## SYSMAC Smart Active Parts

# **REFERENCE MANUAL**

# OMRON

## How to use

# **Smart Active Parts**

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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#### 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

## 

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.



#### • 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.
- 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 mm<sup>2</sup> 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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- 2-4 Precautions for use of Smart Active Parts

#### Section 3 Precautions for Editing Smart Active Parts

#### **Description of Smart Active Parts**

- ♦ PLC
- Communication Unit
- Motion Control
- nverter
- Servo Driver
- Temperature Controller (E5ZN)

(E5⊡R)

(E5□N)

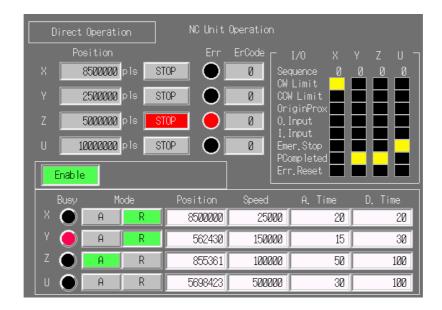
(from Ver5 or earlier)

- 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.



#### 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. Invertor

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

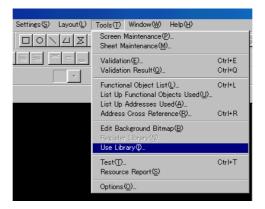
Direct Operation, JOG Operation, Origin Search, Origin Return, Teach, Changing Present Value, and Input Data Screens

### 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.

orary		
Category	Preview	Use( <u>U</u> )
∃ <mark></mark> PartsLib 		Close
<b>L</b> Lamps ⊞ <b>L</b> SmartActiveParts		Help( <u>H</u> )
		Copy( <u>C</u> )
		Cut( <u>1</u> )
		Paste( <u>P</u> )
		Delete( <u>D</u> )
		Change Title( <u>R</u> )
		Update([)
		View( <u>×</u> )

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

ategory	Preview	Use( <u>U</u> )
PartsLib 		Close
Lamps		Help( <u>H</u> )
CS1W_CJ1W-CLK21_E		Copy( <u>C</u> )
⊕ <u>-</u> Drt2_E ⊕ <u>-</u> E5ZN-DRT_E		Cut( <u>I</u> )
⊕ <mark></mark> NC_V1_E ⊕ <mark></mark> 3G3RV-PDRT2_V1_E ⊕3G3MV-PDRT2_V1_E		Paste( <u>P</u> )
H 303MV+DHI2_VI_E		Delete( <u>D</u> )
		Change Title(F
		Update()
		View[⊠]

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.

	The selected par	ts are shown
Library		
Category	Preview	Use(U)
Buttons		Close
Guide State		Help( <u>H</u> )
CS1W_CJ1W-CLK21_E CS1W_CJ1W-DRM21_E Dr2 E		Copy( <u>C</u> )
		Cut( <u>T</u> )
id- <u></u> NC_V1_E MC213_233 NC413_433		Paste( <u>P</u> )
□ 3G3RV-PDRT2_V1_E     □ 3G3RV-PDRT2_V1_E     □ 3G3MV-PDRT2_V1_E		Delete( <u>D</u> )
		Change Title( <u>R</u> )
		Update([)
		View(⊠)
New Category( <u>N</u> ) Delete Category( <u>K</u> ) Cha	ange Name(M) Title Direct Operation(4)	
	<b>^</b>	•

The selected title is shown

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

tegory	Preview	Use(U)
PartsLib		
Lamps     SmartActiveParts     CJ1M_V1_E		Close Help( <u>H</u> )
CS1W_CJ1W-CLK21_E		
	· · · · · · · · · · · · ·	Cut(I)
□ □ NC_V1_E		Paste( <u>P</u> )
		Delete(D)
⊞ <mark></mark> 3G3MV-PDRT2_V1_E		Change Title( <u>R</u> )
		Update([)
		View(≚)

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

	iew(M) Functor II rect op Posit	tional Objects(P)	Fixed Objects(D) Setting	Operation	ok[] Window(W) J Z G C J 	HelpH) I I I I I I I I I I I I I I I I I I I		Functional Object PB W W Later	
Y	,	99999 pls	STOP	FFFF CC	Limit W Limit iginProx				
z U	)	99999 pls 99999 pls	STOP	FFFF Em	Input Input er.Stop			Date Time	
C	)isable				ompleted r.Reset				
	Busy	Mode	Position	Speed	A. Time	D. Time			
X	O	A R	-99999999999	99999999999	99999999999	9999999999			
Y	$\circ$	A R	-99999999999	99999999999	99999999999	99999999999			
Z	$\mathbf{O}$	A R	-99999999999	99999999999	99999999999	99999999999			
U		A R	-99999999999	99999999999	99999999999	99999999999			
Library 🗗				X= 892 Y= 420			Туре О	100% NS12-TS0[]-V1	System Ver4.0
🏦 Start 🛛 💋 🏉		IS-Designer - u	ntitle	,	,		,.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		590000 TOP NO

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.	ltem	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( $\underline{H}$ )	Serial A
Destination Network Address(N)	0 -
Destination Node Address( <u>O</u> )	
Destination Unit No.( <u>U</u> )	
Copu the following value depending on the unit CPU Unit CPU BUS Unit CPU BUS Unit Special I/O Unit Machine No. +32	t you want to use.)
Device Net Slave Node Address(D)	
ОК	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			artActiveParts_E\PL S_CJ\CS_CJComm	Title	Error Log		
Function	Displays the	error log of th	e CPU Unit.					
Display a	nd Operation D	)etails						
			CPU	Unit Status Disp	lay	Error Log		
		Date of o	ccurred	E	rror		Code1	Code2
		04.02.06	l7:Ø5:23 B≉	attery Error			00F7	0000
		04.02.06	l4:27:12 I/	/O Verification E	rror		00E7	0000
1	$\prec \square$						0000	0000
							0000	0000
							0000	0000
	Pr	revious	Next			Read	Enn	or Canel
		1	Ť			Ť		1
		2	3			4		5
No.	Item	Setting/ display			Des	cription		
1	Error Log	Display	errors in to	Descriptions of Error codes are	are displaye ne of each errors are o displayed.	ed with red indicato error that occurred displayed.	ors.	
2	Previous	Setting	this button	e previous page (for n will be disabled.		<i>,</i>	0 . ,	
		Catting		e next page (for older	errors). If th	ne present page di	isplays the	oldest error, t
3	Next	Setting	button will	be disabled.				

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.)

\*

PLC

#### 1.1.2 Time Data

Unit ty	pe CS/CJ		ctory SmartActiveParts_E\ C\CS_CJ\CS_CJCor on			Title	Time data			
Functi	on Displays time d	lata from the	CPU	Jnit.						
Displa	Display and Operation Details									
				CPU Unit Statu	ıs Di	splay	Date			
		1 —	-Time	:	04	.02.12.	11:04:40			
		2 —	-Star	t-up Time:		12.	09:00:13			
		3 —	Powe	r Interruption:		12.	21:13:03			
				am overwritten:	04	. 01. 06.	17:33:26			
5 —			_Para over	meter written:	04	. 01. 07.	18:40:01			
No. Item Setting/ Description										
1	Time	Display	Displays the present time.							
2	Start-up Time	Display	The y	ays the startup time. ear and month are alw						
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.							
<i>Li</i> * Do	hen using this SMAR	Page, and se display for th	lect Ba e start	asic Operation for \$SI		em Setting	in the menu bar, pre	ess the <b>System Memo</b> l		

#### 1.1.3 Cycle Time Data

Function Displays the cycle time of CPU Unit.						
Display and Operation Details						
CPU Unit Status Disply Cycle Time						
1 —→ Present Cycle Time 3.3 ms						
2 → Maximum Cycle Time 10.0 ms						
No. Item Setting/ Description	Description					
1 Present Cycle Display Displays the present cycle time.						
2 Maximum Cycle Displays the maximum cycle time.						
Remarks						

PLC

PLC

#### 1.1.4 Battery Replacement

Unit ty	vpe CS/CJ		rage ctory	SmartActiveParts_E\PL C\CS_CJ\CS_CJComm on	Battery replacement switch				
Functi	Function Makes battery check and replacement settings.								
Displa	y and Operation Det	ails							
	1 Checking battery								
No.	ltem	Setting/ display			Desc	ription			
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.						
* W L	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.								

#### CJ1M (from Ver5 or Earlier)

1.1.5	Set	time PLC→NS										
Model		CJ1M	1M Location		SmartActiveParts_E\PLC\ Ver5orEarlier	Title	Settime PLC→NS					
Functio	n	Sets time and date info	ormation (ye	ar, m	onth, date, time, minute, and	second) in t	the PLC to the internal clock of PT.					
[Image]	]											
				PL	C >> NS 1							
No.		Item	Setting/ Display			Deta	ils					
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 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 may vary according to preset data in the PLC.										
[Note] CS/CJ	Series	PLCs are supported.										

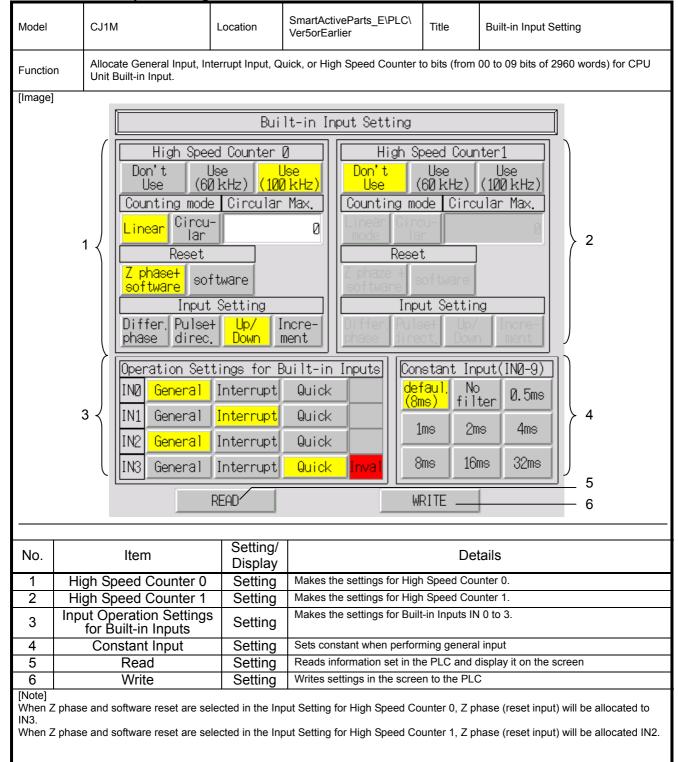
PLC

#### 1.1.6 Settime PLC→NS

Function       Sets time and date information (year, month, date, time, minute, and second) in the PT to the internal close         [Image]	ck of PLC.											
[Image]	ets time and date information (year, month, date, time, minute, and second) in the PT to the internal clock of PLC.											
NS >> PLC 1	NS >> PLC 1											
No.         Item         Setting/ Display         Details												
1 NS >> PLC Setting Sets time and date information (year, month, date, time, minute, and PT to the internal clock of PLC.	second) in the											
[Note] CS/CJ Series PLCs are supported.												

#### 1.1.7 Built-in Input Setting

PLC



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 Orio	jin Search fund	ction and	d Origin Retu	urn function	l.				
[Image]										
			Defir	ne Origin	1					
	Origin Search	OFF		1						
	Search Direction	CW			Search/ Initial	Return Speed				
	Detection Method	MethdØ Me	ethd1	Methd2		High Spe	ed 80 pps			
	Search Operation		nvrs2		Search Speed	Proximit	Y 60 pps			
	Operation Origin Input		lode1	Mode2	Srch.Co Value	mpensati	on 2			
	Signal Proximity Input		NO		Srch, Ac	ce lerati ce lerati	on 50			
	<u>Signal</u> Limit Input	NC NC	NO NO		Srch.De <u>Ratio</u> Positio	celerati <del>ning</del>				
	Signal				Monitor	Time				
	Origin Return		<u>ر</u>							
	Speed	500 pp	<u>s</u> [				3			
	Acceleration	30					Ū			
	Decelaration	20	J				4			
	READ 1					WF				
		Setting/								
No.	Item	Display				Deta				
1	Origin Search	5					earch is used or not.			
2	Parameters for Origin Search	Setting		ameters use	5					
3	Parameters for Origin Return	Setting	Sets para	ameters use	d for Origin	Return.				
4	Read						ay it on the screen			
5	Write	Setting V	Vrites se	ettings in the	screen to t	he PLC				
used for	High Speed Counter 0 and 1 lecting ON for Pulse Output	U U		• •		•	nnot be used. However, those can be pulse output so it cannot be used for other			

PLC

## **Communication Unit**

#### **1.1 Serial Communications**

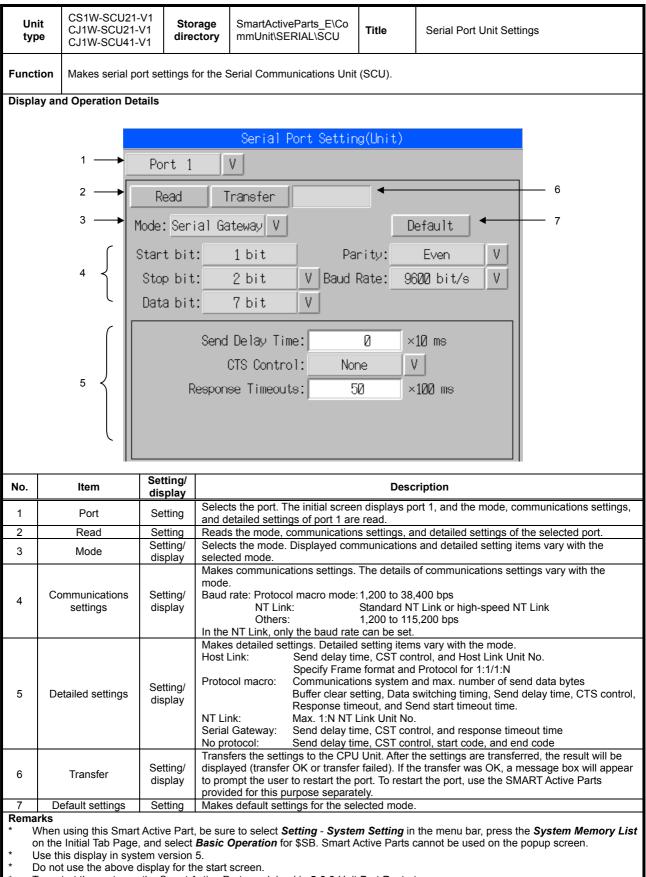
#### 1.1.1 Serial Port Settings (Board)

Unit ty	CS1W-SCB21 CS1W-SCB41		rage SmartActiveParts_E\Co mmUnit\SERIAL\SCB <b>Title</b> Serial Port Settings (Board)								
Functi	on Makes serial p	ort settings fo	or the Serial Con	munications Boa	rd (SCB).						
Displa	y and Operation De	tails									
			Seria	Port Setting	(Board)						
	1	Port 2	V								
	2	Read	Transfer			6					
	3 →	Mode: No	protocol	/	De	efault					
	c	Start bit	: 1 bit	Par	rity:	Even V					
	4	Stop bit		V Baud F		00 bit/s V					
	· ]				ate. 30						
		Data bit	: 7 bit	V							
	ſ		Send Dellay	Time	0 ×	10 ms					
			CTS Con		_						
	5 <	Start code: None V									
			End	code: Non	e V						
		Data	reception Vo	lume: 250	6 By	jte					
No.	Item	Setting/	Description								
		display	•	. The initial scree	n displavs p	ort 1, and the mode, communications settings,					
1	Port	Setting	and detailed set	tings of port 1 are	read.	-					
2	Read	Setting Setting/		the mode, communications settings, and detailed settings of the selected port. the mode. Displayed communications and detailed setting items vary with the							
3	Mode	display	selected mode.								
			mode.	ications settings.	The details	of communications settings vary with the					
4	Communications settings	Setting/ display	Baud rate: Protocol macro mode: 1,200 to 38,400 bps NT Link: Standard NT Link or high-speed NT Link								
	settings	aispiay	Others: 1,200 to 115,200 bps								
				only the baud rate settings. Detailed							
			Makes detailed settings. Detailed setting items vary with the mode.         Host Link:       Send delay time, CST control, and Host Link Unit No.								
			Protocol macro			Protocol for 1:1/1:N nd max. number of send data bytes, Receive					
						witching timing, Send delay time, CTS control,					
		Setting/	NT Link:	Max. 1:N NT Lir	nk Unit No.	d start timeout time.					
5	Detailed settings	display	Serial Gateway No protocol:			rol, and response timeout time rol, start code, and end code					
		-	Makes detailed	settings. Detailed	setting item	ns vary with the Mode.					
			Host Link: Protocol macro			rol, and Host Link Unit No. Id max. number of send data bytes					
			NT Link:	Max. 1:N NT Lir	nk Unit No.						
			Serial Gateway No protocol:			rol, and response timeout time rol, start code, and end code					
<b></b> _		1		Jenu uelay illit		טו, סומוז נטעב, מווע בווע נטעצ					

#### 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)



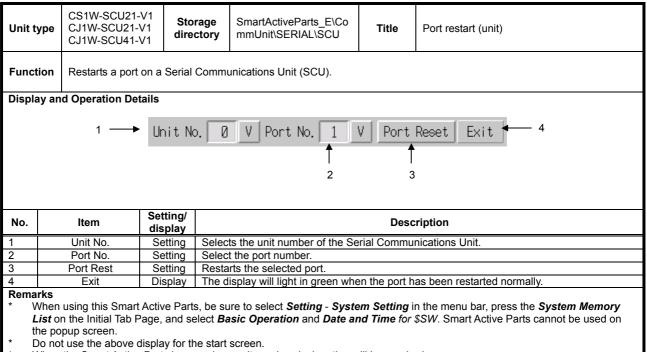
\* To restart the port, use the Smart Active Parts explained in 5.2.3 Unit Port Restart.

