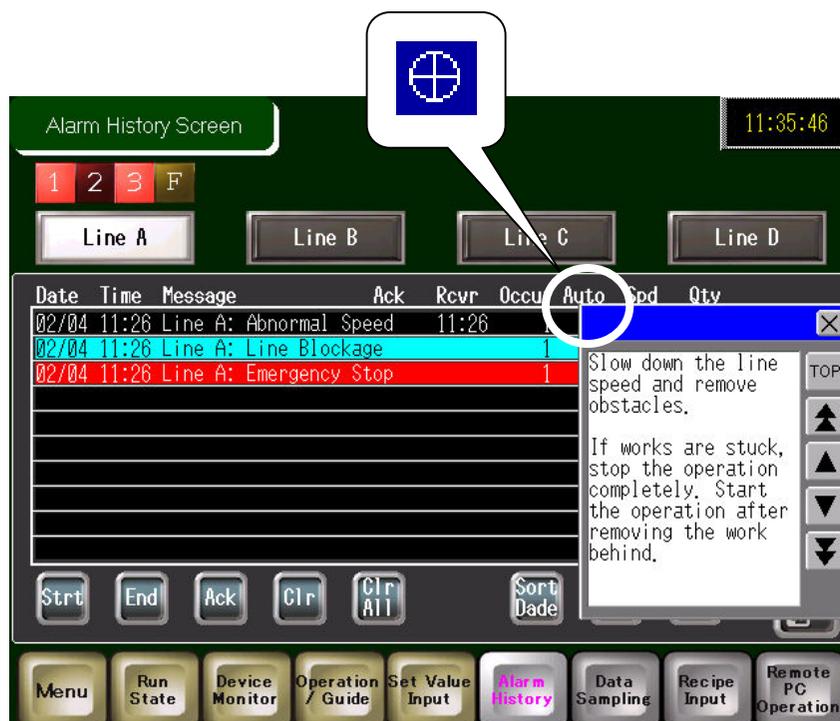
- Window Size Large: within 30
- Window Size Small: within 20

- 2) Adjust the window position on the base screen after clicking [OK].

★ One Point

Display position of a sub screen

If you set the Sub Display, a sub screen will be shown on the position setting mark located on the upper left of the Alarm part.
You can change the display position of the sub screen by moving the position setting mark after selecting the Alarm part.

