

SYSMAC

Smart Active Parts

REFERENCE MANUAL

OMRON

How to use
Smart Active Parts

Notice

OMRON products are manufactured for use according to proper procedures by a qualified operator and only for the purposes described in this manual.

The following conventions are used to indicate and classify precautions in this manual. Always heed the information provided with them. Failure to heed precautions can result in injury to people or damage to property.

OMRON Product References

All OMRON products are capitalized in this manual. The word "Unit" is also capitalized when it refers to an OMRON product, regardless of whether or not it appears in the proper name of the product.

The abbreviation "Ch," which appears in some displays and on some OMRON products, often means "word" and is abbreviated "Wd" in documentation in this sense.

The abbreviation "PLC" means Programmable Controller.

The abbreviation "host" means a controller, such as an IBM PC/AT or compatible computer, that controls a PT (Programmable Terminal).

Visual Aids

The following headings appear in the left column of the manual to help you locate different types of information.

Note	Indicates information of particular interest for efficient and convenient operation of the product.
Reference	Indicates supplementary information on related topics that may be of interest to the user.
1, 2, 3...	1. Indicates lists of one sort or another, such as procedures, checklists, etc.
CS1G-CPU@@-VI	Boxes in model numbers indicate variable characters. For example, "CS1G-CPU@@-EV1" indicates the following models: CS1G-CPU42-EV1, CS1G-CPU43-EV1, CS1G-CPU44-EV1, and CS1G-CPU45-EV1.

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Introduction

● Intended Audience



This manual is intended for the following personnel, who must also have knowledge of electrical systems (an electrical engineer or the equivalent).

- Personnel in charge of introducing FA systems into production facilities.
- Personnel in charge of designing FA systems.
- Personnel in charge of installing and connecting FA systems.
- Personnel in charge of managing FA systems and facilities.

● General Precautions

- The user must operate the product according to the performance specifications described in the operation manuals.
- Do not use the PT touch switch input functions for applications where danger to human life or serious property damage is possible, or for emergency switch applications.
- Before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems, machines and equipment that may have a serious influence on lives and property if used improperly, consult your OMRON representative.
- Make sure that the ratings and performance characteristics of the product are sufficient for the systems, machines, and equipment, and be sure to provide the systems, machines, and equipment with double safety mechanisms.
- This manual provides information for connecting and setting up an NS-series PT. Be sure to read this manual before attempting to use the PT and keep this manual close at hand for reference during installation and operation.

● Safety Precautions

 WARNING	
<p>Do not attempt to take the Unit apart and do not touch any internal parts while the power is being supplied. Doing either of these may result in electrical shock.</p>	

● Operating Environment Precautions

1. Do not install the Unit in the following places:
 - Locations subject to direct sunlight
 - Locations subject to temperatures or humidity outside the range specified in the specifications
 - Locations subject to condensation as the result of severe changes in temperature
 - Locations subject to corrosive or flammable gases
 - Locations subject to dust (especially iron dust) or salts
 - Locations subject to exposure to water, oil, or chemicals
 - Locations subject to shock or vibration
2. Take appropriate and sufficient countermeasures when installing systems in the following locations:
 - Locations subject to static electricity or other forms of noise
 - Locations subject to strong electromagnetic fields
 - Locations subject to possible exposure to radioactivity
 - Locations close to power supplies

● Application Precautions

1. When unpacking the Units, check carefully for any external scratches or other damage. Also, shake the Units gently and check for any abnormal sound.
2. The mounting panel must be between 1.6 and 4.8 mm thick. Tighten the Mounting Brackets evenly to a torque of between 0.5 and 0.6 N·m to maintain water and dust resistance. Make sure the panel is not dirty or warped and that it is strong enough to hold the Units.
3. Do not let metal particles enter the Units when preparing the panel.
4. If conformance to EC Directives (Low Voltage Directive) is required, use reinforced insulation for the power supplies.
5. Do not connect an AC power supply to the power terminals.
6. Use a DC power supply with minimal fluctuation voltage.
Rated power supply voltage: 24 VDC
(Allowable range: 20.4 to 27.6 VDC)
Capacity: 25 W min. (NS5: 15 W min.)
7. Do not perform a dielectric voltage test.
8. Use a twisted-pair cable with a cross-sectional area of at least 2 mm² to connect to the power terminals and always use M3.5 crimp terminals. Tighten the terminal screws to a torque of 0.8 N·m. Make sure the screws are properly tightened.
9. Ground the Unit correctly to prevent operational errors caused by noise.
10. Do not touch the surface of the circuit board or the components mounted on it with your bare hands. Discharge any static electricity from your body before handling the board.
11. Confirm that the current capacity of the connected device is 250 mA or less before using the 5-V power supply from pin 6 of the serial port A, B connectors. The 5-V output of the PT is 250 mA max. at 5 V \pm 5%.
12. Turn OFF the power supply before connecting or disconnecting cables.
13. Always tighten the connector screws after connecting communications cables.
14. The maximum tensile load for cables is 30 N. Do not apply loads greater than this.
15. Confirm the safety of the system before turning ON or OFF the power supply or before pressing the reset button.
16. The whole system may stop depending on how the power supply is turned ON or OFF. Turn ON or OFF the power supply according to the specified procedure.
17. Start actual system application only after sufficiently checking screen data, macros, and the operation of the program in the PC (host).
18. Always reset the power supply after changing switch settings.
19. After changing the settings of the DIP switch, always turn the power supply OFF and ON or reset the PT.
20. Do not perform the following operations while the Memory Card is being accessed:
 - Turning OFF the power supply to the PT
 - Pressing the PT's reset switch
 - Removing the Memory Card
 - Always following the specified procedure when removing the Memory Card.

21. Do not press the touch switch with a force greater than 30 N.
22. Confirm the safety of the system before pressing touch switches.
23. Do not accidentally press touch switches when the backlight is not lit or when the display does not appear.
24. Signals from the touch switches may not be input if the switches are pressed consecutively at high speed. Confirm each input before proceeding to the next one.
25. Before initializing screen data, confirm that existing data is backed up at the NS-Designer.
26. When changing the password with the system menu, do not reset or turn OFF the power supply until writing is finished (i.e., until the Write Button returns to its original condition). It may become impossible to manipulate screens if the password is not set correctly.
27. When using the device monitor, confirm the safety of the system before performing the following operations.
 - Changing monitor data
 - Changing operation modes
 - Forced setting or resetting
 - Changing present values or set values
28. Do not use benzene, paint thinner, or other volatile solvents, and do not use chemically treated cloths.
29. Dispose of any battery that has been dropped on the floor or otherwise subjected to excessive shock.
30. Do not attempt to disassemble, repair, or modify the Unit in any way.
31. Dispose of the Units and batteries according to local ordinances as they apply.
32. To ensure system safety, incorporate a program that periodically calls PT operation bits from the host side to check that the PT is properly operating.
33. Do not connect an USB connector to any device that is not applicable.
34. Before connecting an USB connector to a device, make sure that the device is free of damage.
35. When mounting the Battery, be sure to use the correct Battery and mount it correctly.

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Description of Smart Active Parts

◆ PLC

◆ Communication Unit

◆ Motion Control

◆ Inverter

◆ Servo Driver

◆ Temperature Controller (E5ZN)

(E5□R)

(E5□N)

(from Ver5 or earlier)

◆ DRT2

◆ Process Controller

Section 1 Overview

1-1 What are Smart Active Parts?

Smart Active Parts are generic name of OMRON unique libraries contained setting/monitor screens (E.g. NC Units and Temperature Controllers). Users can make setting/monitor screens simply reusing Smart Active Parts which should have created according to Units for PLC before. Since Smart Active Parts are the sophisticated libraries which include communication settings, refer to Section 3 precautions for use of Smart Active Parts.

The screenshot displays two overlapping windows from the Smart Active Parts software. The 'Direct Operation' window is in the foreground, showing a table for axis positions and a status bar. The 'NC Unit Operation' window is visible in the background, showing a status table for various machine functions.

	Position	Err	ErCode
X	8500000 pls STOP	●	0
Y	2500000 pls STOP	●	0
Z	5000000 pls STOP	●	0
U	10000000 pls STOP	●	0

Enable

Busy	Mode	Position	Speed	A. Time	D. Time
●	A R	8500000	25000	20	20
●	A R	562430	150000	15	30
●	A R	855361	100000	50	100
●	A R	5698423	500000	30	100

I/O	X	Y	Z	U
Sequence	0	0	0	0
CW Limit	●	●	●	●
CCW Limit	●	●	●	●
OriginProx	●	●	●	●
O. Input	●	●	●	●
I. Input	●	●	●	●
Emer. Stop	●	●	●	●
PCompleted	●	●	●	●
Err. Reset	●	●	●	●

■ Features

Smart Active Parts has the following features.

- Smart Active Parts have communication functions so that no communication programs are required (Programless communication) to communicate with units (Temperature Controller, NC Unit, DRT2 etc...).
- Smart Active Parts can be reused from the Use Library under Tools in the NS-Designer. All communication addresses for setting/monitor screens are automatically set just specifying Match No. or Unit No. of destination when reusing it. It is not necessary to check those using manuals as ever.
- Setting/monitor screens for NC and DRT2 can be created simply combining device libraries so that they work like the dedicated tools, such as CX-Position and Configurator, with PT.

Section 2 Procedure for Reusing Smart Active Parts

2-1 The following smart active parts are provided

New Smart Active Parts added in Ver6.0.

1. CS/CJ and CS1D CPU Unit

Error Log Monitor, CS1D Online exchange button, Online Battery change button.

2. Serial Communication board/Unit

Communication Status Display (Error Monitor), Port Settings etc.

3. Ethernet Unit/CLK Unit

Network Status (Error Monitor, Network node status) etc.

4. MC/MCH Unit

JOG Running, Search Zero position, Program running, Error Display, I/O Status Monitor, PV Monitor etc.

5. NC /NCF Unit

JOG Running, Direct Running, Memory Running, (Only NC), Error Display, I/O Status Monitor, PV Monitor etc.

6. Servo (R88D-WT, R7D-AP)- using new SCU/SCB board.

PV Monitor, Parameter settings, Error Display, Driver info Display, I/O Status Monitor etc.

7. Device Net (DRT2-xx)

Models integrated in one SMART Active Parts. DRT2 maintenance/Status info, IN/OUT Info. Etc.

8. Temperature Controller (E5[R, E5ZN, E5[N]- Direct Connection with NS.

Run Monitor, PID Settings, SP settings, Alarm Settings, Input correction settings etc.

9. Inverter

Rotation Speed/Monitoring Output Frequency, Other Parameter Settings. etc.

Also includes the previous Smart Active Parts which are in Ver5.0 or earlier.

1. CJ1M

Functions for Built-in Input Setting, Origin Search and Origin Return

2. DRT2

ID16/ID16S/ID08/ID08C/HD16C/OD16/OD08/OD08C

3. DeviceNet, E5ZN

PID Setting, Commands, SP Setting, Setting Area 0, and Front Panel

Network Monitor

4. CLK Network Status Monitor and DeviceNet Status Monitor

5. NC Unit

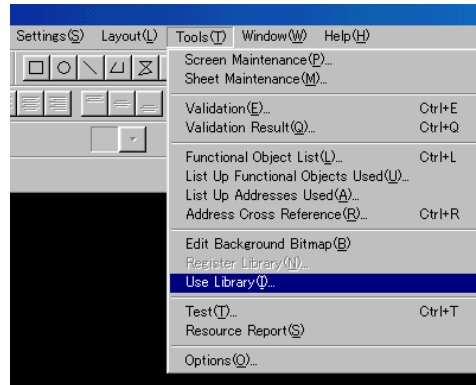
Direct Operation, JOG Operation, Origin Search, Origin Return, Teach, Changing Present Value, and Input Data Screens

2-2 How to Use Smart Active Parts

To use Smart Active Parts, select **Use** in the Use Library dialog box under **Tools** and paste the selected Smart Active Parts on the screen.

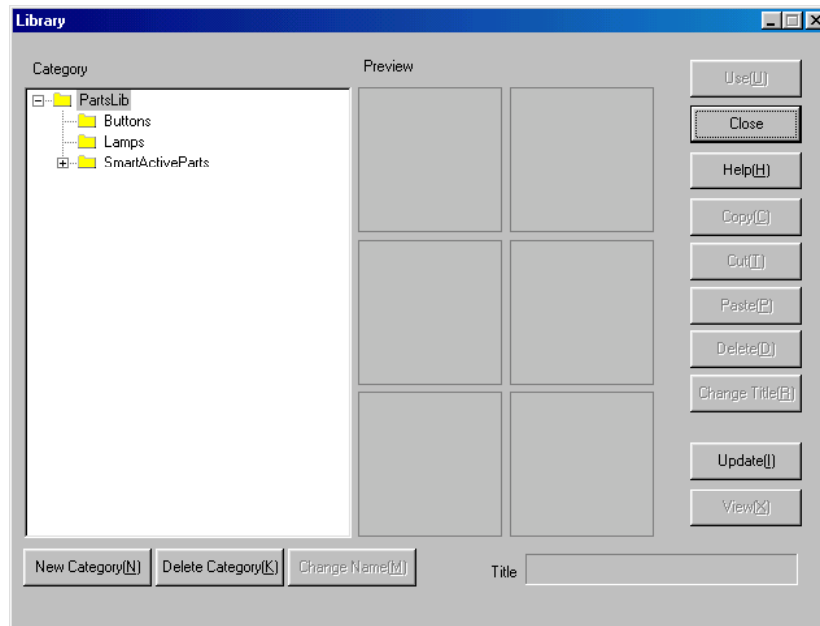
The procedure for pasting Smart Active Parts is as follows.

1. Select Tools-Use Library on the tool bar.

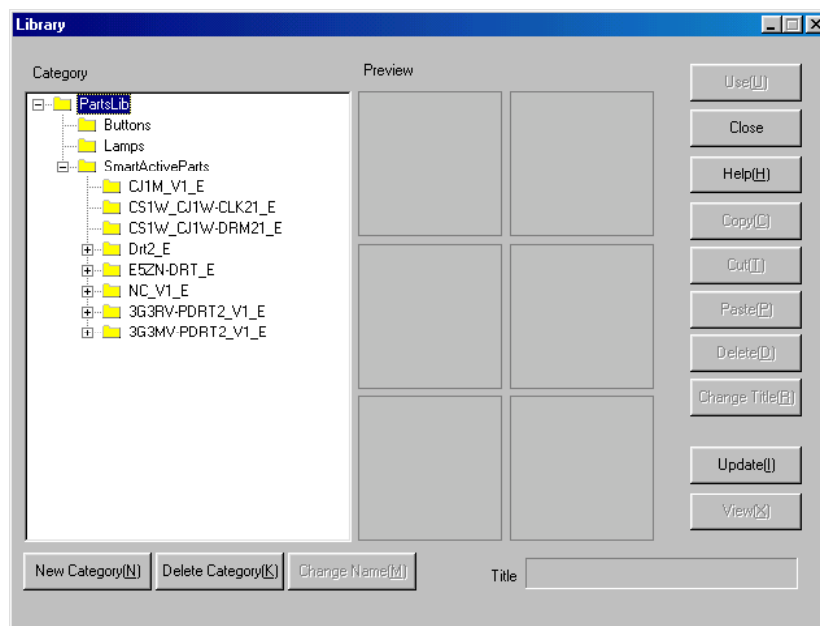


2. Select the desired Smart Active Parts

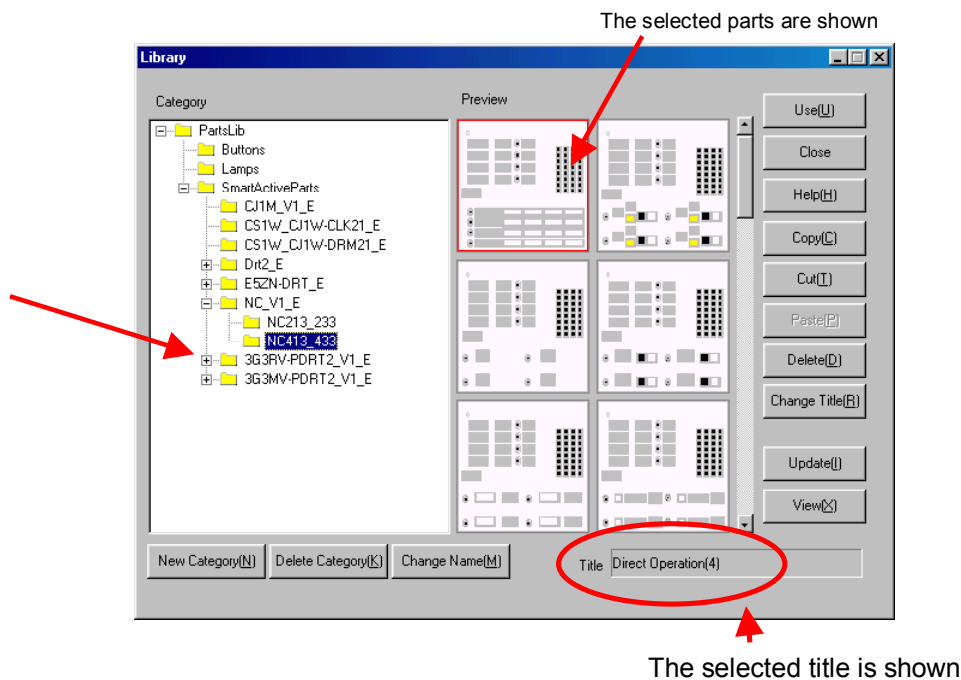
When selecting Use Library, the following Library dialog box appears.



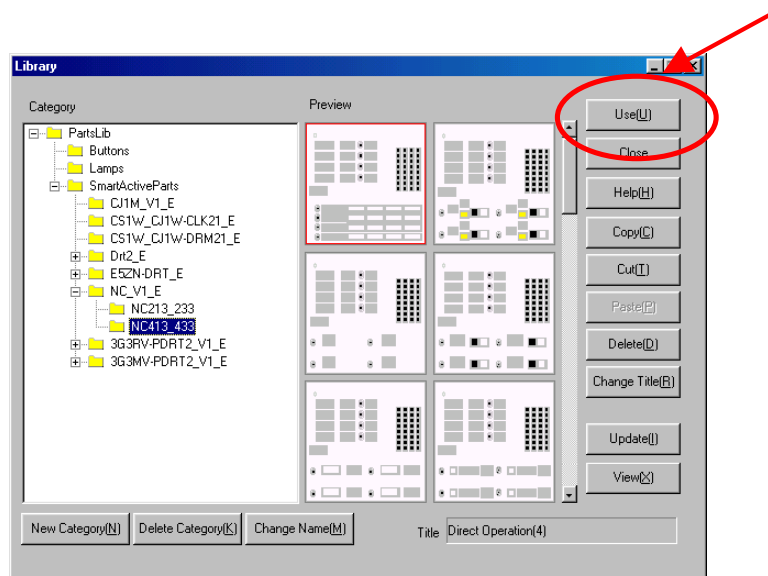
When double clicking on the SmartActiveParts folder in the list box of Category, the installed device libraries will appear.



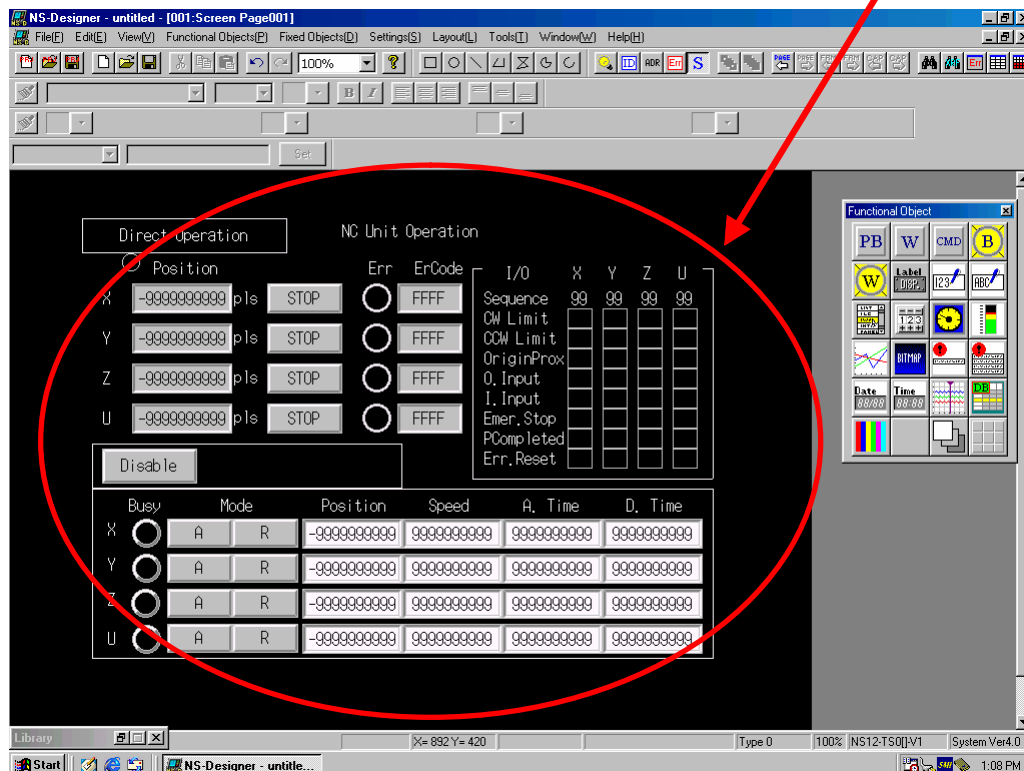
Select the desired device folder under the SmartActiveParts, and then libraries relating to the selected device will be displayed in thumbnail-size images. Click the thumbnail-size image to show the desired Smart Active Parts. The title of the selected Smart Active Parts will be shown in the title field at the bottom of the dialog.



3. Select the desired library in the preview box and click the Use button at the top right of the dialog box.



4. When clicking the Use button, the selected Smart Active Parts will be pasted on the top left of top left of the screen.



5. Communication settings

Click the Smart Active Parts after pasting it on the screen. Smart Active Parts Communication Setting dialog box appears. Make the settings for the following items.

No.	Item	Details
1	Destination port name of commands	Selects the port name of PT connected to the PLC
2	Destination Unit No.	Sets Unit No. or Match No., such as NC Unit * Make sure that the number must be 16 or higher for CPU Bus unit and 32 or higher for Special I/O unit.
3	DeviceNet/Serial/ Slave Address	e.g.) Check if the selected Smart Active Parts is DeviceNet Slave and then set the address. (In case the Smart Active Parts needs to use the serial Communication Board/Unit the "Device Net Slave address" will be for Serial Communication Board/Unit.

Device Library Communication Setting

Destination Address

Input the Destination Address.

Destination port name of commands(H) SerialA

Destination Network Address(N) 0

Destination Node Address(O) 0

Destination Unit No.(U) 0

(Input the following value depending on the unit you want to use.)

CPU Unit	:0 (Fixed)
CPU BUS Unit	:Unit No. +16
Special I/O Unit	:Machine No. +32

☐ Device Net Slave Node Address(D) 0

OK Cancel

In a series of sharing Smart Active Parts have been completed.
Refer to Section 3 precautions for use of Smart Active Parts.

Precautions for Use of Smart Active Parts

Please note that the following precautions when using Smart Active Parts.

2-3 Operation Environment

1. NS-Designer Ver.6.0 is required.
2. Project data version 5.0 or later (version shown beside the System Version in the Project Property dialog under Settings in the NS-Designer) is required for operating project (screen data).
3. When connecting the PLC and PT by a Serial network (1:N NT Links), set **NT/PC Link Max** on the **Settings-Host Link Port** tab Page in the CX-Programmer to a value greater than 1.

2-4 Precautions for use of Smart Active Parts

Smart Active Parts have the following restrictions unlike other functional objects, such as buttons and lamps.

1. Smart Active Parts cannot be copied, pasted, or cut.
To place the same Smart Active Parts more than one, select **Tools-Use Library** and click the desired sample.
2. Screens contained Smart Active Parts cannot be duplicated or deleted in the Screen Maintenance.
Delete the Smart Active Parts first and then perform screen maintenance.
3. For some types of Smart Active Parts, there are limits of which version to use. For example, 'Use NS system Version 5.0 or later'. In this example, the library uses functions supported from NS system Version 5.0 and will not work with former version. Refer to the manual of each Smart Active Part for more details.

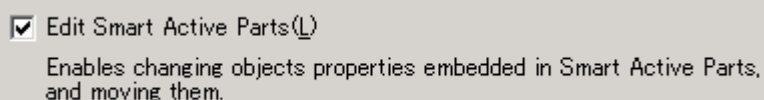
Remarks

When using this Smart Active Parts, be sure to select **Setting-System Setting** in the menu bar, press the **System Memory List** on the Initial Tab Page, and select **Basic Operation** for \$SB.

Section 3 Precautions for Editing Smart Active Parts

Please note that the following precautions when using Smart Active Parts.

To edit Smart Active Parts, check the Edit Smart Active Parts in the Edit/Disp tab of Options dialog box under the Tools.



Smart Active Parts cannot be edited without checking it.

To edit objects grouped as Smart Active Parts, double click on the desired object. The appropriate property dialog box now can be displayed and you can edit it.

Color and text attribute set for Smart Active Parts cannot be copied.

1. Size, position, color and text attribute for objects grouped as Smart Active Parts can be edited.
2. The Expansion Tab in the Property Edit for the Smart Active Parts cannot be displayed.

PLC

1.1. CPU

1.1.1 Error Log

Unit type	CS/CJ	Storage directory	SmartActiveParts_E\PLC\CS_CJ\CS_CJCommunication	Title	Error Log
Function	Displays the error log of the CPU Unit.				
Display and Operation Details					
<div><div><div>CPU Unit Status Display</div><div>Error Log</div></div><div><div><div><div></div><div>Date of occurred</div><div>Error</div><div>Code1</div><div>Code2</div></div><div><div><div></div><div>04.02.06 17:05:23</div><div>Battery Error</div><div>00F7</div><div>0000</div></div><div><div><div></div><div>04.02.06 14:27:12</div><div>I/O Verification Error</div><div>00E7</div><div>0000</div></div><div><div><div></div><div></div><div></div><div>0000</div><div>0000</div></div><div><div><div></div><div></div><div></div><div>0000</div><div>0000</div></div><div><div><div></div><div></div><div></div><div>0000</div><div>0000</div></div></div><div><div>Previous</div><div>Next</div><div>Read</div><div>Error Cancel</div></div></div><div><div>2</div><div>3</div><div>4</div><div>5</div></div></div></div></div></div></div></div>					
No.	Item	Setting/display	Description		
1	Error Log	Display	Displays the five latest errors in descending chronological order. By scrolling the page, 20 errors in total will be displayed. Present errors: Present errors are displayed with red indicators. Date occurred: The date and time of each error that occurred are displayed. Error: Descriptions of errors are displayed. Code: Error codes are displayed. Detailed code: Detailed error codes are displayed.		
2	Previous	Setting	Displays the previous page (for newer errors). If the present page displays the latest error, this button will be disabled.		
3	Next	Setting	Displays the next page (for older errors). If the present page displays the oldest error, this button will be disabled.		
4	Read	Setting	Reads and displays the error log in descending chronological order.		
5	Error Cancel	Setting	Deletes the error log.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation for \$SB.					
* Do not use the above display for the start screen.					
* Use this display in system version 5 or higher version.					
* This cannot be used with CSID (Redundant checkup error message cannot be displayed.)					

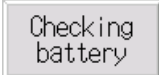
1.1.2 Time Data

Unit type	CS/CJ	Storage directory	SmartActiveParts_E\PLC\CS_CJ\CS_CJComm on	Title	Time data																							
Function	Displays time data from the CPU Unit.																											
Display and Operation Details																												
<table><tr><th colspan="2">CPU Unit Status Display</th><th>Date</th></tr><tr><td>1</td><td>Time:</td><td>04.02.12.</td><td>11:04:40</td></tr><tr><td>2</td><td>Start-up Time:</td><td>--.--.12.</td><td>09:00:13</td></tr><tr><td>3</td><td>Power Interruption:</td><td>--.--.12.</td><td>21:13:03</td></tr><tr><td>4</td><td>Program overwritten:</td><td>04.01.06.</td><td>17:33:26</td></tr><tr><td>5</td><td>Parameter overwritten:</td><td>04.01.07.</td><td>18:40:01</td></tr></table>						CPU Unit Status Display		Date	1	Time:	04.02.12.	11:04:40	2	Start-up Time:	--.--.12.	09:00:13	3	Power Interruption:	--.--.12.	21:13:03	4	Program overwritten:	04.01.06.	17:33:26	5	Parameter overwritten:	04.01.07.	18:40:01
CPU Unit Status Display		Date																										
1	Time:	04.02.12.	11:04:40																									
2	Start-up Time:	--.--.12.	09:00:13																									
3	Power Interruption:	--.--.12.	21:13:03																									
4	Program overwritten:	04.01.06.	17:33:26																									
5	Parameter overwritten:	04.01.07.	18:40:01																									
No.	Item	Setting/display	Description																									
1	Time	Display	Displays the present time.																									
2	Start-up Time	Display	Displays the startup time. The year and month are always "--.--"																									
3	Power Interruption	Display	Displays the time of the previous interruption. The year and month are always "--.--"																									
4	Program overwritten	Display	Displays the date and time that the program was overwritten. The CS1-V1 always 0.																									
5	Parameter overwritten	Display	Displays the date and time that the parameter was overwritten. The CS1-V1 always 0.																									
Remarks																												
* When using this SMART Active Part, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation for \$SB.																												
* Do not use the above display for the start screen.																												
* Use this display in system version 5.																												

1.1.3 Cycle Time Data

Unit type	CS/CJ	Storage directory	SmartActiveParts_E\PLC\CS_CJ\CS_CJComm on	Title	Cycle time data
Function	Displays the cycle time of CPU Unit.				
Display and Operation Details					
<div><div>CPU Unit Status Disply</div><div>Cycle Time</div><div>1 → Present Cycle Time3.3ms</div><div>2 → Maximum Cycle Time10.0ms</div></div>					
No.	Item	Setting/display	Description		
1	Present Cycle Time	Display	Displays the present cycle time.		
2	Maximum Cycle Time	Display	Displays the maximum cycle time.		
Remarks					

1.1.4 Battery Replacement

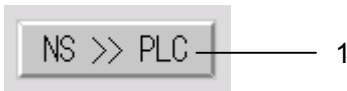
Unit type	CS/CJ	Storage directory	SmartActiveParts_E\PLC\CS_CJ\CS_CJComm on	Title	Battery replacement switch
Function	Makes battery check and replacement settings.				
Display and Operation Details					
<div>1 → </div>					
No.	Item	Setting/ display	Description		
1	Checking battery	Setting/ display	Makes battery check and replacement settings. Battery check in progress: Checks the battery. The button is displayed in gray. Battery replacement in progress: The battery is not checked. The button is lit in yellow.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation for \$SB.					
* Do not use the above display for the start screen.					

CJ1M (from Ver5 or Earlier)

1.1.5 Settime PLC→NS

Model	CJ1M	Location	SmartActiveParts_E\PLC\Ver5orEarlier	Title	Settime PLC→NS
Function	Sets time and date information (year, month, date, time, minute, and second) in the PLC to the internal clock of PT.				
<div>[Image]</div> <div><div><div>PLC >> NS</div><div>1</div></div></div>					
No.	Item	Setting/Display	Details		
1	PLC >> NS	Setting	Sets time and date information (year, month, date, time, minute, and second) in the PLC to the internal clock of PT. A day of the week is calculated by date information in the PT. If a day of the week and date set in the PLC are not matched, a day of the week calculated by date will be reflected to the PT so date information for PLC and PT may vary according to preset data in the PLC.		
<div>[Note]</div> <div>CS/CJ Series PLCs are supported.</div>					

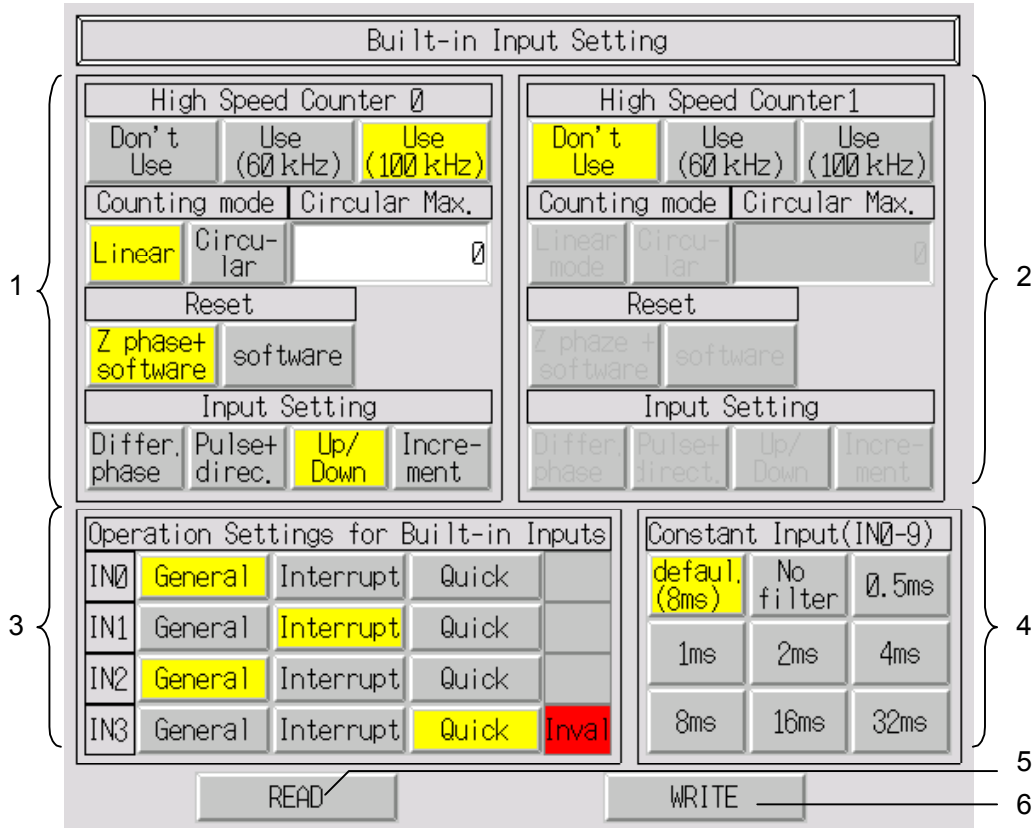
1.1.6 Settime PLC→NS

Model	CJ1M	Location	SmartActiveParts_E\PLC\Ver5orEarlier	Title	Settime PLC→NS
Function	Sets time and date information (year, month, date, time, minute, and second) in the PT to the internal clock of PLC.				
[Image]					
<div></div>					

1.1.7 Built-in Input Setting

Model	CJ1M	Location	SmartActiveParts_E\PLC\Ver5orEarlier	Title	Built-in Input Setting
Function	Allocate General Input, Interrupt Input, Quick, or High Speed Counter to bits (from 00 to 09 bits of 2960 words) for CPU Unit Built-in Input.				

[Image]



No.	Item	Setting/Display	Details
1	High Speed Counter 0	Setting	Makes the settings for High Speed Counter 0.
2	High Speed Counter 1	Setting	Makes the settings for High Speed Counter 1.
3	Input Operation Settings for Built-in Inputs	Setting	Makes the settings for Built-in Inputs IN 0 to 3.
4	Constant Input	Setting	Sets constant when performing general input
5	Read	Setting	Reads information set in the PLC and display it on the screen
6	Write	Setting	Writes settings in the screen to the PLC

[Note]

When Z phase and software reset are selected in the Input Setting for High Speed Counter 0, Z phase (reset input) will be allocated to IN3.

When Z phase and software reset are selected in the Input Setting for High Speed Counter 1, Z phase (reset input) will be allocated IN2.

1.1.8 Define Origin 1, Define Origin 2

Model	CJ1M	Location	SmartActiveParts_E\PLC\Ver5orEarlier	Title	Define Origin 1, Define Origin 2
Function	Makes settings for Origin Search function and Origin Return function.				
[Image]					

No.	Item	Setting/Display	Details
1	Origin Search	Setting	Sets whether the Pulse Output 0/1 Origin Search is used or not.
2	Parameters for Origin Search	Setting	Sets parameters used for Origin Search.
3	Parameters for Origin Return	Setting	Sets parameters used for Origin Return.
4	Read	Setting	Reads information set in the PLC and display it on the screen
5	Write	Setting	Writes settings in the screen to the PLC

[Note]
 When selecting ON for Pulse Output 0 Origin Search, interrupt input 0 and 1, PMW output o cannot be used. However, those can be used for High Speed Counter 0 and 1.
 When selecting ON for Pulse Output 1 Origin Search, it occupies IN2, IN3, and OUT5 besides pulse output so it cannot be used for other functions.

Communication Unit

Communication Unit

1.1 Serial Communications

1.1.1 Serial Port Settings (Board)

Unit type	CS1W-SCB21-V1 CS1W-SCB41-V1	Storage directory	SmartActiveParts_E\CommUnit\SERIAL\SCB	Title	Serial Port Settings (Board)
Function	Makes serial port settings for the Serial Communications Board (SCB).				
Display and Operation Details					
<div><div>Serial Port Setting(Board)</div><div><div>1 → Port 2 V</div><div>2 → Read Transfer ← 6</div><div>3 → Mode: No protocol V Default ← 7</div><div>4 { Start bit: 1 bit Parity: Even V Stop bit: 2 bit V Baud Rate: 9600 bit/s V Data bit: 7 bit V</div><div>5 { Send Delay Time: 0 ×10 ms CTS Control: None V Start code: None V End code: None V Data reception Volume: 256 Byte</div></div></div>					
No.	Item	Setting/display	Description		
1	Port	Setting	Selects the port. The initial screen displays port 1, and the mode, communications settings, and detailed settings of port 1 are read.		
2	Read	Setting	Reads the mode, communications settings, and detailed settings of the selected port.		
3	Mode	Setting/display	Selects the mode. Displayed communications and detailed setting items vary with the selected mode.		
4	Communications settings	Setting/display	Makes communications settings. The details of communications settings vary with the mode. Baud rate: Protocol macro mode: 1,200 to 38,400 bps NT Link: Standard NT Link or high-speed NT Link Others: 1,200 to 115,200 bps In the NT Link, only the baud rate can be set.		
5	Detailed settings	Setting/display	Makes detailed settings. Detailed setting items vary with the mode. Host Link: Send delay time, CST control, and Host Link Unit No. Specify Frame format and Protocol for 1:1/1:N Protocol macro: Communications system and max. number of send data bytes, Receive Buffer clear setting, Data switching timing, Send delay time, CTS control, response timeout and Send start timeout time. NT Link: Max. 1:N NT Link Unit No. Serial Gateway: Send delay time, CST control, and response timeout time No protocol: Send delay time, CST control, start code, and end code Makes detailed settings. Detailed setting items vary with the Mode. Host Link: Send delay time, CST control, and Host Link Unit No. Protocol macro: Communications system and max. number of send data bytes NT Link: Max. 1:N NT Link Unit No. Serial Gateway: Send delay time, CST control, and response timeout time No protocol: Send delay time, CST control, start code, and end code		

Remarks

- * When using this Smart Active Part, be sure to select **Setting - System Setting** in the menu bar, press the **System Memory List** on the Initial Tab Page, and select **Basic Operation** for \$SB. Smart Active Parts cannot be used on the pop-up screen.
- * Use this display in system version 5.
- * Do not use the above display for the start screen.
- * To restart the port, use the Smart Active Part explained in *5.2.3 Board Port Restart*.
- * When the Smart Active Part is reused, no unit number designation will be required.
- * Number of frame: 2.

1.1.2 Serial Port Settings (Unit)

Unit type	CS1W-SCU21-V1 CJ1W-SCU21-V1 CJ1W-SCU41-V1	Storage directory	SmartActiveParts_E\Com mmUnit\SERIAL\SCU	Title	Serial Port Unit Settings
Function	Makes serial port settings for the Serial Communications Unit (SCU).				
Display and Operation Details					
<div><div>Serial Port Setting(Unit)</div><div><div>1 → Port 1 V</div><div>2 → Read Transfer</div><div>3 → Mode: Serial Gateway V Default → 7</div><div>4 { Start bit: 1 bit Parity: Even V Stop bit: 2 bit V Baud Rate: 9600 bit/s V Data bit: 7 bit V</div><div>5 { Send Delay Time: 0 ×10 ms CTS Control: None V Response Timeouts: 50 ×100 ms</div><div>6 ←</div></div></div>					
No.	Item	Setting/ display	Description		
1	Port	Setting	Selects the port. The initial screen displays port 1, and the mode, communications settings, and detailed settings of port 1 are read.		
2	Read	Setting	Reads the mode, communications settings, and detailed settings of the selected port.		
3	Mode	Setting/ display	Selects the mode. Displayed communications and detailed setting items vary with the selected mode.		
4	Communications settings	Setting/ display	Makes communications settings. The details of communications settings vary with the mode. Baud rate: Protocol macro mode: 1,200 to 38,400 bps NT Link: Standard NT Link or high-speed NT Link Others: 1,200 to 115,200 bps In the NT Link, only the baud rate can be set.		
5	Detailed settings	Setting/ display	Makes detailed settings. Detailed setting items vary with the mode. Host Link: Send delay time, CST control, and Host Link Unit No. Specify Frame format and Protocol for 1:1/1:N Protocol macro: Communications system and max. number of send data bytes Buffer clear setting, Data switching timing, Send delay time, CTS control, Response timeout, and Send start timeout time. NT Link: Max. 1:N NT Link Unit No. Serial Gateway: Send delay time, CST control, and response timeout time No protocol: Send delay time, CST control, start code, and end code		
6	Transfer	Setting/ display	Transfers the settings to the CPU Unit. After the settings are transferred, the result will be displayed (transfer OK or transfer failed). If the transfer was OK, a message box will appear to prompt the user to restart the port. To restart the port, use the SMART Active Parts provided for this purpose separately.		
7	Default settings	Setting	Makes default settings for the selected mode.		
Remarks					
* When using this Smart Active Part, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation for \$SB. Smart Active Parts cannot be used on the popup screen.					
* Use this display in system version 5.					
* Do not use the above display for the start screen.					
* To restart the port, use the Smart Active Parts explained in 5.2.3 <i>Unit Port Restart</i> .					
* When the Smart Active Parts is reused, the unit number designation will be required.					
* Number of frame: 2.					

1.1.3 Port Restart (Board)

Unit type	CS1W-SCB21-V1 CS1W-SCB41-V1	Storage directory	SmartActiveParts_E\CommUnit\SERIAL\SCB	Title	Port restart (Board)
Function	Restarts a port on a Serial Communications Board (SCB).				
Display and Operation Details					
<div><div>1</div> → Port No. <div>1</div> <div>V</div> <div>Port Reset</div> <div>Exit</div> ← <div>3</div><div>2</div> ↑</div>					
No.	Item	Setting/display	Description		
1	Port No.	Setting	Selects the port number.		
2	Port Reset	Setting	Restarts the selected port.		
3	Exit	Display	The display will light in green when the selected port has been restarted normally.		
Remarks					
* When using this Smart Active Parts, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation and Date and Time for \$SW . Smart Active Parts cannot be used on the popup screen.					
* Do not use the above display for the start screen.					
* When the Smart Active Parts is reused, no unit number designation will be required.					

1.1.4 Port Restart (Unit)

Unit type	CS1W-SCU21-V1 CJ1W-SCU21-V1 CJ1W-SCU41-V1	Storage directory	SmartActiveParts_E\CommUnit\SERIAL\SCU	Title	Port restart (unit)
Function	Restarts a port on a Serial Communications Unit (SCU).				
Display and Operation Details					
<p>The diagram illustrates the sequence of screens for the Port Restart function. It consists of four screens: 1. 'Unit No.' screen with a numeric keypad and a 'V' button. 2. 'Port No.' screen with a numeric keypad showing '1' and a 'V' button. 3. 'Port Reset' screen. 4. 'Exit' screen. Arrows indicate the flow: 1 to 2, 2 to 3, 3 to 4, and 4 back to 1.</p>					
No.	Item	Setting/display	Description		
1	Unit No.	Setting	Selects the unit number of the Serial Communications Unit.		
2	Port No.	Setting	Select the port number.		
3	Port Rest	Setting	Restarts the selected port.		
4	Exit	Display	The display will light in green when the port has been restarted normally.		
Remarks					
* When using this Smart Active Parts, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation and Date and Time for \$SW . Smart Active Parts cannot be used on the popup screen.					
* Do not use the above display for the start screen.					
* When the Smart Active Parts is reused, no unit number designation will be required.					

1.1.5 Protocol Transfer Enable (Board)

Unit type	CS1W-SCB21-V1 CS1W-SCB41-V1	Storage directory	SmartActiveParts_E\CommUnit\SERIAL\SCB	Title	Protocol transfer enable (board)
Function	Enables or disables protocol transfer for the Serial Communications Board (SCB).				
Display and Operation Details					
<div><div>1 →</div><div>2 →</div><div><div>Port No.</div><div>1</div><div>V</div><div>Transfer</div><div>Disable</div></div></div>					
No.	Item	Setting/ display	Description		
1	Port No.	Setting	Selects the port number.		
2	Transfer	Setting	Enables or disables protocol transfer. The display will be lit in yellow if transfer is enabled. Setting changes will be possible only if the port mode is set to serial gateway. An error message will be displayed for all other modes.		
Remarks					
<ul style="list-style-type: none">* When using this Smart Active Parts, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation and Date and Time for \$SW. Smart Active Parts cannot be used on the popup screen.* Do not use the above display for the start screen.* When the Smart Active Part is reused, no unit number designation will be required.					

1.1.6 Protocol Transfer Enable (Unit)

Unit type	CS1W-SCU21-V1 CJ1W-SCU21-V1 CJ1W-SCU41-V1	Storage directory	SmartActiveParts_E\CommUnit\SERIAL\SCU	Title	Protocol transfer enable (unit)
Function	Enables or disables protocol transfer for the Serial Communications Unit (SCU).				
Display and Operation Details					
<div><div>1 →</div><div>2 →</div><div><div>Port No.</div><div>1</div><div>V</div><div>Transfer</div><div>Disable</div></div></div>					
No.	Item	Setting/ display	Description		
1	Port No.	Setting	Selects the port number.		
2	Transfer	Setting	Enables or disables protocol transfer. The display will be lit in yellow if the transfer is enabled. Setting changes will be possible only if the port mode is set to serial gateway. An error message will be displayed for all other modes.		
Remarks					
<ul style="list-style-type: none">* When using this Smart Active Parts, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation and Date and Time for \$SW. Smart Active Parts cannot be used on the popup screen.* Do not use the above display for the start screen.* When the Smart Active Parts is reused, the unit number designation will be required.					

1.1.7 Status Read (Board)

Unit type	CS1W-SCB21-V1 CS1W-SCB41-V1	Storage directory	SmartActiveParts_E\CommUnit\SERIAL\SCB	Title	Status read (board)
Function	Displays the network operating status of a Serial Communications Board (SCB).				
Display and Operation Details					
<div><div><div><div>Read Status (Board)</div><div><div>1 → Port1 V</div><div>2 → Mode: Host Link</div><div>3 {<div><div>Err EEPROM Normal</div><div>ProtocolData Normal</div><div>Port setting<div>Setup Normal</div><div>Port status Stopped</div></div><div>Communications<div>Remote unit Ready</div><div>Local unit Ready</div></div><div>Signal status<div>ER signal Low</div><div>DR signal Low</div><div>CS signal Low</div><div>RS signal Low</div></div></div><div><div>Transmission Error</div><div>Transmit Normal</div><div>Monitoring time<div>Sent -</div><div>Received -</div><div>Ready -</div><div>Retries -</div><div>FCS checkerr -</div><div>Command err -</div><div>Overrun err None</div><div>Framing err None</div><div>Parity err None</div></div><div><div>Protocol status</div><div>Protocol macro execut. fla -</div><div>Step troubleshooting flag -</div><div>Aborted flag -</div><div>Tracing flag -</div><div>Sequence end completion -</div><div>Seque. aborted completion -</div><div>Sequence waiting flag -</div><div>Error code -</div><div>Executed step number -</div><div>Executed reception case No -</div><div>Exe. recept. case No. storage -</div><div>Executed step No. storage -</div><div>Repeat counter setting val -</div><div>Repeat counter present val -</div></div></div><div>6 →</div><div>5 ←</div><div>4 ↑</div></div></div></div></div></div>					
No.	Item	Setting/ display	Description		
1	Port	Setting	Selects the port.		
2	Mode	Display	Displays the mode of the selected port.		
3	Common status	Display	Displays error log data, protocol data, port settings, communications status, and the status of the transfer control signal.		
4	Transmission Error	Display	Displays the status of transmission errors. The displayed contents vary with the mode. Host Link: Only send errors, overrun errors, framing errors, and parity errors are displayed. No other items are displayed (-). Protocol macro: All items are displayed. NT Link: No display (-) Serial gateway: All items are displayed. No protocol: All items are displayed.		
5	Protocol status	Display	Displays the protocol status. The displayed contents vary with the mode. Host Link: No display (-) Protocol macro: Displays the protocol macro status. NT Link: No display (-) Serial gateway: No display (-) No protocol: Displays the status of no protocol.		
6	Read indicator	Display	Data other than ON/OFF data is read every second. This indicator lights yellow when data is read.		
Remarks					
* When using this Smart Active Parts, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation and Date and Time for \$SW . Smart Active Parts cannot be used on the popup screen.					
* Do not use the above display for the start screen.					
* Use this display in system version 5.					
* When the Smart Active Parts is reused, no unit number designation will be required.					

1.1.8 Status Read (Unit)

Unit type	CS1W-SCU21-V1 CJ1W-SCU21-V1 CJ1W-SCU41-V1	Storage directory	SmartActiveParts_E\Co mmUnit\SERIAL\SCU	Title	Status read (unit)
Function	Displays the network operating status of a Serial Communications Unit (SCU).				
Display and Operation Details					
<div><div><div><div>1 → Port1 V</div><div>2 → Mode: Host Link</div></div><div><div>3 {<div>Err EEPROMNormal</div><div>ProtocolDataNormal</div><div>Port setting<div>SetupNormal</div><div>Port statusStopped</div></div><div>Communications<div>Remote unitReady</div><div>Local unitReady</div></div><div>Signal status<div>ER signalLow</div><div>DR signalLow</div><div>CS signalLow</div><div>RS signalLow</div></div></div><div><div>Transmission Error<div>TransmitNormal</div><div>Monitoring time<div>Sent- Received- Ready-</div><div>Retries- FCS checkerr- Command err- Overrun errNone Framing errNone Parity errNone</div></div></div><div><div>Protocol status<div>Protocol macro execut.flag- Step troubleshooting flag- Aborted flag- Tracing flag- Sequence end completion- Seque. aborted completion- Sequence waiting flag- Error code- Executed step number- Executed reception case No- Exe.recept.case No.storage- Executed step No.storage- Repeat counter setting val- Repeat counter present val-</div></div></div></div><div>6 →</div><div>5 →</div><div>4 →</div></div></div></div>					
No.	Item	Setting/ display	Description		
1	Port	Setting	Selects the port.		
2	Mode	Display	Displays the mode of the selected port.		
3	Common status	Display	Displays the error log data, protocol data, port settings, communications status, and the status of the transfer control signal.		
4	Transmission Error	Display	Displays the status of transmission errors. The displayed contents vary with the mode. Host Link: Only send errors, overrun errors, framing errors, and parity errors are displayed. No other items are displayed (-). Protocol macro: All items are displayed. NT Link: No display (-) Serial gateway: All items are displayed. No protocol: All items are displayed.		
5	Protocol status	Display	Displays the protocol status. The displayed contents vary with the mode. Host Link: No display (-) Protocol macro: Displays the protocol macro status. NT Link: No display (-) Serial gateway: No display (-) No protocol: Displays the status of no protocol.		
6	Read indicator	Display	Data is read every second. This indicator lights yellow when data is read.		
Remarks					
* When using this Smart Active Parts, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation and Date and Time for \$SW . Smart Active Parts cannot be used on the popup screen.					
* Do not use the above display for the start screen.					
* Use this display in system version 5.					
* When the Smart Active Part is reused, the unit number designation will be required.					
* Number of frame: 2.					

1.2 Ethernet

1.2.1 Error Status Display

Unit type	CS1W-ETN21 CJ1W-ETN21	Storage directory	SmartActiveParts_E\CommUnit\ETHERNET	Title	Error status display
Function	Displays the error status of the Ethernet Unit.				
Display and Operation Details					
<div><div>1</div><div>2</div><div><div>Ethernet Unit Error Status Display</div><div>Network ad.: 0Node ad.: 1Read</div><div><div>4 {<div><div>IP address settinNormal</div><div>IP address tableNormal</div><div>IP router tableNormal</div><div>DNS server errorNormal</div><div>Routing table errNormal</div><div>SNTP server errorNormal</div><div>SMTP server errorNormal</div><div>POP server errorNormal</div><div>Ad.disagreementNormal</div><div>EEPROM errorNormal</div></div></div></div></div><div>3</div></div>					
No.	Item	Setting/display	Description		
1	Network ad	Setting	Sets the network address of the Ethernet Unit.		
2	Node ad	Setting	Sets the node address of the Ethernet Unit.		
3	Read	Setting	Reads and displays the status.		
4	Status	Display	Displays status. Normal: The display is in gray. Error: The display is red.		
Remarks					
* When using this Smart Active Parts, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation for \$SB. Smart Active Parts cannot be used on the popup screen.					
* Do not use the above display for the start screen.					
* When the Smart Active Parts is reused, set the unit number to 254.					

1.2.2 Network Status Monitor

Unit type	CS1D-ETN21D	Storage directory	SmartActiveParts_E\CommUnit\ETHERNET	Title	Network status monitor																																																																																																																																
Function	Displays the network status of the Ethernet Unit.																																																																																																																																				
Display and Operation Details																																																																																																																																					
<div><div>Ethernet Duplex CPU System Network Status Monitor</div><div><div>1 → Mode</div><div>Duplex Mode</div><div>Simplex mode</div></div><div><div>2 → System</div><div>Primary unit</div><div>Secondary unit</div></div><div><div>3 → Status</div><div>Participating</div><div>Not participating</div></div><div><div>4 {</div><div><table><tr><td colspan="4">1 to 64</td><td colspan="4">65 to 128</td><td colspan="4">129 to 192</td><td colspan="4">193 to 254</td></tr><tr><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td><td>32</td><td>31</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>50</td><td>49</td><td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>64</td><td>63</td><td>62</td><td>61</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table></div></div></div>						1 to 64				65 to 128				129 to 192				193 to 254				10	9	8	7	6	5	4	3	2	1							20	19	18	17	16	15	14	13	12	11							30	29	28	27	26	25	24	23	22	21							40	39	38	37	36	35	34	33	32	31							50	49	48	47	46	45	44	43	42	41							60	59	58	57	56	55	54	53	52	51													64	63	62	61						
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						64	63	62	61																																																																																																																												
No.	Item	Setting/ display	Description																																																																																																																																		
1	Mode	Display	Displays the mode of the local node. Duplex Mode: Displayed in green when the Unit is in Duplex Mode. Simplex Mode: Displayed in orange when the Unit is in Simplex Mode.																																																																																																																																		
2	System	Display	Displays the system of the local node only when the system is in duplex mode. Primary Unit: Displayed in green when the Unit is set as the Primary Unit. Secondary Unit: Displayed in orange when the Unit is set as the Secondary Unit.																																																																																																																																		
3	Status	Display	Displays the network status of the local node only when the system is in duplex mode. Participating: Displayed in green when the Unit is participating in the network. Not participating: Displayed in red when the Unit is separated from the network.																																																																																																																																		
4	Participation status	Display	Displays the network status of nodes 1 to 254 only when the status is participating. Participating: Numbers of nodes participating in the network are displayed in green. Not participating: Numbers of nodes separated from the network are displayed in gray.																																																																																																																																		
Remarks																																																																																																																																					
* Items are refreshed every second.																																																																																																																																					
* When using this Smart Active Parts, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation for \$SB. Smart Active Parts cannot be used on the popup screen.																																																																																																																																					
* Do not use the above display for the start screen.																																																																																																																																					
* Use this display in system version 5.																																																																																																																																					
* When the Smart Active Part is reused, the unit number must be specified.																																																																																																																																					
* Number of frame: 1.																																																																																																																																					

1.2.3 Duplex Error Status Display

Unit type	CS1D-ETN21D	Storage directory	SmartActiveParts_E\CommUnit\ETHERNET	Title	Duplex error status display
Function	Displays the error status of the Ethernet Duplex Unit				
Display and Operation Details					
<div><div><div>1</div><div>2</div><div>3</div><div>4</div></div><div><div>Ethernet Duplex CPU System Error Status Display</div><div>Network ad.: 1Node ad.: 3Read</div><div><div>IP address settinNormalRouting table errNormal</div><div>IP address tableNormalAdd. disagreementNormal</div><div>IP router tableNormalEEPROM errorNormal</div></div></div></div>					
No.	Item	Setting/display	Description		
1	Network ad	Setting	Sets the network address for the Ethernet Unit.		
2	Node ad	Setting	Sets node address for the Ethernet Unit.		
3	Read	Setting	Reads and displays the status.		
4	Status	Display	Displays status. Normal: The display is in gray. Error: The display is red.		
Remarks					
* When using this Smart Active Parts, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation for \$SB. Smart Active Parts cannot be used on the popup screen.					
* Do not use the above display for the start screen.					
* When the Smart Active Parts is reused, set the unit number to 254.					

1.3 Controller Link

1.3.1 Controller Link Network Status Monitor (for 32 Nodes)

Unit type	CS1W-CLK21 CJ1W-CLK21 CS1W-CLK21-V1 CJ1W-CLK21-V1	Storage directory	SmartActiveParts_E\CommUnit\CLK	Title	Controller Link network status monitor
Function	Monitors the communications status of a Controller Link network for 32 nodes.				
Display and Operation Details					
<div><div><div>1</div><div>2</div></div><div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div></div><div><div>Controller Link Network Status Monitor</div><div>Polling Node 1Startup Node 1</div><div>Local SettinUnit No. ##Network Add. ##Node Add. ##</div><div>Local Data Link ParticipatParti. Not (inactive)</div><div>Node Address12345678910111213141516</div><div>Network Participation</div><div>Data LinkParticipation</div><div>Communications Error</div><div>Node Address17181920212223242526272829303132</div><div>Network Participation</div><div>Data LinkParticipation</div><div>Communications Error</div></div></div>					
No.	Item	Setting/display	Description		
1	Polling Node	Display	Displays the Controller Link network polling node number.		
2	Startup Node	Display	Displays the Controller Link network startup node number.		
3	Local Settin	Display	No default items are displayed in particular. Define network settings for the application when creating the screen.		
4	Local Data Link Participat	Display	Displays the status of data link participation of the local node.		
5	Network Participation	Display	Displays the status of network participation of each node. The indicator for the node will be lit in green if it is participating in the network.		
6	Data link Participation	Display	Displays the status of data link participation of each node. The indicator for the node will be lit in green if it is participating in the data link.		
7	Communications Error	Display	Displays the communications error of each node. The indicator for the node will be lit in red if there is a communications error.		
Remarks					
* When the Smart Active Parts is reused, the unit number must be specified.					

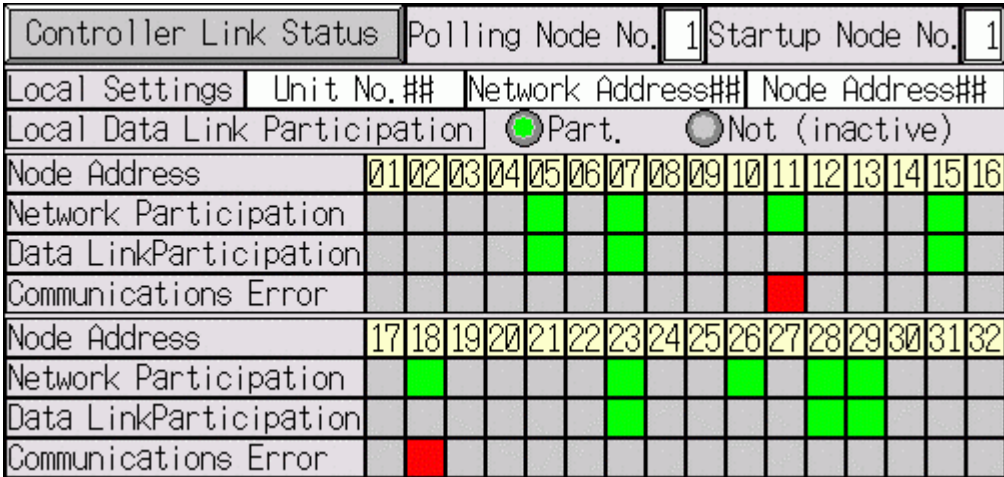
1.3.2 Controller Link Network Station Monitor (for 62 Nodes)

Unit type	CS1W-CLK21-V1 CJ1W-CLK21-V1	Storage directory	SmartActiveParts_E\CommUnit\CLK	Title	Controller Link network status monitor
Function	Monitors the communications status of a Controller Link network for 62 nodes.				
Display and Operation Details					
<div><div><div>1</div><div>2</div></div><div><div>Controller Link Network status Monitor</div><div>Polling Node <input type="text" value="1"/> Startup Node <input type="text" value="1"/></div><div>3 → Local Settin <input type="text" value="Unit No.##"/> <input type="text" value="Network Add.##"/> <input type="text" value="Node Add.##"/></div><div>4 → Local Data LinkParticipation <input checked="" type="radio"/> Parti. <input type="radio"/> Not (inactive)</div><div><div>5 → Node Address</div><div>6 → Network Participation</div><div>7 → Data LinkParticipation</div><div>Communications Error</div></div><div><div>Node Address</div><div>Network Participation</div><div>Data LinkParticipation</div><div>Communications Error</div></div><div><div>Node Address</div><div>Network Participation</div><div>Data LinkParticipation</div><div>Communications Error</div></div><div><div>Node Address</div><div>Network Participation</div><div>Data LinkParticipation</div><div>Communications Error</div></div><div><div>Node Address</div><div>Network Participation</div><div>Data LinkParticipation</div><div>Communications Error</div></div></div></div>					
No.	Item	Setting/display	Description		
1	Polling Node	Display	Displays the Controller Link network polling node number.		
2	Startup Node	Display	Displays the Controller Link network startup node number.		
3	Local Settin	Display	No default items are displayed in particular. Define network settings for the application when creating the screen.		
4	Local Data Link Participation	Display	Displays the status of data link participation of the local node.		
5	Network Participation	Display	Displays the status of network participation of each node. The indicator for the node will be lit in green if it is participating in the network.		
6	Data Link Participation	Display	Displays the status of data link participation of each node. The indicator for the node will be lit in green if it is participating in the data link.		
7	Communications Error	Display	Displays the communications error of each node. The indicator for the node will be lit in red if there is a communications error.		
Remarks					
* When the Smart Active Part is reused, the unit number must be specified.					

Communication Unit

1.4 Communication Unit (Ver5orEarlier)

1.4.1 CS1W-CLK

Model	CS1W-CLK21 CJ1W-CLK21	Location	SmartActiveParts_E\Com mUnit\Ver5orEarlier\CS1 W_CJ1W-CLK21_V1	Title	Network Status Monitor
Function	Monitors CLK networking status.				
[Image]					
<div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div></div>					
No.	Item	Setting/ Display	Details		
1	Polling Node No.	Display	Displays polling node No. for CLK network.		
2	Startup Node No.	Display	Displays startup node No. for CLK network.		
3	Local Setting	Display	No item is displayed. User can make original settings when creating a screen.		
4	Local Data Link Participation	Display	Displays data link participation status either participate (part.) or not participate (Not).		
5	Network Participation	Display	Displays network participation status by node.		
6	Data Link Participation	Display	Displays data link participation status by node.		
7	Communications Error	Display	Displays whether an error is being occurred by node.		
[Note]					

1.4.2 CS1W-DRM

Model	CS1W-DRM21 CJ1W-DRM21	Location	SmartActiveParts_E\Com mUnit\Ver5orEarlier\CS1W _CJ1W-DRM21_V1	Title	Network Status Monitor																																																																																																																																																																																																																																									
Function	Monitors Device network communication status when using CS1W-DRM/CJ1W-DRM21 as a master.																																																																																																																																																																																																																																													
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1	Registered Slave	Display	Displays slave node address registered in the scan list of the master.																																																																																																																																																																																																																																											
2	Normal Slave	Display	Displays slave node No. which is being communicated normally.																																																																																																																																																																																																																																											
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Motion Control

Motion Control

1.1 Standard Position Control Units

1.1.1 Adjust Operation

Unit type	CS1W-NC113/133/213/233/413/433 CJ1W-NC113/133/213/233/413/433	Storage directory	SmartActiveParts_E\Motion\NC\NC[]3	Title	Adjust Operation
Function	Performs jogging, origin searches, and origin returns.				
<div>Display and Operation Details</div> <div><div><div>3</div><div>5</div></div><div><div>1</div><div>2</div></div><div><div>NC Adjust Operation</div><div>Axis busy Override setting Speed CMD value</div><div><div>Disable</div><div>5</div><div>%</div><div>+JOG</div><div>50000</div><div>pulse/s</div></div><div><div>Axis 1</div><div>Decel stop</div><div>-JOG</div><div>Orig. search</div><div>Orig. return</div></div><div><div>4</div><div>6</div><div>7</div><div>8</div></div></div></div>					
No.	Item	Setting/display	Description		
1	Axis busy	Display	Lights yellow when processing is being performed for the axis.		
2	Axis	Setting	Sets the axis number. The setting ranges are as follows: NC1[]3: Always 1, NC2[]3: 1 to 2, NC4[]3: 1 to 4 Note: Axis 1: X Axis, Axis 2: Y Axis, Axis 3: Z Axis, Axis 4: U axis		
3	Override setting	Setting	Sets an override value and enables and disables the override. (Setting range: 1 to 999)		
4	Deceleration stop	Setting	When pressed, lights yellow and decelerates the motor to a stop. Jogging, origin searches, and origin returns cannot be performed during a deceleration stop.		
5	Speed command value	Setting	Sets the speed. (Setting range: 1 to 500,000 pulse/s)		
6	JOG operation	Setting	When held down, operates the motor in the specified direction. When released, stops motor operation.		
7	Origin search	Setting	When pressed, starts an origin search operation.		
8	Origin return	Setting	When pressed, starts an origin return operation.		
<div>Remarks</div> <div>There are six different version of this SMART Active Part depending on the following area aIStorage directories. NC1[]3: For DM Area aIStorage directories in words for Special I/O Units and for user-set DM Area aIStorage directories NC2[]3: For DM Area aIStorage directories in words for Special I/O Units and for user-set DM Area aIStorage directories NC4[]3: For DM Area aIStorage directories in words for Special I/O Units and for user-set DM Area aIStorage directories</div> <div>* When using this SMART Active Part for the NC2[]3 or NC4[]3, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB. This SMART Active Part cannot be used on pop-up screens.</div> <div>* When using this SMART Active Part with user-set DM Area aIStorage directories, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Address Index for the \$SW.</div> <div>* When using this SMART Active Part for the NC2[]3 or NC4[]3, do not use it on the initial screen.</div> <div>* When using this SMART Active Part for the NC2[]3 or NC4[]3, use system version 5 or higher.</div> <div>* When reusing SMART Active Parts, be sure to set the unit number.</div> <div>* Number of frames: NC2[]3 Part: 1 frame, NC4[]3 Part: 1 frame</div> <div>* The storage directories are as follows: Parts for DM Area aIStorage directories in words for Special I/O Units: NC\NC1[]3\SIU_DM_AreaAIStorage directories UserSetDM_AreaAIStorage directories: NC\NC1[]3\UserSetDM_AreaAIStorage directories NC2[]3: Parts for DM Area aIStorage directories in words for Special I/O Units: NC\NC2[]3\SIU_DM_AreaAIStorage directories UserSetDM_AreaAIStorage directories: NC\NC2[]3\UserSetDM_AreaAIStorage directories NC4[]3: Parts for DM Area aIStorage directories in words for Special I/O Units: NC\NC4[]3\SIU_DM_AreaAIStorage directories UserSetDM_AreaAIStorage directories: NC\NC3x3\UserSetDM_AreaAIStorage directories</div>					


1.1.2 Direct Operation

Unit type	CS1W-NC113/133/213/233/413/433 CJ1W-NC113/133/213/233/413/433	Storage directory	SmartActiveParts_E\ Motion\NC\NC[]3	Title	Direct Operation
Function	Performs direct operation using an absolute or relative movement command.				
Display and Operation Details					
<div><div><div><div><div>1</div><div>Axis busy</div></div><div><div>2</div><div>Axis 1</div></div></div><div><div><div>3</div><div>Override setting</div><div>Disable</div><div>5</div><div>%</div></div><div><div><div>4</div><div>Decel stop</div></div></div></div><div><div><div>6</div><div>start</div></div><div><div><div>5</div><div>ABS/INC</div></div></div></div><div><div><div>7</div><div>Speed CMD value</div><div>50000</div><div>pulse/s</div></div><div><div><div>8</div><div>Pos CMD value</div><div>1000</div><div>pulse</div></div></div></div><div><div><div>9</div><div>Accel time</div><div>2500</div><div>ms</div></div><div><div><div>10</div><div>Decel time</div><div>4000</div><div>ms</div></div></div></div></div></div>					
No.	Item	Setting/display	Description		
1	Axis busy	Display	Lights yellow when processing is being performed for the axis.		
2	Axis	Setting	Sets the axis number. The setting ranges are as follows: NC1[]3: Always 1, NC2[]3: 1 to 2, NC4[]3: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
3	Override setting	Setting	Sets an override value and enables and disables the override. (Setting range: 1% to 999%)		
4	Deceleration stop	Setting	When pressed, lights yellow and decelerates the motor to a stop. Absolute and relative movement commands cannot be used during a deceleration stop		
5	ABS/INC	Setting	Switches the between an absolute movement command (ABS) and a relative movement command (INC).		
6	Start	Setting	Starts operation for the movement command specified for ABS/INC (5).		
7	Speed command value	Setting	Sets the speed. (Setting range: 1 to 500,000 pulse/s)		
8	Position command value	Setting	Sets the position. (Setting range: -1,073,741,823 to 1,073,741,823 pulses)		
9	Acceleration time	Setting	Sets the acceleration time. (Setting range: 0 to 250,000 ms)		
10	Deceleration time	Setting	Sets the deceleration time. (Setting range: 0 to 250,000 ms)		

Remarks

- * There are six different version of this SMART Active Part depending on the following area alStorage directorys.
NC1[]3: For DM Area alStorage directorys in words for Special I/O Units and for user-set DM Area alStorage directorys
NC2[]3: For DM Area alStorage directorys in words for Special I/O Units and for user-set DM Area alStorage directorys
NC4[]3: For DM Area alStorage directorys in words for Special I/O Units and for user-set DM Area alStorage directorys
- * When using this SMART Active Part for the NC2[]3 or NC4[]3, be sure to select **Setting - System Settings** in the menu bar, press the **System Memory List** Button on the **Initial Tab** Page, and select **Basics** for the \$SB. This SMART Active Part cannot be used on pop-up screens.
- * When using this SMART Active Part with user-set DM Area alStorage directorys, be sure to select **Setting - System Settings** in the menu bar, press the **System Memory List** Button on the **Initial Tab** Page, and select **Address Index** for the \$SW.
- * When using this SMART Active Part for the NC2[]3 or NC4[]3, do not use it on the initial screen.
- * When using this SMART Active Part for the NC2[]3 or NC4[]3, use system version 5 or higher.
- * When reusing SMART Active Parts, be sure to set the unit number.
- * Number of frames: NC2[]3 Part: 2 frame, NC4[]3 Part: 2 frame
- * The storage directories are as follows: Parts for DM Area alStorage directorys in words for Special I/O Units:
NC\NC1[]3\SIOU_DM_AreaAlStorage directorys
UserSetDM_AreaAlStorage directorys: NC\NC1[]3\UserSetDM_AreaAlStorage directorys
NC2[]3: Parts for DM Area alStorage directorys in words for Special I/O Units: NC\NC2[]3\SIOU_DM_AreaAlStorage directorys
UserSetDM_AreaAlStorage directorys: NC\NC2[]3\UserSetDM_AreaAlStorage directorys
NC4[]3: Parts for DM Area alStorage directorys in words for Special I/O Units: NC\NC4[]3\SIOU_DM_AreaAlStorage directorys
UserSetDM_AreaAlStorage directorys: NC\NC3x3\UserSetDM_AreaAlStorage directorys

1.1.3 Program Operation

Unit type	CS1W-NC113/133/213/233/413/433 CJ1W-NC113/133/213/233/413/433	Storage directory	SmartActiveParts_E\ Motion\NC\NC[]3	Title	Program Operation
Function	Executes memory (program) operation.				
Display and Operation Details					
<div><div>1 → </div><div>2 → Axis <input type="text" value="1"/></div><div>3 → <input type="button" value="Disable"/> <input type="text" value="5"/> % <input type="text" value="10"/> <input type="text" value="0"/></div><div>4 → <input type="button" value="Decel stop"/></div><div>5 → <input type="text" value="10"/></div><div>6 → <input type="text" value="0"/></div><div>7 → <input type="button" value="start"/></div></div>					
No.	Item	Setting/display	Description		
1	Axis busy	Display	Lights yellow when processing is being performed for the axis.		
2	Axis	Setting	Sets the axis number. The setting ranges are as follows: NC1[]3: Always 1, NC2[]3: 1 to 2, NC4[]3: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
3	Override setting	Setting	Sets an override value and enables and disables the override. (Setting range: 1 to 999%)		
4	Deceleration stop	Setting	When pressed, lights yellow and decelerates the motor to a stop. Memory operation cannot be executed.		
5	Sequence No.	Setting	Sets the sequence number to execute. (Setting range: 0 to 99)		
6	Specified sequence position data	Display	Displays the position data for the specified sequence number.		
7	Start	Setting	Executes memory operation.		

