Cat. No. SG-NB10-E5CC Ver2.00a

OMRON

Programmable Terminal NB Series

Setup Guide
Temperature Controller E5□C
Screen Template

Index

1. Template and Targeted NB-Designer

1.1. Targeted NB-Designer

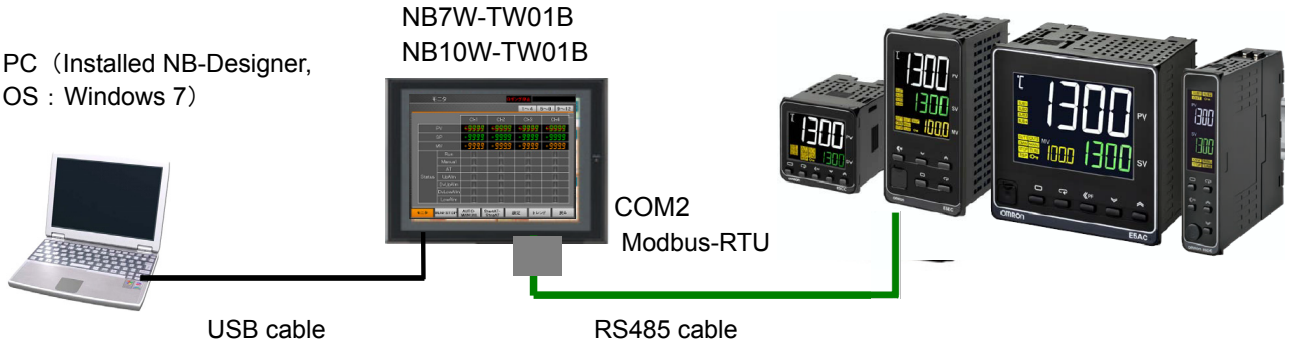
In order to use the Template, the following NB-Designer and NB Unit are necessary.

Manufacturer	Name	Model	Version
OMRON	NB-Designer	—	Ver.1.22 or more
OMRON	NB Unit	NB7W-TW01B NB10W-TW01B	kernel：1458 or more Rootfs：1517 or more

1.2. Device Configuration

1.2.1. Configuration for Template Validation Device

This Template is validated with the devices configured as follows.

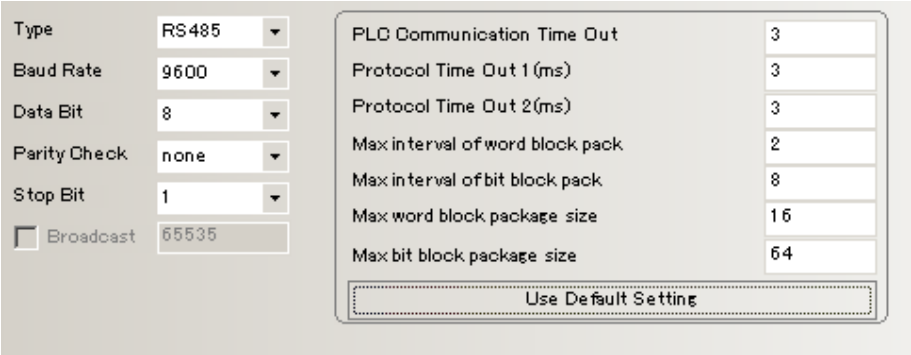


Manufacturer	Name	Model	Version
OMRON	NB Unit	NB7W-TW01B NB10W-TW01B	Kernel: 1458 Rootfs: 1517
OMRON	NB-Designer	—	Ver.1.22
-	※1RS485 cable	—	
-	PC (OS: Windows7)	—	
-	USB cable (Conforms to USB2.0 A-B type)	—	
-	NB power supply（24 VDC 25W）	—	
OMRON	Digital Controller (RS485 with the Communications function）	E5_C-☐☐ E5DC-☐☐	

*1: For the details of wiring RS485 cable, refer to the *NB Series Host Connection Manual*.

1.2.2. Setting of the Communications at the NB in Template

This section provides settings for the Communications of this Template at the NB (COM2) as follows.



1.2.3. Settings of Digital Controller

Specify the following items in Digital Controller.

[Adjusting level][*1]

Communications writing: ON (write permission) *Default is OFF (write protect)

[Communications settings level] [*1]

Protocol selection	: Modbus	*Default is CompoWay/F
Baud rate	: 9.6kbps	*Default is 9.6 kbps
Communications parity	: --	*Default is an even number.

*1: For the methods for adjusting level and Communications setting level of Digital Controller, refer to the Digital Controller E5CC/E5EC User's Manual (H174-E1)

Reference

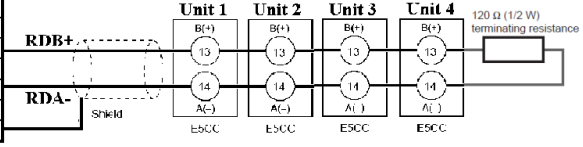
For changing the Baud rate at the NB, refer to the *Programmable T*erminal *NB Series Host Connection Manual (V108-E1)*.

Specify the Baud rate exactly same as that of the Digital Controller.

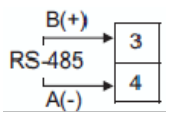
NB-RSEXT-2M

NBT	
9 PIN	
1	SDB+
2	SD
3	RD
4	Terminal R1
5	Terminal R2
6	RDB+
7	SDA-
8	RDA-
9	SG
Shell	FG

Wiring from the NB COM2 to the E5CC Controller with RS485



(Wiring from the NB COM2 to the E5DC Controller with RS485)



When changing the communication setting level of E5□C, Refer to the following explanation.

1） Method to modify the Communications settings

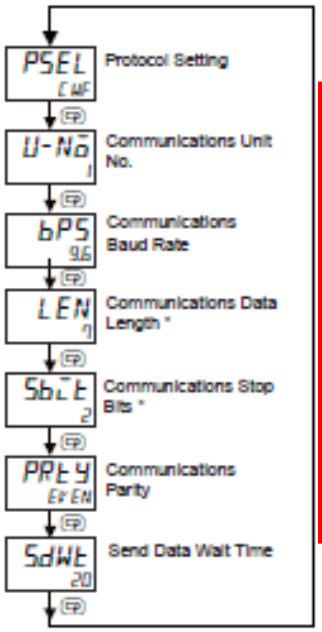
The following procedure allows the communications setting to be modified. For the details, refer to the *Communications Manual (H175-E1)*.

(1) Press the Key for at least three seconds to move from the "operation level" to the "initial setting level."

(2) Press the Key for less than one second to move from the "initial setting level" to the "communications setting level."

(3) Select the parameters as shown below by pressing the Key.

(4) Use the or Keys to change the parameter set values.