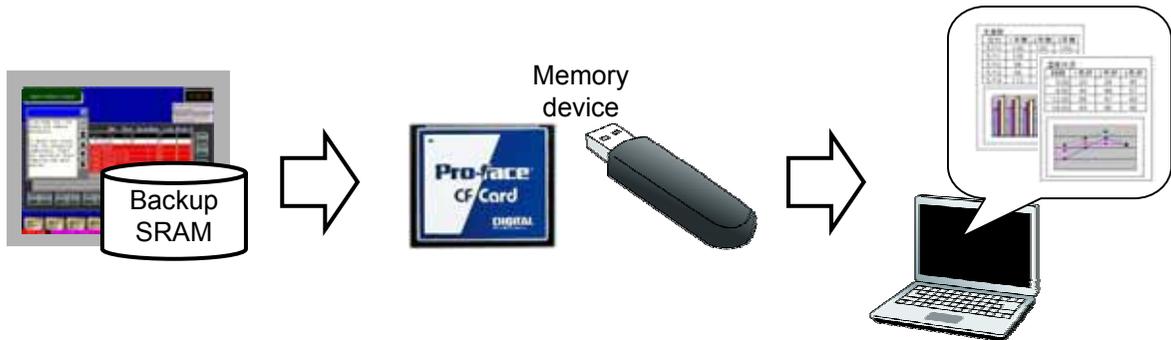




Save SRAM Data in CF Card

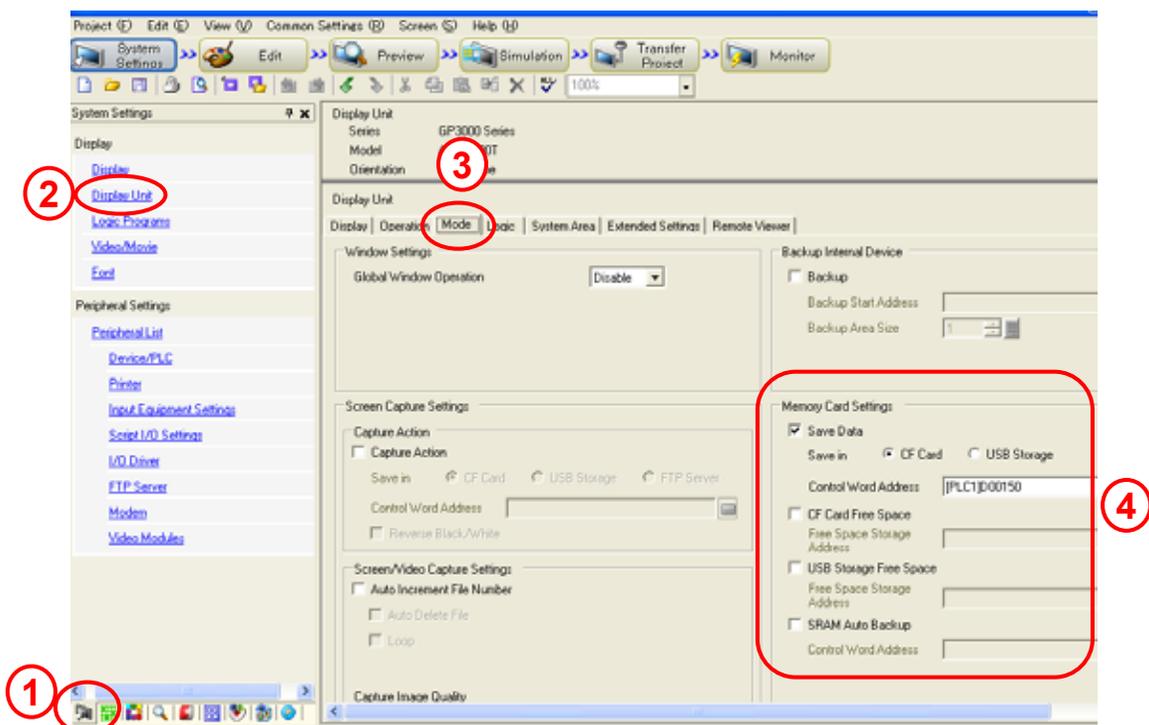
Instruction

Backing up data in the SRAM to a CF card or a USB storage enables you to save large volumes of data for a long term. As the data are saved in the CSV format, it is possible to edit the data using spreadsheet software on your computer easily.



(1) Select Memory Card Settings

- 1) Open the System Settings window in the Work Space.
- 2) Click [Display Unit].
- 3) Select the [Mode] tab.
- 4) Check [Save Data] in the [Memory Card Settings] area and specify [Control Word Address].



NOTE

The way to save sampling data is different from the way introduced above. (See page 6-25)

(2) Save Data in Memory Card

To copy data from the SRAM to a CF card, write "Command" in Control Word Address. "Status" will be overwritten as a result.

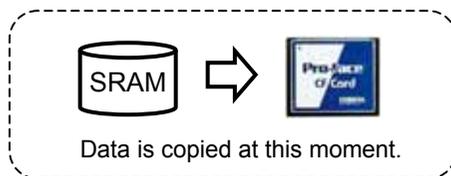
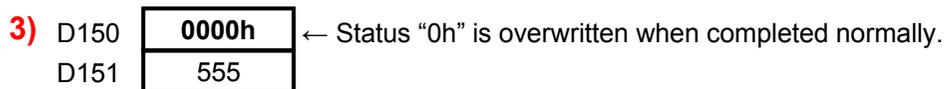
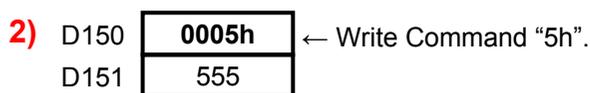
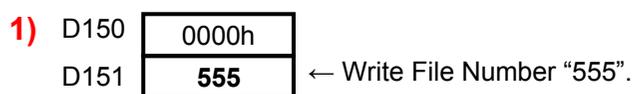
"Control Word Address +1" will be the address to specify the file number in a CF card automatically.

e.g.) Control Word Address: D150



Save data of Alarm Block 1 in CF Card

Save data of Alarm Block in the SRAM into a memory device as File Number 555.