Remarks

- * There are six different version of this SMART Active Part depending on the following area alStorage directorys.
 NC1[]3: For DM Area alStorage directorys in words for Special I/O Units and for user-set DM Area alStorage directorys
 NC2[]3: For DM Area alStorage directorys in words for Special I/O Units and for user-set DM Area alStorage directorys
 NC4[]3: For DM Area alStorage directorys in words for Special I/O Units and for user-set DM Area alStorage directorys
- * When using this SMART Active Part, be sure to select **Setting - System Settings** in the menu bar, press the **System Memory List** Button on the **Initial Tab** Page, and select **Basics** and **Data/Time** for the \$SB. This SMART Active Part cannot be used on pop-up screens.
- * When using this SMART Active Part with user-set DM Area alStorage directorys, be sure to select **Setting - System Settings** in the menu bar, press the **System Memory List** Button on the **Initial Tab** Page, and select **Address Index** for the \$SW.
- * Do not use this SMART Active Part on the initial screen.
- * Use system version 5 or higher.
- * When reusing SMART Active Parts, be sure to set the unit number.
- * Number of frames: NC2[]3 Part: 1 frame, NC4[]3 Part: 1 frame
- * The storage directories are as follows: Parts for DM Area alStorage directorys in words for Special I/O Units:
 NC\NC1[]3\SIOU_DM_AreaAlStorage directorys
 UserSetDM_AreaAlStorage directorys: NC\NC1[]3\UserSetDM_AreaAlStorage directorys
 NC2[]3: Parts for DM Area alStorage directorys in words for Special I/O Units: NC\NC2[]3\SIOU_DM_AreaAlStorage directorys
 UserSetDM_AreaAlStorage directorys: NC\NC2[]3\UserSetDM_AreaAlStorage directorys
 NC4[]3: Parts for DM Area alStorage directorys in words for Special I/O Units: NC\NC4[]3\SIOU_DM_AreaAlStorage directorys
 UserSetDM_AreaAlStorage directorys: NC\NC3x3\UserSetDM_AreaAlStorage directorys

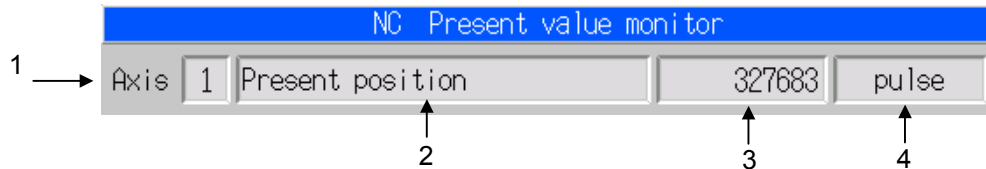
1.1.4 Setting

Unit type	CS1W-NC113/133/213/233/413/433 CJ1W-NC113/133/213/233/413/433	Storage directory	SmartActiveParts_EMotion\NC\NCxx3	Title	Setting
Function	Executes a present position preset.				
Display and Operation Details					
<div><div>NC Setting</div><div><div>Axis busy</div><div>Pos CMD value</div></div><div><div>1 →</div><div>Axis 1</div><div>Preset</div><div>25000 pulse</div></div><div><div>2</div><div>3</div><div>4</div></div></div>					
No.	Item	Setting/display	Description		
1	Axis busy	Display	Lights yellow when processing is being performed for the axis.		
2	Axis	Setting	Sets the axis number. The setting ranges are as follows: NC1[]3: Always 1, NC2[]3: 1 to 2, NC4[]3: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
3	Preset	Setting	Executes the preset.		
4	Position command value	Setting	Sets the position. (Setting range: 1,073,741,823 to 1,073,741,823 pulses)		
Remarks					
<ul style="list-style-type: none">* There are six different version of this SMART Active Part depending on the following area alStorage directories. NC1[]3: For DM Area alStorage directories in words for Special I/O Units and for user-set DM Area alStorage directories NC2[]3: For DM Area alStorage directories in words for Special I/O Units and for user-set DM Area alStorage directories NC4[]3: For DM Area alStorage directories in words for Special I/O Units and for user-set DM Area alStorage directories* When using this SMART Active Part for the NC2[]3 or NC4[]3, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB. This SMART Active Part cannot be used on pop-up screens.* When using this SMART Active Part with user-set DM Area alStorage directories, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Address Index for the \$SW.* When using this SMART Active Part for the NC2[]3 or NC4[]3, do not use it on the initial screen.* When using this SMART Active Part for the NC2[]3 or NC4[]3, use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: NC2[]3 Part: 1 frame, NC4[]3 Part: 1 frame* The storage directories are as follows: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC1[]3\SIOU_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC1[]3\UserSetDM_AreaAlStorage directories NC2[]3: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC2[]3\SIOU_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC2[]3\UserSetDM_AreaAlStorage directories NC4[]3: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC4[]3\SIOU_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC3x3\UserSetDM_AreaAlStorage directories					

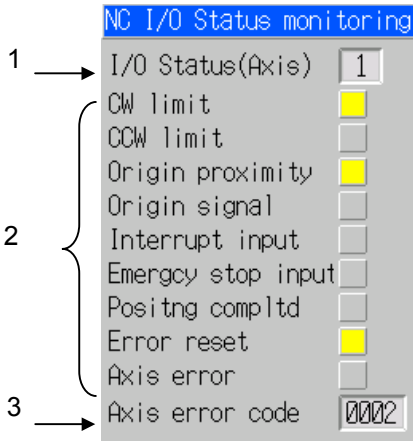
1.1.5 Teaching

Unit type	CS1W-NC113/133/213/233/413/433 CJ1W-NC113/133/213/233/413/433	Storage directory	SmartActiveParts_EMotion\NC\NCxx3	Title	Teaching
Function	Performs teaching for the specified sequence.				
Display and Operation Details					
<div><div>1 →</div><div><div>NC Teaching</div><div>Axis busy Seqnc No. Speci. seq. pos. data Teachg exec.</div><div><div><div></div></div>Axis1232228269</div><div>2345</div></div></div>					
No.	Item	Setting/display	Description		
1	Axis busy	Display	Lights yellow when processing is being performed for the axis.		
2	Axis	Setting	Sets the axis number. The setting ranges are as follows: NC1[]3: Always 1, NC2[]3: 1 to 2, NC4[]3: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
3	Sequence No.	Setting	Sets the sequence number. (Setting range: 0 to 99)		
4	Specified sequence position data	Display	Displays the present position.		
5	Teaching execution	Setting	Executes teaching.		
Remarks					
<ul style="list-style-type: none">* There are six different version of this SMART Active Part depending on the following area alStorage directories. NC1[]3: For DM Area alStorage directories in words for Special I/O Units and for user-set DM Area alStorage directories NC2[]3: For DM Area alStorage directories in words for Special I/O Units and for user-set DM Area alStorage directories NC4[]3: For DM Area alStorage directories in words for Special I/O Units and for user-set DM Area alStorage directories* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics and Data/Time for the \$SB. This SMART Active Part cannot be used on pop-up screens.* When using this SMART Active Part with user-set DM Area alStorage directories, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Address Index for the \$SW.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: NC2[]3 Part: 1 frame, NC4[]3 Part: 1 frame* The storage directories are as follows: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC1[]3\SIOW_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC1[]3\UserSetDM_AreaAlStorage directories NC2[]3: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC2[]3\SIOW_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC2[]3\UserSetDM_AreaAlStorage directories NC4[]3: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC4[]3\SIOW_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC3x3\UserSetDM_AreaAlStorage directories					

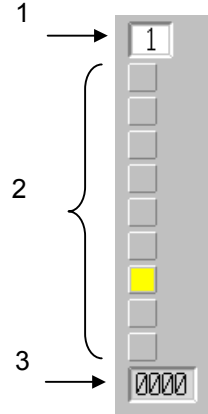
1.1.6 Present Value Monitor

Unit type	CS1W-NC113/133/213/233/413/433 CJ1W-NC113/133/213/233/413/433	Storage directory	SmartActiveParts_EMotion\NC\NCxx3	Title	Present Value Monitor
Function	Displays the present value.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Axis	Setting	Sets the axis number. The setting ranges are as follows: NC1[]3: Always 1, NC2[]3: 1 to 2, NC4[]3: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
2	Monitor type	Setting	Displays the type of present value being monitored.		
3	Present value	Display	Displays the present value.		
4	Unit	Display	Displays the unit.		
Remarks					
<ul style="list-style-type: none">* There are six different version of this SMART Active Part depending on the following area alStorage directories. NC1[]3: For DM Area alStorage directories in words for Special I/O Units and for user-set DM Area alStorage directories NC2[]3: For DM Area alStorage directories in words for Special I/O Units and for user-set DM Area alStorage directories NC4[]3: For DM Area alStorage directories in words for Special I/O Units and for user-set DM Area alStorage directories* When using this SMART Active Part for the NC2[]3 or NC4[]3, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB. This SMART Active Part cannot be used on pop-up screens.* When using this SMART Active Part with user-set DM Area alStorage directories, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Address Index for the \$SW.* When using this SMART Active Part for the NC2[]3 or NC4[]3, do not use it on the initial screen.* When using this SMART Active Part for the NC2[]3 or NC4[]3, use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: NC2[]3 Part: 1 frame, NC4[]3 Part: 1 frame* The storage directories are as follows: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC1[]3\SIOU_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC1[]3\UserSetDM_AreaAlStorage directories NC2[]3: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC2[]3\SIOU_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC2[]3\UserSetDM_AreaAlStorage directories NC4[]3: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC4[]3\SIOU_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC3x3\UserSetDM_AreaAlStorage directories					

1.1.7 I/O Status Monitoring

Unit type	CS1W-NC113/133/213/233/413/433 CJ1W-NC113/133/213/233/413/433	Storage directory	SmartActiveParts_E\Motion\NC\NCxx3	Title	I/O Status Monitor
Function	Displays the I/O status and error codes for each axis.				
Display and Operation Details					
<div></div>					
No.	Item	Setting/display	Description		
1	Axis	Setting	Sets the axis number. The setting ranges are as follows: NC1[]3: Always 1, NC2[]3: 1 to 2, NC4[]3: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
2	I/O Status	Display	Displays the I/O status. The display will be lit yellow for any status signals that are ON.		
3	Error code	Display	Displays any error codes that have been generated.		
Remarks					
<ul style="list-style-type: none">* There are three different version of this SMART Active Part depending on the model as follows: One for the NC1[]3, one for the NC2[]3, and one for the NC4[]3* When using this SMART Active Part for the NC2[]3 or NC4[]3, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB. This SMART Active Part cannot be used on pop-up screens.* When using this SMART Active Part for the NC2[]3 or NC4[]3, do not use it on the initial screen.* When using this SMART Active Part for the NC2[]3 or NC4[]3, use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: NC2[]3 Part: 1 frame, NC4[]3 Part: 1 frame* The storage directories are as follows: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC1[]3\SIOU_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC1[]3\UserSetDM_AreaAlStorage directories NC2[]3: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC2[]3\SIOU_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC2[]3\UserSetDM_AreaAlStorage directories NC4[]3: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC4[]3\SIOU_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC3x3\UserSetDM_AreaAlStorage directories					

1.1.8 I/O Status Monitoring (No Name)



Unit type	CS1W-NC113/133/213/233/413/433 CJ1W-NC113/133/213/233/413/433	Storage directory	SmartActiveParts_E\Motion\NC\NCxx3	Title	I/O Status Monitor (No Name)
Function	Displays the I/O status and error codes for each axis.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Axis	Setting	Sets the axis number. The setting ranges are as follows: NC1[]3: Always 1, NC2[]3: 1 to 2, NC4[]3: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
2	I/O Status	Display	Displays the I/O status. The display will be lit yellow for any status signals that are ON. The order of the status is the same as that for 2.7.7 I/O Status.		
3	Error code	Display	Displays any error codes that have been generated.		
Remarks					
<ul style="list-style-type: none">* There are three different version of this SMART Active Part depending on the following area alStorage directories. One for the NC1[]3, one for the NC2[]3, and one for the NC4[]3* When using this SMART Active Part for the NC2[]3 or NC4[]3, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB. This SMART Active Part cannot be used on pop-up screens.* When using this SMART Active Part for the NC2[]3 or NC4[]3, do not use it on the initial screen.* When using this SMART Active Part for the NC2[]3 or NC4[]3, use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: NC2[]3 Part: 1 frame, NC4[]3 Part: 1 frame* The storage directories are as follows: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC1[]3\SIOU_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC1[]3\UserSetDM_AreaAlStorage directories NC2[]3: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC2[]3\SIOU_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC2[]3\UserSetDM_AreaAlStorage directories NC4[]3: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC4[]3\SIOU_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC3x3\UserSetDM_AreaAlStorage directories					

1.1.9 Axis Error

Unit type	CS1W-NC113/133/213/233/413/433 CJ1W-NC113/133/213/233/413/433	Storage directory	SmartActiveParts_E\Motion\NC\NCxx3	Title	Axis Error
Function	Displays and resets axis errors.				
Display and Operation Details					
<div><div>NC Axis error</div><div><div>1 →</div><div>Busy</div><div>Axis 1</div><div>Axis err.</div><div>0002</div><div>Error reset</div><div>2</div><div>3</div><div>4</div><div>5</div></div></div>					
No.	Item	Setting/display	Description		
1	Busy	Display	Lights yellow when processing is being performed for the axis.		
2	Axis	Setting	Sets the axis number. The setting ranges are as follows: NC1[]3: Always 1, NC2[]3: 1 to 2, NC4[]3: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
3	Axis error	Display	Lights yellow when an axis error has occurred.		
4	Error code	Display	Displays any error codes that have been generated.		
5	Error reset	Setting	Resets the error.		
Remarks					
<ul style="list-style-type: none">* There are three different version of this SMART Active Part depending on the following area alStorage directories. One for the NC1[]3, one for the NC2[]3, and one for the NC4[]3* When using this SMART Active Part for the NC2[]3 or NC4[]3, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB. This SMART Active Part cannot be used on pop-up screens.* When using this SMART Active Part for the NC2[]3 or NC4[]3, do not use it on the initial screen.* When using this SMART Active Part for the NC2[]3 or NC4[]3, use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: NC2[]3 Part: 1 frame, NC4[]3 Part: 1 frame* The storage directories are as follows: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC1[]3\SIOU_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC1[]3\UserSetDM_AreaAlStorage directories NC2[]3: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC2[]3\SIOU_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC2[]3\UserSetDM_AreaAlStorage directories NC4[]3: Parts for DM Area alStorage directories in words for Special I/O Units: NC\NC4[]3\SIOU_DM_AreaAlStorage directories UserSetDM_AreaAlStorage directories: NC\NC3x3\UserSetDM_AreaAlStorage directories					

1.2 MECHATROLINK-compatible Position Control Units

1.2.1 Common Control

Unit type	CJ1W-NCF71	Storage directory	SmartActiveParts_E\ Motion\ NCF	Title	Common Control
Function	Establishes a connection and displays the connection status and axis communications status.				
Display and Operation Details					
<div><div><div>NCF Common Control</div><div>Axis communication status</div><div>1 2 3 4 5 6 7 8</div><div>Conctn. status</div><div>1 → </div><div>9 10 11 12 13 14 15 16</div><div></div><div>Conctn. status</div><div>3 ↑</div><div>2</div></div></div>					
No.	Item	Setting/ display	Description		
1	Connection status	Display	Displays the connection status. If the Unit is ready to start MECHATROLINK communications, the status indicator will be lit in yellow.		
2	Axis communication status	Display	Displays the communications status between the Unit and the MECHATROLINK device. The status indicator will be lit in yellow during communications.		
3	Establish connection	Setting	Establishes a connection. If a button lit in yellow is pressed, communications will be disconnected and the button will turn gray.		
Remarks					
* When reusing SMART Active Parts, be sure to set the unit number.					
* Data is saved in the following areas:					
Operating output memory area in CIO Area and Operating input memory area in CIO Area: OutCIO_InCIO					
Operating output memory area in CIO Area and Operating input memory area in DM Area: OutCIO_InDM					
Operating output memory area in DM Area and Operating input memory area in CIO Area: OutDM_InCIO					
Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM_InDM					

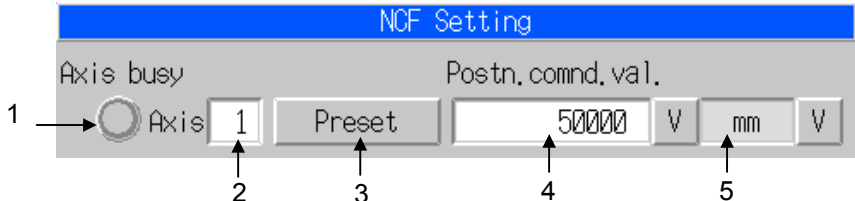
1.2.2 Adjust Operation

Unit type	CJ1W-NCF71	Storage directory	SmartActiveParts_ElMot ion\ NCF	Title	Adjust Operation
Function	Performs jogging, origin searches, and origin returns.				
Display and Operation Details					
No.	Item	Setting/ display	Description		
1	Axis busy	Display	Lights yellow when processing is being performed for the axis.		
2	Axis	Setting	Sets the axis number. (Setting range: 1 to 16)		
3	Override setting	Setting	Sets an override value and enables and disables the override. (Setting range: 0.01% to 327.67%)		
4	Deceleration stop	Setting	When pressed, lights yellow and decelerates the motor to a stop. Jogging, origin searches, and origin returns cannot be performed during a deceleration stop.		
5	Servo Lock	Setting	Switches between servo lock and servo unlock status.		
6	Speed command value	Setting	Sets the speed. The position of the decimal point can be set. The settings for the position of the decimal point are as follows: No decimal point, 0.1, 0.01, 0.001 (Setting range: 0 to 2,147,483,647 command units/s)		
7	Unit	Setting	Sets the unit. The settings for the unit are as follows: mm/s, inches/s, degrees/s, or pulses/s		
8	JOG operation	Setting	When held down, operates the motor in the specified direction. When released, stops motor operation.		
9	Origin search	Setting	When pressed, starts an origin search operation.		
10	Origin return	Setting	When pressed, starts an origin return operation.		
Remarks					
<ul style="list-style-type: none">* There are four different version of this SMART Active Part depending on the following area alStorage directories. Operating output memory area in CIO Area and Operating input memory area in CIO Area Operating output memory area in CIO Area and Operating input memory area in DM Area Operating output memory area in DM Area and Operating input memory area in CIO Area Operating output memory area in DM Area and Operating input memory area in DM Area* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics, Data/Time, and Address Index for the \$SW. This SMART Active Part cannot be used on pop-up screens.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number. Also, the position of the decimal point can be set. The settings for the position of the decimal point are as follows:<ul style="list-style-type: none">* No decimal point, 0.1, 0.01, 0.001* Number of frames: 1 frame* Data is saved in the following areas:<ul style="list-style-type: none">* Operating output memory area in CIO Area and Operating input memory area in CIO Area: OutCIO_InCIO* Operating output memory area in CIO Area and Operating input memory area in DM Area: OutCIO_InDM* Operating output memory area in DM Area and Operating input memory area in CIO Area: OutDM_InCIO* Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM_InDM					

1.2.3 Direct Operation

Unit type	CJ1W-NCF71	Storage directory	SmartActiveParts_E\Motion\ NCF	Title	Direct Operation
Function	Performs direct operation using an absolute or relative movement command.				
Display and Operation Details					
No.	Item	Setting/display	Description		
1	Axis busy	Display	Lights yellow when processing is being performed for the axis.		
2	Axis	Setting	Sets the axis number. (Setting range: 1 to 16)		
3	Override setting	Setting	Sets an override value and enables and disables the override. (Setting range: 0.01% to 327.67%)		
4	Deceleration stop	Setting	When pressed, lights yellow and decelerates the motor to a stop. Absolute and relative movement commands cannot be used during a deceleration stop		
5	Servo Lock	Setting	Switches between servo lock and servo unlock status.		
6	ABS/INC	Setting	Switches the between an absolute movement command (ABS) and a relative movement command (INC).		
7	Start	Setting	Starts operation for the movement command specified for <i>ABS/INC</i> (6).		
8	Speed command value	Setting	Sets the speed. (Setting range: 0 to 2,147,483,647 command units/s) The position of the decimal point can be set. The settings for the position of the decimal point are as follows: No decimal point, 0.1, 0.01, 0.001		
9	Position command value	Setting	Sets the position. (Setting range: 2,147,483,648 to 2,147,483,647 command units) The position of the decimal point can be set. The settings for the position of the decimal point are as follows: No decimal point, 0.1, 0.01, 0.001		
10	Speed command value unit	Setting	Sets the unit for the speed command. The settings for the unit are as follows: mm/s, inches/s, degrees/s, or pulses/s		
11	Position command value unit	Setting	Sets the unit for the position command. The settings for the unit are as follows: mm, inch, deg, pulse		
Remarks					
<ul style="list-style-type: none">* There are four different version of this SMART Active Part depending on the following area alStorage directories. Operating output memory area in CIO Area and Operating input memory area in CIO Area Operating output memory area in CIO Area and Operating input memory area in DM Area Operating output memory area in DM Area and Operating input memory area in CIO Area Operating output memory area in DM Area and Operating input memory area in DM Area* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics, Data/Time, and Address Index for the \$SW. This SMART Active Part cannot be used on pop-up screens.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 1* Data is saved in the following areas: Operating output memory area in CIO Area and Operating input memory area in CIO Area: OutCIO_InCIO Operating output memory area in CIO Area and Operating input memory area in DM Area: OutCIO_InDM Operating output memory area in DM Area and Operating input memory area in CIO Area: OutDM_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM_InDM					

1.2.4 Setting

Unit type	CJ1W-NCF71	Storage directory	SmartActiveParts_E\ Motion\ NCF	Title	Setting
Function	Executes a present position preset.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Axis busy	Display	Lights yellow when processing is being performed for the axis.		
2	Axis	Setting	Sets the axis number. (Setting range: 1 to 16)		
3	Preset	Setting	Executes the present position preset.		
4	Position command value	Setting	Sets the position. (Setting range: 2,147,483,648 to 2,147,483,647 command units)		
5	Unit	Setting	Sets the unit. The settings for the unit are as follows: mm, inch, deg, pulse		
Remarks					
<ul style="list-style-type: none">* There are four different version of this SMART Active Part depending on the following area alStorage directories. Operating output memory area in CIO Area and Operating input memory area in CIO Area Operating output memory area in CIO Area and Operating input memory area in DM Area Operating output memory area in DM Area and Operating input memory area in CIO Area Operating output memory area in DM Area and Operating input memory area in DM Area* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics, Data/Time, and Address Index for the \$SW. This SMART Active Part cannot be used on pop-up screens.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 2* Data is saved in the following areas: Operating output memory area in CIO Area and Operating input memory area in CIO Area: OutCIO_InCIO Operating output memory area in CIO Area and Operating input memory area in DM Area: OutCIO_InDM Operating output memory area in DM Area and Operating input memory area in CIO Area: OutDM_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM_InDM					

1.2.5 Present Value Monitoring

Unit type	CJ1W-NCF71	Storage directory	SmartActiveParts_E\Motion\ NCF	Title	Present Value Monitor
Function	Displays the present value of the specified monitor item.				
Display and Operation Details					
<div><div>1 →</div><div><div>NCF Present value monitor</div><div>Axis 0mmr 0Speed (Command) V0.00 Vmm/s V</div><div>2345</div></div></div>					
No.	Item	Setting/display	Description		
1	Axis	Setting	Sets the axis number. (Setting range: 1 to 16)		
2	Monitor	Setting	Sets the area to be monitored. (Setting range: 1 to 2)		
3	Monitor type	Setting	Sets the type of present value to monitor. The settings for the type of present value to monitor are as follows: FB present position, Command present position, FB speed, Command speed, Position error, Torque command value		
4	Present value	Display	Displays the present value of the specified monitor item.		
5	Unit	Display	Sets the unit. The settings for the unit are as follows: Present position and position error: mm, inch, deg, pulse Speed: mm/s, inches/s, degrees/s, or pulses/s Torque command value: %		
Remarks					
<ul style="list-style-type: none">* There are four different version of this SMART Active Part depending on the following area alStorage directories. Operating output memory area in CIO Area and Operating input memory area in CIO Area Operating output memory area in CIO Area and Operating input memory area in DM Area Operating output memory area in DM Area and Operating input memory area in CIO Area Operating output memory area in DM Area and Operating input memory area in DM Area* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics, Data/Time, and Address Index for the \$SW. This SMART Active Part cannot be used on pop-up screens.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 4* Data is saved in the following areas: Operating output memory area in CIO Area and Operating input memory area in CIO Area: OutCIO_InCIO Operating output memory area in CIO Area and Operating input memory area in DM Area: OutCIO_InDM Operating output memory area in DM Area and Operating input memory area in CIO Area: OutDM_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM_InDM					

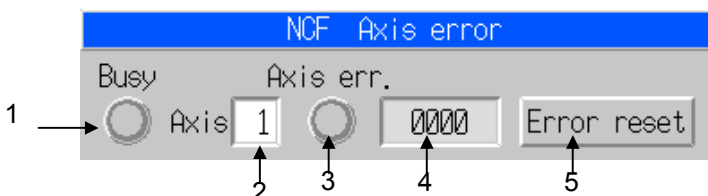
1.2.6 I/O Status Monitoring

Unit type	CJ1W-NCF71	Storage directory	SmartActiveParts_E\EMotion\ NCF	Title	I/O Status Monitor
Function	Displays the I/O status and error codes for each axis.				
Display and Operation Details					
<div><div><div>1 →</div><div>2 {</div><div>3 →</div></div><div><div>NCF I/O Status monitor</div><div>I/O Status(Axis) 1</div><div>Frwrd limit (P_OT)</div><div>Rvrse limit (N_OT)</div><div>Orig.proxmty(DEC)</div><div>Z-Phase input</div><div>Extrnl.latch1 inp.</div><div>Extrnl.latch2 inp.</div><div>Extrnl.latch3 inp.</div><div>Positing.compltd</div><div>No origin</div><div>Axis error</div><div>Axis error code 0000</div></div></div>					
No.	Item	Setting/display	Description		
1	Axis	Setting	Sets the axis number. (Setting range: 1 to 16)		
2	I/O status	Display	Displays the I/O status. The display will be lit yellow for any status signals that are ON.		
3	Error code	Display	Displays any error codes that have been generated.		
Remarks					
* There are two different version of this SMART Active Part depending on the following area alStorage directories. One for operating input memory area in CIO Area and one for operating input memory area in DM Area					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics, Data/Time, and Address Index for the \$SW. This SMART Active Part cannot be used on pop-up screens.					
* Do not use this SMART Active Part on the initial screen.					
* Use system version 5 or higher.					
* When reusing SMART Active Parts, be sure to set the unit number.					
* Number of frames: 1					
* Data is saved in the following areas: Operating output memory area in CIO Area and Operating input memory area in CIO Area: OutCIO_InCIO Operating output memory area in CIO Area and Operating input memory area in DM Area: OutCIO_InDM Operating output memory area in DM Area and Operating input memory area in CIO Area: OutDM_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM_InDM					

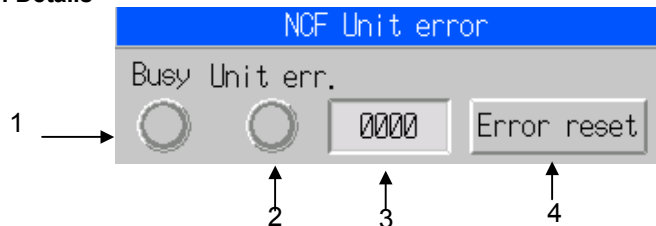
1.2.7 I/O Status Monitoring (No name)

Unit type	CJ1W-NCF71	Storage directory	SmartActiveParts_E\Motion\ NCF	Title	I/O Status Monitor (No Name)
Function	Displays the I/O status and error codes for each axis.				
Display and Operation Details					
<div><div><div>1</div><div>2</div><div>3</div></div><div><div><div>1</div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></di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1.2.8 Axis Error

Unit type	CJ1W-NCF71	Storage directory	SmartActiveParts_E\ Motion\ NCF	Title	Axis Error
Function	Displays and resets axis errors.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Busy	Display	Lights yellow when processing is being performed for the axis.		
2	Axis	Setting	Sets the axis number. (Setting range: 1 to 16)		
3	Axis error	Display	Lights yellow when an axis error has occurred.		
4	Error code	Display	Displays any error codes that have been generated.		
5	Error reset	Setting	Resets the axis error.		
Remarks					
<ul style="list-style-type: none">* There are four different version of this SMART Active Part depending on the following area alStorage directories.<ul style="list-style-type: none">Operating output memory area in CIO Area and Operating input memory area in CIO AreaOperating output memory area in CIO Area and Operating input memory area in DM AreaOperating output memory area in DM Area and Operating input memory area in CIO AreaOperating output memory area in DM Area and Operating input memory area in DM Area* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics, Data/Time, and Address Index for the \$SW. This SMART Active Part cannot be used on pop-up screens.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 1* Data is saved in the following areas:<ul style="list-style-type: none">Operating output memory area in CIO Area and Operating input memory area in CIO Area: OutCIO_InCIOOperating output memory area in CIO Area and Operating input memory area in DM Area: OutCIO_InDMOperating output memory area in DM Area and Operating input memory area in CIO Area: OutDM_InCIOOperating output memory area in DM Area and Operating input memory area in DM Area: OutDM_InDM					

1.2.9 Unit Error

Unit type	CJ1W-NCF71	Storage directory	SmartActiveParts_E\Motion\ NCF	Title	Unit Error
Function	Displays and resets Unit errors.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Busy	Display	Lights yellow during Unit processing.		
2	Unit error	Display	Lights yellow when a Unit error has occurred.		
3	Error code	Display	Displays any Unit error codes that have been generated.		
4	Error reset	Setting	Resets the Unit error.		
Remarks					
* When reusing SMART Active Parts, be sure to set the unit number.					
* Data is saved in the following areas:					
Operating output memory area in CIO Area and Operating input memory area in CIO Area: OutCIO_InCIO					
Operating output memory area in CIO Area and Operating input memory area in DM Area: OutCIO_InDM					
Operating output memory area in DM Area and Operating input memory area in CIO Area: OutDM_InCIO					
Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM_InDMM					

1.2.10 Servo Parameter Setting

Unit type	CJ1W-NCF71	Storage directory	SmartActiveParts_E\Moti on\ NCF	Title	Servo Parameter Setting
Function	Sets and displays servo parameters.				
Display and Operation Details					
<div><div><div>3</div><div>4</div><div>5</div></div><div><div>1</div><div>2</div></div><div><div>NCF Servo parameter setting</div><div>Param.No. Setting val Param.size</div><div>Axis 1 50 0 4</div><div>Transfmg ※Check the set value when inputting.</div><div><div>Write</div><div>Read</div><div>Save</div></div></div><div><div>6</div><div>7</div><div>8</div></div></div>					
No.	Item	Setting/ display	Description		
1	Axis	Setting	Sets the axis number. (Setting range: 1 to 16)		
2	Transferring	Display	Lights yellow when servo parameters are being transferred.		
3	Parameter No.	Setting	Sets the parameter number.		
4	Setting value	Setting/ display	Specify the data to write to the servo drive.		
5	Parameter size	Setting	Sets the parameter size. Set the size as a hexadecimal value. Be sure to set the correct size.		
6	Write	Setting	Writes the setting to control memory in the servo drive.		
7	Read	Setting	Reads the servo parameter.		
8	Save	Setting	Saves the servo parameter to nonvolatile memory in the servo drive.		
Remarks					
<ul style="list-style-type: none">* There are four different version of this SMART Active Part depending on the following area alStorage directories. Operating output memory area in CIO Area and Operating input memory area in CIO Area Operating output memory area in CIO Area and Operating input memory area in DM Area Operating output memory area in DM Area and Operating input memory area in CIO Area Operating output memory area in DM Area and Operating input memory area in DM Area* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics, Data/Time, and Address Index for the \$SW. This SMART Active Part cannot be used on pop-up screens.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 1* Data is saved in the following areas: Operating output memory area in CIO Area and Operating input memory area in CIO Area: OutCIO_InCIO Operating output memory area in CIO Area and Operating input memory area in DM Area: OutCIO_InDM Operating output memory area in DM Area and Operating input memory area in CIO Area: OutDM_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM_InDM					

1.2.11 Area Setting

Unit type	CJ1W-NCF71	Storage directory	SmartActiveParts_E\ Motion\ NCF	Title	Area Setting (Common Parameter Setting)
Function	Sets and displays the operating output and input areas.				
Display and Operation Details					
<div><div>NCF Common parameter setting</div><div><div>1 → Out. bit area word for axis operation</div><div>CIOV1CH</div></div><div><div>2 → Inp. bit area word for axis operation</div><div>DMV1CH</div></div><div><div>Operating area setting</div><div>Scan list</div><div>Communications setting</div></div><div><div>Transferring</div><div>Write</div><div>Read</div><div>Save</div><div>3456</div></div></div>					
No.	Item	Setting/display	Description		
1	Output bit area word for axis operation	Setting	Sets the operating output area. The settings are as follows: Area: CIO or DM addresses: 0 to 9200		
2	Input bit area word for axis operation	Setting	Sets the operating input area. The settings are as follows: Area: CIO or DM addresses: 0 to 9200		
3	Transferring	Display	Lights yellow when data is being transferred.		
4	Write	Setting	Writes data from the CPU Unit to the Position Control Unit.		
5	Read	Setting	Writes data from the Position Control Unit to the CPU Unit.		
6	Save	Setting	Saves the contents of internal memory in the Position Control Unit to built-in flash memory.		
Remarks					
<div><div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB. This SMART Active Part cannot be used on pop-up screens.</div><div>* Do not use this SMART Active Part on the initial screen.</div><div>* Use system version 5 or higher.</div><div>* When reusing SMART Active Parts, be sure to set the unit number.</div><div>* Number of frames: 1 frame (total for operating area settings, scan list, and communications settings)</div><div>* Data is saved in the following areas: Operating output memory area in CIO Area and Operating input memory area in CIO Area: OutCIO_InCIO Operating output memory area in CIO Area and Operating input memory area in DM Area: OutCIO_InDM Operating output memory area in DM Area and Operating input memory area in CIO Area: OutDM_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM_InDM</div></div>					

1.2.12 Scan List (Common Parameter Setting)

Unit type	CJ1W-NCF71	Storage directory	SmartActiveParts_E\ Motion\ NCF	Title	Scan List (Common Parameter Setting)
Function	Sets and displays the scan list for the MECHATROLINK devices connected to the Unit.				
Display and Operation Details					
<div><div><div><div><div>NCF Common parameter setting</div><div><div><div>Axs 1</div><div>V</div><div>Axs 5</div><div>allo.no</div><div>V</div><div>Axs 9</div><div>allo.no</div><div>V</div><div>Axs13</div><div>allo.no</div><div>V</div></div><div><div>Axs 2</div><div>allo.no</div><div>V</div><div>Axs 6</div><div>allo.no</div><div>V</div><div>Axs10</div><div>allo.no</div><div>V</div><div>Axs14</div><div>allo.no</div><div>V</div></div><div><div>Axs 3</div><div>allo.no</div><div>V</div><div>Axs 7</div><div>allo.no</div><div>V</div><div>Axs11</div><div>allo.no</div><div>V</div><div>Axs15</div><div>allo.no</div><div>V</div></div><div><div>Axs 4</div><div>allo.no</div><div>V</div><div>Axs 8</div><div>allo.no</div><div>V</div><div>Axs12</div><div>allo.no</div><div>V</div><div>Axs16</div><div>allo.no</div><div>V</div></div></div><div><div>Operating area setting</div><div>Scan list</div><div>Communications setting</div></div><div><div>Transferring</div><div>Write</div><div>Read</div><div>Save</div></div></div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div></div></div></div>					
No.	Item	Setting/display	Description		
1	Scan List	Setting	Switches the alStorage directories for MECHATROLINK devices connected to the Unit between servo alStorage directories and no alStorage directories.		
2	Transferring	Display	Lights yellow when data is being transferred.		
3	Write	Setting	Writes data from the CPU Unit to the Position Control Unit.		
4	Read	Setting	Writes data from the Position Control Unit to the CPU Unit.		
5	Save	Setting	Saves the contents of internal memory in the Position Control Unit to built-in flash memory.		
Remarks					
<div><div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB. This SMART Active Part cannot be used on pop-up screens.</div><div>* Do not use this SMART Active Part on the initial screen.</div><div>* Use system version 5 or higher.</div><div>* When reusing SMART Active Parts, be sure to set the unit number.</div><div>* Number of frames: 1 frame (total for operating area settings, scan list, and communications settings)</div><div>* Data is saved in the following areas: Operating output memory area in CIO Area and Operating input memory area in CIO Area: OutCIO_InCIO Operating output memory area in CIO Area and Operating input memory area in DM Area: OutCIO_InDM Operating output memory area in DM Area and Operating input memory area in CIO Area: OutDM_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM_InDM</div></div>					

1.2.13 Communications Setting (Common Parameter Setting)

Unit type	CJ1W-NCF71	Storage directory	SmartActiveParts_E\ Motion\ NCF	Title	Communications Setting (Common Parameter Setting)
Function	Sets and displays the transmission cycle, communications cycle, number of communications retries, and C2 master setting.				
Display and Operation Details					
<div><div>NCF Common parameter setting</div><div><div>1</div><div>Transmission cycle</div><div>2</div><div>V</div><div>ms</div></div><div><div>2</div><div>Communications</div><div>3</div><div>Transmission cycle</div></div><div><div>3</div><div>No. of Communics retries times</div><div>1</div><div>time(s)</div></div><div><div>4</div><div>With/without C2 master</div><div>Without</div></div><div><div>Operating area setting</div><div>Scan list</div><div>Communications setting</div></div><div><div>Transferring</div><div>Write</div><div>Read</div><div>Save</div></div><div><div>5</div><div>6</div><div>7</div><div>8</div></div></div>					
No.	Item	Setting/display	Description		
1	Transmission cycle	Setting	Specifies the cycle for data transfers in MECHATROLINK communications. The settings are as follows: 1, 2, 3, 4, 5, 6, 7, 9, 0.25, or 0.5 ms		
2	Communications cycle	Setting	Sets the data update cycle between the Unit and MECHATROLINK devices. (Setting range: 0 to 32 ms)		
3	No. of communications retries	Setting	Sets the maximum number of stations for which to retry communications when transferring data between the Unit and MECHATROLINK devices. (Setting range: 0 to 7)		
4	With/without C2 master	Setting	Switches between using a communications master and not using a communications master connected for MECHATROLINK system support.		
5	Transferring	Display	Lights yellow when data is being transferred.		
6	Write	Setting	Writes data from the CPU Unit to the Position Control Unit.		
7	Read	Setting	Writes data from the Position Control Unit to the CPU Unit.		
8	Save	Setting	Saves the contents of internal memory in the Position Control Unit to built-in flash memory.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB. This SMART Active Part cannot be used on pop-up screens.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 1 frame (total for operating area settings, scan list, and communications settings)* Data is saved in the following areas: Operating output memory area in CIO Area and Operating input memory area in CIO Area: OutCIO_InCIO Operating output memory area in CIO Area and Operating input memory area in DM Area: OutCIO_InDM Operating output memory area in DM Area and Operating input memory area in CIO Area: OutDM_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM_InDM					

1.2.14 Input Signal Setting (Axis Parameter Setting)

Unit type	CJ1W-NCF71	Storage directory	SmartActiveParts_E\ Motion\ NCF	Title	Input Signal Setting (Axis Parameter Setting)																																																																				
Function	Sets and displays the input signals for each axis.																																																																								
Display and Operation Details																																																																									
<div><div><div><div><div><div></div><div>1</div></div><div><div><div><div><div>NCF Axis Parameter Setting</div><div><table><tr><th colspan="2">Orig. input</th><th colspan="2">Interpt. input</th><th colspan="2">Orig. input</th><th colspan="2">Interpt. input</th></tr><tr><td>Axs 1</td><td>Latch 1</td><td>V</td><td>Z-phase</td><td>V</td><td>Axs 5</td><td>Z-phase</td><td>V</td><td>Z-phase</td><td>V</td></tr><tr><td>Axs 2</td><td>Latch2</td><td>V</td><td>Z-phase</td><td>V</td><td>Axs 6</td><td>Z-phase</td><td>V</td><td>Z-phase</td><td>V</td></tr><tr><td>Axs 3</td><td>Latch3</td><td>V</td><td>Z-phase</td><td>V</td><td>Axs 7</td><td>Z-phase</td><td>V</td><td>Z-phase</td><td>V</td></tr><tr><td>Axs 4</td><td>Z-phase</td><td>V</td><td>Z-phase</td><td>V</td><td>Axs 8</td><td>Z-phase</td><td>V</td><td>Z-phase</td><td>V</td></tr><tr><td colspan="2">Axs1~8inp.signal</td><td colspan="2">Axs1~8action mode</td><td colspan="2">Axs9~16inp.signal</td><td colspan="2">Axs9~16action.mode</td><td colspan="2"></td></tr><tr><td colspan="4">Transferring</td><td colspan="2">Write</td><td colspan="2">Read</td><td colspan="2">Save</td></tr></table></div><div><div>2</div><div>3</div><div>4</div><div>5</div></div></div></div></div></div></div></div></div></div>						Orig. input		Interpt. input		Orig. input		Interpt. input		Axs 1	Latch 1	V	Z-phase	V	Axs 5	Z-phase	V	Z-phase	V	Axs 2	Latch2	V	Z-phase	V	Axs 6	Z-phase	V	Z-phase	V	Axs 3	Latch3	V	Z-phase	V	Axs 7	Z-phase	V	Z-phase	V	Axs 4	Z-phase	V	Z-phase	V	Axs 8	Z-phase	V	Z-phase	V	Axs1~8inp.signal		Axs1~8action mode		Axs9~16inp.signal		Axs9~16action.mode				Transferring				Write		Read		Save	
Orig. input		Interpt. input		Orig. input		Interpt. input																																																																			
Axs 1	Latch 1	V	Z-phase	V	Axs 5	Z-phase	V	Z-phase	V																																																																
Axs 2	Latch2	V	Z-phase	V	Axs 6	Z-phase	V	Z-phase	V																																																																
Axs 3	Latch3	V	Z-phase	V	Axs 7	Z-phase	V	Z-phase	V																																																																
Axs 4	Z-phase	V	Z-phase	V	Axs 8	Z-phase	V	Z-phase	V																																																																
Axs1~8inp.signal		Axs1~8action mode		Axs9~16inp.signal		Axs9~16action.mode																																																																			
Transferring				Write		Read		Save																																																																	
No.	Item	Setting/display	Description																																																																						
1	Origin input	Setting	Specifies the origin input signal to used in origin searches. The settings are as follows: Phase Z, latch 1, latch 2, latch 3																																																																						
	Interrupt input	Setting	Specifies the interrupt input signal to used for interrupt feeding. The settings are as follows: Phase Z, latch 1, latch 2, latch 3																																																																						
2	Transferring	Display	Lights yellow when data is being transferred.																																																																						
3	Write	Setting	Writes data from the CPU Unit to the Position Control Unit.																																																																						
4	Read	Setting	Writes data from the Position Control Unit to the CPU Unit.																																																																						
5	Save	Setting	Saves the contents of internal memory in the Position Control Unit to built-in flash memory.																																																																						
Remarks																																																																									
<div><div><div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB. This SMART Active Part cannot be used on pop-up screens.</div><div>* Do not use this SMART Active Part on the initial screen.</div><div>* Use system version 5 or higher.</div><div>* When reusing SMART Active Parts, be sure to set the unit number.</div><div>* Number of frames: 1 frame (total for input signals and operation mode)</div><div>* Data is saved in the following areas:<div><div>Operating output memory area in CIO Area and Operating input memory area in CIO Area: OutCIO_InCIO</div><div>Operating output memory area in CIO Area and Operating input memory area in DM Area: OutCIO_InDM</div><div>Operating output memory area in DM Area and Operating input memory area in CIO Area: OutDM_InCIO</div><div>Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM_InDM</div></div></div></div></div>																																																																									

1.2.15 Operating Mode Setting (Axis Parameter Setting)

Unit type	CJ1W-NCF71	Storage directory	SmartActiveParts_E\ Motion\ NCF	Title	Operating Mode Setting (Axis Parameter Setting)
Function	Sets and displays the operating mode for each axis.				

Display and Operation Details

NCF Axis Parameter Setting

	Orig. search	Or. serch	Encoder		Orig. search	Or. serch	Encoder
Axs1	Rever. mode1	V	Forward	ABS	Axs5	Rever. mode1	V
Axs2	Rever. mode2	V	Reverse	INC	Axs6	Rever. mode1	V
Axs3	Rever. mode1	V	Forward	INC	Axs7	Rever. mode1	V
Axs4	Rever. mode1	V	Forward	INC	Axs8	Rever. mode1	V
Axs1~8inp.signal		Axs1~8action mode		Axs9~16inp.signal		Axs9~16action.mode	

Transferring ☐ Write Read Save

1 2 3 4 5

No.	Item	Setting/display	Description
1	Origin search operation	Setting	Specifies the operation pattern to use in origin searches. The settings are as follows: Reversal mode 1, Reversal mode 2, Single-direction mode
	Search direction	Setting	Specifies the origin search direction. The settings are as follows: Forward or reverse
	Encoder	Setting	Switches the servomotor encoder type between an incremental encoder (INC) and an absolute encoder (ABS).
2	Transferring	Display	Lights yellow when data is being transferred.
3	Write	Setting	Writes data from the CPU Unit to the Position Control Unit.
4	Read	Setting	Writes data from the Position Control Unit to the CPU Unit.
5	Save	Setting	Saves the contents of internal memory in the Position Control Unit to built-in flash memory.

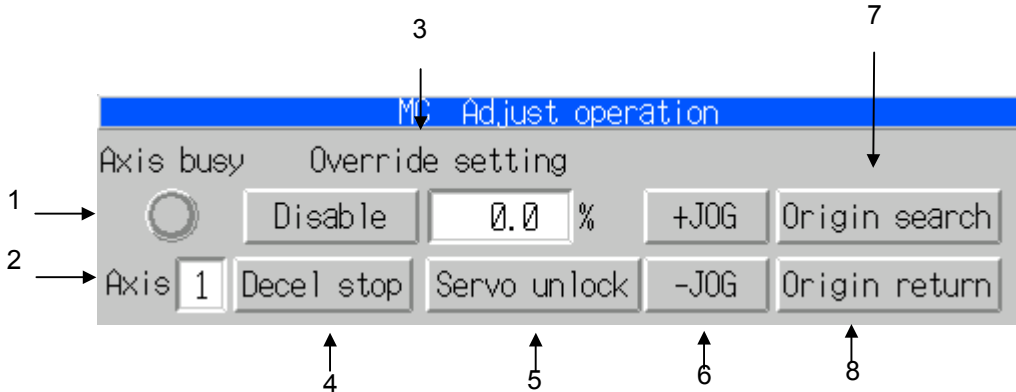
Remarks

- * When using this SMART Active Part, be sure to select **Setting - System Settings** in the menu bar, press the **System Memory List** Button on the **Initial Tab** Page, and select **Basics** for the \$SB. This SMART Active Part cannot be used on pop-up screens.
- * Do not use this SMART Active Part on the initial screen.
- * Use system version 5 or higher.
- * When reusing SMART Active Parts, be sure to set the unit number.
- * Number of frames: 1 frame (total for input signals and operation mode)
- * Data is saved in the following areas:
Operating output memory area in CIO Area and Operating input memory area in CIO Area: OutCIO_InCIO
Operating output memory area in CIO Area and Operating input memory area in DM Area: OutCIO_InDM
Operating output memory area in DM Area and Operating input memory area in CIO Area: OutDM_InCIO
Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM_InDM

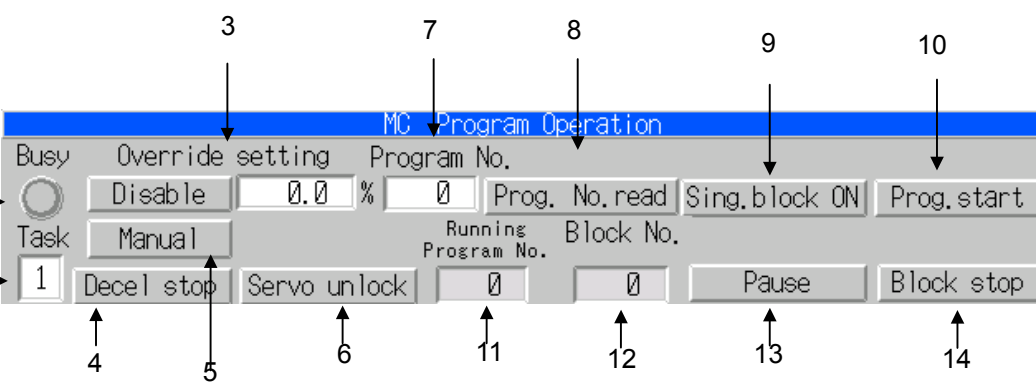
Motion Control

1.3 Standard Motion Control Units

1.3.1 Adjust operation

Unit type	CS1W-MC221 CS1W-MC421	Storage directory	SmartActiveParts_E\Motion\MC	Title	Adjust Operation
Function	Performs jogging, origin searches, and origin returns.				
Display and Operation Details					
<div></div>					
No.	Item	Setting/display	Description		
1	Axis busy	Display	Lights yellow when processing is being performed for the axis.		
2	Axis	Setting	Sets the axis number. The setting ranges are as follows: MC221: 1 to 2 MC421: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
3	Override setting	Setting	Sets an override value and enables and disables the override. (Setting range: 0.0 to 199.9)		
4	Deceleration stop	Setting	When pressed, lights yellow and decelerates the motor to a stop. Jogging, origin searches, and origin returns cannot be performed during a deceleration stop.		
5	Servo Lock	Setting	Switches between servo lock and servo unlock status.		
6	JOG operation	Setting	When held down, operates the motor in the specified direction. When released, stops motor operation.		
7	Origin search	Setting	When pressed, starts an origin search operation.		
8	Origin return	Setting	When pressed, starts an origin return operation.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics and Data/Time for the \$SB. This SMART Active Part cannot be used on pop-up screens.					
* Do not use this SMART Active Part on the initial screen.					
* Use system version 5 or higher.					
* There are two versions of this SMART Active Part, one for the MC221 and one for the MC421.					
* When reusing SMART Active Parts, be sure to set the unit number.					
* Number of frames: 1					

1.3.2 Program Operation

Unit type	CS1W-MC221 CS1W-MC421	Storage directory	SmartActiveParts_EMotion\ MC	Title	Program Operation
Function	Executes memory (program) operation.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Busy	Display	Lights yellow during task processing.		
2	Task	Setting	Sets the task number. The setting ranges are as follows: MC221: 1 to 2 MC421: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
3	Override setting	Setting	Sets an override value for the axes used in the task and enables and disables the override. (Setting range: 0.0% to 199.9%)		
4	Deceleration stop	Setting	When pressed in manual mode, lights yellow and decelerates the motor to a stop. This button is not displayed in automatic mode.		
5	Automatic/Manual	Setting	Switches between automatic and manual modes. Lights yellow in automatic mode. The Unit must be in automatic mode for a program to be started.		
6	Servo Lock	Setting	Switches the axes used by the task between servo lock and servo unlock status.		
7	Program No.	Setting	Sets the program number to execute in automatic mode. (Setting range: 0 to 999)		
8	Program No. read	Setting	Sets the program number to execute.		
9	Single block ON	Setting	Switches to single block mode. (Single block mode executes one block of the program each time <i>Program Start</i> is turned ON and OFF.		
10	Program start	Setting	Executes the program.		
11	Running program No.	Display	Displays the number of the program being executed.		
12	Block No.	Display	Displays the number of the block being executed.		
13	Pause	Setting	Pauses execution of the program.		
14	Block stop	Setting	Cancels execution of the program.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics and Data/Time for the \$SB. This SMART Active Part cannot be used on pop-up screens.					
* Do not use this SMART Active Part on the initial screen.					
* Use system version 5 or higher.					
* There are two versions of this SMART Active Part, one for the MC221 and one for the MC421.					
* When reusing SMART Active Parts, be sure to set the unit number.					
* Number of frames: 1					

1.3.3 Setting

Unit type	CS1W-MC221 CS1W-MC421	Storage directory	SmartActiveParts_E\Motion\MC	Title	Setting
Function	Sets the forced origin and the absolute origin.				
Display and Operation Details					
<div><div>MC Setting</div><div><div>1 → Axis busy</div><div>Pre.pos(Ref.coord.sys.FB)</div><div><div>Axis 1</div><div>Forc.orig</div><div>ABS Forc.orig</div><div>0.0</div></div><div><div>2 ↑</div><div>3 ↑</div><div>4 ↑</div><div>5 ↑</div></div></div></div>					
No.	Item	Setting/display	Description		
1	Axis busy	Display	Lights yellow when processing is being performed for the axis.		
2	Axis	Setting	Sets the axis number. The setting ranges are as follows: MC221: 1 to 2 MC421: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
3	Forced origin	Setting	Sets the position where the motor is stopped as the origin (i.e., as a position of 0).		
4	ABS Forced origin	Setting	Records the position where the motor is stopped in the Motion Control Unit as the absolute origin. (For Absolute Encoder only)		
5	Present position	Display	Displays the present position.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics and Data/Time for the \$SB. This SMART Active Part cannot be used on pop-up screens.* When using this SMART Active Part, be sure to select Setting - Unit/Scale Setting in the menu bar and set the scale for number 1000 to 0.0001.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* There are two versions of this SMART Active Part, one for the MC221 and one for the MC421.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 2					

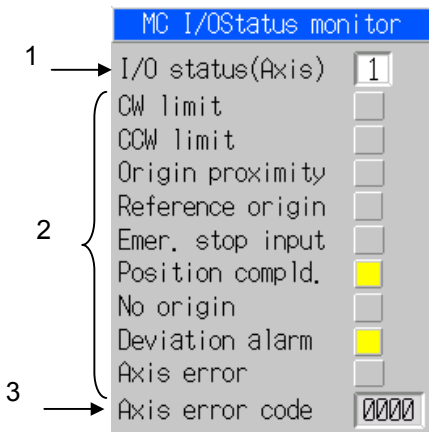
1.3.4 Teaching

Unit type	CS1W-MC221 CS1W-MC421	Storage directory	SmartActiveParts_E\Moti on\MC	Title	Teaching
Function	Executes teaching.				
Display and Operation Details					
<div><div><div>MC Setting</div><div>Speci. pos. data</div><div><div>Teach. comp ld</div><div>Axis 5 mm</div><div>Axis ***** mm</div><div>Axis 0.0 mm</div><div>Axis ***** mm</div></div><div>Task 1</div><div>※The posit. data is a reference.</div><div>FB</div><div>Teach. exec.</div></div><div><div>1 →</div><div>2 →</div><div>3 }</div><div>4 ↑</div><div>5 ↑</div></div></div>					
No.	Item	Setting/ display	Description		
1	Teaching completed	Display	Displays the status of teaching. Lit green: Normal end Lit yellow: Teaching address error Lit red: Teaching error		
2	Task	Setting	Sets the task number. The setting ranges are as follows: MC221: 1 to 2 MC421: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
3	Specified position data	Display	Sets the position data for axes used by the task. Unused axes are displayed as *****. Note: Only two axes are displayed for the MC221. (There are no axes 3 and 4.)		
4	FB	Setting	Sets the teaching type. The button lights yellow when the present position feedback value is set. The button will be gray when the target position is set.		
5	Teaching execution	Setting	Executes teaching.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics and Data/Time for the \$SB. This SMART Active Part cannot be used on pop-up screens.* When using this SMART Active Part, be sure to select Setting - Unit/Scale Setting in the menu bar and set the scale for number 1000 to 0.0001.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* There are two versions of this SMART Active Part, one for the MC221 and one for the MC421.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 1 frame for the MC221 and 1 frame for the MC421					

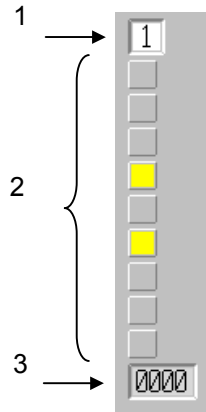
1.3.5 Present Value Monitoring

Unit type	CS1W-MC221 CS1W-MC421	Storage directory	SmartActiveParts_E\Motion\MC	Title	Present Value Monitor
Function	Displays the present value of the specified monitor item.				
Display and Operation Details					
<div><div>MC Present Value Monitoring</div><div><div>1 → Axis 1</div><div>Pre.pos(Workpiece.coordi.)</div><div>V</div><div>0</div><div>mm</div></div><div><div>2</div><div>3</div><div>4</div></div></div>					
No.	Item	Setting/display	Description		
1	Axis	Setting	Sets the axis number. The setting ranges are as follows: MC221: 1 to 2 MC421: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
2	Monitor type	Setting	Sets the type of present value to monitor. The settings are as follows: Present position in workpiece coordinate system, present position in reference coordinate system, present position in reference coordinate system in pulses, position error, workpiece origin shift value, number of multi-turns		
3	Present value	Display	Displays the present value of the specified monitor item.		
4	Unit	Display	Displays the unit.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics and Data/Time for the \$SB. This SMART Active Part cannot be used on pop-up screens.* When using this SMART Active Part, be sure to select Setting - Unit/Scale Setting in the menu bar and set the scale for number 1000 to 0.0001.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* There are two versions of this SMART Active Part, one for the MC221 and one for the MC421.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 2					

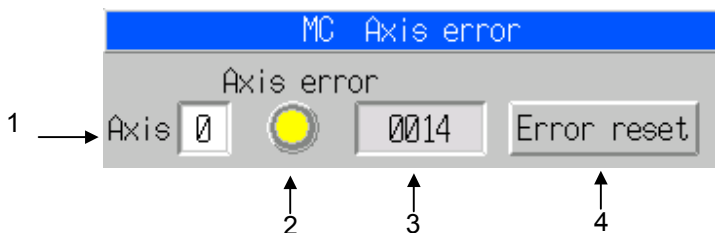
1.3.6 I/O Status Monitoring

Unit type	CS1W-MC221 CS1W-MC421	Storage directory	SmartActiveParts_E\Motion\MC	Title	I/O Status Monitor
Function	Displays the I/O status and error codes for each axis.				
Display and Operation Details					
<div></div>					
No.	Item	Setting/display	Description		
1	Axis	Setting	Sets the axis number. The setting ranges are as follows: MC221: 1 to 2 MC421: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
2	I/O status	Display	Displays the I/O status. The display will be lit yellow for any status signals that are ON.		
3	Error code	Display	Displays any error codes that have been generated.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics and Data/Time for the \$SB. This SMART Active Part cannot be used on pop-up screens.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* There are two versions of this SMART Active Part, one for the MC221 and one for the MC421.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 1					


1.3.7 I/O Status Monitoring (No name)

Unit type	CS1W-MC221 CS1W-MC421	Storage directory	SmartActiveParts_E\Motion\MC	Title	I/O Status Monitor (No Name)
Function	Displays the I/O status and error codes for each axis.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Axis	Setting	Sets the axis number. The setting ranges are as follows: MC221: 1 to 2 MC421: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
2	I/O status	Display	Displays the I/O status. The display will be lit yellow for any status signals that are ON. The order of the status is the same as that for 2.9.6 I/O Status.		
3	Error code	Display	Displays any error codes that have been generated.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics and Data/Time for the \$SB. This SMART Active Part cannot be used on pop-up screens.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* There are two versions of this SMART Active Part, one for the MC221 and one for the MC421.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 1					

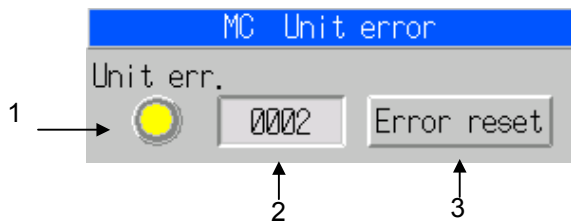
1.3.8 Axis Error

Unit type	CS1W-MC221 CS1W-MC421	Storage directory	SmartActiveParts_E\Motion\MC	Title	Axis Error
Function	Displays and resets axis errors.				
Display and Operation Details					
					
No.	Item	Setting/ display	Description		
1	Axis	Setting	Sets the axis number. The setting ranges are as follows: MC221: 1 to 2 MC421: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
2	Axis error	Display	Lights yellow when an axis error has occurred.		
3	Error code	Display	Displays any error codes that have been generated.		
4	Error reset	Setting	Resets the error. Note: When an error is reset, task errors and Unit errors are also reset.		
Remarks * When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics and Data/Time for the \$SB. This SMART Active Part cannot be used on pop-up screens. * Do not use this SMART Active Part on the initial screen. * There are two versions of this SMART Active Part, one for the MC221 and one for the MC421. * When reusing SMART Active Parts, be sure to set the unit number.					

1.3.9 Task Error

Unit type	CS1W-MC221 CS1W-MC421	Storage directory	SmartActiveParts_E\Motion\MC	Title	Task Error
Function	Displays and resets task errors.				
Display and Operation Details					
<div><div>MC Task error</div><div>Task error</div><div><div>1 → Task</div><div>4</div><div></div><div>0002</div><div>Error reset</div></div><div><div>2 ↑</div><div>3 ↑</div><div>4 ↑</div></div></div>					
No.	Item	Setting / display	Description		
1	Task	Setting	Sets the task number. The setting ranges are as follows: MC221: 1 to 2 MC421: 1 to 4 Note: Axis 1: Axis X, Axis 2: Axis Y, Axis 3: Axis Z, Axis 4: Axis U		
2	Task error	Display	Lights yellow when a task error has occurred.		
3	Error code	Display	Displays any task error codes that have been generated.		
4	Error reset	Setting	Resets the error. Note: When an error is reset, axis errors and Unit errors are also reset.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics and Data/Time for the \$SB. This SMART Active Part cannot be used on pop-up screens.					
* Do not use this SMART Active Part on the initial screen.					
* There are two versions of this SMART Active Part, one for the MC221 and one for the MC421.					
* When reusing SMART Active Parts, be sure to set the unit number.					

1.3.10 Unit Error

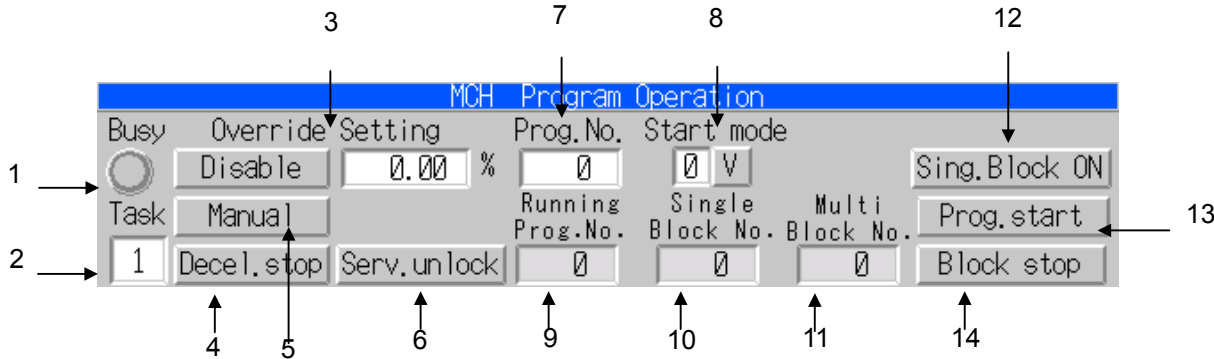
Unit type	CS1W-MC221 CS1W-MC421	Storage directory	SmartActiveParts_E\Motion\MC	Title	Unit Error
Function	Displays and resets Unit errors.				
Display and Operation Details					
<div></div>					
No.	Item	Setting / display	Description		
1	Unit error	Display	Lights yellow when a Unit error has occurred.		
2	Error code	Display	Displays any Unit error codes that have been generated.		
3	Error reset	Setting	Resets the error. Note: When an error is reset, axis errors and task errors are also reset.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Data/Time for the \$SB.					
* There are two versions of this SMART Active Part, one for the MC221 and one for the MC421.					
* When reusing SMART Active Parts, be sure to set the unit number.					

1.4 MECHATROLINK-compatible Motion Control Units

1.4.1 Adjust Operation

Unit type	CS1W-MCH71	Storage directory	SmartActiveParts_E\Moti on\MCH	Title	Adjust Operation
Function	Performs jogging, stepping, origin searches, and origin returns.				
Display and Operation Details					
<div><div><div><div><div>3</div><div>MCH Adjust Operation</div></div><div><div>7</div><div></div></div></div><div><div>1</div><div>Axis busy</div><div>Override Setting</div></div><div><div>2</div><div>Axis 1</div><div>Decel. stop</div><div>Servo unlock</div><div>+JOG</div><div>Orig. rearch</div><div>+STEP</div><div>-JOG</div><div>Orig. return</div><div>-STEP</div></div><div><div>4</div><div>5</div><div>6</div><div>8</div><div>9</div></div></div></div>					
No.	Item	Setting / display	Description		
1	Axis busy	Display	Lights yellow when processing is being performed for the axis.		
2	Axis	Setting	Sets the axis number. (Setting range: 1 to 32)		
3	Override setting	Setting	Sets an override value and enables and disables the override. (Setting range: 0.00 to 327.67)		
4	Deceleration stop	Setting	When pressed, lights yellow and decelerates the motor to a stop. Jogging, stepping, origin searches, and origin returns cannot be performed during a deceleration stop.		
5	Servo Lock	Setting	Switches between servo lock and servo unlock status.		
6	JOG operation	Setting	When held down, operates the motor in the specified direction. When released, stops motor operation.		
7	Origin rearch	Setting	When pressed, starts an origin search operation.		
8	Origin return	Setting	When pressed, starts an origin return operation.		
9	STEP operation	Setting	When pressed, starts a step operation.		
Remarks					
<ul style="list-style-type: none">* There are four different version of this SMART Active Part depending on the following user-set area alStorage directories. User-set memory area in CIO area and user-set data area in DM Area User-set memory area in CIO area and user-set data area in EM0 Area User-set memory area in Work area and user-set data area in DM Area User-set memory area in Work area and user-set data area in EM0 Area* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics, Data/Time, and Address Index for the \$SW. This SMART Active Part cannot be used on pop-up screens.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 1* Data is saved in the following areas: User-set memory area in CIO Area and User-set data area in DM Area: MemoryCIO_DataDM User-set memory area in CIO Area and User-set data area in EM0 Area: MemoryCIO_DataEM0 User-set memory area in Work Area and User-set data area in DM Area: MemoryWR_DataDM User-set memory area in Work Area and User-set data area in EM0 Area: MemoryWR_DataEM0					

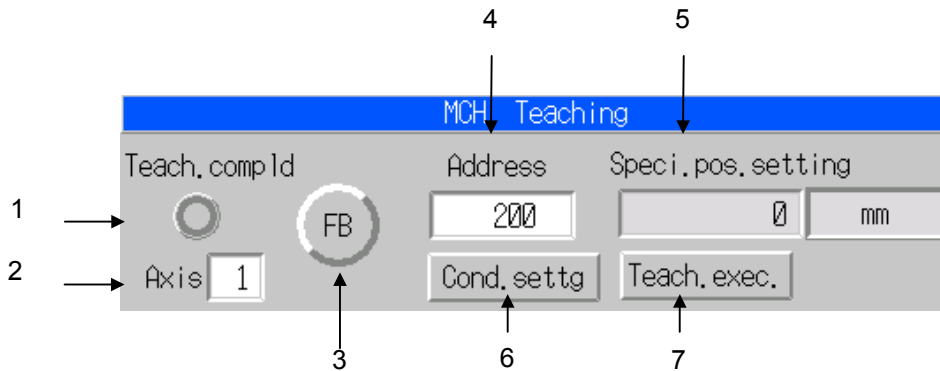
1.4.2 Program Operation

Unit type	CS1W-MCH71	Storage directory	SmartActiveParts_E\Motion\MC	Title	Program Operation
Function ¹	Executes memory (program) operation.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Busy	Display	Lights yellow during task processing.		
2	Task	Setting	Sets the task number. (Setting range: 1 to 8)		
3	Override setting	Setting	Sets an override value for the task and enables and disables the override. (Setting range: 0.00% to 327.67%)		
4	Deceleration stop	Setting	When pressed, lights yellow and decelerates the motors used in the task to a stop. Memory (program) operation cannot be executed during a deceleration stop.		
5	Automatic/Manual	Setting	Switches the axes used by the task between automatic and manual mode. Lights yellow in automatic mode. The Unit must be in automatic mode for a program to be started.		
6	Servo Lock	Setting	Switches the axes used by the task between servo lock and servo unlock status.		
7	Program No.	Setting	Sets the program number to execute in automatic mode. (Setting range: 0 to 499)		
8	Start mode	Setting	Specifies the program start position. The settings are as follows: Execute from beginning of program, Execute from current block, Execute from next block		
9	Running program No.	Display	Displays the number of the program being executed.		
10	Single block No.	Display	Displays the block number of the single block execution command being executed.		
11	Multi block No.	Display	Displays the block number of the multi-block execution command being executed.		
12	Single block ON	Setting	Switches to single block mode. (Single block mode executes one block of the program each time <i>Program Start</i> is turned ON and OFF.)		
13	Program start	Setting	Executes the program.		
14	Block stop	Setting	Stops program execution at the end of the current block.		
Remarks					
* There are two different version of this SMART Active Part, one for a CIO Area user-set memory area and one for a Work Area user-set memory area.					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics , Data/Time , and Address Index for the \$SW. This SMART Active Part cannot be used on pop-up screens.					
* Do not use this SMART Active Part on the initial screen.					
* Use system version 5 or higher.					
* When reusing SMART Active Parts, be sure to set the unit number.					
* Number of frames:					
* Data is saved in the following areas: User-set memory area in CIO Area and User-set data area in DM Area: MemoryCIO_DataDM User-set memory area in CIO Area and User-set data area in EM0 Area: MemoryCIO_DataEM0 User-set memory area in Work Area and User-set data area in DM Area: MemoryWR_DataDM User-set memory area in Work Area and User-set data area in EM0 Area: MemoryWR_DataEM0					

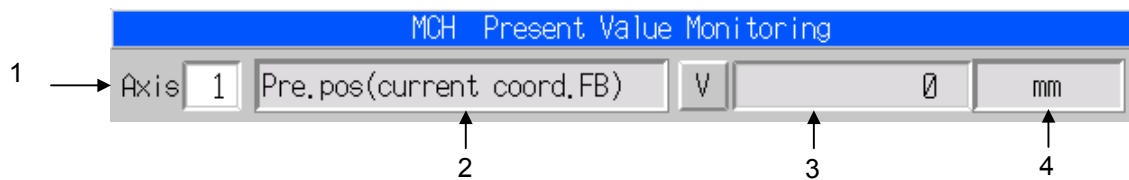
1.4.3 Setting

Unit type	CS1W-MCH71	Storage directory	SmartActiveParts_E\Motion\MCH	Title	Setting
Function	Sets the forced origin and the absolute origin.				
Display and Operation Details					
<div><div>MCH Setting</div><div>Axis busy<div>P.pos(Machi.coord.sys.FB)</div></div><div><div>1</div><div>Axis</div><div>1</div><div>Forc.Origin</div><div>ABS Orig. Sett.</div><div><div>0</div><div>mm</div></div></div><div><div>2</div><div>3</div><div>4</div><div>5</div></div></div>					
No.	Item	Setting/display	Description		
1	Axis busy	Display	Lights yellow when processing is being performed for the axis.		
2	Axis	Setting	Sets the axis number. (Setting range: 1 to 32)		
3	Forced Origin	Setting	Sets the position where the motor is stopped as the origin (i.e., as a position of 0).		
4	ABS Origin Setting	Setting	Records the position where the motor is stopped in the Motion Control Unit as the absolute origin. (For Absolute Encoder only)		
5	Present Position	Display	Displays the present position.		
Remarks					
<ul style="list-style-type: none">* There are two different version of this SMART Active Part, one for a CIO Area user-set memory area and one for a Work Area user-set memory area.* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics, Data/Time, and Address Index for the \$SW. This SMART Active Part cannot be used on pop-up screens.* When using this SMART Active Part, be sure to select Setting - Unit/Scale Setting in the menu bar and set the scale for number 1000 to 0.0001.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 2* Data is saved in the following areas: User-set memory area in CIO Area and User-set data area in DM Area: MemoryCIO_DataDM User-set memory area in CIO Area and User-set data area in EM0 Area: MemoryCIO_DataEM0 User-set memory area in Work Area and User-set data area in DM Area: MemoryWR_DataDM User-set memory area in Work Area and User-set data area in EM0 Area: MemoryWR_DataEM0					

1.4.4 Teaching

Unit type	CS1W-MCH71	Storage directory	SmartActiveParts_E\Motion\MCH	Title	Teaching
Function	Executes teaching.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Teaching completed	Display	Displays the status of teaching. Lit green: Teaching completed Lit yellow: Setting conditions completed Lit red: Warning		
2	Axis	Setting	Sets the axis number. (Setting range: 1 to 32)		
3	FB	Setting	Sets the teaching type. The button lights yellow when the present position feedback value is set. The button will be gray when the target position is set.		
4	Address	Setting	Sets the teaching address.		
5	Specified position data	Display	Displays the specified position data.		
6	Condition setting	Setting	Sets the teaching axis and reads the teaching axis address.		
7	Teaching execution	Setting	Executes teaching.		
Remarks					
<ul style="list-style-type: none">* There are four different version of this SMART Active Part depending on the following user-set area alStorage directories. User-set memory area in CIO area and user-set data area in DM Area User-set memory area in CIO area and user-set data area in EM0 Area User-set memory area in Work area and user-set data area in DM Area User-set memory area in Work area and user-set data area in EM0 Area* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics, Data/Time, and Address Index for the \$SW. This SMART Active Part cannot be used on pop-up screens.* When using this SMART Active Part, be sure to select Setting - Unit/Scale Setting in the menu bar and set the scale for number 1000 to 0.0001.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 2* Data is saved in the following areas: User-set memory area in CIO Area and User-set data area in DM Area: MemoryCIO_DataDM User-set memory area in CIO Area and User-set data area in EM0 Area: MemoryCIO_DataEM0 User-set memory area in Work Area and User-set data area in DM Area: MemoryWR_DataDM User-set memory area in Work Area and User-set data area in EM0 Area: MemoryWR_DataEM0					

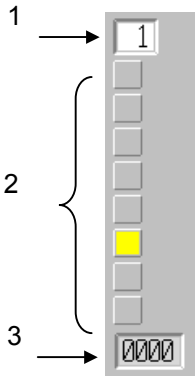
1.4.5 Present Value Monitoring

Unit type	CS1W-MCH71	Storage directory	SmartActiveParts_EIMotion\MCH	Title	Present Value Monitor
Function	Displays the present value of the specified monitor item.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Axis	Setting	Sets the axis number. (Setting range: 1 to 32)		
2	Monitor type	Setting	Sets the type of present value to monitor. The settings are as follows: Present coordinate system FB present position, Present coordinate system command present position, Machine coordinate system FB present position, Machine coordinate system command present position, counter latch position, FB speed, Command speed, Position error, Torque command value, Workpiece origin shift value, Origin margin, Number of multi-turns (absolute), Initial increment (absolute), Unit cycle, or Communications cycle		
3	Present value	Display	Displays the present value of the specified monitor item.		
4	Unit	Display	Displays the unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics and Data/Time for the \$SB. This SMART Active Part cannot be used on pop-up screens.					
* When using this SMART Active Part, be sure to select Setting - Unit/Scale Setting in the menu bar and set the scale for number 1000 to 0.0001.					
* Do not use this SMART Active Part on the initial screen.					
* Use system version 5 or higher.					
* When reusing SMART Active Parts, be sure to set the unit number.					
* Number of frames: 2					
* Data is saved in the following areas:					
User-set memory area in CIO Area and User-set data area in DM Area: MemoryCIO_DataDM					
User-set memory area in CIO Area and User-set data area in EM0 Area: MemoryCIO_DataEM0					
User-set memory area in Work Area and User-set data area in DM Area: MemoryWR_DataDM					
User-set memory area in Work Area and User-set data area in EM0 Area: MemoryWR_DataEM0					