\* When the Smart Active Parts is reused, the unit number designation will be required.

Number of frame: 2.

Unit type	CS1W-SCB21-V1 CS1W-SCB41-V1	Storage directory	SmartActiveParts_E\Co mmUnit\SERIAL\SCB	Title	Port restart (Board)					
Functior	Restarts a port on a	a Serial Comm	unications Board (SCB).							
Display a	Display and Operation Details									
1     Port No.     1     V     Port Reset     Exit     3       2       No.     Item     Setting/       Description										
No.	No. Item Setting/ display Description									
1	Port No. S	Setting Selec	ts the port number.							
2	Port Reset S	Setting Resta	irts the selected port.							
3	3 Exit Display The display will light in green when the selected port has been restarted normally.									
	Remarks									
List the	on the Initial Tab Page popup screen.	e, and select <b>B</b> a	asic Operation and Date ar		n the menu bar, press the <b>System Memory</b> <b>\$SW</b> . Smart Active Parts cannot be used on					
* Dor	not use the above displ									
	ot use the above display for the start screen. In the Smart Active Parts is reused, no unit number designation will be required.									

#### 1.1.4 Port Restart (Unit)

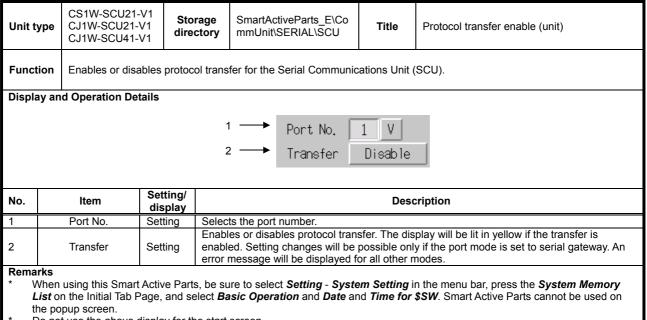


When the Smart Active Parts is reused, no unit number designation will be required.

#### 1.1.5 Protocol Transfer Enable (Board)

Unit typ	CS1W-SCB21-V1 Storage CS1W-SCB41-V1 directory			SmartActiveParts_E\Co mmUnit\SERIAL\SCB	Title	Protocol transfer enable (board)						
Functio	n Enables or disab	Enables or disables protocol transfer for the Serial Communications Board (SCB).										
Display and Operation Details												
$1 \longrightarrow Port No. 1 V$ $2 \longrightarrow Transfer Disable$ No. 1 V Description												
No.	Item	display			Desc	ription						
1	Port No.	Setting		ts the port number.								
	Transfor	Transfer         Enables or disables protocol transfer. The display will be lit in yellow if transfer is enabled.           Setting         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.										
2	2       Transfer       Setting       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       *       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)



Do not use the above display for the start screen.

When the Smart Active Parts is reused, the unit number designation will be required.

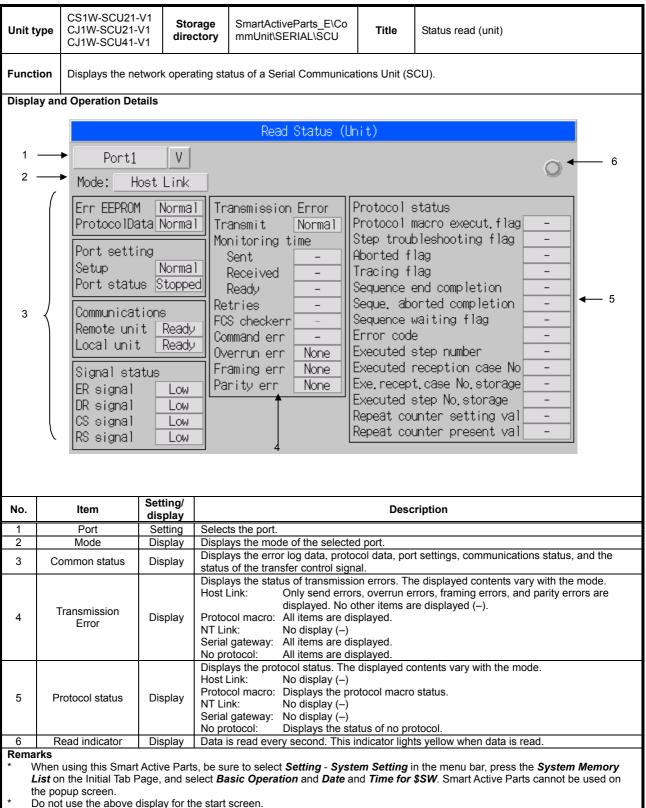
#### 1.1.7 Status Read (Board)

Unit ty	/pe CS1W-SCB21- CS1W-SCB41-			Title	Status read (board)									
Functi	ion Displays the ne	twork operating	status of a Serial Communic	ations Board (	(SCB).									
Displa	y and Operation Det	ails												
			Read Status (Boa	rd)										
1 -		Dent1 V												
2 -														
2 -	Mode: Hos	Mode: Host Link												
3	Err EEPROM       Normal         ProtocolData       Normal         Port setting       Sent         Setup       Normal         Port status       Stopped         Communications       Received         Remote unit       Ready         Local unit       Ready         Signal status       Error         Resignal       Low         Rs signal       Low         Rs signal       Low         Resignal       Low													
No.	Item	Setting/ display		Desc	ription									
1	Port	Setting Se	Selects the port.											
2	Mode	Die	Displays the mode of the selected port. Displays error log data, protocol data, port settings, communications status, and the status											
3	Common status	of Display	the transfer control signal.	-	-									
4	Transmission Error	Display Pr NT Se	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 Display Se No	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 Da		read every s	econd. This indicator lights yellow when data is									
Li	/hen using this Smart	Active Parts, be	e sure to select <b>Setting</b> - <b>Sys</b>		n the menu bar, press the <b>System Memory</b> <b>\$SW</b> . Smart Active Parts cannot be used on									

\*

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.

#### Status Read (Unit) 1.1.8



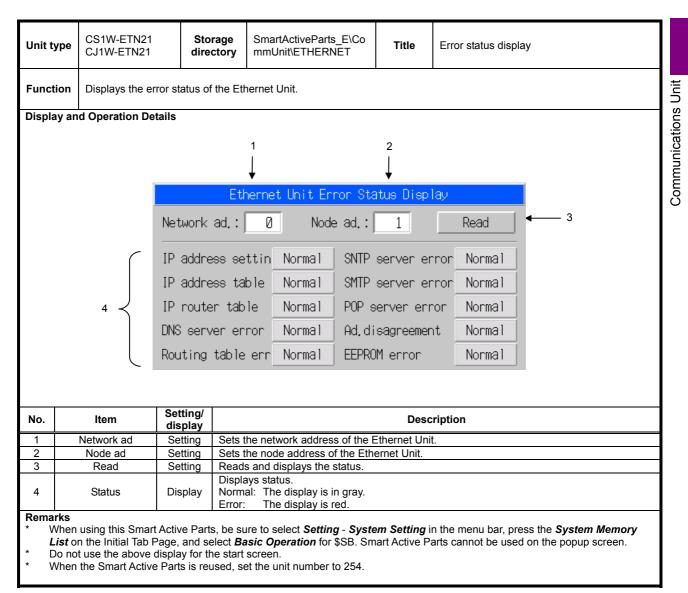
Use this display in system version 5.

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



### **Communication Unit**

#### 1.2.2 Network Status Monitor

Unit ty	pe CS1D-ETN21D	orage ectory							itus mor	nitor							
Functi	on Displays the ne	twork state	us of the	Etherr	net Un	it.											
Display	y and Operation De	ails															
			Ethen	net D	)up lex	k CPU	Syst	em Ne	etwork	Stat	us Mo	nitor					
	1	<b>→</b>	Mode		Du	plex	Mode		Sir	mplex	mode						
	2	<b>→</b>	System				unit				y uni						
	3		Status	_			ating	_	Notp								
		_							1100  -	on ore							
		$\left( \right)$															
			1 to 64	4	65	i to j	128	129	to 192	2   19	92 to	254					
			10	9	8	7	6	5	4	3	0	1					
				9 19	18	 17	16	15	14	 13	12	11					
	4	$\downarrow$	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					
						01			64	63	62	61					
											_02						
No.	ltem	Setting/							Desc	riptio	า						
		display		ays the	e mode	e of the	e local r	node.									
1	Mode	Display		ex Mod								Duplex N Simple:					
			Displa	ays the	e syste	m of th	ne loca	Inode	only wh	nen the	e syster	m is in d	uple	x moo			
2	System	Display		ary Uni <sup>.</sup> ndary l								as the f et as the				-	
3	Statua	Diaples	Displa	ays the	e netwo	ork sta	tus of t	he loc	al node	only w	hen th	e system ticipatin	n is iı	n dup	lex mo	de.	
3	Status	Display	Not pa	cipating articipa	, ating:	Displ	ayed ir	red w	hen the	Unit is	s sepai	ated fro	m th	e net	work.		
	Participation			ays the cipating								ne status ietwork a					
4	status	Display		articipa	,							network					
Romar																	

Remarks

Items are refreshed every second.
 When using this Smort Active Part

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.

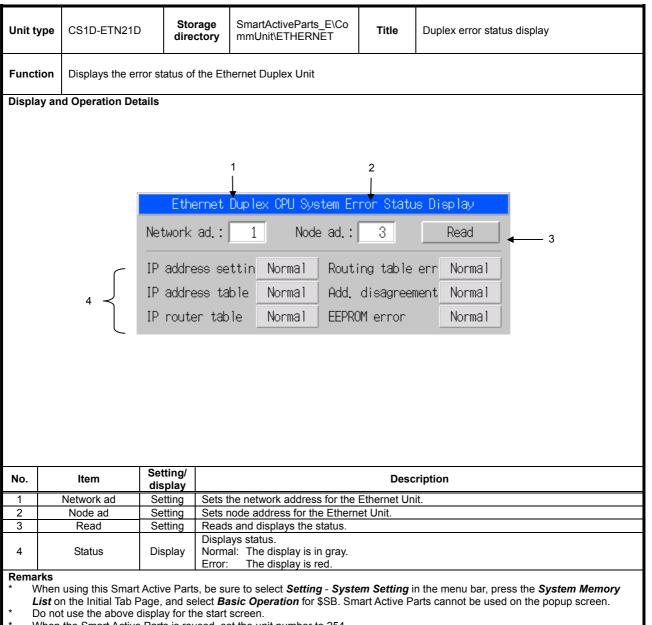
\* Do not use the above display for the start screen.

\* 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**



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 ty	ype CS1W-CLK21 CJ1W-CLK21 CS1W-CLK21- CJ1W-CLK21-	V1 dired	rage ctory	SmartActiveParts_E\Co mmUnit\CLK	Title	Controller Link network status monitor			
Funct	ion Monitors the co	ommunicatio	ns stati	us of a Controller Link netwo	ork for 32 nc	odes.			
Displa	y and Operation De	tails							
				2					
		•		Controller Link Netw	ork Statu	us Monitor			
	3 4		Setti	n Unit No.## Ne	twork Ado	l.## Node Add.## ⊃Not (inactive)			
Node Address       1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16         5       Metwork Participation         6       Data LinkParticipation         7       Communications Error									
		Data Li	Part nkPar	17 18 1920 icipation ticipation ns Error <b></b>	21 22 23 2	4 25 26 27 28 29 30 31 32			
No.	ltem	Setting/ display			Desc	ription			
1	Polling Node	Display	Displa	ays the Controller Link netwo	ork polling n	ode number.			
2	Startup Node	Display		ays the Controller Link netwo		node number.			
3	Local Settin	Display		fault items are displayed in e network settings for the ap		nen creating the screen.			
4	Local Data Link Participat	Display	Displa	ays the status of data link pa	rticipation o	f the local node.			
5	Network Participation	Display	lit in g	reen if it is participating in the	ne network.	f each node. The indicator for the node will be			
6	Data link Participation	Display	Displa	ays the status of data link pa reen if it is participating in th	articipation o	f each node. The indicator for the node will be			
7	Communications Error	Display	Displa		or of each no	ode. The indicator for the node will be lit in red			
Rema * V		Parts is reu		e unit number must be spec					

### 1.3.2 Controller Link Network Station Monitor (for 62 Nodes)

Jnit ty	pe CS1W-CLK21- CJ1W-CLK21-			SmartActiveParts_E\Co nmUnit\CLK	Title	Controller Link network status monitor
Functi	on Monitors the co	ommunicatio	ns status	of a Controller Link netwo	ork for 62 no	odes.
Displa	y and Operation De	tails				
				4	0	
					2	
			Co	ontroller Link Netw	iork Stati	us Monitor
		Pollin	a Node	1 Startup Noc	le 1	
	3 —	<ul> <li>Local :</li> </ul>	-		twork Add	d.## Node Add.##
	4			nkParticipation 🔘		🔘 Not (inactive)
		Node Ad	dress	1234	5678	8 9 10 11 12 13 14 15 16
	5			ipation <mark>=</mark>		
	6 — 7 — 7	► Data Lii ► Communi		cipation <mark></mark>		
		Node Ad			21 22 23 2	24 25 26 27 28 29 30 31 32
		Network	Partic	ipation		
		Data Lii Communii		cipation		
		Node Ad			37/38/30/4	40 41 42 43 44 45 46 47 48
		Network				
				cipation		
		Communit				
		Node Ad Network		ipation	03 04 00 0	56 57 58 59 60 61 62
		Data Lii	nkParti	cipation 📃 📃		
		Communi	cations	Error 📕 📕		
		Cottin of				
No.	ltem	Setting/ display				cription
1	Polling Node Startup Node	Display Display		the Controller Link netw the Controller Link netw		
3	Local Settin	Display	No defa	ult items are displayed in tetwork settings for the ap	particular.	
4	Local Data Link Participation	Display		the status of data link pa		
5	Network Participation	Display		the status of network pa en if it is participating in tl		of each node. The indicator for the node will be
	Data Link Participation	Display	Displays		articipation c	of each node. The indicator for the node will be
6						ode. The indicator for the node will be lit in red

# 1.4 Communication Unit (Ver5orEarlier)

## 1.4.1 CS1W-CLK

Model	CS1W-CLK21 CJ1W-CLK21	Location	mUnit	ActiveP Ver5orI 1W-CLI	Earlie	er\CS1		tle		Net	wor	k St	atus	6 Mo	onito	or	
Functio	n Monitors CLK networki	ng status.															
[Image]																	
							1	l							2		
	Controller L	ink Statu	s Pol	ling	No	de N	о.	1 St	tar	tu	o N	Voc	le	No		1	
	<sup>3</sup> Local Settings	; Unit∖	vo ##	Neti	Jor	< Ad	dres	se##	± N	lod	ρ	Ad	dre	-99	;##		
		nk Partic				art.		Õ	_								4
	Node Address		01020				7172			, , 11	12	uo 112	11/	11	511	8	
	5 Network Partic	vination		00 04	60	000	00	03.	10	11	12	10		t 1			
	6 Data LinkParti								-	-					+		
	7 Communications										-			+			
			17 10	10.00	01	00.00	204			07	00				10	0	
	Node Address		17 18	19/20	21	<u> </u>	3 2 4	202	207	21	28	29	36	13	13,	2	
	Network Partic					-								+	-		
	Data LinkParti								_					-	+		
	Communications	> Error										5. 1		1	1		
No.	Item	Setting/ Display						D	)etai	ils							
1	Polling Node No.		Displays p	-													
2	Startup Node No.		Displays s				for C	LK n	etw	ork.							
3	Local Setting	Lispiay L	lo item is Jser can	make (	origi	nal set											
4	Local Data Link Participation	Display p	Displays o participate	e (Not)		•						rtici	pat	e (	oart.	.) c	or not
5	Network Participation		Displays ı						-								
6	Data Link Participation		Displays of						-								
7	Communications Error	Display D	Displays v	whethe	r an	error	is be	ing o	ccu	rrec	l by	/ no	de.				
[Note]																	

# 1.4.2 CS1W-DRM

Model	CS1W-DRM21 CJ1W-DRM21	Location	Smart/ mUnit\` _CJ1W	Ver5o	Earlie	r\CS		Ti	itle		Net	wor	k Sta	atus	Мо	nitor		
Function	Monitors Device netw	Monitors Device network communication status when using CS1W-DRM/CJ1W-DRM21 as a master.																
[Image]																		
			Dev	lice	Net	t S	tat	us										
	Node Addres:	Э	00	010	203	04	05	06	070	28 Ø	<i>1</i> 9	10	11	12	13	14	15	
	1 Registered :	Slave																
	2 Normal Slav	e																
	Node Addres:	Э	16	17 1	8 19	20	21	22	23	24 2	25	26	27	28	29	30	31	
	Registered :	Slave																
	Normal Slav	е																
	Node Addres:	Э	32	333	435	36	37	38	394	404	41	42	43	44	45	46	47	
	Registered :	Slave						-										
	Normal Slav	e																
	Node Addres:	Э	<mark>48</mark>	495	051	52	53	54	555	565	57	58	59	60	61	62	: 63	
	Registered :							1										
	Normal Slav	е																
No.	Item	Setting/ Display							[	Deta	ils							
1	Registered Slave		Displays						-									
2 [Note]	Normal Slave	Display	Displays	slave	node	e No	. wł	nich	is be	eing	con	nmı	unic	ateo	d no	orma	ally.	
[100]																		

# Motion Control 1.1 Standard Position Control Units

1.1.1 Auj	ust Operation				
Unit type	CS1W-NC113/133/213/233/ 413/433 CJ1W-NC113/133/213/233/4 13/433	Storage directory	SmartActiveParts_E\ Motion\NC\NC[]3	Title	Adjust Operation
Function	Performs jogging, origin searc	hes, and orig	gin returns.		
Display an	d Operation Details			5	
		NC Adi	ust Operation		
	Axis busy Override se			MD value	
1	► 🔘 Disable	5 %	6 +JOG 56	1000 pi	ulse/s

No.	ltem	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.