Change to the following Communication Settings:
Protocol Setting = Mod
Communication Unit = 1 (or 2 thru 4 if using 4 Controllers)
Baud Rate = 9.6
Data Length = 8
Stop Bits = 1
Parity = None
Wait = 20

* Displayed only when the Protocol Setting parameter is set to CompoWay/F.

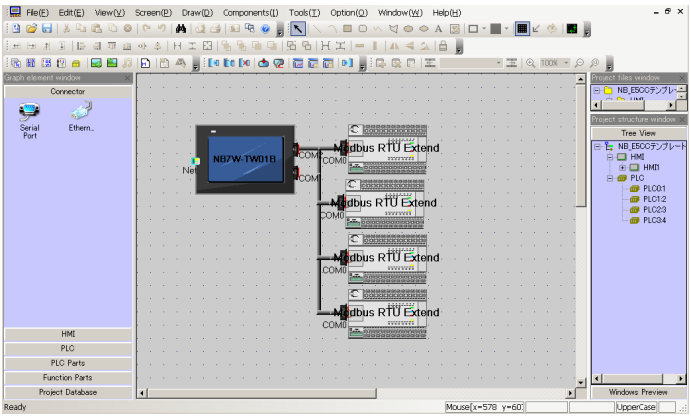
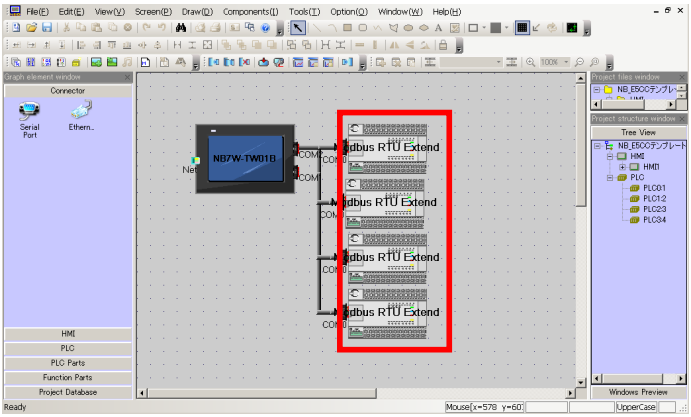
Reference

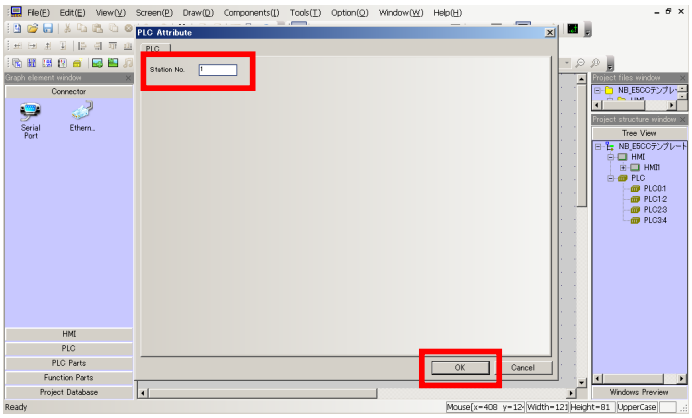
To modify settings of the Communication writing, perform it with panel operation or setting tools of the Digital Controller.

2. Method to specify the Communication Unit No. of Digital Controller

This Template has been created to have “1”, “2”, ”3”, or “4” as the communication Unit No. to four Digital Controllers. NB10_1Zone_E5CC_Template_E_Rev100c is designed for 1 Controller and NB10_4Zone_E5CC_Template_E_Rev100c for 4 Controllers.
If the communication unit No. is other number than “1”, “2” ,”3”, or “4”, modify the communications unit No. in the Template following the procedure as below.

2.1. Method to specify the Communications unit No. of Digital Controller in Template

1	Start NB-Designer and open E5CC Template window.	
2	Double-click a Digital Controller which should be changed with the communications unit No. and open setting dialog.	

3	Enter the communications unit No. which should be modified and press “OK”.	
4	That’s the end of the procedure to specify the communications unit No. of the Digital Controller.	

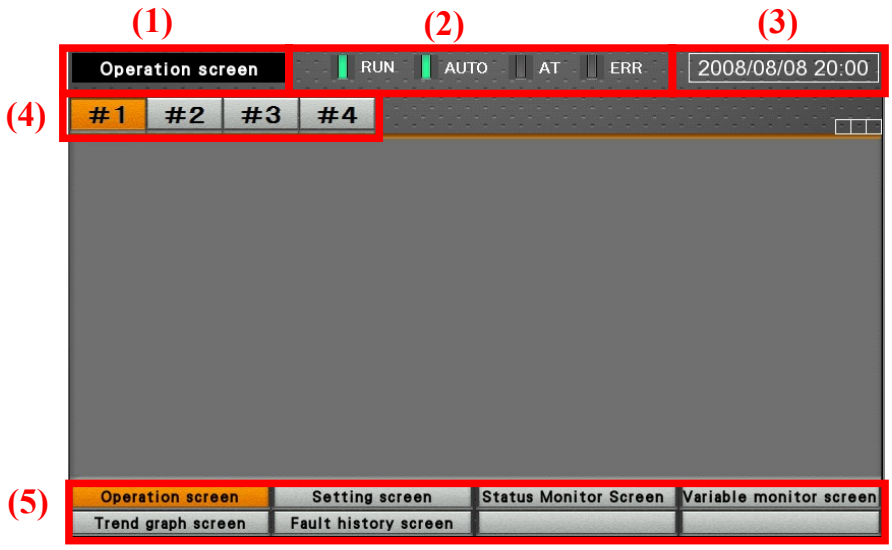
3. Method to control E5□C Template screen

This section provides the method of controlling E5□C Template screen.

3.1. E5□C Template

3.1.1. Common Template for Each Screen

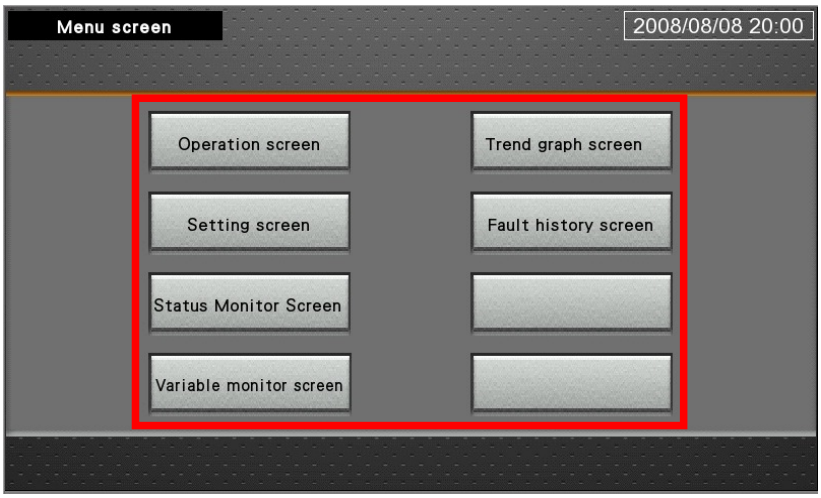
The following display is common to every screen but “Menu Screen”.