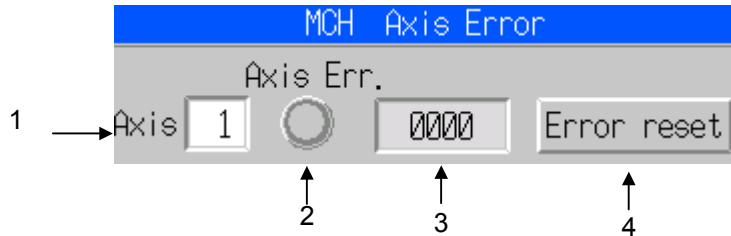
1.4.6 I/O Status Monitoring

Unit type	CS1W-MCH71	Storage directory	SmartActiveParts_E\Motion\MCH	Title	I/O Status Monitor
Function	Displays the I/O status and error codes for each axis.				
Display and Operation Details					
<div><div><div>1</div><div>→</div><div>I/O Status(Axis)</div><div>1</div></div><div><div>2</div><div>{</div><div>CW limit(P_OT)</div><div>CCW limit(N_OT)</div><div>Orig.proxty(DEC)</div><div>Machine origin</div><div>Extn1 latch 1 inp.</div><div>Posiong completed</div><div>No origin</div><div>Axis Alarm</div></div><div><div>3</div><div>→</div><div>Axis Alarm code</div><div>0000</div></div></div> <div>MCH I/O Status monitor</div>					
No.	Item	Setting/display	Description		
1	Axis	Setting	Sets the axis number. (Setting range: 1 to 32)		
2	I/O Status	Display	Displays the I/O status. The display will be lit yellow for any status signals that are ON.		
3	Error code	Display	Displays any error codes that have been generated.		
Remarks					
<ul style="list-style-type: none">* There are four different version of this SMART Active Part depending on the following user-set area alStorage directories. User-set memory area in CIO area and user-set data area in DM Area User-set memory area in CIO area and user-set data area in EM0 Area User-set memory area in Work area and user-set data area in DM Area User-set memory area in Work area and user-set data area in EM0 Area* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics, Data/Time, and Address Index for the \$SW. This SMART Active Part cannot be used on pop-up screens.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 1* Data is saved in the following areas: User-set memory area in CIO Area and User-set data area in DM Area: MemoryCIO_DataDM User-set memory area in CIO Area and User-set data area in EM0 Area: MemoryCIO_DataEM0 User-set memory area in Work Area and User-set data area in DM Area: MemoryWR_DataDM User-set memory area in Work Area and User-set data area in EM0 Area: MemoryWR_DataEM0					



1.4.7 I/O Status Monitoring (No name)

Unit type	CS1W-MCH71	Storage directory	SmartActiveParts_E\Motion\MCH	Title	I/O Status Monitor (No Name)
Function	Displays the I/O status and error codes for each axis.				
<div>Display and Operation Details</div> <div></div>					
No.	Item	Setting/display	Description		
1	Axis	Setting	Sets the axis number. (Setting range: 1 to 32)		
2	I/O Status	Display	Displays the I/O status. The display will be lit yellow for any status signals that are ON. The order of the status is the same as that for 2.10.6 I/O Status.		
3	Error code	Display	Displays any error codes that have been generated.		
<div>Remarks</div> <div><ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics, Data/Time, and Address Index for the \$SW. This SMART Active Part cannot be used on pop-up screens.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* There are four different version of this SMART Active Part depending on the following user-set area alStorage directories. User-set memory area in CIO area and user-set data area in DM Area User-set memory area in CIO area and user-set data area in EM0 Area User-set memory area in Work area and user-set data area in DM Area User-set memory area in Work area and user-set data area in EM0 Area* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 1* Data is saved in the following areas: User-set memory area in CIO Area and User-set data area in DM Area: MemoryCIO_DataDM User-set memory area in CIO Area and User-set data area in EM0 Area: MemoryCIO_DataEM0 User-set memory area in Work Area and User-set data area in DM Area: MemoryWR_DataDM User-set memory area in Work Area and User-set data area in EM0 Area: MemoryWR_DataEM0</div>					

1.4.8 Axis Error

Unit type	CS1W-MCH71	Storage directory	SmartActiveParts_E\Motio n\MCH	Title	Axis Error
Function	Displays and resets axis errors.				
Display and Operation Details					
<div></div>					
No.	Item	Setting/ display	Description		
1	Axis	Setting	Sets the axis number. (Setting range: 1 to 32)		
2	Axis error	Display	Lights yellow when an axis error has occurred.		
3	Error code	Display	Displays any error codes that have been generated.		
4	Error reset	Setting	Resets the axis error.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics, Data/Time, and Address Index for the \$SW. This SMART Active Part cannot be used on pop-up screens.* Do not use this SMART Active Part on the initial screen.* There are four different version of this SMART Active Part depending on the following user-set area alStorage directories.<ul style="list-style-type: none">User-set memory area in CIO area and user-set data area in DM AreaUser-set memory area in CIO area and user-set data area in EM0 AreaUser-set memory area in Work area and user-set data area in DM AreaUser-set memory area in Work area and user-set data area in EM0 Area* When reusing SMART Active Parts, be sure to set the unit number.* Data is saved in the following areas:<ul style="list-style-type: none">User-set memory area in CIO Area and User-set data area in DM Area: MemoryCIO_DataDMUser-set memory area in CIO Area and User-set data area in EM0 Area: MemoryCIO_DataEM0User-set memory area in Work Area and User-set data area in DM Area: MemoryWR_DataDMUser-set memory area in Work Area and User-set data area in EM0 Area: MemoryWR_DataEM0					

1.4.9 Task Error

Unit type	CS1W-MCH71	Storage directory	SmartActiveParts_E\EMotion\MCH	Title	Task Error
Function	Displays and resets task errors.				
Display and Operation Details					
<div><div>MCH Task Error</div><div>Task Err.</div><div><div>1 → Task</div><div>1</div><div></div><div></div><div>Error reset</div></div><div><div>2 ↑</div><div>3 ↑</div><div>4 ↑</div></div></div>					
No.	Item	Setting/display	Description		
1	Task	Setting	Sets the task number. (Setting range: 1 to 8)		
2	Task error	Display	Lights yellow when a task error has occurred.		
3	Error code	Display	Displays any task error codes that have been generated.		
4	Error rset	Setting	Resets the error.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB. This SMART Active Part cannot be used on pop-up screens.* Do not use this SMART Active Part on the initial screen.* Use system version 5 or higher.* When reusing SMART Active Parts, be sure to set the unit number.* Number of frames: 1* Data is saved in the following areas: User-set memory area in CIO Area and User-set data area in DM Area: MemoryCIO_DataDM User-set memory area in CIO Area and User-set data area in EM0 Area: MemoryCIO_DataEM0 User-set memory area in Work Area and User-set data area in DM Area: MemoryWR_DataDM User-set memory area in Work Area and User-set data area in EM0 Area: MemoryWR_DataEM0					

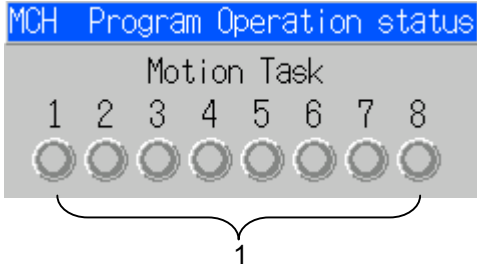
1.4.10 Unit Error

Unit type	CS1W-MCH71	Storage directory	SmartActiveParts_E\Motion\MCH	Title	Unit Error
Function	Displays and resets Unit errors.				
Display and Operation Details					
<div></div>					
No.	Item	Setting/display	Description		
1	Unit error	Display	Lights yellow when a Unit error has occurred.		
2	Error code	Display	Displays any Unit error codes that have been generated.		
3	Error reset	Setting	Resets the error.		
Remarks					
* When reusing SMART Active Parts, be sure to set the unit number.					
* Data is saved in the following areas:					
User-set memory area in CIO Area and User-set data area in DM Area: MemoryCIO_DataDM					
User-set memory area in CIO Area and User-set data area in EM0 Area: MemoryCIO_DataEM0					
User-set memory area in Work Area and User-set data area in DM Area: MemoryWR_DataDM					
User-set memory area in Work Area and User-set data area in EM0 Area: MemoryWR_DataEM0					

1.4.11 Servo Parameter Setting

Unit type	CS1W-MCH71	Storage directory	SmartActiveParts_E\Moti on\MCH	Title	Servo Parameter Setting
Function	Sets and displays servo parameters.				
Display and Operation Details					
<div><div><div><div><div>3</div><div>4</div><div>5</div></div><div><div>MCH Servo parameter Setting</div><div>Param. No. Settg value Param. size</div><div>1 Axis 1 0 00000000 2 V</div><div>Transfrng ※Check the set value when inputting.</div><div>2 <div>Write Read Save</div></div><div><div>6</div><div>7</div><div>8</div></div></div></div></div></div>					
No.	Item	Setting/display	Description		
1	Axis	Setting	Sets the axis number. The setting ranges are as follows: (Setting range: 1 to 32)		
2	Transferring	Display	Lights yellow when servo parameters are being transferred.		
3	Parameter No.	Setting	Sets the parameter number.		
4	Setting value	Setting/display	Specify the data to write to the servo drive.		
5	Parameter size	Setting	Sets the parameter size. 2 or 4		
6	Write	Setting	Writes the setting to control memory in the servo drive.		
7	Read	Setting	Reads the servo parameter.		
8	Save	Setting	Saves the servo parameter to nonvolatile memory in the servo drive.		
Remarks					
<div><div><div><div><div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics and Data/Time for the \$SB. This SMART Active Part cannot be used on pop-up screens.</div><div>* Do not use this SMART Active Part on the initial screen.</div><div>* Use system version 5 or higher.</div><div>* When reusing SMART Active Parts, be sure to set the unit number.</div><div>* Data is saved in the following areas:<div>User-set memory area in CIO Area and User-set data area in DM Area: MemoryCIO_DataDM</div><div>User-set memory area in CIO Area and User-set data area in EM0 Area: MemoryCIO_DataEM0</div><div>User-set memory area in Work Area and User-set data area in DM Area: MemoryWR_DataDM</div><div>User-set memory area in Work Area and User-set data area in EM0 Area: MemoryWR_DataEM0</div></div></div></div></div></div>					

1.4.12 Program Operation Status

Unit type	CS1W-MCH71	Storage directory	SmartActiveParts_E\Motion\MCH	Title	Program Operation Status
Function	Displays motion task status during operation.				
Display and Operation Details					
<div>MCH Program Operation status</div> <div>Motion Task</div> <div>1 2 3 4 5 6 7 8</div> <div></div>					
No.	Item	Setting/display	Description		
1	Motion task	Display	Lights yellow during motion task operation.		
Remarks					
<ul style="list-style-type: none">* When reusing SMART Active Parts, be sure to set the unit number.* Data is saved in the following areas:<ul style="list-style-type: none">User-set memory area in CIO Area and User-set data area in DM Area: MemoryCIO_DataDMUser-set memory area in CIO Area and User-set data area in EM0 Area: MemoryCIO_DataEM0User-set memory area in Work Area and User-set data area in DM Area: MemoryWR_DataDMUser-set memory area in Work Area and User-set data area in EM0 Area: MemoryWR_DataEM0					

1.4.13 Automatic Mode Status

Unit type	CS1W-MCH71	Storage directory	SmartActiveParts_E\Motion\MCH	Title	Automatic Mode Status
Function	Displays the operating mode for each axis, automatic or manual.				
Display and Operation Details					
<div><div>MCH Automatic mode status</div><div><div>Axis</div><div><div>12345678910111213141516</div><div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div>17181920212223242526272829303132</div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div></div><div>1</div></div></div></div></div>					
No.	Item	Setting/display	Description		
1	Axis	Display	Lights yellow if the axis is in automatic mode.		
Remarks					
<div><div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics, Data/Time, and Address Index for the \$SW. This SMART Active Part cannot be used on pop-up screens.</div><div>* Do not use this SMART Active Part on the initial screen.</div><div>* There are two different version of this SMART Active Part, one for a CIO Area user-set memory area and one for a Work Area user-set memory area.</div><div>* When reusing SMART Active Parts, be sure to set the unit number.</div><div>* Data is saved in the following areas:<div>User-set memory area in CIO Area and User-set data area in DM Area: MemoryAreaCIO_DataAreaDM</div><div>User-set memory area in CIO Area and User-set data area in EM0 Area: MemoryAreaCIO_DataAreaEM0</div><div>User-set memory area in Work Area and User-set data area in DM Area: MemoryAreaWR_DataAreaDM</div><div>User-set memory area in Work Area and User-set data area in EM0 Area: MemoryAreaWR_DataAreaEM0</div></div></div>					

1.5 CS1W/CJ1W-NC413/433/213/233 (from Ver5 or Earlier)**Smart Active Parts described in this section**

Mart Active Parts described in this section can be used only when beginning word of the operating data area destination is determined (fixed) by the unit number.

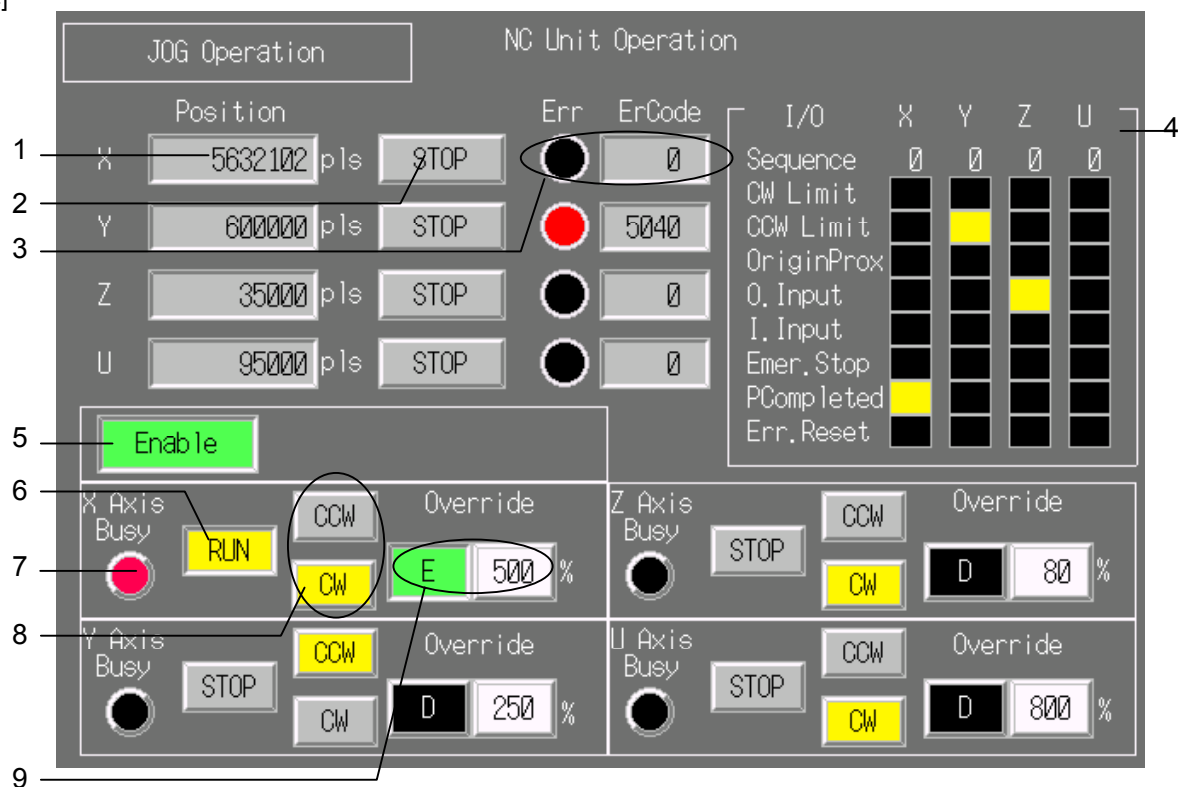
E.g. Case that the unit number is two.
The operating data area is fixed from $m + 116$ to $m + 187$.
Set 0000 for operating data area (m) to fix the beginning word.
 $m = D2000 + 100 \times \text{unit number}$

Motion Control

1.5.1 NC4[3] (Smart Active Parts Ver 5 or Earlier)

Model	CS1W-NC413/433 CJ1W-NC413/433	Storage directory	SmartActiveParts_EMotion\Ver5orEarlier\NC_1\NC413,433	Title	JOG Operation (4)
Function	Displays I/O status, present position, error code for each axis. Also switches between RUN and STOP, CW and CCW and sets override when the control flag (Enable button) is ON				

[Image]



No.	Item	Setting/Display	Details
1	Present Position (Position)	Display	Displays present position for each axis to be controlled by NC unit. (-2,147,483,647 to 2,147,483,647)
2	STOP	Setting	Stops axis in a set time.
3	Error (Err)	Display	Lights lamps when an error has been occurred and displays error codes.
4	I/O Status (I/O)	Display	Displays I/O status.
5	Enable	Setting	Controls inputs, such as operation, read, override, and position numbers.
6	RUN/STOP	Setting	Switches between RUN and STOP (0: STOP, 1: RUN).
7	Busy	Display	Display whether NC unit processes operations or not. Also lights lamp for X axis when initializing unit.
8	CW/CCW	Setting	Specifies rotative direction (0: CW, 1: CCW).
9	Override	Setting	Sets values for override and switches between enable and disable.

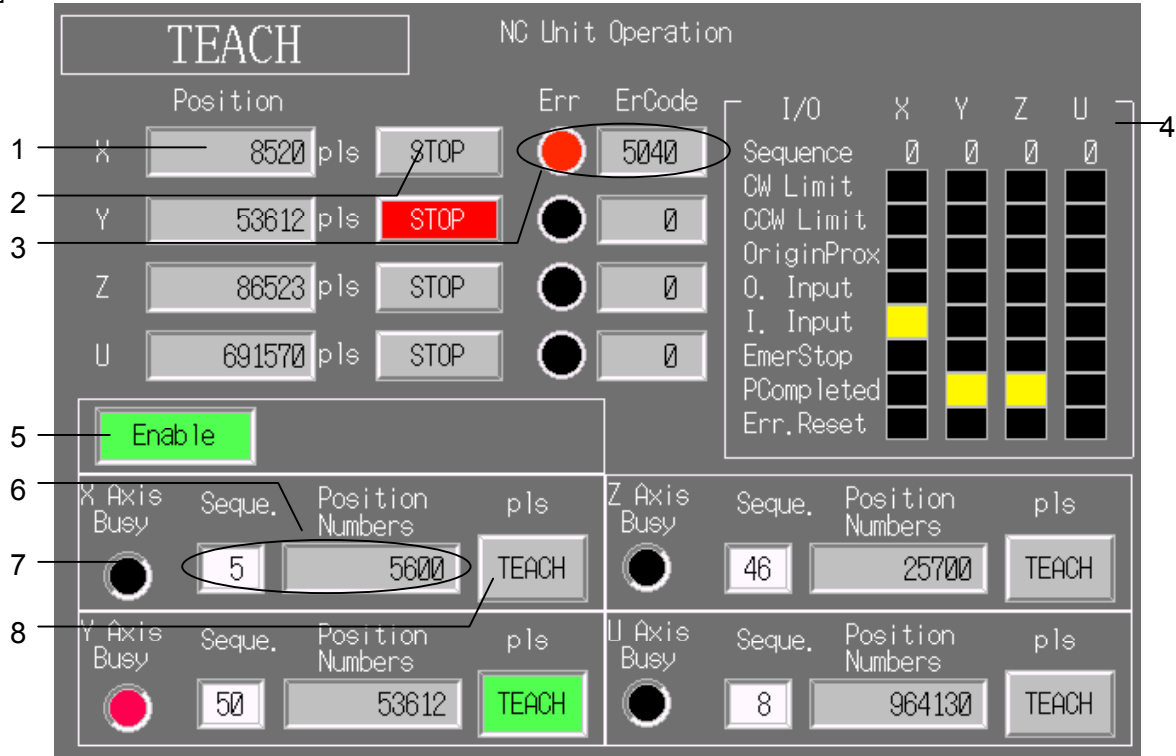
[Note]

Those parts can be used for 4 axes unit only. They cannot be used for 1 axis or 2 axes.

1.5.2 Teaching

Model	CS1W-NC413/433 CJ1W-NC413/433	Storage directory	SmartActiveParts_EMotion\Ver5orEarlier\NC_1\NC413,433	Title	Teach (4)
Function	Displays I/O status, present position, error code for each axis. Also sets sequence No. and performs teaching when the control flag(Enable button) is ON				

[Image]



No.	Item	Setting/Display	Details
1	Present Position (Position)	Display	Displays present position for each axis to be controlled by NC unit. (-2,147,483,647 to 2,147,483,647)
2	STOP	Setting	Stops axis in a set time.
3	Error (Err)	Display	Lights lamps when an error has been occurred and displays error codes.
4	I/O Status (I/O)	Display	Displays I/O status.
5	Enable	Setting	Controls inputs, such as operation, read, override, and position numbers.
6	Position Numbers	Setting	Sets position numbers and displays position of sequence No.
7	Busy	Display	Display whether NC unit processes operations or not. Also lights lamp for X axis when initializing unit.
8	TEACH	Setting	Sets present position for position numbers.

[Note]

Select **Settings-System Setting-Initial** tab page in the NS-Designer, click System Memory List button, and check the Basics for the \$SB before using this library.

Do NOT use as an initial screen.

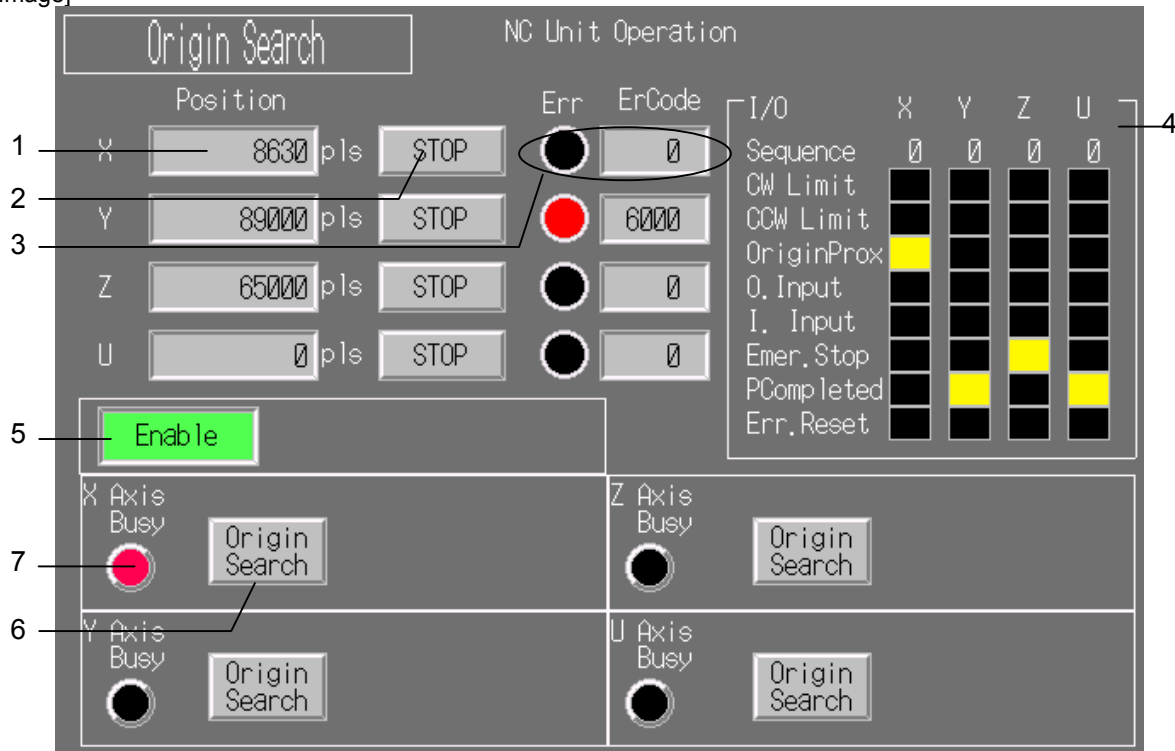
Those parts can be used for 4 axes unit only. They cannot be used for 1 axis or 2 axes.

Motion Control

1.5.3 Origin Search

Model	CS1W-NC413/433 CJ1W-NC413/433	Storage directory	SmartActiveParts_EMotion\Ver5orEarlier\NC_1\NC413,433	Title	Origin Search
Function	Displays I/O status, present position, error code for each axis. Also enables origin search operation when the control flag(Enable button) is ON				

[Image]



No.	Item	Setting/Display	Details
1	Present Position (Position)	Display	Displays present position for each axis to be controlled by NC unit. (-2,147,483,647 to 2,147,483,647)
2	STOP	Setting	Stops axis in a set time.
3	Error (Err)	Display	Lights lamps when an error has been occurred and displays error codes.
4	I/O Status (I/O)	Display	Displays I/O status.
5	Enable	Setting	Controls inputs, such as operation, read, override, and position numbers.
6	Origin Search	Setting	Starts origin search operation when it is pressed.
7	Busy	Display	Display whether NC unit processes operations or not. Also lights lamp for X axis when initializing unit.

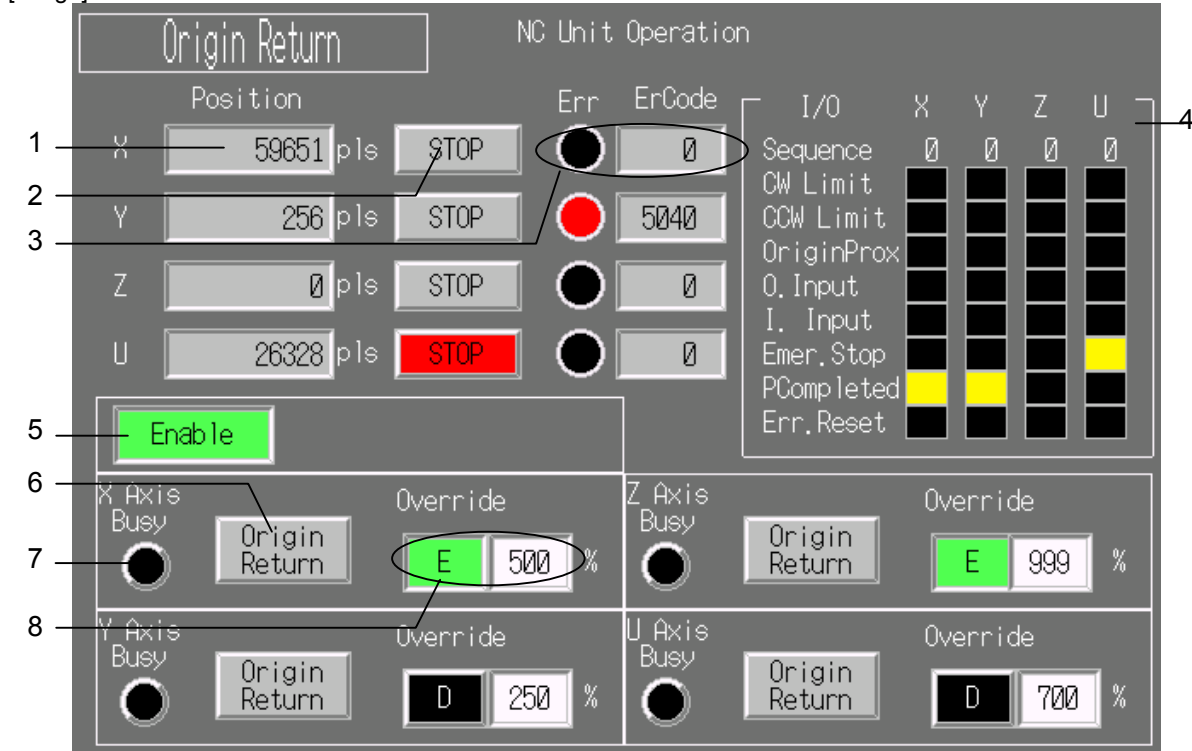
[Note]

Those parts can be used for 4 axes unit only. They cannot be used for 1 axis or 2 axes.

1.5.4 Origin Return

Model	CS1W-NC413/433 CJ1W-NC413/433	Storage directory	SmartActiveParts_EMotion\Ver5orEarlier\NC_1\NC413,433	Title	Origin Return (4)
Function	Displays I/O status, present position, error code for each axis. Also enables origin search operation and sets override when the control flag (Enable button) is ON.				

[Image]



No.	Item	Setting/Display	Details
1	Present Position (Position)	Display	Displays present position for each axis to be controlled by NC unit. (-2,147,483,647 to 2,147,483,647)
2	STOP	Setting	Stops axis in a set time.
3	Error (Err)	Display	Lights lamps when an error has been occurred and displays error codes.
4	I/O Status (I/O)	Display	Displays I/O status.
5	Enable	Setting	Controls inputs, such as operation, read, override, and position numbers.
6	Origin Return	Setting	Axis returns from any position to the origin.
7	Busy	Display	Display whether NC unit processes operations or not. Also lights lamp for X axis when initializing unit.
8	Override	Setting	Sets values for override and switches between enable and disable.

[Note]

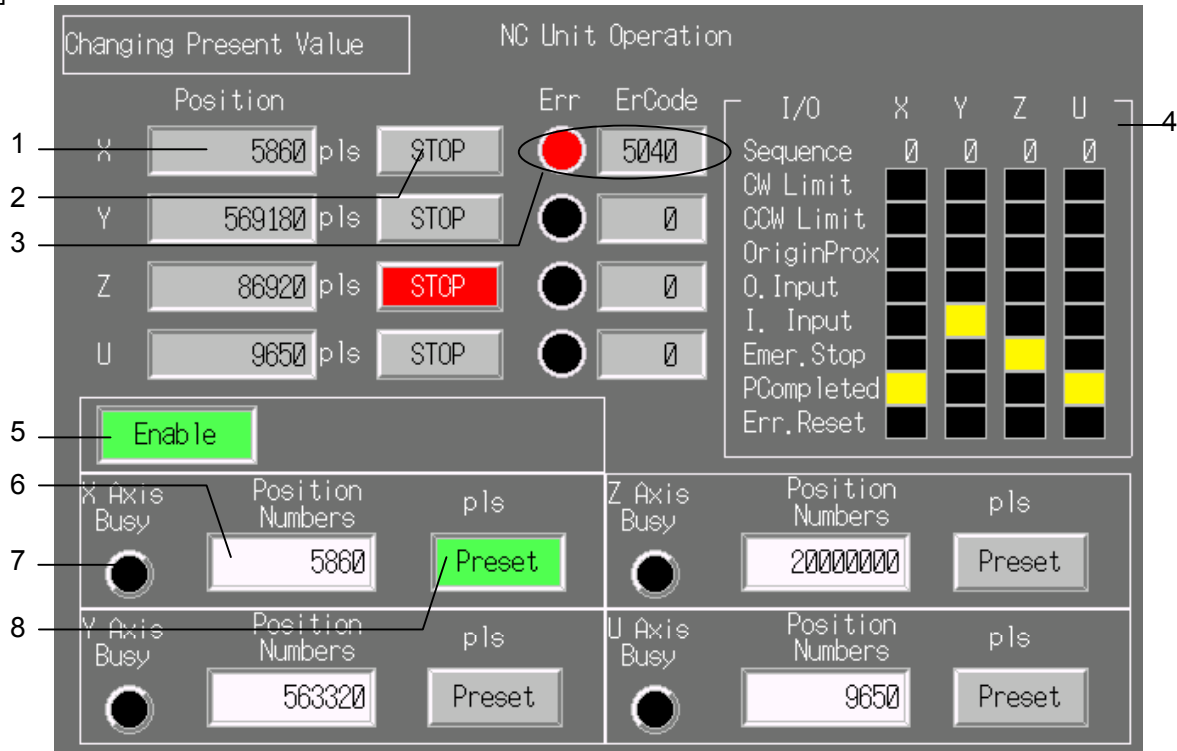
Those parts can be used for 4 axes unit only. They cannot be used for 1 axis or 2 axes.

Motion Control

1.5.5 Changing Preset Value

Model	CS1W-NC413/433 CJ1W-NC413/433	Storage directory	DV\NC_V1\ NC413,433	Title	Changing Present Value (4)
Function	Displays I/O status, present position, error code for each axis. Also presets position numbers when the control flag (Enable button) is ON.				

[Image]



No.	Item	Setting/Display	Details
1	Present Position (Position)	Display	Displays present position for each axis to be controlled by NC unit. (-2,147,483,647 to 2,147,483,647)
2	STOP	Setting	Stops axis in a set time.
3	Error (Err)	Display	Lights lamps when an error has been occurred and displays error codes.
4	I/O Status (I/O)	Display	Displays I/O status.
5	Enable	Setting	Controls inputs, such as operation, read, override, and position numbers.
6	Position Numbers	Setting	Sets position numbers to preset.
7	Busy	Display	Display whether NC unit processes operations or not. Also lights lamp for X axis when initializing unit.
8	Preset	Setting	Changes position form present position to position numbers forcibly.

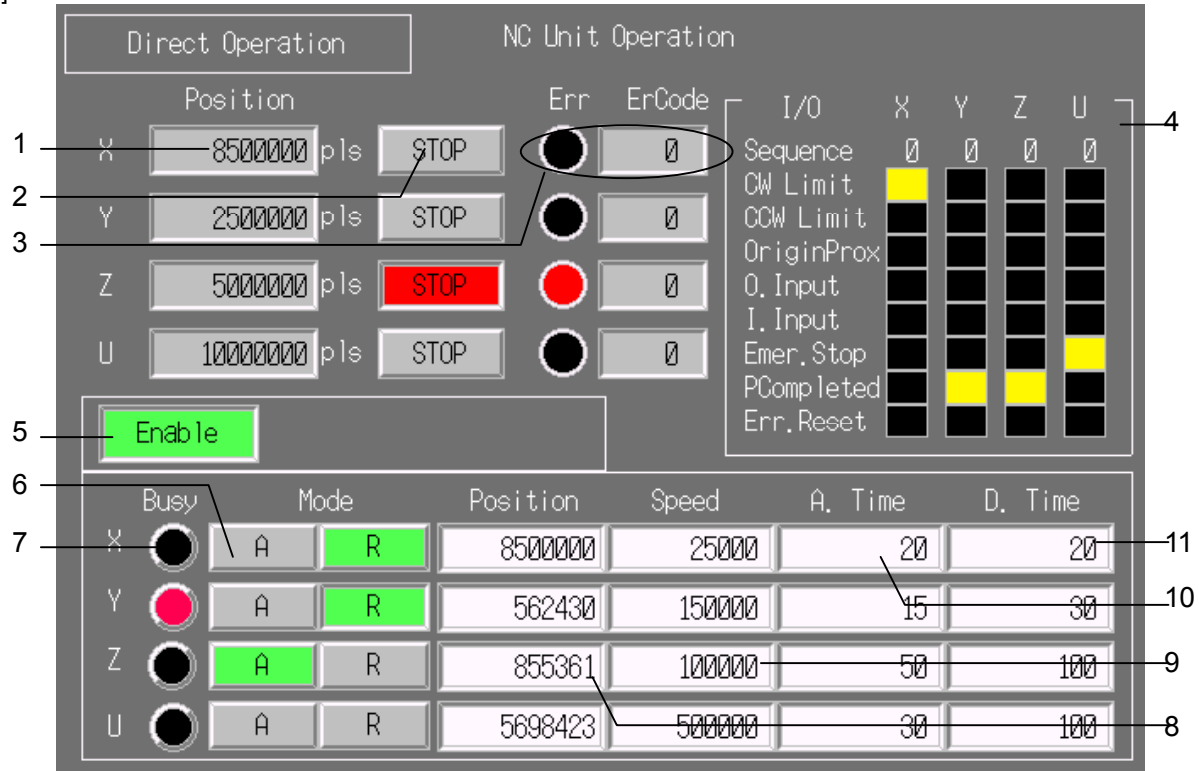
[Note]

Those parts can be used for 4 axes unit only. They cannot be used for 1 axis or 2 axes.

1.5.6 Direct Operation

Model	CS1W-NC413/433 CJ1W-NC413/433	Storage directory	DV\NC_V1\ NC413,433	Title	Direct Operation (4)
Function	Displays I/O status, present position, error code for each axis. Also sets operation mode and other data when the control flag (Enable button) is ON.				

[Image]



No.	Item	Setting/Display	Details
1	Present Position (Position)	Display	Displays present position for each axis to be controlled by NC unit. (-2,147,483,647 to 2,147,483,647)
2	STOP	Setting	Stops axis in a set time.
3	Error (Err)	Display	Lights lamps when an error has been occurred and displays error codes.
4	I/O Status (I/O)	Display	Displays I/O status.
5	Enable	Setting	Controls inputs, such as operation, read, override, and position numbers.
6	Operation Mode (Mode)	Setting	Switches movement for operation data area between Absolute (A) and Relative (R).
7	Busy	Display	Display whether NC unit processes operations or not. Also lights lamp for X axis when initializing unit.
8	Position	Setting	Sets target position for each axis.
9	Speed	Setting	Sets target speed for each axis.
10	Acceleration Time (A. Time)	Setting	Sets acceleration time for each axis.
11	Deceleration Time (D.Time)	Setting	Sets deceleration time for each axis.

[Note]

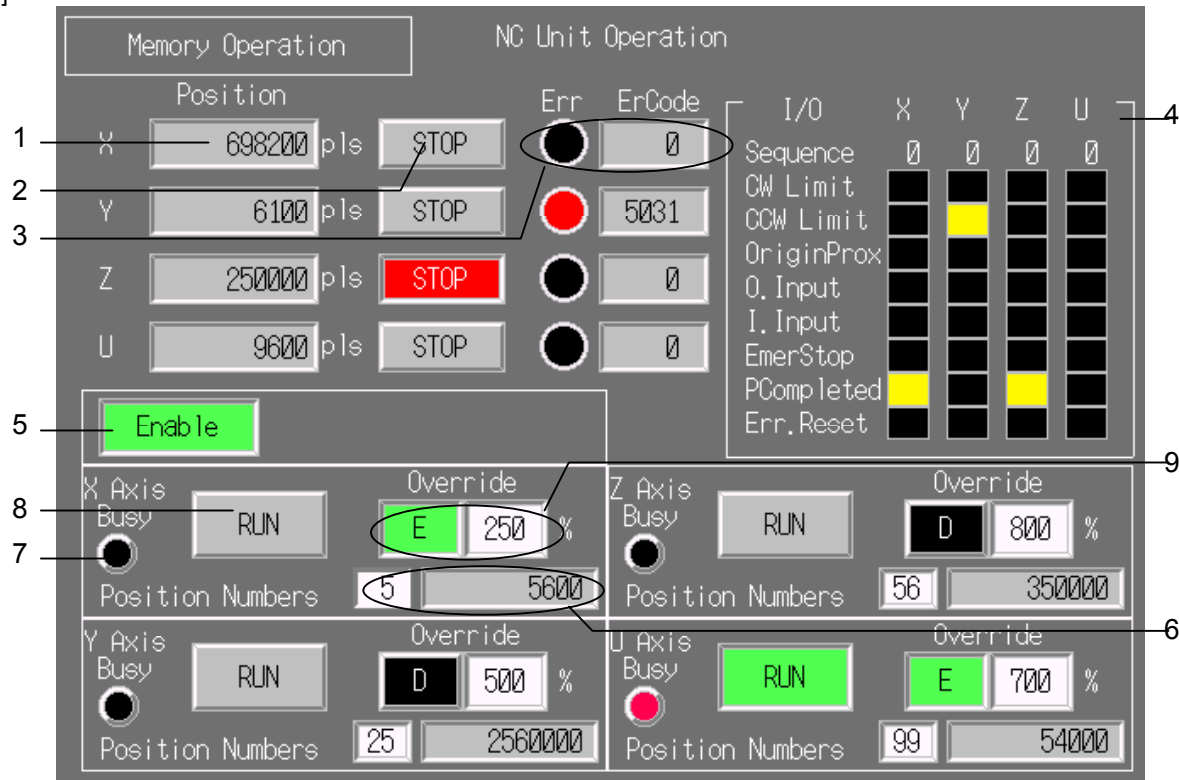
Those parts can be used for 4 axes unit only. They cannot be used for 1 axis or 2 axes.

Motion Control

1.5.7 Memory Operation(4)

Model	CS1W-NC413/433 CJ1W-NC413/433	Storage directory	DV\NC_V1\ NC413,433	Title	Memory Operation (4)
Function	Displays I/O status, present position, error code for each axis. Also sets override and sequence No. and starts operation with the set conditions by pressing RUN button when the control flag (Enable button) is ON.				

[Image]



No.	Item	Setting/Display	Details
1	Present Position (Position)	Display	Displays present position for each axis to be controlled by NC unit. (-2,147,483,647 to 2,147,483,647)
2	STOP	Setting	Stops axis in a set time.
3	Error (Err)	Display	Lights lamps when an error has been occurred and displays error codes.
4	I/O Status (I/O)	Display	Displays I/O status.
5	Enable	Setting	Controls inputs, such as operation, read, override, and position numbers.
6	Position Numbers	Setting	
7	Busy	Display	Display whether NC unit processes operations or not. Also lights lamp for X axis when initializing unit.
8	RUN	Setting	Starts memory operation when it is pressed.
9	Override	Setting	Sets values for override and switches between enable and disable.

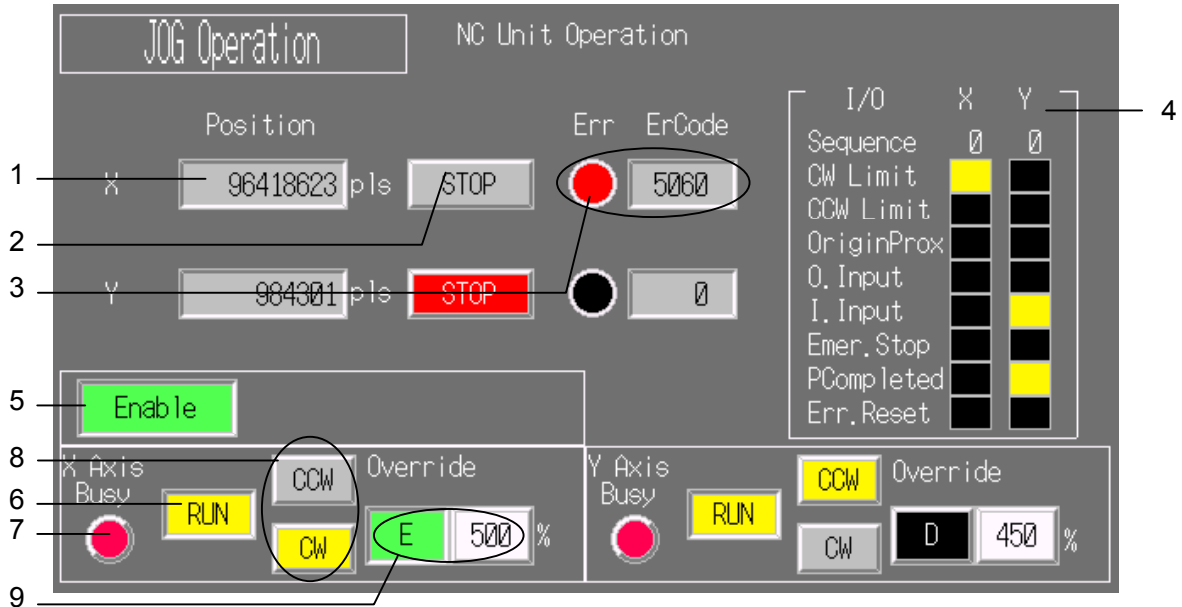
[Note]

1. Select **Settings-System Setting-Initial** tab page in the NS-Designer, click **System Memory List** button, and check the **Basics** for the \$SB before using this library.
2. Do NOT use as an initial screen.
3. Those parts can be used for 4 axes unit only. They cannot be used for 1 axis or 2 axes.

1.5.8 JOG Operation(2)

Model	CS1W-NC213/233 CJ1W-NC213/233	Storage directory	DV\NC_V1\ NC213,233	Title	JOG Operation (2)
Function	Displays I/O status, present position, error code for each axis. Also switches between RUN and STOP, CW and CCW and sets override when the control flag(Enable button) is ON				

[Image]



No.	Item	Setting/Display	Details
1	Present Position (Position)	Display	Displays present position for each axis to be controlled by NC unit. (-2,147,483,647 to 2,147,483,647)
2	STOP	Setting	Stops axis in a set time.
3	Error (Err)	Display	Lights lamps when an error has been occurred and displays error codes.
4	I/O Status (I/O)	Display	Displays I/O status.
5	Enable	Setting	Controls inputs, such as operation, read, override, and position numbers.
6	RUN/STOP	Setting	Switches between RUN and STOP (0: STOP, 1: RUN).
7	Busy	Display	Display whether NC unit processes operations or not. Also lights lamp for X axis when initializing unit.
8	CW/CCW	Setting	Specifies rotative direction (0: CW, 1: CCW).

[Note]

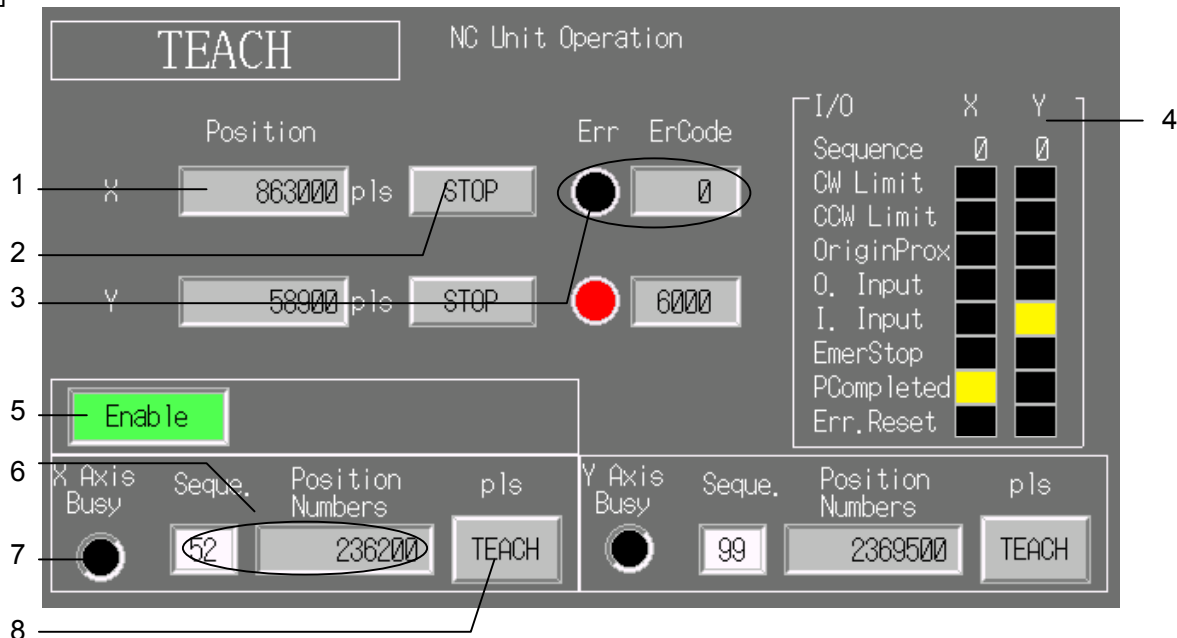
Those parts can be used for 2 axes unit only. They cannot be used for 1 axis or 4 axes.

Motion Control

1.5.9 Teach

Model	CS1W-NC213/233 CJ1W-NC213/233	Storage directory	DV\NC_V1\ NC213,233	Title	Teach (2)
Function	Displays I/O status, present position, error code for each axis. Also sets sequence No. and performs teaching when the control flag(Enable button) is ON				

[Image]



No.	Item	Setting/Display	Details
1	Present Position (Position)	Display	Displays present position for each axis to be controlled by NC unit. (-2,147,483,647 to 2,147,483,647)
2	STOP	Setting	Stops axis in a set time.
3	Error (Err)	Display	Lights lamps when an error has been occurred and displays error codes.
4	I/O Status (I/O)	Display	Displays I/O status.
5	Enable	Setting	Controls inputs, such as operation, read, override, and position numbers.
6	Position Numbers	Setting	
7	Busy	Display	Display whether NC unit processes operations or not. Also lights lamp for X axis when initializing unit.
8	TEACH	Setting	Sets present position for position numbers.

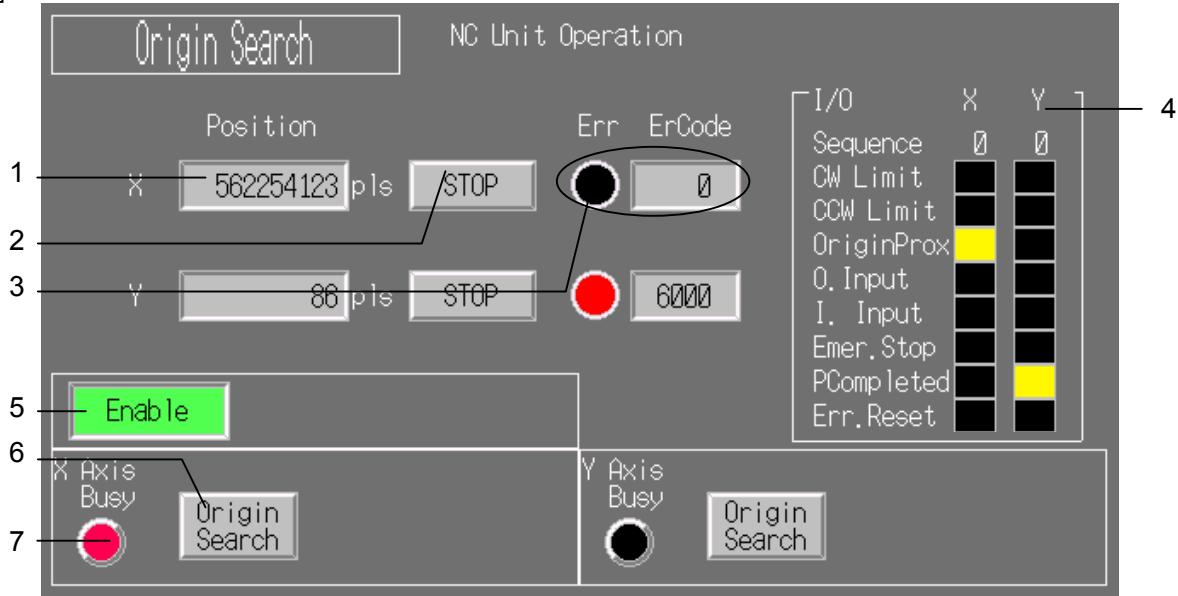
[Note]

1. Select **Settings-System Setting-Initial** tab page in the NS-Designer, click **System Memory List** button, and check the **Basics** for the \$SB before using this library.
2. Do NOT use as an initial screen.
3. Those parts can be used for 2 axes unit only. They cannot be used for 1 axis or 4 axes.

1.5.10 Origin Search

Model	CS1W-NC213/233 CJ1W-NC213/233	Storage directory	DV\NC_V1\ NC213,233	Title	Origin Search (2)
Function	Displays I/O status, present position, error code for each axis. Also enables origin search operation when the control flag (Enable button) is ON				

[Image]



No.	Item	Setting/Display	Details
1	Present Position (Position)	Display	Displays present position for each axis to be controlled by NC unit. (-2,147,483,647 to 2,147,483,647)
2	STOP	Setting	Stops axis in a set time.
3	Error (Err)	Display	Lights lamps when an error has been occurred and displays error codes.
4	I/O Status (I/O)	Display	Displays I/O status.
5	Enable	Setting	Controls inputs, such as operation, read, override, and position numbers.
6	Origin Search	Setting	Starts origin search operation when it is pressed.
7	Busy	Display	Display whether NC unit processes operations or not. Also lights lamp for X axis when initializing unit.

[Note]

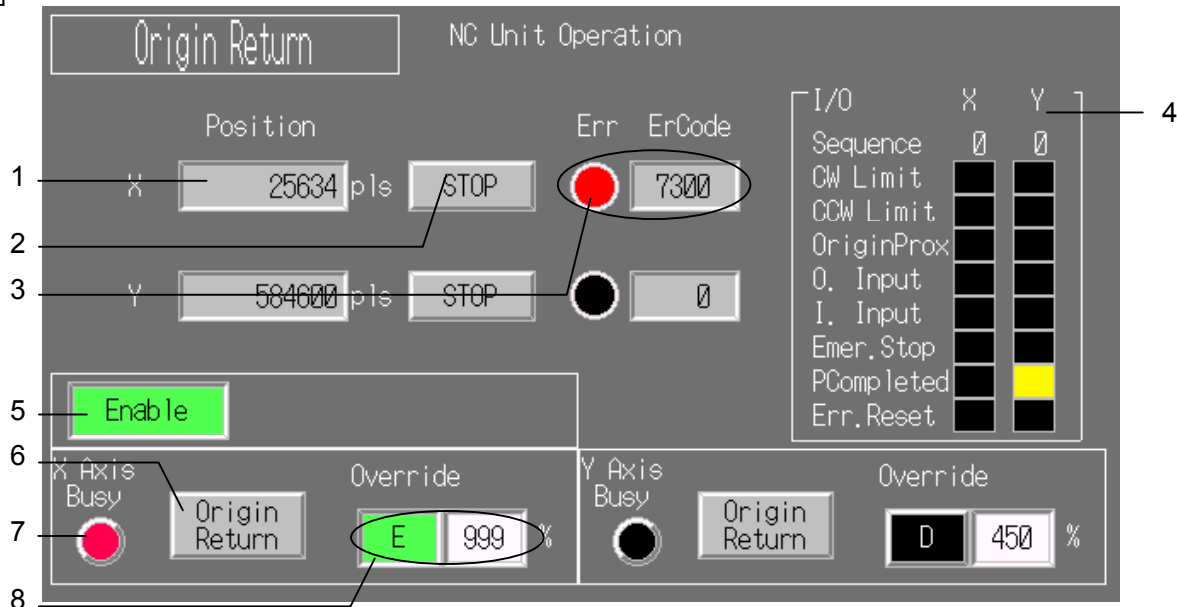
Those parts can be used for 2 axes unit only. They cannot be used for 1 axis or 4 axes.

Motion Control

1.5.11 Origin Return(2)

Model	CS1W-NC213/233 CJ1W-NC213/233	Storage directory	DV\NC_V1\ NC213,233	Title	Origin Return (2)
Function	Displays I/O status, present position, error code for each axis. Also enables origin search operation and sets override when the control flag (Enable button) is ON.				

[Image]



No.	Item	Setting/Display	Details
1	Present Position (Position)	Display	Displays present position for each axis to be controlled by NC unit. (-2,147,483,647 to 2,147,483,647)
2	STOP	Setting	Stops axis in a set time.
3	Error (Err)	Display	Lights lamps when an error has been occurred and displays error codes.
4	I/O Status (I/O)	Display	Displays I/O status.
5	Enable	Setting	Controls inputs, such as operation, read, override, and position numbers.
6	Origin Return	Setting	Axis returns from any position to the origin.
7	Busy	Display	Display whether NC unit processes operations or not. Also lights lamp for X axis when initializing unit.
8	Override	Setting	Sets values for override and switches between enable and disable.

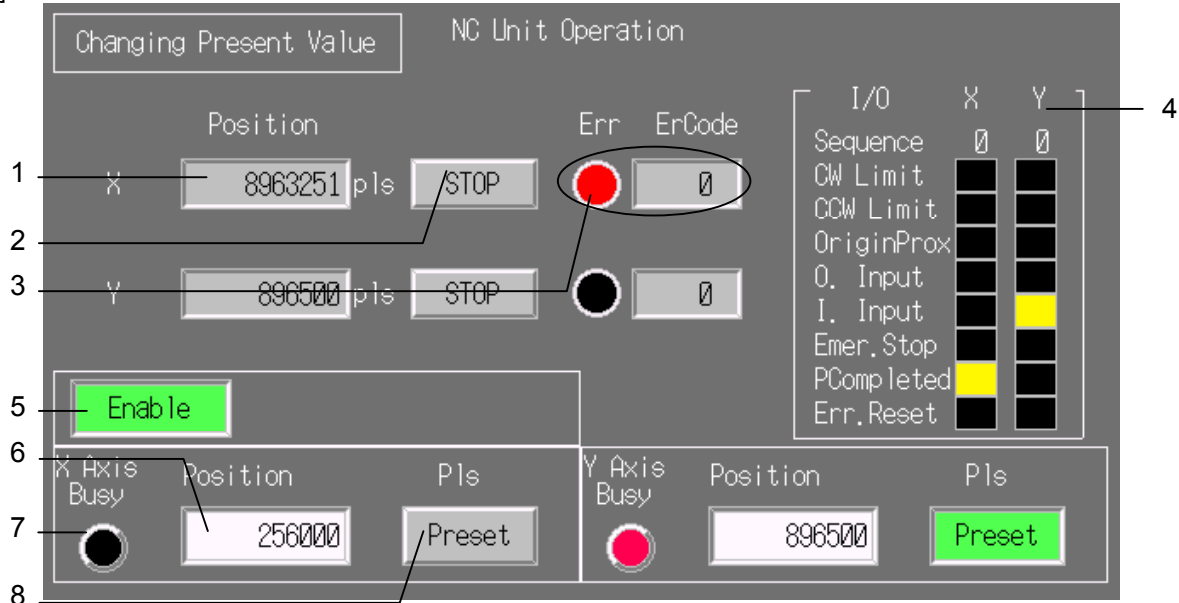
[Note]

Those parts can be used for 2 axes unit only. They cannot be used for 1 axis or 4 axes.

1.5.12 Changing Present Value

Model	CS1W-NC213/233 CJ1W-NC213/233	Storage directory	DV\NC_V1\ NC213,233	Title	Changing Present Value (2)
Function	Displays I/O status, present position, error code for each axis. Also presets position numbers when the control flag (Enable button) is ON.				

[Image]



No.	Item	Setting/Display	Details
1	Present Position (Position)	Display	Displays present position for each axis to be controlled by NC unit. (-2,147,483,647 to 2,147,483,647)
2	STOP	Setting	Stops axis in a set time.
3	Error (Err)	Display	Lights lamps when an error has been occurred and displays error codes.
4	I/O Status (I/O)	Display	Displays I/O status.
5	Enable	Setting	Controls inputs, such as operation, read, override, and position numbers.
6	Position Numbers	Setting	Sets position numbers to preset.
7	Busy	Display	Display whether NC unit processes operations or not. Also lights lamp for X axis when initializing unit.
8	Preset	Setting	Changes position form present position to position numbers forcibly.

[Note]

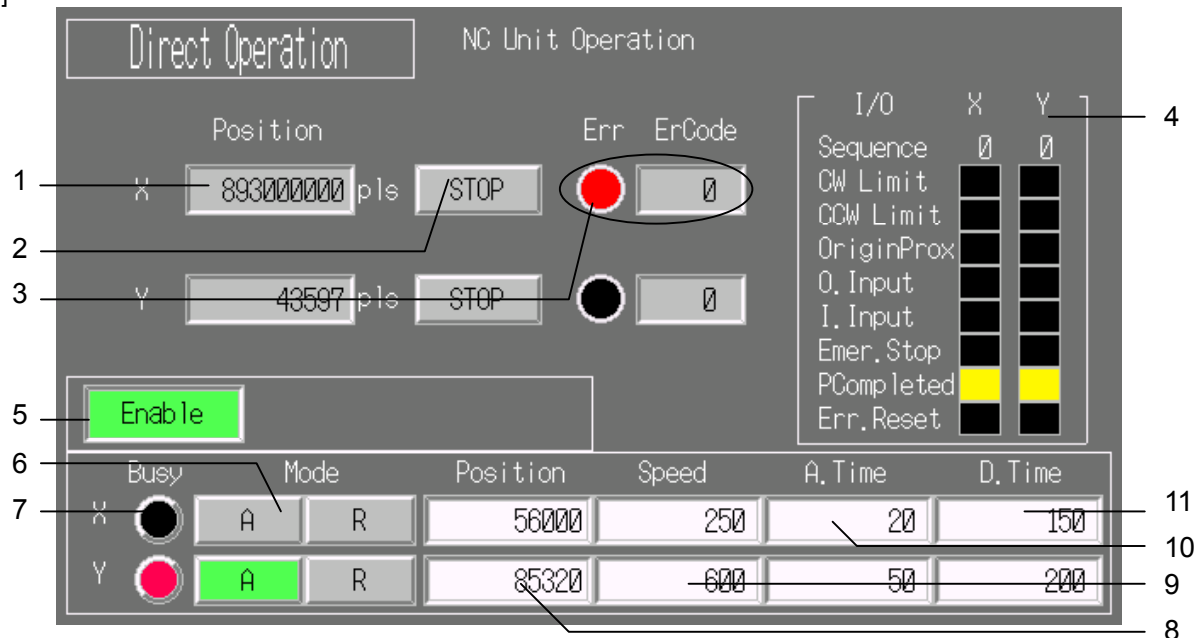
Those parts can be used for 2 axes unit only. They cannot be used for 1 axis or 4 axes.

Motion Control

1.5.13 Direct Operation

Model	CS1W-NC213/233 CJ1W-NC213/233	Storage directory	DV\NC_V1\ NC213,233	Title	Direct Operation (2)
Function	Displays I/O status, present position, error code for each axis. Also sets operation mode and other data when the control flag (Enable button) is ON.				

[Image]



No.	Item	Setting/Display	Details
1	Present Position (Position)	Display	Displays present position for each axis to be controlled by NC unit. (-2,147,483,647 to 2,147,483,647)
2	STOP	Setting	Stops axis in a set time.
3	Error (Err)	Display	Lights lamps when an error has been occurred and displays error codes.
4	I/O Status (I/O)	Display	Displays I/O status.
5	Enable	Setting	Controls inputs, such as operation, read, override, and position numbers.
6	Operation Mode (Mode)	Setting	Switches movement for operation data area between Absolute (A) and Relative (R).
7	Busy	Display	Display whether NC unit processes operations or not. Also lights lamp for X axis when initializing unit.
8	Position	Setting	Sets target position for each axis.
9	Speed	Setting	Sets target speed for each axis.
10	Acceleration Time (A. Time)	Setting	Sets acceleration time for each axis.
11	Deceleration Time (D. Time)	Setting	Sets deceleration time for each axis.

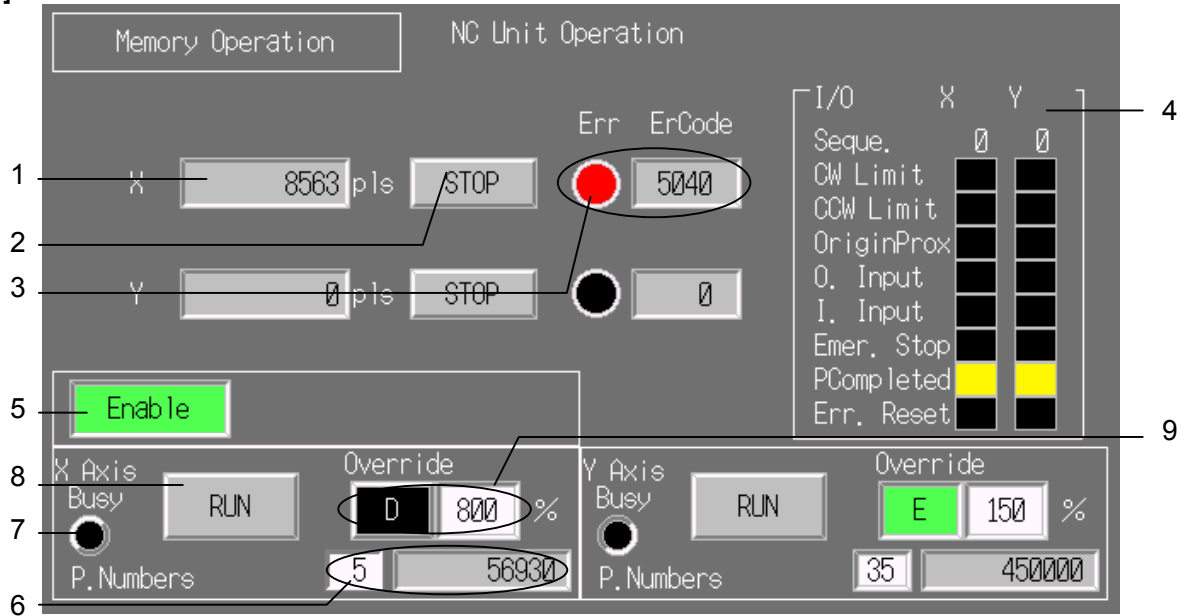
[Note]

1. Select **Settings-System Setting-Initial** tab page in the NS-Designer, click **System Memory List** button, and check the **Basics** for the \$SB before using this library.
2. Do NOT use as an initial screen.
3. Those parts can be used for 2 axes unit only. They cannot be used for 1 axis or 4 axes.

1.5.14 Memory Operation(2)

Model	CS1W-NC213/233 CJ1W-NC213/233	Storage directory	DV\NC_V1\ NC213,233	Title	Memory Operation (2)
Function	Displays I/O status, present position, error code for each axis. Also sets override and sequence No. and starts operation with the set conditions by pressing RUN button when the control flag (Enable button) is ON.				

[Image]



No.	Item	Setting/ Display	Details
1	Present Position (Position)	Display	Displays present position for each axis to be controlled by NC unit. (-2,147,483,647 to 2,147,483,647)
2	STOP	Setting	Stops axis in a set time.
3	Error (Err)	Display	Lights lamps when an error has been occurred and displays error codes.
4	I/O Status (I/O)	Display	Displays I/O status.
5	Enable	Setting	Controls inputs, such as operation, read, override, and position numbers.
6	Position Numbers	Setting	Sets position numbers and displays position of sequence No.
7	Busy	Display	Display whether NC unit processes operations or not. Also lights lamp for X axis when initializing unit.
8	RUN	Setting	Starts memory operation when it is pressed.
9	Override	Setting	Sets values for override and switches between enable and disable.

[Note]

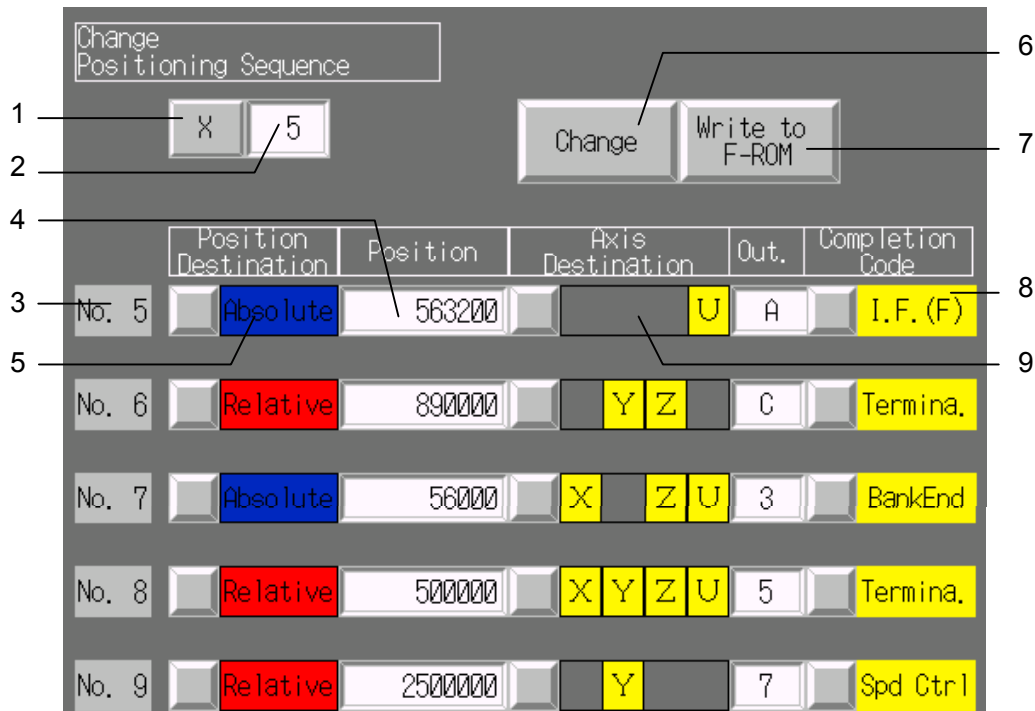
1. Select **Settings-System Setting-Initial** tab page in the NS-Designer, click **System Memory List** button, and check the **Basics** for the \$SB before using this library.
2. Do NOT use as an initial screen.
3. Those parts can be used for 2 axes unit only. They cannot be used for 1 axis or 4 axes.

Motion Control

1.5.15 Change Positioning Sequence(4)

Model	CS1W-NC413/433 CJ1W-NC413/433	Storage directory	DV\NC_V1\ NC413,433	Title	Change Positioning Sequence (4)
Function	Sets sequence data, such as position destination, axis destination, output (Out.), and completion code, and position.				

[Image]



No.	Item	Setting/Display	Details
1	Axis	Display	Displays axis which settings should be made.
2	Sequence No.	Setting	Input the desired sequence No.
3	Sequence No.	Display	Displays sequence No. to be set.
4	Position	Setting	Sets the position for the selected axis.
5	Position Destination	Setting	Sets whether the position is absolute or relative.
6	Change	Setting	Writes the displayed data to parameter area in the NC Unit.
7	Write to F-ROM	Display	Saves data written to the parameter area to F-ROM. Make sure to perform this before turning OFF the power.
8	Completion Code	Setting	Sets completion codes.
9	Axis Destination	Setting	Specifies axis to be started up.

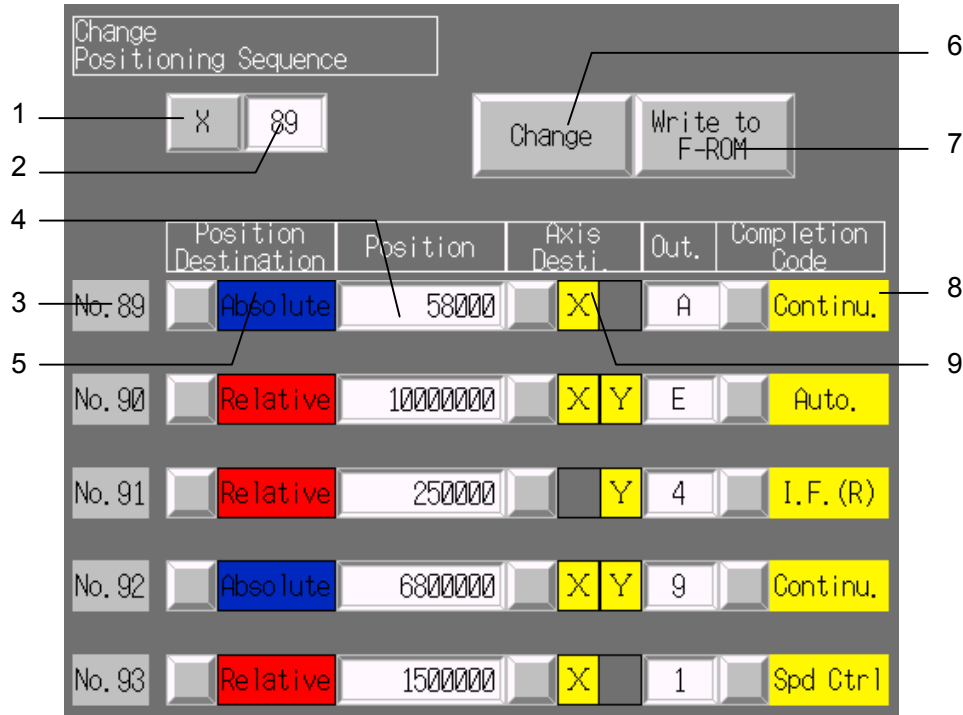
[Note]

1. Select **Settings-System Setting-Initial** tab page in the NS-Designer, click **System Memory List** button, and check the **Basics** for the \$SB before using this library.
2. When changing sequence No., press **Change** button and write it to parameter area. Unless the sequence No. is written to the parameter area, data will NOT be saved.
3. Unless F-ROM button is pressed, data will be deleted before turning OFF the power. Data to be saved in the NC Unit by pressing the Write to F-ROM button is data saved in the parameter area of PLC, NOT displaying on the screen.
4. Do NOT use as an initial screen.
5. Those parts can be used for 4 axes unit only. They cannot be used for 1 axis or 2 axes.

1.5.16 Change Positioning Sequence(2)

Model	CS1W-NC213/233 CJ1W-NC213/233	Storage directory	DV\NC_V1\ NC213,233	Title	Change Positioning Sequence (2)
Function	Sets sequence data, such as position destination, axis destination, output, and completion code, and position.				

[Image]



No.	Item	Setting/Display	Details
1	Axis	Display	Displays axis which settings should be made.
2	Sequence No.	Setting	Input the desired sequence No.
3	Sequence No.	Display	Displays sequence No. to be set.
4	Position	Setting	Sets the position for the selected axis.
5	Position Destination	Setting	Sets whether the position is absolute or relative.
6	Change	Setting	Writes the displayed data to parameter area in the PLC.
7	Write to F-ROM	Display	Saves data written to the parameter area to F-ROM in the NC Unit. (Make sure to perform this before turning OFF the power.)
8	Completion Code	Setting	Sets completion codes.
9	Axis Destination	Setting	Specifies axis to be started up.

[Note]

1. Select **Settings-System Setting-Initial** tab page in the NS-Designer, click **System Memory List** button, and check the **Basics** for the \$SB before using this library.
2. When changing sequence No., press **Change** button and write it to parameter area. Unless the sequence No. is written to the parameter area, data will NOT be saved.
3. Unless F-ROM button is pressed, data will be deleted before turning OFF the power. Data to be saved in the NC Unit by pressing the Write to F-ROM button is data saved in the parameter area of PLC NOT displaying on the screen.
4. Do NOT use as an initial screen.
5. Those parts can be used for 2 axes unit only. They cannot be used for 1 axis or 4 axes.

Motion Control

1.5.17 Change Positioning Sequence(2axes,4axes)

Model	CS1W-NC413/433/213/233 CJ1W-NC413/433/213/233	Storage directory	DV\NC_V1\ NC413,433/NC213,233	Title	Change Positioning Sequence (2axes, 4axes)
Function	Sets sequence data, such as dwell time number, acceleration time number, deceleration time number, initial speed number, and target speed number.				