### 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: 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

### 1.1.2 Direct Operation

	Direct Operation				_					
Unit ty	/pe CS1W-NC113/ 413/433 CJ1W-NC113/1 413/433		Storage directory	SmartActiveParts_I Motion\NC\NC[]3	<sup>E\</sup> Title	Direct Operation				
Functi	ion Performs direct	operation us	ing an absolu	ite or relative movem	ent command					
Display	/ and Operation Deta	ils								
2100103		3	6	5		9				
				7						
		•	NC D	rect Operation						
	Axis busy Ove	erride sett		Speed CMD \	alue	Accel time				
1				tart 50000	pulse/s					
· · -			0 / 9							
				Pos CMD va		Decel time				
2 _	Axis 1 Decel	stop		ABS   12	00 pulse	4000 ms				
	-									
		1	4	▲ ▲		<b>▲</b>				
		r	5	5 8		10				
				_		-				
No.	ltem	Setting/ display		C	escription					
1	Axis busy	Display		when processing is						
0	<b>A</b> . 1	0		number. The setting						
2	Axis	Setting		ays 1, NC2[]3: 1 to 2, Axis X, Axis 2: Axis Y						
						s the override. (Setting range:				
3	Override setting	Setting	1% to 999%)							
4	Deceleration stop	Setting	When presse	ed, lights yellow and		e motor to a stop. Absolute				
		County				sed during a deceleration stop				
5	ABS/INC	Setting		<ul> <li>between an absolute</li> <li>ommand (INC).</li> </ul>	e movement c	ommand (ABS) and a relative				
6	Start	Setting	Starts operat	ion for the movemen	t command sp	ecified for ABS/INC (5).				
7	Speed command value	Setting	Sets the spe	ed. (Setting range: 1	to 500,000 pu	ilse/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		eleration time. (Settin						
10	Deceleration time	Setting	Sets the dec	eleration time. (Settir	g 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

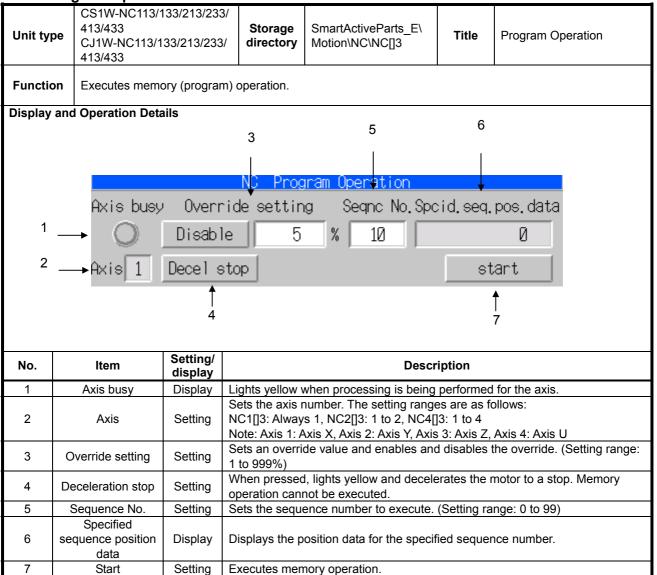
UserSetDM\_AreaAlStorage directorys: NC\NC1[]3\UserSetDM\_AreaAlStorage directorys

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

### 1.1.3 Program 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

### 1 1 4 Sotting

1.1.4 Se						
	CS1W-NC113/133/213/	233/413	•			
Unit type	/433		Storage	SmartActiveParts_E\M	Title	Setting
	CJ I VV-INC I I 3/ I 33/2 I 3/2	233/413/	directory	otion\NC\NCxx3		e e ug
	433					
Functior	Executes a present pos	tion prese	t.			
Display a	and Operation Details					
			NC Se	tting		
			no se	cong		
	Axis busy	I		Pos CMD value		
	1 . 0 .		Preset	25000 p	Nuloo	
		kis 1	Preset		pulse	
		1	↑	↑		
		2	3	4		
No.	Item	Settir displ		Descr	iption	
1	Axis busy	Displ	-	s yellow when processing is	being perf	ormed for the axis
-	7003 0039	ызрі		the axis number. The setting		
2	Axis	Settin		3: Always 1, NC2[]3: 1 to 2		
				Axis 1: Axis X, Axis 2: Axis		
3	Preset	Settir		utes the preset.		
4	Position command value	Settir	Sets t	he position. (Setting range:	1,073,741,	823 to 1,073,741,82
Remarks		000	<sup>ig</sup> pulse	s)		
NC1[] directo NC2[] directo NC4[]	3: For DM Area alStorage orys 3: For DM Area alStorage	directorys directorys	s in words fo s in words fo	or Special I/O Units and f or Special I/O Units and f	or user-set or user-set	DM Area alStorage
menu SMAF * When <b>Settin</b>	using this SMART Active F bar, press the <b>System Me</b> T Active Part cannot be use using this SMART Active P <b>bgs</b> in the menu bar, press	mory List ed on pop- art with us	t Button on t up screens. er-set DM Ar	the <b>Initial Tab</b> Page, and sea alStorage directorys, be	select <b>Basi</b> sure to sel	<b>cs</b> for the \$SB. This ect <b>Setting - Systen</b>
* When * When * When * Numb * The s NC\Net	for the \$SW. using this SMART Active P using this SMART Active P reusing SMART Active Part er of frames: NC2[]3 Part: 1 torage directories are as 1 C1[]3\SIOU_DM_AreaAlStor SetDM_AreaAlStorage direct	art for the s, be sure frame, NC ollows: Pa age direct	NC2[]3 or NC to set the un C4[]3 Part: 1 t arts for DM orys	24[]3, use system version 5 it number. frame Area alStorage directorys	or higher. in words f	
NC2[] directo	3: Parts for DM Area alStora	age directo	orys in words	for Special I/O Units: NC\N	C2[]3\SIOL	J_DM_AreaAlStorage

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

### 1.1.5 Teaching

Unit type	CS1W-NC113/133/213/233/413/ 433 CJ1W-NC113/133/213/233/413/ 433	Storage directory	SmartActiveParts_E\M otion\NC\NCxx3	Title	Teaching				
Function	n Performs teaching for the specified sequence.								
Display and Operation Details									
NC Teaching									



No.	ltem	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

- 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

### 1.1.6 Present Value Monitor

	esent Value Monitor											
Unit type	CS1W-NC113/133/213/23 433 CJ1W-NC113/133/213/23 433		Storage directory	SmartActiveParts_E\M otion\NC\NCxx3	Title	Present Value Monitor						
Function         Displays the present value.												
Display an	Display and Operation Details											
		NC	Present v	alue monitor								
1	→ Axis 1 Preser	t poeit	tion	327683	pulse							
		nt post	¢ ⊂									
			2	3	4							
No.	Item	Settin displa	ay		ription							
1	Axis	Settir	ng NC1[]	he axis number. The settin 3: Always 1, NC2[]3: 1 to 2 Axis 1: Axis X, Axis 2: Axis	2, NC4[]3: 1	to 4						
2	Monitor type		ng Displa	iys the type of present valu								
-												
	Unit	Displa	ay Displa	lys the unit.								
<ul> <li>NC1[]3: director NC2[]3: director NC4[]3: director</li> <li>When u menu b SMART</li> <li>When u Setting Index fot</li> <li>When u</li> <li>Setting Index fot</li> <li>When u</li> <li>Setting Index fot</li> <li>When u</li> <li>Setting Index fot</li> <li>When u</li> <li>W</li> <li></li></ul>	3         Present value         Display         Display sthe present value.           4         Unit         Display         Display sthe unit.           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         NC2[]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 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, do not use it on the initial screen.           * 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 Parts, be sure to set the unit number.           * Number of frames: NC2[]3 Part: 1 frame, NC4[]3 Part: 1											

### 1.1.7 I/O Status Monitoring

	Status Monitoring				
Unit type	CS1W-NC113/133/213/233/413/ 433 CJ1W-NC113/133/213/233/413/ 433	Storage directory	SmartActiveParts_E\M otion\NC\NCxx3	Title	I/O Status Monitor
Function	Displays the I/O status and error co	des for each	axis.		
Display and	d Operation Details				
	1	1/0 Status 0 Status(A) 1 imit igin proxin igin signa terrupt ing ergcy stop sitng comp sitng comp sitng comp is error co	nity l input ltd		

No.	ltem	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

\* 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 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

### 1.1.8 I/O Status Monitoring (No Name)

	NO Status Monitoring (N										
Unit ty	(pe CS1W-NC113/133/213/2 433 CJ1W-NC113/133/213/2 433	S	itorage rectory	SmartActiveParts_E\M otion\NC\NCxx3	Title	I/O Status Monitor (No Name)					
Functi	<b>Function</b> Displays the I/O status and error codes for each axis.										
Display and Operation Details											
		1 2 3									
No.	ltem	display		Descr	iption						
1	Axis	Setting	NC1[]3	ne axis number. The setting 3: Always 1, NC2[]3: 1 to 2 Axis 1: Axis X, Axis 2: Axis	, NC4[]3: 1 to	9 4					
2	I/O Status	Display	signals	ys the I/O status. The displ s that are ON. der of the status is the san		-					

3 Remarks

- \* There are three different version of this SMART Active Part depending on the following area alStorage directorys. 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.

Displays any error codes that have been generated.

- \* 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.

Display

- \* 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

Error code

- \* 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
  - $UserSetDM\_AreaAlStorage\ directorys:\ NC\NC3x3\UserSetDM\_AreaAlStorage\ directorys$

### 1.1.9 Axis Error

Unit type	CS1W-NC113/133/213/2 433 CJ1W-NC113/133/213/23 433	St	torage rectory	SmartActiveParts_E\Mo tion\NC\NCxx3	Title	Axis Error		
Function Displays and resets axis errors.								
Display a	nd Operation Details							
	1 Busy A	Axis kis 1 (	err.	0002 Error res	et			
		1 2	<b>↑</b> 3	$\dot{1}$ $\dot{1}$ $\dot{5}$	_			
No.	Item	↑ 2 Setting/ display	↑ 3	4 5 Descri	iption			
<b>No.</b>	<b>Item</b> Busy	_ Setting/			•	med for the axis.		
		_ Setting/ display	Lights Sets th NC1[]3	Descri	being perfor g ranges are , NC4[]3: 1 to	as follows: o 4		
1	Busy	Setting/ display Display	Lights Sets th NC1[]3 Note: J	Descri yellow when processing is he axis number. The setting 3: Always 1, NC2[]3: 1 to 2,	being perfor granges are NC4[]3: 1 to Y, Axis 3: Ax	as follows: o 4 is Z, Axis 4: Axis U		
1 2	Busy Axis	Setting/ display Display Setting	Lights Sets th NC1[]3 Note: J Lights	Descri yellow when processing is he axis number. The setting 3: Always 1, NC2[]3: 1 to 2, Axis 1: Axis X, Axis 2: Axis	being perfor granges are NC4[]3: 1 to Y, Axis 3: Ax has occurred	as follows: o 4 is Z, Axis 4: Axis U d.		

\* There are three different version of this SMART Active Part depending on the following area alStorage directorys. 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 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

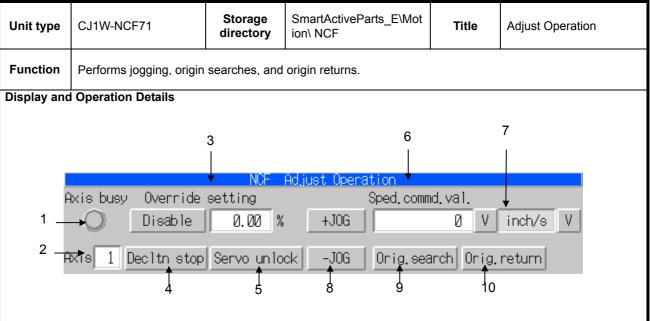
NC4[]3: Parts for DM Area alStorage directorys in words for Special I/O Units: NC\NC4[]3\SIOU\_DM\_AreaAlStorage directorys

### 1.2 MECHATROLINK-compatible Position Control Units 1.2.1 Common Control

Unit	type CJ1W-NCF		age ctory	SmartActiveParts_E\ Motion\ NCF	Title	Common Control			
Func	tion Establishes	a connecti	on and	d displays the connection	i status and	d axis communications status.			
Displ	Display and Operation Details								
	NCF Common Control								
Axis communication status 1 2 3 4 5 6 7 8 Conctn. status 9 10 11 12 13 14 15 16 Conctn. status									
				2		<b>↑</b> 3			
No.	Item	Setting/ display			Desc	cription			
1	Connection status	Display		lays the connection statu munications, the status i		nit is ready to start MECHATROLINK Il be lit in yellow.			
2	Axis communication status	Display				ween the Unit and the MECHATROLINK yellow during communications.			
3	Establish connection	Setting		blishes a connection. If a isconnected and the butt		in yellow is pressed, communications will gray.			
* Da O O O	/hen reusing SMAR ata is saved in the f perating output me perating output me perating output me	following ar mory area i mory area i mory area i	eas: n ClO n ClO n DM	Area and Operating inpu Area and Operating inpu	ut memory ut memory t memory a	area in CIO Area: OutCIO_InCIO area in DM Area: OutCIO_InDM area in CIO Area: OutDM_InCIO area in DM Area: OutDM_InDM			

Motion Control

### 1.2.2 Adjust Operation



No.	ltem	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

\* There are four different version of this SMART Active Part depending on the following area alStorage directorys. 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 CIO 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:
- \* No decimal point, 0.1, 0.01, 0.001
- \* Number of frames: 1 frame
- \* 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\_InCIO

### **1.2.3 Direct Operation**

Unit type	e CJ1W-NCF7	1			SmartActiveP ion\ NCF	arts_E\Mot	Title	Direct Operation
Functior	n Performs dire	ect operatio	n using	an absol	ute or relative	e movement (	command.	•
Display a	and Operation De	etails						10
			3		7	8		
			V		irect Opera	ation 🚽		
	Axis busy O	verride 🤅	ettin	ng	. ↓	Sped.comn	d.val.	<b>↓</b>
1.	1 Disable		0.	00 %	Start		0 V	mm/s V
						Postn.com	nd. va 1 🦳	
2	2 Axis 1 Decltn stop Se		Servo	) un lock	ABS		0 V	mm V
				•		↓		▲
	Ā			5	6	9		11
				-	·			
No.	ltem		ting/ play			Des	scription	
1	Axis busy		play					ned for the axis.
2	Axis	Set	ting		axis number			es the override. (Setting
3	Override setting	g Set	ting		.01% to 327.0		is and disable	es the overhoe. (Setting
4	Deceleration sto	p Set	ting	When pr	ressed, lights	yellow and d		ne motor to a stop. Absolute used during a deceleration
5	Servo Lock	Set	ting		s between se			
6	ABS/INC	Set	ting		s the betweer movement co			command (ABS) and a
7	Start	Set	ting					pecified for ABS/INC (6).
8	Speed comman value	d	ting	Sets the The pos of the de No decir	speed. (Setti ition of the de ecimal point a mal point, 0.1	ing range: 0 f ecimal point ( re as follows , 0.01, 0.001	to 2,147,483, can be set. T :	647 command units/s) The settings for the position
9	Position comman value	<sup>nd</sup> Set	ting	commar The pos of the de No decir	nd units) ition of the de ecimal point a mal point, 0.1	ecimal point of re as follows , 0.01, 0.001	can be set. T :	8 to 2,147,483,647 The settings for the positior
10	Speed comman value unit	d Set	ting	follows:	unit for the s hches/s, degre	•		ings for the unit are as
11	Position comman value unit	nd Set	ting	Sets the follows:	unit for the p h, deg, pulse	osition comn	nand. The se	ttings for the unit are as
Remarks		venier -f				dina an the s	fellouir	
Opera Opera Opera	ating output memo ating output memo ating output memo ating output memo	ory area in ( ory area in ( ory area in [ ory area in [	CIO Are CIO Are OM Are OM Are	ea and Op ea and Op a and Op a and Op a and Op	perating input perating input erating input erating input	memory area memory area memory area memory area	a in CIO Area a in DM Area a in CIO Area a in DM Area	l I