Data will be saved as a file "Z100555.CSV" in the Alarm folder in the CF card.

Spreadsheet Display Example

	A	B	C	D	E	F	G	H
1	Number of Message(s)	9						
2								
3	Trigger Date	Trigger Time	Message(s)	Acknowled.	Recovery Time	No. of occ.	Acc. time	Level
4	2005/12/12	12:14:57	LineB Power Error			1	0:00:00	2
5	2005/12/12	12:14:53	LineC Power Error		12:14:53	3	0:01:34	1
6	2005/12/12	12:14:51	LineD Power Error			2	0:00:56	0
7	2005/12/12	12:14:50	LineD Line Clogged			1	0:00:00	0
8	2005/12/12	12:14:49	LineA Power Error			3	0:01:16	3

The contents in CSV files can be displayed on a GP screen.

(3) Command and Status

If “Command” is written in Control Word Address, “Status” will be reflected.

	Data	Description
Command	0001h	Filing Data
	0002h	GP-PRO/PB III (compatible)
	0003h	GP-PRO/PB III (compatible)
	0004h	GP-PRO/PB III (compatible)
	0005h	Data of Alarm History Block 1
	0006h	Data of Alarm History Block 2
	0007h	Data of Alarm History Block 3
	0008h	Data of Alarm History Block 4
	0009h	Data of Alarm History Block 5
	000Ah	Data of Alarm History Block 6
	000Bh	Data of Alarm History Block 7
	000Ch	Data of Alarm History Block 8
	0020h	GP-PRO/PB III (compatible)
	0021h	GP-PRO/PB III (compatible)
	Status	0000h
0100h		Write Error
0200h		CF card is not inserted or cannot access
0300h		No data to be loaded
0400h		File Number Error

In this practice screen, write “5h” and save data of Alarm History Block 1 in the SRAM into a CF card.

(4) Alarm History Data Folder and File Name

Names of a folder and files in which alarm history data are written are listed below. These folder and files are created in a CF card.

Folder Name	Data to be saved	File Name
\ALARM	Block 1 Data	Z1*****.CSV
	Block 2 Data	Z2*****.CSV
	Block 3 Data	Z3*****.CSV
	Block 4 Data	Z4*****.CSV
	Block 5 Data	Z5*****.CSV
	Block 6 Data	Z6*****.CSV
	Block 7 Data	Z7*****.CSV
	Block 7 Data	Z8*****.CSV

Other types of folders also can be created in a CF card. Please see GP-Pro EX Reference Manual for details.

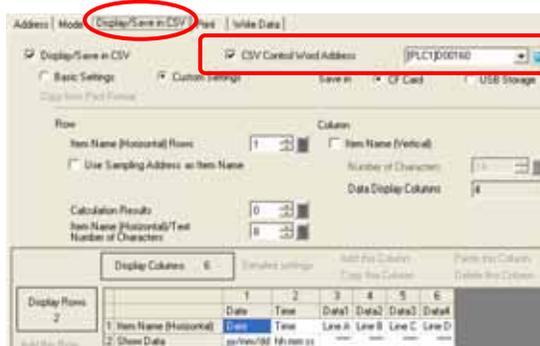
(5) Save Sampling Data in CF Card

Set an address to save sampling data in a CF card in the setting window introduced below.

* See Chapter 7 for details of Sampling Data.

On the [Display/Save in CSV] tab of the sampling group, check [CSV Control Word Address] and set it.

Write "Command" in Control Word Address as "Save Data in CF Card", which you have set in the system settings window. "Status" will be overwritten as a result.