[Image]

Change Positioning Sequence

1: X 5

2: Change Write to F-ROM

3: DwellTimeNo. A.Time No. D.Time No. Ini.Spd No. TrgtSpd No.

4: No. 5 6 1 2 8 99

5: No. 6 5 5 8 4 52

6: No. 7 5 9 7 6 55

7: No. 8 12 8 4 6 8

8: No. 9 3 7 5 8 42

No.	Item	Setting/Display	Details
1	Axis	Display	Displays axis which settings should be made.
2	Sequence Number	Setting	Input the desired sequence No.
3	Sequence Number	Display	Displays sequence No. to be set.
4	Dwell Time Number (Dwell Time No.)	Setting	Sets dwell time number to be selected.
5	Acceleration Time Number (A.Time No.)	Setting	Sets acceleration time number to be selected.
6	Change	Setting	Writes the displayed data to parameter area in the PLC.
7	Write to F-ROM	Setting	Saves data written to the parameter area to F-ROM in the NC Unit. (Make sure to perform this before turning OFF the power.)
8	Deceleration Time Number (D.Time No.)	Setting	Sets deceleration time number to be selected.
9	Target Speed Number (Trgt Spd No.)	Setting	Sets target speed number to be selected.
10	Initial Speed Number (Ini.Spd No.)	Setting	Sets initial speed number to be selected.

[Note]

1. Select **Settings-System Setting-Initial** tab page in the NS-Designer, click **System Memory List** button, and check the **Basics** for the \$SB before using this library.
2. When changing sequence No., press **Change** button and write it to parameter area. Unless the sequence No. is written to the parameter area, data will NOT be saved.
3. Unless F-ROM button is pressed, data will be deleted before turning OFF the power. Data to be saved in the NC Unit by pressing the Write to F-ROM button is data saved in the parameter area of PLC NOT displaying on the screen.
4. Do NOT use as an initial screen.

1.5.18 Changing Acceleration

Model	CS1W-NC413/433/213/233 CJ1W-NC413/433/213/233	Storage directory	DV\NC_V1\ NC413,433/NC213,233	Title	Changing Acceleration / Deceleration Time
Function	Sets acceleration time and deceleration time for x, Y, Z, and U axis.				

[Image]



No.	Item	Setting/Display	Details
1	Axis	Display	Displays axis which settings should be made.
2	Sequence Number	Setting	Input the desired sequence No.
3	Sequence Number	Display	Displays sequence No. to be set.
4	Deceleration Time (Decelera.)	Setting	Sets deceleration time.
5	Change	Setting	Writes the displayed data to parameter area in the PLC.
6	Write to F-ROM	Setting	Saves data written to the parameter area to F-ROM in the NC Unit. (Make sure to perform this before turning OFF the power.)
7	Acceleration Time (Accelera.)	Setting	Sets acceleration time.

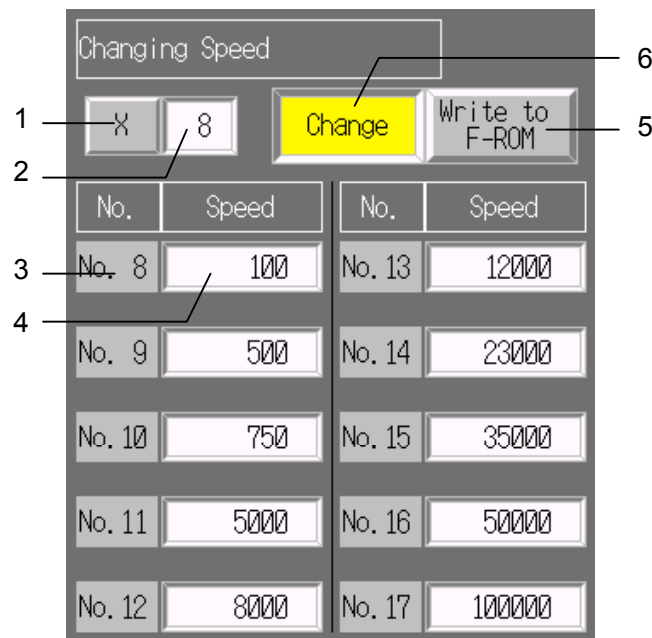
[Note]

1. Select **Settings-System Setting-Initial** tab page in the NS-Designer, click **System Memory List** button, and check the **Basics** for the \$SB before using this library.
2. When changing sequence No., press **Change** button and write it to parameter area. Unless the sequence No. is written to the parameter area, data will NOT be saved.
3. Unless F-ROM button is pressed, data will be deleted before turning OFF the power. Data to be saved in the NC Unit by pressing the Write to F-ROM button is data saved in the parameter area of PLC NOT displaying on the screen.
4. Do NOT use as an initial screen.

1.5.19 Changing Speed

Model	CS1W-NC413/433/213/233 CJ1W-NC413/433/213/233	Storage directory	DV\NC_V1\ NC413,433/NC213,233	Title	Changing Speed (2 axes, 4axes)
Function	Sets speed for each axis(X, Y, Z, and U).				

[Image]



No.	Item	Setting/Display	Details
1	Axis	Display	Displays axis which settings should be made.
2	Sequence Number	Setting	Input the desired sequence No.
3	Sequence Number	Display	Displays sequence No. to be set.
4	Speed	Setting	Sets the desired speed.
5	Write to F-ROM	Setting	Saves data written to the parameter area to F-ROM in the NC Unit. (Make sure to perform this before turning OFF the power.)
6	Change	Setting	Writes the displayed data to parameter area in the PLC.

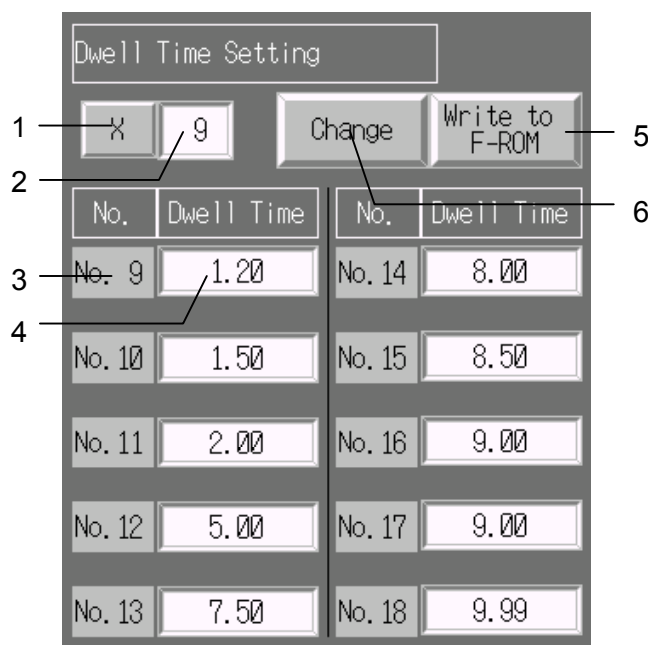
[Note]

1. Select **Settings-System Setting-Initial** tab page in the NS-Designer, click **System Memory List** button, and check the **Basics** for the \$SB before using this library.
2. When changing sequence No., press **Change** button and write it to parameter area. Unless the sequence No. is written to the parameter area, data will NOT be saved.
3. Unless F-ROM button is pressed, data will be deleted before turning OFF the power. Data to be saved in the NC Unit by pressing the Write to F-ROM button is data saved in the parameter area of PLC NOT displaying on the screen.
4. Do NOT use as an initial screen.

1.5.20 Dwell Time Setting

Model	CS1W-NC413/433/213/233 CJ1W-NC413/433/213/233	Storage directory	DV\NC_V1\ NC413,433/NC213,233	Title	Dwell Time Setting (2axes, 4axes)
Function	Sets well time for each axis(X, Y, Z, and U).				

[Image]



No.	Item	Setting/Display	Details
1	Axis	Display	Displays axis which settings should be made.
2	Sequence Number	Setting	Input the desired sequence No.
3	Sequence Number	Display	Displays sequence No. to be set.
4	Dwell Time	Setting	Sets the desired dwell time.
5	Write to F-ROM	Setting	Saves data written to the parameter area to F-ROM in the NC Unit. (Make sure to perform this before turning OFF the power.)
6	Change	Setting	Writes the displayed data to parameter area in the PLC.

[Note]

1. Select **Settings-System Setting-Initial** tab page in the NS-Designer, click **System Memory List** button, and check the **Basics** for the \$SB before using this library.
2. When changing sequence No., press **Change** button and write it to parameter area. Unless the sequence No. is written to the parameter area, data will NOT be saved.
3. Unless F-ROM button is pressed, data will be deleted before turning OFF the power. Data to be saved in the NC Unit by pressing the Write to F-ROM button is data saved in the parameter area of PLC NOT displaying on the screen.
4. Do NOT use as an initial screen.

Inverter

1.1.1 Speed Monitor

Unit type	3G3MV(-PDRT2)	Storage directory	SmartActiveParts_E\Inverter\3G3MV\DeviceNet\Monitor	Title	Speed monitor
Function	Monitors the speed of the SYSDRIVE 3G3MV-series Multi-function Compact Inverter in serial connection or connected through the 3G3MV-PDRT2 DeviceNet Communications Unit. The monitoring cycle is adjustable in combination with the PLC program.				
Display and Operation Details					
No.	Item	Setting/display	Description		
1	Hidden indicator for trigger use	Display	A trigger indicator used to read the speed from the 3G3MV. This indicator is not displayed on the screen. The value can be read on a regular basis by turning ON and OFF the allocated address from the program in the PLC. The monitor cycle is determined by the program in the PLC. Adjust the cycle according to the communications load.		
2	Rotational Speed	Display	Displays the speed read from the 3G3MV.		
3	Communications error display	Setting/display	Displays the status of an error if a communications error occurs between the Unit and the 3G3MV. Reading is not performed while this item is displayed. If the recovery of communications is expected, press the displayed part so that reading will be restarted.		
Remarks					
<p>* When using this Smart Active Part, select the r/min unit with Parameter n035 (Frequency Reference Settings/Reference Unit Selection) on the 3G3MV. Specifically, set n035 to 2 through 39 (number of motor poles).</p> <p>The following diagram shows a programming example on the PLC to monitor the value on a regular basis. The 0.1-second clock pulse is allocated to the specified address (Serial A: WR00511.15).</p>					
<p>ntlp callout: 0.1-s clock pulse</p> <p>* The actual monitor refreshing cycle varies with the number of Smart Active Parts monitored on the screen and the operating conditions of other Smart Active Parts. The refreshing cycle will be increased if the number of Smart Active Parts increases.</p> <p>* If the other Smart Active Parts on the screen are in operation, refreshing the monitor will stop. When the operation of the Smart Active Parts stops, refreshing the monitor will restart.</p> <p>* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.</p>					

1.1.2 Output Frequency Monitor

Unit type	3G3MV(-PDRT2)	Storage directory	SmartActiveParts_E\Inverter\3G3MV\Serial(Device Net)\Monitor	Title	Output frequency monitor
Function	Monitors the output frequency of the SYSDRIVE 3G3MV-series Multi-function Compact Inverter in serial connection or connected through the 3G3MV-PDRT2 DeviceNet Communications Unit. The monitoring cycle is adjustable in combination with the PLC program.				
Display and Operation Details					
<p>1</p> <p>2</p> <p>3</p>					
No.	Item	Setting/display	Description		
1	Hidden indicator for trigger use	Display	A trigger indicator used to read the output frequency from the 3G3MV. This indicator is not displayed on the screen. The value can be read on a regular basis by turning ON and OFF the allocated address from the program in the PLC. The monitor cycle is determined by the program in the PLC. Adjust the cycle according to the communications load.		
2	Output Frequency	Display	Displays the output frequency read from the 3G3MV.		
3	Communications error display	Setting/display	Displays the status of an error if a communications error occurs in the 3G3MV. Reading is not performed while this item is displayed. If the recovery of communications is expected, press the displayed part so that reading will be restarted.		
Remarks					
<ul style="list-style-type: none">* When using this Smart Active Part, be sure to select Setting - Unit/Scale Setting in the menu bar and set the scale for number 999 to 0.1.* When using this Smart Active Part, select the 0.01 Hz unit (default) with Parameter n035 (Frequency Reference Settings/Reference Unit Selection) on the 3G3MV. Specifically, set n035 to 0.* The following diagram shows a programming example on the PLC to monitor the value on a regular basis. The 0.1-second clock pulse is allocated to the specified address (Serial A: WR00511.15). <p>ntlp callout: 0.1-s clock pulse</p> <ul style="list-style-type: none">* The actual monitor refreshing cycle varies with the number of Smart Active Parts monitored on the screen and the operating conditions of other Smart Active Parts. The refreshing cycle will increase if the number of Smart Active Parts increases.* If the other Smart Active Parts on the screen are in operation, refreshing the monitor will stop. When the operation of the Smart Active Parts stops, refreshing the monitor will restart.* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.					

1.1.3 Output Current Monitor

Unit type	3G3MV(-PDRT2)	Storage directory	SmartActiveParts_E\Inverter\3G3MV\Serial(Device Net)\Monitor	Title	Output current monitor
Function	Monitors the output current of the SYSDRIVE 3G3MV-series Multi-function Compact Inverter in serial connection or connected through the 3G3MV-PDRT2 DeviceNet Communications Unit. The monitoring cycle is adjustable in combination with the PLC program.				
Display and Operation Details					
<div><div><div>1</div><div><div>Output Current</div><div>12.3</div><div>A</div></div></div><div><div>2</div><div><div>Output Current</div><div>Communications Error Occurred</div><div>A</div></div></div><div><div>3</div></div></div>					
No.	Item	Setting/display	Description		
1	Hidden indicator for trigger use	Display	A trigger indicator used to read the output current from the 3G3MV. This indicator is not displayed on the screen. The value can be read on a regular basis by turning ON and OFF the allocated address from the program in the PLC. The monitor cycle is determined by the program in the PLC. Adjust the cycle according to the communications load.		
2	Output Current	Display	Displays the output current read from the 3G3MV.		
3	Communications error display	Setting/display	Displays the status of an error if a communications error occurs between the Unit and the 3G3MV. Reading is not performed while this item is displayed. If the recovery of communications is expected, press the displayed part so that reading will be restarted.		
Remarks					
<ul style="list-style-type: none">* When using this Smart Active Part, be sure to select Setting - Unit/Scale Setting in the menu bar and set the scale for number 1000 to 0.1.* The following diagram shows a programming example on the PLC to monitor the value on a regular basis. The 0.1-second clock pulse is allocated to the specified address (Serial A: WR00511.15).					
<div><div><div>1</div><div>2</div></div><div><div>CF100</div><div>0.1秒クロックパルス</div></div><div><div>W511.15</div></div></div>					
ntlp callout: 0.1-s clock pulse					
<ul style="list-style-type: none">* The actual monitor refreshing cycle varies with the number of Smart Active Parts monitored on the screen and the operating conditions of other Smart Active Parts. The refreshing cycle will increase if the number of Smart Active Parts increases.* If the other Smart Active Parts on the screen are in operation, refreshing the monitor will stop. When the operation of the Smart Active Parts stops, refreshing the monitor will restart.* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.					

1.1.4 Parameter No. 1 to 12 (Unit: r/min)

Unit type	3G3MV(-PDRT2)	Storage directory	SmartActiveParts_EInver tor3G3MV\Serial(Device Net)\Parameters		Title	Parameter No. 1 to 12 (unit: r/min)																																																																														
Function	Adjusts the parameters of the SYSDRIVE 3G3MV-series Multi-function Compact Inverter in serial connection or connected through the 3G3MV-PDRT2 DeviceNet Communications Unit. Only the main parameters are extracted from all the parameters.																																																																																			
Display and Operation Details																																																																																				
<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>No.1 to No.12</div><div>(cannot be set during operation)</div><table><thead><tr><th>No.</th><th>Constant</th><th>Name</th><th>Default</th><th>Set Val.</th><th>Unit</th></tr></thead><tbody><tr><td>No.1</td><td>n003</td><td>Run Command Selection</td><td>0</td><td>2</td><td>-</td></tr><tr><td>No.2</td><td>n004</td><td>Freq.Reference Selection</td><td>0</td><td>2</td><td>-</td></tr><tr><td>No.3</td><td>n019</td><td>Acceleration Time 1</td><td>10.0</td><td>0.2</td><td>s</td></tr><tr><td>No.4</td><td>n020</td><td>Deceleration Time 1</td><td>10.0</td><td>0.2</td><td>s</td></tr><tr><td>No.5</td><td>n024</td><td>Rotational Speed 1</td><td>0</td><td>1</td><td>r/min</td></tr><tr><td>No.6</td><td>n025</td><td>Rotational Speed 2</td><td>0</td><td>1</td><td>r/min</td></tr><tr><td>No.7</td><td>n026</td><td>Rotational Speed 3</td><td>0</td><td>1</td><td>r/min</td></tr><tr><td>No.8</td><td>n034</td><td>Lower Freq. Reference Limit</td><td>0</td><td>2</td><td>%</td></tr><tr><td>No.9</td><td>n017</td><td>Min.Output Freq.Voltage</td><td></td><td>0.2</td><td>V</td></tr><tr><td>No.10</td><td>n095</td><td>Frequency Detection Level</td><td>0.00</td><td>0.02</td><td>Hz</td></tr><tr><td>No.11</td><td>n103</td><td>Torque Compensation Gain</td><td>1.0</td><td>0.2</td><td>-</td></tr><tr><td>No.12</td><td>n111</td><td>Slip Compensation Gain</td><td>0.0</td><td>0.2</td><td>-</td></tr></tbody></table><div><div>Read Value</div><div>Write</div></div><div><div>6</div><div>7</div></div></div></div>							No.	Constant	Name	Default	Set Val.	Unit	No.1	n003	Run Command Selection	0	2	-	No.2	n004	Freq.Reference Selection	0	2	-	No.3	n019	Acceleration Time 1	10.0	0.2	s	No.4	n020	Deceleration Time 1	10.0	0.2	s	No.5	n024	Rotational Speed 1	0	1	r/min	No.6	n025	Rotational Speed 2	0	1	r/min	No.7	n026	Rotational Speed 3	0	1	r/min	No.8	n034	Lower Freq. Reference Limit	0	2	%	No.9	n017	Min.Output Freq.Voltage		0.2	V	No.10	n095	Frequency Detection Level	0.00	0.02	Hz	No.11	n103	Torque Compensation Gain	1.0	0.2	-	No.12	n111	Slip Compensation Gain	0.0	0.2	-
No.	Constant	Name	Default	Set Val.	Unit																																																																															
No.1	n003	Run Command Selection	0	2	-																																																																															
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No.7	n026	Rotational Speed 3	0	1	r/min																																																																															
No.8	n034	Lower Freq. Reference Limit	0	2	%																																																																															
No.9	n017	Min.Output Freq.Voltage		0.2	V																																																																															
No.10	n095	Frequency Detection Level	0.00	0.02	Hz																																																																															
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No.	Item	Setting/ display	Description																																																																																	
1	No.	Display	Displays the item numbers from the parameter table.																																																																																	
2	Constant	Display	Displays the constant numbers where the parameters are saved in the 3G3MV.																																																																																	
3	Name	Display	Displays descriptions of parameters.																																																																																	
4	Default	Display	Displays the default value of each parameter (i.e., the default in the 3G3MV).																																																																																	
5	Set Val.	Setting/ display	Displays the set value of each parameter. By pressing the setting, the set value can be overwritten. Each set item will be saved when the data is written.																																																																																	
6	Read Value	Setting	Reads the present value set for each parameter.																																																																																	
7	Write	Setting	Writes the settings to the EEPROM in the Unit.																																																																																	
Remarks																																																																																				
* When using this Smart Active Part, be sure to select Setting - Unit/Scale Setting in the menu bar and set the scale for number 1000 to 0.1 and the scale for number 999 to 0.01.																																																																																				
* When using this Smart Active Part, select the r/min unit with Parameter n035 (Frequency Reference Settings/Reference Unit Selection) on the 3G3MV. Specifically, set n035 to 2 through 39 (number of motor poles). If a unit other than r/min is selected, values for parameters n024 to n026 will not be displayed normally.																																																																																				
* Execute EEPROM Write to save the settings so that they will be stored after the Unit is turned OFF. The settings will be lost if the 3G3MV is turned OFF without writing the settings to EEPROM. EEPROM can be written up to 100,000 times.																																																																																				
* For details on the parameters, refer to the <i>3G3MV Operation Manual</i> .																																																																																				
* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.																																																																																				

1.1.5 Parameter No.13 to 24

Unit type	3G3MV(-PDRT2)	Storage directory	SmartActiveParts_E\Inverter\3G3MV\Serial(Device Net)\Parameters	Title	Parameter No.13 to 24																																																																														
Function	Adjusts the parameters of the SYSDRIVE 3G3MV-series Multi-function Compact Inverter in serial connection or connected through the 3G3MV-PDRT2 DeviceNet Communications Unit. Only the main parameters are extracted from all the parameters.																																																																																		
Display and Operation Details																																																																																			
<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>No.13 to No.24</div><div>(cannot be set during operation)</div><table><thead><tr><th>No.</th><th>Constant</th><th>Name</th><th>Default</th><th>Set Val.</th><th>Unit</th></tr></thead><tbody><tr><td>No.13</td><td>n128</td><td>PID Control Selection</td><td>0</td><td>2</td><td>-</td></tr><tr><td>No.14</td><td>n130</td><td>Proportional Gain</td><td>1.0</td><td>0.2</td><td>-</td></tr><tr><td>No.15</td><td>n131</td><td>Integral Time</td><td>1.0</td><td>0.2</td><td>s</td></tr><tr><td>No.16</td><td>n132</td><td>Derivative Time</td><td>0.00</td><td>0.02</td><td>s</td></tr><tr><td>No.17</td><td>n133</td><td>PID Offset Adjustment</td><td>0</td><td>2</td><td>%</td></tr><tr><td>No.18</td><td>n134</td><td>Integral (I) Upper Limit</td><td>100</td><td>2</td><td>%</td></tr><tr><td>No.19</td><td>n135</td><td>PID Primary Delay Time</td><td>0.0</td><td>0.2</td><td>s</td></tr><tr><td>No.20</td><td>n163</td><td>PID Output Gain</td><td>1.0</td><td>0.2</td><td>-</td></tr><tr><td>No.21</td><td>n129</td><td>F.b. Value Adjustment Gain</td><td>1.00</td><td>0.02</td><td>-</td></tr><tr><td>No.22</td><td>n139</td><td>E. S. Control Selection</td><td>0</td><td>1</td><td>-</td></tr><tr><td>No.23</td><td>n140</td><td>E. S. Coefficient</td><td></td><td>0.2</td><td>-</td></tr><tr><td>No.24</td><td></td><td></td><td></td><td>0</td><td>-</td></tr></tbody></table><div><div>Read Value</div><div>Write</div></div><div>7</div><div>6</div></div></div>						No.	Constant	Name	Default	Set Val.	Unit	No.13	n128	PID Control Selection	0	2	-	No.14	n130	Proportional Gain	1.0	0.2	-	No.15	n131	Integral Time	1.0	0.2	s	No.16	n132	Derivative Time	0.00	0.02	s	No.17	n133	PID Offset Adjustment	0	2	%	No.18	n134	Integral (I) Upper Limit	100	2	%	No.19	n135	PID Primary Delay Time	0.0	0.2	s	No.20	n163	PID Output Gain	1.0	0.2	-	No.21	n129	F.b. Value Adjustment Gain	1.00	0.02	-	No.22	n139	E. S. Control Selection	0	1	-	No.23	n140	E. S. Coefficient		0.2	-	No.24				0	-
No.	Constant	Name	Default	Set Val.	Unit																																																																														
No.13	n128	PID Control Selection	0	2	-																																																																														
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No.15	n131	Integral Time	1.0	0.2	s																																																																														
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No.20	n163	PID Output Gain	1.0	0.2	-																																																																														
No.21	n129	F.b. Value Adjustment Gain	1.00	0.02	-																																																																														
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No.	Item	Setting/display	Description																																																																																
1	No.	Display	Displays the item numbers from the parameter table.																																																																																
2	Constant	Display	Displays constant numbers where the parameters are saved in the 3G3MV.																																																																																
3	Name	Display	Displays descriptions of parameters.																																																																																
4	Default	Display	Displays the default value of each parameter (i.e., the default in the 3G3MV).																																																																																
5	Set Val.	Setting/display	Displays the set value of each parameter. By pressing the button, the set value can be overwritten. Each set item will be saved when the data is written.																																																																																
6	Read Value	Setting	Reads the present value set for each parameter.																																																																																
7	Write	Setting	Writes the settings to the EEPROM in the Unit.																																																																																
Remarks																																																																																			
* When using this Smart Active Part, be sure to select Setting - Unit/Scale Setting in the menu bar and set the scale for number 1000 to 0.1 and the scale for 999 to 0.01																																																																																			
* Execute EEPROM Write to save the settings so that they will be stored after the Unit is turned OFF. The settings will be lost if the 3G3MV is turned OFF without writing the settings to EEPROM. EEPROM can be written up to 100,000 times.																																																																																			
* For details on the parameters, refer to the <i>3G3MV Operation Manual</i> .																																																																																			
* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.																																																																																			

1.1.6 Conveyor Basic Adjustment (Unit: r/min)

Unit type	3G3MV(-PDRT2)	Storage directory	SmartActiveParts_E\Inverter\3G3MV\Serial(Device Net)\Parameters		Title	Conveyer basic adjustment (unit: r/min)																																																													
Function	Adjusts the parameters of the SYSDRIVE 3G3MV-series Multi-function Compact Inverter in serial connection or connected through the 3G3MV-PDRT2 DeviceNet Communications Unit. Only the basic parameters used for conveyor control are extracted.																																																																		
Display and Operation Details																																																																			
<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>Parameters for Controlling Conveyer</div><div>(cannot be set during operation)</div><table><thead><tr><th>No.</th><th>Constant</th><th>Name</th><th>Default</th><th>Set Val.</th><th>Unit</th></tr></thead><tbody><tr><td>No.1</td><td>n003</td><td>Run Command Selection</td><td>0</td><td>2</td><td>-</td></tr><tr><td>No.2</td><td>n004</td><td>Freq.Reference Selection</td><td>0</td><td>2</td><td>-</td></tr><tr><td>No.3</td><td>n019</td><td>Acceleration Time 1</td><td>10.0</td><td>0.2</td><td>s</td></tr><tr><td>No.4</td><td>n020</td><td>Deceleration Time 1</td><td>10.0</td><td>0.2</td><td>s</td></tr><tr><td>No.5</td><td>n024</td><td>Rotational Speed 1</td><td>0</td><td>1</td><td>r/min</td></tr><tr><td>No.6</td><td>n025</td><td>Rotational Speed 2</td><td>0</td><td>1</td><td>r/min</td></tr><tr><td>No.7</td><td>n026</td><td>Rotational Speed 3</td><td>0</td><td>1</td><td>r/min</td></tr><tr><td>No.8</td><td>n103</td><td>Torque Compensation Gain</td><td>1.0</td><td>0.2</td><td>-</td></tr><tr><td>No.9</td><td>n111</td><td>Slip Compensation Gain</td><td>0.0</td><td>0.2</td><td>-</td></tr></tbody></table><div><div>Read Value</div><div>Write</div></div><div>7</div><div>6</div></div></div>								No.	Constant	Name	Default	Set Val.	Unit	No.1	n003	Run Command Selection	0	2	-	No.2	n004	Freq.Reference Selection	0	2	-	No.3	n019	Acceleration Time 1	10.0	0.2	s	No.4	n020	Deceleration Time 1	10.0	0.2	s	No.5	n024	Rotational Speed 1	0	1	r/min	No.6	n025	Rotational Speed 2	0	1	r/min	No.7	n026	Rotational Speed 3	0	1	r/min	No.8	n103	Torque Compensation Gain	1.0	0.2	-	No.9	n111	Slip Compensation Gain	0.0	0.2	-
No.	Constant	Name	Default	Set Val.	Unit																																																														
No.1	n003	Run Command Selection	0	2	-																																																														
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No.	Item	Setting/display	Description																																																																
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4	Default	Display	Displays the default value of each parameter (i.e., the default in the 3G3MV).																																																																
5	Set Val.	Setting/display	Displays the set value of each parameter. By pressing the button, the set value can be overwritten. Each set item will be saved when the data is written.																																																																
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1.1.7 Fan/Pump Basic Adjustment (Unit: r/min unit)

Unit type	3G3MV(-PDRT2)	Storage directory	SmartActiveParts_E\Inverter\3G3MV\Serial(Device Net)\Parameters		Title	Fan/Pump basic adjustment (Unit: r/min)																																																						
Function	Adjusts the parameters of the SYSDRIVE 3G3MV-series Multi-function Compact Inverter in serial connection or connected through the 3G3MV-PDRT2 DeviceNet Communications Unit. Only the basic parameters used for fan/pump control are extracted.																																																											
Display and Operation Details																																																												
<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>Parameters for Controlling Fan/Pump</div><div>(cannot be set during operation)</div><table><thead><tr><th>No.</th><th>Constant</th><th>Name</th><th>Default</th><th>Set Val.</th><th>Unit</th></tr></thead><tbody><tr><td>No.1</td><td>n003</td><td>Run Command Selection</td><td>0</td><td>3</td><td>-</td></tr><tr><td>No.2</td><td>n004</td><td>Freq.Reference Selection</td><td>0</td><td>2</td><td>-</td></tr><tr><td>No.3</td><td>n019</td><td>Acceleration Time 1</td><td>10.0</td><td>1.2</td><td>s</td></tr><tr><td>No.4</td><td>n020</td><td>Deceleration Time 1</td><td>10.0</td><td>1.2</td><td>s</td></tr><tr><td>No.5</td><td>n024</td><td>Rotational Speed 1</td><td>0</td><td>12</td><td>r/min</td></tr><tr><td>No.6</td><td>n025</td><td>Rotational Speed 2</td><td>0</td><td>12</td><td>r/min</td></tr><tr><td>No.7</td><td>n026</td><td>Rotational Speed 3</td><td>0</td><td>12</td><td>r/min</td></tr><tr><td>No.8</td><td>n034</td><td>Lower Freq. Reference Limit</td><td>0</td><td>12</td><td>%</td></tr></tbody></table><div><div>Read Value</div><div>Write</div></div><div>7</div><div>6</div></div></div>							No.	Constant	Name	Default	Set Val.	Unit	No.1	n003	Run Command Selection	0	3	-	No.2	n004	Freq.Reference Selection	0	2	-	No.3	n019	Acceleration Time 1	10.0	1.2	s	No.4	n020	Deceleration Time 1	10.0	1.2	s	No.5	n024	Rotational Speed 1	0	12	r/min	No.6	n025	Rotational Speed 2	0	12	r/min	No.7	n026	Rotational Speed 3	0	12	r/min	No.8	n034	Lower Freq. Reference Limit	0	12	%
No.	Constant	Name	Default	Set Val.	Unit																																																							
No.1	n003	Run Command Selection	0	3	-																																																							
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No.8	n034	Lower Freq. Reference Limit	0	12	%																																																							
No.	Item	Setting/display	Description																																																									
1	No.	Display	Displays the item numbers from the parameter table.																																																									
2	Constant	Display	Displays constant numbers where the parameters are saved in the 3G3MV.																																																									
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1.1.8 Fan/Pump Basic + Energy-saving Adjustment (Unit: r/min unit)

Unit type	3G3MV(-PDRT2)	Storage directory	SmartActiveParts_E\Inverter\3G3MV\Serial(Device Net)\Parameters	Title	Fan/Pump basic + Energy-saving adjustment (Unit: r/min unit)
Function	Adjusts the parameters of the SYSDRIVE 3G3MV-series Multi-function Compact Inverter in serial connection or connected through the 3G3MV-PDRT2 DeviceNet Communications Unit. Only the basic parameters used for fan and pump control and energy-saving control are extracted.				

Display and Operation Details

The screenshot shows a parameter table titled "Controlling and Energy-Saving Fan/Pump" with a note "(cannot be set during operation)". The table has columns: No., Constant, Name, Default, Set Val., and Unit. Below the table are "Read Value" and "Write" buttons. Numbered callouts point to specific elements:

- 1: Points to the "No." column header.
- 2: Points to the "Constant" column header.
- 3: Points to the "Name" column header.
- 4: Points to the "Default" column header.
- 5: Points to the "Set Val." column header.
- 6: Points to the "Read Value" button.
- 7: Points to the "Write" button.

No.	Constant	Name	Default	Set Val.	Unit
No.1	n003	Run Command Selection	0	3	-
No.2	n004	Freq. Reference Selection	0	2	-
No.3	n019	Acceleration Time 1	10.0	1.2	s
No.4	n020	Deceleration Time 1	10.0	1.2	s
No.5	n024	Rotational Speed 1	0	12	r/min
No.6	n025	Rotational Speed 2	0	12	r/min
No.7	n026	Rotational Speed 3	0	12	r/min
No.8	n034	Lower Freq. Reference Limit	0	12	%
No.9	n139	E. S. Control Selection	0	1	-
No.10	n140	E. S. Coefficient		1.2	-

No.	Item	Setting/display	Description
1	No.	Display	Displays the item numbers from the parameter table.
2	Constant	Display	Displays constant numbers where the parameters are saved in the 3G3MV.
3	Name	Display	Displays descriptions of parameters.
4	Default	Display	Displays the default value of each parameter (i.e., the default in the 3G3MV).
5	Set Val.	Setting/display	Displays the set value of each parameter. By pressing the button, the set value can be overwritten. Each set item will be saved when the data is written.
6	Read Value	Setting	Reads the present value set for each parameter.
7	Write	Setting	Writes the settings to the EEPROM in the Unit.

Remarks

- * When using this Smart Active Part, be sure to select **Setting - Unit/Scale Setting** in the menu bar and set the scale for number 1000 to 0.1.
- * When using this Smart Active Part, select the r/min unit with **Parameter n035 (Frequency Reference Settings/Reference Unit Selection)** on the 3G3MV. Specifically, set n035 to 2 through 39 (number of motor poles). If a unit other than r/min is selected, values for parameters n024 to n026 will not be displayed normally.
- * Execute EEPROM Write to save the settings so that they will be stored after the Unit is turned OFF. The settings will be lost if the 3G3MV is turned OFF without writing the settings to EEPROM. EEPROM can be written up to 100,000 times.
- * For details on the parameters, refer to the *3G3MV Operation Manual*.
- * Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.

1.1.9 PID Control Adjustment

Unit type	3G3MV(-PDRT2)	Storage directory	SmartActiveParts_E\Inverter\3G3MV\Serial(Device Net)\Parameters	Title	PID control adjustment																																																												
Function	Adjusts the parameters of the SYSDRIVE 3G3MV-series Multi-function Compact Inverter in serial connection or connected through the 3G3MV-PDRT2 DeviceNet Communications Unit. Only parameters used for PID control are extracted.																																																																
Display and Operation Details																																																																	
<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>PID Control Selection</div><div>(cannot be set during operation)</div><table><thead><tr><th>No.</th><th>Constant</th><th>Name</th><th>Default</th><th>Set Val.</th><th>Unit</th></tr></thead><tbody><tr><td>No.1</td><td>n128</td><td>PID Control Selection</td><td>0</td><td>8</td><td>-</td></tr><tr><td>No.2</td><td>n130</td><td>Proportional Gain</td><td>1.0</td><td>1.2</td><td>-</td></tr><tr><td>No.3</td><td>n131</td><td>Integral Time</td><td>1.0</td><td>1.2</td><td>s</td></tr><tr><td>No.4</td><td>n132</td><td>Derivative Time</td><td>0.00</td><td>0.12</td><td>s</td></tr><tr><td>No.5</td><td>n133</td><td>PID Offset Adjustment</td><td>0</td><td>12</td><td>%</td></tr><tr><td>No.6</td><td>n134</td><td>Integral (I) Upper Limit</td><td>100</td><td>12</td><td>%</td></tr><tr><td>No.7</td><td>n135</td><td>PID Primary Delay Time</td><td>0.0</td><td>1.2</td><td>s</td></tr><tr><td>No.8</td><td>n163</td><td>PID Output Gain</td><td>1.0</td><td>1.2</td><td>-</td></tr><tr><td>No.9</td><td>n129</td><td>F.b. Value Adjustment Gain</td><td>1.00</td><td>0.12</td><td>-</td></tr></tbody></table><div><div>Read Value</div><div>Write</div></div><div>7</div><div>6</div></div></div>						No.	Constant	Name	Default	Set Val.	Unit	No.1	n128	PID Control Selection	0	8	-	No.2	n130	Proportional Gain	1.0	1.2	-	No.3	n131	Integral Time	1.0	1.2	s	No.4	n132	Derivative Time	0.00	0.12	s	No.5	n133	PID Offset Adjustment	0	12	%	No.6	n134	Integral (I) Upper Limit	100	12	%	No.7	n135	PID Primary Delay Time	0.0	1.2	s	No.8	n163	PID Output Gain	1.0	1.2	-	No.9	n129	F.b. Value Adjustment Gain	1.00	0.12	-
No.	Constant	Name	Default	Set Val.	Unit																																																												
No.1	n128	PID Control Selection	0	8	-																																																												
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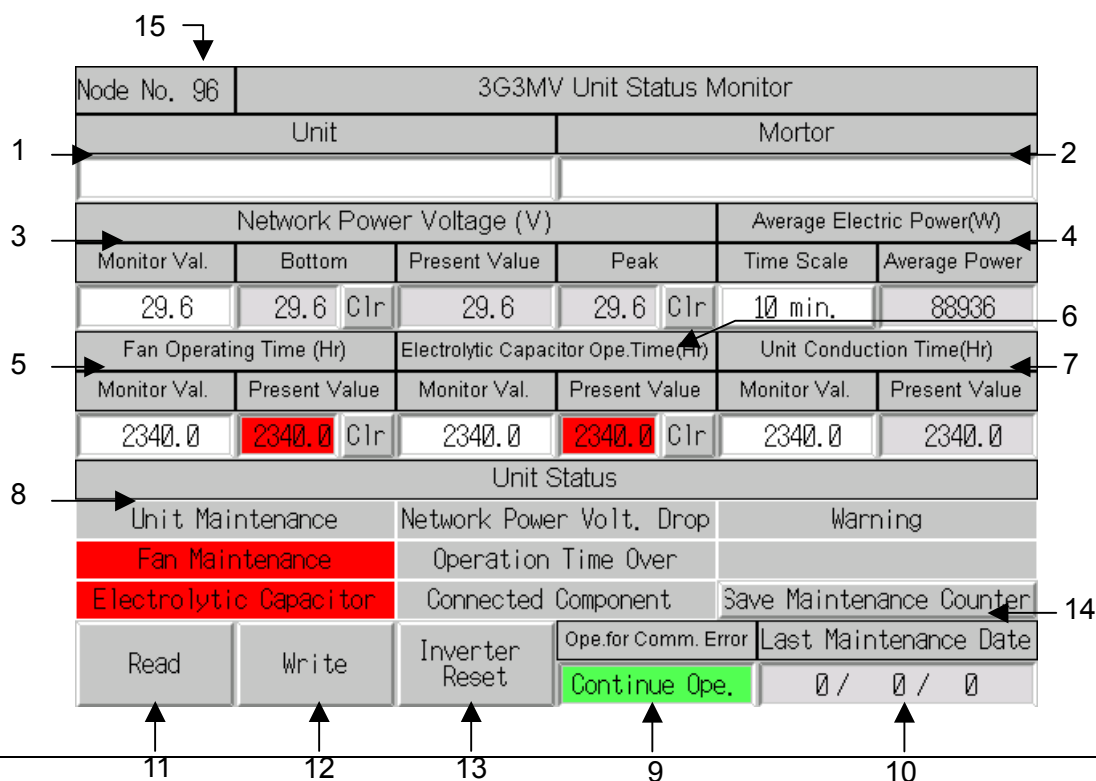
1.1.10 Elevator Basic Adjustment (Unit: r/min unit)

Unit type	3G3MV(-PDRT2)	Storage directory	SmartActiveParts_E\Inverter\3G3MV\Serial(Device Net)\Parameters	Title	Elevator basic adjustment (Unit: r/min unit)																																																																								
Function	Adjusts the parameters of the SYSDRIVE 3G3MV-series Multi-function Compact Inverter in serial connection or connected through the 3G3MV-PDRT2 DeviceNet Communications Unit. Only basic parameters used for elevator control are extracted.																																																																												
Display and Operation Details																																																																													
<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>Parameters for Controlling Elevator (cannot be set during operation)</div><table><thead><tr><th>No.</th><th>Constant</th><th>Name</th><th>Default</th><th>Set Val.</th><th>Unit</th></tr></thead><tbody><tr><td>No.1</td><td>n003</td><td>Run Command Selection</td><td>0</td><td>3</td><td>-</td></tr><tr><td>No.2</td><td>n004</td><td>Freq.Reference Selection</td><td>0</td><td>2</td><td>-</td></tr><tr><td>No.3</td><td>n019</td><td>Acceleration Time 1</td><td>10.0</td><td>1.2</td><td>s</td></tr><tr><td>No.4</td><td>n020</td><td>Deceleration Time 1</td><td>10.0</td><td>1.2</td><td>s</td></tr><tr><td>No.5</td><td>n024</td><td>Rotational Speed 1</td><td>0</td><td>12</td><td>r/min</td></tr><tr><td>No.6</td><td>n025</td><td>Rotational Speed 2</td><td>0</td><td>12</td><td>r/min</td></tr><tr><td>No.7</td><td>n026</td><td>Rotational Speed 3</td><td>0</td><td>12</td><td>r/min</td></tr><tr><td>No.8</td><td>n017</td><td>Min.Output Freq.Voltage</td><td></td><td>1.2</td><td>V</td></tr><tr><td>No.9</td><td>n095</td><td>Frequency Detection Level</td><td>0.00</td><td>0.12</td><td>Hz</td></tr><tr><td>No.10</td><td>n103</td><td>Torque Compensation Gain</td><td>1.0</td><td>1.2</td><td>-</td></tr><tr><td>No.11</td><td>n111</td><td>Slip Compensation Gain</td><td>0.0</td><td>1.2</td><td>-</td></tr></tbody></table><div><div>Read Value</div><div>Write</div></div><div>7</div><div>6</div></div></div>						No.	Constant	Name	Default	Set Val.	Unit	No.1	n003	Run Command Selection	0	3	-	No.2	n004	Freq.Reference Selection	0	2	-	No.3	n019	Acceleration Time 1	10.0	1.2	s	No.4	n020	Deceleration Time 1	10.0	1.2	s	No.5	n024	Rotational Speed 1	0	12	r/min	No.6	n025	Rotational Speed 2	0	12	r/min	No.7	n026	Rotational Speed 3	0	12	r/min	No.8	n017	Min.Output Freq.Voltage		1.2	V	No.9	n095	Frequency Detection Level	0.00	0.12	Hz	No.10	n103	Torque Compensation Gain	1.0	1.2	-	No.11	n111	Slip Compensation Gain	0.0	1.2	-
No.	Constant	Name	Default	Set Val.	Unit																																																																								
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1.1.11 Unit Status Monitor

Unit type	3G3MV-PDRT2	Storage directory	SmartActiveParts_E\Invert or\3G3MV\DeviceNet\DRT 2_Func	Title	Unit Status Monitor
Function	Monitors Unit status and sets parameters for the 3G3MV-PDRT2 DeviceNet Communications Unit.				

Display and Operation Details



No.	Item	Setting/display	Description
1	Unit	Setting/display	Displays the unit name set for the Unit. Can also be used to change the unit name.
2	Motor	Setting/display	Displays the motor name set for the Unit. Can also be used to change the motor name.
3	Network Power Voltage	Setting/display	Displays the monitor value, minimum value (bottom), present value, and maximum value (peak) of the network power supply voltage. Can also be used to set the monitor value. The minimum and maximum values can be reset to zero by pressing the Clr Buttons. If the present value is less than the monitor value, the present value display field will flash in red and <i>Network Power Volt. Drop</i> in the <i>Unit Status</i> area will be lit in red.
4	Average Electric Power	Setting/display	Displays the measurement period set value (Time Scale) and the calculated value of the average power. Can also be used to set the measurement period to 10 min, 30 min, or 1 h.
5	Fan Operating Time	Setting/display	Displays the monitor value and present value of the fan operating time. Can also be used to set the monitor value. The Clr Button can be pressed to reset the present value to zero. Can also be used to set the present value. If the present value is greater than the monitor value, the present value display field will flash in red and <i>Fan Maintenance</i> in the <i>Unit Status</i> area will be lit in red.
6	Electrolytic Capacitor Ope. Time	Setting/display	Displays the monitor value and present value of the electrolytic capacitor operating time. Can also be used to set the monitor value. The Clr Button can be pressed to reset the present value to zero. Can also be used to set the present value. If the present value is greater than the monitor value, the present value display field will flash in red and <i>Electrolytic Capacitor</i> in the <i>Unit Status</i> area will be lit in red.
7	Unit Conduction Time	Setting/display	Displays the monitor value and present value of the Unit conduction time. Can also be used to set the monitor value. The present value cannot be set. If the present value is greater than the monitor value, the present value display field will flash in red and <i>Unit Maintenance</i> in the <i>Unit Status</i> area will be lit in red.
8	Unit Status	Display	Displays the Unit status flags. Status flags will be lit red when there is an error. Refer to the <i>User's Manual</i> for the Unit (I539) for details on each item.

9	Ope. for Comm. Error	Setting/ display	Displays whether motor operation is continued or stopped when a DeviceNet communications error occurs. If the button is pressed, stopping or continuing operation can be selected.
10	Last Maintenance Date	Display	Displays the last maintenance date registered in the Unit. The value cannot be changed.
11	Read	Setting	Pressed to read all of the Unit status from 1 through 10.
12	Write	Setting	Writes the Unit name, motor name, network power voltage monitor value, average electric power measurement period, Unit conduction time monitor value, fan operating time monitor value/present value, electrolytic capacitor operating time monitor value/present value, and operation for communications error setting.
13	Inverter Reset	Setting	Always press this button after changing the measurement period for the average electric power. Pressing this button is not necessary after changing other settings. (Executes a software reset for the Inverter.)
14	Save Maintenance Counter	Setting	Writes the maintenance counter information (i.e., the Unit conduction time, fan operating time, electrolytic capacitor operating time, and I/O terminal maintenance counter values) to EEPROM in the DeviceNet Communications Unit.
15	Node No.	Display	Displays the node number set for the Unit.

Remarks

- * When using this Smart Active Part, be sure to select **Setting - Unit/Scale Setting** in the menu bar and set the scale for number 1000 to 0.1.
- * Always press the Read Button to read the current settings from the Unit before changing the Unit name, motor name, network power voltage monitor value, average electric power measurement period, Unit conduction time monitor value, fan operating time monitor value/present value, electrolytic capacitor operating time monitor value/present value, and operation for communications error setting. For example, if there is a Configurator on the DeviceNet communications network and settings are changed from the Configurator, the settings displayed at the PT may not agree with those stored in the Unit. This may result in incorrect settings being written from the PT.
- * Maintenance counter information is written to EEPROM in the DeviceNet Communications Unit approximately every 6 minutes. Depending on the timing of when the power supply is turned OFF, up to 6 minutes worth of data may be lost. For more accurate management, press the Save Maintenance Counter Button just before turning OFF the power supply.
- * Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.

1.1.12 Input Status Monitor: 00 to 03

Unit type	3G3MV-PDRT2	Storage directory	SmartActiveParts_E\Invert or\3G3MV\DeviceNet\DRT 2_Func		Title	Input Status Monitor: 00 to 03																																											
Function	Displays and sets the status of input terminals 00 to 03 (terminals S1 to S4).																																																
Display and Operation Details																																																	
<div><div>9 ↓</div><table><tr><td colspan="2">Node No. 96</td><td colspan="5">3G3MV Input Status Monitor (T/F)</td></tr><tr><td>No.</td><td>I/O Comments</td><td>Mode</td><td>M. V.</td><td>P. V.</td><td colspan="2"></td></tr><tr><td>0</td><td></td><td>F</td><td>268435752</td><td>268435752</td><td>R</td><td></td></tr><tr><td>1</td><td></td><td>T</td><td>268435752</td><td>268435752</td><td>Clr</td><td></td></tr><tr><td>2</td><td></td><td>T</td><td>268435752</td><td>268435752</td><td>W</td><td></td></tr><tr><td>3</td><td></td><td>F</td><td>268435752</td><td>268435752</td><td></td><td></td></tr></table><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div></div></div>								Node No. 96		3G3MV Input Status Monitor (T/F)					No.	I/O Comments	Mode	M. V.	P. V.			0		F	268435752	268435752	R		1		T	268435752	268435752	Clr		2		T	268435752	268435752	W		3		F	268435752	268435752		
Node No. 96		3G3MV Input Status Monitor (T/F)																																															
No.	I/O Comments	Mode	M. V.	P. V.																																													
0		F	268435752	268435752	R																																												
1		T	268435752	268435752	Clr																																												
2		T	268435752	268435752	W																																												
3		F	268435752	268435752																																													
No.	Item	Setting/ display	Description																																														
1	No.	Setting/ display	Displays the number and the ON/OFF status of the input terminal (i.e., bottom half functions as a status indicator). The top half functions as an indicator to display the input terminals for which to reset the maintenance counter present value to zero. Press the number of an input to change the selection status.																																														
2	I/O Comments	Setting/ display	Displays the I/O comments set for the input terminal. Setting is also possible.																																														
3	Mode	Setting/ display	Displays the maintenance mode (time/frequency) set for the input terminal. Can also be used to set the mode.																																														
4	M.V.	Setting/ display	Displays the maintenance monitor value. Setting is also possible.																																														
5	P.V.	Setting/ display	Displays the present value of the maintenance counter. Setting is also possible. If the present value is larger than the monitor value, the display field will be lit red.																																														
6	R	Setting	Reads the ON/OFF status, I/O comments, maintenance mode, maintenance counter monitor value, and present value for all of the input terminals.																																														
7	Clr	Setting	Resets the maintenance counter present values for items for which the top half of the No. display is lit.																																														
8	W	Setting	Writes the I/O comments, maintenance mode, maintenance counter monitor value, and present value for all of the input terminals.																																														
9	Node No.	Display	Displays the node number set for the Unit.																																														
Remarks																																																	
<ul style="list-style-type: none">* Always press the Read Button to read the current settings from the Unit before changing the I/O comments, maintenance mode, maintenance counter monitor value, and present value. For example, if there is a Configurator on the DeviceNet communications network and settings are changed from the Configurator, the settings displayed at the PT may not agree with those stored in the Unit. This may result in incorrect settings being written from the PT.* Maintenance counter values (number of contact operations and total ON time) are written to EEPROM in the DeviceNet Communications Unit approximately every 6 minutes. Depending on the timing of when the power supply is turned OFF, up to 6 minutes worth of data may be lost. For more accurate management, press the Save Maintenance Counter Button in the Unit Status Monitor Smart Active Part just before turning OFF the power supply.* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.																																																	

1.1.13 put Status Monitor: 04 to 06

Unit type	3G3MV-PDRT2	Storage directory	SmartActiveParts_E\Invert or\3G3MV\DeviceNet\DRT 2_Func		Title	Input Status Monitor: 04 to 06																																				
Function	Displays and sets the status of input terminals 04 to 06 (terminals S5 to S7).																																									
Display and Operation Details																																										
<div><div>9</div><div><table><tr><td colspan="2">Node No. 96</td><td colspan="4">3G3MV Input Status Monitor (T/F)</td><td></td></tr><tr><td>No.</td><td>I/O Comments</td><td>Mode</td><td>M. V.</td><td>P. V.</td><td></td><td></td></tr><tr><td>4</td><td></td><td>F</td><td>268435752</td><td>268435752</td><td>R</td><td>6</td></tr><tr><td>5</td><td></td><td>T</td><td>268435752</td><td>268435752</td><td>Clr</td><td>7</td></tr><tr><td>6</td><td></td><td>F</td><td>268435752</td><td>268435752</td><td>W</td><td>8</td></tr></table><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>8</div></div></div></div>								Node No. 96		3G3MV Input Status Monitor (T/F)					No.	I/O Comments	Mode	M. V.	P. V.			4		F	268435752	268435752	R	6	5		T	268435752	268435752	Clr	7	6		F	268435752	268435752	W	8
Node No. 96		3G3MV Input Status Monitor (T/F)																																								
No.	I/O Comments	Mode	M. V.	P. V.																																						
4		F	268435752	268435752	R	6																																				
5		T	268435752	268435752	Clr	7																																				
6		F	268435752	268435752	W	8																																				
No.	Item	Setting/display	Description																																							
1	No.	Setting/display	Displays the number and the ON/OFF status of the input terminal (i.e., bottom half functions as a status indicator). The top half functions as an indicator to display the input terminals for which to reset the maintenance counter present value to zero. Press the number of an input to change the selection status.																																							
2	I/O Comments	Setting/display	Displays the I/O comments set for the input terminal. Setting is also possible.																																							
3	Mode	Setting/display	Displays the maintenance mode (time/frequency) set for the input terminal. Can also be used to set the mode.																																							
4	M.V.	Setting/display	Displays the maintenance monitor value. Setting is also possible.																																							
5	P.V.	Setting/display	Displays the present value of the maintenance counter. Setting is also possible. If the present value is larger than the monitor value, the display field will be lit red.																																							
6	R	Setting	Reads the ON/OFF status, I/O comments, maintenance mode, maintenance counter monitor value, and present value for all of the input terminals.																																							
7	Clr	Setting	Resets the maintenance counter present values for items for which the top half of the No. display is lit.																																							
8	W	Setting	Writes the I/O comments, maintenance mode, maintenance counter monitor value, and present value for all of the input terminals.																																							
9	Node No.	Display	Displays the node number set for the Unit.																																							
Remarks																																										
<ul style="list-style-type: none">* Always press the Read Button to read the current settings from the Unit before changing the I/O comments, maintenance mode, maintenance counter monitor value, and present value. For example, if there is a Configurator on the DeviceNet communications network and settings are changed from the Configurator, the settings displayed at the PT may not agree with those stored in the Unit. This may result in incorrect settings being written from the PT.* Maintenance counter values (number of contact operations and total ON time) are written to EEPROM in the DeviceNet Communications Unit approximately every 6 minutes. Depending on the timing of when the power supply is turned OFF, up to 6 minutes worth of data may be lost. For more accurate management, press the Save Maintenance Counter Button in the Unit Status Monitor Smart Active Part just before turning OFF the power supply.* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.																																										

1.1.14 Output Status Monitor

Unit type	3G3MV-PDRT2	Storage directory	SmartActiveParts_E\Invert or\3G3MV\DeviceNet\DRT 2_Func		Title	Output Status Monitor	
Function	Displays and sets the status of output terminals 00 to 02 (terminals MA, MB, P1, and P2).						
<div>Display and Operation Details</div> <div><div><div>10</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>1</div><div>Node No. 96</div><div>3G3MV Output Status Monitor (T/F)</div><div><div>No.</div><div>I/O Comments</div><div>Mode</div><div>M. V.</div><div>P. V.</div></div><div><div>0</div><div></div><div>F</div><div>268435752</div><div>268435752</div></div><div><div>1</div><div></div><div>F</div><div>268435752</div><div>268435752</div></div><div><div>2</div><div></div><div>F</div><div>268435752</div><div>268435752</div></div><div><div>Read</div><div>Write</div><div>Fault Action</div><div>Hold No. 00</div><div>Clear No. 01</div><div>Hold No. 02</div><div>Clear P. V.</div></div></div><div><div>7</div><div>8</div><div>6</div><div>9</div></div></div>							
No.	Item	Setting/display	Description				
1	No.	Setting/display	Displays the number and the ON/OFF status of the output terminal (i.e., bottom half functions as a status indicator). The top half functions as an indicator to display the input terminals for which to reset the maintenance counter present value to zero. Press the number of an input to change the selection status.				
2	I/O Comments	Setting/display	Displays the I/O comments set for the output terminal. Setting is also possible.				
3	Mode	Setting/display	Displays the maintenance mode (time/frequency) set for the output terminal. Can also be used to set the mode.				
4	M.V.	Setting/display	Displays the maintenance monitor value. Setting is also possible.				
5	P.V.	Setting/display	Displays the present value of the maintenance counter. Setting is also possible. If the present value is larger than the monitor value, the display field will be lit red.				
6	Fault Action	Setting/display	Displays whether the output terminal status is held or cleared when a DeviceNet communications error occurs. If the button is pressed, holding or clearing operation can be selected.				
7	Read	Setting	Reads all of the data.				
8	Write	Setting	Writes the I/O comments, maintenance mode, maintenance counter monitor value, present value, and fault action for all of the output terminals.				
9	Clear P.V.	Setting	Resets the maintenance counter present values for items for which the top half of the No. display is lit.				
10	Node No.	Display	Displays the node number set for the Unit.				
<div>Remarks</div> <div><div><div><div>* When using this Smart Active Part, set the connection path for the Slave's remote I/O function to control I/O remote I/O. If any other setting is used for the remote I/O function, output status cannot be set or monitored.</div><div>* Always press the Read Button to read the current settings from the Unit before changing the I/O comments, maintenance mode, maintenance counter monitor value, present value, and fault action. For example, if there is a Configurator on the DeviceNet communications network and settings are changed from the Configurator, the settings displayed at the PT may not agree with those stored in the Unit. This may result in incorrect settings being written from the PT.</div><div>* Maintenance counter values (number of contact operations and total ON time) are written to EEPROM in the DeviceNet Communications Unit approximately every 6 minutes. Depending on the timing of when the power supply is turned OFF, up to 6 minutes worth of data may be lost. For more accurate management, press the Save Maintenance Counter Button in the Unit Status Monitor Smart Active Part just before turning OFF the power supply.</div><div>* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.</div></div></div></div>							

1.1.15 Operation Time Monitor

Unit type	3G3MV-PDRT2	Storage directory	SmartActiveParts_E\Invert or\3G3MV\DeviceNet\DRT 2_Func	Title	Operation Time Monitor																																										
Function	Displays and sets the operating time for motors or peripheral devices connected to the 3G3MV.																																														
Display and Operation Details																																															
<div><div><div>11</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>1</div><div>Node No. 96</div><div>3G3MV Operating Time Monitor (ms)</div><table><thead><tr><th>No.</th><th>Equipment Name (Patterns)</th><th>Mon. Val.</th><th>Ope. Time</th><th>Peak</th></tr></thead><tbody><tr><td>0</td><td>(Ter. MA->Ter. S5)</td><td>296</td><td>296</td><td>296</td></tr><tr><td>1</td><td>(Ter. P1->Ter. S6)</td><td>296</td><td>296</td><td>296</td></tr><tr><td>2</td><td>(Ter. S3->Ter. S4)</td><td>296</td><td>296</td><td>296</td></tr><tr><td>3</td><td>(Ter. S5->Ter. S6)</td><td>296</td><td>296</td><td>296</td></tr><tr><td>4</td><td>(Ope. ON->Ter. S5)</td><td>296</td><td>296</td><td>296</td></tr><tr><td>5</td><td>(Ope. ON->Ter. S6)</td><td>296</td><td>296</td><td>296</td></tr><tr><td colspan="2">Read</td><td>Write</td><td>Status Hold</td><td>Hold</td><td>Clear Error</td><td>Clear Peak</td></tr></tbody></table><div><div>7</div><div>8</div><div>6</div><div>9</div><div>10</div></div></div></div>						No.	Equipment Name (Patterns)	Mon. Val.	Ope. Time	Peak	0	(Ter. MA->Ter. S5)	296	296	296	1	(Ter. P1->Ter. S6)	296	296	296	2	(Ter. S3->Ter. S4)	296	296	296	3	(Ter. S5->Ter. S6)	296	296	296	4	(Ope. ON->Ter. S5)	296	296	296	5	(Ope. ON->Ter. S6)	296	296	296	Read		Write	Status Hold	Hold	Clear Error	Clear Peak
No.	Equipment Name (Patterns)	Mon. Val.	Ope. Time	Peak																																											
0	(Ter. MA->Ter. S5)	296	296	296																																											
1	(Ter. P1->Ter. S6)	296	296	296																																											
2	(Ter. S3->Ter. S4)	296	296	296																																											
3	(Ter. S5->Ter. S6)	296	296	296																																											
4	(Ope. ON->Ter. S5)	296	296	296																																											
5	(Ope. ON->Ter. S6)	296	296	296																																											
Read		Write	Status Hold	Hold	Clear Error	Clear Peak																																									
No.	Item	Setting/ display	Description																																												
1	No.	Setting/ display	Displays the number and lights as an indicator if the operating time monitor error and peak value are to be cleared. Press the number of an input to change the selection status.																																												
2	Equipment Name	Setting/ display	Displays the comments set for the equipment being monitored. Setting is also possible.																																												
3	Mon.Val.	Setting/ display	Displays the operating time monitor value. Setting is also possible.																																												
4	Ope. Time	Display	Displays the operating time. If the operating time is larger than the monitor value, the display field will be lit red.																																												
5	Peak	Display	Displays the peak value of the operating time.																																												
6	Status Hold	Setting/ display	Displays whether the status is to be held or cleared (updated) each time when an operating time monitoring error is detected. If the button is pressed, holding or clearing status can be selected.																																												
7	Read	Setting	Reads the equipment name, operating time monitor value, operating time, peak value, and status hold setting for No. 00 to 05.																																												
8	Write	Setting	Writes the equipment name, operating time monitor value, and status hold setting for No. 00 to 05.																																												
9	Clear Error	Setting	Clears operating time monitoring errors for items for which the No. display is lit.																																												
10	Clear Peak	Setting	Resets to zero the items for which the No. display is lit.																																												
11	Node No.	Display	Displays the node number set for the Unit.																																												
Remarks																																															
* Always press the Read Button to read the current settings from the Unit before changing the equipment name, operating time monitor value, and status hold setting for No. 00 to 05. For example, if there is a Configurator on the DeviceNet communications network and settings are changed from the Configurator, the settings displayed at the PT may not agree with those stored in the Unit. This may result in incorrect settings being written from the PT.																																															
* The setting range for the monitor values is 0 to 65,535 (ms).																																															
* Operating time monitoring for No. 00 (terminal MA to terminal S5) and No. 11 (terminal P1 to terminal S6) is valid only if the Slave's remote I/O function is set to control I/O remote I/O. If any other setting is used for the remote I/O function, monitoring will not be possible.																																															
* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.																																															

1.1.16 Warning Torque Monitor

Unit type	3G3MV-PDRT2	Storage directory	SmartActiveParts_E\Invert or\3G3MV\DeviceNet\DRT 2_Func		Title	Warning Torque Monitor																											
Function	Sets the monitor value and displays the peak current for monitoring error status of the load using the Inverter's current (torque).																																
Display and Operation Details																																	
<div><div><div>11</div><div>2</div><div>3</div><div>4</div><div>9</div></div><div><div>1</div><table><tr><td>Node No. 96</td><td colspan="4">3G3MV Warning Torque Detection (A)</td></tr><tr><td>No.</td><td>Equipment Name</td><td>Mon. Val.</td><td>Peak</td><td>ClearError</td></tr><tr><td>0</td><td>Accel/Decel Torque Current</td><td>2.96</td><td>2.96</td><td>Clear Peak</td></tr><tr><td>1</td><td>Torque Current during Frequency</td><td>2.96</td><td>2.96</td><td>Clear Peak</td></tr><tr><td colspan="2">Read</td><td>Write</td><td>Status</td><td>Hold</td><td>Detection Filter</td><td>Sensitivity Level 5 (Highest)</td></tr></table><div><div>7</div><div>8</div><div>5</div><div>6</div></div><div>10</div></div></div>							Node No. 96	3G3MV Warning Torque Detection (A)				No.	Equipment Name	Mon. Val.	Peak	ClearError	0	Accel/Decel Torque Current	2.96	2.96	Clear Peak	1	Torque Current during Frequency	2.96	2.96	Clear Peak	Read		Write	Status	Hold	Detection Filter	Sensitivity Level 5 (Highest)
Node No. 96	3G3MV Warning Torque Detection (A)																																
No.	Equipment Name	Mon. Val.	Peak	ClearError																													
0	Accel/Decel Torque Current	2.96	2.96	Clear Peak																													
1	Torque Current during Frequency	2.96	2.96	Clear Peak																													
Read		Write	Status	Hold	Detection Filter	Sensitivity Level 5 (Highest)																											
No.	Item	Setting/display	Description																														
1	No.	Display	Displays the number of the value to be monitored.																														
2	Equipment Name	Display	Displays the name of the value to be monitored.																														
3	Mon.Val.	Setting/display	Displays the output current monitor value for the output current during acceleration/deceleration and output current monitor value for frequency agreements (constant-speed operation). Setting is also possible.																														
4	Peak	Display	Displays the peak current during acceleration/deceleration and peak current during frequency agreement. If the current is larger than the monitor value, a warning torque monitoring error will be detected and the display field will be lit red.																														
5	Status Hold	Setting/display	Displays whether the status is to be held or cleared (updated) each time when a warning torque monitoring error is detected. If the button is pressed, holding or clearing status can be selected.																														
6	Detection Filter	Setting/display	Displays the setting of the detection sensitivity used to prevent detection when the monitor value is exceeded only temporarily. Press the button to select the detection sensitivity from level 1 (lowest sensitivity) to level 5 (highest sensitivity).																														
7	Read	Setting	Reads the warning torque current monitor value, peak value, status hold setting, and detection filter setting for No. 00 to 01.																														
8	Write	Setting	Writes the warning torque current monitor value, status hold setting, and detection filter setting for No. 00 to 01.																														
9	Clear Error	Setting	Clears warning torque monitoring errors for items for which the peak display field is lit red. (The red displays will go out when the errors are cleared.)																														
10	Clear Peak	Setting	Resets the peak values to zero.																														
11	Node No.	Display	Displays the node number set for the Unit.																														
Remarks																																	
<ul style="list-style-type: none">* When using this Smart Active Part, be sure to select Setting - Unit/Scale Setting in the menu bar and set the scale for number 999 to 0.01.* Always press the Read Button to read the current settings from the Unit before changing the warning torque current monitor value, status hold setting, and detection filter setting for No. 00 to 01. For example, if there is a Configurator on the DeviceNet communications network and settings are changed from the Configurator, the settings displayed at the PT may not agree with those stored in the Unit. This may result in incorrect settings being written from the PT.* The setting range for the monitor values is 0.00 to 655.35 (A).* Warning torques will not be detected if the monitor value is set to 0.00 (A).* A detection sensitivity level of 5 (highest sensitivity) does not use a filter. A detection sensitivity level of 1 (lowest sensitivity) detects errors using a moving average of five current value samples.* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.																																	