\* 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\_InCIO

### 1.2.4 Setting

Unit	type CJ1W-N		age ctory	SmartActiveParts_E\ Motion\ NCF	Title	Setting			
Func	Function         Executes a present position preset.								
Display and Operation Details									
				NCF Setting	)				
		Axis busy		Postn.	comnd. va	11.			
1 Axis				Preset	50000	V mm V			
					1				
			2	3	4	5			
		Setting/							
No.	No. Item display Description								
1	Axis busy	Display	Lights yellow when processing is being performed for the axis. Sets the axis number. (Setting range: 1 to 16)						
2	Axis Preset	Setting Setting		cutes the present positio	<u> </u>	10 16)			
4	Position command valu	Setting		the position. (Setting ra		,483,648 to 2,147,483,647 command			
5	Unit	Setting		the unit. The settings fo inch, deg, pulse	r the unit a	ire as follows:			
O O O * W \$5 \$ * D O * W \$ \$ * D O * W * N i * W * Ni * Di O	nere are four diff perating output i perating output i perating output i perating output i /nen using this ystem Memory SW. This SMAR o not use this SI se system version /nen reusing SM umber of frames ata is saved in the perating output i	memory area i memory area i memory area i SMART Active <b>List</b> Button or I Active Part of MART Active P on 5 or higher. ART Active Part i 2 me following ar memory area i	n CIO n CIO n DM n DM e Part n the II annot Part on arts, be eas: n CIO	Area and Operating inpu Area and Operating inpu Area and Operating inpu Area and Operating inpu , be sure to select <b>Sett</b> <b>hitial Tab</b> Page, and sele be used on pop-up screa- the initial screen.	ut memory ut memory a t memory a t memory a <b>ing - Syst</b> ect <b>Basic</b> ens. hber. ut memory	area in DM Area area in CIO Area area in DM Area <b>tem Settings</b> in the menu bar, press the cs, Data/Time, and Address Index for the area in CIO Area: OutCIO_InCIO			

1.2.5	Present Value Mon	itoring				_		
Unit ty	vpe CJ1W-NCF71		rage ctory	SmartActiveParts_E\Mot ion\ NCF	Title	Present Value Monitor		
Functi	ion Displays the prese	ent value of t	ne spec	fied monitor item.				
Display	y and Operation Details	5						
			NCF F	Present value monitor				
	1 Axis 0 mnr	Ø Speed (C	Command)	) V 0.	. 00 V r	nm/s V		
	<b>1</b> 2			4		<b>∮</b> 5		
		Setting/	[					
No.	Item	display		Des	scription			
1	Axis	Setting		ne axis number. (Setting ran				
2	Monitor	Setting		Sets the area to be monitored. (Setting range: 1 to 2)				
3	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: %					
Remar	-	ion of this CA		ative Dent depending on the	following or	a al Otara na dina atam <i>i</i> a		
<ul> <li>Ope</li> <li>Ope</li> <li>Ope</li> <li>Ope</li> <li>Whe</li> <li>Mer</li> <li>SM/</li> <li>Do r</li> <li>* Use</li> <li>* Whe</li> <li>* Whe</li> <li>* Nun</li> <li>* Data</li> <li>Ope</li> <li>Ope</li> <li>Ope</li> <li>Ope</li> </ul>	erating output memory are erating output memory are erating output memory are erating output memory are en using this SMART Act mory List Button on the ART Active Part cannot be not use this SMART Active e system version 5 or hig en reusing SMART Active nber of frames: 4 a is saved in the following erating output memory are erating output memory are erating output memory are erating output memory are	rea in CIO Ar rea in CIO Ar rea in DM Are rea in DM Are tive Part, be s <b>Initial Tab</b> Pa be used on pe ve Part on th her. e Parts, be so g areas: rea in CIO Ar rea in CIO Ar rea in DM Are	ea and ( ea and ( ea and C sure to s age, and op-up so e initial ure to so ea and ( ea and ( ea and (	l select <b>Basics</b> , <b>Data/Tim</b> creens. screen.	a in CIO Are a in DM Are a in CIO Are a in DM Area tings in the i e, and Addr a in CIO Are a in DM Are a in CIO Are	ea a a menu bar, press the <b>System</b> ress Index for the \$SW. This ea: OutCIO_InCIO a: OutCIO_InDM a: OutDM_InCIO		

#### .... . ... 4055 4 1/-1 ...

### 1.2.6 I/O Status Monitoring

Unit type	CJ1W-NCF71		orage ctory	SmartActiveParts_E\Motio n\ NCF	Title	I/O Status Monitor
Function	Displays the I/O sta	atus and error	r codes f	or each axis.		
Display and	Operation Details					
		$\begin{array}{c}1 \longrightarrow \\ 2 \\ 3 \longrightarrow \end{array}$	I/O Sta Frwrd l Rvrse l Drig.pro Z-Phase Extrnl. Extrnl. Extrnl. Positing Axis er	latch1 inp latch2 inp latch3 inp g.compltd in		
No.	ltem	Setting/ display		Descr	iption	
1	Axis	Setting		e axis number. (Setting range		
2	I/O status	Display		ys the I/O status. The display that are ON.	will be lit yello	w for any status
3	Error code	Display	D'	s any error codes that have		1

#### Remarks

- \* There are two different version of this SMART Active Part depending on the following area alStorage directorys. 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\_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM\_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area.

# 1.2.7 I/O Status Monitoring (No name)

Unit type	CJ1W-NCF71		ctory	SmartActiveParts_E\Motio n\ NCF	Title	I/O Status Monitor (No Name)		
Function	Displays the I/O sta	atus and error	r codes f	or each axis.				
Display and	Display and Operation Details							
$1 \longrightarrow 1$ $2 \qquad \qquad$								
No.	Item	Setting/ display		Descri	iption			
1	Axis	Setting	Sets th	e axis number. (Setting range	e: 1 to 16)			
2	I/O Status	Display	signals	rs the I/O status. The display that are ON. der of the status is the same a	-			
3	Error code	Display	Display	s any error codes that have b	been generate	ed.		
Remarks	o huo difforent version	a of this ON/A		Dort dononding on the faller	uina araa alQu	orogo director o		
One for of When us Memory SMART * Do not u * Use syst * When re * Number * Data is s	operating input memo- sing this SMART Active <b>List</b> Button on the <b>In</b> Active Part cannot be se this SMART Active tem version 5 or higher using SMART Active of frames: 1 saved in the following	ory area in CIC e Part, be sur itial Tab Page used on pop- e Part on the in er. Parts, be sure areas: a in CIO Area	O Area a re to sele e, and se -up scre- initial scr e to set t	een.	mory area in the menu is in the menu is in the menu is and <b>Address In</b> CIO Area: Our	DM Area bar, press the <b>System</b> idex for the \$SW. This tCIO_InCIO		

### 1.2.8 Axis Error

1.2.0 A	XIS EITOI									
Unit type	CJ1W-NCF7	1 Storage director		Title	Axis Error					
Functior	Function Displays and resets axis errors.									
Display a	and Operation I	Details								
	1		Axis err. Axis 1 000 2 3 4	0 Err	or reset					
No.	ltem	Setting/ display		Desc	cription					
1	Busy	Display Lig	hts yellow when processir	ng is being	performed for the axis.					
2	Axis	Setting Se	ts the axis number. (Settin	ig range: 1	to 16)					
3	Axis error	Display Lig	hts yellow when an axis e	rror has oc	curred.					
4	Error code	Display Di	splays any error codes tha	t have bee	n generated.					
5	Error reset	Setting Re	sets the axis error.							

### Remarks

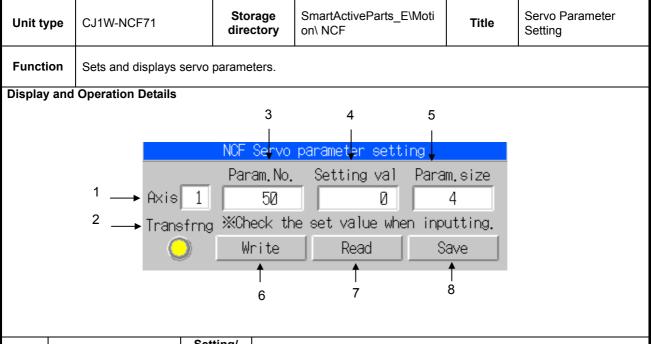
\* There are four different version of this SMART Active Part depending on the following area alStorage directorys. Operating output memory area in CIO Area and Operating input memory area in CIO Area Operating output memory area in CIO Area and Operating input memory area in DM Area Operating output 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 CIO 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\_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM\_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM\_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM\_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area.

# 1.2.9 Unit Error

Unit type	CJ1W-NCF71	Stora direc	•	SmartActiveParts_E\Motio n\ NCF	Title	Unit Error				
Function	Displays and resets U	Init errors.								
Display an	Display and Operation Details									
	NCF Unit error									
Rueu Ubit orr										
	Busy Unit err									
	1	$\bigcirc$ (	$\bigcirc$	0000 Error reset						
		~ `		, ,	9					
			Ī	Î Î						
			2	3 4						
No.	ITEM	Setting/ display		Descr	iption					
1			Lights	yellow during Unit processing						
2		Display	Lights	yellow when a Unit error has	occurred.					
3	Error code	Display	Display	ys any Unit error codes that ha	ave been ger	erated.				
4	Error reset	Setting	Resets	the Unit error.						
	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_InCIO									



ltem	Setting/ display	Description
Axis	Setting	Sets the axis number. (Setting range: 1 to 16)
Transferring	Display	Lights yellow when servo parameters are being transferred.
Parameter No.	Setting	Sets the parameter number.
Setting value	Setting/ display	Specify the data to write to the servo drive.
Parameter size	Setting	Sets the parameter size. Set the size as a hexadecimal value. Be sure to set the correct size.
Write	Setting	Writes the setting to control memory in the servo drive.
Read	Setting	Reads the servo parameter.
Save	Setting	Saves the servo parameter to nonvolatile memory in the servo drive.
	Axis Transferring Parameter No. Setting value Parameter size Write Read	ItemdisplayAxisSettingTransferringDisplayParameter No.SettingSetting valueSetting/ displayParameter sizeSettingWriteSettingReadSetting

Remarks

\* There are four different version of this SMART Active Part depending on the following area alStorage directorys. 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\_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM\_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM\_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area: OutDM\_InCIO Operating output memory area in DM Area and Operating input memory area in DM Area.

### 1.2.11 Area Setting

Unit t	ype CJ1W-NCF7	71 Stora direc	-	SmartActiveParts_E\ Motion\ NCF	Title	Area Setting (Common Parameter Setting)				
Funct	tion Sets and dis	Sets and displays the operating output and input areas.								
Displa	ay and Operation	Details								
				NCF Common parameter	r settina					
						Γ				
1	→Out. bit	area word	for	axis operation CIO	V	1 CH				
2	Inp. bit a	irea word	for a	axis operation DM	V	1 CH				
	Operating	area sett	ting	Scan list		Communications setting				
		Т	'rans <sup>.</sup>	ferring 📿 🛛 🔐	te	Read Save				
				3 4		5 6				
		Setting/								
No.	Item	display			Desc	ription				
1	Output bit area word for axis operation	Setting		the operating output are : CIO or DM addresses:		ings are as follows:				
2	Input bit area word for axis operation	Setting		the operating input area : CIO or DM addresses:		ngs are as follows:				
3	Transferring	Display	Light	ts yellow when data is be	eing transfe	erred.				
4	Write	Setting		es data from the CPU Ur						
5	Read	Setting		es data from the Position						
6	Save	Setting	Save merr		al memory i	n the Position Control Unit to built-in flash				
Rema										
						em Settings in the menu bar, press the				
Sy	stem Memory Lis	st Button or	n the	Initial Tab Page, and s	elect Basi	cs 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

### 1.2.12 Scan List (Common Parameter Setting)



V

V

V

V

Save

5

V Axs16 allo.no

Read

Ĺ

Communications setting

V Axs 5 allo, no V Axs 9 allo, no V Axs13 allo, no Axs 1 Axs 2 allo, no V Axs 6 allo, no V Axs10 allo, no V Axs14 allo, no 1 Axs 3 allo.no V Axs 7 allo.no V Axs11 allo.no V Axs15 allo.no V Axs 8 allo, no V Axs12 allo, no Axs 4 allo.no Operating area setting Transferring

No.	ltem	Setting/ display	Description
1	Scan List	Setting	Switches the alStorage directorys for MECHATROLINK devices connected to the
		5	Unit between servo alStorage directorys and no alStorage directorys.
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	Sotting	Saves the contents of internal memory in the Position Control Unit to built-in flash
5	Save	Setting	memory.
_			

Scan list

Write

| 3

### 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 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

	o oominamoat		ung			'9/
Unit t	ype CJ1W-NCF7	Stora direc		SmartActiveParts_E\ Motion\ NCF	Title	Communications Setting (Common Parameter Setting)
Funct	tion Sets and disp C2 master se		ansmis	ssion cycle, communicat	ions cycle,	number of communications retries, and
Displa	ay and Operation I	Details				
•	· ·					
				NCF Common parameter	setting	
1 _		Tra	ansmia	sion cycle 2	V ms	
2			<b>.</b>		T	
_		l	Jommur	nications 3	Transmis	sion cycle
3	→No. of	Communics	; retr	ries times 🛛 1	time(s)	
4					1	
		With/wi	thout	C2 master Without		
	Operatin	g area se <sup>.</sup>	tting	Scan list	C	ommunications setting
		<u> </u>				
			Trans	ferring 🔘 🛛 Writ	.e	Read Save
				<b>↑ ↑</b>		<b>↑ ↑</b>
				5 6		7 8
No.	Item	Setting/			Desc	cription
		display	Snoo	ifica the avale for date tr	anoforo in	MECHATROLINK communications. The
1	Transmission	Setting		ings are as follows:		MECHAIROLINK COMMUNICATIONS. THE
	cycle	octang		3, 4, 5, 6, 7, 9, 0.25, or	0.5 ms	
0	Communications	0	Sets	the data update cycle b	etween the	Unit and MECHATROLINK devices.
2	cycle	Setting		ing range: 0 to 32 ms)		
	No. of					or which to retry communications when
3	communications	Setting		÷	e Unit and I	MECHATROLINK devices. (Setting range:
	retries		0 to 7			
4	With/without C2	Setting		•		ions master and not using a MECHATROLINK system support.
5	master Transferring	Display		s yellow when data is be		
6	Write	Setting	<u> </u>	es data from the CPU Ur	<u> </u>	
7	Read	Setting		es data from the Position		
-						in the Position Control Unit to built-in flash
8	Save	Setting	mem		,	
Rema						
						Settings in the menu bar, press the
				itial Tab Page, and sele	ect Basics	for the \$SB. This SMART Active Part
	nnot be used on po			the initial correct		
D	o not use this SMAR	a Active Pa	ant on	the millial screen.		

# 1.2.13 Communications Setting (Common Parameter Setting)

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 S	etting (Ax	is Pa	rameter Setting	)			
Unit t	ype CJ1W-NCF	71 Stor direc		SmartActiveParts	s_E\	Title	Input Signal Setting (Ax Setting)	is Parameter
Funct	tion Sets and dis	splays the ir	nput si	gnals for each axis	6.			
Displa	ay and Operation	Details						
				NCF Axis Param	neter S	Setting		
	Or	rig.input	In	terpt.input		Orig.inp	ut Interpt.input	
	Axs 1	Latch 1	VI	Z-phase V A	ixs 5	Z-phas	e V Z-phase V	1
	Axs 2	Latch2	V	Z-phase V A	Axs 6	Z-phas	e V Z-phase V	ī l
1	Axs 3	Latch 3	V	Z-phase V F	Axs 7	Z-phas	e V Z-phase V	
	Axs 4	Z-phase	V	Z-phase V F	Axs 8	Z-phas	e V Z-phase V	
	Axs1~8i	np.signal	Axs1	~8action mode	Axs9~	16inp.si	mal Ax9~16action.mo	ode
			Trans	ferring 🔘 📋	Write	e	Read Save	
				1 2	<b>↑</b> 3		↑ ↑ 4 5	
No.	ltem	Setting/ display				Desc	iption	
4	Origin input	Setting	follo	• •	Ū.		n origin searches. The s	ettings are as
1 -	Interrupt input	Setting	Spec as fo		input się	gnal to use	d for interrupt feeding. T	he settings are
2	Transferring	Display	Light	ts yellow when dat	a is bei	ng transfe		
3	Write	Setting	Write	es data from the Cl	PU Unit	t to the Po	sition Control Unit.	

5 Save Remarks

4

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.

Writes data from the Position Control Unit to the CPU Unit.

Saves the contents of internal memory in the Position Control Unit to built-in flash

Do not use this SMART Active Part on the initial screen.