No.	Description
(1)	Screen title The current screen title is displayed.
(2)	State indication lamp The current operation status is indicated. RUN,AUTO,AT: lit in green ERR : lit in red
(3)	Current time is displayed.
(4)	Switching the communications unit No. Present screen is indicated in orange.
(5)	Display switch The current screen is indicated in orange.

3.1.2. Menu Screen

(1)



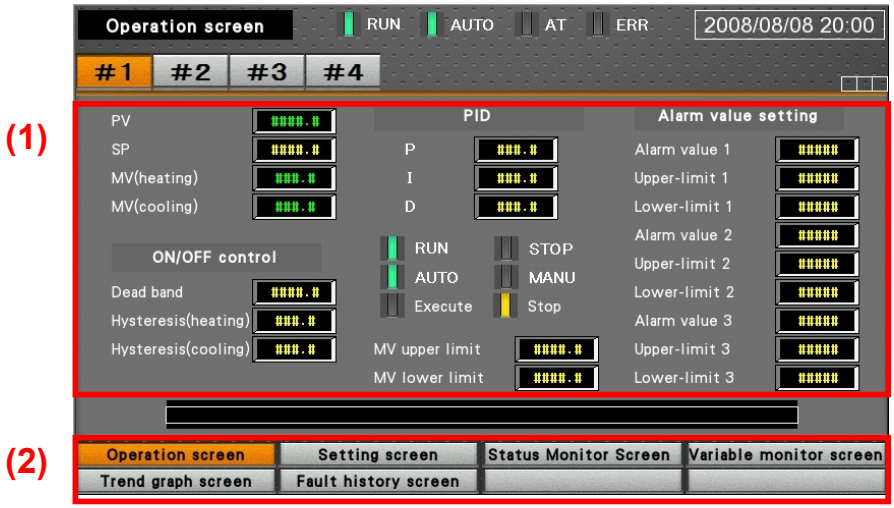
No.	Description
(1)	Screen switch. Switching to each screen.

3.1.3. Operation screen

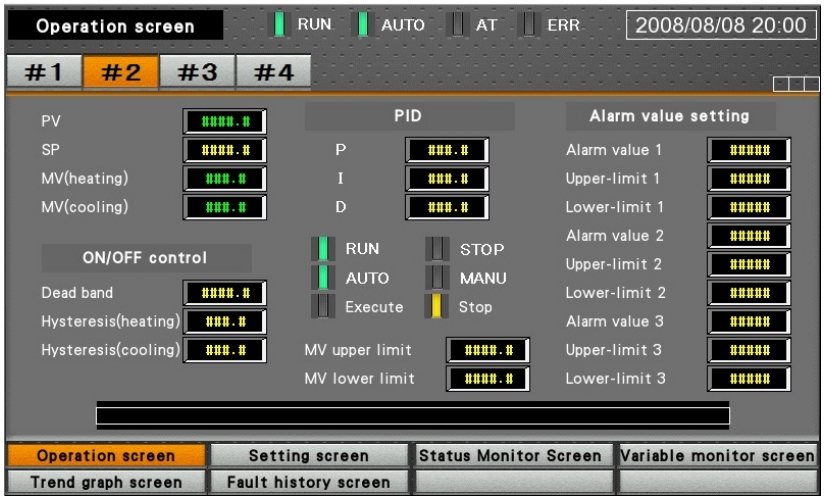
A screen allows present values and manipulated variable to be monitored and targeted values to be entered.

Also you can refer to the contents of the alarm which is currently occurred.

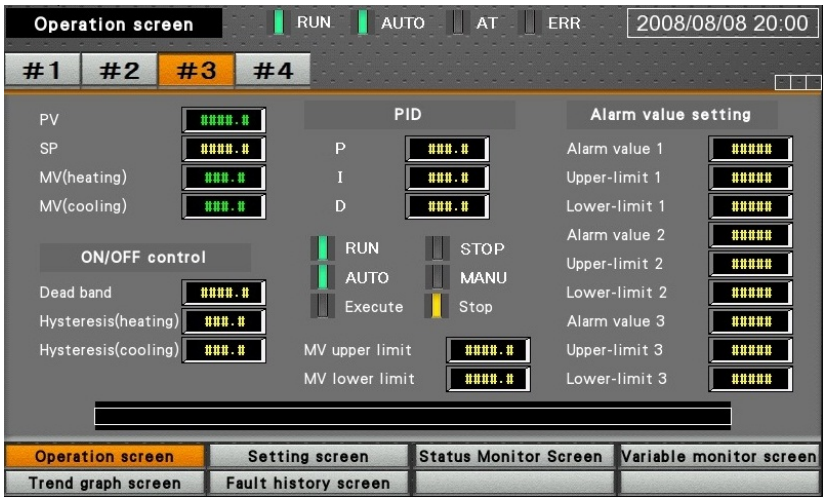
NB7 Screen (#1)



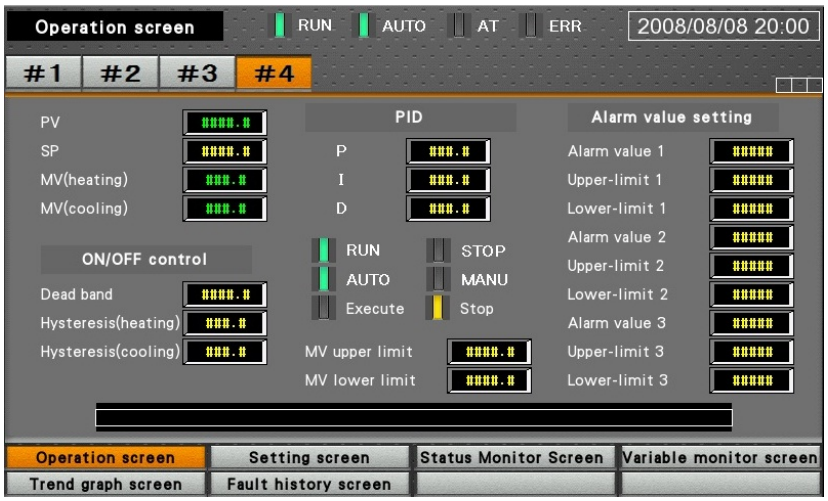
NB7 Screen (#2)



NB7 Screen (#3)



NB7 Screen (#4)