1.2 3G3RV

1.2.1 Speed Monitoring

Unit type	3G3RV	Storage directory	SmartActiveParts_E\Inverter\3G3RV\Serial(Device Net)\Monitor	Title	Speed Monitoring
Function	Monitors the speed of the SYSDRIVE 3G3RV-series High-function Compact Inverter in serial connection or connected through the 3G3RV-PDRT2 DeviceNet Communications Unit. The monitoring cycle is adjustable in combination with a PLC program.				
Display and Operation Details					
<div><div><div>1</div><div><div>Rotational Speed</div><div>123</div><div>r/min</div></div></div><div><div>2</div><div><div>Rotational Speed</div><div>Communications Error Occurred</div><div>r/min</div></div></div><div><div>3</div></div></div>					
No.	Item	Setting/display	Description		
1	Hidden indicator for trigger use	Display	A trigger indicator used to read the output current from the 3G3RV. This indicator is not displayed on the screen. The value can be read on a regular basis by turning ON and OFF the allocated address from the program in the PLC. The monitor cycle is determined by the program in the PLC. Adjust the cycle according to the communications load. The default address is (Serial A: WR00511.15). Change the address if required.		
2	Rotational Speed	Display	Displays the speed read from the 3G3RV.		
3	Communications error display	Setting/display	Displays the status of an error if a communications error occurs between the Unit and the 3G3RV. Reading is not performed while this item is displayed. If the recovery of communications is expected, press the displayed part so that reading will be restarted.		
Remarks					
<div><div>* When using this Smart Active Part, select the r/min unit with Parameter o1-03(Frequency Reference Settings/Reference Unit Selection) on the 3G3RV. Specifically, set o1-03 to 2 through 39 (number of motor poles).</div><div>* The following diagram shows a programming example on the PLC to monitor the value on a regular basis. The 0.1-second clock pulse is allocated to the specified address (Serial A: WR00511.15).</div></div>					
<div><div><div>1</div><div>2</div><div>CF100</div><div>0.1秒クロックパルス</div><div>W511.15</div></div></div>					
ntlp callout: 0.1-s clock pulse					
<div><div>* The actual monitor refreshing cycle varies with the number of Smart Active Parts monitored on the screen and the operating conditions of other Smart Active Parts. The refreshing cycle will increase if the number of Smart Active Parts increases.</div><div>* If the other Smart Active Parts on the screen are in operation, refreshing the monitor will stop. When the operation of the Smart Active Parts stops, refreshing the monitor will restart.</div><div>* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.</div></div>					

1.2.2 Output Frequency Monitor

Unit type	3G3RV	Storage directory	SmartActiveParts_E\Inverter\3G3RV\Serial(Device Net)\Monitor	Title	Output frequency monitor
Function	Monitors the output frequency of the SYSDRIVE 3G3RV-series High-function Compact Inverter in serial connection or connected through the 3G3RV-PDRT2 DeviceNet Communications Unit. The monitoring cycle is adjustable in combination with the PLC program.				
Display and Operation Details					
<div><div><div>1</div><div><div>Output Frequency</div><div>1.23</div><div>Hz</div></div></div><div><div>2</div><div><div>Output Frequency</div><div>Communications Error Occurred</div><div>Hz</div></div></div><div><div>3</div></div></div>					
No.	Item	Setting/display	Description		
1	Hidden indicator for trigger use	Display	A trigger indicator used to read the output frequency from the 3G3RV. This indicator is not displayed on the screen. The value can be read on a regular basis by turning ON and OFF the allocated address from the program in the PLC. The monitor cycle is determined by the program in the PLC. Adjust the cycle according to the communications load. The default address is (Serial A: WR00511.15). Change the address if required.		
2	Output Frequency	Display	Displays the output frequency read from the 3G3RV.		
3	Communications error display	Setting/display	Displays the status of an error if a communications error occurs on the 3G3RV. Reading is not performed while this item is displayed. If the recovery of communications is expected, press the displayed part so that reading will be restarted.		
Remarks					
<div><div><div><div>1</div><div>2</div></div><div>CF100</div><div>0.1秒クロックパルス</div><div>W511.15</div></div></div>					
ntlp callout: 0.1-s clock pulse					
<div><div><div><div><div></div><div></div></div><div>The actual monitor refreshing cycle varies with the number of Smart Active Parts monitored on the screen and the operating conditions of other Smart Active Parts. The refreshing cycle will increase if the number of Smart Active Parts increases.</div></div><div><div><div></div><div></div></div><div>If the other Smart Active Parts on the screen are in operation, refreshing the monitor will stop. When the operation of the Smart Active Parts stops, refreshing the monitor will restart.</div></div><div><div><div></div><div></div></div><div>Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.</div></div></div></div>					

1.2.3 Output Current Monitor

Unit type	3G3RV	Storage directory	SmartActiveParts_E\Inverter\3G3RV\Serial(Device Net)\Monitor		Title	Output current monitor
Function	Monitors the output current of the SYSDRIVE 3G3RV-series High-function Compact Inverter in serial connection or connected through the 3G3RV-PDRT2 DeviceNet Communications Unit. The monitoring cycle is adjustable in combination with the PLC program.					
Display and Operation Details						
<div><div><div>1</div><div><div>Output Current</div><div>12.3</div><div>A</div></div></div><div><div>2</div><div><div>Output Current</div><div>Communications Error Occurred</div><div>A</div></div></div><div><div>3</div></div></div>						
No.	Item	Setting/display	Description			
1	Hidden indicator for trigger use	Display	A trigger indicator used to read the output current from the 3G3RV. This indicator is not displayed on the screen. The value can be read on a regular basis by turning the program in the PLC ON and OFF. The monitor cycle is determined by the program in the PLC. Adjust the cycle according to the communications load. The default address is (Serial A: WR00511.15). Change the address if required.			
2	Output Current	Display	Displays the output current read from the 3G3RV.			
3	Communications error display	Setting/display	Displays the status of an error if a communications error occurs between the Unit and the 3G3RV. Reading is not performed while this item is displayed. If the recovery of communications is expected, press the displayed part so that reading will be restarted.			
Remarks						
<div><div>* When using this Smart Active Part, be sure to select Setting - Unit/Scale Setting in the menu bar and set the scale for number 1000 to 0.1.</div><div>* The following diagram shows a programming example on the PLC to monitor the value on a regular basis. The 0.1-second clock pulse is allocated to the specified address (Serial A: WR00511.15).</div></div>						
<div><div><div><div>1</div><div>2</div></div><div><div>CF100</div><div>0.1秒クロックパルス</div></div><div><div>W511.15</div></div></div></div>						
ntrlp callout: 0.1-s clock pulse						
<div><div>* The actual monitor refreshing cycle varies with the number of Smart Active Parts monitored on the screen and the operating conditions of other Smart Active Parts. The refreshing cycle will increase if the number of Smart Active Parts increases.</div><div>* If the other Smart Active Parts on the screen are in operation, refreshing the monitor will stop. When the operation of the Smart Active Parts stops, refreshing the monitor will restart.</div><div>* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.</div></div>						

1.2.4 Parameter No. 1 to 12 (Unit: Hz)

Unit type	3G3RV	Storage directory	SmartActiveParts_E\Inverter\3G3RV\Serial(Device Net)\Parameters		Title	Parameter No. 1 to 12 (unit: Hz)																																																																														
Function	Adjusts the parameters of the SYSDRIVE 3G3RV-series High-function Compact Inverter in serial connection or connected through the 3G3RV-PDRT2 DeviceNet Communications Unit. Only the main parameters are extracted from all the parameters.																																																																																			
Display and Operation Details																																																																																				
<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>No.1 to No.12</div><div>(cannot be set during operation)</div><table><thead><tr><th>No.</th><th>Constant</th><th>Name</th><th>Default</th><th>Set Val.</th><th>Unit</th></tr></thead><tbody><tr><td>No.1</td><td>b1-02</td><td>Run Command Selection</td><td>0</td><td>2</td><td>-</td></tr><tr><td>No.2</td><td>b1-01</td><td>Freq.Reference Selection</td><td>0</td><td>2</td><td>-</td></tr><tr><td>No.3</td><td>C1-01</td><td>Acceleration Time 1</td><td>10.0</td><td>0.2</td><td>s</td></tr><tr><td>No.4</td><td>C1-02</td><td>Deceleration Time 1</td><td>10.0</td><td>0.2</td><td>s</td></tr><tr><td>No.5</td><td>d1-01</td><td>Frequency Reference 1</td><td>0.00</td><td>0.02</td><td>Hz</td></tr><tr><td>No.6</td><td>d1-02</td><td>Frequency Reference 2</td><td>0.00</td><td>0.02</td><td>Hz</td></tr><tr><td>No.7</td><td>d1-03</td><td>Frequency Reference 3</td><td>0.00</td><td>0.02</td><td>Hz</td></tr><tr><td>No.8</td><td>d2-02</td><td>Lower Freq. Reference Limit</td><td>0.0</td><td>0.2</td><td>%</td></tr><tr><td>No.9</td><td>E1-10</td><td>Min. Output Freq. Valtage</td><td></td><td>0.2</td><td>V</td></tr><tr><td>No.10</td><td>L4-01</td><td>Frequency Detection Level</td><td>0.0</td><td>0.2</td><td>Hz</td></tr><tr><td>No.11</td><td>C4-01</td><td>Torque Compensation Gain</td><td>1.00</td><td>0.02</td><td>-</td></tr><tr><td>No.12</td><td>C3-01</td><td>Slip Compensation Gain</td><td>0.0</td><td>0.2</td><td>-</td></tr></tbody></table><div><div>Read Value</div><div>Enable Val.</div><div>Write</div></div><div><div>6</div><div>7</div><div>8</div></div></div></div>							No.	Constant	Name	Default	Set Val.	Unit	No.1	b1-02	Run Command Selection	0	2	-	No.2	b1-01	Freq.Reference Selection	0	2	-	No.3	C1-01	Acceleration Time 1	10.0	0.2	s	No.4	C1-02	Deceleration Time 1	10.0	0.2	s	No.5	d1-01	Frequency Reference 1	0.00	0.02	Hz	No.6	d1-02	Frequency Reference 2	0.00	0.02	Hz	No.7	d1-03	Frequency Reference 3	0.00	0.02	Hz	No.8	d2-02	Lower Freq. Reference Limit	0.0	0.2	%	No.9	E1-10	Min. Output Freq. Valtage		0.2	V	No.10	L4-01	Frequency Detection Level	0.0	0.2	Hz	No.11	C4-01	Torque Compensation Gain	1.00	0.02	-	No.12	C3-01	Slip Compensation Gain	0.0	0.2	-
No.	Constant	Name	Default	Set Val.	Unit																																																																															
No.1	b1-02	Run Command Selection	0	2	-																																																																															
No.2	b1-01	Freq.Reference Selection	0	2	-																																																																															
No.3	C1-01	Acceleration Time 1	10.0	0.2	s																																																																															
No.4	C1-02	Deceleration Time 1	10.0	0.2	s																																																																															
No.5	d1-01	Frequency Reference 1	0.00	0.02	Hz																																																																															
No.6	d1-02	Frequency Reference 2	0.00	0.02	Hz																																																																															
No.7	d1-03	Frequency Reference 3	0.00	0.02	Hz																																																																															
No.8	d2-02	Lower Freq. Reference Limit	0.0	0.2	%																																																																															
No.9	E1-10	Min. Output Freq. Valtage		0.2	V																																																																															
No.10	L4-01	Frequency Detection Level	0.0	0.2	Hz																																																																															
No.11	C4-01	Torque Compensation Gain	1.00	0.02	-																																																																															
No.12	C3-01	Slip Compensation Gain	0.0	0.2	-																																																																															
No.	Item	Setting/display	Description																																																																																	
1	No.	Display	Displays the item numbers from the parameter table.																																																																																	
2	Constant	Display	Displays constant numbers where the parameters are saved in the 3G3RV.																																																																																	
3	Name	Display	Displays descriptions of parameters.																																																																																	
4	Default	Display	Displays the default value of each parameter (i.e., the default in the 3G3RV).																																																																																	
5	Set Val.	Setting/display	Displays the set value of each parameter. By pressing the button, the set value can be overwritten.																																																																																	
6	Read Value	Setting	Reads the present value set for each parameter.																																																																																	
7	Enable Val.	Setting	Reflects set descriptions in the operation of the Unit without writing them to the EEPROM.																																																																																	
8	Write	Setting	Writes set descriptions to the EEPROM and reflects them in the operation of the Unit.																																																																																	
Remarks																																																																																				
* When using this Smart Active Part, be sure to select Setting - Unit/Scale Setting in the menu bar and set the scale for number 1000 to 0.1 and the scale for number 999 to 0.01.																																																																																				
* When using this Smart Active Part, select the 0.01-Hz unit with Parameter o1-03(Frequency Reference Settings/Reference Unit Selection) on the 3G3RV. Specifically, set o1-03 to 0. If a unit other than 0.01 Hz is selected, values for parameters d1-01 to d1-03 will not be displayed normally.																																																																																				
* After writing the settings, press the Enable Val. button and reflect the setting in the operation of the Unit.																																																																																				
* Execute EEPROM Write to save the settings so that they will be stored after the Unit is turned OFF. The settings will be lost if the 3G3RV is turned OFF without writing the settings to EEPROM. EEPROM can be written up to 100,000 times.																																																																																				
* For details on the parameters, refer to the <i>3G3RV Operation Manual</i> .																																																																																				
* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.																																																																																				

1.2.5 Parameter No.13 to 24

Unit type	3G3RV	Storage directory	SmartActiveParts_E\Inverter\3G3RV\Serial(Device Net)\Parameters		Title	Parameter No.13 to 24																																																																														
Function	Adjusts the parameters of the SYSDRIVE 3G3RV-series High-function Compact Inverter in serial connection or connected through the 3G3RV-PDRT2 DeviceNet Communications Unit. Only the main parameters are extracted from all the parameters.																																																																																			
Display and Operation Details																																																																																				
<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>No.13 to No.24</div><div>(cannot be set during operation)</div><table><thead><tr><th>No.</th><th>Constant</th><th>Name</th><th>Default</th><th>Set Val.</th><th>Unit</th></tr></thead><tbody><tr><td>No.13</td><td>b5-01</td><td>PID Control Selection</td><td>0</td><td>2</td><td>-</td></tr><tr><td>No.14</td><td>b5-02</td><td>Propotional Gain</td><td>1.00</td><td>0.02</td><td>-</td></tr><tr><td>No.15</td><td>b5-03</td><td>Integral Time</td><td>1.0</td><td>0.2</td><td>s</td></tr><tr><td>No.16</td><td>b5-05</td><td>Derivative Time</td><td>0.00</td><td>0.02</td><td>s</td></tr><tr><td>No.17</td><td>b5-07</td><td>PID Offset Adjustment</td><td>0.0</td><td>0.2</td><td>%</td></tr><tr><td>No.18</td><td>b5-04</td><td>Integral (I) Upper Limit</td><td>100.0</td><td>0.2</td><td>%</td></tr><tr><td>No.19</td><td>b5-08</td><td>PID Primary Delay Time</td><td>0.00</td><td>0.02</td><td>s</td></tr><tr><td>No.20</td><td>b5-10</td><td>PID Output Gain</td><td>1.0</td><td>0.2</td><td>-</td></tr><tr><td>No.21</td><td>b8-01</td><td>E. S. Control Selection</td><td>0</td><td>1</td><td>-</td></tr><tr><td>No.22</td><td>b8-04</td><td>E. S. Coefficient</td><td></td><td>0.02</td><td>-</td></tr><tr><td>No.23</td><td></td><td></td><td></td><td>0</td><td>-</td></tr><tr><td>No.24</td><td></td><td></td><td></td><td>0</td><td>-</td></tr></tbody></table><div><div>Read Value</div><div>Enable Val.</div><div>Write</div></div><div><div>6</div><div>7</div><div>8</div></div></div></div>							No.	Constant	Name	Default	Set Val.	Unit	No.13	b5-01	PID Control Selection	0	2	-	No.14	b5-02	Propotional Gain	1.00	0.02	-	No.15	b5-03	Integral Time	1.0	0.2	s	No.16	b5-05	Derivative Time	0.00	0.02	s	No.17	b5-07	PID Offset Adjustment	0.0	0.2	%	No.18	b5-04	Integral (I) Upper Limit	100.0	0.2	%	No.19	b5-08	PID Primary Delay Time	0.00	0.02	s	No.20	b5-10	PID Output Gain	1.0	0.2	-	No.21	b8-01	E. S. Control Selection	0	1	-	No.22	b8-04	E. S. Coefficient		0.02	-	No.23				0	-	No.24				0	-
No.	Constant	Name	Default	Set Val.	Unit																																																																															
No.13	b5-01	PID Control Selection	0	2	-																																																																															
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No.20	b5-10	PID Output Gain	1.0	0.2	-																																																																															
No.21	b8-01	E. S. Control Selection	0	1	-																																																																															
No.22	b8-04	E. S. Coefficient		0.02	-																																																																															
No.23				0	-																																																																															
No.24				0	-																																																																															
No.	Item	Setting/display	Description																																																																																	
1	No.	Display	Displays the item numbers from the parameter table.																																																																																	
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3	Name	Display	Displays descriptions of parameters.																																																																																	
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5	Set Val.	Setting/display	Displays the set value of each parameter. By pressing the button, the set value can be overwritten.																																																																																	
6	Read Value	Setting	Reads the present value set for each parameter.																																																																																	
7	Enable Val.	Setting	Reflects set descriptions in the operation of the Unit without writing them to the EEPROM.																																																																																	
8	Write	Setting	Writes set descriptions to the EEPROM and reflects them in the operation of the Unit.																																																																																	
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* After writing the settings, press the Enable Val. button and reflect the setting in the operation of the Unit.																																																																																				
* Execute EEPROM Write to save the settings so that they will be stored after the Unit is turned OFF. The settings will be lost if the 3G3RV is turned OFF without writing the settings to EEPROM. EEPROM can be written up to 100,000 times.																																																																																				
* For details on the parameters, refer to the <i>3G3RV Operation Manual</i> .																																																																																				
* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.																																																																																				

1.2.6 Fan/Pump Basic Adjustment (Unit: Hz)

Unit type	3G3RV	Storage directory	SmartActiveParts_E\Inverter\3G3RV\Serial(Device Net)\Parameters	Title	Fan/Pump Basic Adjustment (Unit: Hz)																																																						
Function	Adjusts the parameters of the SYSDRIVE 3G3RV-series High-function Compact Inverter in serial connection or connected through the 3G3RV-PDRT2 DeviceNet Communications Unit. Only basic parameters used for fan and pump control are extracted.																																																										
Display and Operation Details																																																											
<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>Parameters for Controlling Fan/Pump</div><div>(cannot be set during operation)</div><table><thead><tr><th>No.</th><th>Constant</th><th>Name</th><th>Default</th><th>Set Val.</th><th>Unit</th></tr></thead><tbody><tr><td>No.1</td><td>b1-02</td><td>Run Command Selection</td><td>0</td><td>2</td><td>-</td></tr><tr><td>No.2</td><td>b1-01</td><td>Freq.Reference Selection</td><td>0</td><td>2</td><td>-</td></tr><tr><td>No.3</td><td>C1-01</td><td>Acceleration Time 1</td><td>10.0</td><td>0.2</td><td>s</td></tr><tr><td>No.4</td><td>C1-02</td><td>Deceleration Time 1</td><td>10.0</td><td>0.2</td><td>s</td></tr><tr><td>No.5</td><td>d1-01</td><td>Frequency Reference 1</td><td>0.00</td><td>0.02</td><td>Hz</td></tr><tr><td>No.6</td><td>d1-02</td><td>Frequency Reference 2</td><td>0.00</td><td>0.02</td><td>Hz</td></tr><tr><td>No.7</td><td>d1-03</td><td>Frequency Reference 3</td><td>0.00</td><td>0.02</td><td>Hz</td></tr><tr><td>No.8</td><td>d2-02</td><td>Lower Freq. Reference Limit</td><td>0.0</td><td>0.2</td><td>%</td></tr></tbody></table><div><div>Read Value</div><div>Enable Val.</div><div>Write</div></div><div><div>6</div><div>7</div><div>8</div></div></div></div>						No.	Constant	Name	Default	Set Val.	Unit	No.1	b1-02	Run Command Selection	0	2	-	No.2	b1-01	Freq.Reference Selection	0	2	-	No.3	C1-01	Acceleration Time 1	10.0	0.2	s	No.4	C1-02	Deceleration Time 1	10.0	0.2	s	No.5	d1-01	Frequency Reference 1	0.00	0.02	Hz	No.6	d1-02	Frequency Reference 2	0.00	0.02	Hz	No.7	d1-03	Frequency Reference 3	0.00	0.02	Hz	No.8	d2-02	Lower Freq. Reference Limit	0.0	0.2	%
No.	Constant	Name	Default	Set Val.	Unit																																																						
No.1	b1-02	Run Command Selection	0	2	-																																																						
No.2	b1-01	Freq.Reference Selection	0	2	-																																																						
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No.5	d1-01	Frequency Reference 1	0.00	0.02	Hz																																																						
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No.7	d1-03	Frequency Reference 3	0.00	0.02	Hz																																																						
No.8	d2-02	Lower Freq. Reference Limit	0.0	0.2	%																																																						
No.	Item	Setting/display	Description																																																								
1	No.	Display	Displays the item numbers from the parameter table.																																																								
2	Constant	Display	Displays constant numbers where the parameters are saved in the 3G3RV.																																																								
3	Name	Display	Displays descriptions of parameters.																																																								
4	Default	Display	Displays the default value of each parameter (i.e., the default in the 3G3RV).																																																								
5	Set Val.	Setting/display	Displays the set value of each parameter. By pressing the button, the set value can be overwritten.																																																								
6	Read value	Setting	Reads the present value set for each parameter.																																																								
7	Enable Val.	Setting	Reflects set descriptions in the operation of the Unit without writing them to the EEPROM.																																																								
8	Write	Setting	Writes set descriptions to the EEPROM and reflects them in the operation of the Unit.																																																								
Remarks																																																											
<ul style="list-style-type: none">* When using this Smart Active Part, be sure to select Setting - Unit/Scale Setting in the menu bar and set the scale for number 1000 to 0.1 and the scale for 999 to 0.01.* When using this Smart Active Part, select the 0.01-Hz unit with Parameter o1-03(Frequency Reference Settings/Reference Unit Selection) on the 3G3RV. Specifically, set o1-03 to 0. If a unit other than 0.01 Hz is selected, values for parameters d1-01 to d1-03 will not be displayed normally.* After writing the settings, press the Enable Val. button and reflect the setting in the operation of the Unit.* Execute EEPROM Write to save the settings so that they will be stored after the Unit is turned OFF. The settings will be lost if the 3G3RV is turned OFF without writing the settings to EEPROM. EEPROM can be written up to 100,000 times.* For details on the parameters, refer to the <i>3G3RV Operation Manual</i>.* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.																																																											

1.2.7 Unit Status Monitor

Unit type	3G3RV-PDRT2	Storage directory	SmartActiveParts_E\Invert or\3G3RV\DeviceNet\DRT 2_Func			Title	Unit Status Monitor
Function	Monitors Unit status and sets parameters for the 3G3RV-PDRT2 DeviceNet Communications Unit.						
Display and Operation Details							
<div><div>14</div><div><div>Node No. 96</div><div>3G3RV Unit Status Monitor</div><div><div>Unit</div><div>Motor</div></div><div><div>Network Power Voltage (V)</div><div>Average Electric Power(W)</div></div><div><div>Monitor Val.</div><div>Bottom</div><div>Present Value</div><div>Peak</div><div>Time Scale</div><div>Average Power</div></div><div><div>29.6</div><div>29.6</div><div>Clr</div><div>29.6</div><div>29.6</div><div>Clr</div><div>10 min.</div><div>88936</div></div><div><div>Fan Operating Time (Hr)</div><div>Electrolytic Capacitor Ope.Time(Hr)</div><div>Unit Conduction Time(Hr)</div></div><div><div>Monitor Val.</div><div>Present Value</div><div>Monitor Val.</div><div>Present Value</div><div>Monitor Val.</div><div>Present Value</div></div><div><div>8893.6</div><div>8893.6</div><div>Clr</div><div>8893.6</div><div>8893.6</div><div>Clr</div><div>8893.6</div><div>8893.6</div></div><div><div>Unit Status</div></div><div><div>Unit Maintenance</div><div>Network Power Volt. Drop</div><div>Warning</div></div><div><div>Fan Maintenance</div><div>Operation Time Over</div><div></div></div><div><div>Electrolytic Capacitor</div><div>Connected Component</div><div>Save Maintenance Counter</div></div><div><div>Read</div><div>Write</div><div>Inverter Reset</div><div>Last Maintenance Date</div></div><div><div>0 / 0 / 0</div></div></div><div><div>10</div><div>11</div><div>12</div><div>9</div></div></div>							
No.	Item	Setting/ display	Description				
1	Unit	Setting/ display	Displays the unit name set for the Unit. Can also be used to change the unit name.				
2	Motor	Setting/ display	Displays the motor name set for the Unit. Can also be used to change the motor name.				
3	Network Power Voltage	Setting/ display	Displays the monitor value, minimum value (bottom), present value, and maximum value (peak) of the network power supply voltage. Can also be used to set the monitor value. The minimum and maximum values can be reset to zero by pressing the Clr Buttons. If the present value is less than the monitor value, the present value display field will flash in red and <i>Network Power Volt. Drop</i> in the <i>Unit Status</i> area will be lit in red.				
4	Average Electric Power	Setting/ display	Displays the measurement period set value (Time Scale) and the calculated value of the average power. Can also be used to set the measurement period to 10 min, 30 min, or 1 h.				
5	Fan Operating Time	Setting/ display	Displays the monitor value and present value of the fan operating time. Can also be used to set the monitor value. The Clr Button can be pressed to reset the present value to zero. Can also be used to set the present value. If the present value is greater than the monitor value, the present value display field will flash in red and <i>Fan Maintenance</i> in the <i>Unit Status</i> area will be lit in red.				
6	Electrolytic Capacitor Ope. Time	Setting/ display	Displays the monitor value and present value of the electrolytic capacitor operating time. Can also be used to set the monitor value. The Clr Button can be pressed to reset the present value to zero. Can also be used to set the present value. If the present value is greater than the monitor value, the present value display field will flash in red and <i>Electrolytic Capacitor</i> in the <i>Unit Status</i> area will be lit in red.				
7	Unit Conduction Time	Setting/ display	Displays the monitor value and present value of the Unit conduction time. Can also be used to set the monitor value. The present value cannot be set. If the present value is greater than the monitor value, the present value display field will flash in red and <i>Unit Maintenance</i> in the <i>Unit Status</i> area will be lit in red.				
8	Unit Status	Display	Displays the Unit status flags. Status flags will be lit red when there is an error. Refer to the <i>User's Manual</i> for the Unit (I539) for details on each item.				
9	Last Maintenance Date	Display	Displays the last maintenance date registered in the Unit. The value cannot be changed.				
10	Read	Setting	Pressed to read all of the Unit status from 1 through 10.				

11	Write	Setting	Writes the Unit name, motor name, network power voltage monitor value, average electric power measurement period, Unit conduction time monitor value, fan operating time monitor value/present value, electrolytic capacitor operating time monitor value/present value, and operation for communications error setting.
12	Inverter Reset	Setting	Always press this button after changing the measurement period for the average electric power. Pressing this button is not necessary after changing other settings. (Executes a software reset for the Inverter.)
13	Save Maintenance Counter	Setting	Writes the maintenance counter information (i.e., the Unit conduction time, fan operating time, electrolytic capacitor operating time, and I/O terminal maintenance counter values) to EEPROM in the DeviceNet Communications Unit.
14	Node No.	Display	Displays the node number set for the Unit.

Remarks

- * When using this Smart Active Part, be sure to select **Setting - Unit/Scale Setting** in the menu bar and set the scale for number 1000 to 0.1.
- * Always press the Read Button to read the current settings from the Unit before changing the Unit name, motor name, network power voltage monitor value, average electric power measurement period, Unit conduction time monitor value, fan operating time monitor value/present value, electrolytic capacitor operating time monitor value/present value, and operation for communications error setting. For example, if there is a Configurator on the DeviceNet communications network and settings are changed from the Configurator, the settings displayed at the PT may not agree with those stored in the Unit. This may result in incorrect settings being written from the PT.
- * Maintenance counter information is written to EEPROM in the DeviceNet Communications Unit approximately every 6 minutes. Depending on the timing of when the power supply is turned OFF, up to 6 minutes worth of data may be lost. For more accurate management, press the Save Maintenance Counter Button just before turning OFF the power supply.
- * Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.

1.2.8 Input Status Monitor: 00 to 03

Unit type	3G3RV-PDRT2	Storage directory	SmartActiveParts_E\Invert or\3G3RV\DeviceNet\DRT 2_Func		Title	Input Status Monitor: 00 to 03																																								
Function	Displays and sets the status of input terminals 00 to 03 (terminals S1 to S4).																																													
Display and Operation Details																																														
<div><div>9 →</div><table><tr><td colspan="2">Node No. 96</td><td colspan="5">3G3RV Input Status Monitor (T/F)</td></tr><tr><td>No.</td><td>I/O Comments</td><td>Mode</td><td>M. V.</td><td>P. V.</td><td colspan="2"></td></tr><tr><td>0</td><td></td><td>F</td><td>268435752</td><td>268435752</td><td>R</td><td rowspan="4">6 7 8</td></tr><tr><td>1</td><td></td><td>T</td><td>268435752</td><td>268435752</td><td>Clr</td></tr><tr><td>2</td><td></td><td>F</td><td>268435752</td><td>268435752</td><td>W</td></tr><tr><td>3</td><td></td><td>T</td><td>268435752</td><td>268435752</td><td></td></tr></table><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div></div>								Node No. 96		3G3RV Input Status Monitor (T/F)					No.	I/O Comments	Mode	M. V.	P. V.			0		F	268435752	268435752	R	6 7 8	1		T	268435752	268435752	Clr	2		F	268435752	268435752	W	3		T	268435752	268435752	
Node No. 96		3G3RV Input Status Monitor (T/F)																																												
No.	I/O Comments	Mode	M. V.	P. V.																																										
0		F	268435752	268435752	R	6 7 8																																								
1		T	268435752	268435752	Clr																																									
2		F	268435752	268435752	W																																									
3		T	268435752	268435752																																										
No.	Item	Setting/display	Description																																											
1	No.	Setting/display	Displays the number and the ON/OFF status of the input terminal (i.e., bottom half functions as a status indicator). The top half functions as an indicator to display the input terminals for which to reset the maintenance counter present value to zero. Press the number of an input to change the selection status.																																											
2	I/O Comments	Setting/display	Displays the I/O comments set for the input terminal. Setting is also possible.																																											
3	Mode	Setting/display	Displays the maintenance mode (time/frequency) set for the input terminal. Can also be used to set the mode.																																											
4	M.V.	Setting/display	Displays the maintenance monitor value. Setting is also possible.																																											
5	P.V.	Setting/display	Displays the present value of the maintenance counter. Setting is also possible. If the present value is larger than the monitor value, the display field will be lit red.																																											
6	R	Setting	Reads the ON/OFF status, I/O comments, maintenance mode, maintenance counter monitor value, and present value for all of the input terminals.																																											
7	Clr	Setting	Resets the maintenance counter present values for items for which the top half of the No. display is lit.																																											
8	W	Setting	Writes the I/O comments, maintenance mode, maintenance counter monitor value, and present value for all of the input terminals.																																											
9	Node No.	Display	Displays the node number set for the Unit.																																											
Remarks																																														
<ul style="list-style-type: none">* Always press the Read Button to read the current settings from the Unit before changing the I/O comments, maintenance mode, maintenance counter monitor value, and present value. For example, if there is a Configurator on the DeviceNet communications network and settings are changed from the Configurator, the settings displayed at the PT may not agree with those stored in the Unit. This may result in incorrect settings being written from the PT.* Maintenance counter values (number of contact operations and total ON time) are written to EEPROM in the DeviceNet Communications Unit approximately every 6 minutes. Depending on the timing of when the power supply is turned OFF, up to 6 minutes worth of data may be lost. For more accurate management, press the Save Maintenance Counter Button in the Unit Status Monitor Smart Active Part just before turning OFF the power supply.* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.																																														

1.2.9 Input Status Monitor: 04 to 06

Unit type	3G3RV-PDRT2	Storage directory	SmartActiveParts_E\Invert or\3G3RV\DeviceNet\DRT 2_Func		Title	Input Status Monitor: 04 to 06																																				
Function	Displays and sets the status of input terminals 04 to 06 (terminals S5 to S7).																																									
Display and Operation Details																																										
<div><div>9 →</div><table><tr><td colspan="2">Node No. 96</td><td colspan="5">3G3RV Input Status Monitor (T/F)</td></tr><tr><td>No.</td><td>I/O Comments</td><td>Mode</td><td>M. V.</td><td>P. V.</td><td colspan="2"></td></tr><tr><td>4</td><td></td><td>T</td><td>268435752</td><td>268435752</td><td>R</td><td>6</td></tr><tr><td>5</td><td></td><td>F</td><td>268435752</td><td>268435752</td><td>Clr</td><td>7</td></tr><tr><td></td><td></td><td></td><td>268435752</td><td>268435752</td><td>W</td><td>8</td></tr></table><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div></div></div>								Node No. 96		3G3RV Input Status Monitor (T/F)					No.	I/O Comments	Mode	M. V.	P. V.			4		T	268435752	268435752	R	6	5		F	268435752	268435752	Clr	7				268435752	268435752	W	8
Node No. 96		3G3RV Input Status Monitor (T/F)																																								
No.	I/O Comments	Mode	M. V.	P. V.																																						
4		T	268435752	268435752	R	6																																				
5		F	268435752	268435752	Clr	7																																				
			268435752	268435752	W	8																																				
No.	Item	Setting/display	Description																																							
1	No.	Setting/display	Displays the number and the ON/OFF status of the input terminal (i.e., bottom half functions as a status indicator). The top half functions as an indicator to display the input terminals for which to reset the maintenance counter present value to zero. Press the number of an input to change the selection status.																																							
2	I/O Comments	Setting/display	Displays the I/O comments set for the input terminal. Setting is also possible.																																							
3	Mode	Setting/display	Displays the maintenance mode (time/frequency) set for the input terminal. Can also be used to set the mode.																																							
4	M.V.	Setting/display	Displays the maintenance monitor value. Setting is also possible.																																							
5	P.V.	Setting/display	Displays the present value of the maintenance counter. Setting is also possible. If the present value is larger than the monitor value, the display field will be lit red.																																							
6	Read	Setting	Reads the ON/OFF status, I/O comments, maintenance mode, maintenance counter monitor value, and present value for all of the input terminals.																																							
7	Clr	Setting	Resets the maintenance counter present values for items for which the top half of the No. display is lit.																																							
8	Write	Setting	Writes the I/O comments, maintenance mode, maintenance counter monitor value, and present value for all of the input terminals.																																							
9	Node No.	Display	Displays the node number set for the Unit.																																							
Remarks																																										
<div><div>* Always press the Read Button to read the current settings from the Unit before changing the I/O comments, maintenance mode, maintenance counter monitor value, and present value. For example, if there is a Configurator on the DeviceNet communications network and settings are changed from the Configurator, the settings displayed at the PT may not agree with those stored in the Unit. This may result in incorrect settings being written from the PT.</div><div>* Maintenance counter values (number of contact operations and total ON time) are written to EEPROM in the DeviceNet Communications Unit approximately every 6 minutes. Depending on the timing of when the power supply is turned OFF, up to 6 minutes worth of data may be lost. For more accurate management, press the Save Maintenance Counter Button in the Unit Status Monitor Smart Active Part just before turning OFF the power supply.</div><div>* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.</div></div>																																										

1.2.10 Output Status Monitor

Unit type	3G3RV-PDRT2	Storage directory	SmartActiveParts_E\Invert or\3G3RV\DeviceNet\DRT 2_Func	Title	Output Status Monitor																																										
Function	Displays and sets the status of output terminals 00 to 02 (terminals M1, M2, P1, and P2).																																														
Display and Operation Details																																															
<div><div><div>10</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>1</div><div>7</div><div>8</div><div>6</div><div>9</div></div><div><table><tr><td colspan="2">Node No. 96</td><td colspan="4">3G3RV Output Status Monitor (T/F)</td></tr><tr><td>No.</td><td>I/O Comments</td><td>Mode</td><td>M. V.</td><td colspan="2">P. V.</td></tr><tr><td>0</td><td></td><td>F</td><td>268435752</td><td colspan="2">268435752</td></tr><tr><td>1</td><td></td><td>F</td><td>268435752</td><td colspan="2">268435752</td></tr><tr><td>2</td><td></td><td>F</td><td>268435752</td><td colspan="2">268435752</td></tr><tr><td colspan="2">Read</td><td>Write</td><td>Fault Action</td><td>Hold No. 00</td><td>Hold No. 01</td></tr><tr><td colspan="2"></td><td></td><td></td><td>Clear No. 02</td><td>Clear P. V.</td></tr></table></div></div>						Node No. 96		3G3RV Output Status Monitor (T/F)				No.	I/O Comments	Mode	M. V.	P. V.		0		F	268435752	268435752		1		F	268435752	268435752		2		F	268435752	268435752		Read		Write	Fault Action	Hold No. 00	Hold No. 01					Clear No. 02	Clear P. V.
Node No. 96		3G3RV Output Status Monitor (T/F)																																													
No.	I/O Comments	Mode	M. V.	P. V.																																											
0		F	268435752	268435752																																											
1		F	268435752	268435752																																											
2		F	268435752	268435752																																											
Read		Write	Fault Action	Hold No. 00	Hold No. 01																																										
				Clear No. 02	Clear P. V.																																										
No.	Item	Setting/display	Description																																												
1	No.	Setting/display	Displays the number and the ON/OFF status of the output terminal (i.e., bottom half functions as a status indicator). The top half functions as an indicator to display the input terminals for which to reset the maintenance counter present value to zero. Press the number of an input to change the selection status.																																												
2	I/O Comments	Setting/display	Displays the I/O comments set for the output terminal. Setting is also possible.																																												
3	Mode	Setting/display	Displays the maintenance mode (time/frequency) set for the output terminal. Can also be used to set the mode.																																												
4	M.V.	Setting/display	Displays the maintenance monitor value. Setting is also possible.																																												
5	P.V.	Setting/display	Displays the present value of the maintenance counter. Setting is also possible. If the present value is larger than the monitor value, the display field will be lit red.																																												
6	Fault Action	Setting/display	Displays whether the output terminal status is held or cleared when a DeviceNet communications error occurs. If the button is pressed, holding or clearing operation can be selected.																																												
7	Read	Setting	Reads all of the data.																																												
8	Write	Setting	Writes the I/O comments, maintenance mode, maintenance counter monitor value, present value, and fault action for all of the output terminals.																																												
9	Clear P.V.	Setting	Resets the maintenance counter present values for items for which the top half of the No. display is lit.																																												
10	Node No.	Display	Displays the node number set for the Unit.																																												
Remarks																																															
* When using this Smart Active Part, set the connection path for the Slave's remote I/O function to control I/O remote I/O. If any other setting is used for the remote I/O function, output status cannot be set or monitored.																																															
* Always press the Read Button to read the current settings from the Unit before changing the I/O comments, maintenance mode, maintenance counter monitor value, present value, and fault action. For example, if there is a Configurator on the DeviceNet communications network and settings are changed from the Configurator, the settings displayed at the PT may not agree with those stored in the Unit. This may result in incorrect settings being written from the PT.																																															
* Maintenance counter values (number of contact operations and total ON time) are written to EEPROM in the DeviceNet Communications Unit approximately every 6 minutes. Depending on the timing of when the power supply is turned OFF, up to 6 minutes worth of data may be lost. For more accurate management, press the Save Maintenance Counter Button in the Unit Status Monitor Smart Active Part just before turning OFF the power supply.																																															
* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.																																															

1.2.11 Operation Time Monitor

Unit type	3G3RV-PDRT2	Storage directory	SmartActiveParts_E\Invert or\3G3RV\DeviceNet\DRT 2_Func		Title	Operation Time Monitor																																			
Function	Displays and sets the operating time for motors or peripheral devices connected to the 3G3RV.																																								
Display and Operation Details																																									
<div><div><div>11</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>1 →</div><div>Node No. 96</div><div>3G3RV Operating Time Monitor (ms)</div><table><tr><th>No.</th><th>Equipment Name (Patterns)</th><th>Mon. Val.</th><th>Ope. Time</th><th>Peak</th></tr><tr><td>0</td><td>(Ter. MA->Ter. S5)</td><td>296</td><td>296</td><td>296</td></tr><tr><td>1</td><td>(Ter. P1->Ter. S6)</td><td>296</td><td>296</td><td>296</td></tr><tr><td>2</td><td>(Ter. S3->Ter. S4)</td><td>296</td><td>296</td><td>296</td></tr><tr><td>3</td><td>(Ter. S5->Ter. S6)</td><td>296</td><td>296</td><td>296</td></tr><tr><td>4</td><td>(Ope. ON->Ter. S5)</td><td>296</td><td>296</td><td>296</td></tr><tr><td>5</td><td>(Ope. ON->Ter. S6)</td><td>296</td><td>296</td><td>296</td></tr></table><div><div>Read</div><div>Write</div><div>Status Hold</div><div>Hold</div><div>Clear Error</div><div>Clear Peak</div></div></div><div><div>7</div><div>8</div><div>6</div><div>9</div><div>10</div></div></div>							No.	Equipment Name (Patterns)	Mon. Val.	Ope. Time	Peak	0	(Ter. MA->Ter. S5)	296	296	296	1	(Ter. P1->Ter. S6)	296	296	296	2	(Ter. S3->Ter. S4)	296	296	296	3	(Ter. S5->Ter. S6)	296	296	296	4	(Ope. ON->Ter. S5)	296	296	296	5	(Ope. ON->Ter. S6)	296	296	296
No.	Equipment Name (Patterns)	Mon. Val.	Ope. Time	Peak																																					
0	(Ter. MA->Ter. S5)	296	296	296																																					
1	(Ter. P1->Ter. S6)	296	296	296																																					
2	(Ter. S3->Ter. S4)	296	296	296																																					
3	(Ter. S5->Ter. S6)	296	296	296																																					
4	(Ope. ON->Ter. S5)	296	296	296																																					
5	(Ope. ON->Ter. S6)	296	296	296																																					
No.	Item	Setting/ display	Description																																						
1	No.	Setting/ display	Displays the number and lights as an indicator if the operating time monitor error and peak value are to be cleared. Press the number of an input to change the selection status.																																						
2	Equipment Name	Setting/ display	Displays the comments set for the equipment being monitored. Setting is also possible.																																						
3	Mon.Val.	Setting/ display	Displays the operating time monitor value. Setting is also possible.																																						
4	Ope. Time	Display	Displays the operating time. If the operating time is larger than the monitor value, the display field will be lit red.																																						
5	Peak	Display	Displays the peak value of the operating time.																																						
6	Status Hold	Setting/ display	Displays whether the status is to be held or cleared (updated) each time when an operating time monitoring error is detected. If the button is pressed, holding or clearing status can be selected.																																						
7	Read	Setting	Reads the equipment name, operating time monitor value, operating time, peak value, and status hold setting for No. 00 to 05.																																						
8	Write	Setting	Writes the equipment name, operating time monitor value, and status hold setting for No. 00 to 05.																																						
9	Clear Error	Setting	Clears operating time monitoring errors for items for which the No. display is lit.																																						
10	Clear Peak	Setting	Resets to zero the items for which the No. display is lit.																																						
11	Node No.	Display	Displays the node number set for the Unit.																																						
Remarks																																									
* Always press the Read Button to read the current settings from the Unit before changing the equipment name, operating time monitor value, and status hold setting for No. 00 to 05. For example, if there is a Configurator on the DeviceNet communications network and settings are changed from the Configurator, the settings displayed at the PT may not agree with those stored in the Unit. This may result in incorrect settings being written from the PT.																																									
* The setting range for the monitor values is 0 to 65,535 (ms).																																									
* Operating time monitoring for No. 00 (terminal M1 to terminal S5) and No. 11 (terminal P1 to terminal S6) is valid only if the Slave's remote I/O function is set to control I/O remote I/O. If any other setting is used for the remote I/O function, monitoring will not be possible.																																									
* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.																																									

1.2.12 Warning Torque Monitor

Unit type	3G3RV-PDRT2	Storage directory	SmartActiveParts_E\Invert or\3G3RV\DeviceNet\DRT 2_Func	Title	Warning Torque Monitor
Function	Sets the monitor value and displays the peak current for monitoring error status of the load using the Inverter's current (torque).				
Display and Operation Details					
<p>11 → Node No. 99</p> <p>2 → 3G3MV Warning Torque Detection (A)</p> <p>3 → Mon. Val. 2.96</p> <p>4 → Peak 2.96</p> <p>9 → Clear Error Clear Peak</p> <p>1 → No. 0</p> <p>10 → Clear Peak</p> <p>7 → Read</p> <p>8 → Write</p> <p>5 → Status Hold</p> <p>6 → Detection Filter</p> <p>Sensitivity Level 5 (Highest)</p>					
No.	Item	Setting/display	Description		
1	No.	Display	Displays the number of the value to be monitored.		
2	Equipment Name	Display	Displays the name of the value to be monitored.		
3	Mon.Val.	Setting/display	Displays the output current monitor value for the output current during acceleration/deceleration and output current monitor value for frequency agreements (constant-speed operation). Setting is also possible.		
4	Peak	Display	Displays the peak current during acceleration/deceleration and peak current during frequency agreement. If the current is larger than the monitor value, a warning torque monitoring error will be detected and the display field will be lit red.		
5	Status Hold	Setting/display	Displays whether the status is to be held or cleared (updated) each time when a warning torque monitoring error is detected. If the button is pressed, holding or clearing status can be selected.		
6	Detection Filter	Setting/display	Displays the setting of the detection sensitivity used to prevent detection when the monitor value is exceeded only temporarily. Press the button to select the detection sensitivity from level 1 (lowest sensitivity) to level 5 (highest sensitivity).		
7	Read	Setting	Reads the warning torque current monitor value, peak value, status hold setting, and detection filter setting for No. 00 to 01.		
8	Write	Setting	Writes the warning torque current monitor value, status hold setting, and detection filter setting for No. 00 to 01.		
9	Clear Error	Setting	Clears warning torque monitoring errors for items for which the peak display field is lit red. (The red displays will go out when the errors are cleared.)		
10	Clear Peak	Setting	Resets the peak values to zero.		
11	Node No.	Display	Displays the node number set for the Unit.		
Remarks					
* When using this Smart Active Part, be sure to select Setting - Unit/Scale Setting in the menu bar and set the scale for number 999 to 0.01.					
* Always press the Read Button to read the current settings from the Unit before changing the warning torque current monitor value, status hold setting, and detection filter setting for No. 00 to 01. For example, if there is a Configurator on the DeviceNet communications network and settings are changed from the Configurator, the settings displayed at the PT may not agree with those stored in the Unit. This may result in incorrect settings being written from the PT.					
* The setting range for the monitor values is 0.00 to 655.35 (A).					
* Warning torques will not be detected if the monitor value is set to 0.00 (A).					
* A detection sensitivity level of 5 (highest sensitivity) does not use a filter. A detection sensitivity level of 1 (lowest sensitivity) detects errors using a moving average of five current value samples.					
* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.					

Servo Driver

1.1 R88D-WT/R7D-AP

1.1.1 Present Value Monitor

Unit Type	R88D-WT R7D-AP	Storage directory	SmartActiveParts_E\ServoDriver	Title	Present value monitor
Function	The present value of up to 16 servo drivers (W series, and Smart step) connected in a serial connection can be read by setting the node no. and selecting the data type. If the servo driver is not connected or has a communication error, the data will not be read or set.				
Display and Operation Details					
<div><div>1</div><div><div>Present value monitor</div><div>Node Data Type</div><div><div>2</div><div>A</div><div>Speed, Fdbck</div><div>4</div></div><div>P.V. <div>1234</div> r/min</div><div>3</div></div></div>					
No.	Item	Setting/display	Description		
1	Hidden indicator for trigger use	Display	A trigger indicator used to refresh the present value. The indicator is not displayed on the NS hardware. The data can be periodically refreshed by turning ON and OFF the allocated address from the program in the PLC. The program in the PLC determines the monitor cycle, so please adjust it according to the communications load. The set address is [SerialA:WR00511.15]. Change the address if required. Data refreshment will start only after the unit communicates normally with the set node no. Switching a screen can also refresh the data.		
2	Node No.	Setting	Sets the node no. to be displayed.		
3	Present value	Display	Sets the present value.		
4	Data type	Setting	Selects a data type to display the type and the unit. (The Unit is displayed to the right of the present value.)		
Remarks					
* When using this Smart Active Parts, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation for \$SB. The Smart Active Parts cannot be used on the pop-up screen.					

1.1.2 Parameter Setting

Unit type	R88D-WT R7D-AP	Storage directory	SmartActiveParts_E\ServoDriver	Title	Parameter setting
Function	Details of the parameter of up to 16 Servo drivers (W series, and Smart step) connected in a serial connection can be read and set by specifying the node no. If the Servo driver is not connected or has a communication error, the data will not be read or set.				
Display and Operation Details					
<div><div><div><div><div>Parameter setting</div><div><div>Node</div><div>Parameter</div><div>Set val.</div><div>Size</div></div><div><div>1</div><div>Pn</div><div>100A</div><div>008C</div><div>2</div></div><div><div>2</div><div>Transfer</div><div>Write</div><div>Raed</div><div>Save</div></div><div><div>5</div><div>6</div><div>7</div><div>8</div></div></div><div><div>3</div><div>4</div></div></div></div></div>					
No.	Item	Setting/ display	Description		
1	Node No.	Setting	Sets the Node no.		
2	Parameter No.	Setting	Set the parameter no.		
3	Set value	Setting/ Display	Displays the set value read from the servo driver parameter. The value can be overwritten.		
4	Parameter Size	Display	Displays parameter size (fixed to 2).		
5	Transferring	Display	It will flash when the communication is in progress.		
6	Write	Setting	Writes the settings to the RAM in the servo driver parameter no. Writes the set value in the last three digits of the parameter address.		
7	Read	Setting	Reads the details of servo driver parameter number either from RAM or EEPROM and displays to the set value. Parameter No.: 0xxx(when the high order digit is 0) reads from the RAM area. 1xxx(when the high order digit is 1) reads from the EEPROM		
8	Save	Setting	Writes the set value to the EEPROM of servo driver parameter no. Writes the set value in the last three digits of the parameter address.		
Remarks					
* If the gain setting rotary switch on the smart step is not set to 0, a certain parameter cannot be written to EEPROM.					
* Refer to the <i>Unit Manual</i> for details on Parameter.					

1.1.3 Servo Driver Adjustment

Unit type	R88D-WT R7D-AP	Storage directory	SmartActiveParts_E\ServoDriver	Title	Servo driver adjustment
Function	Details of up to 16 servo drivers (W series, and Smart step) connected in a serial connection can be read and set by setting the node number and selecting the parameter name. If the servo driver is not connected or has a communication error, the data will not be read or set.				
Display and Operation Details					
<div><div><div>Servo driver adjustment</div><div><div>Node</div><div>Parameter</div></div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div><div>9</div></div></div></div>					
No.	Item	Setting/ display	Description		
1	Node No.	Setting	Sets the node no.		
2	Set value	Setting/ display	Displays the set value read from the servo driver parameter. The value can be overwritten.		
3	Parameter name	Setting	Selects the parameter name to be displayed and the unit. (Unit is displayed outside of the setting value frame.)		
4	+	Setting	Increases the setting value.		
5	-	Setting	Decreases the setting value.		
6	Transferring	Display	It will flash when the communication is in progress.		
7	Write	Setting	Writes the setting value to the RAM of a servo driver parameter name.		
8	Read	Setting	Reads the RAM of a servo driver parameter name and displays it in the setting value		
9	Save	Setting	Writes the setting value to EEPROM of the servo driver name.		
Remarks					
* If the gain setting rotary switch on the smart step is not 0, a certain parameter cannot be written to EEPROM.					
* Refer to the Unit Manual for details on Parameter.					

1.1.4 Error Display

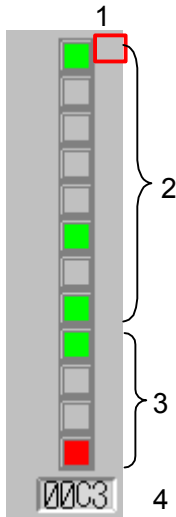
Unit type	R88D-WT R7D-AP	Storage directory	SmartActiveParts_E\ServoDriver	Title	Error display
Function	By setting the node no, reads error details of the parameter of up to 16 servo drivers (W series, and Smart step) connected in a serial connection. If the servo driver is not connected or has a communication error, the data will not be read.				
Display and Operation Details					
<div><div><div>1</div><div><div>Error display</div></div></div><div><div>2</div><div><div>Node</div><div>2</div></div><div><div>Error</div><div><div></div></div></div><div><div>Error code</div><div>0008</div></div><div><div>Reset</div></div></div><div><div>3</div><div>4</div><div>5</div></div></div>					
No.	Item	Setting/display	Description		
1	Hidden indicator for trigger use	Display	A trigger indicator used to refresh the error lamp and the error code. The indicator is not displayed on the NS hardware. The value can be periodically refreshed by turning ON and OFF the allocated address from the program in the PLC. The program in the PLC determines the monitor cycle, so please adjust it according to the communications load. The set address is [SerialA:WR00511.15]. Change the address if required. Data refreshment will start only after the unit communicates normally with the set node no. Switching a screen can also refresh the data.		
2	Node No.	Setting	Sets the node no. to be displayed.		
3	Error	Display	It will flash when an error occurs.		
4	Error code	Display	Shows the error code when an error occurs. (0000 is displayed when it operates normally.)		
5	Error reset	Setting	Resets the developing error for the servo driver.		
Remarks					
* When using this Smart Active Parts, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation for \$SB. The Smart Active Part cannot be used on the pop-up screen.					

1.1.5 I/O Status Monitor 1 (NS Hardware)

Unit type	R88D-WT	Storage directory	SmartActiveParts_E\ServoDriver	Title	I/O Status monitor 1 (NS Hardware)
Function	Monitors the I/O status of up to 16 servo drivers (W series) connected in a serial connection. If the servo driver is not connected or has a communication error, the data will not be monitored.				
Display and Operation Details					
<div><div>1</div><div><div>R88D-WT I/O Status</div><div><div>2</div><div><div>RUN Command</div><div>Gain Reduction</div><div>POT Signal</div><div>NOT Signal</div><div>Alarm Reset</div><div>Pos. Current Limit</div><div>Rev. Current Limit</div><div>Sensor ON SEN</div><div>Speed Reached</div><div>Motor Rev. Detect</div><div>Servo Ready</div><div>Alarm</div><div>Error code</div></div><div><div>4</div><div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></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5	Output signal I/O status lamp	Display	<p>It will flash when the output signal is ON. Lamps are allocated in the following order. Please refer to the allocation below.</p> <table><tr><td>No.</td><td>Pin for CN</td><td>Name Display</td></tr><tr><td>1</td><td>CN1-25</td><td>Allocated between Pn50E to Pn510</td></tr><tr><td>2</td><td>CN1-27</td><td>Same as above</td></tr><tr><td>3</td><td>CN1-29</td><td>Same as above</td></tr><tr><td>4</td><td>CN11-31</td><td>Fixed to ALARM</td></tr></table>	No.	Pin for CN	Name Display	1	CN1-25	Allocated between Pn50E to Pn510	2	CN1-27	Same as above	3	CN1-29	Same as above	4	CN11-31	Fixed to ALARM
No.	Pin for CN	Name Display																
1	CN1-25	Allocated between Pn50E to Pn510																
2	CN1-27	Same as above																
3	CN1-29	Same as above																
4	CN11-31	Fixed to ALARM																
6	Error code	Display	Shows the error code when an error occurs. (0000 is displayed when it operates normally.)															
Remarks <ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation for \$SB. The Smart Active Part cannot be used on the pop-up screen.* Input output signal I/O status name varies with the servo driver parameter. Please set the parameter to be displayed in advance. However, SEN for the censer on and ALM for the alarm are fixed.* Refer to the <i>Unit Manual</i> for details on Parameter.* When using this device library, be sure to set both the unit no. direction for the communication setting dialog screen and the servo driver node address.																		

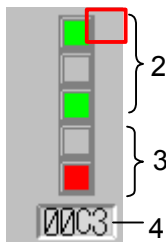
1.1.6 I/O Status 1 (No name)

Unit type	R88D-WT	Storage directory	SmartActiveParts_E\ServoDriver	Title	I/O Status monitor 1 (No name)
Function	Monitors the I/O status of up to 16 servo drivers (W series) connected in a serial connection. If the servo driver is not connected or has a communication error, the data will not be monitored.				
<div></div>					
No.	Item	Setting/display	Description		
1	Hidden indicator for trigger use	Display	A trigger indicator used to refresh the I/O status monitor. The indicator is not displayed on the NS hardware. The value can be periodically refreshed by turning ON and OFF the allocated address from the program in the PLC. The program in the PLC determines the monitor cycle, so please adjust it according to the communications load. The set address is [SerialA:WR00511.15]. Change the address if required. Data refreshment will start only after the unit communicates normally with the set node no. Switching a screen can also refresh the data.		
2	Input signal I/O status lamp	Display	It will flash when the input signal is ON.		
3	Output signal I/O status lamp	Display	It will flash when the output signal is ON.		
4	Error code	Display	Shows the error code when an error occurs. (0000 is displayed when it operates normally.)		
Remarks					
<ul style="list-style-type: none">* When using this Smart Active Parts, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation for \$SB. The Smart Active Parts cannot be used on the pop-up screen.* Set the parameter the same as the one for the I/O status monitor 1(NS hardware), even though the name will not be shown on this screen.* Refer to the <i>Unit Manual</i> for details on Parameter.* When using this device library, be sure to set both the unit no. direction for the communication setting dialog screen and the servo driver node address.					

1.1.7 I/O Status Monitor 2 (NS Hardware)

Unit type	R7D-AP	Storage directory	SmartActiveParts_E\ServoDriver	Title	I/O Status Monitor 2 (NS Hardware)
Function	Monitors the I/O status of up to 16 servo drivers (Smart step) connected in a serial connection. If the servo driver is not connected or has a communication error, the data will not be monitored.				
Display and Operation Details					
<div><div>1</div><div><div>F7D I/O Status</div><div><div>Run Command(RUN)</div><div>Alarm Reset(RESET)</div><div>Position.Completed(INP)</div><div>Brake Interlock(BKIR)</div><div>Alarm(ALM)</div><div>Error code</div></div><div><div><div></div><div></div><div></div><div></div><div></div><div>0003</div></div><div><div>2</div><div>3</div><div>4</div></div></div></div></div>					
No.	Item	Setting/display	Description		
1	Hidden indicator for trigger use	Display	A trigger indicator used to refresh the I/O status monitor. The indicator is not displayed on the screen. The value can be periodically refreshed by turning ON and OFF the allocated address from the program in the PLC. The program in the PLC determines the monitor cycle, so please adjust it according to the communications load. The set address is [SerialA:WR00511.15]. Change the address if required. Data refreshment will start only after the unit communicates normally with the set node no. Switching a screen can also refresh the data.		
2	Input signal I/O status lamp	Display	It will flash when the input signal is ON.		
3	Output signal I/O status lamp	Display	It will flash when the output signal is ON.		
4	Error code	Display	Shows the error code when an error occurs. (0000 is displayed when it operates normally.)		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation for \$SB. The Smart Active Part cannot be used on the pop-up screen.					
* When using this device library, be sure to set both the unit no. direction for the communication setting dialog screen and the servo driver node address.					

1.1.8 I/O Status Monitor 2 (No name)

Unit type	R7D-AP	Storage directory	SmartActiveParts_E\ServoDriver	Title	I/OS Status Monitor 2 (No name)
Function	Monitors the I/O status of up to 16 servo drivers (Smart step) connected in a serial connection. If the servo driver is not connected or has a communication error, the data will not be monitored.				
Display and Operation Details					
<div><div>1</div></div>					
No.	Item	Setting/ display	Description		
1	Hidden indicator for trigger use	Display	Triggers to refresh the monitor for I/O status. The value is not displayed on the NS hardware screen. Data can be periodically refreshed by On and OFF of the address allocated to the unit on the PLC. The program in the PLC determines the monitor cycle, so please adjust it according to the communications load. The set address is [SerialA:WR00511.15]. Change the address if required. Data refreshment will start only after the unit communicates normally with the set node no. Switching a screen can also refresh the data.		
2	Input signal I/O status lamp	Display	It will flash when the input signal is ON.		
3	Output signal I/O status lamp	Display	It will flash when the output signal is ON.		
4	Error code	Display	Shows the error code when an error occurs. (0000 is displayed when it operates normally.)		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation for \$SB. The Smart Active Part cannot be used on the pop-up screen.* Set a parameter the same as the one for the I/O Status monitor 2(NS hardware), even though its name will not be shown on this screen.* When using this device library, be sure to set both the unit no. direction for the communication setting dialog screen and the servo driver node address.					

Temperature Controller (E5ZN)

Temperature Controller (E5ZN)

The following table lists the Smart Active Parts for the E5ZN Temperature Controller.

Setting level	Temperature Controller type	Channel	Smart Active Part name
Operation level	Temperature Controllers with Thermocouples	CH1	Operation Monitor for Standard Control
			Operation Monitor for Heating/Cooling Control
			SP and Alarm Settings
			PV Hold Value
			SP Setting
		CH2	Operation Monitor for Standard Control
			Operation Monitor for Heating/Cooling Control
			SP and Alarm Settings
			PV Hold Value
			SP Setting
	Temperature Controllers with Platinum-resistance Thermometers	CH1	Operation Monitor for Standard Control
			Operation Monitor for Heating/Cooling Control
			SP and Alarm Settings
			PV Hold Value
			SP Setting
		CH2	Operation Monitor for Standard Control
			Operation Monitor for Heating/Cooling Control
			SP and Alarm Settings
			PV Hold Value
			SP Setting
Adjustment level	Temperature Controllers with Thermocouples	CH1	Manual MV Settings
			Multi-SP Settings
		CH2	Manual MV Settings
			Multi-SP Settings
	Temperature Controllers with Platinum-resistance Thermometers	CH1	Manual MV Settings
			Multi-SP Settings
		CH2	Manual MV Settings
			Multi-SP Settings
	Temperature Controllers with Thermocouples or Platinum-resistance Thermometers	CH1	Heater Burnout Detection
			PID Settings
			Input Shift Values
			Manual Reset Value
			Cooling Coefficient, Dead Band, and Control Period
			Dead Band and Hysteresis
		CH2	Heater Burnout Detection
			PID Settings
			Input Shift Values
			Manual Reset Value
			Cooling Coefficient, Dead Band, and Control Period
			Dead Band and Hysteresis
	Temperature Controllers with Analog Outputs and Thermocouple Inputs	CH1	Manual MV Settings
		CH2	Manual MV Settings
	Temperature Controllers with Analog Outputs and Platinum-resistance Thermometer Inputs	CH1	Manual MV Settings
		CH2	Manual MV Settings

Temperature Controller (E5ZN)

Setting level	Temperature Controller type	Channel	Smart Active Part name
Initial setting level	Temperature Controllers with Thermocouples	CH1	Input 1 Type, Temperature Unit, Scaling, and Decimal Point SP Limits
		CH2	Input 1 Type, Temperature Unit, Scaling, and Decimal Point SP Limits
		Common	Transfer Output Upper and Lower Limits
	Temperature Controllers with Platinum-resistance Thermometers	CH1	SP Limits
		CH2	SP Limits
		Common	Input 1 Type and Temperature Unit Transfer Output Upper and Lower Limits
	Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs	CH1	PID or ON/OFF Control Direct/Reverse Operation Alarm 1 Type, Open/Close in Alarm, Latch, Hysteresis Alarm 2 Type, Open/Close in Alarm, Latch, Hysteresis
			Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis
		CH2	PID or ON/OFF Control Direct/Reverse Operation Alarm 1 Type, Open/Close in Alarm, Latch, Hysteresis Alarm 2 Type, Open/Close in Alarm, Latch, Hysteresis
			Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis
		Common	Control Output 1 and 2 Allocations Auxiliary Output 1 and 2 Allocations Auxiliary Output 3 and 4 Allocations Current/Voltage Output Sensor Error Indicator Used and Input Error Output Operation after Power ON
Advanced function setting level	Temperature Controllers with Thermocouples	CH1	SP Ramp
		CH2	SP Ramp
	Temperature Controllers with Platinum-resistance Thermometers	CH1	SP Ramp
		CH2	SP Ramp
	Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs	CH1	HBA Used, Latch, Hysteresis MV Upper/Lower Limits and Input Digital Filter
			MV Upper/Lower Limits and Input Digital Filter (Models with Analog Outputs)
	Temperature Controllers with Thermocouples or Platinum-resistance Thermometers	CH2	HBA Used, Latch, Hysteresis MV Upper/Lower Limits and Input Digital Filter MV Upper/Lower Limits and Input Digital Filter (Models with Analog Outputs)
		Common	Input Shift Type Number of Multi-SP Uses, Event Input Allocation, Use Multi-SP Standby Sequence Restart α Cold Junction Compensation Method
Communications setting level		Common	Communications Settings

Temperature Controller (E5ZN)

1.1 E5ZN

1.1.1 Operation Level

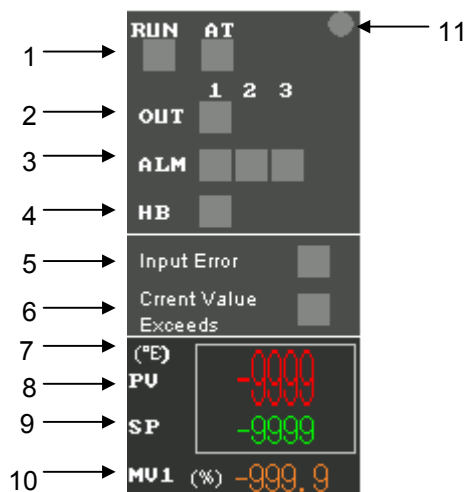
(1) Operation Monitor for Standard Control

Setting level	Input type	Channel	Part
Operation level	Thermocouple input	CH1	Yes
		CH2	Yes
		All CH	No
	Platinum-resistance thermometer	CH1	Yes
		CH2	Yes
		All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\OperationLevel	Title	Operation Monitor for Standard Control
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Function Continuously monitors operating status on a face plate.

Display and Operation Details



No.	Item	Setting/display	Description
1	RUN AUTO AT	Display	Displays the run/stop, auto/manual, and autotuning status.
2	OUT	Display	Displays the output status of control outputs 1 and 2.
3	ALM	Display	Displays the output status of alarm outputs 1, 2, and 3.
4	HB	Display	Displays the heater burnout output status.
5	Input Error	Display	Displays the input error status.
6	Current Value Exceeds	Display	Displays the status of a current value exceeded error.
7	(°C) / (°F)	Display	Displays the temperature unit.
8	PV	Display	Displays the process value.
9	SP	Display	Displays the set point.
10	MV1	Display	Displays the manipulated variable.
11	Display Update Indicator	Display	Flashes each time the display is updated.

Remarks

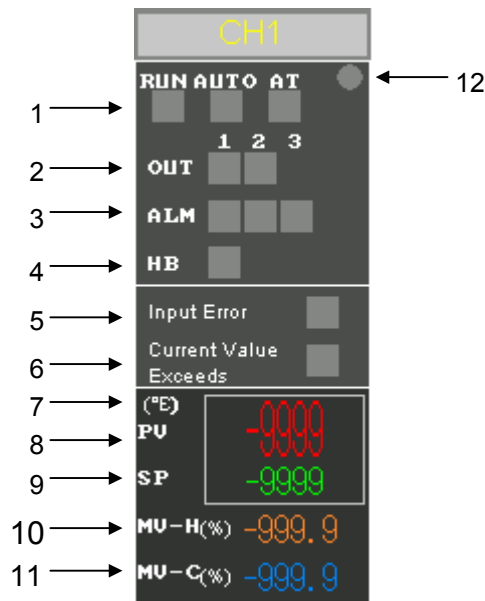
- * When using this SMART Active Part, be sure to select **Setting - System Settings** in the menu bar, press the **System Memory List** Button on the **Initial Tab** Page, and select **Basics** for the \$SB.
- * Do not use this SMART Active Part on the initial screen.
- * Use System version 5 or higher version.

(2) Operation Monitor for Heating/Cooling Control

Setting level	Input type	Channel	Part
Operation level	Thermocouple input	CH1	Yes
		CH2	Yes
		All CH	No
	Platinum-resistance thermometer	CH1	Yes
		CH2	Yes
		All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\OperationLevel	Title	Operation Monitor for Heating/Cooling Control
Function	Continuously monitors operating status on a face plate.				

Display and Operation Details



No.	Item	Setting/display	Description
1	RUN AUTO AT	Display	Displays the run/stop, auto/manual, and autotuning status.
2	OUT	Display	Displays the output status of control outputs 1 and 2.
3	ALM	Display	Displays the output status of alarm outputs 1, 2, and 3.
4	HB	Display	Displays the heater burnout output status.
5	Input Error	Display	Displays the input error status.
6	Current Value Exceeds	Display	Displays the status of a current value exceeded error.
7	(°C) / (°F)	Display	Displays the temperature unit.
8	PV	Display	Displays the process value.
9	SP	Display	Displays the set point.
10	MV-H	Display	Displays the manipulated variable for heating.
11	MV-C	Display	Displays the manipulated variable for cooling.
12	Display Update Indicator	Display	Flashes each time the display is updated.

Remarks

- * When using this SMART Active Part, be sure to select **Setting - System Settings** in the menu bar, press the **System Memory List** Button on the **Initial Tab** Page, and select **Basics** for the \$SB.
- * Do not use this SMART Active Part on the initial screen.
- * Use System version 5 or higher version.

Temperature Controller (E5ZN)

(3) SP and Alarm Settings

Setting level	Input type	Channel	Part
Operation level	Thermocouple input	CH1	Yes
		CH2	Yes
		All CH	No
	Platinum-resistance thermometer	CH1	Yes
		CH2	Yes
		All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\OperationLevel		Title	SP and Alarm Settings
Function	Sets the set point and the alarm values for outputting alarms.					
Display and Operation Details						
<div><div><div>2</div><div>CH1</div><div>1 → SP (°E) -999.9 ← 10</div><div>(°E) Alarm Val, Upper Lim, Lower Lim,</div><div>3 → ALM1 -9999 -9999 -9999</div><div>4 → ALM2 -9999 -9999 -9999</div><div>5 → ALM3 -9999</div><div>6 7 8 9</div></div></div>						
No.	Item	Setting/display	Description			
1	SP	Setting	Sets the set point.			
2	(°C) / (°F)	Display	Displays the temperature unit.			
3	ALM1	~	The ALM1 row contains the alarm 1 settings: alarm value, upper limit, and lower limit.			
4	ALM2	~	The ALM2 row contains the alarm 2 settings: alarm value, upper limit, and lower limit.			
5	ALM3	~	The ALM3 row contains the alarm 3 setting: alarm value.			
6	Alarm Indicators	Display	Displays the output status of alarm outputs 1, 2, and 3.			
7	Alarm Val.	Setting	Sets the alarm value. The alarm value is displayed and can be set when the alarm type is set to anything other than an upper/lower limit alarm.			
8	Upper Lim.	Setting	Sets the alarm upper limit. The alarm upper limit is displayed and can be set when the alarm type is set to an upper/lower limit alarm.			
9	Lower Lim.	Setting	Sets the alarm lower limit. The alarm lower limit is displayed and can be set when the alarm type is set to an upper/lower limit alarm.			
10	Display Update Indicator	Display	The alarm display indicators are continuously displayed and updated. This indicator flashes each time the data is updated.			
Remarks						
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.						
* Do not use this SMART Active Part on the initial screen.						
* Use System version 5 or higher version.						

(4) PV Hold Value

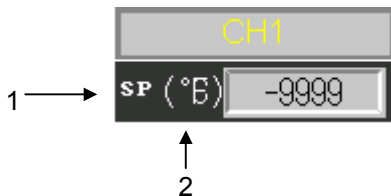
Setting level	Input type	Channel	Part
Operation level	Thermocouple input	CH1	Yes
		CH2	Yes
		All CH	No
	Platinum-resistance thermometer	CH1	Yes
		CH2	Yes
		All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\OperationLevel	Title	PV Hold Value
Function	Continuously monitors the PV hold value.				
Display and Operation Details					
<div><div>1</div><div>CH1</div><div>PV Hold Val.(°E)</div><div>2</div><div>-9999</div><div>3</div></div>					
No.	Item	Setting/display	Description		
1	PV Hold Value	Display	Displays the PV hold value.		
2	°C / °F	Display	Displays the temperature unit.		
3	Display Update Indicator	Display	The PV hold value is continuously displayed and updated. This indicator flashes each time the data is updated.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5ZN)

(5) SP Setting

Setting level	Input type	Channel	Part
Operation level	Thermocouple input	CH1	Yes
		CH2	Yes
		All CH	No
	Platinum-resistance thermometer	CH1	Yes
		CH2	Yes
		All CH	No

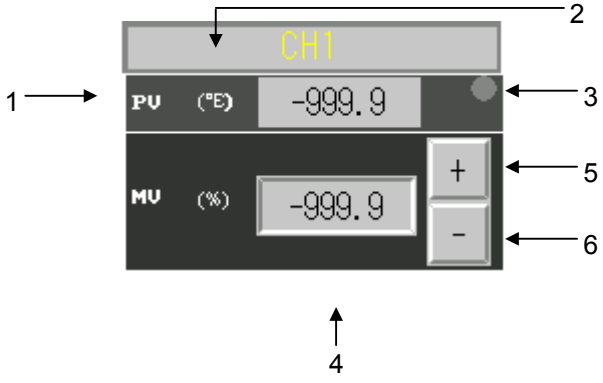
Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\OperationLevel	Title	SP Setting
Function	Sets the set point.				
Display and Operation Details					
<div></div>					
No.	Item	Setting/display	Description		
1	SP	Setting	Sets the set point.		
2	(°C) / (°F)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

1.1.2 Adjustment Level

(6) Manual MV Settings

There are different the SMART Active Parts for each channel and for Temperature Controllers with Pulse Outputs and Temperature Controllers with Analog Outputs. Be sure to use the correct SMART Active Part.

Setting level	Input type	Channel	Part
Adjustment level	Thermocouple input	CH1	Yes
		CH2	Yes
		All CH	No
	Platinum-resistance thermometer	CH1	Yes
		CH2	Yes
		All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\AdjustmentLevel	Title	Manual MV Settings
Function	Sets the manual manipulated variable.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	PV	Display	Displays the process value. The display is updated continuously.		
2	(°C) / (°F)	Display	Displays the temperature unit.		
3	Display Update Indicator	Display	Flashes each time the PV display is updated.		
4	MV	Setting	Sets the manual manipulated variable.		
5	▲	Setting	Increments the manual manipulated variable by one engineering unit.		
6	▼	Setting	Decrements the manual manipulated variable by one engineering unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5ZN)

(7) Multi-SP Settings

Setting level	Input type	Channel	Part
Adjustment level	Thermocouple input	CH1	Yes
		CH2	Yes
		All CH	No
	Platinum-resistance thermometer	CH1	Yes
		CH2	Yes
		All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\AdjustmentLevel	Title	Multi-SP Settings
Function	Sets set points 0 and 1.				
Display and Operation Details					
<div><div><div>1</div><div>→</div></div><div><div>2</div><div>→</div></div><div><div>↑</div><div>3</div></div><div><div>CH1</div><div>SP0 (°E) -9999</div><div>SP1 (°E) -9999</div></div></div>					
No.	Item	Setting/display	Description		
1	SP0	Setting	Sets set point 0.		
2	SP1	Setting	Sets set point 1.		
3	(°C) / (°F)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(8) Heater Burnout Detection

Setting level	Input type	Channel	Part
Adjustment level	Thermocouple input	CH1	Yes
	Platinum-resistance thermometer	CH2	Yes
	Common (Common)	All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\AdjustmentLevel	Title	Heater Burnout Detection
Function	Monitors the heater burnout current and sets the heater burnout detection value. This SMART Active Part is used for Temperature Controllers with Pulse Outputs. Heater burnout detection will function when the HBA Used parameter is set to ON. The setting is made with a SMART Active Part in the advanced setting level.				
Display and Operation Details					
<div><div><div>CH1</div><div>Heater Current Val 99.9</div><div>Heater Burnout Detection</div><div>HB 99.9</div><div>HBA Used OFF ON</div></div><div><div>1</div><div>2</div><div>4</div><div>5</div><div>3</div></div></div>					
No.	Item	Setting/display	Description		
1	Heater Current Val	Display	Continuously displays the heater current.		
2	HB	Display	Continuously displays the output status for heater burnout detection.		
3	Heater Burnout Detection	Setting	Sets the heater burnout detection value.		
4	HBA Used	Display	Displays the setting status (advanced function setting level) for heater burnout detection.		
5	Display Update Indicator	Display	Flashes each time the heater current or HB display is updated.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5ZN)

(9) PID Settings

Setting level	Input type	Channel	Part
Adjustment level	Thermocouple input	CH1	Yes
	Platinum-resistance thermometer	CH2	Yes
	Common(Common)	All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\AdjustmentLevel	Title	PID Settings
Function	Sets the PID constants.				
Display and Operation Details					
<div><div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 →</div></div><div><div>CH1</div><div>P Value (%FS) 999.9</div><div>I Value (sec) 9999</div><div>D Value (sec) 9999</div></div></div>					
No.	Item	Setting/display	Description		
1	P Value	Setting	Sets the proportional band.		
2	(°C) / (°F)	Display	Displays the temperature unit.		
3	I Value	Setting	Sets the integral time.		
4	D Value	Setting	Sets the derivative time.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(10) Input Shift Values

Setting level	Input type	Channel	Part
Adjustment level	Thermocouple input	CH1	Yes
	Platinum-resistance thermometer	CH2	Yes
	Common(Common)	All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\ TemperatureController\E5ZN\AdjustmentLevel	Title	Input Shift Values
Function	Sets the input shift values for the sensor measurement range.				
Display and Operation Details					
<div><div><div>1-point shift (°C)</div><div>Input Shift Value</div><div>-999.9</div></div><div><div>2-point shift (°C)</div><div>Upper Limit Temperature</div><div>Lower Limit Temperature</div><div>Input Shift Value</div><div>-999.9</div><div>-999.9</div></div></div> <div><div>1</div><div>2</div><div>3</div></div>					
No.	Item	Setting/display	Description		
1	1-point shift Input Shift Value	Setting	Sets the input shift value for a 1-point shift.		
2	2-point shift Input Shift Value	Setting	Sets the input shift values for the upper limit and lower limit of the sensor measurement range.		
3	(°C) / (°F)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5ZN)

(11) Manual Reset Value

Setting level	Input type	Channel	Part
Adjustment level	Thermocouple input	CH1	Yes
	Platinum-resistance thermometer	CH2	Yes
	Common(Common)	All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\AdjustmentLevel	Title	Manual Reset Value
Function	Sets the manual reset value.				
Display and Operation Details					
<div><div>1 →</div><div><div>CH1</div><div>Manual Reset Val.(%) 999.9</div></div></div>					
No.	Item	Setting/display	Description		
1	Manual Reset Value	Setting	Sets the manual reset value.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.					