"Control Word Address +1" will be the address to specify the file number in a CF card automatically.

e.g.) CSV Control Word Address: D160

CSV Control Word Address
+1

Command/Status	= D160
File Number	= D161

(6) Command and Status of Sampling Data

	Data	Description
Command	0001h	Normal Save
	0020h	Auto-Save Start
	0021h	Auto-Save Completion
Status	0000h	Completed Successfully
	0100h	Write Error
	0200h	No CF card inserted or inaccessible
	0300h	No data to be loaded
	0400h	File Number Error
	2000h	During Auto-Save

In this practice screen, write "20h" and save sampling data in the SRAM into a CF card automatically.

(7) Sampling Data Folder and File Name

Folder Name	File Name
\SAMP01~ \SAMP64	SA*****.CSV

Data are stored in separate folders from SAMP1 to SAMP64 by sampling groups.

NOTE

Please be sure to use a different control word address from the one for "Save Data in CF Card" in the System settings. If you use the same address, the program may not perform normally.

★ One Point

Memory Card Saving Screen, CSV Display Screen

The memory card saving screen allows you to control the File Number and Command on the GP screen, and save data in the SRAM into a CF card. Also you can view contents in the files saved in a CF card on the CSV display screen.

- * Open Memory Card Saving Screen

Touch the [Save in CF] switch on the base screen “6” or “7”, and the memory card saving screen will open.

B6 Alarm History Screen



B7 Data Sampling Screen

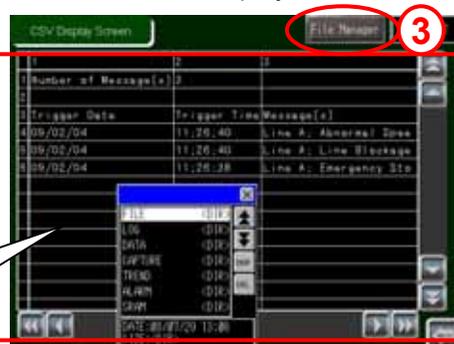


B101 Memory Card Saving Screen



- 1) Write “File No.” and “Command” with the word switch.
- 2) Check Status. When completed normally, go to the CSV Display screen.

B102 CSV Display Screen



- 3) Select a folder and then a file stored in a CF card on the File Manager display.
- 4) Check data displayed on the CSV display.

Using File Manager Display or CSV Display allows you to display and edit contents in a CSV file on the GP screen.



Display Banner Message

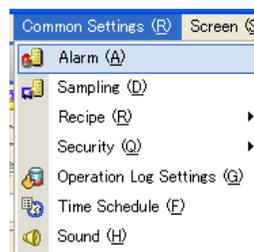
Instruction

To display active alarms as banner messages, enable “Banner” in the Alarm settings. Only registering monitor bit addresses and messages enables you to display banner messages on all screens.



Procedures of Setup

- 1) On the [Common Settings] menu, select [Alarm]. Or click the [Alarm] settings  icon on the tool bar.



- 2) Check [Enable Banner].



- 3) Register monitor bit addresses and messages.

Number	Bit Address	Message
1	PLC1M00W	Line A Emergency Stop
2	PLC1M01S	Line B Emergency Stop
3	PLC1M01S2	Line C Emergency Stop
4	PLC1M01S3	Line D Emergency Stop



Let's Display Banner Messages

Let's display banner messages of each line!

[Setup Procedure]

1. Open the Alarm settings.
2. Make the Alarm settings.

Open the base screen "6".