Setting

Setting

Use system version 5 or higher.

Read

- When reusing SMART Active Parts, be sure to set the unit number.
- Number of frames: 1 frame (total for input signals and operation mode)

memory.

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

## 1.2.15 Operating Mode Setting (Axis Parameter Setting)

Unit	type	CJ1W-NCF		age ctory	SmartActiveParts_E\ Motion\ NCF	Title	Operating Mod Setting)	de Setting (Axi	s Paramete
Func	tion	Sets and di	splays the o	operat	ing mode for each axis.				
Displ	ay and	d Operation	Details						
					NCF Axis Parameter	Setting			
	1	Orig	. search	Or	.serch Encoder	Orig.sea	rch Or.se	erch Encoder	1
	ſ	Axs1 Reve			Forward ABS Axs5			ward INC	
		Axs2 Reve				Rever. m		erse INC	
1	$  \downarrow  $								
		Axs3 Reve	r. model	VF	Forward INC Axs7	Rever. m	ode1 V For	ward INC	
		Axs4 Reve	r. model	VF	Forward INC Axs8	Rever. m	ode1 V For	ward INC	
		Axs1~8inp	p.signal	Axs1 <sup>,</sup>	~8action mode Axs9	~16inp.s	igna1   A×9~16	Saction.mode	
				[rane:	ferring 🔘 🛛 Wri	te 🗍	Read	Save	-
	. 1							'	
					2 3		4	5	
No.		Item	Setting/ display		2 3	Dese	4	5	
No.		gin search	Setting/ display	follo	cifies the operation patte	ern to use i	n origin searche	es. The settings	are as
			display	follo Rev	cifies the operation patte ws: ersal mode 1, Reversal	ern to use in mode 2, Si	n origin searche ngle-direction m	es. The settings	are as
<b>No</b> .	0	gin search	display	follo Rev Spe	cifies the operation patte	ern to use in mode 2, Si	n origin searche ngle-direction m	es. The settings	are as
	oj Sear	gin search peration	display Setting	follo Rev Spe Forv Swit	cifies the operation patte ws: ersal mode 1, Reversal cifies the origin search c ward or reverse tches the servomotor en	ern to use ir mode 2, Si lirection. Th coder type	n origin searche ngle-direction m ne settings are a	es. The settings node as follows:	
1	Searc E	gin search peration ch direction Encoder ansferring	display Setting Setting Setting Display	follo Rev Spe Forv Swit and Ligh	cifies the operation patter ws: ersal mode 1, Reversal cifies the origin search of ward or reverse tches the servomotor en an absolute encoder (A its yellow when data is b	ern to use ir mode 2, Si lirection. Tr coder type BS). eing transfo	n origin searche ngle-direction m ne settings are a between an incl erred.	es. The settings node as follows: remental enco	
1 2 3	Searc E	gin search peration ch direction Encoder ansferring Write	display Setting Setting Setting Display Setting	follo Rev Spe Forv Swit and Ligh Writ	cifies the operation patter ws: ersal mode 1, Reversal cifies the origin search of ward or reverse tches the servomotor en an absolute encoder (A its yellow when data is b es data from the CPU U	ern to use in mode 2, Si lirection. Th coder type BS). eing transfi nit to the P	n origin searche ngle-direction m ne settings are a between an incl erred. osition Control L	es. The settings node as follows: remental enco	
1 2 3 4 5	E Seard Tra	gin search peration ch direction Encoder ansferring	display Setting Setting Setting Display	follo Rev Spe Forv Swit and Ligh Writ Sav	cifies the operation patter ws: ersal mode 1, Reversal cifies the origin search of ward or reverse tches the servomotor en an absolute encoder (A its yellow when data is b	ern to use ir mode 2, Si lirection. Th coder type BS). eing transfe nit to the P n Control U	n origin searche ngle-direction m ne settings are a between an incl erred. osition Control L nit to the CPU L	es. The settings node as follows: remental enco Unit. Unit.	der (INC)
1 2 3 4 5 <b>Rema</b> * W <b>S</b> • • W * W * W * W * W * W * W * W * W * W * * W * * W * * W * * W * * W * * * W * * W * * W * * * W * * * W * * * W * * * W * * * W * * * W * * * W * * * * W * * * * * * * * * * * * *	Seard E Tra Tra arks /hen us ystem annot b o not u se syst /hen re umber ata is s peratin peratin	gin search peration ch direction Encoder ansferring Write Read Save Save sing this SM Memory Li be used on p ise this SMA tem version a cusing SMAR of frames: 1 saved in the ing output me ing output me	display Setting Setting Setting Display Setting Setting Setting Setting Setting Setting Setting Cop-up scree RT Active Fa for higher. T Active Pa frame (tota following ar mory area i mory area i	follo Rev Spe Forv Switt and Ligh Writt Writt Save men e Part on the ens. Part on arts, be il for in eas: n CIO n CIO	cifies the operation patter ws: ersal mode 1, Reversal cifies the origin search of ward or reverse tches the servomotor en an absolute encoder (A its yellow when data is b es data from the CPU U es data from the Positio es the contents of intern	ern to use in mode 2, Si lirection. Th coder type BS). eing transfe nit to the P n Control U al memory ting - Sysa select Basi mber. on mode) ut memory ut memory	n origin searche ngle-direction m he settings are a between an incl erred. osition Control L nit to the CPU L in the Position C tem Settings in ics for the \$SB area in CIO Are area in DM Area	es. The settings	der (INC) built-in flas ar, press th Active Pa

# 1.3 Standard Motion Control Units

### 1.3.1 Adjust operation

Unit type	CS1W-MC221 CS1W-MC421	Storage directory	SmartActiveP on\MC	°arts_E∖Moti	Title	Adjust Operation					
Function	Performs jogging, origin searches, and origin returns.										
Display and	Operation Details										
		3			7						
		MC Ac	ljust opera	ition							
	Axis busy (	Override se	tting		¥						
1	→ 🔘 Die	able	0.0 %	+JOG	Origin se	arch					
2 _	→Axis 1 Dece	stop   Serv	vo unlock	-JOG	Origin re	turn					
		<b>↑</b> 4	<b>∱</b> 5	<b>†</b> 6	<b>↑</b> 8						

No.	ltem	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.
Domarl	10		

### 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.

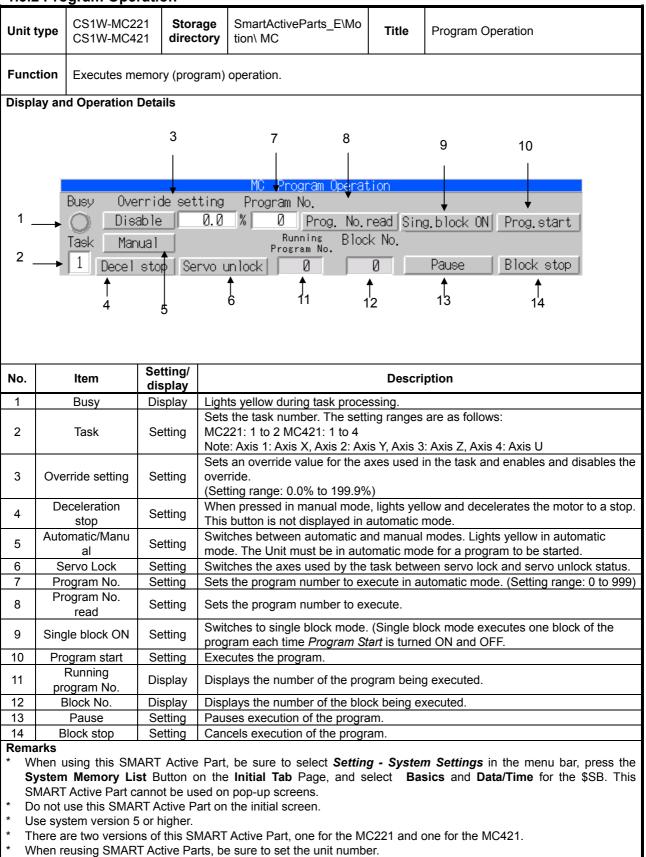
\* Use system version 5 or higher.

\* 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



\* Number of frames: 1

### 1.3.3 Setting

Unit ty	CS1W-MC221 CS1W-MC421		rage ctory	SmartActiveParts_E\Mot ion\MC	Title	Setting
Functio	on Sets the forced or	igin and the a	absolute	origin.		
Display	and Operation Details	;				
				MC Setting		
1 _	Axis busy			Pre.pos	∋(Ref.coor	.sys.FB)
	🛛 🔘 Axis 🚺	Forc.or	ig 🛛 AE	3S Forc.orig	0.0	
		3 J				
	2	Ţ		$\frac{1}{4}$ $\frac{1}{5}$		
		-		-		
No.	ltem	Setting/ display		Des	scription	
<b>No.</b> 1	Item Axis busy	•		yellow when processing is t	being perform	
1	Axis busy	<b>display</b> Display	Sets th	yellow when processing is the axis number. The setting	being perform	
		display	Sets th MC22	yellow when processing is the axis number. The setting 1: 1 to 2 MC421: 1 to 4	peing perform ranges are a	s follows:
1	Axis busy	<b>display</b> Display	Sets th MC22 Note: A Sets th	yellow when processing is the axis number. The setting	peing perform ranges are a (, Axis 3: Axis	s follows: Z, Axis 4: Axis U
1 2	Axis busy Axis	display Display Setting	Sets th MC22 Note: A Sets th position Record	yellow when processing is the axis number. The setting 1: 1 to 2 MC421: 1 to 4 Axis 1: Axis X, Axis 2: Axis Y ne position where the motor	peing perform ranges are a , Axis 3: Axis is stopped as potor is stoppe	s follows: Z, Axis 4: Axis U s the origin (i.e., as a d in the Motion Control

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.

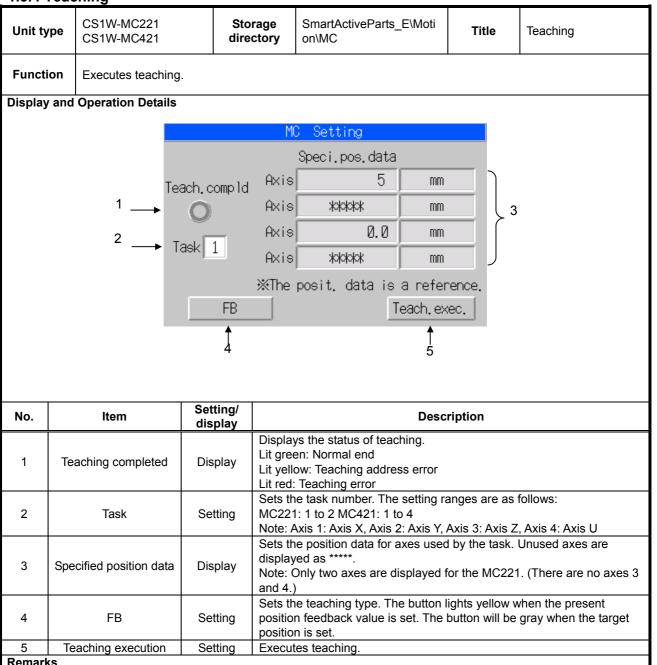
\* Use system version 5 or higher.

\* 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



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.

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\Moti on\MC	Title	Present Value Monitor						
Function Displays the present value of the specified monitor item.											
Display an	d Operation Deta	ails									
		M	10 Present Value Moni	toring							
1	→Axis 1 Pre	.pos(Workp	⊳iece.corrdi.) V		0 mm						
	$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{4}$										
No.	ITAM	tting/		Descript	tion						

No.	ltem	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

\* 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 typ	CS1W-MC221 CS1W-MC421		Storage directory									
Functio	Function         Displays the I/O status and error codes for each axis.											
Display a	Display and Operation Details											
MC I/OStatus monitor         1       I/O status(Axis)         1       CW limit         CW limit       CW limit         0rigin proximity       Reference origin         2       Emer. stop input         Position compld.       No origin         3       Axis error												
No.	Item	Setting displa		Descri	iption							
1	Axis	Setting	g MC221	e axis number. The setting ra I: 1 to 2 MC421: 1 to 4 Axis 1: Axis X, Axis 2: Axis Y, A	-							
2	I/O status	Display	Display	ys the I/O status. The display that are ON.								
3	Error code	Displa	y Display	s any error codes that have b	een generate	ed.						
<ul> <li>When</li> <li>Memory</li> <li>Part of</li> <li>Do no</li> <li>Use s</li> <li>There</li> <li>When</li> </ul>	<ul> <li>Remarks</li> <li>* 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.</li> <li>* Do not use this SMART Active Part on the initial screen.</li> <li>* Use system version 5 or higher.</li> <li>* There are two versions of this SMART Active Part, one for the MC221 and one for the MC421.</li> <li>* When reusing SMART Active Parts, be sure to set the unit number.</li> </ul>											

1.3.71	O Status Monitorii	ng (No name)			
Unit type		Storag directo		Title	I/O Status Monitor (No Name)
Functi	ion Displays the I/O s	tatus and error co	odes for each axis.		
Display	and Operation Details				
		1 _ 2 3 _			
No.	ltem	Setting/ display	Descr	iption	
1	Axis	Setting N	ets the axis number. The setting ra IC221: 1 to 2 MC421: 1 to 4 lote: Axis 1: Axis X, Axis 2: Axis Y, A	Axis 3: Axis Z	, Axis 4: Axis U
			isolave the I/O status. The display	will be lit velle	ow for any status

## 1.3.7 I/O Status Monitoring (No name)

1	Axis	Setting	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

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 ty	ype CS1W-MC2 CS1W-MC4		-	SmartActiveParts_E\Moti on\MC	Title	Axis Error					
Funct	Function Displays and resets axis errors.										
Displa	Display and Operation Details										
				MC Axis error							
				Axis error							
	1	Axis	۰ D	0014 8	Error re	peot					
			20			5961					
				<b>↑ ↑</b>	<b>^</b>						
					4						
				2 0	•						
No.	ltem	Setting/ display			Descript	lion					
			Sets	the axis number. The setting	ranges a	re as follows:					
1	Axis	Setting		221: 1 to 2 MC421: 1 to 4	, · · J · · ·						
			Note	: Axis 1: Axis X, Axis 2: Axis	Y, Axis 3: A	Axis Z, Axis 4: Axis U					
2	Axis error	Display	Ligh	ts yellow when an axis error	has occurr	ed.					
3	Error code	Display	Disp	lays any error codes that hav	ve been ge	enerated.					
4	Error reset	Setting	Rese	ets the error.							
4	Enorreset	Setting	Note	: When an error is reset, tasl	c errors an	d Unit errors are also reset.					
Remai	rks										
* 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-MC2 CS1W-MC4		rage ctory	SmartActiveParts_E\Moti on\MC	Title	Task Error					
Function Displays and resets task errors.											
Display and Operation Details											
MC Task error											
			-	Task error							
	1	Tool									
1Task 4 🕗 🛛 0002 Error reset											
<b>↑ ↑</b>											
				$\frac{1}{2}$ 3	4						
			r								
No.	Item	Setting			Descript	ion					
110.	nem	display			Beschpt						
				the task number. The setting	ranges ar	e as follows:					
1	Task	Setting	-	21: 1 to 2 MC421: 1 to 4							
~	Tool orner	Diamlay		Axis 1: Axis X, Axis 2: Axis							
2	Task error Error code	Display Display		s yellow when a task error ha ays any task error codes tha							
-				ts the error.		ngenerated.					
4	Error reset	Setting			errors and	d 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.											
SMA	RI Active Part c	annot be ι	isea or	1 DOD-UD SCREENS.							

\* 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 ty	CS1W-MC22 CS1W-MC42		rage ctory								
Functi	Function         Displays and resets Unit errors.										
Displa	y and Operation	Details									
	$\begin{array}{c} \text{MC Unit error} \\ \text{Unit err.} \\ 1 \longrightarrow 0 0002 & \text{Error reset} \\ 2 & 3 \end{array}$										
No.	ltem	Setting / display			Desc	ription					
1	Unit error	Display	Light	s yellow when a Unit error ha	as occu	ırred.					
2	Error code	Display	-	ays any Unit error codes that							
3	3 Error reset Setting Resets the error.										
* Wh <b>Sys</b> * The	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.										

#### 1.4 MECHATROLINK-compatible Motion Control Units 1.4.1 Adjust Operation

<u>1.4.1 A0</u>	ust Operation	1						
Unit type	CS1W-MCH71	Storage directory	SmartActiveParts_E on\MCH	E\Moti	Title	Adjust Ope	eration	
Function	on Performs jogging, stepping, origin searches, and origin returns.							
Display an	d Operation Deta	ails						
			3			7		
			, MCH Adjust O	perat	ion			
	Axis busy	Overnia	de Setting					
1		Disable	0.00 %	+J00	G Oriç	a. rearch	+STEP	
2	Axis 1 De	cel.stop	Servo unlock	-J00	G Oriç	g. return	-STEP	
		<b>↑</b> 4	<b>↑</b> 5	<b>↑</b> 6		<b>↑</b> 8	<b>↑</b> 9	-

No.	ltem	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

There are four different version of this SMART Active Part depending on the following user-set area alStorage directorys.