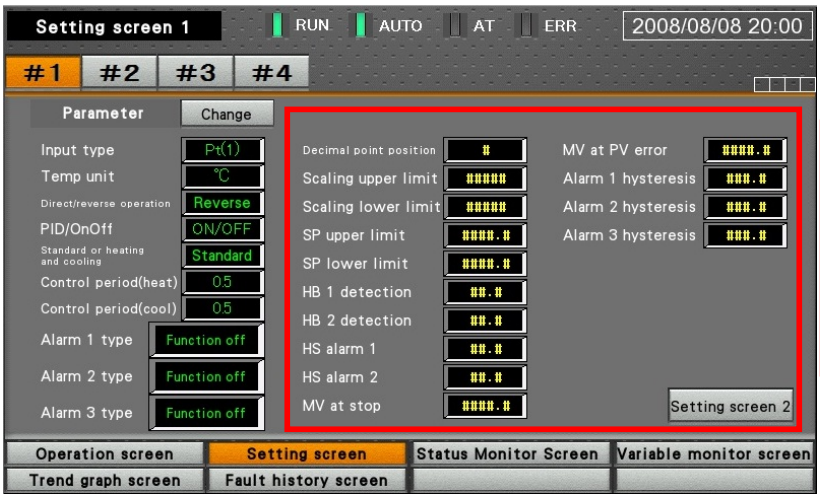
No.	Description
(1)	(Specify component> ·Numeric object Touching numeric object displayed in yellow allows each input popup screen to be displayed and the values to be specified or modified. Numeric object displayed in green is only for monitoring and the value is not subjected to be specified or to be modified. ·PID control lamp RUN, AUTO: When Relevant status is OFF, lit in green. STOP, MANU: When RUN status is ON, lit in green. Execution: When Execution status is ON, lit in green. Quit: When execution status is OFF, lit in yellow.
(2)	Display Alarm An alarm which is currently occurred is displayed.

3.1.4. Setting Screen

A screen allows each parameter to be specified or modified.

When you modify parameters, switch over to default setting level or high functioning level in advance at E5□C. Mind that if the parameters are modified without switching over to the default setting level or the high functioning level, the modification is invalid. For the method to switch over the default setting level or the high functioning setting level, refer to the *Digital Controller E5CC/E5EC User's Manual* （H174-E1）.

Parameter (#1)

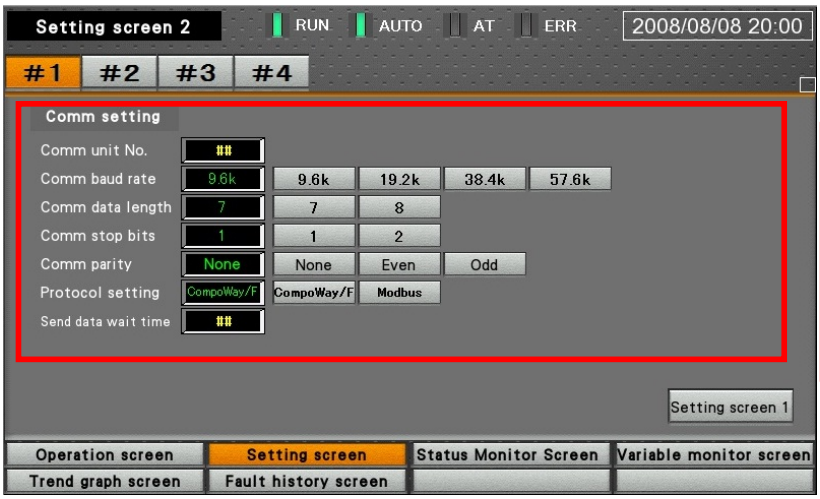


(1)

Touching mass setting button allows specification to be modified in a popup window.

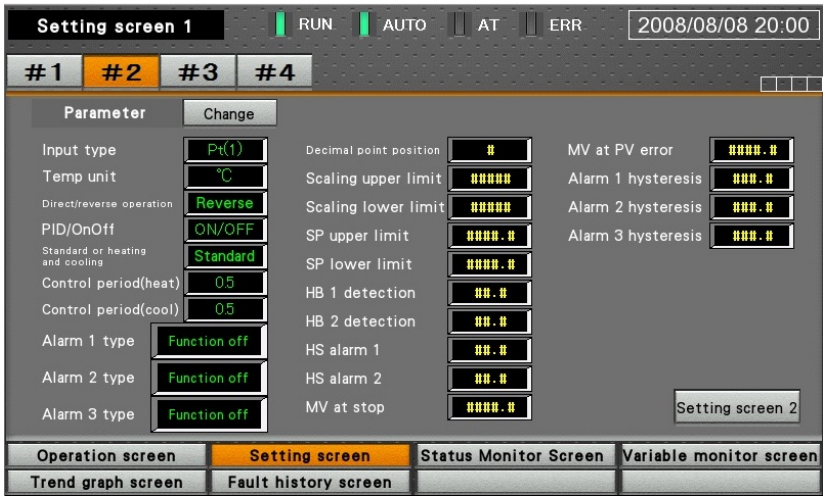
Communications setting (#1)

(1)

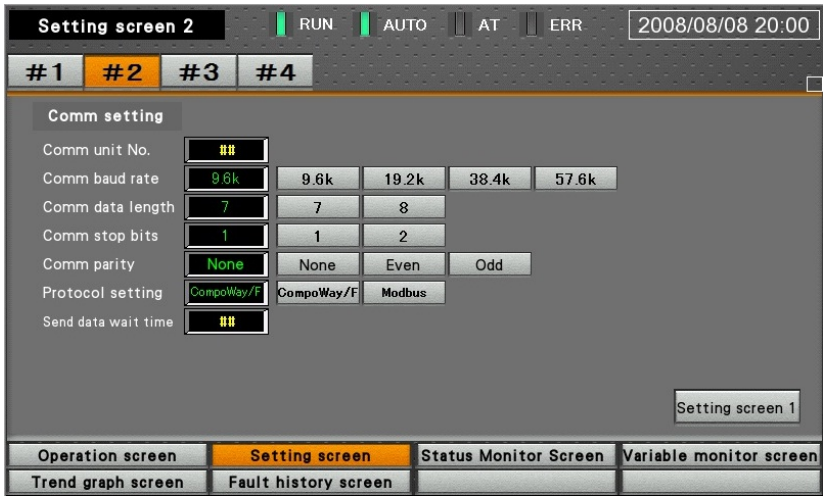


Mind that if the communications setting is modified, a communication error may be occurred at the NB.