<Practice Screen>

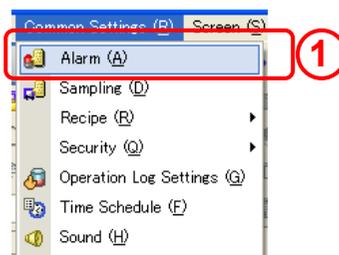


<Completed Screen>



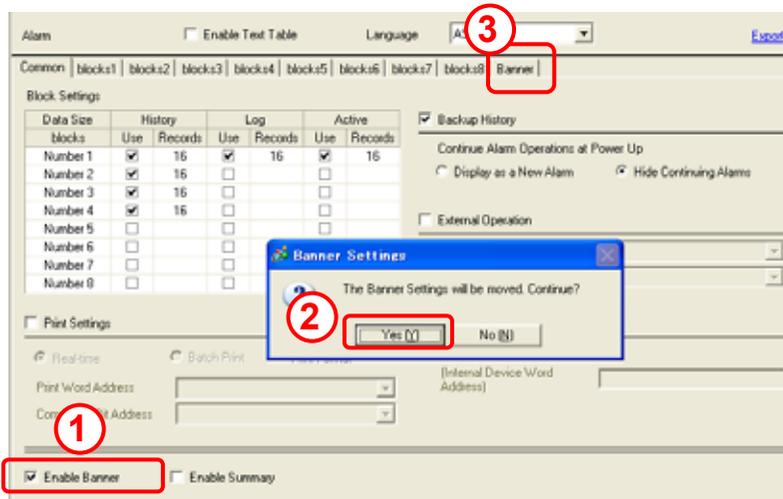
(1) Select Alarm Settings

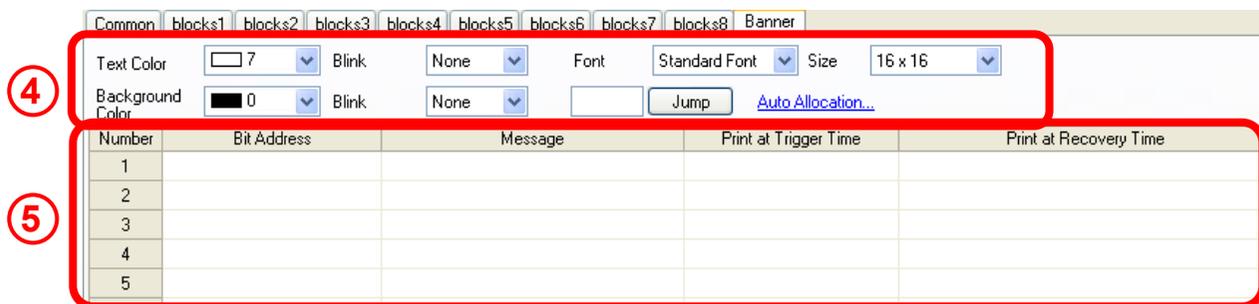
- 1) On the [Common Settings] menu, select [Alarm]. Or click the [Alarm] settings icon on the tool bar.



(2) Register Monitor Bit Address and Messages

- 1) On the [Common] tab, check [Enable Banner].
- 2) The window asking "The Banner Settings will be moved. Continue?" appears. Click [Yes].
- 3) The [Banner] tab will be newly added.





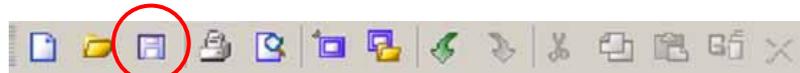
- 4) Set [Text Color], [Font], [Size], and [Background Color].
If you set [Blink], you can blink each color.
- 5) Set bit addresses to be monitored in [Bit Address] and messages to be displayed in [Message]. If [Print at Trigger Time] and [Print at Recovery Time] are set to ON and a printer is connected to the GP display, messages will be printed out at each status.

Here, set [Bit Address], [Message], [[Print at Trigger Time] and [Print at Recovery Time] as above.

Number	Bit Address	Message	Print at Trigger Time
1	[PLC1]M0242	Line A Abnormal generation	OFF
2	[PLC1]M0243	Line B Abnormal generation	OFF
3	[PLC1]M0244	Line C Abnormal generation	OFF
4	[PLC1]M0245	Line D Abnormal generation	OFF

(3) Save

Click the [Save] icon on the tool bar.



Check the performance in the Simulation mode.



Or F12 key

NOTE

If any switches are behind the banner messages, touching the hidden part is unavailable. Please be sure to place parts, such as switches, not to hide behind the banner messages.



Performance Check



- 1) Touch the alarm occurrence switch and check the alarm history.
- 2) Check performances of alarm message operation switches.
- 3) Touch the alarm message and check if the sub screen is displayed.
- 4) Touch the banner message switch and check if the banner messages is displayed.



MEMO