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

1.4.2	Program Operation												
Unit ty	vpe CS1W-MCH71	-											
Function Executes memory (program) operation.													
Display and Operation Details													
	3 7 8 12												
3 7 0 12													
	Duran Orangia			gram Opera									
		e <sup>v</sup> Setting			t mode	0.							
1_	Disable	_   _ 0.00		0 0			g.Block ON						
	Task Manua]			ning Si ;.No. Bloc	ngle 🛛 🕅 k No.Blo	lulti Pr	rog.start 📘 13						
2	1 Decel.stop	-) - Leonu un i		0		ICK NU.	lock stop						
		<u>Joerv.un</u>											
	<b>↑</b>	Ī	Ī	Ť 10	Ţ.	. 4	1 4						
	4 5	6	9	10	1'1		4						
	Octive at 1												
No.	ltem	Setting/ display											
1	Busy	Display		low during ta	· · ·	-							
2	Task	Setting		ask number.									
3	Override setting	Setting	(Setting ra	ange: 0.00%	to 327.67%	)	and disables the override.						
4	Deceleration stop	Setting		Memory (pro			ne motors used in the task be executed during a						
5	Automatic/Manual	Setting	Switches mode. Lig	the axes use	automatic r		utomatic and manual nit must be in automatic						
6	Servo Lock	Setting	1			k between se	ervo lock and servo unlock						
7	Program No.	Setting	Sets the p to 499)	program num	ber to exect	ute in automa	tic mode. (Setting range: 0						
8	Start mode	Setting	Execute fi		ig of prograi		gs are as follows: om current block,						
9	Running program No.	Display				m being exe	cuted.						
10	Single block No.	Display	Displays t executed.		nber of the s	single block e	execution command being						
11	Multi block No.	Display	Displays t executed.		nber of the r	nulti-block e>	ecution command being						
12	Single block ON	Setting	the progra	am each time	Program S		ode executes one block of ON and OFF.)						
13	Program start	Setting		the program									
14 Bamari	Block stop	Setting	Stops prog	gram execut	ion at the er	nd of the curre	ent 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:

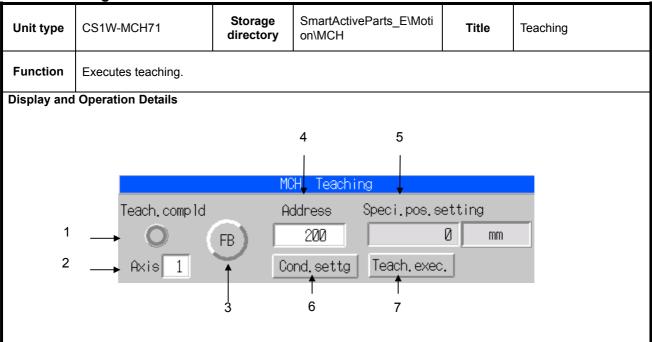
\* Data is saved in the following areas:

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

	CS1W-MCH71		orage ectory	SmartActiveParts_E\Moti on\MCH	Title	Setting						
Function         Sets the forced origin and the absolute origin.												
Display and Operation Details												
	MCH Setting											
	Axis busy			P noe/M	achi.coor.	eue FR)						
1		4 5 4		c								
' -	🗕 🔾 Axis	1 Forc.	Urigin	ABS Orig.Sett.	0	mm						
		<b></b>	<b></b>	<b>↑ ↑</b>								
		2	3	4 5								
No.	No. Item Setting/ display Description											
1	Axis busy	Display	Lights	yellow when processing is b	eing perform	ed for the axis.						
2	Axis	Setting		ne axis number. (Setting rang								
3	Forced Origin	Setting	positio	ne position where the motor i on of 0).		<b>- ·</b> · ·						
	BS Origin Setting	Setting	Unit a									
	Present Position	Display	Displa	ys the present position.								
4       ABS Origin Setting       Setting       Unit as the absolute origin. (For Absolute Encoder only)         5       Present Position       Display       Displays the present position.         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.         *       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 data area in DM Area: MemoryCIO_DataDM User-set memory area in CIO Area and User-set data area in EM0 Area: MemoryCIO_DataEM0												

## 1.4.4 Teaching



No.	ltem	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

There are four different version of this SMART Active Part depending on the following user-set area alStorage directorys.

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

Unit typ	cS1W-MCH71		orage ectory	SmartActiveParts_E\Mot ion\MCH	Title	Present Value Monitor					
Functio	on Displays the prese	nt value of th	ne specif	ied monitor item.							
Display	and Operation Details										
		MOLL	Dura	U.L. U.L. Marthautan							
MCH Present Value Monitoring											
1	→ Axis 1 Pre.p	os(currer	nt coor	rd.FB) V	0	mm					
			2	3		4					
			-	Ŭ		-					
No.	ltem	Setting/ display	Description								
1	Axis	Setting	Sets th	ne axis number. (Setting rang	ge: 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								
3	Present value	Display		ys the present value of the s	pecified mon	itor item.					
4	Unit	Display	Displa	ys the unit.							
Mem Part of Wher for nu Do no Use s Wher Numt Numt Data User-	n using this SMART Acti ory List Button on the cannot be used on pop- n using this SMART Acti umber 1000 to 0.0001. ot use this SMART Active system version 5 or high n reusing SMART Active ber of frames: 2 is saved in the following -set memory area in CIC	Initial Tab P up screens. ve Part, be s re Part on the her. Parts, be su g areas: D Area and U	Page, and ure to se e initial s ure to se User-set o		Time for the etting in the r	\$SB. This SMART Active nenu bar and set the scale					

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		rage ctory	SmartActiveParts_E\Motio n\MCH	Title	I/O Status Monitor						
Function	Displays the I/O sta	Displays the I/O status and error codes for each axis.										
Display and	Operation Details											
1       I/O Status monitor         1       I/O Status(Axis)         1       CW limit(P_OT)         CW limit(N_OT)       Orig.proxty(DEC)         0       Machine origin         Extnl latch 1 inp.       Posiong completed         No origin       Axis Alarm         3       Axis Alarm code												
No.	ltem	Setting/ display		Descri	iption							
1	Axis	Setting										
2	I/O Status	Display			will be lit yello	w for any status						
3	Error code	Display	Display	ys any error codes that have b	been generate	d.						
2         I/O Status         Display         Displays the I/O status. The display will be lit yellow for any status signals that are ON.												

## 1.4.7 I/O Status Monitoring (No name)

Unit type	CS1W-MCH71		orage ectory	SmartActiveParts_E\Motio n\MCH	Title	I/O Status Monitor (No Name)		
Functio	Displays the I/O s	status and error	r codes f	or each axis.				
isplay a	and Operation Details	;						
		2	$2$ $3$ $\rightarrow$					
No.	ltem	Setting/ display		Descri	ption			
1	Axis	Setting		e axis number. (Setting range				
			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 <i>2.10.6 I/O Status</i> .					
2	I/O Status	Display			as that for 2.1	0.6 I/O Status.		

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 directorys.

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

## 1.4.8 Axis Error

	SEITOI	1		1							
Unit type	CS1W-MCH71		rage ctory	SmartActiveParts_E\Motio n\MCH	Title	Axis Error					
Function											
Display an	d Operation Details										
MCH Axis Error											
		HXI	is Err	·							
	1A×	(is 1 (	$\bigcirc$	0000 Error rea	et						
			T 2	T T							
			2	3 4							
No.	ltem	Setting/	Upscription								
1	Axis	display Setting	Sets t	ne axis number. (Setting range	• 1 to 32)						
2	Axis error	Display		yellow when an axis error has							
3	Error code	Display		ys any error codes that have t		ed.					
4	Error reset	Setting	Reset	s the axis error.							
Remarks											
				ect Setting - System Setting:							
	Active Part cannot be			elect Basics, Data/Time, ar	nd <b>Address</b> I	ndex for the \$SW. This					
	use this SMART Active										
				Active Part depending on the	e followina u	ser-set area alStorage					
director						and along along a					
	t memory area in CIO	area and use	er-set da	ata area in DM Area							
User-se	t memory area in CIO	area and use	er-set da	ata area in EM0 Area							
	t memory area in Wor										
	5			lata area in EM0 Area							
WIGHT	eusing SMART Active		e to set	the unit number.							
Data is	saved in the following		or eat d	ata area in DM Area: Memory							
				ata area in EM0 Area: Memory							
				data area in DM Area: Memory							
				data area in EM0 Area: Memo							
					<u>,</u> =	-					

## 1.4.9 Task Error

Unit ty	pe CS1W-MCH71		prage     SmartActiveParts_E\Motio     Title     Task Error       actory     n\MCH     Task Error									
Function	Function         Displays and resets task errors.											
Display	Display and Operation Details											
	$1 \longrightarrow Task 1 0 000 Error reset$ $1 \longrightarrow \frac{1}{2} 3 4$											
No.	ltem	Setting/ display		Descr	iption							
1	Task	Setting	Sets th	ne task number. (Setting range	e: 1 to 8)							
2	Task error	Display		yellow when a task error has								
3	Error code	Display		ys any task error codes that h	ave been gei	nerated.						
4	Error rset	Setting	Resets	s the error.								
Merr on p * Do n * Use * Whe * Num * Data User User User	n using this SMART Activ nory List Button on the In op-up screens. Not use this SMART Active system version 5 or higher in reusing SMART Active aber of frames: 1 is saved in the following -set memory area in CIO -set memory area in Wor	itial Tab Pag Part on the i er. Parts, be sure areas: Area and Use Area and Use k Area and Use	e, and s initial sc e to set er-set da er-set da ser-set da		SMART Acti CIO_DataDM yCIO_DataEf yWR_DataDI	ve Part cannot be used M0 M						

## 1.4.10 Unit Error

Unit type	CS1W-MCH71		erage ectory								
Function	Function Displays and resets Unit errors.										
Display and Operation Details											
$\begin{array}{c} & \text{MCH Unit Error} \\ \text{Unit Err.} \\ 1 \longrightarrow 0 000 & \text{Error reset} \\ \hline 2 & 3 \\ \end{array}$											
No.	ltem	Setting/ display		Descri	iption						
1	Unit error	Display	Lights	yellow when a Unit error has o	occurred.						
2	Error code	Display	Display	s any Unit error codes that ha	ave been gen	erated.					
3	Error reset	Setting	Resets	the error.							
* Data is s User-se User-se User-se											

Unit typ	pe CS1W-MCH	471		rage ctory	SmartActiveParts_E\Moti on\MCH	Title	Servo Parameter Setting			
Functio	on Sets and dis	Sets and displays servo parameters.								
Display and Operation Details										
				3	4	5				
	_									
			MCH	Servo	parameter Setting					
	_		Para	n. No.	Settg value Par	am. size				
	1 <u>A</u>	xis 1		0	0000000	2 V				
	Tr	ransfrrg	::::::::::::::::::::::::::::::::::::::	ck th	e set value when in					
	2		Wr	i te	Read	Save				
				<b></b>	<b>↑</b>	<b>↑</b>				
				6	7 <sup>1</sup>	8				
No.	Item		ting/ play		Desc	ription				
1	Axis		ttina	Sets th	ts the axis number. The setting ranges are as follows: (Setting ranges					

		uispiay	
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

\* 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.

\* 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

Unit ty	pe CS1W-MCH71		rage ctory			Program Operation Status						
Functi	on Displays motion task	Displays motion task status during operation.										
Display and Operation Details												
MCH Program Operation status												
	Motion Task											
		1 2	2 3									
		00		00000								
				1								
No.	Item	Setting/ display		Descri	ption							
1	Motion task	Display	Lights	yellow during motion task ope	ration.							
* Whe * Data User User	Remarks * When reusing SMART Active Parts, be sure to set the unit number.											

Unit type	CS1W-MCH71		rage ctory	SmartActiveParts_E\Moti on\MCH	Title	Automatic Mode Status						
Function	Inction Displays the operating mode for each axis, automatic or manual.											
Display and	Display and Operation Details											
		MCH	Auto	matic mode status								
	Axis											
	1 2	345	67	8 9 10 11 12 13	14 15 16							
	17 18	19 20 21	22 23	24 25 26 27 28 29	30 31 32							
	$\bigcirc \bigcirc$	000	00	00000000	0000							
					)							
				1								
		Setting/										
No.	ltem	display										
1	Axis	Display	Lights	yellow if the axis is in autor	natic mode.							
Remarks	ing this SMADT Activ	o Part ha su	iro to sol	ect Setting - System Setti	nac in the mor	u har pross the <b>System</b>						
				select Basics, Data/Time,								
SMART	Active Part cannot be	e used on pop	o-up scre	eens.								
	se this SMART Activ											
			ARI Aci	ive Part, one for a CIO Are	a user-set me	mory area and one for a						
	ea user-set memory using SMART Active		e to set	the unit number								
	aved in the following		0 10 001									
User-set	memory area in CIC	Area and Us		ata area in DM Area: Memo								
				ata area in EM0 Area: Mem								
User-set	memory area in Wo	гк Area and L	ser-set	data area in DM Area: Mem	oryAreavvR_L	DataAreaDM						

User-set memory area in Work Area and User-set data area in EM0 Area: MemoryAreaWR\_DataAreaEM0

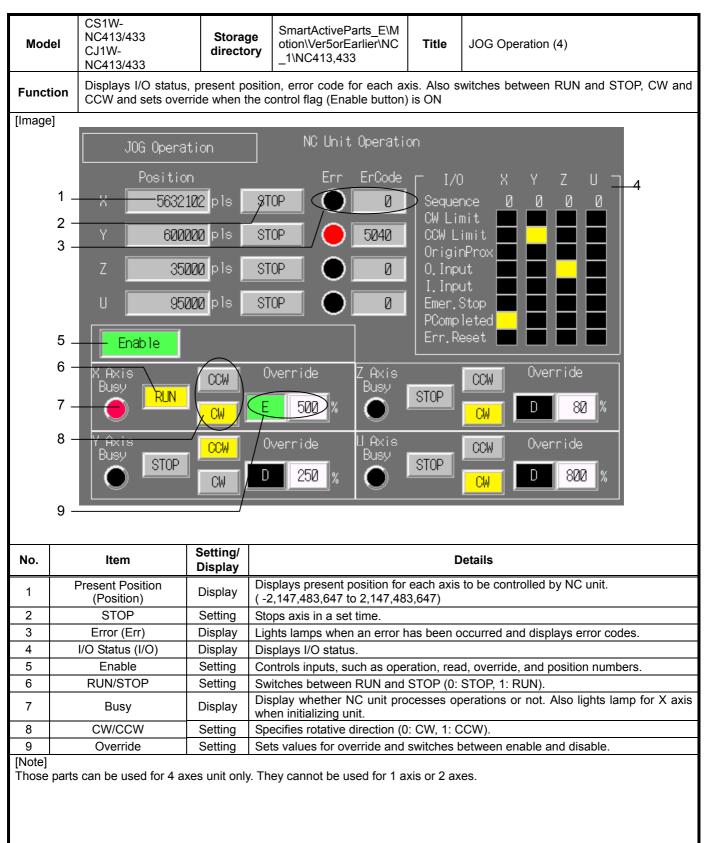
## 1.5 CS1W/CJ1W-NC413/433/213/233 (from Ver5 or Earlier)

#### 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+100xunit number

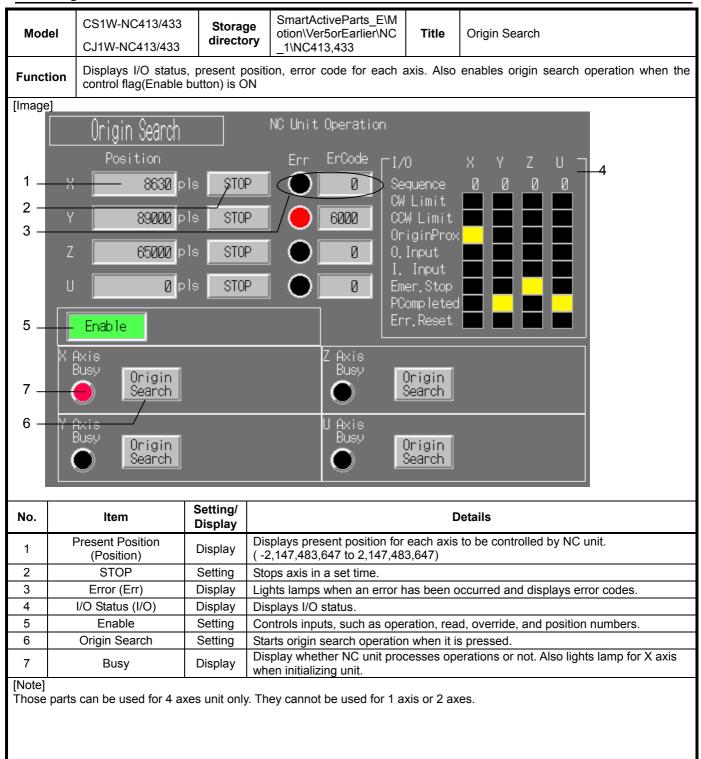
## 1.5.1 NC4[]3 (Smart Active Parts Ver 5 or Earlier )