(12) Cooling Coefficient, Dead Band, and Control Period

Setting level	Input type	Channel	Part
Adjustment level	Thermocouple input	CH1	Yes
	Platinum-resistance thermometer	CH2	Yes
	Common(Common)	All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\AdjustmentLevel	Title	Cooling Coefficient, Dead Band, and Control Period
Function	Sets the cooling coefficient, dead band, and control period.				
Display and Operation Details					
<div><div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 →</div><div>5 →</div></div><div><div>CHI</div><div>Cooling Coefficient99.99</div><div>Dead Band-999.9</div><div>Control Period Heating (sec)99</div><div>Control Period Cooling (sec)99</div></div></div>					
No.	Item	Setting/display	Description		
1	Cooling Coefficient	Setting	Sets the cooling coefficient for heating/cooling control.		
2	Dead Band	Setting	Sets the dead band for heating/cooling control.		
3	(°C) / (°F)	Display	Displays the temperature unit.		
4	Control Period Heating	Setting	Sets the control period for the heating output for heating/cooling control. Sets the control period for standard control.		
5	Control Period Cooling	Setting	Sets the control period for the cooling output for heating/cooling control.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5ZN)

(13) Dead Band and Hysteresis

Setting level	Input type	Channel	Part
Adjustment level	Thermocouple input	CH1	Yes
	Platinum-resistance thermometer	CH2	Yes
	Common(Common)	All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\AdjustmentLevel	Title	Dead Band and Hysteresis
Function	Sets the dead band and hysteresis for ON/OFF control.				
Display and Operation Details					
<div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 ↑</div><div><div>CHI</div><div>Dead Band-999.9</div><div>Hysteresis Heating999.9</div><div>Hysteresis Cooling999.9</div></div></div>					
No.	Item	Setting/display	Description		
1	Dead Band	Setting	Sets the dead band.		
2	Hysteresis Heating	Setting	Sets the hysteresis for the heating output for heating/cooling control. Sets the hysteresis for standard control.		
3	Hysteresis Cooling	Setting	Sets the hysteresis for the cooling output for heating/cooling control.		
4	(°C) / (°F)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

1.1.3 Initial Setting Level

(14) Input 1 Type, Temperature Unit, Scaling, and Decimal Point for Thermocouple Input

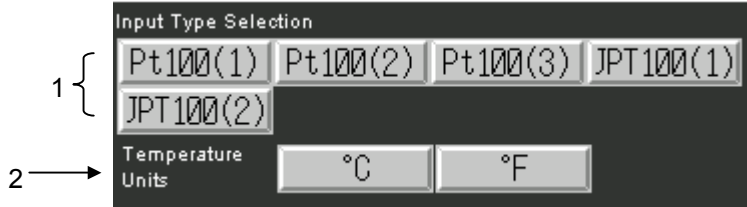
Setting level	Input type	Channel	Part
Initial setting level	Thermocouple input	CH1	Yes
		CH2	Yes
		All CH	No
	Platinum-resistance thermometer	CH1	No
		CH2	No
		All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\InitialSetting Level	Title	Input 1 Type, Temperature Unit, Scaling, and Decimal Point
Function	Sets the input type and temperature unit for a Temperature Controller with a Thermocouple Input. When an analog input is selected, sets the scaling and decimal point position.				
Display and Operation Details					
<div><div>CH1</div><div>Input Type Selection</div><div><div>1 {</div><div><div>K(1)</div><div>K(2)</div><div>J(1)</div><div>J(2)</div><div>T(1)</div><div>E</div><div>L</div><div>U(1)</div><div>N</div><div>R</div><div>S</div><div>B</div><div>K10-70</div><div>K60-120</div><div>K115-165</div><div>K160-260</div><div>T(2)</div><div>U(2)</div></div></div><div>2 →</div><div>Temperature Units</div><div><div>°C</div><div>°F</div></div><div>1 {</div><div><div>0-50mV</div></div><div>3 →</div><div>Scaling</div><div><div>Upper Lim.</div><div>Lower Lim.</div><div>-9999</div><div>-9999</div></div><div>4 →</div><div>Decimal Point Position</div><div><div>9</div></div></div>					
No.	Item	Setting/display	Description		
1	Input Type Selection	Setting	Sets the thermocouple input type. The same input type applies to both channels 1 and 2.		
2	Temperature Units	Setting	Sets the temperature unit. The same temperature unit applies to both channels 1 and 2.		
3	Scaling Upper Lim. Lower Lim.	Setting	When the input type is set to an analog input (0 to 50 mV), sets the upper and lower limits for scaling. The scaling upper/lower limit settings are made separately for channels 1 and 2.		
4	Decimal Point Position	Setting	When the input type is set to an analog input (0 to 50 mV), sets the number of places below the decimal point. The decimal point setting is made separately for channels 1 and 2.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5ZN)

(15) Input 1 Type and Temperature Unit (Platinum-resistance Thermometer)

Setting level	Input type	Channel	Part
Initial setting level	Thermocouple input	CH1	No
		CH2	No
		All CH	No
	Platinum-resistance thermometer	CH1	No
		CH2	No
		All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\InitialSettingLevel	Title	Input 1 Type and Temperature Unit
Function	Sets the input type and temperature unit for a Temperature Controller with a Platinum-resistance Thermometer Input.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Input Type Selection	Setting	Sets the input type for a Temperature Controller with a Platinum-resistance Thermometer Input.		
2	Temperature Units	Setting	Sets the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(16) SP Limits

Setting level	Input type	Channel	Part
Initial setting level	Thermocouple input	CH1	Yes
		CH2	Yes
		All CH	No
	Platinum-resistance thermometer	CH1	Yes
		CH2	Yes
		All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\InitialSettingLevel	Title	SP Limits
Function	Sets the upper and lower limits for the set point.				
Display and Operation Details					
<div><div>2 →</div><div>1 →</div><div><div>CH1</div><div><div>(°E)</div><div>Upper Limit</div><div>Lower Limit</div></div><div><div>SP Limit</div><div>-9999</div><div>-9999</div></div></div></div>					
No.	Item	Setting/display	Description		
1	SP Limit Upper Limit Lower Limit	Setting	Sets the upper and lower limits for the set point. Can be set anywhere within the input temperature setting range.		
2	(°C) / (°F)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5ZN)

(17) Transfer Output Upper and Lower Limits

Setting level	Input type	Channel	Part
Initial setting level	Thermocouple input	CH1	No
		CH2	No
		All CH	Yes
	Platinum-resistance thermometer	CH1	No
		CH2	No
		All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\InitialSettingLevel	Title	Transfer Output Upper and Lower Limits
Function	This setting is for a Temperature Controller with an Analog Output. This SMART Active Part sets the upper and lower limits of transfer outputs when transfer outputs are set for the control outputs or auxiliary outputs.				
Display and Operation Details					
<div><div><div>5 →</div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 →</div></div><div><div>(°E)</div><div>OUT1 Transfer Output</div><div>OUT2 Transfer Output</div><div>SUB3 Transfer Output</div><div>SUB4 Transfer Output</div></div><div><div>Upper Limit</div><div>Lower Limit</div><div>-9999-9999</div><div>-9999-9999</div><div>-9999-9999</div><div>-9999-9999</div></div></div>					
No.	Item	Setting/display	Description		
1	OUT1 Transfer Output Upper Limit Lower Limit	Setting	Sets the upper and lower limits for scaling when a transfer output is set for control output 1 (OUT1).		
2	OUT2 Transfer Output Upper Limit Lower Limit	Setting	Sets the upper and lower limits for scaling when a transfer output is set for control output 2 (OUT2).		
3	SUB3 Transfer Output Upper Limit Lower Limit	Setting	Sets the upper and lower limits for scaling when a transfer output is set for auxiliary output 3 (SUB3).		
4	SUB4 Transfer Output Upper Limit Lower Limit	Setting	Sets the upper and lower limits for scaling when a transfer output is set for auxiliary output 4 (SUB4).		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(18) PID or ON/OFF Control

Setting level	Input type	Channel	Part
Initial setting level	Thermocouple input	CH1	Yes
	Platinum-resistance thermometer	CH2	Yes
	Common(Common)	All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\InitialSettingLevel	Title	PID or ON/OFF Control
Function	Sets either PID or ON/OFF control.				
Display and Operation Details					
<div><div>1 →</div><div><div>CH1</div><div>Control System</div><div>ON/OFF</div><div>PID</div></div></div>					
No.	Item	Setting/display	Description		
1	Control System	Setting	Sets either PID or ON/OFF control.		
Remarks					
<div><div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.</div><div>* Do not use this SMART Active Part on the initial screen.</div><div>* Use System version 5 or higher version.</div></div>					

Temperature Controller (E5ZN)

(19) Direct/Reverse Operation

Setting level	Input type	Channel	Part
Initial setting level	Thermocouple input	CH1	Yes
	Platinum-resistance thermometer	CH2	Yes
	Common(Common)	All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\InitialSetting Level	Title	Direct/Reverse Operation
Function	Sets either direction operation or reverse operation for increases and decreases in the process value.				
Display and Operation Details					
<div><div>1 →</div><div><div>CHI</div><div>OperationReverseDirect</div></div></div>					
No.	Item	Setting/display	Description		
1	Operation	Setting	Sets either direction operation or reverse operation for increases and decreases in the process value.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.					

(20) Alarm 1 Type, Alarm 1 Open/Close in Alarm, Alarm 1 Hysteresis, Alarm 1 Latch

Setting level	Input type	Channel	Part
Initial setting level	Thermocouple input	CH1	Yes
	Platinum-resistance thermometer	CH2	Yes
	Common(Common)	All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\InitialSetting Level	Title	Alarm 1 Type, Open/Close in Alarm, Hysteresis, Latch
Function	Sets the alarm type, open/close in alarm operation, latch, and hysteresis for alarm 1.				
Display and Operation Details					
<div><div><div>CH1</div><div><div>1 → Alarm1 Type</div><div>99</div><div>Type(0-11)</div><div>2 ←</div></div><div><div>3 → Alarm1 open/close in Alarm</div><div>Close</div><div>Open</div></div><div><div>4 → Alarm1 Hysteresis (%)</div><div>999.9</div><div></div></div><div><div>5 → Alarm1 Latch</div><div>OFF</div><div>ON</div></div></div></div>					
No.	Item	Setting/display	Description		
1	Alarm 1 Type	Display	Displays the alarm type that is set.		
2	Alarm 1 Type Setting Button	Setting	When pressed, displays the alarm type setting menu. Select the alarm type from the menu.		
3	Alarm 1 open/close in Alarm	Setting	Sets open in alarm or close in alarm for the alarm output.		
4	Alarm 1 Hysteresis	Setting Display	Sets ON/OFF hysteresis for the alarm output.		
5	Alarm 1 Latch	Setting	Sets whether to latch the alarm output status.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5ZN)

(21) Alarm 2 Type, Alarm 2 Open/Close in Alarm, Alarm 2 Hysteresis, Alarm 2 Latch

Setting level	Input type	Channel	Part
Initial setting level	Thermocouple input	CH1	Yes
	Platinum-resistance thermometer	CH2	Yes
	Common(Common)	All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\InitialSetting Level	Title	Alarm 2 Type, Open/Close in Alarm, Hysteresis, Latch
Function	Sets the alarm type, open/close in alarm operation, latch, and hysteresis for alarm 2.				
Display and Operation Details					
<div><div><div>CH1</div><div><div>1 →</div><div>Alarm2 Type</div><div>99</div><div>Type(0-11)</div><div>← 2</div></div><div><div>3 →</div><div>Alarm2 open/ close in Alarm</div><div>Close</div><div>Open</div></div><div><div>4 →</div><div>Alarm2 Hysteresis (%)</div><div>999.9</div><div></div></div><div><div>5 →</div><div>Alarm2 Latch</div><div>OFF</div><div>ON</div></div></div></div>					
No.	Item	Setting/ display	Description		
1	Alarm 2 Type	Display	Displays the alarm type that is set.		
2	Alarm 2 Type Setting Button	Setting	When pressed, displays the alarm type setting menu. Select the alarm type from the menu.		
3	Alarm 2 open/close in Alarm	Setting	Sets open in alarm or close in alarm for the alarm output.		
4	Alarm 2 Hysteresis	Setting Display	Sets ON/OFF hysteresis for the alarm output. Displays the temperature unit.		
5	Alarm 2 Latch	Setting	Sets whether to latch the alarm output status.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(22) Alarm 3 Type, Alarm 3 Open/Close in Alarm, Alarm 3 Hysteresis, Alarm 3 Latch

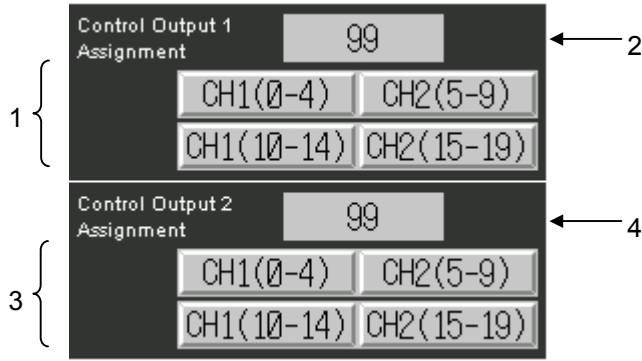
Setting level	Input type	Channel	Part
Initial setting level	Thermocouple input	CH1	Yes
	Platinum-resistance thermometer	CH2	Yes
	Common(Common)	All CH	No

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\InitialSetting Level	Title	Alarm 3 Type, Open/Close in Alarm, Hysteresis, Latch
Function	Sets the alarm type, open/close in alarm operation, latch, and hysteresis for alarm 3.				
Display and Operation Details					
<div><div><div>CH1</div><div><div>1 →</div><div>Alarm3 Type</div><div>99</div><div>Type(0-11)</div><div>← 2</div></div><div><div>3 →</div><div>Alarm3 open/ close in Alarm</div><div>Close</div><div>Open</div></div><div><div>4 →</div><div>Alarm3 Hysteresis (%)</div><div>999.9</div><div></div></div><div><div>5 →</div><div>Alarm3 Latch</div><div>OFF</div><div>ON</div></div></div></div>					
No.	Item	Setting/ display	Description		
1	Alarm 3 Type	Display	Displays the alarm type that is set.		
2	Alarm 3 Type Setting Button	Setting	When pressed, displays the alarm type setting menu. Select the alarm type from the menu.		
3	Alarm 3 open/close in Alarm	Setting	Sets open in alarm or close in alarm for the alarm output.		
4	Alarm 3 Hysteresis	Setting Display	Sets ON/OFF hysteresis for the alarm output. Displays the temperature unit.		
5	Alarm 3 Latch	Setting	Sets whether to latch the alarm output status.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5ZN)

(23) Control Output 1 and 2 Allocations

Setting level	Input type	Channel	Part
Initial setting level	Thermocouple input	CH1	No
	Platinum-resistance thermometer	CH2	No
	Common(Common)	All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\InitialSetting Level	Title	Control Output 1 and 2 Allocations
Function	Allocates items to control outputs 1 and 2.				
<div>Display and Operation Details</div> <div></div>					
No.	Item	Setting/display	Description		
1	Control Output 1 Assignment Buttons	Setting	When pressed, displays the item setting menu. Select an item to allocate from the menu. The CH1(0-4) and CH2(5-9) are used to set control outputs and alarm outputs. They can be used for a Temperature Control Unit with a Pulse Output or Analog Output. The CH1(10-14) and CH2(15-19) are used to set transfer outputs. They can be used for Temperature Controllers with Analog Outputs.		
2	Control Output 1 Assignment Display	Display	Displays the number of the item that is set.		
3	Control Output 2 Assignment Buttons	Setting	When pressed, displays the item setting menu. Select an item to allocate from the menu. The CH1(0-4) and CH2(5-9) are used to set control outputs and alarm outputs. They can be used for a Temperature Control Unit with a Pulse Output or Analog Output. The CH1(10-14) and CH2(15-19) are used to set transfer outputs. They can be used for Temperature Controllers with Analog Outputs.		
4	Control Output 2 Assignment Display	Display	Displays the number of the item that is set.		
<div>Remarks</div> <div><ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.</div>					

(24) Auxiliary Output 1 and 2 Allocations

Setting level	Input type	Channel	Part
Initial setting level	Thermocouple input	CH1	No
	Platinum-resistance thermometer	CH2	No
	Common(Common)	All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\InitialSettingLevel	Title	Auxiliary Output 1 and 2 Allocations
Function	It allocates items to auxiliary outputs 1 and 2.				
<div>Display and Operation Details</div> <div><div><div><div>Auxiliary Output 1 Assignment</div><div>99</div></div><div><div>CH1(0-4)</div><div>CH2(5-9)</div></div></div><div><div>Auxiliary Output 2 Assignment</div><div>99</div></div><div><div>CH1(0-4)</div><div>CH2(5-9)</div></div></div> <div><div>1 {</div><div>2 ←</div><div>3 {</div><div>4 ←</div></div>					
No.	Item	Setting/display	Description		
1	Auxiliary Output 1 Assignment Buttons	Setting	When pressed, displays the item setting menu. Select an item to allocate from the menu. The CH1(0-4) and CH2(5-9) are used to set control outputs and alarm outputs. They can be used for a Temperature Control Unit with a Pulse Output or Analog Output.		
2	Auxiliary Output 1 Assignment Display	Display	Displays the number of the item that is set.		
3	Auxiliary Output 2 Assignment Buttons	Setting	When pressed, displays the item setting menu. Select an item to allocate from the menu. The CH1(0-4) and CH2(5-9) are used to set control outputs and alarm outputs. They can be used for a Temperature Control Unit with a Pulse Output or Analog Output.		
4	Auxiliary Output 2 Assignment Display	Display	Displays the number of the item that is set.		
<div>Remarks</div> <div><div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.</div><div>* Do not use this SMART Active Part on the initial screen.</div><div>* Use System version 5 or higher version.</div></div>					

Temperature Controller (E5ZN)

(25) Auxiliary Output 3 and 4 Allocations

Setting level	Input type	Channel	Part
Initial setting level	Thermocouple input	CH1	No
	Platinum-resistance thermometer	CH2	No
	Common(Common)	All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\InitialSettingLevel	Title	Auxiliary Output 3 and 4 Allocations
Function	This SMART Active Part is for a Temperature Controller with an Analog Output. It allocates items to auxiliary outputs 3 and 4.				
<div>Display and Operation Details</div> <div><div><div><div>Auxiliary Output 3 Assignment</div><div>99</div><div>CH1(0-4)CH2(5-9)</div><div>CH1(10-14)CH2(15-19)</div></div><div>2</div><div>1</div><div>Auxiliary Output 4 Assignment</div><div>99</div><div>CH1(0-4)CH2(5-9)</div><div>CH1(10-14)CH2(15-19)</div><div>4</div><div>3</div></div></div>					
No.	Item	Setting/display	Description		
1	Auxiliary Output 3 Assignment Buttons	Setting	When pressed, displays the item setting menu. Select an item to allocate from the menu. The CH1(0-4) and CH2(5-9) are used to set control outputs and alarm outputs. They can be used for a Temperature Control Unit with a Pulse Output or Analog Output. The CH1(10-14) and CH2(15-19) are used to set transfer outputs. They can be used for Temperature Controllers with Analog Outputs.		
2	Auxiliary Output 3 Assignment Display	Display	Displays the number of the item that is set.		
3	Auxiliary Output 4 Assignment Buttons	Setting	When pressed, displays the item setting menu. Select an item to allocate from the menu. The CH1(0-4) and CH2(5-9) are used to set control outputs and alarm outputs. They can be used for a Temperature Control Unit with a Pulse Output or Analog Output. The CH1(10-14) and CH2(15-19) are used to set transfer outputs. They can be used for Temperature Controllers with Analog Outputs.		
4	Auxiliary Output 3 Assignment Display	Display	Displays the number of the item that is set.		
<div>Remarks</div> <div><div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.</div><div>* Do not use this SMART Active Part on the initial screen.</div><div>* Use System version 5 or higher version.</div></div>					

(26) Current/Voltage Output

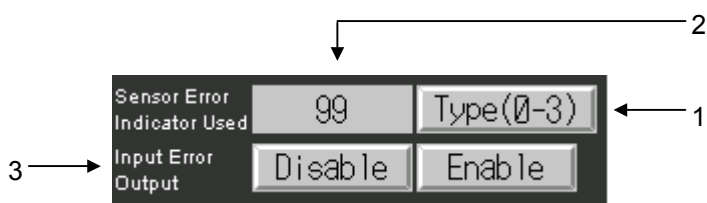
Setting level	Input type	Channel	Part
Initial setting level	Thermocouple input	CH1	No
	Platinum-resistance thermometer	CH2	No
	Common(Common)	All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\InitialSettingLevel	Title	Current/Voltage Output
Function	Sets the current output type for control outputs 1 and 2 and the voltage output type for auxiliary outputs 3 and 4. This SMART Active Part is for a Temperature Controller with an Analog Output.				
<div>Display and Operation Details</div> <div><div><div>1 →</div><div>2 →</div></div><div><div>Current Output</div><div>Voltage Output</div></div><div><div>4-20mA</div><div>0-20mA</div></div><div><div>1-5V</div><div>0-5V</div></div></div>					
No.	Item	Setting/display	Description		
1	Current Output	Setting	Sets the current output type for control outputs 1 and 2.		
2	Voltage Output	Setting	Sets the voltage output type for auxiliary outputs 3 and 4.		
<div>Remarks</div> <div><div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.</div><div>* Do not use this SMART Active Part on the initial screen.</div><div>* Use System version 5 or higher version.</div></div>					

Temperature Controller (E5ZN)


(27) Sensor Error Indicator Used and Input Error Output

Setting level	Input type	Channel	Part
Initial setting level	Thermocouple input	CH1	No
	Platinum-resistance thermometer	CH2	No
	Common(Common)	All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\InitialSetting Level	Title	Sensor Error Indicator Used and Input Error Output
Function	Sets whether to light the indicator on the front of the E5ZN when a Sensor error occurs. Sets whether to output an alarm when a sensor error occurs.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Sensor Error Indicator Used Button	Setting	When pressed, displays the item setting menu. Select an item from the menu.		
2	Sensor Error Indicator Used Type Display	Display	Displays the number of the item that is set.		
3	Input Error Output	Setting	Sets whether to enable outputting an alarm on the alarm 1 output when a sensor error is detected.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(28) Operation after Power ON

Setting level	Input type	Channel	Part
Initial setting level	Thermocouple input	CH1	No
	Platinum-resistance thermometer	CH2	No
	Common(Common)	All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\InitialSetting Level	Title	Operation after Power ON
Function	Sets the operating status to used after the power supply is turned ON.				
Display and Operation Details					
<div>1 → </div>					
No.	Item	Setting/display	Description		
1	Operation at Power ON	Setting	Set STOP to stop the control operation after the power supply is turned ON. Set CONTINUE to continue the operating status that existed when the power supply was turned OFF.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.					

Temperature Controller (E5ZN)

1.1.4 Advanced Function Setting Level

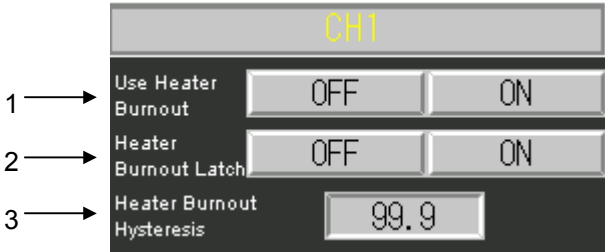
(29) SP Ramp

Setting level	Input type	Channel	Part
Advanced function setting level	Thermocouple input	CH1	No
	Platinum-resistance thermometer	CH2	No
	Common(Common)	All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\ TemperatureController\E5ZN\Advanced_Level	Title	SP Ramp
Function	Sets the rate of change for the SP ramp.				
Display and Operation Details					
<div><div>1 →</div><div><div>CH1</div><div>SP Ramp (°E/min.)</div><div>9999</div></div><div>↑ 2</div></div>					
No.	Item	Setting/display	Description		
1	SP Ramp	Setting	Sets the maximum allowed change per minute. Set 0 to disable the SP ramp function.		
2	(°C /min)/(°F/min)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(30) HBA Used, Heater Burnout Latch, Heater Burnout Hysteresis

Setting level	Input type	Channel	Part
Advanced function setting level	Thermocouple input	CH1	No
	Platinum-resistance thermometer	CH2	No
	Common(Common)	All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\Advanced_Level	Title	HBA Used, Latch, Hysteresis
Function	Turns the heater burnout detection ON/OFF, turns the latch ON/OFF, and sets the hysteresis.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Use Heater Burnout	Setting	Sets whether to use the heater burnout detection function.		
2	Heater Burnout Latch	Setting	Sets whether to latch the heater burnout alarm.		
3	Heater Burnout Hysteresis	Setting	Sets the hysteresis for heater burnout detection.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5ZN)

(31) MV Upper/Lower Limits and Input Digital Filter

Setting level	Input type	Channel	Part
Advanced function setting level	Thermocouple input	CH1	No
	Platinum-resistance thermometer	CH2	No
	Common(Common)	All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\Advanced_Level	Title	MV Upper/Lower Limits and Input Digital Filter
Function	Sets the upper and lower limits for the manipulated variable. Sets the time constant for the input digital filter.				
<div>Display and Operation Details</div> <div><div><div>1 →</div><div>MV Upper Limit (%)</div><div>-999.9</div></div><div><div>2 →</div><div>MV Lower Limit (%)</div><div>-999.9</div></div><div><div>3 →</div><div>Input Digital Filter (sec)</div><div>999.9</div></div></div>					
No.	Item	Setting/display	Description		
1	MV Upper Limit	Setting	Sets the upper limit of the manipulated variable. If the calculated manipulated variable exceeds the upper limit, it will be restricted to the upper limit.		
2	MV Lower Limit	Setting	Sets the lower limit of the manipulated variable. If the calculated manipulated variable falls below the lower limit, it will be restricted to the lower limit.		
3	Input Digital Filter	Setting	Sets the time constant for the input digital filter.		
<div>Remarks</div> <div><div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.</div><div>* Do not use this SMART Active Part on the initial screen.</div><div>* Use System version 5 or higher version.</div></div>					

(32) Input Shift Type

Setting level	Input type	Channel	Part
Advanced function setting level	Thermocouple input	CH1	No
	Platinum-resistance thermometer	CH2	No
	Common(Common)	All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\ TemperatureControll er\E5ZN\Advanced_Level	Title	Input Shift Type
Function	Sets the input shift type to a 1-point shift or to a 2-point shift.				
<div>Display and Operation Details</div> <div><div>1 →</div><div><div>Input Shift Type</div><div>1-point shift</div><div>2-point shift</div></div></div>					
No.	Item	Setting/display	Description		
1	Input Shift Type	Setting	Sets the input shift type to a 1-point shift or to a 2-point shift.		
<div>Remarks</div> <div><div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.</div><div>* Do not use this SMART Active Part on the initial screen.</div><div>* Use System version 5 or higher version.</div></div>					

Temperature Controller (E5ZN)

(33) Number of Multi-SP Uses, Event Input Allocation, Use Multi-SP

Setting level	Input type	Channel	Part
Advanced function setting level	Thermocouple input	CH1	No
	Platinum-resistance thermometer	CH2	No
	Common(Common)	All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\Advanced_Level	Title	Number of Multi-SP Uses, Event Input Allocation, Use Multi-SP
Function	Sets the number of Multi-SP uses, event input allocation, and multi-SP usage.				
Display and Operation Details					
<div><div><div>1 →</div><div>No. of Multi-SP Uses</div></div><div><div>2 →</div><div>Event Input Function</div></div><div><div>3 →</div><div>Use Multi-SP</div></div></div> <div><div><div>No Multi-SP</div><div>Switch between SP0/1</div></div><div><div>Non</div><div>RUN/STOP</div></div><div><div>OFF</div><div>ON</div></div></div>					
No.	Item	Setting/display	Description		
1	No. of Multi-SP Uses	Setting	Sets the number of multi-SP set point to use for the event inputs.		
2	Event Input Function	Setting	Sets whether to switch between RUN and STOP for the event input.		
3	Use Multi-SP	Setting	Turned ON to enable switching between SP0 and SP1.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(34) Standby Sequence Restart

Setting level	Input type	Channel	Part
Advanced function setting level	Thermocouple input	CH1	No
	Platinum-resistance thermometer	CH2	No
	Common(Common)	All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\Advanced_Level	Title	Standby Sequence Restart
Function	Sets the condition for restarting after clearing the alarm standby sequence.				
Display and Operation Details					
<div>1 → <div>Standby Sequer Reset</div> <div>Condi. A</div> <div>Condi. B</div></div>					
No.	Item	Setting/display	Description		
1	Standby Sequer Reset	Setting	Select Condition A or Condition B.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.					

Temperature Controller (E5ZN)

(35) α

Setting level	Input type	Channel	Part
Advanced function setting level	Thermocouple input	CH1	No
	Platinum-resistance thermometer	CH2	No
	Common(Common)	All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\Advanced_Level	Title	Alpha
Function	Sets the α constant for advanced PID control.				
Display and Operation Details					
<div><div>1</div><div><div>→</div><div>α</div><div><div>9.99</div></div></div></div>					
No.	Item	Setting/display	Description		
1	α	Setting	Sets alpha set value.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.					

(36) Cold Junction Compensation Method

Setting level	Input type	Channel	Part
Advanced function setting level	Thermocouple input	CH1	No
	Platinum-resistance thermometer	CH2	No
	Common(Common)	All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\Advanced_Level	Title	Cold Junction Compensation Method
Function	Sets the cold junction compensation method.				
Display and Operation Details					
<div>1 → <div>Cold Junction Compensation</div><div>External</div><div>Internal</div></div>					
No.	Item	Setting/display	Description		
1	Cold Junction Compensation	Setting	Set whether to perform cold junction compensation inside the Temperature Controller or externally.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.					

Temperature Controller (E5ZN)

1.1.5 Communications Setting Level

(37) Communications Settings

Setting level	Input type	Channel	Part
Communications setting level	Thermocouple input	CH1	No
	Platinum-resistance thermometer	CH2	No
	Common(Common)	All CH	Yes

Unit type	E5ZN	Storage directory	SmartActiveParts_E\TemperatureController\E5ZN\Comm_Set_Level	Title	Communications Settings
Function	Sets the communications settings. The following settings are used when connecting an NS-series PT to the Temperature Controller: Data length: 7 bits, Stop bits: 2 bits, Parity: even. The PT and the Temperature Controller will not be able to communicate with any other settings.				
Display and Operation Details					
<div><div><div>1</div><div>2</div><div>3</div><div>4</div></div><div><div><div>Data Bit</div><div>7bit</div><div>8bit</div></div><div><div>Stop Bit</div><div>1bit</div><div>2bit</div></div><div><div>Parity</div><div>NONE</div><div>EVEN</div><div>ODD</div></div><div><div>Transmission Wait Time(ms)</div><div>9999</div></div></div></div>					
No.	Item	Setting/display	Description		
1	Data Bit	Setting	Sets the communications data length. A data length of 7 bits is used to connect an NS-series PT to the Temperature Controller.		
2	Stop Bit	Setting	Sets the number of communications stop bits. Two stop bits are used to connect an NS-series PT to the Temperature Controller.		
3	Parity	Setting	Sets the communications parity. Even parity is used to connect an NS-series PT to the Temperature Controller.		
4	Transmission Wait Time	Setting	Sets the communications response wait time.		
Remarks					
* The communications unit number and communications baud rate are set on the rotary switches on the front panel of the Temperature Controller.					
* The PT and the Temperature Controller will not be able to communicate unless the following settings are used: Data length: 7 bits, Stop bits: 2 bits, Parity: even.					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

Temperature Controller (E5□R)

The following table lists the SMART Active Parts for the E5AR/E5ER Temperature Controllers.

Operation controls	CH1	Bank Selection
	CH2	Bank Selection
	CH3	Bank Selection
	CH4	Bank Selection
Operation level	CH1	Operation Monitor for Standard Control
		Operation Monitor for Heating/Cooling Control
		Operation Monitor for Position Proportional Control
		SP Setting
		Manual MV Setting
		Manual MV Settings for Position Proportional Control
	CH2	Operation Monitor for Standard Control
		Operation Monitor for Heating/Cooling Control
		SP Setting
		MV Manual Settings
	CH3	Operation Monitor for Standard Control
		SP Setting
		MV Manual Settings
	CH4	Operation Monitor for Standard Control
		SP Setting
		MV Manual Settings
Adjustment level	CH1	Input Shift Values
		SP Ramp
		Manual Reset Value
		MV Change Rate Limits
		Dead Band and Hysteresis
		MV at Stop and MV at PV Error
		Cooling Coefficient, Dead Band, and Control Period
		Disturbance Settings
	CH2	Input Shift Values
		SP Ramp
		Manual Reset Value
		MV Change Rate Limits
		Dead Band and Hysteresis
		MV at Stop and MV at PV Error
		Cooling Coefficient, Dead Band, and Control Period
		Disturbance Settings
	CH3	Input Shift Values
		SP Ramp
		Manual Reset Value
		MV Change Rate Limits
		Dead Band and Hysteresis
		MV at Stop and MV at PV Error
		Cooling Coefficient, Dead Band, and Control Period
		Disturbance Settings
	CH4	Input Shift Values
		SP Ramp
		Manual Reset Value
		MV Change Rate Limits
		Dead Band and Hysteresis
		MV at Stop and MV at PV Error
		Cooling Coefficient, Dead Band, and Control Period
		Disturbance Settings
Adjustment 2 level	Common	First Order Lag Operation, Move Average, and Extraction of Square Root Low-cut Point for 4 Point
		First Order Lag Operation, Move Average, and Extraction of Square Root Low-cut Point for 2 Point
		First Order Lag Operation, Move Average, and Extraction of Square Root Low-cut Point for 1 Point
		Position Proportional Control Adjustment
		Analog Parameter Control Rate

Bank setting level	CH1	LSP and Alarm Settings
		LSP Setting
	CH2	LSP and Alarm Settings
		LSP Setting
	CH3	LSP and Alarm Settings
		LSP Setting
	CH4	LSP and Alarm Settings
		LSP Setting
PID setting level	CH1	PID Settings, MV Upper/Lower Limits, Automatic Selection Range Upper/Lower Limits
	CH2	PID Settings, MV Upper/Lower Limits, Automatic Selection Range Upper/Lower Limits
	CH3	PID Settings, MV Upper/Lower Limits, Automatic Selection Range Upper/Lower Limits
	CH4	PID Settings, MV Upper/Lower Limits, Automatic Selection Range Upper/Lower Limits
Approx_setting	All channels	Straight-line Approximation
		Broken-line Approximation (1 to 10)
		Broken-line Approximation (11 to 20)
Input initial setting level	CH1	Remote SP Upper/Lower Limits
	CH2	Remote SP Upper/Lower Limits
	CH3	Remote SP Upper/Lower Limits
	CH4	Remote SP Upper/Lower Limits
	All channels	Input 1 Type, Temperature Unit, Scaling, and Decimal Point
		Input 2 Type, Temperature Unit, Scaling, and Decimal Point
		Input 3 Type, Temperature Unit, Scaling, and Decimal Point
		Input 4 Type, Temperature Unit, Scaling, and Decimal Point
Control initial setting	CH1	Forward/Reverse Operation
		SP Limits
	CH2	Forward/Reverse Operation
		SP Limits
	CH3	Forward/Reverse Operation
		SP Limits
	CH4	Forward/Reverse Operation
		SP Limits
Initial setting 2 level	All channels	Output Types
		Control Mode
		Position Proportional Control Initial Settings and Extended Settings
		Control/Transfer Output 1 and 2 Allocations
		Control/Transfer Output 3 and 4 Allocations
		Event Input 1 Allocation
		Event Input 2 Allocation
		Event Input 3 Allocation
		Event Input 4 Allocation
		Event Input 5 Allocation
		Event Input 6 Allocation
		Auxiliary Output 1 Allocation
		Auxiliary Output 2 Allocation
		Auxiliary Output 3 Allocation
		Auxiliary Output 4 Allocation
		Transfer Output 1 Upper/Lower Limits
		Transfer Output 2 Upper/Lower Limits
		Transfer Output 3 Upper/Lower Limits
		Transfer Output 4 Upper/Lower Limits
		Enable Settings for First Order Lag Operation, Move Average, and Extraction of Square Root Low-cut Point for 4 Point
		Enable Settings for First Order Lag Operation, Move Average, and Extraction of Square Root Low-cut Point for 2 Point
		Enable Settings for First Order Lag Operation, Move Average, and Extraction of Square Root Low-cut Point for 1 Point
		Enable Settings for Straight-line and Broken-line Approximation

Temperature Controller (E5□R)

Alarm setting level	CH1	Alarm 1 Type, Latch, and Hysteresis
		Alarm 2 Type, Latch, and Hysteresis
		Alarm 3 Type, Latch, and Hysteresis
		Alarm 4 Type, Latch, and Hysteresis
		Standby Sequence Restart
	CH2	Alarm 1 Type, Latch, and Hysteresis
		Alarm 2 Type, Latch, and Hysteresis
		Alarm 3 Type, Latch, and Hysteresis
		Alarm 4 Type, Latch, and Hysteresis
		Standby Sequence Restart
	CH3	Alarm 1 Type, Latch, and Hysteresis
		Alarm 2 Type, Latch, and Hysteresis
		Alarm 3 Type, Latch, and Hysteresis
		Alarm 4 Type, Latch, and Hysteresis
		Standby Sequence Restart
	CH4	Alarm 1 Type, Latch, and Hysteresis
		Alarm 2 Type, Latch, and Hysteresis
		Alarm 3 Type, Latch, and Hysteresis
		Alarm 4 Type, Latch, and Hysteresis
		Standby Sequence Restart
Communications setting level	All channels	Communications Settings
Advanced function setting level	All channels	Number of Enabled Channels
Extended control setting level	CH1	α , AT Calculated Gain, AT Hysteresis, Tentative AT Execute Judgment Deviation Operation at Power ON, PID Automatic Selection, Manual Output Method, and MV Change Rate Limit Mode
		Enable Settings for Tracking, Bumpless at Run, Operation at Potentiometer Input Error, and Disturbance Overshoot Adjustment Function
	CH2	α , AT Calculated Gain, AT Hysteresis, Tentative AT Execute Judgment Deviation Operation at Power ON, PID Automatic Selection, Manual Output Method, and MV Change Rate Limit Mode
		PV Tracking, Bumpless at Run, Operation at Potentiometer Input Error, and Disturbance Overshoot Adjustment Function
	CH3	α , AT Calculated Gain, AT Hysteresis, Tentative AT Execute Judgment Deviation Operation at Power ON, PID Automatic Selection, Manual Output Method, and MV Change Rate Limit Mode
		PV Tracking, Bumpless at Run, Operation at Potentiometer Input Error, and Disturbance Overshoot Adjustment Function
	CH4	α , AT Calculated Gain, AT Hysteresis, Tentative AT Execute Judgment Deviation Operation at Power ON, PID Automatic Selection, Manual Output Method, and MV Change Rate Limit Mode
		PV Tracking, Bumpless at Run, Operation at Potentiometer Input Error, and Disturbance Overshoot Adjustment Function
	All channels	Cold Junction Compensation Method

1. E5AR/E5ER

1.1 Operation Controls

(1) Bank Selection

Setting level	Channel	Part
Operation level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\	Title	Bank Selection
Function	Switches the bank number.				
Display and Operation Details					
<div><div>1 →</div><div><div>CH1</div><div>Bank Selection9</div></div></div>					
No.	Item	Setting/display	Description		
1	Bank Selection	Setting	Switches the bank when the desired bank number is set.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

1.2 Operation Level

(2) Operation Monitor for Standard Control

Setting level	Channel	Part
Operation Level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\	Title	Operation Monitor for Standard Control
Function	Continuously monitors operating status on a face plate.				
Display and Operation Details					
<div><div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 →</div><div>5 →</div><div>6 →</div><div>7 →</div><div>8 →</div><div>9 →</div></div><div><div>CH1</div><div>RUN AUTO AT</div><div>OUT 1 2 3 4</div><div>ALM 1 2 3 4</div><div>Input Error</div><div>(°C) / (°F)</div><div>PV -99999</div><div>SP -99999</div><div>MV (%) -999.9</div><div>Bank 9</div></div><div><div>← 10</div></div></div>					
No.	Item	Setting/display	Description		
1	RUN AUTO AT	Display	Displays the run/stop, auto/manual, and autotuning status.		
2	OUT	Display	Displays the output status of control outputs 1 and 2.		
3	ALM	Display	Displays the output status of alarm outputs 1, 2, 3, and 4.		
4	Input Error	Display	Displays the input error status.		
5	(°C) / (°F)	Display	Displays the temperature unit.		
6	PV	Display	Displays the process value.		
7	SP	Display	Displays the set point.		
8	MV	Display	Displays the manipulated variable.		
9	Bank	Display	Displays the bank number.		
10	Display Update Indicator	Display	Flashes each time the display is updated.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(3) Operation Monitor for Heating/Cooling Control

Setting level	Channel	Part
Operation Level	CH1	Yes
	CH2	Yes
	CH3	No
	CH4	No
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureControlle\E5[R\	Title	Operation Monitor for Heating/Cooling Control
Function	Continuously monitors operating status on a face plate.				
Display and Operation Details					
<div><div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 →</div><div>5 →</div><div>6 →</div><div>7 →</div><div>8 →</div><div>9 →</div><div>10 →</div><div>11 →</div></div><div><div>CHI</div><div>RUN AUTO AT RSP</div><div>1 2 3 4</div><div>OUT</div><div>ALM</div><div>Input Error</div><div>RSP Input Error</div><div>(°E)</div><div>PV</div><div>SP</div><div>MV-H(%)</div><div>MV-C(%)</div><div>Bank</div></div><div><div>12 ←</div></div></div>					
No.	Item	Setting/display	Description		
1	RUN AUTO AT RSP	Display	Displays the run/stop, auto/manual, autotuning, and remote SP status.		
2	OUT	Display	Displays the output status of control outputs 1 and 2.		
3	ALM	Display	Displays the output status of alarm outputs 1, 2, 3, and 4.		
4	Input Error	Display	Displays the input error status.		
5	RSP Input Error	Display	Displays the RSP input error status.		
6	(°C) / (°F)	Display	Displays the temperature unit.		
7	PV	Display	Displays the process value.		
8	SP	Display	Displays the set point.		
9	MV-H	Display	Displays the manipulated variable for heating.		
10	MV-C	Display	Displays the manipulated variable for cooling.		
11	Bank	Display	Displays the bank number.		
12	Display Update Indicator	Display	Flashes each time the display is updated.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

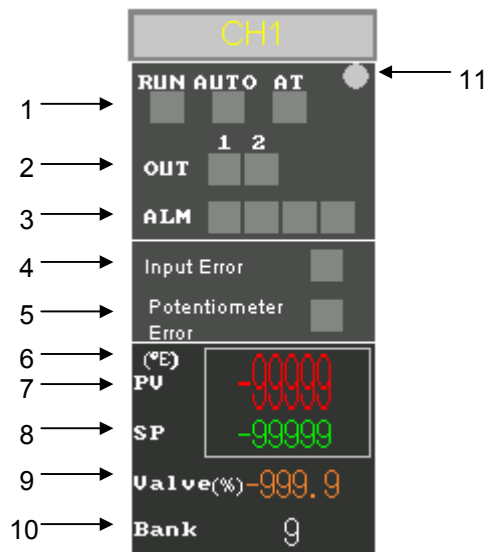
Temperature Controller (E5□R)

(4) Operation Monitor for Position Proportional Control

Setting level	Channel	Part
Operation Level	CH1	Yes
	CH2	No
	CH3	No
	CH4	No
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureControlle\E5□R\	Title	Operation Monitor for Position Proportional Control
Function	Continuously monitors operating status on a face plate. The face plate is for position proportional control.				

Display and Operation Details



No.	Item	Setting/display	Description
1	RUN AUTO AT	Display	Displays the run/stop, auto/manual, and autotuning status.
2	OUT	Display	Displays the output status of control outputs 1 and 2.
3	ALM	Display	Displays the output status of alarm outputs 1, 2, and 3.
4	Input Error	Display	Displays the input error status.
5	Potentiometer Error	Display	Displays the potentiometer error status.
6	(°C) / (°F)	Display	Displays the temperature unit.
7	PV	Display	Displays the process value.
8	SP	Display	Displays the set point.
9	Valve	Display	Displays the percentage the valve is open.
10	Bank	Display	Displays the bank number.
11	Display Update Indicator	Display	Flashes each time the display is updated.

Remarks

- * When using this SMART Active Part, be sure to select **Setting - System Settings** in the menu bar, press the **System Memory List** Button on the **Initial Tab** Page, and select **Basics** for the \$SB.
- * Do not use this SMART Active Part on the initial screen.
- * Use System version 5 or higher version.

(5) SP Setting

Setting level	Channel	Part
Operation Level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\	Title	SP Setting
Function	Sets the set point.				
Display and Operation Details					
<div><div><div>CH1</div><div>1 → SP (°E) -99999</div><div>↑ 2</div></div></div>					
No.	Item	Setting/display	Description		
1	SP	Setting	Sets the set point.		
2	(°C) / (°F)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

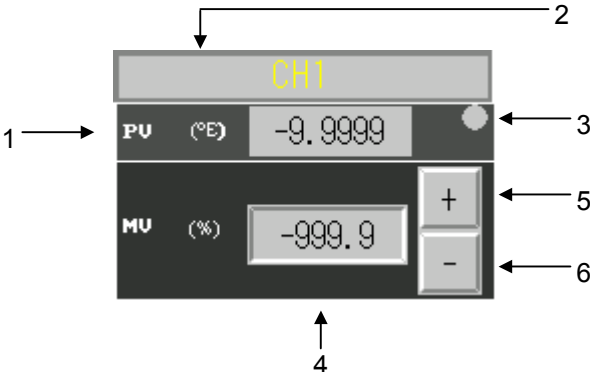
(6) Manual MV Setting for Standard or Heating/Cooling Control

Setting level	Channel	Part
Operation Level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\	Title	MV Manual Setting
Function	Sets the manual manipulated variable.				
Display and Operation Details					
No.	Item	Setting/display	Description		
1	PV	Setting	Displays the process value. The display is updated continuously.		
2	(°C) / (°F)	Display	Displays the temperature unit.		
3	Display Update Indicator	Setting	Flashes each time the PV display is updated.		
4	MV	Setting	Sets the manual manipulated variable.		
5	▲	Setting	Increments the manual manipulated variable by one engineering unit.		
6	▼	Setting	Decrements the manual manipulated variable by one engineering unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(7) Manual MV Setting for Position Proportional Control

Setting level	Channel	Part
Operation Level	CH1	Yes
	CH2	No
	CH3	No
	CH4	No
	All CH	No

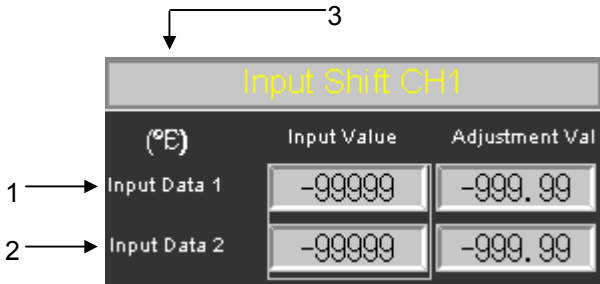
Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureControlle\E5[R\	Title	Manual MV Setting for Position Proportional Control
Function	Sets the manual manipulated variable.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	PV	Setting	Displays the process value. The display is updated continuously.		
2	(°C) / (°F)	Display	Displays the temperature unit.		
3	Display Update Indicator	Setting	Flashes each time the PV display is updated.		
4	MV	Setting	Sets the manual manipulated variable.		
5	▲	Setting	Increments the manual manipulated variable by one engineering unit.		
6	▼	Setting	Decrements the manual manipulated variable by one engineering unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

1.1.2 Adjustment Level

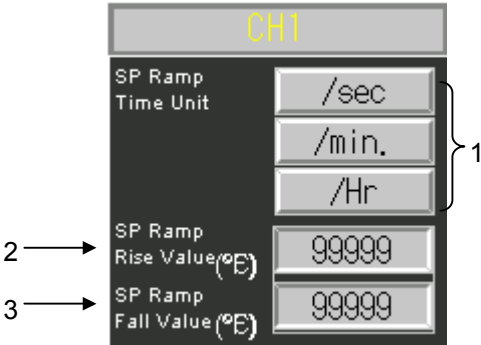
(8) Input Shift Values

Setting level	Channel	Part
Adjustment level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\AdjustmentLevel	Title	Input Shift Values
Function	Shifts the input by setting two points.				
<div>Display and Operation Details</div> <div></div>					
No.	Item	Setting/display	Description		
1	Input Data 1 Input value Adjustment Val	Setting	Sets the input value for input data 1. Sets the shifted value for input data 1.		
2	Input Data 2 Input value Adjustment Val	Setting	Sets the input value for input data 2. Sets the shifted value for input data 2.		
3	(°C) / (°F)	Setting	Displays the temperature unit.		
<div>Remarks</div> <div><ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.</div>					

(9) SP Ramp Time Unit, SP Ramp Rise Value, and SP Ramp Fall Value

Setting level	Channel	Part
Adjustment level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\AdjustmentLevel	Title	SP Ramp
Function	Sets the SP ramp time unit, SP ramp rise value, and SP ramp fall value.				
Display and Operation Details					
<div></div>					
No.	Item	Setting/display	Description		
1	SP Ramp Time Unit	Setting	Sets the time unit for the SP ramp settings.		
2	SP Ramp Rise Value	Setting	Sets the SP ramp rise value. Set 0 disable the setting.		
3	SP Ramp Fall Value	Setting	Sets the SP ramp fall value. Set 0 disable the setting.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

(10) Manual Reset Value

Setting level	Channel	Part
Adjustment level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\AdjustmentLevel	Title	Manual Reset Value
Function	Sets the manual reset value.				
Display and Operation Details					
<div><div>1 →</div><div><div>CH1</div><div>Manual Reset Val.(%) 999.9</div></div></div>					
No.	Item	Setting/display	Description		
1	Manual Reset Val.	Setting	Sets the manual reset value.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.					

(11) MV Change Rate Limits

Setting level	Channel	Part
Adjustment level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[]R\AdjustmentLevel	Title	MV Change Rate Limits
Function	Sets the maximum allowed change widths in the manipulated variables per second.				
<div>Display and Operation Details</div> <div><div><div>1 →</div><div><div>CH1</div><div>MV Change Rate Limit Heating(%)</div><div>999.9</div></div></div><div><div>2 →</div><div><div>MV Change Rate Limit Cooling(%)</div><div>999.9</div></div></div></div>					
No.	Item	Setting/display	Description		
1	MV Change Rate Limit Heating	Setting	Sets the maximum allowed change width in the heating manipulated variables per second for heating/cooling control. Sets the maximum allowed change width in the manipulated variables per second for standard control. Set 0.0 to disable this function.		
2	MV Change Rate Limit Heating	Setting	Sets the maximum allowed change width in the cooling manipulated variables per second for heating/cooling control. Set 0.0 to disable this function.		
<div>Remarks</div> <div><div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.</div><div>* Do not use this SMART Active Part on the initial screen.</div><div>* Use System version 5 or higher version.</div></div>					

Temperature Controller (E5□R)

(12) Dead Band and Hysteresis

Setting level	Channel	Part
Adjustment level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\AdjustmentLevel	Title	Dead Band and Hysteresis
Function	Sets the dead band and hysteresis for ON/OFF control.				
Display and Operation Details					
<div><div>1 →</div><div>2 →</div><div>3 →</div><div><div>CHI</div><div>Dead Band-99.99</div><div>Hysteresis Heating (%)99.99</div><div>Hysteresis Cooling (%)99.99</div></div></div>					
No.	Item	Setting/display	Description		
1	Dead Band	Setting	Sets the dead band.		
2	Hysteresis Heating	Setting	Sets the hysteresis for the heating output for heating/cooling control. Sets the hysteresis for standard control.		
3	Hysteresis Cooling	Setting	Sets the hysteresis for the cooling output for heating/cooling control.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(13) MV at Stop and MV at PV Error

Setting level	Channel	Part
Adjustment level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\AdjustmentLevel	Title	MV at Stop and MV at PV Error
Function	Sets the MV for when the control operation is stopped and the MV for when a PV or remote SP input error occurs.				
Display and Operation Details					
<div><div>1 →</div><div>2 →</div><div><div>CH1</div><div>MV at Stop (%) -999.9</div><div>MV at PV Error (%) -999.9</div></div></div>					
No.	Item	Setting/display	Description		
1	MV at Stop	Setting	Sets the manipulated variable when the control operation stops.		
2	MV at PV Error	Setting	Sets the MV for when a PV or remote SP input error occurs.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

(14) Cooling Coefficient, Dead Band, and Control Period

Setting level	Channel	Part
Adjustment level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[]R\AdjustmentLevel	Title	Cooling Coefficient, Dead Band, and Control Period
Function	Sets the cooling coefficient, dead band, and control period.				
Display and Operation Details					
<div><div><div>1</div><div>→</div></div><div><div>2</div><div>→</div></div><div><div>3</div><div>→</div></div><div><div>4</div><div>→</div></div></div> <div><div>CH1</div><div><div>Cooling Coefficient</div><div>99.99</div></div><div><div>Dead Band</div><div>-99.99</div></div><div><div>Control Period Heating (sec)</div><div>99.9</div></div><div><div>Control Period Cooling (sec)</div><div>99.9</div></div></div>					
No.	Item	Setting/display	Description		
1	Cooling Coefficient	Setting	Sets the cooling coefficient for heating/cooling control.		
2	Dead Band	Setting	Sets the dead band for heating/cooling control.		
3	Control Period Heating	Setting	Sets the control period for the heating output for heating/cooling control. Sets the control period for standard control.		
4	Control Period Cooling	Setting	Sets the control period for the cooling output for heating/cooling control.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(15) Disturbance Gain, Constant at Disturbance, Disturbance Rectification Band, Disturbance Judgment Width, and Disturbance Overshoot Adjustment

Setting level	Channel	Part
Adjustment level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R]AdjustmentLevel	Title	Disturbance Settings
Function	Sets adjustments for disturbance. These settings are valid when the disturbance overshoot adjustment function has been enabled. The disturbance overshoot adjustment function is enabled in the Extended control setting level.				
Display and Operation Details					
<div><div><div>CH1</div><div><div>1 → Disturbance Gain</div><div>-9.99</div></div><div><div>2 → Constant at Disturbance</div><div>99.99</div></div><div><div>3 → Disturbance Rectification Band (%)</div><div>9.999</div></div><div><div>4 → Disturbance Judge. Width (%)</div><div>-99.99</div></div><div><div>5 → Disturbance Overshoot Adjust</div><div>D E</div></div></div></div>					
No.	Item	Setting/display	Description		
1	Disturbance Gain	Setting	Sets the disturbance gain.		
2	Constant at Disturbance	Setting	Sets the time constant for disturbance.		
3	Disturbance Rectification Band	Setting	Sets the disturbance rectification band.		
4	Disturbance Judge. Width	Setting	Sets the judgment width for disturbance.		
5	Disturbance Overshoot Adjust	Display	Displays whether the disturbance overshoot adjustment function is enabled. Use a SMART Active Part in the Extended control setting level to make this setting.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

1.1.3 Adjustment 2 Level

(16) First Order Lag Operation, Move Average, and Extraction of Square Root Low-cut Point

There are SMART Active Parts for 1 point, 2 points, and 4 points.

Setting level	Channel	Part
Adjustment level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\AdjustmentLevel	Title	First Order Lag Operation, Move Average, and Extraction of Square Root Low-cut Point for 4 Points																											
Function	Sets the first order lag operation, move average, and extraction of square root low-cut point for inputs 1, 2, 3, and 4. This SMART Active Part will function when the first order lag operation, move averages, and extraction of square root low-cut points have been enabled. The settings to enable these functions are made with a SMART Active Part in the control initial setting level 2.																															
Display and Operation Details																																
<div><div><div>1 →</div><div>2 →</div><div>1 →</div><div>2 →</div><div>1 →</div><div>2 →</div><div>1 →</div><div>2 →</div></div><div><div>Input 1</div><div>Input 2</div><div>Input 3</div><div>Input 4</div></div><div><table><thead><tr><th>First Order Lag Operation</th><th>Move Average Count</th><th>Low-cut Point</th></tr></thead><tbody><tr><td>999.9</td><td>99</td><td>9.999</td></tr><tr><td>D E</td><td>D E</td><td>D E</td></tr><tr><td>999.9</td><td>99</td><td>9.999</td></tr><tr><td>D E</td><td>D E</td><td>D E</td></tr><tr><td>999.9</td><td>99</td><td>9.999</td></tr><tr><td>D E</td><td>D E</td><td>D E</td></tr><tr><td>999.9</td><td>99</td><td>9.999</td></tr><tr><td>D E</td><td>D E</td><td>D E</td></tr></tbody></table></div></div>						First Order Lag Operation	Move Average Count	Low-cut Point	999.9	99	9.999	D E	D E	D E	999.9	99	9.999	D E	D E	D E	999.9	99	9.999	D E	D E	D E	999.9	99	9.999	D E	D E	D E
First Order Lag Operation	Move Average Count	Low-cut Point																														
999.9	99	9.999																														
D E	D E	D E																														
999.9	99	9.999																														
D E	D E	D E																														
999.9	99	9.999																														
D E	D E	D E																														
999.9	99	9.999																														
D E	D E	D E																														
No.	Item	Setting/display	Description																													
1	First Order Lag Operation, Move Average Counts, and Low-cut Points for Input 1, Input 2, Input 3, and Input 4	Setting	Sets the first order lag operation, move average count, and extraction of square root low-cut points for each input.																													
2	First Order Lag Operation, Move Average Counts, and Low-cut Points for Input 1, Input 2, Input 3, and Input 4 Enabled/Disabled Display	Display	Displays whether the first order lag operation, move average count, and extraction of square root low-cut point is enabled or disabled for each input. The settings to enable these functions are made with a SMART Active Part in the control initial setting level 2.																													
Remarks																																
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.																																
* Do not use this SMART Active Part on the initial screen.																																
* Use System version 5 or higher version.																																

(17) Dead Band, Open/Close Hysteresis, MV at Stop, and MV at PV Error for Position Proportional Control

Setting level	Channel	Part
Adjustment level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[]R\AdjustmentLevel	Title	Position Proportional Control Adjustment
Function	Sets the dead band, open/close hysteresis, MV at stop, and MV at PV error for position proportional control.				
Display and Operation Details					
<div><div><div>1 →</div><div>Position Prop. Dead Band (%)</div><div>99.9</div></div><div><div>2 →</div><div>Open/Close Hysteresis (%)</div><div>99.9</div></div><div><div>3 →</div><div>MV at STOP</div><div>Closed</div><div>Hold</div><div>Open</div></div><div><div>4 →</div><div>MV at PV Error</div><div>Closed</div><div>Hold</div><div>Open</div></div></div>					
No.	Item	Setting/display	Description		
1	Position Prop. Dead Band	Setting	Sets the dead band for holding the output for position proportional control.		
2	Open/Close Hysteresis	Setting	Sets the open/close hysteresis for position proportional control.		
3	MV at Stop	Setting	Sets the MV to open, hold, or close for when operation stops.		
4	MV at PV Error	Setting	Sets the MV to open, hold, or close for when an error occurs.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

(18) Analog Parameter Control Rate

Setting level	Channel	Part
Adjustment level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[]R\AdjustmentLevel	Title	Analog Parameter Control Rate
Function	Sets the rate to use for proportional control.				
Display and Operation Details					
<div>1 → <div>Analog Parameter (Control Rate) -9.999</div></div>					
No.	Item	Setting/display	Description		
1	Analog Parameter (Control Rate)	Setting	Sets the rate to use for proportional control.		
Remarks					
<div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.</div> <div>* Do not use this SMART Active Part on the initial screen.</div> <div>* Use System version 5 or higher version.</div>					

1.1.4 Bank Setting Level

(19) LSP and Alarm Settings

Setting level	Channel	Part
Bank setting level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R]BankSetting Level		Title	LSP and Alarm Settings
Function	Sets the local set point and the alarm values for the displayed bank. When the bank number is changed, the display will be automatically updated to data for the specified bank.					
<div>Display and Operation Details</div> <div><div><div>3</div><div>2</div><div>1</div><div>12</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div><div>9</div><div>10</div><div>11</div></div><div><div>CH1</div><div>LSP (°E) -99.999 Bank 9</div><div>°E Alarm Val, Upper Lim, Lower Lim.</div><div>ALM1 -99999 -99999 -99999</div><div>ALM2 -99999 -99999 -99999</div><div>ALM3 -99999 -99999 -99999</div><div>ALM4 -99999 -99999 -99999</div></div></div>						
No.	Item	Setting/display	Description			
1	LSP	Setting	Sets the set point for the displayed bank.			
2	Bank	Display	Displays the bank number that is currently selected. The bank number display is continuously updated. When the bank number is changed, all displayed data will be updated.			
3	(°C) / (°F)	Display	Displays the temperature unit.			
4	ALM1	~	The ALM1 row contains the alarm 1 settings: alarm value, upper limit, and lower limit.			
5	ALM2	~	The ALM2 row contains the alarm 2 settings: alarm value, upper limit, and lower limit.			
6	ALM3	~	The ALM3 row contains the alarm 3 settings: alarm value, upper limit, and lower limit.			
7	ALM4	~	The ALM4 row contains the alarm 4 settings: alarm value, upper limit, and lower limit.			
8	ALM Indicators	Setting	Displays the output status of alarm outputs 1, 2, 3, and 4. The display is continuously updated.			
9	Alarm Val.	Setting	Sets the alarm value for the displayed bank. The alarm value is displayed and can be set when the alarm type is set to anything other than an upper/lower limit alarm.			
10	Upper Lim.	Setting	Sets the alarm upper limit for the displayed bank. The alarm upper limit is displayed and can be set when the alarm type is set to an upper/lower limit alarm.			
11	Lower Lim.	Setting	Sets the alarm lower limit for the displayed bank. The alarm lower limit is displayed and can be set when the alarm type is set to an upper/lower limit alarm.			
12	Display Update Indicator	Display	The alarm display indicators and bank number display are continuously updated.			

Temperature Controller (E5□R)

Remarks

- * When using this SMART Active Part, be sure to select **Setting - System Settings** in the menu bar, press the **System Memory List** Button on the **Initial Tab** Page, and select **Basics** for the \$SB.
- * Do not use this SMART Active Part on the initial screen.
- * Use System version 5 or higher version.

(20) SP Setting

Setting level	Channel	Part
Bank setting level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\BankSettingLevel	Title	LSP Setting
Function	Sets the local set point for the displayed bank. When the bank number is changed, the LSP display will be automatically updated to data for the specified bank.				
Display and Operation Details <div style="text-align: center;"> </div>					
No.	Item	Setting/display	Description		
1	Bank Selection	Display	Displays the bank number that is currently selected.		
2	LSP	Setting	Sets the local set point for the displayed bank.		
3	(°C) / (°F)	Display	Displays the temperature unit.		
4	Display Update Indicator	Display	Flashes each time the display is updated. The display is periodically updated.		
Remarks <ul style="list-style-type: none"> * When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB. * Do not use this SMART Active Part on the initial screen. * Use System version 5 or higher version. 					

1.1.5 PID Setting Level

(21) PID Settings, MV Limits, Automatic Selection Range

Setting level	Channel	Part
PID setting level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\PIDSettingLevel	Title	PID Settings, MV Limits, Automatic Selection Range
Function	Sets parameters for PID control. When the PID set monitor number is changed, all displayed data will be updated.				
Display and Operation Details					
<div><div><div>CH1</div><div><div>1 → PID Set Monitor 9 ← 8</div><div><div>2 → P Value (%FS) 999.99 I Value (sec) 9999.9</div><div>D Value (sec) 9999.9</div><div><div>3 → MV Upper Limit (%) -999.9</div><div>4 → MV Lower Limit (%) -999.9</div><div>5 → Automatic Selection Range Upper Limit PV (°E) -99999</div><div>6 → Automatic Selection Range Upper Limit DV (°E) -99999</div></div></div><div>7 ↑</div></div></div></div>					
No.	Item	Setting/display	Description		
1	PID Set Monitor	Setting	Displays the PID set that has been selected.		
2	P Value I Value D Value	Setting	Sets the proportional band, integral time, and derivative time for the displayed PID set.		
3	MV Upper Limit	Setting	Sets the upper limit of the manipulated variable for the displayed PID set.		
4	MV Lower Limit	Setting	Sets the lower limit of the manipulated variable for the displayed PID set.		
5	Automatic Selection Range Upper Limit PV	Setting	Sets the upper limit of the selected by the displayed PID set.		
6	Automatic Selection Range Upper Limit DV	Setting	Sets the upper limit of the selected by the displayed PID set.		
7	(°C) / (°F)	Display	Displays the temperature unit.		
8	Display Update Indicator	Display	Flashes each time the PID set display is updated. When the PID set is changed, all displayed data will be updated.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

1.1.6 Approx_setting

(22) Straight-line Approximation

Setting level	Channel	Part
Approx_setting	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\Approx_setting	Title	Straight-line Approximation
Function	Sets the characteristics for straight-line approximation. This SMART Active Part will function when the data is enabled. The settings to enable these functions are made with a SMART Active Part in the control initial setting level 2.				
Display and Operation Details					
<div><div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 →</div><div>5 →</div><div>6 →</div></div><div><div><div>Straight Line Approx. 1</div><div>Data 1</div><div>-9.999</div><div>-9.999</div><div>Data 2</div><div>-9.999</div><div>-9.999</div><div>Disable</div><div>Enable</div></div><div><div>Straight Line Approx.2</div><div>Data 1</div><div>-9.999</div><div>-9.999</div><div>Data 2</div><div>-9.999</div><div>-9.999</div><div>Disable</div><div>Enable</div></div></div></div>					
No.	Item	Setting/display	Description		
1	Straight-line Approx. 1 Data 1 Input Data 1 Output	Setting	Sets the input and output values for data 1 for straight-line approximation 1.		
2	Straight-line Approx. 1 Data 2 Input Data 2 Output	Setting	Sets the input and output values for data 2 for straight-line approximation 1.		
3	Straight-line Approx. 1 Enable/Disable Display	Display	Displays whether straight-line approximation 1 is enabled. The setting to enable this function is made with a SMART Active Part in the control initial setting level 2.		
4	Straight-line Approx. 2 Data 1 Input Data 1 Output	Setting	Sets the input and output values for data 1 for straight-line approximation 2.		
5	Straight-line Approx. 2 Data 2 Input Data 2 Output	Setting	Sets the input and output values for data 2 for straight-line approximation 2.		
6	Straight-line Approx. 2 Enable/Disable Display	Display	Displays whether straight-line approximation 2 is enabled. The setting to enable this function is made with a SMART Active Part in the control initial setting level 2.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(23) Broken-line Approximation (1 to 10)

Setting level	Channel	Part
Approx_setting	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\Approx_setting	Title	Broken-line Approximation (1 to 10)																																										
Function	Sets the characteristics for broken-line approximation. Up to 20 points can be set. Points 11 to 20 are set with a separate SMART Active Part. This SMART Active Part will function when the data is enabled.																																														
Display and Operation Details																																															
<div><div>1 →</div><div><div>Broken Line Approximation</div><table><thead><tr><th>Data</th><th>Input</th><th>Output</th><th>Data</th><th>Input</th><th>Output</th></tr></thead><tbody><tr><td>1</td><td>-9.999</td><td>-9.999</td><td>6</td><td>-9.999</td><td>-9.999</td></tr><tr><td>2</td><td>-9.999</td><td>-9.999</td><td>7</td><td>-9.999</td><td>-9.999</td></tr><tr><td>3</td><td>-9.999</td><td>-9.999</td><td>8</td><td>-9.999</td><td>-9.999</td></tr><tr><td>4</td><td>-9.999</td><td>-9.999</td><td>9</td><td>-9.999</td><td>-9.999</td></tr><tr><td>5</td><td>-9.999</td><td>-9.999</td><td>10</td><td>-9.999</td><td>-9.999</td></tr><tr><td colspan="2">Disable</td><td colspan="2">Enable</td><td colspan="2"></td></tr></tbody></table><div>← 1</div></div><div>2 →</div></div>						Data	Input	Output	Data	Input	Output	1	-9.999	-9.999	6	-9.999	-9.999	2	-9.999	-9.999	7	-9.999	-9.999	3	-9.999	-9.999	8	-9.999	-9.999	4	-9.999	-9.999	9	-9.999	-9.999	5	-9.999	-9.999	10	-9.999	-9.999	Disable		Enable			
Data	Input	Output	Data	Input	Output																																										
1	-9.999	-9.999	6	-9.999	-9.999																																										
2	-9.999	-9.999	7	-9.999	-9.999																																										
3	-9.999	-9.999	8	-9.999	-9.999																																										
4	-9.999	-9.999	9	-9.999	-9.999																																										
5	-9.999	-9.999	10	-9.999	-9.999																																										
Disable		Enable																																													
No.	Item	Setting/display	Description																																												
1	Broken-line Approximation Data 1 Broken-line Approximation Data 2 Broken-line Approximation Data 3 Broken-line Approximation Data 4 Broken-line Approximation Data 5 Broken-line Approximation Data 6 Broken-line Approximation Data 7 Broken-line Approximation Data 8 Broken-line Approximation Data 9 Broken-line Approximation Data 10 Input Output	Setting	Set the input and output values for broken-line approximation data 1 to 10.																																												
2	Broken-line Approximation Enable/Disable Display	Display	Displays whether broken-line approximation is enabled. The setting to enable this function is made with a SMART Active Part in the control initial setting level 2.																																												
Remarks																																															
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.																																															
* Do not use this SMART Active Part on the initial screen.																																															
* Use System version 5 or higher version.																																															

Temperature Controller (E5□R)

(24) Broken-line Approximation (11 to 20)

Setting level	Channel	Part
Approx_setting	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R]Approx_setting		Title	Broken-line Approximation (11 to 20)																																											
Function	Sets the characteristics for broken-line approximation. Up to 20 points can be set. Points 1 to 10 are set with a separate SMART Active Part. This SMART Active Part will function when the data is enabled.																																																
Display and Operation Details																																																	
<div><div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 →</div><div>5 →</div><div>11 →</div></div><div><div><div>Broken Line Approximation</div><table><thead><tr><th>Data</th><th>Input</th><th>Output</th><th>Data</th><th>Input</th><th>Output</th></tr></thead><tbody><tr><td>11</td><td>-9.999</td><td>-9.999</td><td>16</td><td>-9.999</td><td>-9.999</td></tr><tr><td>12</td><td>-9.999</td><td>-9.999</td><td>17</td><td>-9.999</td><td>-9.999</td></tr><tr><td>13</td><td>-9.999</td><td>-9.999</td><td>18</td><td>-9.999</td><td>-9.999</td></tr><tr><td>14</td><td>-9.999</td><td>-9.999</td><td>19</td><td>-9.999</td><td>-9.999</td></tr><tr><td>15</td><td>-9.999</td><td>-9.999</td><td>20</td><td>-9.999</td><td>-9.999</td></tr><tr><td colspan="2">Disable</td><td colspan="2">Enable</td><td colspan="2"></td></tr></tbody></table></div><div><div>← 6</div><div>← 7</div><div>← 8</div><div>← 9</div><div>← 10</div></div></div></div>								Data	Input	Output	Data	Input	Output	11	-9.999	-9.999	16	-9.999	-9.999	12	-9.999	-9.999	17	-9.999	-9.999	13	-9.999	-9.999	18	-9.999	-9.999	14	-9.999	-9.999	19	-9.999	-9.999	15	-9.999	-9.999	20	-9.999	-9.999	Disable		Enable			
Data	Input	Output	Data	Input	Output																																												
11	-9.999	-9.999	16	-9.999	-9.999																																												
12	-9.999	-9.999	17	-9.999	-9.999																																												
13	-9.999	-9.999	18	-9.999	-9.999																																												
14	-9.999	-9.999	19	-9.999	-9.999																																												
15	-9.999	-9.999	20	-9.999	-9.999																																												
Disable		Enable																																															
No.	Item	Setting/display	Description																																														
1	Broken-line Approximation Data 11 Broken-line Approximation Data 12 Broken-line Approximation Data 13 Broken-line Approximation Data 14 Broken-line Approximation Data 15 Broken-line Approximation Data 16 Broken-line Approximation Data 17 Broken-line Approximation Data 18 Broken-line Approximation Data 19 Broken-line Approximation Data 20 Input Output	Setting	Set the input and output values for broken-line approximation data 11 to 20.																																														
2	Broken Line Approximation Enable/Disable Display	Setting	Displays whether broken-line approximation is enabled. The setting to enable this function is made with a SMART Active Part in the control initial setting level 2.																																														
Remarks																																																	
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.																																																	
* Do not use this SMART Active Part on the initial screen.																																																	
* Use System version 5 or higher version.																																																	

1.1.7 Input Initial Setting Level

(25) Remote SP Upper/Lower Limits

Setting level	Channel	Part
Input initial setting level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\InputInitialSettingLevel	Title	Remote SP Upper/Lower Limits
Function	Sets the upper and lower limits of the remote SP.				
Display and Operation Details					
<div><div><div>1</div><div>→</div></div><div><div>2</div><div>→</div></div></div> <div><div>CH1</div><div>RSPH (°E)</div><div>RSPL (°E)</div><div>-9999.9</div><div>-9999.9</div></div>					
No.	Item	Setting/display	Description		
1	RSPH	Setting	Sets the upper limit of the input range for input 2.		
2	RSPL	Setting	Sets the lower limit of the input range for input 2.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

(26) Input 1 Type, Temperature Unit, Scaling, and Decimal Point

There are four different SMART Active Parts, one each for input 1, input 2, input 3, and input 4.

Setting level	Channel	Part
Input initial setting level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R]InputInitialSettingLevel	Title	Input 1 Type, Temperature Unit, Scaling, and Decimal Point
Function	Sets the input type and the temperature unit. When an analog input is selected, sets the scaling and decimal point position.				
Display and Operation Details					
<div><div><div>1</div><div>2</div><div>1</div><div>3</div><div>4</div><div>5</div></div><div><div>Input 1</div><div>Input Type Selection</div><div><div>Pt100(1)</div><div>Pt100(2)</div><div>K(1)</div><div>K(2)</div><div>J(1)</div><div>J(2)</div><div>T</div><div>E</div><div>L</div><div>U</div><div>N</div><div>R</div><div>S</div><div>B</div><div>W</div><div></div></div><div>Temperature Units</div><div><div>°C</div><div>°F</div></div><div><div>4-20mA</div><div>0-20mA</div><div>1-5V</div><div>0-5V</div><div>0-10V</div><div></div></div><div>Scaling</div><div><div>Input Value</div><div>Display Value</div></div><div>Data 1</div><div><div>99999</div><div>-99999</div></div><div>Data 2</div><div><div>99999</div><div>-99999</div></div><div>Decimal Point Position</div><div><div>9</div></div></div></div>					
No.	Item	Setting/display	Description		
1	Input Type Selection	Setting	Sets the input type.		
2	Temperature Units	Setting	Sets the temperature unit.		
3	Scaling Data 1 Input Value Display Value	Setting	Sets the input value and the display value for scaling data 1 when one of the following analog inputs is selected as the input type: 4 to 20 mA, 0 to 20 mA, 1 to 5 V, 0 to 5 V, or 0 to 10 V. Scaling data for the Input 1 SMART Active Part is set for channel 1. Scaling data for the Input 2, Input 3, and Input 5 SMART Active Part is set for channels 2, 3, and 4.		
4	Scaling Data 2 Input Value Display Value	Setting	Sets the input value and the display value for scaling data 2 when one of the following analog inputs is selected as the input type: 4 to 20 mA, 0 to 20 mA, 1 to 5 V, 0 to 5 V, or 0 to 10 V. Scaling data for the Input 1 SMART Active Part is set for channel 1. Scaling data for the Input 2, Input 3, and Input 5 SMART Active Part is set for channels 2, 3, and 4.		
5	Decimal Point Position	Setting	Sets the number of digits below the decimal point when one of the following analog inputs is selected as the input type: 4 to 20 mA, 0 to 20 mA, 1 to 5 V, 0 to 5 V, or 0 to 10 V. Scaling data for the Input 1 SMART Active Part is set for channel 1. Scaling data for the Input 2, Input 3, and Input 5 SMART Active Part is set for channels 2, 3, and 4.		

Remarks

- * When using this SMART Active Part, be sure to select **Setting - System Settings** in the menu bar, press the **System Memory List** Button on the **Initial Tab** Page, and select **Basics** for the \$SB.
- * Do not use this SMART Active Part on the initial screen.
- * Use System version 5 or higher version.

Temperature Controller (E5□R)

(27) Sensor Induction Noise Reduction


Setting level	Channel	Part
Input initial setting level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\InputInitialSettingLevel	Title	Sensor Induction Noise Reduction
Function	Sets noise reduction of inductive noise from the power supply impressed on the input.				
Display and Operation Details					
<div><div>1 →</div><div><div>Sen.Induction Noise Reduct.</div><div>50Hz</div><div>60Hz</div></div></div>					
No.	Item	Setting/display	Description		
1	Sensor Induction Noise Reduction	Setting	Sets 50 or 60 Hz.		
Remarks <ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.					

1.1.8 Control Initial Setting Level

(28) Direct/Reverse Operation

Setting level	Channel	Part
Control initial setting level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\ControlInitialSettingLevel	Title	Direct/Reverse Operation
Function	Sets either direction operation or reverse operation for increases and decreases in the process value.				
Display and Operation Details					
<div></div>					
No.	Item	Setting/display	Description		
1	Operation	Setting	Sets either direction operation or reverse operation for increases and decreases in the process value.		
Remarks <ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.					