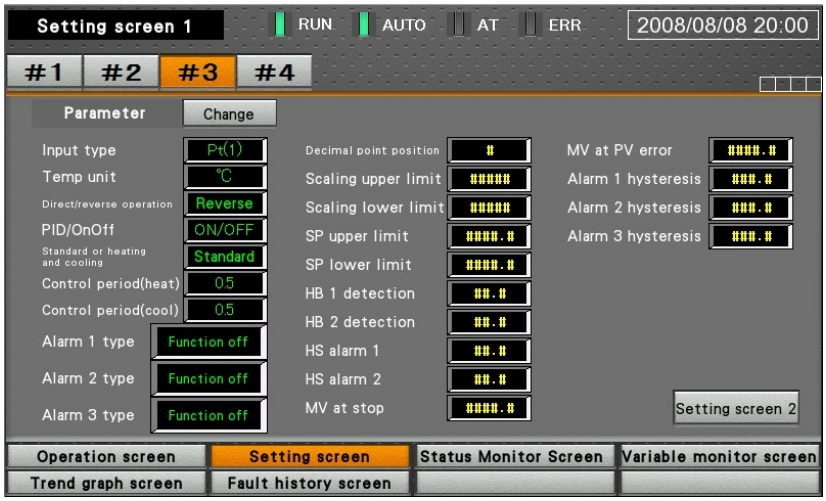
Parameter (#2)



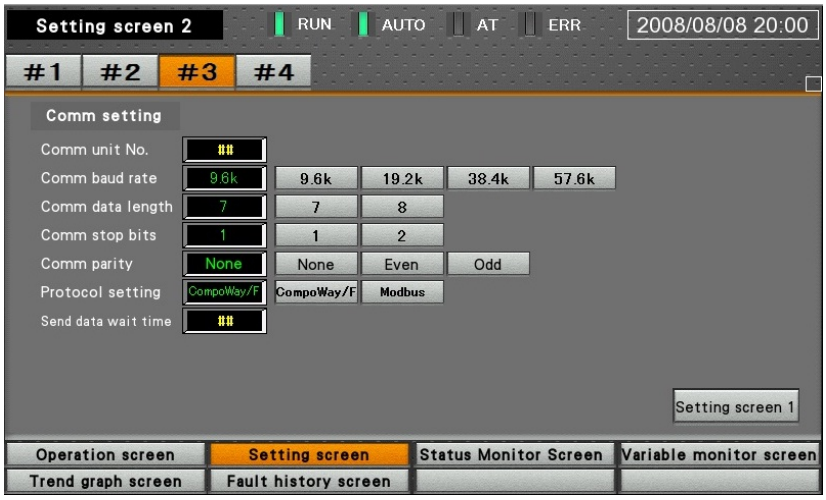
Communications setting (#2)



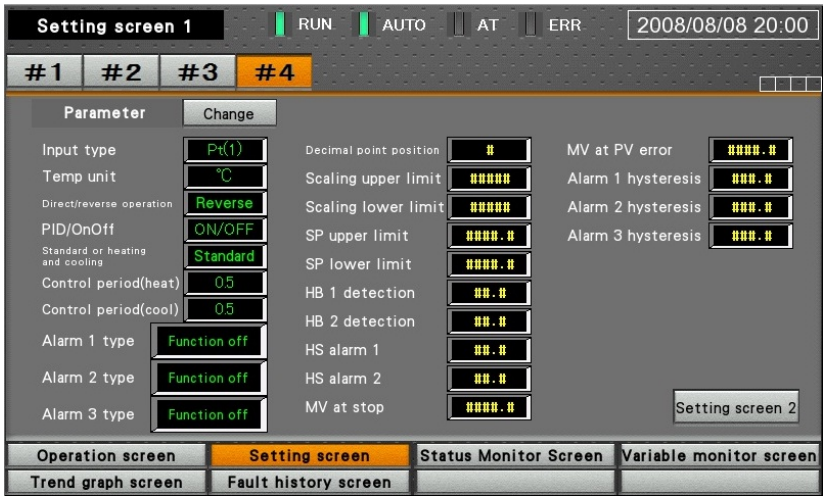
Parameter (#3)



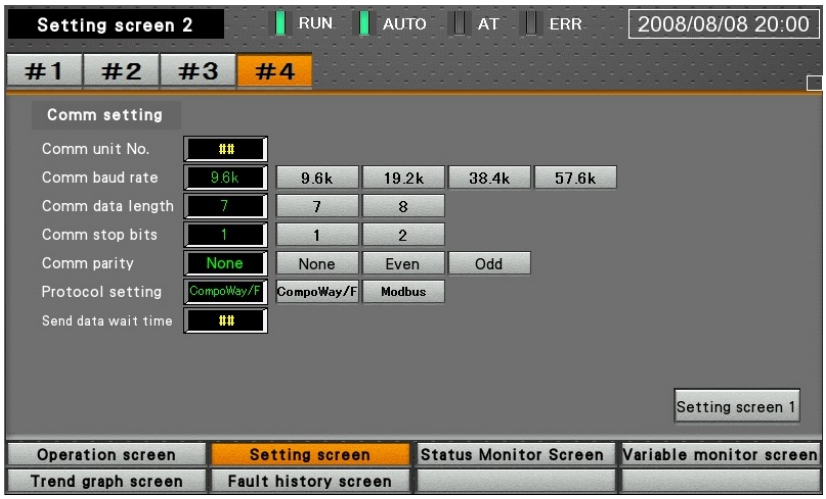
Communications setting (#3)



Parameter (#4)



Communications setting (#4)



No.	Description
(1)	(Screen Switch button “to Setting screen_2”, “to Setting screen_1”) Touching the screen switch button allows switching displays between parameter system and the communication system. (Setting part) Touching numeric object allows input popup window of each item to be displayed and then the value can be specified or modified. Also the item of "Communications setting" in green can be specified or modified touching each type setting button on the right of the item.

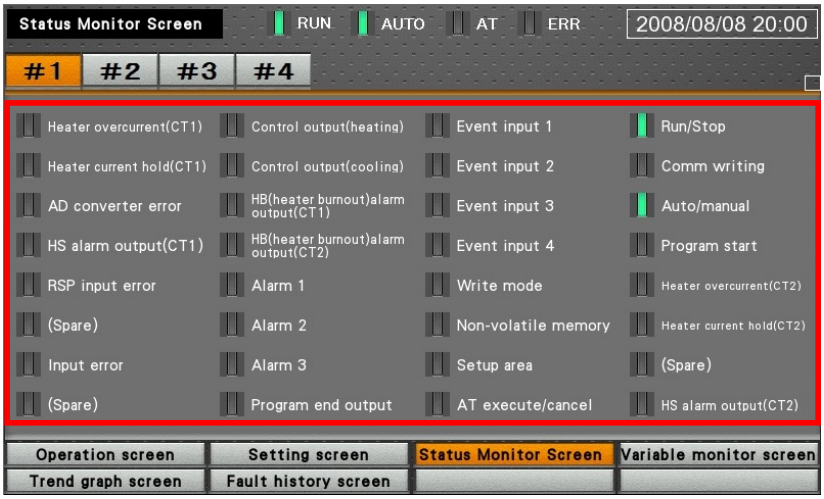
Caution on usage

After changing parameters, if you should start the operation, firstly make sure that there is no problem even if you switch over the operation level and then switch over to the operation level.