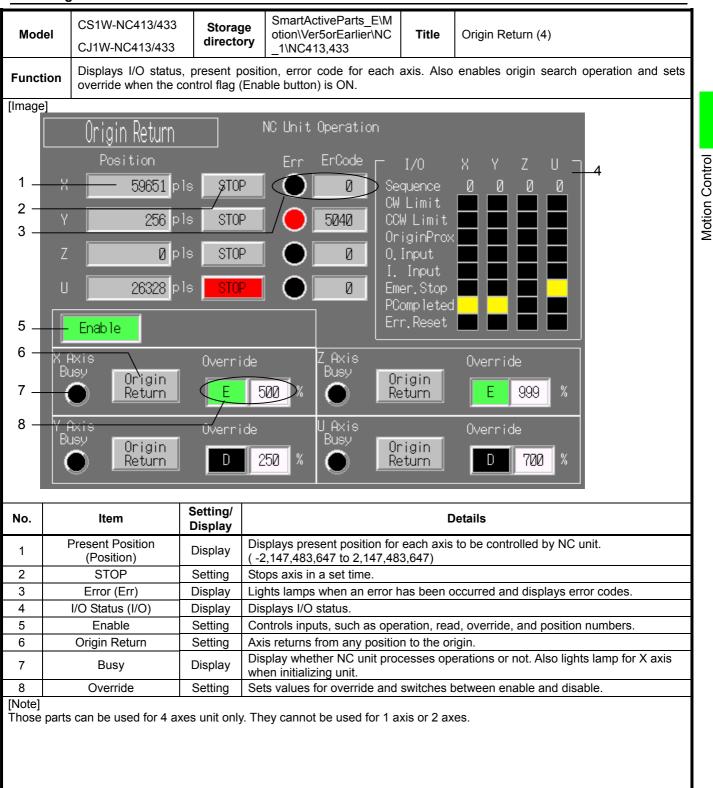
## 1.5.2 Teaching

Mod	lel CS1W-NC413/43 CJ1W-NC413/43	directe		SmartActiveParts otion\Ver5orEarlie _1\NC413,433		Title	Teach (4)		
Funct	tion Displays I/O statuthe control flag(E				ich axis	. Also sets	sequence No. a	nd performs teachin	ng when
[Image	e]								
	TEA			NC Unit Op		on			
	Posit	on		Err El	rCode	Γ I/C	) X Y		
	1	8520 pls	\$TC	P 🜔 5	5040	💙 Sequer			
	2		STC		0	CW Lir			
	3	3612 pls	SIC		0	Origin			
	Z 8	6523 pls	STC		0	0. In	out 🔜 🔜		
		1570 - 10	ото		0		out		
	U 69	1570 pls	STC		0	EmerS <sup>.</sup>			
	5 - Enable					Err. Re			
					<u> </u>				
	6 X Axis Sequ Busy	µe.∖ Posit Numbe	ion re		Axis Busy	Seque.	Position Numbers	pls	
	7 - 5		5600	) TEACH	Õ	46	25700	TEACH	
			0000		<u> </u>		20100		
	8 Y Axis Sequ Busy	<sub>le.</sub> Posit Numbe			Axis Jusy	Seque.	Position Numbers	pls	
	50		53612		ã	8	964130	TEACH	
			0012		<u> </u>		001100		
		Setting/	1						
No.	ltem	Display				D	letails		
1	Present Position (Position)	Display		blays present posi 147,483,647 to 2,			to be controlled	by NC unit.	
2	STOP	Setting	-	$\frac{147,403,047,102}{100}$ s axis in a set tim		3,047)			
3	Error (Err)	Display	Ligh	ts lamps when an	n error h	nas been o	occurred and disp	olays error codes.	
4	I/O Status (I/O)	Display	· ·	olays I/O status.					
5	Enable	Setting		•	-			position numbers.	
6	Position Numbers	Setting		s position numbers					X avia
7	Busy	Display	whe	n initializing unit.	-			Also lights lamp for	
8	TEACH	Setting	Sets	present position	for pos	ition numb	ers.		
[Note]	Settings-System Setti	na-Initial tab	nade	in the NS-Decian	or click	System M	Amory List butto	n and check the Pa	sice for
	B before using this libra		paye	in the No-Design		System IV		n, and check the Da	101 3103
Do NC	DT use as an initial scree	n.							
Those	parts can be used for 4	axes unit only	y. The	y cannot be used	for 1 a	xis or 2 ax	es.		
1									

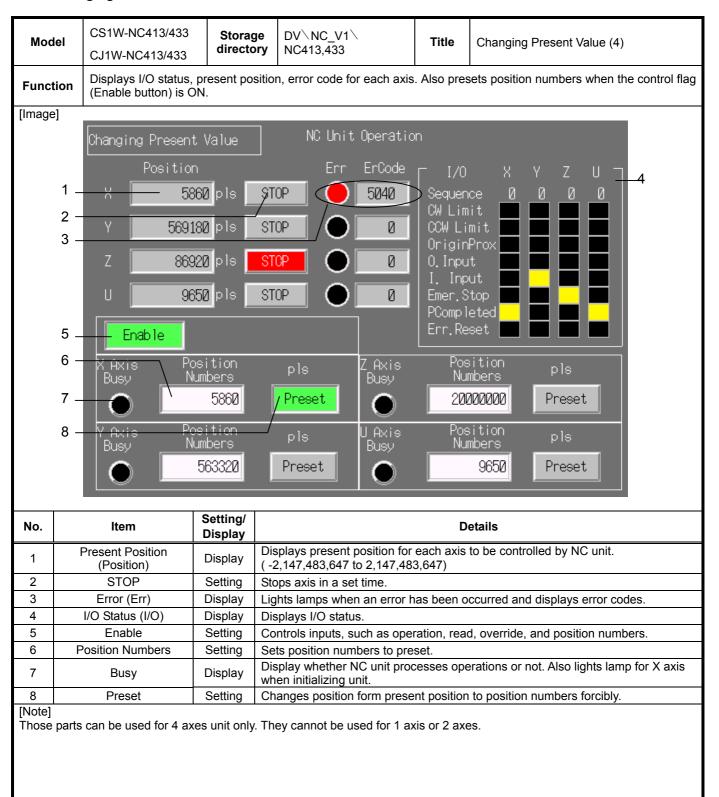
#### 1.5.3 Origin Search



#### 1.5.4 Origin Return



#### 1.5.5 Changing Preset Value

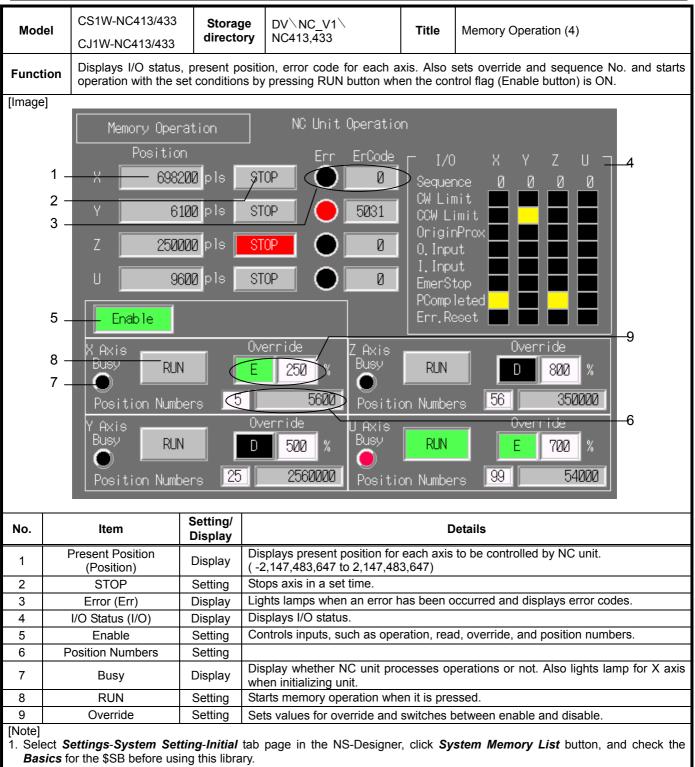


## 1.5.6 Direct Operation

Model	CS1W-NC413/433 CJ1W-NC413/433	Storage director		Title	Direct Operation	on (4)	
Functio		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]							
	Direct Oper	Direct Operation NC Unit Operation					
	Positio	n	Err I	ErCode 🖵 🛛 I/(	) X Y	ΖU٦	4
		00 pls	этор	Ø Seque	nce ØØ	00	-4
	2Y25000	00 pls	STOP	0 CCW L	imit 🔜 💻	EE	
	5	ØØpls 📕	STOP	0rigin 0.Inp	ut 🔜 🔜		
	U 10000	00 pls	STOP	0 I.Inp Den:	Stop 📃 💻		
Ę	5 Enable			PComp Err.R			
C	Busy	Mode	Position	Speed f	à.Time l	D. Time	
7	7 — Х 🔘 🔪 А	R	8500000	25000	、20	20	11
	У 🦲 🗖	R	562430	150000	15	30	10
	Z 🔘 🗖	R	855361	100000	50	100	-9
	U 🔘 A	R	5698423			100	-8
							· ·
No.	ltem	Setting/ Display		[	Details		
1	Present Position		Displays present pos ( -2,147,483,647 to 2		to be controlled	by NC unit.	
2	(Position) STOP		Stops axis in a set tin				
3	Error (Err)	9	Lights lamps when an error has been occurred and displays error codes.				
4	I/O Status (I/O)		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	0	Sets target position for each axis.				
9 10	Speed Acceleration Time	Ű	Sets target speed for each axis. Sets acceleration time for each axis.				
11	(A. Time) Deceleration Time (D.Time)		Sets deceleration time for each axis.				
[Note] Those pa	arts can be used for 4 ax	es unit only.	They cannot be used	d for 1 axis or 2 ax	es.		

Motion Control

#### 1.5.7 Memory Operation(4)



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.

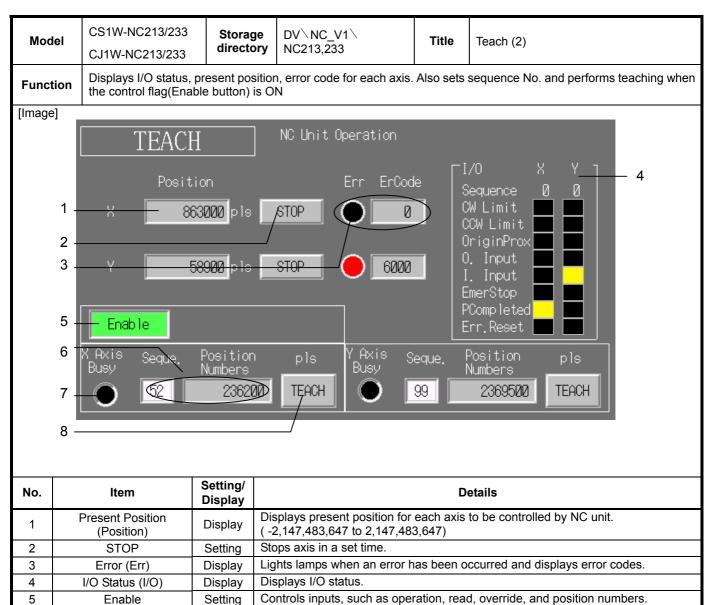
#### CS1W-NC213/233 $DV \ NC_V1 \$ Storage Model Title JOG Operation (2) NC213,233 directory CJ1W-NC213/233 Displays I/O status, present position, error code for each axis. Also switches between RUN and STOP, CW and Function CCW and sets override when the control flag(Enable button) is ON [Image] NC Unit Operation Operatior I/0Х 4 Position Err Motion Control Sequence CW Limit 1 96418623 pls /STOP 5060 CCW Limit 2 OriginProx 0. Input 3 <u>98430-</u> Ø I. Input PCompleted 5 Enable Err.Reset 8 Override HXIS Overnide CCW CCW Busy 6 RUN RUN 7 500) D 450 E CW CW 9 Setting/ No. Item Details Display Displays present position for each axis to be controlled by NC unit. Present Position 1 Display (-2,147,483,647 to 2,147,483,647) (Position) 2 STOP Setting Stops axis in a set time. Lights lamps when an error has been occurred and displays error codes. 3 Error (Err) Display Displays I/O status. 4 I/O Status (I/O) Display 5 Controls inputs, such as operation, read, override, and position numbers. Enable Setting Switches between RUN and STOP (0: STOP, 1: RUN). 6 **RUN/STOP** Setting Display whether NC unit processes operations or not. Also lights lamp for X axis 7 Busy Display when initializing unit. 8 CW/CCW Setting Specifies rotative direction (0: CW, 1: CCW).

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

## 1.5.8 JOG Operation(2)

[Note]

#### 1.5.9 Teach



8 TEACH

6

7

[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.

Sets present position for position numbers.

when initializing unit.

Display whether NC unit processes operations or not. Also lights lamp for X axis

2. Do NOT use as an initial screen.

**Position Numbers** 

Busy

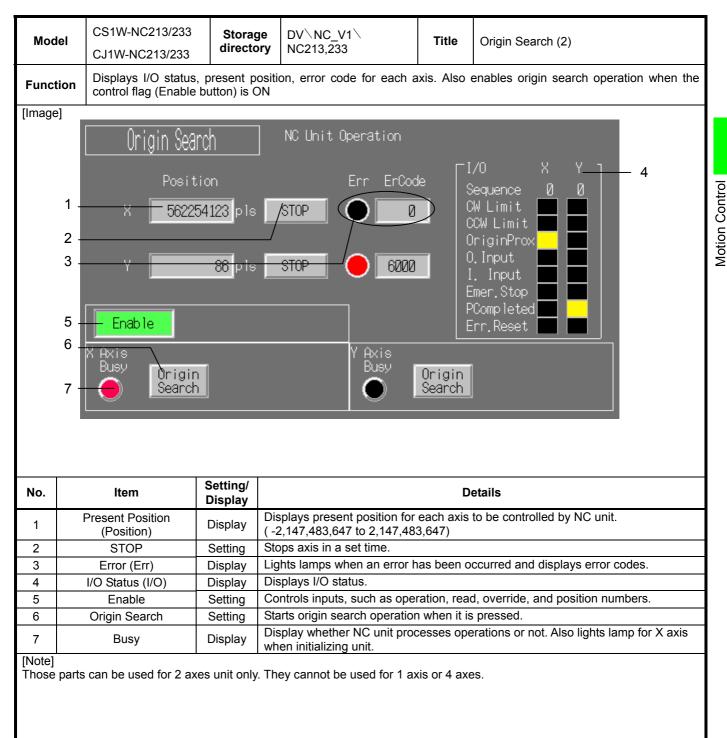
3. Those parts can be used for 2 axes unit only. They cannot be used for 1 axis or 4 axes.

Setting

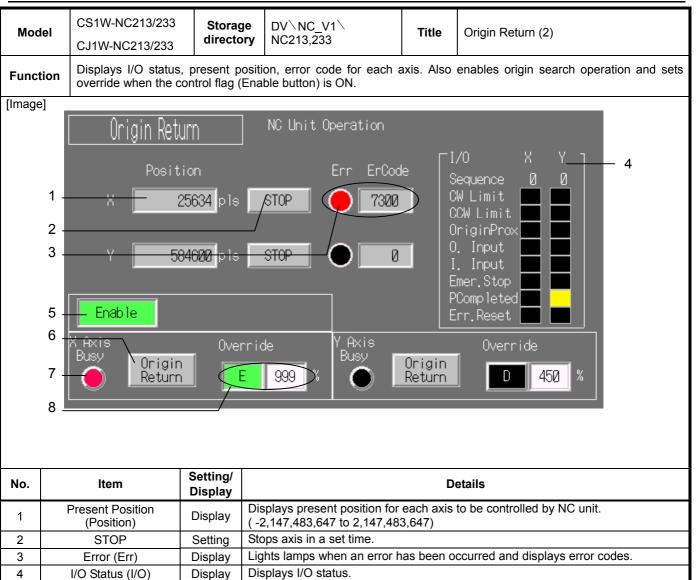
Display

Setting

#### 1.5.10 Origin Search



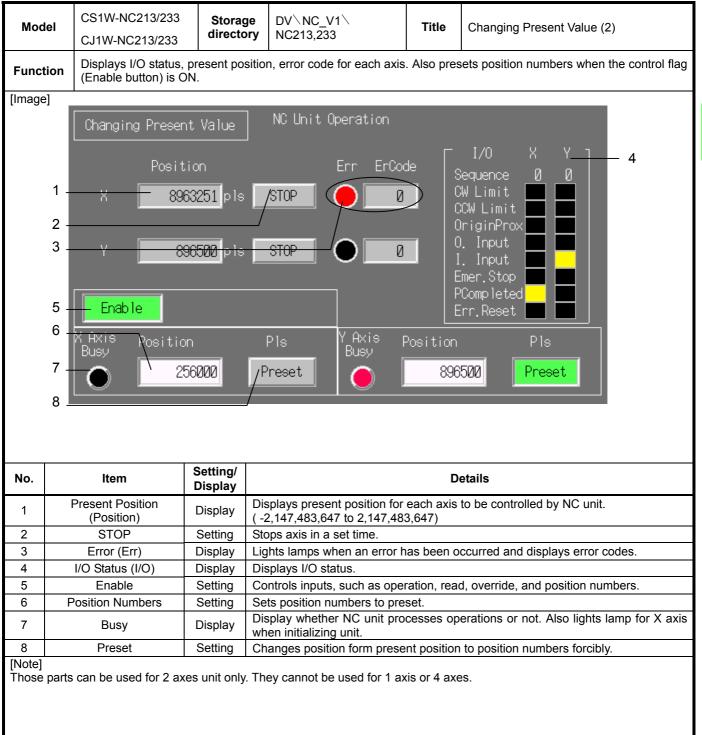
#### 1.5.11 Origin Return(2)