Temperature Controller (E5□R)

(29) SP Limits

Setting level	Channel	Part
Control initial setting level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\ControlInitialSettingLevel	Title	SP Limits
Function	Sets the upper and lower limits for the set point.				
Display and Operation Details					
<div><div>2 →</div><div>1 →</div><div><div>CH1</div><div>(°E)</div><div>Upper Limit</div><div>Lower Limit</div><div>SP Limit</div><div>-99999</div><div>-99999</div></div></div>					
No.	Item	Setting/display	Description		
1	SP Limits Upper Limit Lower Limit	Setting	Sets the upper and lower limits for the set point. Can be set anywhere within the input temperature setting range.		
2	(°C) / (°F)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(30) Closed/Floating, Travel Time, PV Dead Band, Operation at Potentiometer Input Error for Position Proportional Control

Setting level	Channel	Part
Control initial setting level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\ControlInitialSettingLevel	Title	Position Proportional Control Initial Settings and Extended Settings
Function	Sets the control method and control parameters for position proportional control.				
Display and Operation Details					
<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>Closed/ Floating</div><div>Travel Time(sec)</div><div>PV Dead Band (°E)</div><div>Operation at potentiometer input error</div><div><div>FLOAT</div><div>CLOSE</div></div><div><div>999</div></div><div><div>99999</div></div><div><div>Disable</div><div>Enable</div></div></div></div>					
No.	Item	Setting/ display	Description		
1	Closed/Floating	Setting	Sets the control method for position proportional control.		
2	Travel Time	Setting	Sets the time from a completely open valve to a completely closed valve.		
3	PV Dead Band	Setting	Sets the process value dead band.		
4	(°C) / (°F)	Display	Displays the temperature unit.		
5	Operation at potentiometer input error	Setting	Sets the operation for when there is an input error for the potentiometer. Disable: Operation stopped. Enable: Operation continues.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

(31) Output Types

Setting level	Channel	Part
Control initial setting level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R]\ControlInitialSettingLevel		Title	Output Types
Function	Sets the output types for multi-output operation.					
Display and Operation Details						
<div><div><div>1 {</div><div><div>OUT1</div><div>Pulse Voltage</div><div>Linear Current</div><div>0-20mA</div><div>4-20mA</div></div><div>OUT2</div><div></div><div></div><div>0-20mA</div><div>4-20mA</div></div><div>2 {</div><div><div>OUT3</div><div>Pulse Voltage</div><div>Linear Current</div><div>0-20mA</div><div>4-20mA</div></div><div>OUT4</div><div></div><div></div><div>0-20mA</div><div>4-20mA</div></div> <div><div>← 3</div><div>← 4</div><div>← 5</div><div>← 6</div></div>						
No.	Item	Setting/display	Description			
1	OUT1 and OUT2	Setting	Sets the output type for outputs 1 and 2 to a pulse or linear output.			
2	OUT3 and OUT4	Setting	Sets the output type for outputs 3 and 4 to a pulse or linear output.			
3	OUT1 Current	Setting	Displayed when a linear current output has been set. Select 0 to 20 mA or 4 to 20 mA.			
4	OUT2 Current	Setting	Displayed when a linear current output has been set. Select 0 to 20 mA or 4 to 20 mA.			
5	OUT3 Current	Setting	Displayed when a linear current output has been set. Select 0 to 20 mA or 4 to 20 mA.			
6	OUT4 Current	Setting	Displayed when a linear current output has been set. Select 0 to 20 mA or 4 to 20 mA.			
Remarks						
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.						
* Do not use this SMART Active Part on the initial screen.						
* Use System version 5 or higher version.						

(32) Control Mode

Setting level	Channel	Part
Control initial setting level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

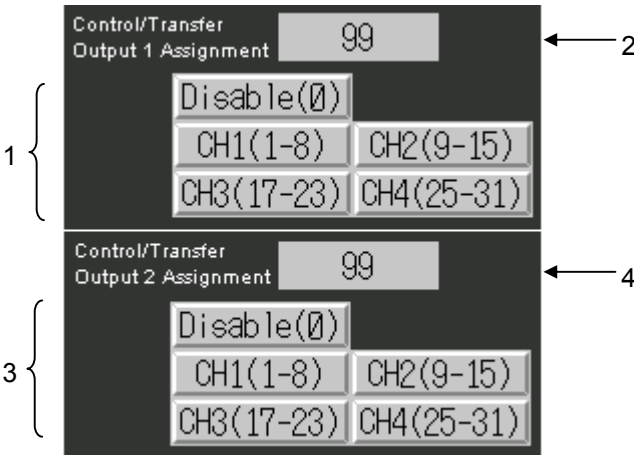
Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\ControlInitialSettingLevel	Title	Control Mode
Function	Sets the control method. Set standard or heating/cooling control for a Temperature Controller with 1 Input. Set standard, heating/cooling, remote SP standard, remote SP heating/cooling, proportional, cascade standard, or cascade heating/cooling control for a Temperature Controller with 2 Inputs.				
Display and Operation Details					
<div><div>1 {</div><div><div>Control Mode</div><div><div>Standard</div><div>Heat Cool</div><div>RSP Standard</div><div>RSP Heat Cool</div><div>Proportion</div><div>Cascade Standard</div><div>Cascade Heat Cool</div></div></div></div>					
No.	Item	Setting/display	Description		
1	Control Mode	Setting	Sets the mode when a button is pressed.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

1.1.9 Initial Setting 2 Level

(33) Control/Transfer Output 1 and 2 Allocations

Setting level	Channel	Part
Control initial setting 2 level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R]ControlInitialSetting2Level	Title	Control/Transfer Output 1 and 2 Allocations
Function	Allocates items to control/transfer outputs 1 and 2.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Control/Transfer Output 1 Assignment Buttons	Setting	Sets an item for channel 1 (1 to 8), channel 2 (9 to 15), channel 3 (17 to 23), and channel 4 (25 to 31). When pressed, displays the item setting menu. Select an item to allocate from the menu.		
2	Control/Transfer Output 1 Assignment Display	Display	Displays the number of the item that is set.		
3	Control/Transfer Output 2 Assignment Buttons	Setting	Sets an item for channel 1 (1 to 8), channel 2 (9 to 15), channel 3 (17 to 23), and channel 4 (25 to 31). When pressed, displays the item setting menu. Select an item to allocate from the menu.		
4	Control/Transfer Output 2 Assignment Display	Display	Displays the number of the item that is set.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(34) Control/Transfer Output 3 and 4 Allocations

Setting level	Channel	Part
Control initial setting 2 level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

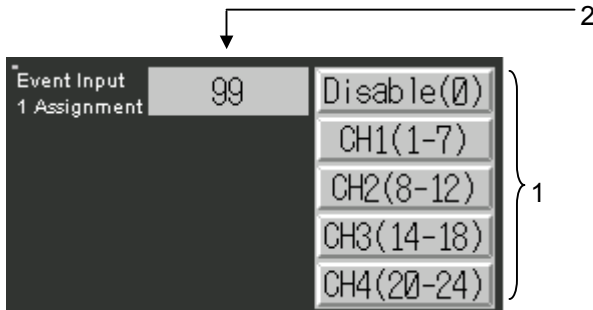
Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\ControlInitialSetting2Level	Title	Control/Transfer Output 3 and 4 Allocations
Function	Allocates items to control/transfer outputs 3 and 4.				
Display and Operation Details					
<div><div><div>Control/Transfer Output 3 Assignment</div><div>99</div><div>Disable(0)</div><div>CH1(1-8)</div><div>CH2(9-15)</div><div>CH3(17-23)</div><div>CH4(25-31)</div></div><div>2</div><div>3</div><div>Control/Transfer Output 4 Assignment</div><div>99</div><div>Disable(0)</div><div>CH1(1-8)</div><div>CH2(9-15)</div><div>CH3(17-23)</div><div>CH4(25-31)</div></div> <div>4</div>					
No.	Item	Setting/display	Description		
1	Control/Transfer Output 3 Assignment Buttons	Setting	Sets an item for channel 1 (1 to 8), channel 2 (9 to 15), channel 3 (17 to 23), and channel 4 (25 to 31). When pressed, displays the item setting menu. Select an item to allocate from the menu.		
2	Control/Transfer Output 3 Assignment Display	Display	Displays the number of the item that is set.		
3	Control/Transfer Output 4 Assignment Buttons	Setting	Sets an item for channel 1 (1 to 8), channel 2 (9 to 15), channel 3 (17 to 23), and channel 4 (25 to 31). When pressed, displays the item setting menu. Select an item to allocate from the menu.		
4	Control/Transfer Output 4 Assignment Display	Display	Displays the number of the item that is set.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

(35) Event Input 1 Allocation

There are six different SMART Active Parts, one each for event input 1, event input 2, event input 3, event input 4, event input 5, and event input 6.

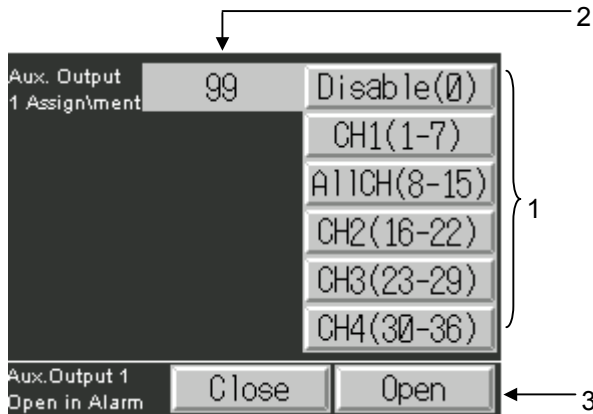
Setting level	Channel	Part
Initial setting 2 level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\ControlInitialSetting2Level	Title	Event Input 1 Allocation
Function	Allocates a function to the event input.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Event Input 1 Assignment Buttons	Setting	Sets an item for channel 1 (1 to 7), channel 2 (8 to 12), channel 3 (14 to 18), and channel 4 (20 to 24). When pressed, displays the item setting menu. Select an item to allocate from the menu.		
2	Event Input 1 Assignment Display	Display	Displays the number of the item that is set.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(36) Auxiliary Output 1 Allocation and Auxiliary Output 1 Open/Close Setting

There are four different SMART Active Parts, one each for auxiliary output 1, auxiliary output 2, auxiliary output 3, and auxiliary output 4.

Setting level	Channel	Part
Control initial setting 2 level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\ControlInitialSetting2Level	Title	Auxiliary Output 1 Allocation
Function	Allocates an item to the auxiliary output. Sets open in alarm or close in alarm for the auxiliary output.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Aux. Output 1 Assignment Buttons	Setting	Sets an item for channel 1 (1 to 7), all channel (8 to 15), channel 2 (16 to 22), channel 3 (23 to 29), and channel 4 (30 to 36). When pressed, displays the item setting menu. Select an item to allocate from the menu.		
2	Aux Output 1 Assignment Display	Display	Displays the number of the item that is set.		
3	Aux. Output 1 Open in Alarm	Setting	Sets open in alarm or close in alarm for the auxiliary output.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

(37) Transfer Output 1 Upper/Lower Limits

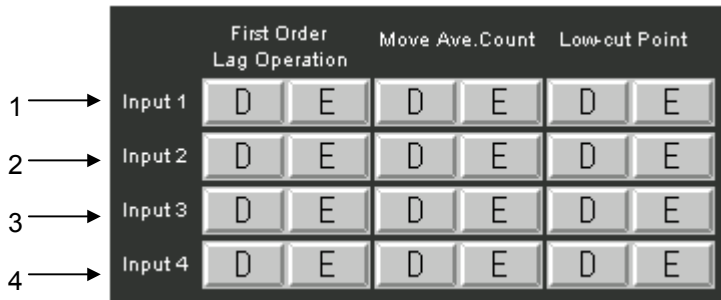
There are four different SMART Active Parts, one each for the upper/lower limits for transfer output 1, transfer output 2, transfer output 3, and transfer output 4.

Setting level	Channel	Part
Control initial setting 2 level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\ControlInitialSetting2Level	Title	Transfer Output 1 Upper/Lower Limits
Function	Sets the upper and lower limits for the transfer output and a transfer output has been allocated to an output. The transfer output upper/lower limits will function when the enable indicator is lit. The enable indicator will light when control/transfer output 1 is allocated to a transfer output.				
Display and Operation Details					
<div><div>1 →</div><div>2 →</div><div>↑ 3</div><div><div>Transfer Output 1</div><div>(°C)</div><div><div>Upper Limit</div><div>-99999</div></div><div><div>Lower Limit</div><div>-99999</div></div><div><div>Disable</div><div>Enable</div></div></div></div>					
No.	Item	Setting/display	Description		
1	Transfer Output 1 Upper Limit Lower Limit	Setting	Sets the upper limit and lower limit of the transfer output. Setting the upper and lower limits also enables scaling the transfer output. The upper/lower limit settings can be input only when a transfer output has been enabled. They cannot be input when the transfer output is disabled.		
2	Transfer Output 1 Enable/Disable Display	Display	Enable: The enable indicator will light when control/transfer output 1 is allocated to a transfer output. Disable: The disable indicator will light when control/transfer output 1 is allocated to a transfer output.		
3	(°C) / (°F)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(38) Enable Settings for First Order Lag Operation, Move Average, and Extraction of Square Root Low-cut Point

Setting level	Channel	Part
Control initial setting 2 level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R]\ControlInitialSetting2Level	Title	Enable Settings for First Order Lag Operation, Move Average, and Extraction of Square Root Low-cut Point for 4 Points
Function	Enables/disables the first order lag operation, move average count, and extraction of square root low-cut point for inputs 1, 2, 3, and 4.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Input 1 First Order Lag Operation Move Ave. Count Low-cut Point Enable/Disable Buttons	Setting	Enables or disables the first order lag operation, move average count, and extraction of square root low-cut point for input 1.		
2	Input 2 First Order Lag Operation Move Ave. Count Low-cut Point Enable/Disable Buttons	Setting	Enables or disables the first order lag operation, move average count, and extraction of square root low-cut point for input 2.		
3	Input 3 First Order Lag Operation Move Ave. Count Low-cut Point Enable/Disable Buttons	Setting	Enables or disables the first order lag operation, move average count, and extraction of square root low-cut point for input 3.		
4	Input 4 First Order Lag Operation Move Ave. Count Low-cut Point Enable/Disable Buttons	Setting	Enables or disables the first order lag operation, move average count, and extraction of square root low-cut point for input 4.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

(39) Enable Settings for Straight-line and Broken-line Approximation

Setting level	Channel	Part
Control initial setting 2 level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\ControlInitialSetting2Level	Title	Enable Settings for Straight-line and Broken-line Approximation
Function	Enables/disables straight-line approximation and broken-line approximation.				
Display and Operation Details					
<div><div><div>1</div><div>→</div></div><div>Straight Line Approx.1</div><div>Disable</div><div>Enable</div></div> <div><div><div>2</div><div>→</div></div><div>Straight Line Approx.2</div><div>Disable</div><div>Enable</div></div> <div><div><div>3</div><div>→</div></div><div>Broken Line Approx.</div><div>Disable</div><div>Enable</div></div>					
No.	Item	Setting/display	Description		
1	Straight-line Approx. 1 Enable/Disable	Setting	Enables/disables straight-line approximation 1.		
2	Straight-line Approx. 2 Enable/Disable	Setting	Enables/disables straight-line approximation 2.		
3	Broken-line Approx. Enable/Disable	Setting	Enables/disables broken-line approximation.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

1.1.10 Alarm Setting Level

(40) Alarm 1 Type, Alarm 1 Latch, and Alarm 1 Hysteresis

There are four different SMART Active Parts, one each for alarm 1, alarm 2, alarm 3, and alarm 4.

Setting level	Channel	Part
Alarm settinglevel	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\AlarmSettingLevel	Title	Alarm 1 Type, Latch, and Hysteresis
Function	Sets the alarm type, latch, and hysteresis for alarm 1.				
Display and Operation Details					
<div><div><div>2 →</div><div>3 →</div><div>4 →</div></div><div><div>CHI</div><div><div>Alarm 1 Type</div><div>99</div><div>Type(0-11)</div></div><div><div>Alarm 1 Latch</div><div>OFF</div><div>ON</div></div><div><div>Alarm 1 Hysteresis (%)</div><div>99.99</div></div></div><div><div>← 1</div></div></div>					
No.	Item	Setting/display	Description		
1	Alarm 1 Type	Display	Displays the alarm type that is set.		
2	Alarm 1 Type Buttons	Setting	When pressed, displays the alarm type setting menu. Select the alarm type from the menu.		
3	Alarm 1 Latch	Setting	Sets whether to latch the alarm output status.		
4	Alarm 1 Hysteresis	Display	Sets ON/OFF hysteresis for the alarm output.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

(41) Standby Sequence Restart

Setting level	Channel	Part
Alarm setting level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[]R\AlarmSettingLevel	Title	Standby Sequence Restart
Function	Sets the condition for restarting after clearing the alarm standby sequence.				
Display and Operation Details					
<div><div>1 →</div><div><div>CH1</div><div>Standby Sequence Reset</div><div>Condi. A</div><div>Condi. B</div></div></div>					
No.	Item	Setting/display	Description		
1	Standby Sequence Reset	Setting	Select Condition A or Condition B.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.					

1.1.11 Communications Setting Level

(42) Communications Settings

Setting level	Channel	Part
Communications setting level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes


Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\CommunicationsSettingLevel	Title	Communications Settings
Function	Sets the communications unit number and communications settings. The following settings are used when connecting an NS-series PT to the Temperature Controller: Data length: 7 bits, Stop bits: 2 bits, Parity: even. The PT and the Temperature Controller will not be able to communicate with any other settings.				
Display and Operation Details					
<div><div><div>1 →</div><div>Comms. Unit No.</div><div>99</div></div><div><div>2 →</div><div>Comms. Speed</div><div>9600</div><div>19.2k</div><div>38.4k</div></div><div><div>3 →</div><div>Data Length</div><div>7bit</div><div>8bit</div><div></div></div><div><div>4 →</div><div>Stop Bit</div><div>1bit</div><div>2bit</div><div></div></div><div><div>5 →</div><div>Parity</div><div>NONE</div><div>EVEN</div><div>ODD</div></div><div><div>6 →</div><div>Wait Time, (ms)</div><div>99</div></div></div>					
No.	Item	Setting/display	Description		
1	Comms. Unit No.	Setting	Sets the communications unit number. Set a different unit number for each Temperature Controller.		
2	Comms. Speed	Setting	Sets the baud rate. Set the NS-series PT and all connected Temperature Controllers to the same setting.		
3	Data Length	Setting	Sets the communications data length. A data length of 7 bits is used to connect an NS-series PT to the Temperature Controller.		
4	Stop Bit	Setting	Sets the number of communications stop bits. Two stop bits are used to connect an NS-series PT to the Temperature Controller.		
5	Parity	Setting	Sets the communications parity. Even parity is used to connect an NS-series PT to the Temperature Controller.		
6	Wait Time	Setting	Sets the transmission wait time.		
Remarks					
* The PT and the Temperature Controller will not be able to communicate unless the following settings are used: Data length: 7 bits, Stop bits: 2 bits, Parity: even.					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

1.1.12 Advanced Function Setting Level

(43) Number of Enabled Channels

Setting level	Channel	Part
Advanced function setting level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R]AdvancedFunctionSettingLevel	Title	Number of Enabled Channels
Function	Sets the number of channels to enable for a Temperature Controller with more than one input.				
Display and Operation Details					
<div>1 → </div>					
No.	Item	Setting/display	Description		
1	Enabled No. of Chan.	Setting	Sets the number of channels to enable. Temperature Controllers with Two Inputs: Set 1 for proportional, remote SP standard, or remote SP heating/cooling control. Set 1 or 2 for all other types of control. Temperature Controllers with Four Inputs: Set 1 to 4.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

1.1.13 Extended Control Setting Level

(44) Operation at Power ON, PID Automatic Selection, PID Automatic Selection Hysteresis, Manual Output Method, and MV Change Rate Limit Mode

Setting level	Channel	Part
Extended control setting level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R]ExtendedSettingLevel	Title	Operation at Power ON, PID Automatic Selection, Manual Output, and MV Change Rate
Function	Sets the operation at power ON, PID automatic selection, PID automatic selection hysteresis, manual output method, and MV change rate limit mode.				
Display and Operation Details					
<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div></div><div><div>CH1</div><div>Operation at Pwr ONContinueSTOPMANUAL</div><div>PID Set Automatic Selection DataPVDEV</div><div>PID Set Auto. Selection Hysteresis (%)99.99</div><div>Manual Output MethodHold MVOut. Default V.</div><div>Manual MV Initial Value (%) -999.9</div><div>MV Change Rate Limit ModeMode 0Mode 1</div></div></div>					
No.	Item	Setting/display	Description		
1	Operation at Power ON	Setting	Sets the operation to use when the power supply is turned ON. Set CONTINUE to continue the operating status that existed when the power supply was turned OFF. Set STOP to stop the control operation after the power supply is turned ON. Set MANUAL to enter manual mode.		
2	PID Set Automatic Selection Data	Setting	Sets whether to use the process value or deviation for the PID automatic selection.		
3	PID Set Automatic Selection Hysteresis	Setting	Sets the hysteresis for switching the PID set.		
4	Manual Output Method	Setting	Sets the MV output method when switching from automatic to manual.		
5	Manual MV Initial Value	Setting	Sets the initial value of the MV when outputting the initial value is set.		
6	MV Change Rate Limit Mode	Setting	Sets whether to use mode 0 or mode 1 for the MV change rate limit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

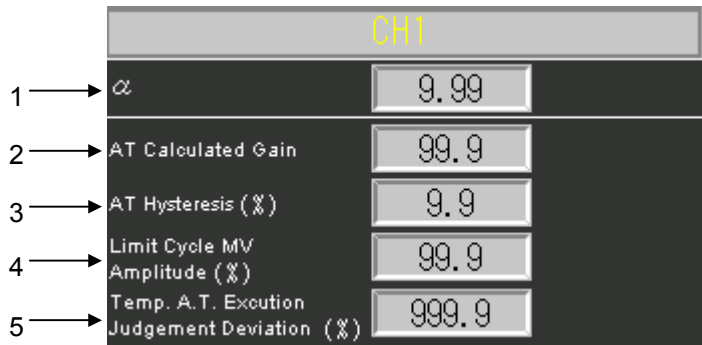
(45) Enable Settings for SP Tracking, PV Tracking, Bumpless at Run, Operation at Potentiometer Input Error, and Disturbance Overshoot Adjustment

Setting level	Channel	Part
Extended control setting level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R\ExtendedSettingLevel	Title	Enable Settings for Tracking, Bumpless at Run, Operation at Potentiometer Input Error, and Disturbance Overshoot Adjustment
Function	Enables/Disables SP tracking, PV tracking, bumpless at run operation, operation at potentiometer input error, and disturbance overshoot adjustment.				
Display and Operation Details					
<div><div><div>1</div><div>→</div></div><div><div>2</div><div>→</div></div><div><div>3</div><div>→</div></div><div><div>4</div><div>→</div></div><div><div>5</div><div>→</div></div></div> <div><div>CH1</div><div><div>SP Tracking</div><div>OFF</div><div>ON</div></div><div><div>PV Tracking</div><div>OFF</div><div>ON</div></div><div><div>Bumpless at Run</div><div>Disable</div><div>Enable</div></div><div><div>Ope. at Potentiometer Input Error</div><div>Disable</div><div>Enable</div></div><div><div>Disturbance Overshoot Adjustment</div><div>Disable</div><div>Enable</div></div></div>					
No.	Item	Setting/display	Description		
1	SP Tracking ON/OFF	Setting	Sets the operation when switching from remote SP mode to local SP mode. OFF: Local SP not affected by remote SP. ON: Remote SP used initially for local SP.		
2	PV Tracking ON/OFF	Setting	Sets whether the local SP is to follow the PV during manual mode. OFF: Local SP does not follow PV. ON: Local SP follows PV.		
3	Bumpless at Run Enable/Disable	Setting	Sets whether to use bumpless operation when switching from stop to run status. Disable: Do not use bumpless operation. Enable: Use bumpless operation.		
4	Ope. at Potentiometer Input Error Enable/Disable	Setting	Sets whether to stop or continue operation when an input error occurs for the potentiometer. Disable: Stop control operation. Enable: Switch to floating control and continue control operation.		
5	Disturbance Overshoot Adjustment Enable/Disable	Setting	Disable: Disable disturbance overshoot adjustment. Enable: Enable disturbance overshoot adjustment.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(46) α , AT Calculated Gain, AT Hysteresis, and Tentative AT Execute Judgment Deviation

Setting level	Channel	Part
Extended control setting level	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R]ExtendedSettingLevel	Title	α , AT Calculated Gain, AT Hysteresis, and Tentative AT Execute Judgment Deviation
Function	Sets the α , AT calculated gain, AT hysteresis, and tentative AT execute judgment deviation.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	α	Setting	Sets the α constant for advanced PID control.		
2	AT Calculated Gain	Setting	Sets the gain when calculating PID constants using autotuning.		
3	AT Hysteresis	Setting	Sets the hysteresis for the limit cycle operation during autotuning.		
4	Limit Cycle MV Amplitude	Setting	Sets the amplitude of the limit cycle operation during autotuning.		
5	Temp. A.T. Execution Judgement Deviation	Setting	Sets the judgment deviation for executing tentative AT when autotuning.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□R)

(47) Cold Junction Compensation Method

Setting level	Channel	Part
Extended control setting level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit type	E5AR/E5ER	Storage directory	SmartActiveParts_E\TemperatureController\E5[R]ExtendedSettingLevel	Title	Cold Junction Compensation Method
Function	Sets the cold junction compensation method for input 1, input 2, input 3, and input 4.				
Display and Operation Details					
<div><div><div>1</div><div>→</div></div><div>Input 1 Cold Junction Compensation</div><div>ExternalInternal</div></div> <div><div><div>2</div><div>→</div></div><div>Input 2 Cold Junction Compensation</div><div>ExternalInternal</div></div> <div><div><div>3</div><div>→</div></div><div>Input 3 Cold Junction Compensation</div><div>ExternalInternal</div></div> <div><div><div>4</div><div>→</div></div><div>Input 4 Cold Junction Compensation</div><div>ExternalInternal</div></div>					
No.	Item	Setting/display	Description		
1	Input 1 Cold Junction Compensation	Setting	Set whether to perform cold junction compensation inside the Temperature Controller or externally for input 1.		
2	Input 2 Cold Junction Compensation	Setting	Set whether to perform cold junction compensation inside the Temperature Controller or externally for input 2.		
3	Input 3 Cold Junction Compensation	Setting	Set whether to perform cold junction compensation inside the Temperature Controller or externally for input 3.		
4	Input 4 Cold Junction Compensation	Setting	Set whether to perform cold junction compensation inside the Temperature Controller or externally for input 4.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□N)

Temperature Controller (E5□N)

1.1 E5AN, E5EN, E5DN, and E5GN

The following table lists the SMART Active Parts for the E5AN, E5EN, E5DN, and E5GN Temperature Controllers.

Operation level	Temperature Controllers with Thermocouples	E5AN/E5EN	Operation Monitor for Standard Control
			Operation Monitor for Heating/Cooling Control
			SP and Alarm Settings
		E5CN	Operation Monitor for Standard Control
	Temperature Controllers with Platinum-resistance Thermometers		Operation Monitor for Heating/Cooling Control
			SP and Alarm Settings
		E5GN	Operation Monitor for Standard Control
			SP and Alarm Settings
		All E5□N	SP Setting
		E5AN/E5EN	Operation Monitor for Standard Control
			Operation Monitor for Heating/Cooling Control
			SP and Alarm Settings
Adjustment level	Temperature Controllers with Thermocouples	E5CN	Operation Monitor for Standard Control
			Operation Monitor for Heating/Cooling Control
	Temperature Controllers with Platinum-resistance Thermometers		SP and Alarm Settings
		E5GN	Operation Monitor for Standard Control
	Temperature Controllers with Thermocouples or Platinum-resistance Thermometers		SP and Alarm Settings
			SP Setting
		ALL E5□N	Multi-SP Settings
		ALL E5□N	Multi-SP Settings
			Heater Burnout Detection
			PID Settings
			Input Shift Values
			Manual Reset Value
			Cooling Coefficient, Dead Band, and Control Period
			Dead Band and Hysteresis
Initial setting level	Temperature Controllers with Thermocouples	ALL E5□N	Input Type, Temperature Unit, Scaling, and Decimal Point
			SP Limits
	Temperature Controllers with Platinum-resistance Thermometers	ALL E5□N	Input Type and Temperature Unit
			SP Limits
	Temperature Controllers with Thermocouples or Platinum-resistance Thermometers	ALL E5□N	PID or ON/OFF Control
			Direct/Reverse Operation
			Control Mode
			ST and ST Stable Range
			Alarm 1 Type, Open/Close in Alarm, Latch, Hysteresis
			Alarm 2 Type, Open/Close in Alarm, Latch, Hysteresis
			Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis
Advanced function setting level	Temperature Controllers with Thermocouples	ALL E5□N	SP Ramp
	Temperature Controllers with Platinum-resistance Thermometers	ALL E5□N	SP Ramp
			Multi-SP ON/OFF
	Temperature Controllers with Thermocouples or Platinum-resistance Thermometers	ALL E5□N	HBA Used, Latch, Hysteresis
			MV Upper/Lower Limits and Input Digital Filter
			Standby Sequence Restart
			α
			Input Error Output
			Cold Junction Compensation Method
	Communications setting level	ALL E5□N	Communications Settings

1.1.1 Operation Level

(1) Operation Monitor for E5AN/E5EN Standard Control

Setting level	Input type	Part
Operation level	Thermocouple input	Yes
	Platinum-resistance thermometer	Yes
	Common(Common)	No

Unit type	E5AN, E5EN	Storage directory	SmartActiveParts_E\TemperatureController\E5[N\OperationLevel	Title	Operation Monitor for Standard Control
Function	Continuously monitors operating status on a face plate.				
Display and Operation Details					
<div><div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 →</div><div>5 →</div><div>6 →</div><div>7 →</div><div>8 →</div><div>9 →</div><div>10 →</div></div><div><div><div><div>RUN</div><div>AT</div></div><div><div>1</div><div>2</div><div>3</div></div><div><div>OUT</div><div></div><div></div></div><div><div>ALM</div><div></div><div></div></div><div><div>HB</div><div></div></div><div><div>Input Error</div><div></div></div><div><div>Current Value Exceeds</div><div></div></div><div><div>(°C)</div><div>PV</div><div>SP</div><div>MV1 (%)</div></div><div><div>-9999</div><div>-9999</div><div>-999.9</div></div></div><div><div>← 11</div></div></div></div>					
No.	Item	Setting/display	Description		
1	RUN AUTO	Display	Displays the run/stop and autotuning status.		
2	OUT	Display	Displays the output status of control output 1.		
3	ALM	Display	Displays the output status of alarm outputs 1, 2, and 3.		
4	HB	Display	Displays the heater burnout output status.		
5	Input Error	Display	Displays the input error status.		
6	Current Value Exceeds	Display	Displays the status of a current value exceeded error.		
7	(°C) / (°F)	Display	Displays the temperature unit.		
8	PV	Display	Displays the process value.		
9	SP	Display	Displays the set point.		
10	MV1	Display	Displays the manipulated variable of output 1.		
11	Display Update Indicator	Display	Flashes each time the display is updated.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□N)

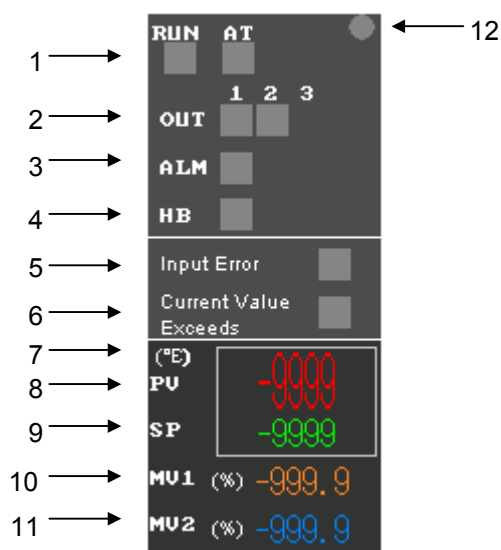
(2) Operation Monitor for E5AN/D5EN Heating/Cooling Control

Setting level	Input type	Part
Operation level	Thermocouple input	Yes
	Platinum-resistance thermometer	Yes
	Common(Common)	No

Unit type	E5AN, E5EN	Storage directory	SmartActiveParts_E\TemperatureController\E5□N\OperationLevel	Title	Operation Monitor for Heating/Cooling Control
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Function Continuously monitors operating status on a face plate.

Display and Operation Details



No.	Item	Setting/display	Description
1	RUN AUTO AT	Display	Displays the run/stop and autotuning status.
2	OUT	Display	Displays the output status of control outputs 1 and 2.
3	ALM	Display	Displays the output status of alarm outputs 1, 2, and 3.
4	HB	Display	Displays the heater burnout output status.
5	Input Error	Display	Displays the input error status.
6	Current Value Exceeds	Display	Displays the status of a current value exceeded error.
7	(°C) / (°F)	Display	Displays the temperature unit.
8	PV	Display	Displays the process value.
9	SP	Display	Displays the set point.
10	MV1	Display	Displays the manipulated variable of output 1.
11	MV2	Display	Displays the manipulated variable of output 2.
12	Display Update Indicator	Display	Flashes each time the display is updated.

Remarks

- * When using this SMART Active Part, be sure to select **Setting - System Settings** in the menu bar, press the **System Memory List** Button on the **Initial Tab** Page, and select **Basics** for the \$SB.
- * Do not use this SMART Active Part on the initial screen.
- * Use System version 5 or higher version.

(3) SP and Alarm Settings for E5AN/E5EN

Setting level	Input type	Part
Operation level	Thermocouple input	Yes
	Platinum-resistance thermometer	Yes
	Common(Common)	No

Unit type	E5AN, E5EN	Storage directory	SmartActiveParts_E\TemperatureController\E5\N\OperationLevel		Title	SP and Alarm Settings
Function	Sets the set point and the alarm values for outputting alarms. Alarm output status is continuously updated.					
Display and Operation Details						
<div><div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 →</div><div>5 →</div></div><div><div>SP (°E)</div><div>(°E) Alarm Val, Upper Lim, Lower Lim.</div><div>ALM1</div><div>ALM2</div><div>ALM3</div></div><div><div>-9999</div><div>-9999</div><div>-9999</div><div>-9999</div><div>-9999</div><div>-9999</div><div>-9999</div><div>-9999</div></div><div><div>← 10</div><div>6</div><div>7</div><div>8</div><div>9</div></div></div>						
No.	Item	Setting/display	Description			
1	SP	Setting	Sets the set point.			
2	(°C) / (°F)	Display	Displays the temperature unit.			
3	ALM1	~	The ALM1 row contains the alarm 1 settings: alarm value, upper limit, and lower limit.			
4	ALM2	~	The ALM2 row contains the alarm 2 settings: alarm value, upper limit, and lower limit.			
5	ALM3	~	The ALM3 row contains the alarm 3 settings: alarm value, upper limit, and lower limit.			
6	Alarm Indicators	Display	Displays the output status of alarm outputs 1, 2, and 3. The display is continuously updated.			
7	Alarm Val.	Setting	Sets the alarm value. The alarm value is displayed and can be set when the alarm type is set to anything other than an upper/lower limit alarm.			
8	Upper Lim.	Setting	Sets the alarm upper limit. The alarm upper limit is displayed and can be set when the alarm type is set to an upper/lower limit alarm.			
9	Lower Lim.	Setting	Sets the alarm lower limit. The alarm lower limit is displayed and can be set when the alarm type is set to an upper/lower limit alarm.			
10	Display Update Indicator	Display	The alarm indicator display is continuously updated. This indicator flashes each time the data is updated.			
Remarks						
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.						
* Do not use this SMART Active Part on the initial screen.						
* Use System version 5 or higher version.						

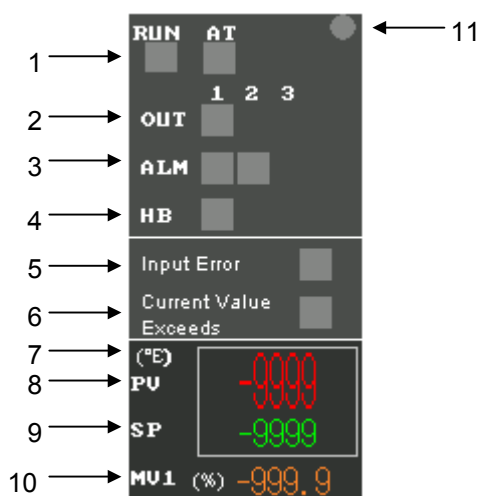
Temperature Controller (E5□N)

(4) Operation Monitor for E5CN Standard Control

Setting level	Input type	Part
Operation level	Thermocouple input	Yes
	Platinum-resistance thermometer	Yes
	Common(Common)	No

Unit type	E5CN	Storage directory	SmartActiveParts_E\TemperatureController\E5□N\OperationLevel	Title	Operation Monitor for Standard Control
Function	Continuously monitors operating status on a face plate.				

Display and Operation Details



No.	Item	Setting/display	Description
1	RUN AT	Display	Displays the run/stop and autotuning status.
2	OUT	Display	Displays the output status of control output 1.
3	ALM	Display	Displays the output status of alarm outputs 1 and 2.
4	HB	Display	Displays the heater burnout output status.
5	Input Error	Display	Displays the input error status.
6	Current Value Exceeds	Display	Displays the status of a current value exceeded error.
7	(°C) / (°F)	Display	Displays the temperature unit.
8	PV	Display	Displays the process value.
9	SP	Display	Displays the set point.
10	MV	Display	Displays the manipulated variable of output 1.
11	Display Update Indicator	Display	Flashes each time the display is updated.

Remarks

- * When using this SMART Active Part, be sure to select **Setting - System Settings** in the menu bar, press the **System Memory List** Button on the **Initial Tab** Page, and select **Basics** for the \$SB.
- * Do not use this SMART Active Part on the initial screen.
- * Use System version 5 or higher version.

(5) Operation Monitor for E5CN Heating/Cooling Control

Setting level	Input type	Part
Operation level	Thermocouple input	Yes
	Platinum-resistance thermometer	Yes
	Common(Common)	No

Unit type	E5CN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\OperationLevel	Title	Operation Monitor for Heating/Cooling Control
Function	Continuously monitors operating status on a face plate.				
Display and Operation Details					
<div><div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 →</div><div>5 →</div><div>6 →</div><div>7 →</div><div>8 →</div><div>9 →</div><div>10 →</div><div>11 →</div></div><div><div><div><div>RUN</div><div>AT</div></div><div><div>1</div><div>2</div><div>3</div></div><div><div>OUT</div><div></div><div></div></div><div><div>ALM</div><div></div><div></div><div></div></div><div><div>HB</div><div></div></div><div><div>Input Error</div><div></div></div><div><div>Current Value Exceeds</div><div></div></div><div><div>(°E)</div><div><div><div>PV</div><div>-999.9</div></div><div><div>SP</div><div>-999.9</div></div><div><div>MV1 (%)</div><div>-999.9</div></div><div><div>MV2 (%)</div><div>-999.9</div></div></div></div></div><div>← 12</div></div></div>					
No.	Item	Setting/display	Description		
1	RUN AT	Display	Displays the run/stop and autotuning status.		
2	OUT	Display	Displays the output status of control outputs 1 and 2.		
3	ALM	Display	Displays the output status of alarm output 1.		
4	HB	Display	Displays the heater burnout output status.		
5	Input Error	Display	Displays the input error status.		
6	Current Value Exceeds	Display	Displays the status of a current value exceeded error.		
7	(°C) / (°F)	Display	Displays the temperature unit.		
8	PV	Display	Displays the process value.		
9	SP	Display	Displays the set point.		
10	MV1	Display	Displays the manipulated variable of output 1.		
11	MV2	Display	Displays the manipulated variable of output 2.		
12	Display Update Indicator	Display	Flashes each time the display is updated.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□N)

(6) SP and Alarm Settings for E5CN

Setting level	Input type	Part
Operation level	Thermocouple input	Yes
	Platinum-resistance thermometer	Yes
	Common(Common)	No

Unit type	E5CN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\OperationLevel		Title	SP and Alarm Settings
Function	Sets the set point and the alarm values for outputting alarms.					
Display and Operation Details						
<div><div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 →</div><div>5 ↑</div><div>6 ↑</div><div>7 ↑</div><div>8 ↑</div><div>9 ←</div></div><div><div>SP (°E)</div><div>-9999</div><div>(°E) Alarm Val, Upper Lim.</div><div>ALM1</div><div>-9999</div><div>-9999</div><div>-9999</div><div>ALM2</div><div>-9999</div><div>-9999</div><div>-9999</div></div></div>						
No.	Item	Setting/display	Description			
1	SP	Setting	Sets the set point.			
2	(°C) / (°F)	Display	Displays the temperature unit.			
3	ALM1	~	The ALM1 row contains the alarm 1 settings: alarm value, upper limit, and lower limit.			
4	ALM2	~	The ALM2 row contains the alarm 2 settings: alarm value, upper limit, and lower limit.			
5	Alarm Indicators	Display	Displays the output status of alarm outputs 1 and 2. The display is continuously updated.			
6	Alarm Val.	Setting	Sets the alarm value. The alarm value is displayed and can be set when the alarm type is set to anything other than an upper/lower limit alarm.			
7	Upper Lim.	Setting	Sets the alarm upper limit. The alarm upper limit is displayed and can be set when the alarm type is set to an upper/lower limit alarm.			
8	Lower Lim.	Setting	Sets the alarm lower limit. The alarm lower limit is displayed and can be set when the alarm type is set to an upper/lower limit alarm.			
9	Display Update Indicator	Display	The alarm indicator display is continuously updated. This indicator flashes each time the data is updated.			
Remarks						
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.						
* Do not use this SMART Active Part on the initial screen.						
* Use System version 5 or higher version.						

(7) Operation Monitor for E5GN Standard Control

Setting level	Input type	Part
Operation level	Thermocouple input	Yes
	Platinum-resistance thermometer	Yes
	Common(Common)	No

Unit type	E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\OperationLevel	Title	Operation Monitor for Standard Control
Function	Continuously monitors operating status on a face plate.				
Display and Operation Details					
<div><div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 →</div><div>5 →</div><div>6 →</div><div>7 →</div><div>8 →</div></div><div><div><div><div>RUN</div><div>AT</div></div><div><div>1</div><div>2</div><div>3</div></div><div><div>OUT</div><div>ALM</div></div><div><div>Input Error</div></div><div><div>(°E)</div><div>PV</div><div>SP</div><div>MV1 (%)</div></div><div><div>-9999</div><div>-9999</div><div>-999.9</div></div></div><div><div>← 9</div></div></div></div>					
No.	Item	Setting/display	Description		
1	RUN AT	Display	Displays the run/stop and autotuning status.		
2	OUT	Display	Displays the output status of control output 1.		
3	ALM	Display	Displays the output status of alarm output 1.		
4	Input Error	Display	Displays the input error status.		
5	(°C) / (°F)	Display	Displays the temperature unit.		
6	PV	Display	Displays the process value.		
7	SP	Display	Displays the set point.		
8	MV1	Display	Displays the manipulated variable.		
9	Display Update Indicator	Display	Flashes each time the display is updated.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□N)

(8) SP and Alarm Settings for E5GN

Setting level	Input type	Part
Operation level	Thermocouple input	Yes
	Platinum-resistance thermometer	Yes
	Common(Common)	No

Unit type	E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\OperationLevel	Title	SP and Alarm Settings
Function	Sets the set point and the alarm values for outputting alarms.				
Display and Operation Details					
No.	Item	Setting/display	Description		
1	SP	Setting	Sets the set point.		
2	(°C) / (°F)		Displays the temperature unit.		
3	ALM1	~	The ALM1 row contains the alarm 1 settings: alarm value, upper limit, and lower limit.		
4	Alarm Indicators	Display	Displays the output status of alarm output 1. The display is continuously updated.		
5	Alarm Val.	Setting	Sets the alarm value. The alarm value is displayed and can be set when the alarm type is set to anything other than an upper/lower limit alarm.		
6	Upper Lim.	Setting	Sets the alarm upper limit. The alarm upper limit is displayed and can be set when the alarm type is set to an upper/lower limit alarm.		
7	Lower Lim.	Setting	Sets the alarm lower limit. The alarm lower limit is displayed and can be set when the alarm type is set to an upper/lower limit alarm.		
8	Display Update Indicator	Setting	The alarm indicator display is continuously updated. This indicator flashes each time the data is updated.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(9) SP Setting

Setting level	Input type	Part
Operation level	Thermocouple input	Yes
	Platinum-resistance thermometer	Yes
	Common(Common)	No

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\OperationLevel	Title	SP Setting
Function	Sets the set point.				
Display and Operation Details					
<div><div>1 →</div><div><div>SP (°E)</div><div>-9999</div></div><div>↑ 2</div></div>					
No.	Item	Setting/display	Description		
1	SP	Setting	Sets the set point.		
2	(°C) / (°F)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□N)

1.1.2 Adjustment Level

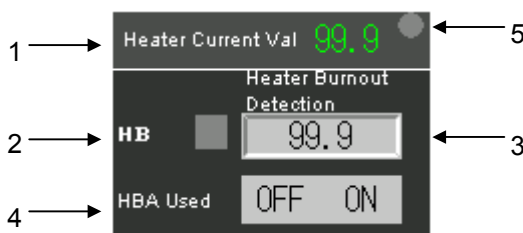
(10) Multi-SP Settings

Setting level	Input type	Part
Adjustment level	Thermocouple input	Yes
	Platinum-resistance thermometer	Yes
	Common(Common)	No

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\AdjustmentLevel	Title	Multi-SP Settings
Function	Sets the set points for multi-SP operation.				
Display and Operation Details					
<div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 →</div><div>5 ↑</div><div><div>SP0(°E)</div><div>SP1(°E)</div><div>SP2(°E)</div><div>SP3(°E)</div><div>-9999</div><div>-9999</div><div>-9999</div><div>-9999</div></div></div>					
No.	Item	Setting/display	Description		
1	SP0	Setting	Sets set point 0.		
2	SP1	Setting	Sets set point 1.		
3	SP2	Setting	Sets set point 2.		
4	SP3	Setting	Sets set point 3.		
5	(°C) / (°F)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(11) Heater Burnout Detection

Setting level	Input type	Part
Adjustment level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\AdjustmentLevel	Title	Heater Burnout Detection
Function	Monitors the heater burnout current and sets the heater burnout detection value. This SMART Active Part will function when heater burnout detection is enabled. The setting is made with a SMART Active Part in the advanced setting level.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	Heater Current Val	Display	Continuously displays the heater current.		
2	HB	Display	Continuously displays the output status for heater burnout detection.		
3	Heater Burnout Detection	Setting	Sets the heater burnout detection value.		
4	HBA Used	Display	Displays the setting status (advanced function setting level) for heater burnout detection.		
5	Display Update Indicator	Display	Flashes each time the heater current or HB display is updated.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□N)

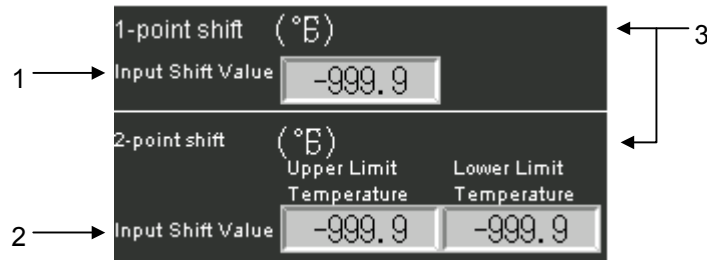
(12) PID Settings

Setting level	Input type	Part
Adjustment level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\AdjustmentLevel	Title	PID Settings
Function	Sets the PID constants.				
Display and Operation Details					
<div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 →</div><div><div>P Value (%FS)</div><div>999.9</div><div>I Value (sec)</div><div>9999</div><div>D Value (sec)</div><div>9999</div></div></div>					
No.	Item	Setting/display	Description		
1	P Value	Setting	Sets the proportional band.		
2	(°C) / (°F)	Display	Displays the temperature unit.		
3	I Value	Setting	Sets the integral time.		
4	D Value	Setting	Sets the derivative time.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(13) Input Shift Values

Setting level	Input type	Part
Adjustment level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\AdjustmentLevel	Title	Input Shift Values
Function	Sets the input shift values for the sensor measurement range.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	1-point shift Input Shift Value	Setting	Sets the input shift value for a 1-point shift.		
2	2-point shift Input Shift Value Upper Limit Temperature Lower Limit Temperature	Setting	Sets the input shift values for the upper limit and lower limit of the sensor measurement range.		
3	(°C) / (°F)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□N)

(14) Manual Reset Value

Setting level	Input type	Part
Adjustment level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]NAdjustmentLevel	Title	Manual Reset Value
Function	Sets the manual reset value.				
Display and Operation Details					
<div>1 → <div>Manual Reset Val.(%)999.9</div></div>					
No.	Item	Setting/display	Description		
1	Manual Reset Val.	Setting	Sets the manual reset value.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(15) Cooling Coefficient, Dead Band, and Control Period

Setting level	Input type	Part
Adjustment level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\AdjustmentLevel	Title	Cooling Coefficient, Dead Band, and Control Period
Function	Sets the cooling coefficient, dead band, and control period.				
Display and Operation Details					
<div><div><div>1</div><div>→</div></div><div>Cooling Coefficient</div><div>99.99</div></div> <div><div><div>2</div><div>→</div></div><div>Dead Band</div><div>-999.9</div></div> <div><div><div>3</div><div>→</div></div><div></div><div></div></div> <div><div><div>4</div><div>→</div></div><div>Control Period OUT1 (sec)</div><div>99</div></div> <div><div><div>5</div><div>→</div></div><div>Control Period OUT2 (sec)</div><div>99</div></div>					
No.	Item	Setting/display	Description		
1	Cooling Coefficient	Setting	Sets the cooling coefficient for heating/cooling control.		
2	Dead Band	Setting	Sets the dead band for heating/cooling control.		
3	(°C) / (°F)	Display	Displays the temperature unit.		
4	Control Period OUT1	Setting	Sets the control period for the control output OUT1 for heating/cooling control. Sets the control period for the control output OUT1 for standard control.		
5	Control Period OUT2	Setting	Sets the control period for the control output OUT2 for heating/cooling control. The control period for OUT2 is used only for heating/cooling control.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□N)

(16) Dead Band and Hysteresis

Setting level	Input type	Part
Adjustment level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\AdjustmentLevel	Title	Dead Band and Hysteresis
Function	Sets the dead band and hysteresis for ON/OFF control.				
Display and Operation Details					
<div><div><div>1 →</div><div>2 →</div><div>3 →</div><div>4 ↑</div></div><div><div>Dead Band</div><div>Hysteresis OUT1</div><div>Hysteresis OUT2</div><div>-999.9</div><div>999.9</div><div>999.9</div></div></div>					
No.	Item	Setting/display	Description		
1	Dead Band	Setting	Sets the dead band.		
2	Hysteresis OUT1	Setting	Sets the hysteresis for the control output OUT1 for heating/cooling control. Sets the hysteresis for the control output OUT1 for standard control.		
3	Hysteresis OUT2	Setting	Sets the hysteresis for the control output OUT2 for heating/cooling control.		
4	(°C) / (°F)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

1.1.3 Initial Setting Level

(17) Input Type, Temperature Unit, Scaling, and Decimal Point for Thermocouple Inputs

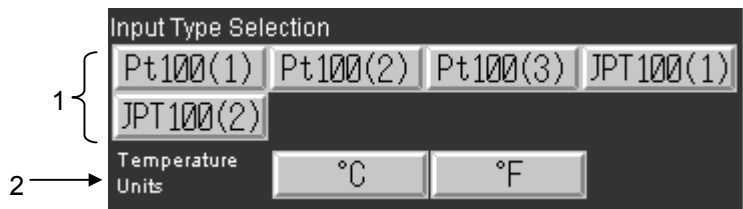
Setting level	Input type	Part
Initial setting level	Thermocouple input	Yes
	Platinum-resistance thermometer	No
	Common(Common)	No

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5\InitialSetting Level	Title	Input Type, Temperature Unit, Scaling, and Decimal Point
Function	Sets the input type and temperature unit for a Temperature Controller with a Thermocouple Input. When an analog input is selected, sets the scaling and decimal point position.				
Display and Operation Details					
<div><div><div>1 {</div><div>2 →</div><div>1 {</div><div>3 →</div><div>4 →</div></div><div><div>Input Type Selection</div><div><div>K(1)K(2)J(1)J(2)</div><div>T(1)E L U(1)</div><div>N R S B</div><div>K10-70K60-120K115-165K160-260</div><div>T(2)U(2)</div></div><div>Temperature Units<div>°C°F</div></div><div><div>0-50mV</div><div>Input ValueDisplay Value</div><div>Scaling-9999-9999</div><div>Decimal Point Position9</div></div></div></div>					
No.	Item	Setting/display	Description		
1	Input Type	Setting	Sets the thermocouple input type. The same input type applies to both channels 1 and 2.		
2	Temperature Units	Setting	Sets the temperature unit.		
3	Scaling Input Value Display Value.	Setting	When the input type is set to an analog input (0 to 50 mV), sets the upper and lower limits for scaling.		
4	Decimal point position	Setting	When the input type is set to an analog input (0 to 50 mV), sets the number of places below the decimal point.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□N)

(18) Input 1 Type and Temperature Unit for Platinum-resistance Thermometer Input

Setting level	Input type	Part
Initial setting level	Thermocouple input	No
	Platinum-resistance thermometer	Yes
	Common(Common)	No

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\InitialSetting Level	Title	Input Type and Temperature Unit
Function	Sets the input type and temperature unit for a Temperature Controller with a Platinum-resistance Thermometer Input.				
Display and Operation Details					
					
No.	Item	Setting/d isplay	Description		
1	Input Type	Setting	Sets the input type for a Temperature Controller with a Platinum-resistance Thermometer Input.		
2	Temperature Units	Setting	Sets the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(19) SP Limits


Setting level	Input type	Part
Initial setting level	Thermocouple input	Yes
	Platinum-resistance thermometer	Yes
	Common(Common)	No

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\InitialSetting Level	Title	SP Limits
Function	Sets the upper and lower limits for the set point.				
Display and Operation Details					
<div><div>2 →</div><div>(°E)</div><div>Upper Limit</div><div>Lower Limit</div><div>1 →</div><div>SP Limit</div><div>-9999</div><div>-9999</div></div>					
No.	Item	Setting/display	Description		
1	SP Limit Upper Limit Lower Limit	Setting	Sets the upper and lower limits for the set point. Can be set anywhere within the input temperature setting range.		
2	(°C) / (°F)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□N)

(20) PID or ON/OFF Control

Setting level	Input type	Part
Initial setting level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\InitialSetting Level	Title	PID or ON/OFF Control
Function	Sets either PID or ON/OFF control.				
Display and Operation Details					
<div>1 → </div>					
No.	Item	Setting/display	Description		
1	Control System	Setting	Sets either PID or ON/OFF control.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.					

(21) Direct/Reverse Operation

Setting level	Input type	Part
Initial setting level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\InitialSetting Level	Title	Direct/Reverse Operation
Function	Sets either direction operation or reverse operation for increases and decreases in the process value.				
Display and Operation Details					
<div>1 → <div>OperationReverseDirect</div></div>					
No.	Item	Setting/display	Description		
1	Operation	Setting	Sets either direction operation or reverse operation for increases and decreases in the process value.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□N)

(22) Control Mode

Setting level	Input type	Part
Initial setting level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\InitialSettingLevel	Title	Control Mode
Function	Sets standard control or heating/cooling control.				
Display and Operation Details					
<div><div>1 →</div><div><div>Control Mode</div><div>Standard</div><div>Heat Cool</div></div></div>					
No.	Item	Setting/display	Description		
1	Control Mode	Setting	Sets standard control or heating/cooling control.		
Remarks					
<div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.</div> <div>* Do not use this SMART Active Part on the initial screen.</div> <div>* Use System version 5 or higher version.</div>					

(23) ST ON/OFF and ST Stable Range

Setting level	Input type	Part
Initial setting level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\InitialSetting Level	Title	ST ON/OFF and ST Stable Range
Function	Turns the ST function ON and OFF, and sets the ST stable range.				
Display and Operation Details					
<div><div><div>1 →</div><div>2 →</div><div>3 ↑</div></div><div><div>ST</div><div>ST</div><div>Stable Range</div><div>OFF</div><div>ON</div><div>999.9</div></div></div>					
No.	Item	Setting/display	Description		
1	ST ON/OFF	Setting	Turns the ST function ON and OFF.		
2	ST Stable Range	Setting	Sets the ST stable range.		
3	(°C) / (°F)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□N)

(24) Alarm 1 Type, Alarm 1 Open/Close in Alarm, Alarm 1 Hysteresis, Alarm 1 Latch

Setting level	Input type	Part
Initial setting level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\InitialSetting Level	Title	Alarm 1 Type, Open/Close in Alarm, Hysteresis, Latch
Function	Sets the alarm type, open/close in alarm operation, latch, and hysteresis for alarm 1.				
Display and Operation Details					
<div><div><div>1 →</div><div>Alarm1 Type</div><div>99</div><div>Type(0-11)</div><div>← 2</div></div><div><div>3 →</div><div>Alarm1 open/ close in Alarm</div><div>Close</div><div>Open</div></div><div><div>4 →</div><div>Alarm1 Hysteresis (%)</div><div>999.9</div><div></div></div><div><div>5 →</div><div>Alarm1 Latch</div><div>OFF</div><div>ON</div></div></div>					
No.	Item	Setting/ display	Description		
1	Alarm 1 Type	Display	Displays the alarm type that is set.		
2	Alarm 1 Type Setting Button	Setting	When pressed, displays the alarm type setting menu. Select the alarm type from the menu.		
3	Alarm 1 open/close in Alarm	Setting	Sets open in alarm or close in alarm for the alarm output.		
4	Alarm 1 Hysteresis (°C) / (°F)	Setting Display	Sets ON/OFF hysteresis for the alarm output. Displays the temperature unit.		
5	Alarm 1 Latch	Setting	Sets whether to latch the alarm output status.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(25) Alarm 2 Type, Alarm 2 Open/Close in Alarm, Alarm 2 Hysteresis, Alarm 2 Latch

Setting level	Input type	Part
Initial setting level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\InitialSetting Level	Title	Alarm 2 Type, Open/Close in Alarm, Latch, Hysteresis
Function	Sets the alarm type, open/close in alarm operation, latch, and hysteresis for alarm 2.				
Display and Operation Details					
<div><div><div>1 →</div><div>3 →</div><div>4 →</div><div>5 →</div></div><div><div>Alarm2 Type</div><div>99</div><div>Type(0-11)</div><div>Alarm2open/ close in Alarm</div><div>Close</div><div>Open</div><div>Alarm2 Hysteresis (%)</div><div>999.9</div><div>Alarm2 Latch</div><div>OFF</div><div>ON</div></div><div><div></div><div>← 2</div></div></div>					
No.	Item	Setting/ display	Description		
1	Alarm 2 Type	Display	Displays the alarm type that is set.		
2	Alarm 2 Type Setting Button	Setting	When pressed, displays the alarm type setting menu. Select the alarm type from the menu.		
3	Alarm 2 open/close in Alarm	Setting	Sets open in alarm or close in alarm for the alarm output.		
4	Alarm 2 Hysteresis (°C) / (°F)	Setting Display	Sets ON/OFF hysteresis for the alarm output. Displays the temperature unit.		
5	Alarm 2 Latch	Setting	Sets whether to latch the alarm output status.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□N)

(26) Alarm 3 Type, Alarm 3 Open/Close in Alarm, Alarm 3 Hysteresis, Alarm 3 Latch

Setting level	Input type	Part
Initial setting level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN,	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\InitialSetting Level	Title	Alarm 3 Type, Open/Close in Alarm, Hysteresis, Latch
Function	Sets the alarm type, open/close in alarm operation, latch, and hysteresis for alarm 3.				
Display and Operation Details					
<div><div><div>1 →</div><div>Alarm3 Type</div><div>99</div><div>Type(0-11)</div><div>← 2</div></div><div><div>3 →</div><div>Alarm3open/ close in Alarm</div><div>Close</div><div>Open</div></div><div><div>4 →</div><div>Alarm3 Hysteresis (%)</div><div>999.9</div><div></div></div><div><div>5 →</div><div>Alarm3 Latch</div><div>OFF</div><div>ON</div></div></div>					
No.	Item	Setting/ display	Description		
1	Alarm 3 Type	Display	Displays the alarm type that is set.		
2	Alarm 3 Type Setting Button	Setting	When pressed, displays the alarm type setting menu. Select the alarm type from the menu.		
3	Alarm 3 open/close in Alarm	Setting	Sets open in alarm or close in alarm for the alarm output.		
4	Alarm 3 Hysteresis (°C) / (°F)	Setting Display	Sets ON/OFF hysteresis for the alarm output. Displays the temperature unit.		
5	Alarm 3 Latch	Setting	Sets whether to latch the alarm output status.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

1.1.4 Advanced Function Setting Level

(27) SP Ramp

Setting level	Input type	Part
CPU Bus Units Setting level	Thermocouple input	Yes
	Platinum-resistance thermometer	Yes
	Common(Common)	No

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\AdvancedFunctionSettingLevel	Title	SP Ramp
Function	Sets the rate of change for the SP ramp.				
Display and Operation Details					
<div><div>1 →</div><div>SP Ramp (°E/min.)</div><div>↑ 2</div><div>9999</div></div>					
No.	Item	Setting/display	Description		
1	SP Ramp	Setting	Sets the maximum allowed change per minute. Set 0 to disable the SP ramp function.		
2	(°C/min)/(°F/min)	Display	Displays the temperature unit.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□N)

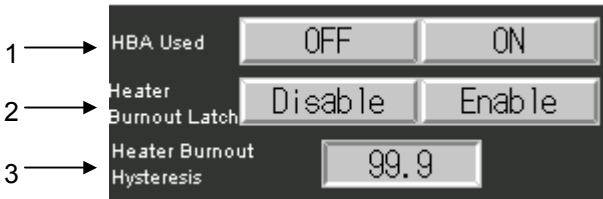
(28) Multi-SP ON/OFF

Setting level	Input type	Part
Advanced function setting level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\AdvancedFunctionSettingLevel	Title	Multi-SP ON/OFF
Function	Sets whether the set point can be switched.				
Display and Operation Details					
<div>1 → Multi-SP <div>OFF</div> <div>ON</div></div>					
No.	Item	Setting/display	Description		
1	Multi-SP	Setting	Sets whether the set point can be switched. Set ON to enable switching. Set OFF to disable switching.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.					

(29) HBA Used, Heater Burnout Latch, Heater Burnout Hysteresis

Setting level	Input type	Part
Advanced function setting level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN	Storage directory	SmartActiveParts_E\TemperatureController\E5\AdvancedFunctionSettingLevel	Title	HBA Used, Latch, Hysteresis
Function	Turns the heater burnout detection ON/OFF, turns the latch ON/OFF, and sets the hysteresis.				
Display and Operation Details					
					
No.	Item	Setting/display	Description		
1	HBA Used	Setting	Sets whether to use the heater burnout detection function.		
2	Heater Burnout Latch	Setting	Sets whether to latch the heater burnout alarm.		
3	Heater Burnout Hysteresis	Setting	Sets the hysteresis for heater burnout detection.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller (E5□N)

(30) MV Upper/Lower Limits and Input Digital Filter

Setting level	Input type	Part
Advanced function setting level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\AdvancedFunctionSettingLevel	Title	MV Upper/Lower Limits and Input Digital Filter
Function	Sets the upper and lower limits for the manipulated variable. Sets the time constant for the input digital filter.				
Display and Operation Details					
<div><div><div>1</div><div>→</div></div><div>MV Upper Limit (%)</div><div>-999.9</div></div> <div><div><div>2</div><div>→</div></div><div>MV Lower Limit (%)</div><div>-999.9</div></div> <div><div><div>3</div><div>→</div></div><div>Input Digital Filter (sec)</div><div>999.9</div></div>					
No.	Item	Setting/display	Description		
1	MV Upper Limit	Setting	Sets the upper limit of the manipulated variable. If the calculated manipulated variable is greater than the upper limit, it will be restricted to the upper limit.		
2	MV Lower Limit	Setting	Sets the lower limit of the manipulated variable. If the calculated manipulated variable falls below the lower limit, it will be restricted to the lower limit.		
3	Input Digital Filter	Setting	Sets the time constant for the input digital filter.		
Remarks					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

(31) Standby Sequence Restart

Setting level	Input type	Part
Advanced function setting level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\AdvancedFunctionSettingLevel	Title	Standby Sequence Restart
Function	Sets the condition for restarting after clearing the alarm standby sequence.				
Display and Operation Details					
<div>1 → <div>Standby Sequence Reset<div>Condi.A</div><div>Condi.B</div></div></div>					
No.	Item	Setting/display	Description		
1	Standby Sequence Reset	Setting	Select Condition A or Condition B.		
Remarks					
<div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.</div> <div>* Do not use this SMART Active Part on the initial screen.</div> <div>* Use System version 5 or higher version.</div>					

Temperature Controller (E5□N)

(32) α

Setting level	Input type	Part
Advanced function setting level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\AdvancedFunctionSettingLevel	Title	α
Function	Sets the α constant for advanced PID control.				
Display and Operation Details					
<div><div>1 →</div><div><div>α</div><div>9.99</div></div></div>					
No.	Item	Setting/display	Description		
1	α	Setting	Sets α set value.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.					

(33) Input Error Output

Setting level	Input type	Part
Advanced function setting level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\AdvancedFunctionSettingLevel	Title	Input Error Output
Function	Sets whether to output an alarm when a sensor input error occurs.				
Display and Operation Details					
<div><div>1 →</div><div><div>Output Input Error</div><div>OFF</div><div>ON</div></div></div>					
No.	Item	Setting/display	Description		
1	Output Input Error	Setting	Sets whether to enable outputting an alarm on the alarm 1 output when a sensor error is detected. Set ON to enable output and OFF to disable output.		
Remarks					
<div>* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.</div> <div>* Do not use this SMART Active Part on the initial screen.</div> <div>* Use System version 5 or higher version.</div>					

Temperature Controller (E5□N)

(34) Cold Junction Compensation Method

Setting level	Input type	Part
Advanced function setting level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[]N\AdvancedFunctionSettingLevel	Title	Cold Junction Compensation Method
Function	Sets the cold junction compensation method.				
Display and Operation Details					
<div>1 → Cold Junction Compensation External Internal</div>					
No.	Item	Setting/display	Description		
1	Cold Junction Compensation Method	Setting	Set whether to perform cold junction compensation inside the Temperature Controller or externally.		
Remarks					
<ul style="list-style-type: none">* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.* Do not use this SMART Active Part on the initial screen.* Use System version 5 or higher version.					

1.1.5 Communications Setting Level

(35) Communications Settings

Setting level	Input type	Part
Communications Settings level	Thermocouple input	No
	Platinum-resistance thermometer	No
	Common(Common)	Yes

Unit type	E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\TemperatureController\E5[N]CommunicationsSettingLevel	Title	Communications Settings
Function	Sets the communications unit number and communications settings. The following settings are used when connecting an NS-series PT to the Temperature Controller: Data length: 7 bits, Stop bits: 2 bits, Parity: even. The PT and the Temperature Controller will not be able to communicate with any other settings.				
Display and Operation Details					
<div><div><div>1</div><div>Comm. Unit No.</div><div>99</div></div><div><div>2</div><div>Baud Rate</div><div><div>1200</div><div>2400</div><div>4800</div><div>9600</div><div>19.2k</div></div></div><div><div>3</div><div>Data Bit</div><div><div>7bit</div><div>8bit</div></div></div><div><div>4</div><div>Stop Bit</div><div><div>1bit</div><div>2bit</div></div></div><div><div>5</div><div>Parity</div><div><div>NONE</div><div>EVEN</div><div>ODD</div></div></div></div>					
No.	Item	Setting/display	Description		
1	Comms. Unit No.	Setting	Sets the communications unit number. Set a different unit number for each Temperature Controller.		
2	Baud Rate	Setting	Sets the baud rate. Set the NS-series PT and all connected Temperature Controllers to the same setting.		
3	Data Bit	Setting	Sets the communications data length. A data length of 7 bits is used to connect an NS-series PT to the Temperature Controller.		
4	Stop Bit	Setting	Sets the number of communications stop bits. Two stop bits are used to connect an NS-series PT to the Temperature Controller.		
5	Parity	Setting	Sets the communications parity. Even parity is used to connect an NS-series PT to the Temperature Controller.		
Remarks					
* The PT and the Temperature Controller will not be able to communicate unless the following settings are used: Data length: 7 bits, Stop bits: 2 bits, Parity: even.					
* When using this SMART Active Part, be sure to select Setting - System Settings in the menu bar, press the System Memory List Button on the Initial Tab Page, and select Basics for the \$SB.					
* Do not use this SMART Active Part on the initial screen.					
* Use System version 5 or higher version.					

Temperature Controller

(from Ver5 or earlier)

Temperature Controller (from Ver5 or earlier)

1.1 Smart Active Parts (from Ver5 or Earlier)

1.1.1 SP Setting 00 to 15

Model	E5ZN-DRT	Location	SmartActiveParts_E\TemperatureController\E5ZN\Ver5toearlier	Title	SP Setting 00 to 15
Function	Performs reading and writing from and to SP for the maximum 16 temperature controllers connected to the E5ZN-DRT by pressing buttons. Reading and writing from and to E5ZN temperature controller cannot be performed when it is not connected to the E5ZN-DRT or a communication error has been occurred.				

[Image]

No.	Item	Setting/Display	Details
1	Copy to All Device (Copy to All)	Setting	Sets the input values on top to the input value for each Ch.
2	Set Value (Set)	Display	Displays SP which is read from E5ZN temperature controller. The value will be updated when reading or writing values.
3	Input Value (Input)	Setting	Sets SP to be written to the E5ZN temperature controller.
4	Read	Setting	Reads SP to the set value display area.
5	Write	Setting	Write input values to the SP. After writing the values, those will be read to the columns under Set.
6	Set -> Input	Setting	Sets values under Set to the Input.

[Note]

Set 6 seconds or more for **Comm.Time-Out** in the PT when using those Smart Active Parts.

Temperature Controller (from Ver5 or earlier)

1.1.2 PID Setting (Unit 0 to 7)

Model	E5ZN-DRT	Location	SmartActiveParts_E\TemperatureController\E5ZN\Ver5toearlier	Title	PID Setting (Unit 0 to 7)
Function	Performs reading and writing from and to PID of E5ZN unit 00 to 07 connected to E5ZN-DRT by pressing buttons. Reading and writing from and to E5ZN temperature controller cannot be performed when it is not connected to the E5ZN-DRT or a communication error has been occurred.				

[Image]

E5ZN Temperature Controller PID Setting (Unit 0 to 7)

Input Value: P 16.0, I 466, D 80. Copy to All (1)

Set Value: P, I, D (2)

Input Value: P, I, D (3)

	P	I	D	P	I	D
00ch1	8.0	233	40	16.0	466	80
00ch2	8.0	233	40	16.0	466	80
01ch1	4.0	116	20	16.0	466	80
01ch2	2.0	58	10	16.0	466	80
02ch1	0.0	0	0	8.0	233	40
02ch2	0.0	0	0	8.0	233	40
03ch1	0.0	0	0	0.0	0	0
03ch2	0.0	0	0	0.0	0	0
04ch1	0.0	0	0	0.0	0	0
04ch2	0.0	0	0	0.0	0	0
05ch1	0.0	0	0	0.0	0	0
05ch2	0.0	0	0	0.0	0	0
06ch1						
06ch2						
07ch1						
07ch2						

Read (4), Set -> Input (5), Write (6)

No.	Item	Setting/Display	Details
1	Copy to All	Setting	The set input values on top to the input values for each Ch.
2	Set Value	Display	Displays the read values in the PID from E5ZN temperature controller. The value will be updated when reading or writing values.
3	Input Value	Setting	Set PID to be written to the E5ZN temperature controller. Text and background color will be changed if a value out of range has been set.
4	Read	Setting	Reads values set for PID to the columns under Set Value.
5	Write	Setting	Writes input values to PID in the E5ZN temperature controller. Those will be read to columns under Set Value after writing values.
6	Set -> Input	Setting	Sets set values to input values.

[Note]

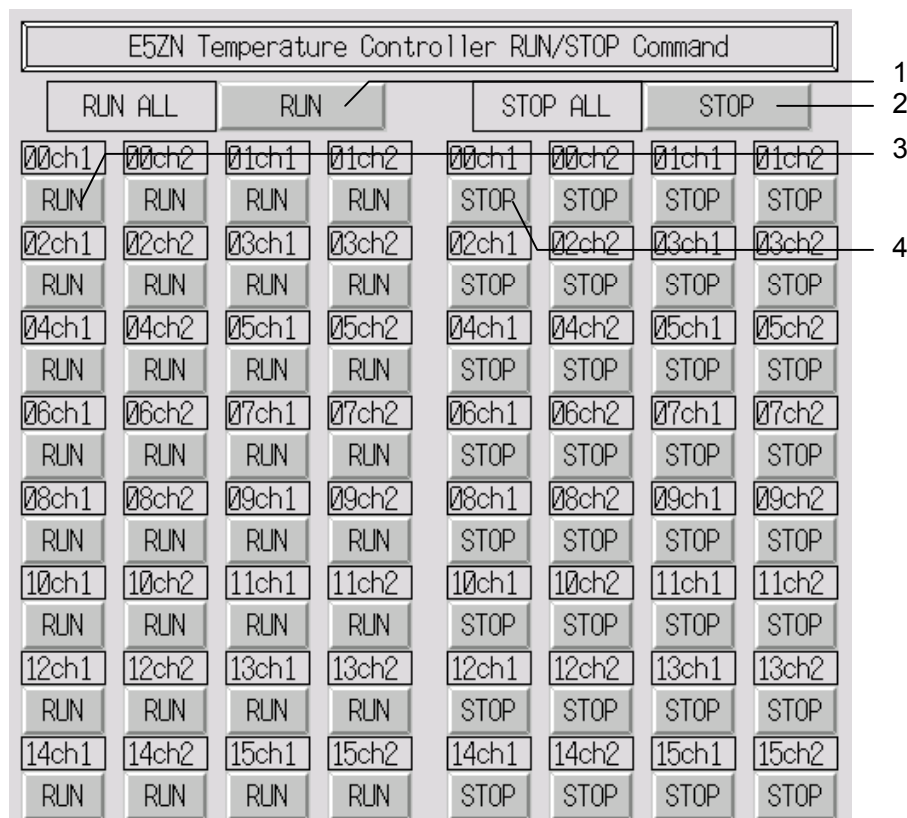
- Set 6 seconds or more for Comm.Time-Out in the PT when using those Smart Active Parts. Also, select **Settings-Unit & Scale** Setting and set 0.1 for the scale at the unit No. 1000 when using those parts library.
- Please use E5ZN Temperature Controller PID Setting (Unit 08 to 15) for Temperature Controller unit 08 to 15.

Temperature Controller (from Ver5 or earlier)

1.1.3 RUN/STOP Command

Model	E5ZN-DRT	Location	SmartActiveParts_E\TemperatureController\E5ZN\Ver5toearlier	Title	RUN/STOP
Function	Executes control start (RUN) and control stop (STOP) commands for the maximum 16 temperature controllers connected to the E5ZN-DRT. Control start (RUN) and control stop (STOP) commands can be executed for all temperature controllers at once and for each unit by word (Ch) individually. These commands cannot be executed for E5ZN temperature controller which is not connected or a communication error is occurred.				