3.1.5. Status Monitor Screen

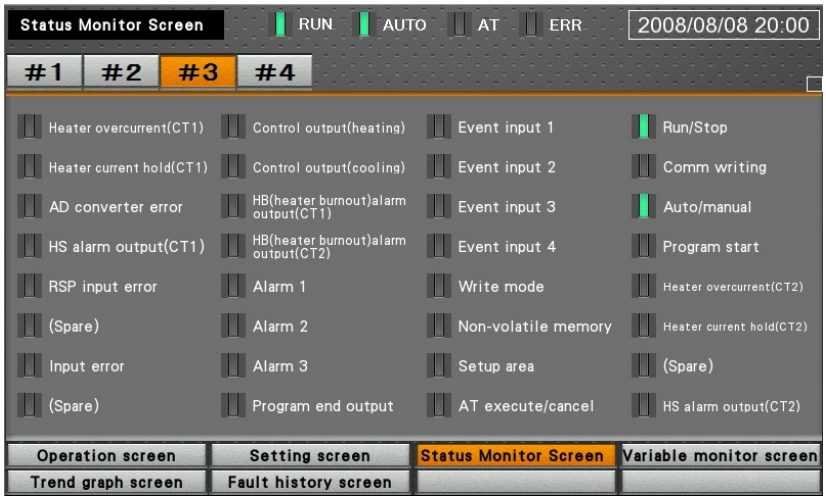
A screen displays the state of each status.

Status Screen (#1)

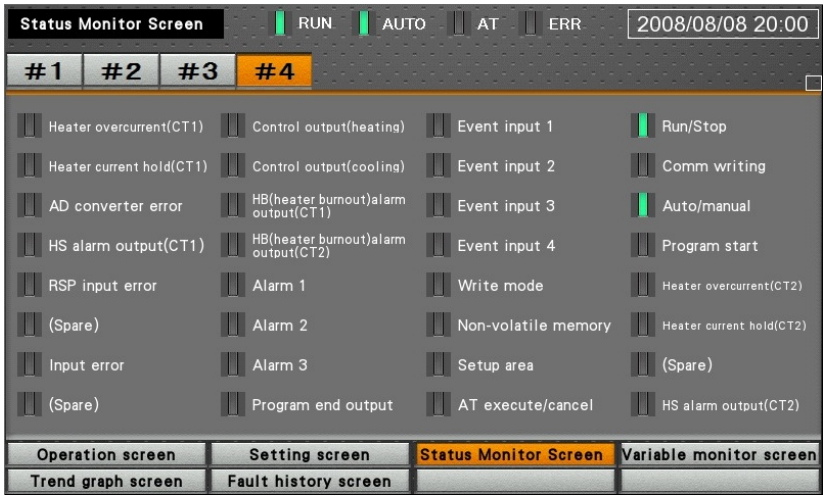


Status Screen (#2)

Status Screen (#3)



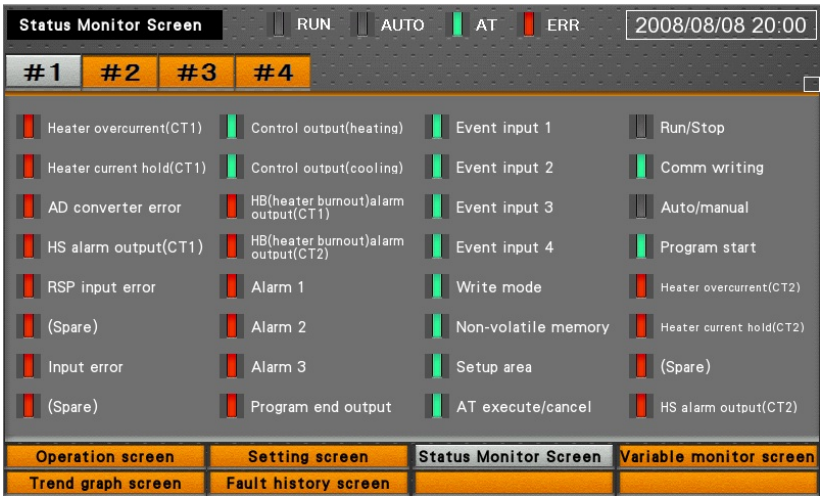
Status Screen (#4)



No.	Description
(1)	Status Indicator It indicates the state of each status. If each status bit is ON, the relevant lamp is lit. However, if the bits of “Run/Stop” and “Auto/Manual” are turned to OFF, the lamp is lit. If it is normal, it is lit in green. If abnormal, it is lit in red.

The screen as below shows the state that each status is “1”.

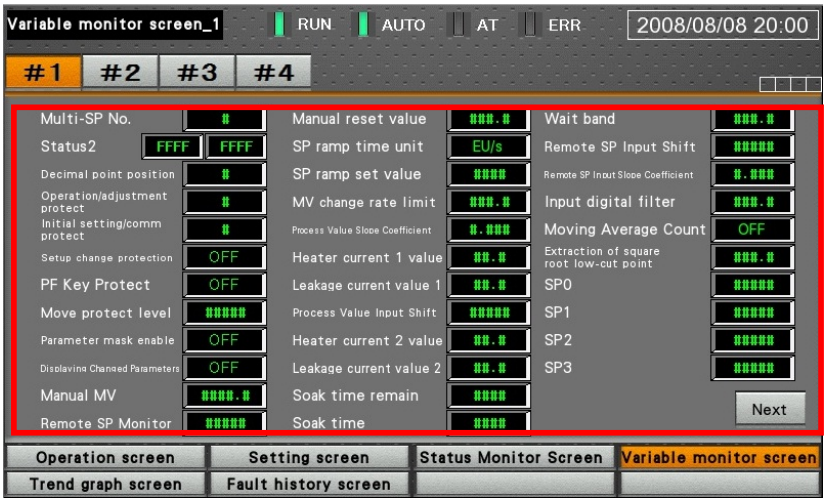
Status screen (#1)



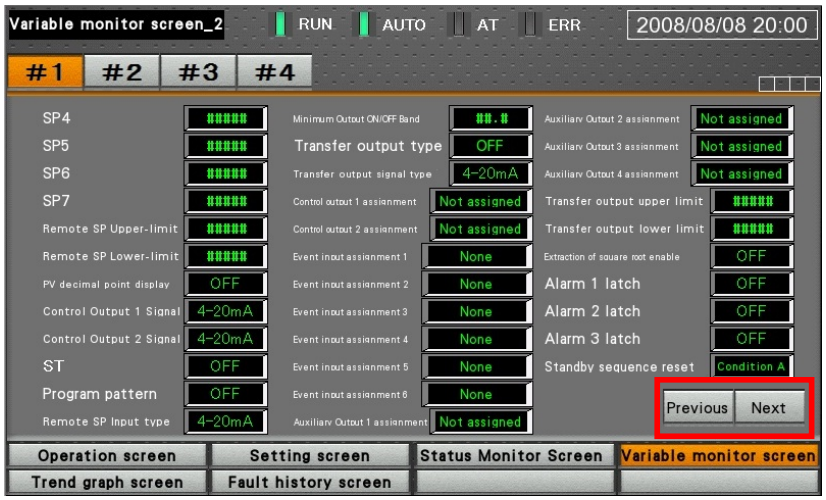
3.1.6. Variable Monitor Screen

A screen displays present value for each variable type.

Variable Monitor Screen_1 (#1)

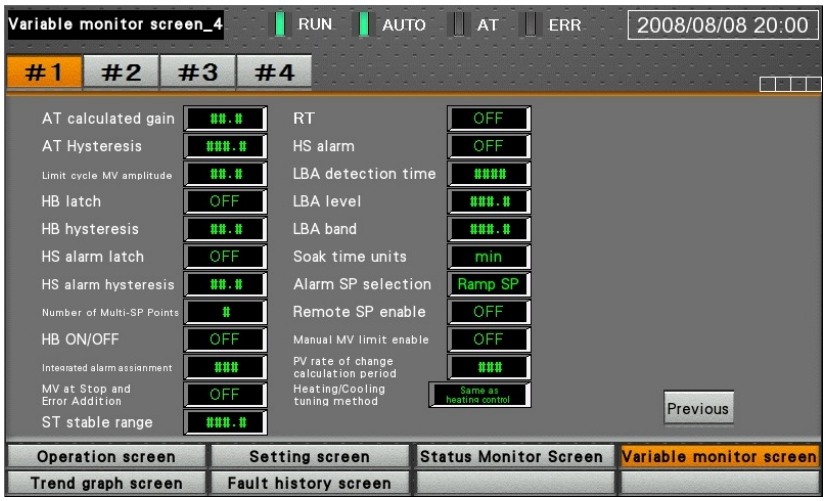


Variable Monitor Screen_2 (#1)

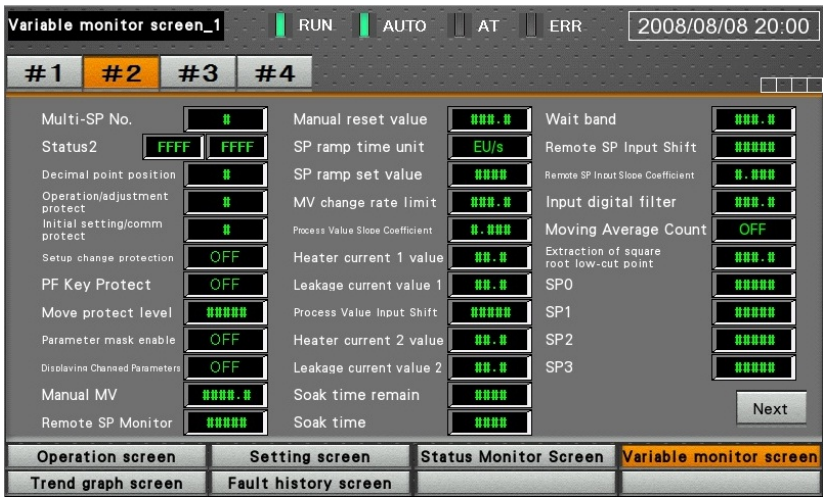


Variable Monitor Screen_3 (#1)

Variable Monitor Screen_4 (#1)

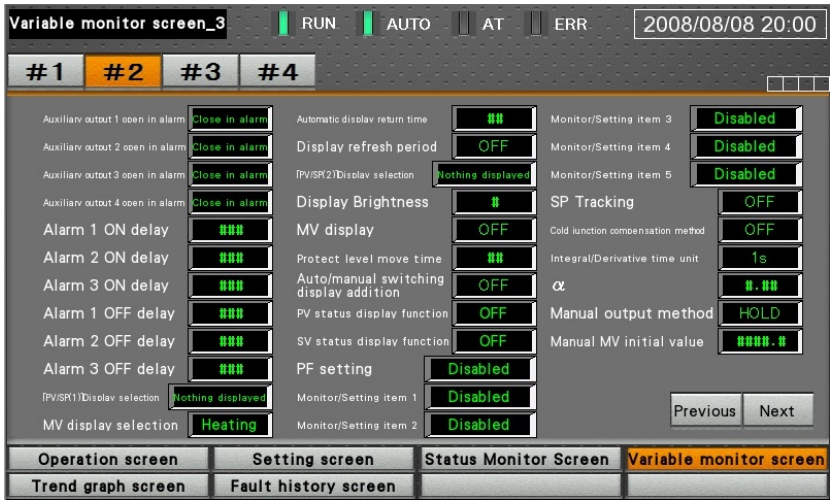


Variable Monitor Screen_1 (#2)



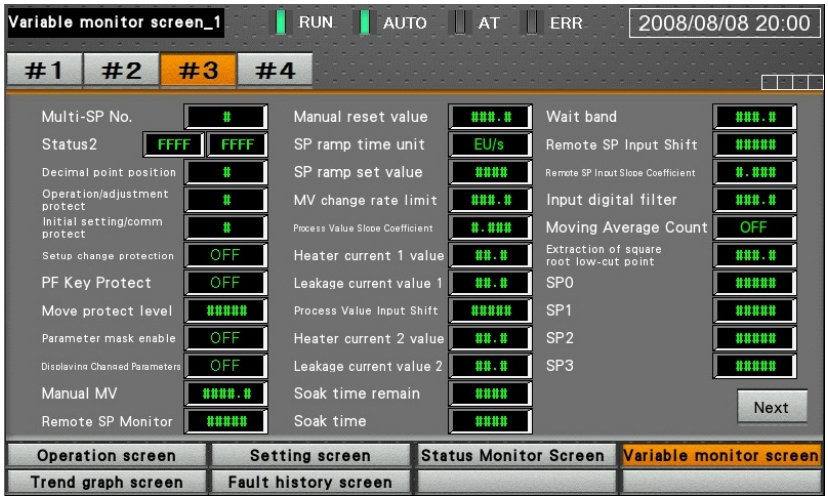
Variable Monitor Screen_2 (#2)

Variable Monitor Screen_3 (#2)



Variable Monitor Screen_4 (#2)

Variable Monitor Screen_1 (#3)