[Image]



No.	Item	Setting/Display	Details
1	RUN ALL	Setting	Executes start control command (RUN) for all temperature controllers connected to E5ZN-DRT.
2	ALL STOP	Setting	Executes stop control command (STOP) for all temperature controllers connected to E5ZN-DRT.
3	RUN	Setting	Executes start control (RUN) for word in an appropriate Unit No.
4	STOP	Setting	Executes stop control (STOP) for word in an appropriate Unit No.

[Note]

Set 6 seconds or more for **Comm.Time-Out** in the PT when using those Smart Active Parts.

Temperature Controller (from Ver5 or earlier)

1.1.4 AT Execute/Stop

Model	E5ZN-DRT	Location	SmartActiveParts_E\TemperatureController\E5ZN\Ver5toearlier	Title	AT Execute/Stop
Function	Executes AT Execute/Stop commands for the maximum 16 temperature controllers connected to the E5ZN-DRT. AT execute/Stop commands can be executed for all temperature controllers at once and for each unit by word (Ch) individually. These commands cannot be executed for E5ZN temperature controller which is not connected or a communication error is occurred.				
[Image]					
No.	Item	Setting/ Display	Details		
1	Execute All	Setting	Executes AT execute command for the maximum 16 temperature controllers connected to the E5ZN-DRT.		
2	Stop All	Setting	Executes AT stop command for the maximum 16 temperature controllers connected to the E5ZN-DRT.		
3	Execute	Setting	Executes AT execute command for word in an appropriate Unit No.		
4	Stop	Setting	Executes AT stop command for word in an appropriate Unit No.		
[Note] Set 6 seconds or more for Comm.Time-Out in the PT when using those Smart Active Parts.					

Temperature Controller (from Ver5 or earlier)

1.1.5 Auto/Manual

Model	E5ZN-DRT	Location	SmartActiveParts_E\TemperatureController\E5ZN\Ver5toearlier	Title	Auto/Manual
Function	Executes Auto/Manual commands for the maximum 16 temperature controllers connected to the E5ZN-DRT. Auto/Manual commands can be executed for all temperature controllers at once and for each unit by word (Ch) individually. These commands cannot be executed for E5ZN temperature controller which is not connected or a communication error is occurred.				

[Image]

E5ZN Temperature Controller Auto/Manual Command

Auto All

Auto

Manual All

Manual

00ch1

Auto

00ch2

Auto

01ch1

Auto

01ch2

Auto

02ch1

Manu.

02ch2

Manu.

03ch1

Manu.

03ch2

Manu.

04ch1

Manu.

04ch2

Manu.

05ch1

Manu.

05ch2

Manu.

06ch1

Manu.

06ch2

Manu.

07ch1

Manu.

07ch2

Manu.

08ch1

Manu.

08ch2

Manu.

09ch1

Manu.

09ch2

Manu.

10ch1

Manu.

10ch2

Manu.

11ch1

Manu.

11ch2

Manu.

12ch1

Manu.

12ch2

Manu.

13ch1

Manu.

13ch2

Manu.

14ch1

Manu.

14ch2

Manu.

15ch1

Manu.

15ch2

Manu.

No.	Item	Setting/Display	Details
1	Auto All	Setting	Executes automatic operation command for the maximum 16 temperature controllers connected to the E5ZN-DRT.
2	Manual All	Setting	Executes manual operation command for the maximum 16 temperature controllers connected to the E5ZN-DRT.
3	Auto	Setting	Executes automatic operation command for word in an appropriate Unit No.
4	Manual	Setting	Executes manual operation command for word in an appropriate Unit No.

[Note]

Set 6 seconds or more for **Comm. Time-Out** in the PT when using those Smart Active Parts.

Temperature Controller (from Ver5 or earlier)

1.1.6 Setting Area 0 for Unit 0

Model	E5ZN-DRT	Location	SmartActiveParts_E\TemperatureController\E5ZN\Ver5toearlier	Title	Setting Area 0 for Unit 0
Function	Performs reading and writing from and to setting area 0 for temperature controller connected to E5ZN-DRT by pressing buttons. Reading and writing from and to E5ZN temperature controller cannot be performed when it is not connected to the E5ZN-DRT or a communication error has been occurred. Provided this library for each unit.				

[Image]

E5ZN Temperature Controller Setting Area 0 for Unit 0									
CH1					CH2				
Set		Input			Set		Input		
SP	90	100	0	200	Temperature	0.0	0.0	0.0	0.0
Alarm Value1	0	80	0	0	Input Offset	0.0	0.0	0.0	0.0
Upper Limit1	0	90	0	0	Upper Limit	0.0	0.0	0.0	0.0
Lower Limit1	0	70	0	0	Tem. Offset	0.0	0.0	0.0	0.0
Alarm Value2	0	0	0	0	Lower Limit	0.0	0.0	0.0	0.0
Upper Limit2	0	0	0	0	Tem. Offset	0.0	0.0	0.0	0.0
Lower Limit2	0	0	0	0	ProportionalB	4.0	8.0	8.0	16.0
Alarm Value3	0	0	0	0	IntegralTime	116	233	233	466
ManualMani.V	0.0	0.0	0.0	0.0	Derivative T	20	40	40	80
Heater Burn.	0.0	0.0	0.0	0.0	Cooling Coe.	5.00	10.00	0.10	20.00
SP0	0	0	0	0	Dead Band	0.0	0.0	0.0	0.0
SP1	0	0	0	0	ManualRstVal	0.0	0.0	0.0	0.0
					Heating Hysteresis	5.0	10.0	10.0	20.0
					Cooling Hysteresis	5.0	10.0	10.0	20.0
CH1/CH2					CH1				
Read					Set->Input				
					CH2				
					Set->Input				
					Write				

No.	Item	Setting/Display	Details
1	CH1 Set	Display	Displays value for setting area 0 read from CH1. The value will be updated when reading/writing.
2	CH1 Input	Setting	Sets value for setting area 0 to the CH1. T Text and background color will be changed if a value out of range has been set.
3	CH2 Set	Display	Displays value for setting area 0 read from CH2. The value will be updated when reading/writing.
4	CH2 Input	Setting	Sets value for setting area 0 to the CH1. T Text and background color will be changed if a value out of range has been set.
5	CH1/CH2 Read	Setting	Reads setting area 0 settings in the CH1/2 and displays them in the columns under Set.
6	CH1 Set -> Input	Setting	Set values displayed in the columns under Set to appropriate columns under Input.
7	CH1 Write	Setting	Writes input values for CH1 to setting area 0. The values will be read columns under Set after writing those.
8	CH2 Set-> Input	Setting	Set values displayed in the columns under Set to appropriate columns under Input.
9	CH2 Write	Setting	Writes input values for CH2 to setting area 0. The values will be read columns under Set after writing those.

[Note]

Set 6 seconds or more for **Comm.Time-Out** in the PT when using those Smart Active Parts.
Select **Settings-Unit & Scale** Setting and set 0.1 for the scale at the unit No. 1000 when using those parts.

Temperature Controller (from Ver5 or earlier)

1.1.7 Setting Area 0 (Unit 0 to 15)

Model	E5ZN-DRT	Location	SmartActiveParts_ETemperatureController\E5ZN\Ver5toearlier	Title	Setting Area 0 (Unit 0 to 15)
Function	Performs reading and writing from and to setting area 0 for temperature controller connected to E5ZN-DRT by pressing buttons. Reading and writing from and to E5ZN temperature controller cannot be performed when it is not connected to the E5ZN-DRT or a communication error has been occurred.				

[Image]

No.	CH1		CH2		Details
	Set	Input	Set	Input	
SP	0	0	15	15	Temperature
Alarm Value1	0	0	15	15	Input Offset
Upper Limit1	0	0	20	20	Upper Limit
Lower Limit1	0	0	10	10	Tem. Offset
Alarm Value2	0	0	0	0	Lower Limit
Upper Limit2	0	0	0	0	Tem. Offset
Lower Limit2	0	0	0	0	ProportionalB
Alarm Value3	0	0	0	0	IntegralTime
ManualMani.V	0.0	0.0	0.0	0.0	DerivativeT.
Heater Burn.	0.0	0.0	0.0	0.0	Cooling Coe.
SP 0	0	0	0	0	Dead band
SP 1	0	0	0	0	ManualRetVal
					Heating Hysteresis
					Cooling Hysteresis

Buttons: CH1/CH2 Read, CH1 Set->Input, CH1 Write, CH2 Set->Input, CH2 Write

No.	Item	Setting/Display	Details
1	Unit No.	Setting	Input unit No. to be displayed/set.
2	CH1 Set	Display	Displays value for setting area 0 read from CH1. The value will be updated when reading/writing.
3	CH1 Input	Setting	Sets value for setting area 0 to the CH1. T Text and background color will be changed if a value out of range has been set.
4	CH2 Set	Display	Displays value for setting area 0 read from CH2. The value will be updated when reading/writing.
5	CH2 Input	Setting	Sets value for setting area 0 to the CH1. T Text and background color will be changed if a value out of range has been set.
6	CH1/CH2 Read	Setting	Reads setting area 0 settings in the CH1/2 and displays them in the columns under Set.
7	CH1 Set -> Input	Setting	Set values displayed in the columns under Set to appropriate columns under Input.
8	CH1 Write	Setting	Writes input values for CH1 to setting area 0. The values will be read columns under Set after writing those.
9	CH2 Set-> Input	Setting	Set values displayed in the columns under Set to appropriate columns under Input.
10	CH2 Write	Setting	Writes input values for CH2 to setting area 0. The values will be read columns under Set after writing those.

[Note]

Set 6 seconds or more for **Comm.Time-Out** in the PT when using those Smart Active Parts.

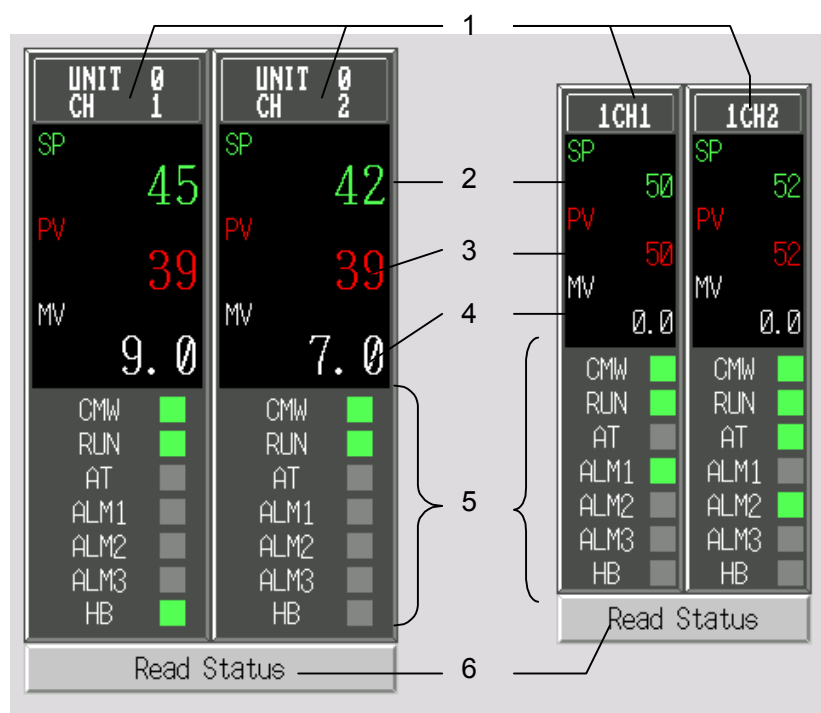
Select **Settings-Unit & Scale Setting** and set 0.1 for the scale at the unit No. 1000 when using those parts.

Temperature Controller (from Ver5 or earlier)

1.1.8 FrontPanel(L) Unit 0 / FrontPanel(S) Unit 0

Model	E5ZN-DRT	Location	SmartActiveParts_E\TemperatureController\E5ZN\Ver5toearlier\FrontPanel(L) FrontPanel(S)	Title	FrontPanel(L) Unit 0 / FrontPanel(S) Unit 0
Function	Displays status of the E5ZN temperature controller connected to the E5ZN-DRT. The status cannot be read when it is not connected to the E5ZN or a communication error had been occurred.				

[Image]



No.	Item	Setting/Display	Details
1	Unit No./CH type	Display	Displays unit No. and CH type which is being monitored.
2	SP	Display	Sets SP read from CH1/CH2 of the E5ZN temperature controller. The value will be updated when performing read status.
3	PV (Present Value)	Display	Sets the present value read from CH1/CH2 of the E5ZN temperature controller. The value will be updated when performing read status.
4	MV (Manipulated Variable)	Display	Sets manipulated variable read from CH1/CH2 of the E5ZN temperature controller. The value will be updated when performing read status.
5	Status	Display	Sets status read from CH1/CH2 in the E5ZN temperature controller. The value will be updated when performing read status.
6	Read Status	Setting	Read SP, present value, manual manipulated variable, and status from CH1/CH2 in the E5ZN temperature controller.

[Note]

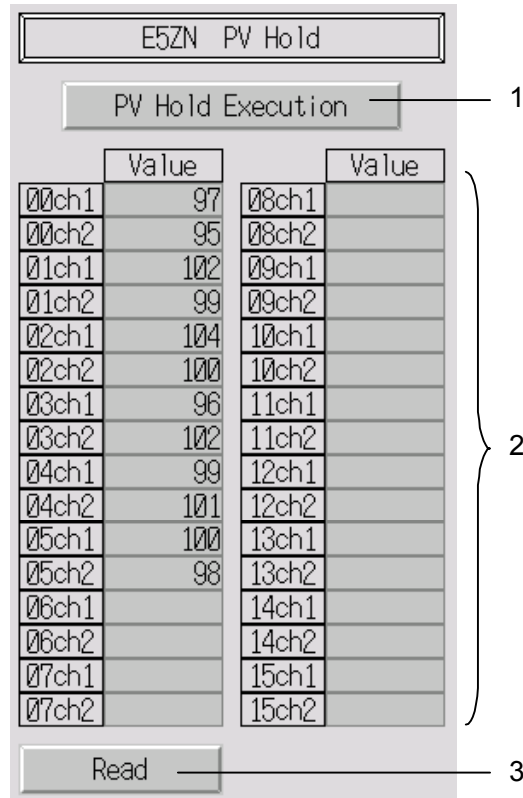
Set 6 seconds or more for **Comm.Time-Out** in the PT when using those Smart Active Parts.
Select **Settings-Unit & Scale Setting** and set 0.1 for the scale at the unit No. 1000 when using those parts.

Temperature Controller (from Ver5 or earlier)

1.1.9 PV Hold

Model	E5ZN-DRT	Location	SmartActiveParts_E\TemperatureController\E5ZN\Ver5toearlier\PVHold	Title	PV Hold
Function	Executes PV hold command, reads PV for each unit and displays them. This command cannot be executed for E5ZN temperature controller which is not connected or a communication error is occurred.				

[Image]



No.	Item	Setting/Display	Details
1	PV Hold Execution	Setting	Executes PV hold command for all E5ZN temperature controllers connected to the E5ZN-DRT.
2	PV Hold Value (Value)	Display	Displays PV hold value read from the E5ZN temperature controller.
3	Read	Setting	Reads PV hold value saved in an E5ZN temperature controller.

[Note]

Set 6 seconds or more for **Comm.Time-Out** in the PT when using those Smart Active Parts.

DRT2

1.1. DRT2

1.1.1 Unit Maintenance Information

Unit type	DRT2	Storage directory	SmartActiveParts_EIDR T2\Unit	Title	DRT2 Unit maintenance information
Function	Monitors DRT2 Smart Slave Unit maintenance information and makes parameter settings.				
Display and Operation Details					
<div><div><div><div><div>1</div><div>Unit Name</div><div></div></div><div>2</div><div>Comment</div><div></div></div><div>3</div><div>Last Maintenance Date</div><div><div></div><div>/</div><div></div><div>/</div><div></div></div></div><div><div><div>4</div><div>Unit Conduction Time</div><div><div>Monitor Value</div><div>Present Value</div></div><div><div>0.0</div><div>h</div><div>0.0</div><div>h</div></div></div><div><div>5</div><div>Network Power Voltage</div><div><div>0.0</div><div>V</div><div>0.0</div><div>V</div></div></div><div><div>Bottom</div><div>0.0</div><div>V</div></div><div><div>Peak</div><div>0.0</div><div>V</div></div></div><div><div><div>6</div><div>Unit Maintenance Flag</div><div>Network Power Voltage Drops</div></div><div><div>I/O Power Supply Error</div><div></div></div></div><div><div>Maintenance Counter Save</div><div>Read</div><div>Write</div></div><div><div>7</div><div>8</div><div>9</div></div></div>					
No.	Item	Setting/display	Description		
1	Unit Name	Display	Displays the model number of the Unit. The model number of the Expansion Unit is not displayed.		
2	Comment	Display	Displays the comment set for the Unit.		
3	Last Maintenance Date	Setting/display	Displays the last maintenance date of the Unit. The last maintenance date can be overwritten.		
4	Unit Conduction Time	Setting/display	Displays the conduction time set in the Unit along with the present value. The conduction time can be overwritten.		
5	Network Power Voltage	Setting/display	Displays the set value, present value, minimum value, and maximum value of power supply voltage for the network. The set value can be overwritten. If the present value exceeds the set threshold value, the displayed color of the present value will change. Unit conduction time (present value): Orange Network power supply voltage (present value): Red		
6	Error status	Display	The displayed color varies with the error status. Unit Maintenance Flag: Orange Network Power Voltage Drops: Red I/O Power Supply Error: Red		
7	Maintenance Counter Save	Setting	Saves the maintenance counter.		
8	Read	Setting	Reads items 1 to 6.		
9	Write	Setting	Writes items 3 to 5 and then reads items 1 to 6.		
Remarks					
* When the Smart Active Parts is reused, the unit number must be specified. If there is more than one slave unit in the DeviceNet, specify the slave unit numbers.					
* Use this display in system version 5.					

1.1.2 Unit Status Information

Unit type	DRT2	Storage directory	SmartActiveParts_E\DR T2\Unit		Title	DRT2 Unit status information			
Function	Monitors the Unit status of a DRT2 Smart Slave.								
Display and Operation Details									
<div><div><div>DRT2 Unit Status Information</div><div><div>1 → Unit Name</div><div></div></div><div><div>IN</div><div>OUT</div></div><div><div>2 {</div><div>Sensor Power-Short-circuit</div><div>External Load Short-circuit</div><div>Sensor Disconnected Detection</div><div>External Load Disconnection</div><div>Connected Compo. Maintenance</div><div>Connected Compo. Maintenance</div></div><div><div>3 {</div><div>IN</div><div>0-3</div><div>Apr. 7</div><div>Aug. 11</div><div>Dec. 15</div><div>16-19</div><div>20-23</div><div>24-27</div><div>28-31</div><div>OUT</div><div>0-3</div><div>Apr. 7</div><div>Aug. 11</div><div>Dec. 15</div><div>16-19</div><div>20-23</div><div>24-27</div><div>28-31</div></div><div><div>Read</div></div><div>↑ 4</div></div></div>									
No.	Item	Setting/display	Description						
1	Unit Name	Display	Displays the model number of the Unit. The model number of the Expansion Unit is not displayed.						
2	Status summary	Display	The corresponding item will change color if the Unit has an error. The status summary displayed varies with the Unit. If the Unit monitored has no status, the status summary will not be displayed. IN Sensor Power-Short-circuit: Red IN Sensor Disconnected Detection: Red IN Connected Compo. Maintenance: Orange OUT External Load Short-circuit: Red OUT External Load Disconnection: Red OUT Connected Compo. Maintenance: Orange						
3	Bit summary	Display	Displays the errors four bits at a time. The corresponding item will change in color if the Unit has an error. The status summary displayed varies with the Unit. If the Unit monitored does not support the status bits, the status summary will not be displayed. IN Sensor Power-Short-circuit: Red IN Sensor Disconnected Detection: Red IN Connected Compo. Maintenance: Orange OUT External Load Short-circuit: Red OUT External Load Disconnection: Red OUT Connected Compo. Maintenance: Orange Errors other than Connected Compo. Maintenance error will be displayed in red when they occur.						
4	Read	Setting	Reads items 1 to 3. When reading the items starts, a progress dialog will be displayed, which will automatically close when the items are read.						
Remarks									
* When using this Smart Active Parts, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Basic Operation for \$SB. Smart Active Parts cannot be used on the popup screen.									
* Do not use the above display for the start screen.									
* When the Smart Active Parts is reused, the unit number must be specified. If there is more than one slave unit in the DeviceNet, specify the slave unit number.									

1.1.3 Input Information Monitor

Unit type	DRT2	Storage directory	SmartActiveParts_EIDR T2\IN	Title	DRT2 input information monitor																																			
Function	Displays and sets 4 bits of input information.																																							
Display and Operation Details																																								
<div><div><div>DRT2 IN Information Monitor</div><div><div>1</div><div>Unit Name</div><div></div><div>Read</div><div>Write</div></div><table><thead><tr><th>Bit</th><th>I/O Comments</th><th>Set Value</th><th>P. V.</th><th>Unit</th><th>S</th><th>Dis</th></tr></thead><tbody><tr><td>0</td><td></td><td>0</td><td>0</td><td></td><td></td><td></td></tr><tr><td>1</td><td></td><td>0</td><td>0</td><td></td><td></td><td></td></tr><tr><td>2</td><td></td><td>0</td><td>0</td><td></td><td></td><td></td></tr><tr><td>3</td><td></td><td>0</td><td>0</td><td></td><td></td><td></td></tr></tbody></table><div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div><div>9</div><div>10</div></div></div></div>						Bit	I/O Comments	Set Value	P. V.	Unit	S	Dis	0		0	0				1		0	0				2		0	0				3		0	0			
Bit	I/O Comments	Set Value	P. V.	Unit	S	Dis																																		
0		0	0																																					
1		0	0																																					
2		0	0																																					
3		0	0																																					
No.	Item	Setting/display	Description																																					
1	Unit Name	Display	Displays the model number of the Unit. The model number of the Expansion Unit is not displayed.																																					
2	Bit	Display	Displays the bits along with the ON/OFF status of the bits. A bit that is ON will be displayed in yellow.																																					
3	I/O Comments	Display	Displays the I/O comments set for the bits.																																					
4	Set Value	Setting/display	Displays maintenance monitor set values. The values can be overwritten.																																					
5	P.V.	Setting/display	Displays the present maintenance values of the maintenance counter. The values can be overwritten. If the present value exceeds the set threshold value, the displayed color of the present value will change to orange.																																					
6	Unit	Display	Displays the maintenance unit (in seconds/times) set for each bit.																																					
7	S	Display	Displays the status of sensor power short-circuiting. The indicator display varies with the Unit. If the Unit does not support sensor power short-circuit detection, the indicator will not turn ON. The indicator will change to red if a short-circuit has been detected.																																					
8	Dis	Display	The indicator displays the status of sensor disconnection. The indicator display varies with the Unit. If the Unit does not support sensor disconnection detection, the indicator will not turn ON. The indicator will flash in red if the sensor is not connected.																																					
9	Read	Setting	Reads items 1 to 8. When reading the items starts, a progress dialog will be displayed, which will automatically close when the items are read.																																					
10	Write	Setting	Writes items 4 to 5 and then reads items 1 to 8.																																					
Remarks																																								
* When using this Smart Active Parts, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Date and Time for \$SW .																																								
* Monitors are available for bits 0 to 3, 4 to 7, 8 to 11, 12 to 15, 16 to 19, 20 to 23, 24 to 27, or 28 to 31. Select the Smart Active Parts appropriate for the conditions (e.g., environment resistance, inputs, and outputs) of the Unit connected.																																								

1.1.4 Output Information Monitor

Unit type	DRT2	Storage directory	SmartActiveParts_EIDR T2\OUT	Title	DRT2 output information monitor				
Function	Displays and sets 4 bits of output information.								
Display and Operation Details									
<div><div><div>1</div><div>Unit Name</div><div></div><div>Read</div><div>Write</div></div><div><div>Bit</div><div>I/O Comments</div><div>Set Value</div><div>P. V.</div><div>Unit</div><div>S</div><div>Dis</div></div><div><div>0</div><div></div><div>0</div><div>0</div><div></div><div></div><div></div></div><div><div>1</div><div></div><div>0</div><div>0</div><div></div><div></div><div></div></div><div><div>2</div><div></div><div>0</div><div>0</div><div></div><div></div><div></div></div><div><div>3</div><div></div><div>0</div><div>0</div><div></div><div></div><div></div></div><div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div></div><div><div>9</div><div>10</div></div></div>									
No.	Item	Setting/ display	Description						
1	Unit Name	Display	Displays the model number of the Unit. The model number of the Expansion Unit is not displayed.						
2	Bit	Display	Displays the bits along with the ON/OFF status of the bits. A bit that is ON will be displayed in yellow.						
3	I/O Comments	Display	Displays the I/O comments set for the bits.						
4	Set Value	Setting/ display	Displays maintenance monitor set values. The values can be overwritten.						
5	P.V.	Setting/ display	Displays the present maintenance values of the maintenance counter. The values can be overwritten. If the present value exceeds the set threshold value, the displayed color of the present value will change to orange.						
6	Unit	Display	Displays the maintenance units (seconds/times) set for each bit.						
7	S	Display	Displays the status of sensor power short-circuiting. The indicator display varies with the Unit. If the Unit does not support sensor power short-circuit detection, the indicator will not turn ON. The indicator will change to red if a short-circuit has been detected.						
8	Dis	Display	The indicator displays the status of sensor disconnection. The indicator display varies with the Unit. If the Unit does not support sensor disconnection detection, the indicator will not turn ON. The indicator will flash in red if the sensor is not connected.						
9	Read	Setting	Reads items 1 to 8. When reading the items starts, a progress dialog will be displayed, which will automatically close when the items are read.						
10	Write	Setting	Writes items 4 to 5 and then reads items 1 to 8.						
Remarks									
* When using this Smart Active Parts, be sure to select Setting - System Setting in the menu bar, press the System Memory List on the Initial Tab Page, and select Date and Time for \$SW .									
* Monitors are available for bits 0 to 3, 4 to 7, 8 to 11, 12 to 15, 16 to 19, 20 to 23, 24 to 27, or 28 to 31. Select the Smart Active Parts appropriate for the conditions (e.g., environment resistance, inputs, and outputs) of the Unit connected.									

1.1.5 Monitor Time Information

Unit type	DRT2	Storage directory	SmartActiveParts_E\DR T2\MONITOR	Title	DRT2 monitor time information																									
Function	Displays and sets 4 bits of ON timing information for output to input.																													
Display and Operation Details																														
<div><div><div>DRT2 Monitor Information</div><div>1 → Unit Name <input type="text"/> <input type="button" value="Read"/> <input type="button" value="Write"/></div><table><thead><tr><th>Bit</th><th>I/O Comments</th><th>Set Value</th><th>P. V.</th><th>Unit</th></tr></thead><tbody><tr><td>0</td><td></td><td>0</td><td>0</td><td>ms</td></tr><tr><td>1</td><td></td><td>0</td><td>0</td><td>ms</td></tr><tr><td>2</td><td></td><td>0</td><td>0</td><td>ms</td></tr><tr><td>3</td><td></td><td>0</td><td>0</td><td>ms</td></tr></tbody></table><div>2 ↑ 3 ↑ 4 ↑ 5 ↑ 6 ↑</div><div>7 ↓ 8 ↓</div></div></div>						Bit	I/O Comments	Set Value	P. V.	Unit	0		0	0	ms	1		0	0	ms	2		0	0	ms	3		0	0	ms
Bit	I/O Comments	Set Value	P. V.	Unit																										
0		0	0	ms																										
1		0	0	ms																										
2		0	0	ms																										
3		0	0	ms																										
No.	Item	Setting/ display	Description																											
1	Unit Name	Display	Displays the model number of the Unit. The model number of the Expansion Unit is not displayed.																											
2	Bit	Display	Displays the bits.																											
3	I/O Comments	Display	Displays the I/O comments set for the bits.																											
4	Set Value	Setting/ display	Displays set values. The values can be overwritten.																											
5	P.V.	Setting/ display	Displays the present values. The values can be overwritten. If the present value exceeds the set threshold value, the displayed color of the present value will change to orange.																											
6	Unit	Display	Displays the units.																											
7	Read	Setting	Reads items 1 and 3 to 5. When reading the items starts, a progress dialog will be displayed, which will automatically close when the items are read.																											
8	Write	Setting	Writes item 4 and then reads items 1 and 3 to 5.																											
Remarks																														
* Monitors are available for bits 0 to 3 or 4 to 7. Select the Smart Active Parts appropriate for the conditions (e.g., environment resistance, inputs, and outputs) of the Unit connected.																														

1.1.6 Smart Slave

Model	DRT2	Location	SmartActiveParts_E\DRT2\Ver5toEarlier\DRT2_V1_1	Title	Unit Status Monitor
Function	Makes settings for unit status monitor and parameters.				

[Image]

DRT2-ID16 Unit Status Monitor

1 Unit Name: DRT2-ID16 2 Last Maintenance Date: 0 / 0 / 0

3 Network Power Voltage(V): Present V. 23.9, Peak 24.1, Bottom 23.9, Monitor Val. 21.0 4 Unit Conduction Time(Hour): Present Value 26843575.2, Monitor Value 30000000.0

5 Unit Status

Basic I/O Unit Power Voltage: Sensor Disconnected Detection

Expansion I/O Unit Power Voltage: Sensor Power Short-circuit

Network Power Vol. Monitor Error: Operation Time Monitor Error

Unit Maintenance: Connected Component Maintenance

6 I/O Status (00 to 15): 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15

7 Read Status 8 Write 9 Reset

DRT2

No.	Item	Setting/Display	Details
1	Unit Name	S / D	Displays unit name set in the unit. The unit name can be changed.
2	Last Maintenance Date	Display	Displays the date which maintenance was last performed to be written to the Unit. The date cannot be changed.
3	Network Power Voltage	S / D	Displays present value (Present V.), peak, bottom, monitor value (Monitor Val.) for the Network Power Voltage. The monitor value can be set.
4	Unit Conduction Time	S / D	Displays present value and monitor value for the Unit Conduction Time. Monitor value can be set.
5	Unit Status	S / D	Displays unit status. For details, refer to the Manual of each unit.
6	I/O Status (00 to 15)	Display	Disconnection detected, short-circuit, operation time monitor error, and connected component maintenance under unit status flag are touch switches. When they are pressed, start reading each I/O status and display. (Applicable items vary from units.) The red arrow indicates the contents of I/O status which is being displayed.
7	Read Status	Setting	Reads unit status from 1 to 5 above mentioned at once when it is pressed.
8	Write	Setting	Writes unit name, network power voltage, and monitor value for the unit conduction time.
9	Reset	Setting	Resets peak and bottom for network power voltage and present value for unit conduction time.

[Note]

Select **Settings-Unit & Scale** Setting and set 0.1 for the scale at the unit No. 1000 when using those parts.
The contents of unit status flag differ from units. For details, refer to DRT2 series manuals.

Model	DRT2	Location	SmartActiveParts_E\DRT2\Ver5toEarlier\DRT2_V1_1	Title	I/O Status Monitor																																													
Function	Displays and makes settings for I/O status by 4 bits.																																																	
[Image]																																																		
<div><div>DRT2-ID08C I/O Status Monitor</div><table><tr><th>Bit</th><th>I/O Comments</th><th>Mode</th><th>Set Val.</th><th>Present Val</th><th>S</th><th>D</th><th>De</th><th></th></tr><tr><td>4</td><td>I/O_1</td><td>F</td><td>56</td><td>56</td><td></td><td></td><td>ON</td><td>R — 9</td></tr><tr><td>5</td><td></td><td>F</td><td>52</td><td>268435752</td><td></td><td></td><td>ON</td><td>Rs — 10</td></tr><tr><td>6</td><td></td><td>T</td><td>4465</td><td>12</td><td></td><td></td><td>OFF</td><td>W — 11</td></tr><tr><td>7</td><td></td><td>F</td><td>7789</td><td>268435752</td><td></td><td></td><td>ON</td><td></td></tr></table><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div></div></div>						Bit	I/O Comments	Mode	Set Val.	Present Val	S	D	De		4	I/O_1	F	56	56			ON	R — 9	5		F	52	268435752			ON	Rs — 10	6		T	4465	12			OFF	W — 11	7		F	7789	268435752			ON	
Bit	I/O Comments	Mode	Set Val.	Present Val	S	D	De																																											
4	I/O_1	F	56	56			ON	R — 9																																										
5		F	52	268435752			ON	Rs — 10																																										
6		T	4465	12			OFF	W — 11																																										
7		F	7789	268435752			ON																																											
No.	Item	Setting/Display	Details																																															
1	Bit	Display	Displays an appropriate bit and ON/OFF status with lamp.																																															
2	I/O comments	S / D	Displays I/O comments set for bits. This can be changed.																																															
3	Mode	S / D	Displays maintenance mode either Time (T) or Frequency (F).																																															
4	Set value (Set V.)	S / D	Displays the monitor value for maintenance. The value can be changed.																																															
5	Present Value (Present Val)	S / D	Displays the present value in the maintenance counter. The value can be changed.																																															
6	Short-circuit (S)	Display	Displays short-circuit detection flag for environment-resistive units. When using IN unit, it detects sensor power sort-circuit. When using OUT unit, it detects external load short-circuit.																																															
7	Disconnected (D)	Display	Displays the detected sensor disconnected flag for IN unit.																																															
8	Disconnection Detected (D.D.)	Display	Displays whether the sensor disconnected detection flag for IN unit has been set or not. This setting can be changed																																															
9	Read	Setting	Reads an appropriate 4-bit data at once.																																															
10	Reset	Setting	Resets present value in the maintenance counter.																																															
11	Write	Setting	Writes information, such as I/O comments, maintenance mode, set value/present value in the maintenance counter, for an appropriate 4-bit data at once.																																															
[Note]																																																		
Please use an appropriate Smart Active Parts in accordance with units to be connected (environment-resistive unit, IN unit, and OUT unit etc...).																																																		
This is not supported for an expansion unit.																																																		

1.2. Analog

1.2.1 Analog Unit Maintenance Details

Unit Type

DRT2-AD04

Storage directory

SmartActiveParts_E\DRT2\Analog (AD) \AnalogInputUnit

Title

DRT2 Analog Input Unit: Maintenance details

Function

Sets the monitor and the parameter for the Unit maintenance of Analog input unit (DRT2).

Display and Operation Details

No.	Item	Setting/display	Description
1	Style	Display	Displays the unit style.
2	Details	Display	Displays the details set on the unit.
3	Last maintenance day	Setting/display	Displays the last maintenance day recorded on the unit. It can be overwritten.
4	Unit energizing time	Setting/display	Displays the set value and the present value of the unit energizing time. The set value can be overwritten.
5	Network power supply voltage	Setting/display	Displays the set value, present value, minimum value, and maximum value of the network power supply voltage. The set value can be overwritten. When the value exceeds the set threshold, the present value will be displayed in one of the following colors. Unit energizing time (present value): orange Network power supply voltage (present value): red
6	Error	Display	The display color changes when an error occurs. Unit error: red
7	Read	Setting	Reads the item 1 to 6.
8	Write	Setting	After writing the item 3 to 5, reads the item 1 to 6.

Remarks

* When the Smart Active Part is reused, the unit number must be specified. If there is more than one slave unit in the DeviceNet, specify the slave unit numbers.

* Use this display in system version 5 or later.

1.2.2 Analog Input Unit: Maintenance Details for each Input CH

Unit Type	DRT2-AD04	Storage directory	SmartActiveParts_E\DRT2\Analog (AD) \AnalogInputUnit	Title	DRT2 Analog Input Unit: Maintenance details for each input CH
Function	Sets the monitor and the parameter of the maintenance for each input CH of analog input unit (DRT2).				
Display and Operation Details					
<div><div><div>DRT2 Analog. Inp. Unit mainte. Details</div><div><div>1 → Unit Name</div><div>2 → CH Number</div><div>3 → I/O Comment</div><div>4 → Last Maintenance Date</div><div><div>5 → Integral counter</div><div>7 → Rate</div><div>8 {<div>Integral over</div><div>Integral Underflow</div></div></div><div>6 → Reset</div><div><div>9 Read</div><div>10 Write</div></div></div><div><div>1</div><div>1</div><div></div><div>2004 / 3 / 3</div><div><div>Monitor Value</div><div>12.3</div><div>Present Value</div><div>12.9</div></div><div>1</div><div><div>Integral over</div><div>Integral overflow</div><div>Integral Underflow</div><div>Disconnected</div></div><div><div>Read</div><div>Write</div></div></div></div></div>					
No.	Item	Setting/ display	Description		
1	Style	Display	Displays the unit style.		
2	CH No.	Setting	Sets the input CH number.		
3	Details	Display	Displays the details set on the CH number.		
4	Last maintenance day	Setting/ display	Displays the last maintenance day of the connected devices. The date can be overwritten.		
5	Integral counter	Setting/ display	Displays the set value and the present value of the integral counter. The set value can be overwritten. When the value exceeds the set threshold, the present value will be displayed in orange.		
6	Reset	Setting	Resets the present value of the integral counter.		
7	Rate	Display	Displays the rate.		
8	Error	Display	The displayed color varies with the error status.. Integral value over: orange Integral value overflow: orange Integral value underflow: orange Disconnected: red		
9	Write	Setting	Reads the item 1 to 8.		
10	Read	Setting	After writing the item 4 to 5, reads the item 1 to 8.		
Remarks					
* When the Smart Active Part is reused, the unit number must be specified. If there is more than one slave unit in the DeviceNet, specify the slave unit numbers.					
* Use this display in system version 5 or later.					

1.2.3 Analog Output Unit Maintenance Details

Unit Type	DRT2-DA02	Storage directory	SmartActiveParts_E\DRT2\Analog (AD) \AnalogInputUnit	Title	DRT2 Analog Output Unit: Maintenance Details
Function	Sets the monitor and the parameter of the unit maintenance for the analog output unit (DRT2).				
Display and Operation Details					
<div><div><div>1 → Unit Name</div><div>2 → Comment</div><div>3 → Last Maintenance Date 2004 / 4 / 4</div><div>4 → Unit Conduction Time 123456.7 h</div><div>5 { Network Power Voltage 24.3 V</div><div>Bottom 0.0 V</div><div>Peak 0.0 V</div><div>6 → Unit error</div><div>Read Write</div><div>7 8</div></div><div>DRT2 Analog Output Unit Maintenance Information</div></div>					
No.	Item	Setting/display	Description		
1	Style	Display	Displays the unit style.		
2	Details	Display	Displays the details set on the unit.		
3	Last maintenance day	Setting/display	Displays the last maintenance day recorded on the unit. The date can be overwritten.		
4	Unit power supply voltage	Setting/display	Displays the set value and the present value of the unit energizing time. The set value can be overwritten.		
5	Network power supply	Setting/display	Displays the set value, present value, minimum value, and maximum value for the network power supply voltage. The set value can be overwritten. When the value exceeds the set threshold, the displayed color for the present value will change to one of the following colors. Unit energizing time (present value): orange Network power supply voltage (present value): red		
6	Error	Display	The display color changes when an error occurs. Unit error: red		
7	Read	Setting	Reads the item 1 to 6.		
8	Write	Setting	After writing the item 3 to 5, reads the item 1 to 6.		
Remarks					
* When the Smart Active Part is reused, the unit number must be specified. If there is more than one slave unit in the DeviceNet, specify the slave unit numbers.					
* Use this display in system version 5 or later.					

1.2.4 Analog Output Unit: Maintenance Details for each Output

Unit Type	DRT2-DA02	Storage directory	SmartActiveParts_EVDRT2\Analog (AD) \AnalogInoutUnit	Title	DRT2 Analog Output Unit: Maintenance Details for each output
Function	Sets the monitor and the parameter of the maintenance for each output CH of analog output unit (DRT2).				
Display and Operation Details					
<div><div>DRT2 Analog. Out. Unit mainte. Details</div><div><div>1 → Unit Name</div><div>2 → CH Number</div><div>3 → I/O Comment</div><div>4 → Last Maintenance Date</div><div>5 → Integral counter</div><div>6 → Reset</div><div>7 { Integral over</div><div>Integral Underflow</div><div>8 Read</div><div>9 Write</div></div></div>					
No.	Item	Setting/display	Description		
1	Style	Display	Displays the unit style. Extension unit style will not be shown.		
2	CH No.	Setting	Sets the output CH number.		
3	Details	Display	Displays the details set on the unit.		
4	Last Maintenance day	Setting/display	Displays the last maintenance day for the connected devices. The date can be overwritten.		
5	Integral counter	Setting/display	Displays the set value and the present value for the integral counter. The set value can be overwritten. When the value exceeds the set threshold, the present value will be displayed in orange.		
6	Reset	Setting	Resets the present value for the integral counter.		
7	Error	Display	The displayed color varies with the error status. Integral value over: orange Integral value overflow: orange Integral value underflow: orange		
8	Read	Setting	Reads the item 1 to 8.		
9	Write	Setting	After writing the item 4 and 5, reads the item 1 to 8.		
Remarks					
* When the Smart Active Part is reused, the unit number must be specified. If there is more than one slave unit in the DeviceNet, specify the slave unit numbers.					
* Use this display in system version 5 or later.					

1.2.5 Temperature Input Unit: Maintenance Details

Unit Type	DRT2-TS04T DRT2-TS04P	Storage directory	SmartActiveParts_E\DRT2\Analog (AD) \TempInputUnit	Title	DRT2 Temperature Input Unit: Maintenance Details
Function	Sets the monitor and the parameter for the unit maintenance of the temperature input unit (DRT2).				
Display and Operation Details					
<div><div>DRT2 Tepm. Inp. Unit mainte. Details</div><div><div>1 → Unit Name</div><div>2 → Comment</div><div>3 → Last Maintenance Date 2000 / 12 / 31</div><div><div>4 → Unit Conduction Time 2345678.0 h</div><div>5 { Network Power Voltage 22.2 V</div><div>Bottom 0.0 V</div><div>Peak 0.0 V</div></div><div>6 → Unit error Tepm. Censor resistance error</div><div><div>7 ↑ Read</div><div>8 ↑ Write</div></div></div></div>					
No.	Item	Setting/ display	Description		
1	Style	Display	Displays the unit style.		
2	Details	Display	Displays the details set on the unit.		
3	Last maintenance day	Setting/ display	Displays the last maintenance day recorded on the unit. The date can be overwritten.		
4	Unit power distribution time	Setting/ display	Displays the set value and the present value of the unit energizing time. The set value can be overwritten.		
5	Network power supply voltage	Setting/ display	Displays the set value, the present value, the minimum value, and the maximum value for the network power supply voltage. The set value can be overwritten. When the value exceeds the set threshold, the displayed color for the present value will change to one of the following colors. Unit energizing time (present value): orange Network power supply voltage (present value): red		
6	Error	Display	A display color changes depending on the error that has occurred. Unit error: red Temperature censor resistance error: red		
7	Read	Setting	Reads the item 1 to 6.		
8	Write	Setting	After writing the item 3 to 5, reads the item 1 to 6.		
Remarks					
* When the Smart Active Part is reused, the unit number must be specified. If there is more than one slave unit in the DeviceNet, specify the slave unit numbers.					
* Use this display in system version 5 or later.					

1.2.6 Temperature Input Unit: Maintenance Details for each Input

Unit Type	DRT2-TS04T DRT2-TS04P	Storage directory	SmartActiveParts_E\DRT2\Analog(AD)\TempInputUnit	Title	DRT2 Temperature Input Unit: Maintenance details on each input
Function	Sets the monitor and the parameter of the maintenance for each CH in the temperature input unit (DRT2).				
Display and Operation Details					
<div><div><div>DRT2 Temp. Inp. Unit mainte. Details</div><div><div>1 → Unit Name</div><div>2 → CH Number</div><div>3 → I/O Comment</div><div>4 → Last Maintenance Date</div><div><div>5 → Integral counter</div><div>7 → Rate</div><div>8 → Set temp. range time</div><div>10 → Top valley count time</div></div><div><div>6 → Reset</div><div>9 → Reset</div><div>11 → Reset</div></div><div><div>12 {<div>Integral over</div><div>Integral Underflow</div><div>Set temp. range total time over</div></div><div><div>Integral overflow</div><div>Disconnected</div><div>Top valley set n. over</div></div></div><div><div>13 → Read</div><div>14 → Write</div></div></div></div></div>					
No.	Item	Setting/ display	Description		
1	Style	Display	Displays the unit style.		
2	CH No.	Setting	Sets the input CH number.		
3	Details	Display	Displays the details set on the CH number.		
4	Last maintenance day	Setting/ display	Displays the last maintenance day for the connected devices. The date can be overwritten.		
5	Integral counter	Setting/ display	Displays the set value and the present value for the integral counter. The set value can be overwritten. When the value exceeds the set threshold, the present value will be displayed in orange.		
6	Reset	Setting	Resets the present value for the integral counter.		
7	Rate	Display	Displays the rate.		
8	Set temperature range Total time	Setting/ display	Displays the set value and the present values for the temperature range total time. The set value can be overwritten. When the value beyond the set threshold, the present value will be displayed in red.		
9	Reset	Setting	Resets the preset value for the set temperature range total time.		
10	Top valley count time	Setting/ display	Displays the set value and the present value for the top valley count time. The set value can be overwritten. When the value exceeds the set threshold, the displayed color of the present value will change to red.		
11	Reset	Setting	Resets the present value for the top valley count time.		
12	Error	Display	The displayed color varies with the error. Integral value over: orange Integral value overflow: orange Set temperature range total time over: orange Integral value underflow: orange Disconnected: red Set number for top valley over: red		
13	Read	Setting	Reads the item 1 to 12.		
14	Write	Setting	After writing the item 4 to 10, reads the item 1 to 8.		
Remarks					
* When the Smart Active Part is reused, the unit number must be specified. If there is more than one slave unit in the DeviceNet, specify the slave unit numbers.					
* Use this display in system version 5 or later. B					

Process Controller

Process Controller

1.1 Loop Controller Unit

1.1.1 Segment Program 2 Time Width/Output Value

Unit type	LC001/LCB01 LCB05/LCB05D	Storage directory	SmartActiveParts_E\ProcessController\LCB \Time_Function_Program			Title	Segment Program 2: Time width/output value setting																																																																																																																																													
Function	Sets the time width and the output value of each step for the loop controller segment program 2 block.																																																																																																																																																			
Display and Operation Details																																																																																																																																																				
<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div></div><div><table><tr><th>Default</th><th>0.00</th><th>Read</th><th>Write</th><th>Backup</th><th>Scale 1</th><th>Scale 2</th></tr><tr><th>s</th><th>Output value</th><th>Time width</th><th>Unit</th><th>s</th><th>Output value</th><th>Time width</th><th>Unit</th><th>s</th><th>Output value</th><th>Time width</th><th>Unit</th></tr><tr><td>1</td><td>10.00</td><td>200.0</td><td>s</td><td>11</td><td>90.00</td><td>200.0</td><td>s</td><td>21</td><td>10.00</td><td>200.0</td><td>s</td></tr><tr><td>2</td><td>20.00</td><td>200.0</td><td>s</td><td>12</td><td>80.00</td><td>200.0</td><td>s</td><td>22</td><td>20.00</td><td>200.0</td><td>s</td></tr><tr><td>3</td><td>30.00</td><td>200.0</td><td>s</td><td>13</td><td>70.00</td><td>200.0</td><td>s</td><td>23</td><td>30.00</td><td>200.0</td><td>s</td></tr><tr><td>4</td><td>40.00</td><td>200.0</td><td>s</td><td>14</td><td>60.00</td><td>200.0</td><td>s</td><td>24</td><td>40.00</td><td>200.0</td><td>s</td></tr><tr><td>5</td><td>50.00</td><td>200.0</td><td>s</td><td>15</td><td>50.00</td><td>200.0</td><td>s</td><td>25</td><td>50.00</td><td>200.0</td><td>s</td></tr><tr><td>6</td><td>60.00</td><td>200.0</td><td>s</td><td>16</td><td>40.00</td><td>200.0</td><td>s</td><td>26</td><td>60.00</td><td>200.0</td><td>s</td></tr><tr><td>7</td><td>70.00</td><td>200.0</td><td>s</td><td>17</td><td>30.00</td><td>200.0</td><td>s</td><td>27</td><td>70.00</td><td>200.0</td><td>s</td></tr><tr><td>8</td><td>80.00</td><td>200.0</td><td>s</td><td>18</td><td>20.00</td><td>200.0</td><td>s</td><td>28</td><td>80.00</td><td>200.0</td><td>s</td></tr><tr><td>9</td><td>90.00</td><td>200.0</td><td>s</td><td>19</td><td>10.00</td><td>200.0</td><td>s</td><td>29</td><td>90.00</td><td>200.0</td><td>s</td></tr><tr><td>10</td><td>100.00</td><td>200.0</td><td>s</td><td>20</td><td>0.00</td><td>200.0</td><td>s</td><td>30</td><td>100.00</td><td>200.0</td><td>s</td></tr></table><div></div></div><div><div>7</div><div>8</div><div>9</div><div>10</div></div></div>										Default	0.00	Read	Write	Backup	Scale 1	Scale 2	s	Output value	Time width	Unit	s	Output value	Time width	Unit	s	Output value	Time width	Unit	1	10.00	200.0	s	11	90.00	200.0	s	21	10.00	200.0	s	2	20.00	200.0	s	12	80.00	200.0	s	22	20.00	200.0	s	3	30.00	200.0	s	13	70.00	200.0	s	23	30.00	200.0	s	4	40.00	200.0	s	14	60.00	200.0	s	24	40.00	200.0	s	5	50.00	200.0	s	15	50.00	200.0	s	25	50.00	200.0	s	6	60.00	200.0	s	16	40.00	200.0	s	26	60.00	200.0	s	7	70.00	200.0	s	17	30.00	200.0	s	27	70.00	200.0	s	8	80.00	200.0	s	18	20.00	200.0	s	28	80.00	200.0	s	9	90.00	200.0	s	19	10.00	200.0	s	29	90.00	200.0	s	10	100.00	200.0	s	20	0.00	200.0	s	30	100.00	200.0	s
Default	0.00	Read	Write	Backup	Scale 1	Scale 2																																																																																																																																														
s	Output value	Time width	Unit	s	Output value	Time width	Unit	s	Output value	Time width	Unit																																																																																																																																									
1	10.00	200.0	s	11	90.00	200.0	s	21	10.00	200.0	s																																																																																																																																									
2	20.00	200.0	s	12	80.00	200.0	s	22	20.00	200.0	s																																																																																																																																									
3	30.00	200.0	s	13	70.00	200.0	s	23	30.00	200.0	s																																																																																																																																									
4	40.00	200.0	s	14	60.00	200.0	s	24	40.00	200.0	s																																																																																																																																									
5	50.00	200.0	s	15	50.00	200.0	s	25	50.00	200.0	s																																																																																																																																									
6	60.00	200.0	s	16	40.00	200.0	s	26	60.00	200.0	s																																																																																																																																									
7	70.00	200.0	s	17	30.00	200.0	s	27	70.00	200.0	s																																																																																																																																									
8	80.00	200.0	s	18	20.00	200.0	s	28	80.00	200.0	s																																																																																																																																									
9	90.00	200.0	s	19	10.00	200.0	s	29	90.00	200.0	s																																																																																																																																									
10	100.00	200.0	s	20	0.00	200.0	s	30	100.00	200.0	s																																																																																																																																									
No.	Item	Setting/ display	Description																																																																																																																																																	
1	Default	Setting/ display	Sets and displays the default (step 0).																																																																																																																																																	
2	Read	Setting	Reads all the target data (output value, time width and time unit) from the target block.																																																																																																																																																	
3	Write	Setting	Writes all the target data (output value, time width and time unit) to the target block.																																																																																																																																																	
4	Backup	Setting	Backups the written data to FROM in the loop controller. This function is only available for LCB01/05 of the system version 1.5 or later, and LCB05D.																																																																																																																																																	
5	Scale 1	Setting	Sets the vertical axis for the output value to be displayed in the graph in the range of -15% and 115%.																																																																																																																																																	
6	Scale 2	Setting	Sets the vertical axis for the output value to be displayed in the graph in the range of ± 320%.																																																																																																																																																	
7	Output Value (1 to 30 step)	Setting/ display	Sets the output value for each step in the range of ± 320.00%.																																																																																																																																																	
8	Time Width (1 to 30 step)	Setting/ display	Sets the output time width for each step in the range of 0 to 3200.0. The unit will be set in the item 9.																																																																																																																																																	
9	Time Unit (1to 30 step)	Setting/ display	Sets the output time unit for each step to hour, minute or second.																																																																																																																																																	
10	Graph area	Display	Displays the output values for the target segment program 2 as a continuous graph for each step. Please be advised that the time width will not be applied to the horizontal axis. The step will be displayed in red when the scale 1 is set and the output value is out of the range between -15% and 115%.																																																																																																																																																	

Remarks

- * When using the Smart Active Parts, please follow the settings below.
1. Setting the unit number: double click the Smart Active Parts pasted on the project to display the following screen. (This screen shows when deselecting the *Edit SAP Library* in the option.)

Smart Active Parts Communication Setting

Destination Address

Input the Destination Address.

Destination port name of commands(H)

Destination Network Address(N)

Destination Node Address(O)

Destination Unit No.(U)

(Input the following value depending on the unit you want to use.)

CPU Unit :0 (Fixed)

CPU BUS Unit :Unit No. +16

Special I/O Unit :Machine No. +32

☐ Device Net Slave Node Address(D)

OK Cancel

Set the intelligent CPU unit number +16 in the transfer direction number of the LC001 and 225 for LCB01/05/05D.

2. Setting the target Function block address: double click the *Read* button of the Smart Active Parts pasted on the project to display the following screen. (This screen shows when deselecting the *Edit SAP Library* in the option.)

Word Button - PSW0136

General Color/Shape Label Frame Max/Min

Comment(C)

Numeral Type

Button Shape ☒ Rectangle ☐ Select Shape

Action Type

☒ Set Value(V)

☒ Value(Q)

☐ Indirect(H)

☐ Increment/Decrement(I)

☒ Value(P)

☐ Indirect(Q)

☐ Display Pop-up Menu(M)

Set(1)... Set(2)...

Address

Write Address(W)

Set(4)...

☐ Use As Default(D)

☐ Display Expansion Tabs(T)

Apply(A) OK Cancel Help

Specify the block address in the setting value for the loop controller of the Function block. Please check the address for the Function block on the CX-Process Tool.

- * When using this Smart Active Parts, be sure to select **Setting – Unit/Scale Setting** in the menu bar and set the scale for number 1000 to 0.1 and for number 999 to 0.01
- * The above item 1, 7, 8, and 9 set on the NS will be applied to the loop controller only after writing these settings to the loop controller. After editing the item, write it to the loop controller with the Write button. Please be advised that the edited item will be lost if you go to another screen without writing it with the Write button.

1.1.2 Segment Program 2 Wait Setting

Unit type	LC001/LCB01 LCB05/LCB05D	Storage directory	SmartActiveParts_E\ ProcessController\LCB \Time_Function_Program			Title	Segment program 2: Wait setting																																																																																																					
Function	Sets the wait width and the wait time of each step for the segment program 2 block in the Loop Controller.																																																																																																											
Display and Operation Details																																																																																																												
<div><div><div>1</div><div>Read</div></div><div><div>2</div><div>Write</div></div><div><div>3</div><div>Backup</div></div></div> <div><div><div>4</div><div>5</div></div><table><thead><tr><th>S</th><th>Wait width</th><th>Wait time</th><th>S</th><th>Wait width</th><th>Wait time</th><th>S</th><th>Wait width</th><th>Wait time</th></tr></thead><tbody><tr><td>1</td><td>0.00</td><td>0.0</td><td>11</td><td>0.00</td><td>0.0</td><td>21</td><td>0.00</td><td>0.0</td></tr><tr><td>2</td><td>0.00</td><td>0.0</td><td>12</td><td>0.00</td><td>0.0</td><td>22</td><td>0.00</td><td>0.0</td></tr><tr><td>3</td><td>0.00</td><td>0.0</td><td>13</td><td>0.00</td><td>0.0</td><td>23</td><td>0.00</td><td>0.0</td></tr><tr><td>4</td><td>0.00</td><td>0.0</td><td>14</td><td>0.00</td><td>0.0</td><td>24</td><td>0.00</td><td>0.0</td></tr><tr><td>5</td><td>0.00</td><td>0.0</td><td>15</td><td>0.00</td><td>0.0</td><td>25</td><td>0.00</td><td>0.0</td></tr><tr><td>6</td><td>0.00</td><td>0.0</td><td>16</td><td>0.00</td><td>0.0</td><td>26</td><td>0.00</td><td>0.0</td></tr><tr><td>7</td><td>0.00</td><td>0.0</td><td>17</td><td>0.00</td><td>0.0</td><td>27</td><td>0.00</td><td>0.0</td></tr><tr><td>8</td><td>0.00</td><td>0.0</td><td>18</td><td>0.00</td><td>0.0</td><td>28</td><td>0.00</td><td>0.0</td></tr><tr><td>9</td><td>0.00</td><td>0.0</td><td>19</td><td>0.00</td><td>0.0</td><td>29</td><td>0.00</td><td>0.0</td></tr><tr><td>10</td><td>0.00</td><td>0.0</td><td>20</td><td>0.00</td><td>0.0</td><td>30</td><td>0.00</td><td>0.0</td></tr></tbody></table></div>										S	Wait width	Wait time	S	Wait width	Wait time	S	Wait width	Wait time	1	0.00	0.0	11	0.00	0.0	21	0.00	0.0	2	0.00	0.0	12	0.00	0.0	22	0.00	0.0	3	0.00	0.0	13	0.00	0.0	23	0.00	0.0	4	0.00	0.0	14	0.00	0.0	24	0.00	0.0	5	0.00	0.0	15	0.00	0.0	25	0.00	0.0	6	0.00	0.0	16	0.00	0.0	26	0.00	0.0	7	0.00	0.0	17	0.00	0.0	27	0.00	0.0	8	0.00	0.0	18	0.00	0.0	28	0.00	0.0	9	0.00	0.0	19	0.00	0.0	29	0.00	0.0	10	0.00	0.0	20	0.00	0.0	30	0.00	0.0
S	Wait width	Wait time	S	Wait width	Wait time	S	Wait width	Wait time																																																																																																				
1	0.00	0.0	11	0.00	0.0	21	0.00	0.0																																																																																																				
2	0.00	0.0	12	0.00	0.0	22	0.00	0.0																																																																																																				
3	0.00	0.0	13	0.00	0.0	23	0.00	0.0																																																																																																				
4	0.00	0.0	14	0.00	0.0	24	0.00	0.0																																																																																																				
5	0.00	0.0	15	0.00	0.0	25	0.00	0.0																																																																																																				
6	0.00	0.0	16	0.00	0.0	26	0.00	0.0																																																																																																				
7	0.00	0.0	17	0.00	0.0	27	0.00	0.0																																																																																																				
8	0.00	0.0	18	0.00	0.0	28	0.00	0.0																																																																																																				
9	0.00	0.0	19	0.00	0.0	29	0.00	0.0																																																																																																				
10	0.00	0.0	20	0.00	0.0	30	0.00	0.0																																																																																																				
No.	Item	Setting/ display	Description																																																																																																									
1	Read	Setting	Reads all the target data (output value, time width and time unit) from the target block.																																																																																																									
2	Write	Setting	Writes all the target data (output value, time width and time unit) to the target block.																																																																																																									
3	Backup	Setting	Backups the written data to FROM in the loop controller. This function is only available for LCB01/05 of the system version 1.5 or later, and LCB05D.																																																																																																									
4	Wait width	Setting/ display	Sets the waite width for each step in the range of 0 to 320.00%.																																																																																																									
5	Wait time	Setting/ display	Sets the waite time for each step in the range between 0 and 3200.00%. Time units are determined by those are set to the output time for each step.																																																																																																									

Remarks

- * When using this Smart Active Parts, please follow the settings below.
- 3. Setting the unit number: double click the Smart Active Parts pasted on the project to display the following screen. (This screen shows when deselecting the *Edit SAP Library* in the option.)

Set the intelligent CPU unit number +16 in the transfer direction number of the LC001 and 225 for LCB01/05/05D.

- 4. Setting the target Function block address: double click the *Read* button of the Smart Active Parts pasted on the project to display the following screen. (This screen shows when selecting the *Edit SAP Library* in the option.)

Specify the block address in the setting value for the loop controller of the Function block. Please check the address for the Function block on the CX-Process Tool.

- * When using this Smart Active Parts, be sure to select **Setting – Unit/Scale Setting** in the menu bar and set the scale for number 1000 to 0.1 and for number 999 to 0.01
- * The above item 4 and 5 set on the NS will be applied to the loop controller only after writing these settings to the loop controller. After editing the item, write it to the loop controller with the Write button. Please be advised that the edited item will be lost if you go to another screen without writing it with the Write button.

1.1.3 Segment Program Time Width/Output Setting

Unit type	LC001/LCB01 LCB05/LCB05D	Storage directory	SmartActiveParts_E\ProcessController\LCB\Time_Function_Program		Title	Segment Program: Time Width/Output Setting																																																							
Function	Sets the time width and output setting for each step of the segment program in the loop controller.																																																												
Display and Operation Details																																																													
<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>Time axis unit</div><div>s</div><div>Default</div><div>-320.00</div><div>Read</div><div>Write</div><div>Backup</div></div><div><div>8</div><div>9</div></div><table><thead><tr><th>S</th><th>Output value</th><th>Time width</th><th>S</th><th>Output value</th><th>Time width</th><th>S</th><th>Output value</th><th>Time width</th></tr></thead><tbody><tr><td>1</td><td>320.00</td><td>200.0</td><td>6</td><td>-320.00</td><td>200.0</td><td>11</td><td>320.00</td><td>200.0</td></tr><tr><td>2</td><td>-320.00</td><td>200.0</td><td>7</td><td>320.00</td><td>200.0</td><td>12</td><td>-320.00</td><td>200.0</td></tr><tr><td>3</td><td>320.00</td><td>200.0</td><td>8</td><td>-320.00</td><td>200.0</td><td>13</td><td>320.00</td><td>200.0</td></tr><tr><td>4</td><td>-320.00</td><td>200.0</td><td>9</td><td>320.00</td><td>200.0</td><td>14</td><td>-320.00</td><td>200.0</td></tr><tr><td>5</td><td>320.00</td><td>200.0</td><td>10</td><td>-320.00</td><td>200.0</td><td>15</td><td>320.00</td><td>200.0</td></tr></tbody></table><div><div>Scale 1</div><div>Scale 2</div></div><div><div>6</div><div>7</div></div><div><div>10</div></div><div><div>S1</div><div>S5</div><div>S10</div><div>S15</div></div><div><div>300.00</div><div>200.00</div><div>100.00</div><div>0.00</div><div>-100.00</div><div>-200.00</div><div>-300.00</div></div></div>								S	Output value	Time width	S	Output value	Time width	S	Output value	Time width	1	320.00	200.0	6	-320.00	200.0	11	320.00	200.0	2	-320.00	200.0	7	320.00	200.0	12	-320.00	200.0	3	320.00	200.0	8	-320.00	200.0	13	320.00	200.0	4	-320.00	200.0	9	320.00	200.0	14	-320.00	200.0	5	320.00	200.0	10	-320.00	200.0	15	320.00	200.0
S	Output value	Time width	S	Output value	Time width	S	Output value	Time width																																																					
1	320.00	200.0	6	-320.00	200.0	11	320.00	200.0																																																					
2	-320.00	200.0	7	320.00	200.0	12	-320.00	200.0																																																					
3	320.00	200.0	8	-320.00	200.0	13	320.00	200.0																																																					
4	-320.00	200.0	9	320.00	200.0	14	-320.00	200.0																																																					
5	320.00	200.0	10	-320.00	200.0	15	320.00	200.0																																																					
No.	Item	Setting/ display	Description																																																										
1	Time Unit (Applied to each step)	Setting/ display	Sets the time width unit for each step to hour, minute or second.																																																										
2	Default	Setting/ display	Sets and displays the default (step 0).																																																										
3	Read	Setting	Reads all the target data (output value, time width and time unit) from the block.																																																										
4	Write	Setting	Writes all the target data (output value, time width and time unit) to the block.																																																										
5	Backup	Setting	Backups the written data to FROM in the loop controller. This function is only available for LCB01/05 of the system version 1.5 or later, and LCB05D.																																																										
6	Scale 1	Setting	Sets the vertical axis for the output value to be displayed in the graph in the range of -15% and 115%.																																																										
7	Scale 2	Setting	Sets the vertical axis for the output value to be displayed in the graph in the range of ± 320%.																																																										
8	Output value (1 to 15 steps)	Setting/ display	Sets the output value for each step in the range of ± 320.00%.																																																										
9	Time width (1 to 15 step)	Setting/ display	Sets the output time width for each step in the range of 0 to 3200.0. The unit is set in item 1.																																																										
10	Graph area	Display	Displays the output values for the target segment program as a continuous graph for each step. Please be advised that the time width will not be applied to the horixontal axis. The step will be displayed in red when the scale 1 is set and the output value is out of range between -15% and 115%.																																																										

Remarks

- * When using this Smart Active Parts, please follow the settings below.
5. Setting the unit number: double click the Smart Active Parts pasted on the project to display the following screen. (This screen shows when deselecting the *Edit SAP Library* in the option.)

Set the intelligent CPU unit number +16 in the transfer direction number of the LC001 and 225 for LCB01/05/05D.

6. Setting the target Function block address: double click the *Read* button of the Smart Active Parts pasted on the project to display the following screen. (This screen shows when selecting the *Edit SAP Library* in the option.)

Specify the block address in the setting value for the loop controller of the Function block. Please check the address for the Function block on the CX-Process Tool.

- * When using this Smart Active Parts, be sure to select **Setting – Unit/Scale Setting** in the menu bar and set the scale for number 1000 to 0.1 and for number 999 to 0.01
- * The above item 1, 2, 8, and 9 set on the NS will be applied to the loop controller only after writing these settings to the loop controller. After editing the item, write it to the loop controller with the Write button. Please be advised that the edited item will be lost if you go to another screen without writing it with the Write button.

Process Controller

1.1.4 Ramp Program Parameter Setting

Unit type	LC001/LCB01 LCB05/LCB05D	Storage directory	SmartActiveParts_E\ProcessController\LCB \Time_Function_Program		Title	Segment paramgram: Paramter setting																																																																																																												
Function	Sets the ramp rate and the soak value for each step on the ramp program in the loop controller.																																																																																																																	
Display and Operation Details																																																																																																																		
<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>8</div></div><div><div>Read</div><div>Write</div><div>Backup</div><div>Scale 1</div><div>Scale 2</div></div><div><div>6</div><div>Default</div><div>0.00</div><div>Wait width</div><div>0.00</div><div>Wait time</div><div>0.0</div></div><div><div>7</div><div>8</div><div>9</div><div>10</div><div>11</div><div>12</div><div>13</div></div><table><thead><tr><th>S</th><th>Ramp rate</th><th>Unit</th><th>Soak value</th><th>Soak time</th><th>Unit</th><th>S</th><th>Ramp rate</th><th>Unit</th><th>Soak value</th><th>Soak time</th><th>Unit</th></tr></thead><tbody><tr><td>1</td><td>1.00</td><td>s</td><td>100.00</td><td>100.0</td><td>s</td><td>9</td><td>0.00</td><td>s</td><td>-300.00</td><td>10.0</td><td>s</td></tr><tr><td>2</td><td>1.00</td><td>s</td><td>200.00</td><td>100.0</td><td>s</td><td>10</td><td>0.00</td><td>s</td><td>-300.00</td><td>10.0</td><td>s</td></tr><tr><td>3</td><td>1.00</td><td>s</td><td>300.00</td><td>100.0</td><td>s</td><td>11</td><td>0.00</td><td>s</td><td>-300.00</td><td>10.0</td><td>s</td></tr><tr><td>4</td><td>-1.00</td><td>s</td><td>150.00</td><td>100.0</td><td>s</td><td>12</td><td>0.00</td><td>s</td><td>-300.00</td><td>10.0</td><td>s</td></tr><tr><td>5</td><td>-1.00</td><td>s</td><td>0.00</td><td>10.0</td><td>s</td><td>13</td><td>0.00</td><td>s</td><td>-300.00</td><td>10.0</td><td>s</td></tr><tr><td>6</td><td>-1.00</td><td>s</td><td>0.00</td><td>10.0</td><td>s</td><td>14</td><td>0.00</td><td>s</td><td>-300.00</td><td>10.0</td><td>s</td></tr><tr><td>7</td><td>-1.00</td><td>s</td><td>-300.00</td><td>10.0</td><td>s</td><td>15</td><td>0.00</td><td>s</td><td>-300.00</td><td>10.0</td><td>s</td></tr><tr><td>8</td><td>0.00</td><td>s</td><td>-300.00</td><td>10.0</td><td>s</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table><div><div>14</div><div></div></div></div>							S	Ramp rate	Unit	Soak value	Soak time	Unit	S	Ramp rate	Unit	Soak value	Soak time	Unit	1	1.00	s	100.00	100.0	s	9	0.00	s	-300.00	10.0	s	2	1.00	s	200.00	100.0	s	10	0.00	s	-300.00	10.0	s	3	1.00	s	300.00	100.0	s	11	0.00	s	-300.00	10.0	s	4	-1.00	s	150.00	100.0	s	12	0.00	s	-300.00	10.0	s	5	-1.00	s	0.00	10.0	s	13	0.00	s	-300.00	10.0	s	6	-1.00	s	0.00	10.0	s	14	0.00	s	-300.00	10.0	s	7	-1.00	s	-300.00	10.0	s	15	0.00	s	-300.00	10.0	s	8	0.00	s	-300.00	10.0	s						
S	Ramp rate	Unit	Soak value	Soak time	Unit	S	Ramp rate	Unit	Soak value	Soak time	Unit																																																																																																							
1	1.00	s	100.00	100.0	s	9	0.00	s	-300.00	10.0	s																																																																																																							
2	1.00	s	200.00	100.0	s	10	0.00	s	-300.00	10.0	s																																																																																																							
3	1.00	s	300.00	100.0	s	11	0.00	s	-300.00	10.0	s																																																																																																							
4	-1.00	s	150.00	100.0	s	12	0.00	s	-300.00	10.0	s																																																																																																							
5	-1.00	s	0.00	10.0	s	13	0.00	s	-300.00	10.0	s																																																																																																							
6	-1.00	s	0.00	10.0	s	14	0.00	s	-300.00	10.0	s																																																																																																							
7	-1.00	s	-300.00	10.0	s	15	0.00	s	-300.00	10.0	s																																																																																																							
8	0.00	s	-300.00	10.0	s																																																																																																													
No.	Item	Setting/ display	Description																																																																																																															
1	Read	Setting	Reads all the target data (output value, time width and time unit) from the target block.																																																																																																															
2	Write	Setting	Writes all the target data (output value, time width and time unit) to the target block.																																																																																																															
3	Backup	Setting	Backups the written data to FROM in the loop controller. This function is only available for LCB01/05 of the system version 1.5 or later, and LCB05D.																																																																																																															
4	Scale 1	Setting	Sets the vertical axis for the output value to be displayed in the graph in the range of -15% and 115%.																																																																																																															
5	Scale 2	Setting	Sets the vertical axis for the output value to be displayed in the graph in the range of ±320%.																																																																																																															
6	Default	Setting/ display	Sets and displays the default (step 0).																																																																																																															
7	Wait Width (Applied all each step)	Setting/ display	Sets the wait width for each step in the range of 0 to 320.00%.																																																																																																															
8	Wait Time (Applied to each step)	Setting/ display	Sets the wait time width for each step in the range of 0 to 3200.0. The set value is applied for each step, and the time unit will be set for each step ramp rate in item 10.																																																																																																															
9	Ramp rate (1 to 15 steps)	Setting/ display	Inputs the ramp rate for each step as a rate per time unit. Sets in the range of ± 115.00%. The unit time will be set in item 10.																																																																																																															
10	Ramp rate unit time (1 to 15 Steps)	Setting/ display	Sets the ramp rate for each step to hour, minute or second.																																																																																																															
11	Soak value (1 to 15 Steps)	Setting/ display	Sets the soak value for each step, which is obtained after the ramp rate has completed, in the range of ± 320.00%.																																																																																																															
12	Soak time (1 to 15 Steps)	Setting/ display	Sets the soak time for each step in the range of 0~3200.0. The time unit will be set in item 13.																																																																																																															
13	Soak time unit (1 to 15 Steps)	Setting/ display	Sets the soak time unit for each step to hour, minute or second.																																																																																																															

14	Graph area	Display	Displays the output values for the ramp program as a continuous graph for each step. Please be advised that the soak time and its time will not be applied to the horizontal axis. The step will be displayed in red when the scale 1 is set and the output value is out of range between -15% and 115%.
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Process Controller

Remarks

* When using the Smart Active Parts, please follow the settings below.

- Setting the unit number: double click the Smart Active Parts pasted on the project to display the following screen. (This screen shows when deselecting the *Edit SAP Library* in the option.)

Smart Active Parts Communication Setting

Destination Address
Input the Destination Address.

Destination port name of commands(H) SerialA

Destination Network Address(N) 0

Destination Node Address(Q) 0

Destination Unit No.(U) 225

(Input the following value depending on the unit you want to use.)
 CPU Unit :0 (Fixed)
 CPU BUS Unit :Unit No. +16
 Special I/O Unit :Machine No. +32

☐ Device Net Slave Node Address(D) 0

OK Cancel

Set the intelligent CPU unit number +16 in the transfer direction number of the LC001 and 225 for LCB01/05/05D.

- Setting the target Function block address: double click the *Read* button of the Smart Active Parts pasted on the project to display the following screen. (This screen shows when selecting the *Edit SAP Library* in the option.)

Word Button - PBW0136

General Color/Shape Label Frame Max/Min

Comment(Q)

Numerical Type: UINT(unsigned 1word)

Button Shape: ☒ Rectangle ☐ Select Shape

Action Type: ☒ Set Value(V)
☐ Indirect(H)
☐ Increment/Decrement(I)
☐ Display Pop-up Menu(M)

Value(G) 1

Value(P) 1

Indirect(Q)

Set(1)... Set(2)...

Edit Menu(G)...

Address: Write Address(W) \$W0

Set(A)...

☐ Use As Default(D)
☐ Display Expansion Tabs(T)

Apply(A) OK Cancel Help

Specify the block address in the setting value for the loop controller of the Function block. Please check the address for the Function block on the CX-Process Tool.

- * When using this Smart Active Parts, be sure to select **Setting – Unit/Scale Setting** in the menu bar and set the scale for number 1000 to 0.1 and for number 999 to 0.01
- * The above item 6 to 13 set on the NS will be applied to the loop controller only after writing these settings to the loop controller. After editing the item, write it to the loop controller with the Write button. Please be advised that the edited item will be lost if you go to another screen without writing it with the Write button.

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