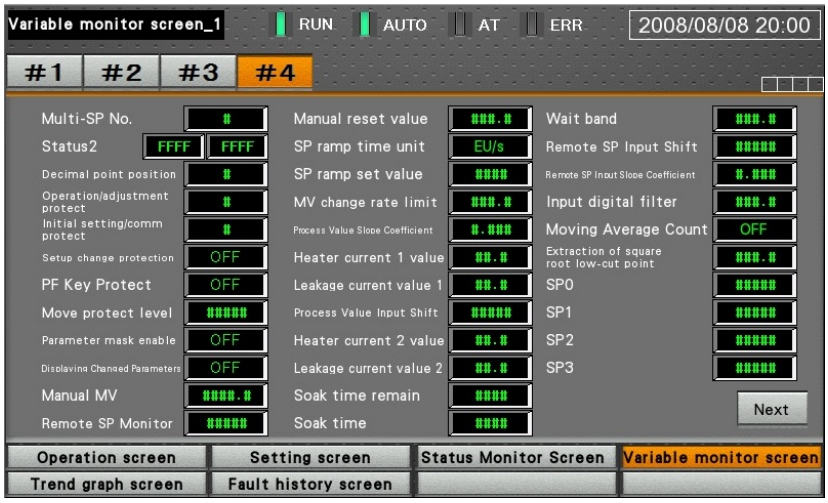


Variable Monitor Screen_2 (#3)

Variable Monitor Screen_3 (#3)

Variable Monitor Screen_4 (#3)

Variable Monitor Screen_1 (#4)



Variable Monitor Screen_2 (#4)

Variable Monitor Screen_3 (#4)

Variable Monitor Screen_4 (#4)

No.	Description
(1)	(Display Variable) Setting items for each variable type are displayed. This numeric object is only for monitoring and the value is not subjected to be specified or to be modified. (Display Switch “Next”, “Previous”) Switch to the next screen or the previous screen from variable monitor screen.

3.1.7. Trend graph screen

A screen monitors the trend graph of the present value and manipulated variable.

Present value Trend graph_1 (#1)

Manipulated variable Trend graph_2 (#1)

Present value Trend graph_1 (#2)

Manipulated variable Trend graph_2 (#2)

Present value Trend graph_1 (#3)

Manipulated variable Trend graph_2 (#3)

Present value Trend graph_1 (#4)

Manipulated variable Trend graph_2 (#4)

No.	Description
(1)	■Displaying present value The present value and targeted value of the monitoring data are displayed in numeric. ■Displaying manipulated variable The manipulated variable (heating) and the one (cooling) of the monitoring data are displayed in numeric.
(2)	Displaying Trend graph The values indicated in (1) are displayed in Trend graph. ·The logging period is 1 sec. ·Logging the following points with calculating one second as one point. ·NB7W: 600 points (for 10 min.) ■Displaying present value Present value: displayed in green Targeted value: displayed in light blue ■Displaying manipulated variable Heating: displayed in red Cooling: displayed in purple
(3)	Switch between present value and manipulated variable Switching between present value and manipulated variable.

3.1.8. Fault History screen

A screen displays fault history such as an error currently occurring or the other one removed.

Fault History screen (#1)

(1)

(2)

Fault History screen (#2)

Fault History screen (#3)

Fault History screen (#4)

No.	Description
(1)	Fault History Display The fault occurrence time, the fault removal time, and the fault details are displayed. The fault currently occurring is displayed in red. The fault and removed is displayed in green.
(2)	Scroll Button This button allows the screed to be scrolled.

This Template indicates the statuses of Digital Controller as below in Fault History screen.

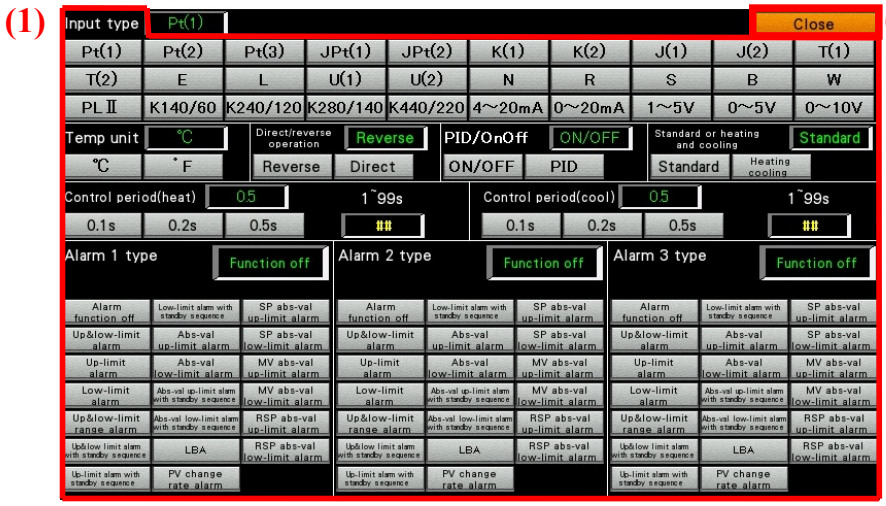
Address	Message
4X_9223.00	Heater overcurrent(CT1)
4X_9223.01	Heater current hold(CT1)
4X_9223.02	AD converter error
4X_9223.03	HS alarm output(CT1)
4X_9223.04	RSP input error
4X_9223.06	Input error
4X_9223.10	HB(heater burnout)alarm output(CT1)
4X_9223.11	HB(heater burnout)alarm output(CT2)
4X_9223.12	Alarm 1
4X_9223.13	Alarm 2
4X_9223.14	Alarm 3
4X_9224.12	Heater overcurrent(CT2)
4X_9224.13	Heater current hold(CT2)
4X_9224.15	HS alarm output(CT2)

3.1.9. Mass modifying screen (popup screen)

Touching popup screen (mass modifying screen) in 3.1.4 Parameter setting screen allows the popup screen to be displayed.

The setting values are possible to be specified and modified.

Mass modifying (#1),(#2),(#3),(#4)



No.	Description
(1)	(Display present setting value) Present setting value of each item is displayed.(color of present setting value: green) (Modify Setting Button) Touching the setting button of each item allows settings to be modified. (Control period (heating), control period (cooling) setting method) When specifying the setting values of control period (heating) and control period (cooling) to between 1 and 99 seconds, touch the numeric part (displayed in yellow) and then enter the setting values with numeric keypad.
(2)	Close the popup screen.

4. Revision History

Revision No.	Revision Date	Reason/Page
Original	2013/05/12	First edition for E5_C Template_E_V1.00
A	2014/02/04	Add E5DC setup information V2.00a

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6. Governmental Approvals. Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Products.
7. Taxes. All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Omron or required to be collected directly or indirectly by Omron for the manufacture, production, sale, delivery, importation, consumption or use of the Products sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Omron.
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10. Force Majeure. Omron shall not be liable for any delay or failure in delivery resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.
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