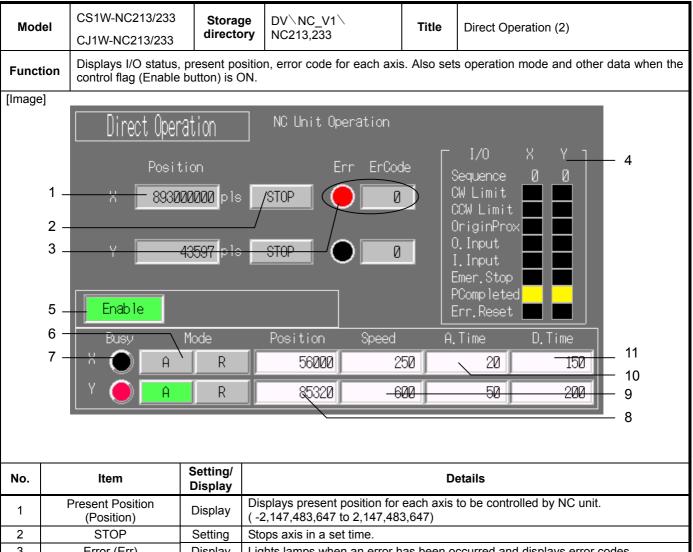
5 Controls inputs, such as operation, read, override, and position numbers. Enable Setting Axis returns from any position to the origin. 6 Origin Return Setting Display whether NC unit processes operations or not. Also lights lamp for X axis 7 Display Busy when initializing unit. 8 Override Setting Sets 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



#### 1.5.13 Direct Operation



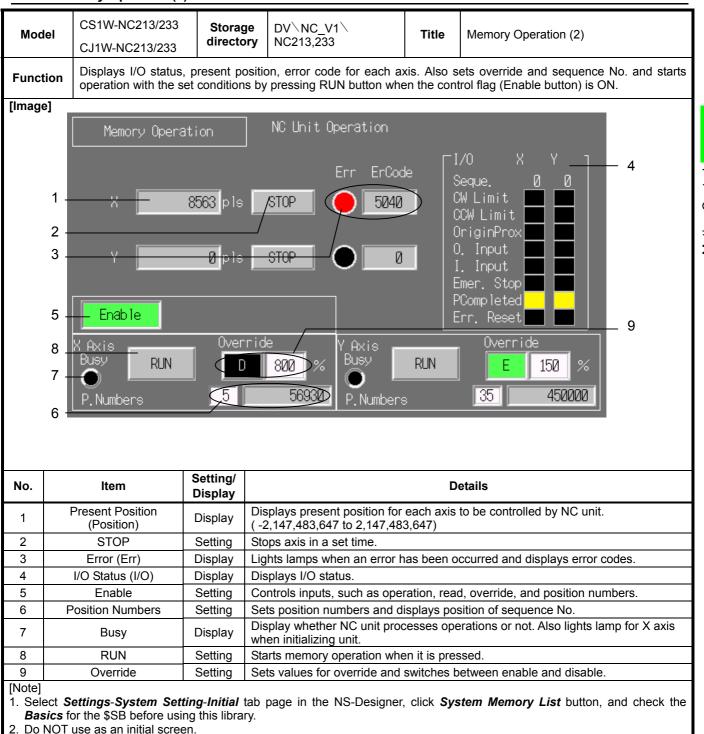
_		5		
3	Error (Err)	Display	Lights lamps when an error has been occurred and displays error codes.	
4	I/O Status (I/O)	Display	Displays I/O status.	
5	Enable	Setting	Controls inputs, such as operation, read, override, and position numbers.	
6	Operation Mode (Mode)	Setting	Switches movement for operation 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.

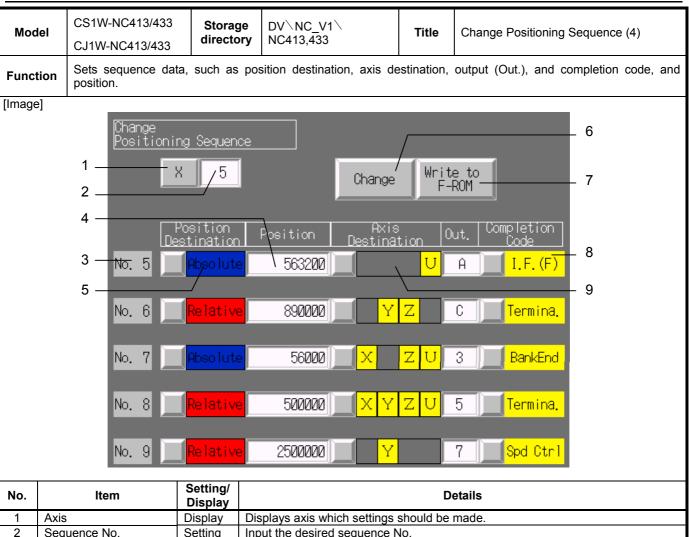
3. Those parts can be used for 2 axes unit only. They cannot be used for 1 axis or 4 axes.



#### 1.5.14 Memory Operation(2)

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

#### 1.5.15 Change Positioning Sequence(4)



-				
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.	
[Ninto]				

[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.

1.5.1	6 Change Positioning	Ocquence	(2)	-			
Mod	CS1W-NC213/233 CJ1W-NC213/233	Storag directo		Title	Change Positioning Sequence (2)		
Funct	tion Sets sequence data	on Sets sequence data, such as position destination, axis destination, output, and completion code, and position.					
[Image	]						
	Change Positic	ning Sequ	ence		6		
	1	- X 🛛 🔊	Oh an an	Write	e to		
	2		Change	F-F	0 <del>M 7</del>		
	4 —	Position		Out.	Completion		
	3 — <del>No</del> -89	Destinati		_	Code 8		
	3 <del>- No.</del> 89	Absolu	ute \ 58000 X	Â	Continu.		
	5 —	/			9		
	No. 90	Relat	ve 1000000 X	Y E	Auto.		
	No. 91	Relat	ve 250000	Y 4	I.F. (R)		
				F			
	No. 92	Abso 1u	ute 6800000 X	<mark>Y</mark> 9	Continu.		
	No. 93	Relat	ve 1500000 X	1	Spd Ctrl		
	110.00						
		Setting/		_			
No.	Item	Display			etails		
1	Axis	Display	Displays axis which settings should be made.				
2 3	Sequence No. Sequence No.	Setting Display	Input the desired sequence No. 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		ompletion Code Setting Sets completion codes.					
9 [Nisto]	Axis Destination	Setting	Specifies axis to be started u	р.			
<b>Bas</b> 2. Whe	sics for the \$SB before usi	ng this librar ., press <b>Cha</b>	у.	-	stem Memory List button, and check the a. Unless the sequence No. is written to the		

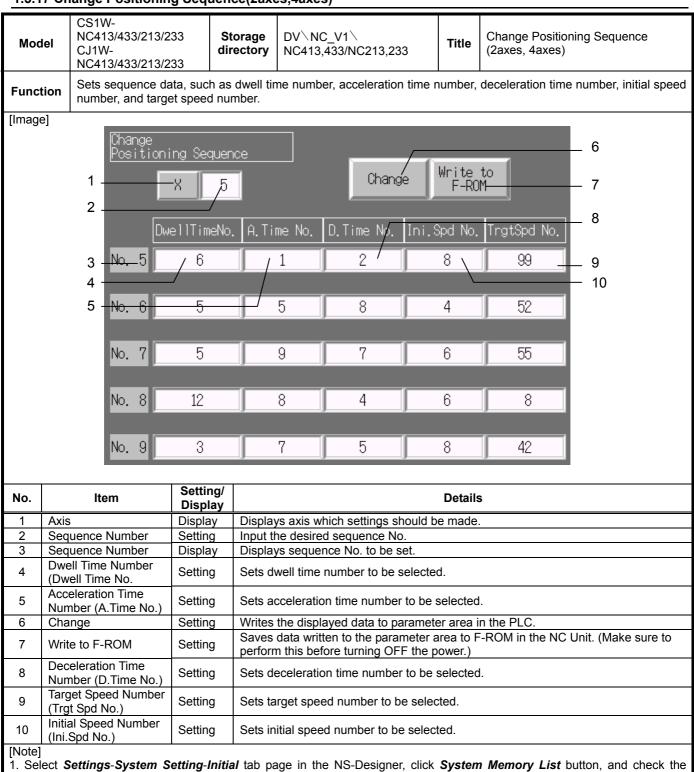
#### 1.5.16 Change Positioning Sequence(2)

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.

#### 1.5.17 Change Positioning Sequence(2axes,4axes)



**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.

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.
 Do NOT use as an initial screen.

Motion Contro

# Motio

#### CS1W-DV\NC V1\ NC413/433/213/233 Storage Changing Acceleration / Model Title Deceleration Time CJ1Wdirectory NC413,433/NC213,233 NC413/433/213/233 **Function** Sets acceleration time and deceleration time for x, Y, Z, and U axis. [Image] Changing Acceleration/ 6 celeration Time Write to 1 Х Change Update 5 F-ROM 2 <u>Acce lera, Dece lera</u> No No. Accelera,<mark>Decelera</mark>, 7 3 <del>No.</del> 1 15 1000 30 No. 6 1000 4 No. 2 50 50 No. 7 2000 5000 No. 3 100 100 No. 8 5000 15000 No. 4 250 300 10000 50000 No. 9 500 400 No. 5 Setting/ No. Item Details Display Axis Display Displays axis which settings should be made. 1 Input the desired sequence No. 2 Sequence Number Setting Sequence Number 3 Display Displays sequence No. to be set **Deceleration Time** 4 Setting Sets deceleration time. (Decelera.) 5 Change Setting Writes the displayed data to parameter area in the PLC. Saves data written to the parameter area to F-ROM in the NC Unit. (Make sure to 6 Write to F-ROM Setting perform this before turning OFF the power.) Acceleration Time 7 Setting Sets acceleration time. (Accelera.) [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

1.5.18 Changing Acceleration

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.

Do NOT use as an initial screen. 4

#### 1.5.19 Changing Speed

Мо	del CS1W- NC413/433/21 CJ1W- NC413/433/21		Storage directory	DV\NC_V1\ NC413,433/NC	213,233	Title	Changing Speed (2 axes, 4axes)
Func	tion Sets speed for	each axis(X	, Y, Z, and l	J).			
[Image	e]						
		Char	nging Spee		7	•	
						- 6	
		1 <u> </u>	/8	Change	Write to F-ROM	_ 5	
		2 No.	. Spe	ed No.	Speed		
		3 <u>No</u> .	8	100 No. 13	12000		
		4 — No.	9	500 No. 14	23000	1	
		No. 1	10	750 No. 15	35000	Į	
		No. 1	11 5	<b>000</b> No. 16	50000		
		No. 1	12 8	000 No. 17	100000	]	
						-	
No.	Item	Setting/ Display			Deta	ails	
1	Axis	Display		axis which setting		nade.	
2	Sequence Number	Setting		desired sequence			
3	Sequence Number	Display		sequence No. to	be set.		
4	Speed	Setting		esired speed.			
4	1	Setting					OM in the NC Unit. (Make su
4 5 6	Write to F-ROM	Setting		this before turni displayed data			

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. Do NOT use as an initial screen.

4

#### 1.5.20 Dwell Time Setting

Mod	el CS1W- NC413/433/213/2 CJ1W- NC413/433/213/2	d	Storage lirectory	DV\NC_\ NC413,43	√1∖ 3/NC213,233	3	Title	Dwell Time Setting (2axes, 4axes)
Funct	ion Sets well time for	each axis(	(X, Y, Z, ar	nd U).				
[Image	2]	1	-x / <sup>g</sup>	e Setting 9 0 ell Time 1.20 1.50 2.00 5.00 7.50	Change	Jrite 1 F-RON Vell T 8.00 8.50 9.00 9.00	1	5 6
No.	Item	Setting Display					Details	
1	Axis	Display		ys axis whic	h settings sh	nould be	made.	
2	Sequence Number	Setting			sequence No			
3	Sequence Number	Display	Displa	ys sequence	e No. to be s	et.		
4	Dwell Time	Setting	Sets th	ne desired d	well time.			
5	Write to F-ROM	Setting	Saves	data writter				ROM in the NC Unit. (Make sure to
6	Change	Setting			ed data to pa			the PLC.
Bas	ect Settings-System S sics for the \$SB before u	ising this li	ibrary.	•	•		-	Memory List button, and check the ess the sequence No. is written to the

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. Do NOT use as an initial screen.

4.

Inverter

#### 1.1 3G3MV

#### 1.1.1 Speed Monitor

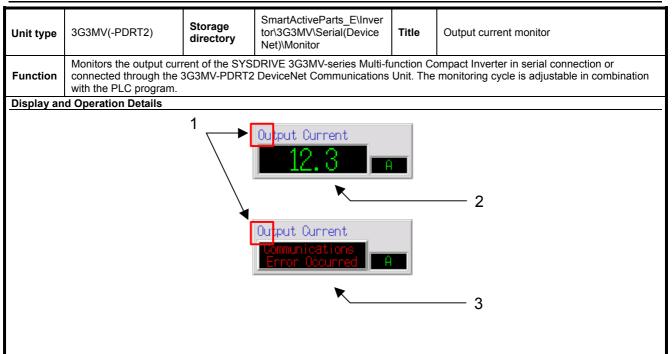
Unit type	3G3MV(-PDRT2)	Storage directo			Speed monitor
Functior					Inverter in serial connection or connected g cycle is adjustable in combination with the
Displa	ay and Operation De	etails			
		1	Rotational Speed		2 3
No. I	tem	Setting/ display	Description		
	Hidden indicator for rigger use	Display	on the screen. The value allocated address from the	can be read o program in the	from the 3G3MV. This indicator is not displayed n a regular basis by turning ON and OFF the e PLC. The monitor cycle is determined by the rding to the communications load.
	Rotational Speed	Display	Displays the speed read fro	m the 3G3MV.	
	Communications error display	Setting/ display	3G3MV. Reading is not perf	formed while th	nications error occurs between the Unit and the is item is displayed. cted, press the displayed part so that reading will
<b>Seled</b> The f	n using this Smart Active c <i>tion)</i> on the 3G3MV. Sp following diagram shows	pecifically, se a programm	t n035 to 2 through 39 (numb	per of motor po	ency Reference Settings/Reference Unit les). le on a regular basis. The 0.1-second clock

- 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 and the Smart Active Parts and the Smart Active Parts are in operation.
- \* Open the property sheet of this Smart Active Parts in the NS-Designer to set the Communication Setting.

# 1.1.2 Output Frequency Monitor

Unit ty	pe 3G3MV(-PDRT2)	Storage director		Title	Output frequency monitor
Functi		he 3G3MV-P			Compact Inverter in serial connection or monitoring cycle is adjustable in combination
Displa	and Operation Details				
		1	Output Frequency	z	2 3
No.	Item	Setting/ display	Description		
1	Hidden indicator for trigger use	Display	displayed on the screen. The valu	ie can be i ogram in th	requency from the 3G3MV. This indicator is not read on a regular basis by turning ON and OFF he PLC. The monitor cycle is determined by the ling to the communications load
2	Output Frequency	Display	Displays the output frequency rea		
2 3	Communications error display	Setting/ display	not performed while this item is di	splayed.	ications error occurs in the 3G3MV. Reading is ed, press the displayed part so that reading will
to ( * Wh Se: * The pul 1 * The cor * If th Act	en using this Smart Active 0.1. en using this Smart Active ttings/Reference Unit Set e following diagram shows se is allocated to the spec 2 0.111/0 0.11-5 clock put e actual monitor refreshing iditions of other Smart Active parts stops, refreshing	e Part, select <i>lection)</i> on the a programm ified address lise g cycle varies ive Parts. The s on the screet the monitor	the 0.01 Hz unit (default) with <b>Para</b> he 3G3MV. Specifically, set n035 to ning example on the PLC to monito s (Serial A: WR00511.15).	ameter n0 o 0. r the value Parts monit ne number monitor w	tored on the screen and the operating of Smart Active Parts increases.

#### 1.1.3 Output Current Monitor



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

\* 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).

2	CF100	+	+	*	+	+	W511.15
-	0.1秒/ロックパルス						$\sim$

ntlp callout: 0.1-s clock pulse

- \* 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)

					1								
Unit ty	pe 3G3MV(-	PDRT2)	Stora direc		SmartActiveParts_E tor\3G3MV\Serial(D Net)\Parameters		Title	Pa	arameter	No. 1	to 12 (i	unit: r/m	in)
Functi	Adjusts th on through th paramete	ne 3G3MV	eters of the s /-PDRT2 De	SYSDRI eviceNet	VE 3G3MV-series Mu Communications Uni	lti-functic t. Only th	on Comp ne main	oact para	Inverter i meters a	n seria are ext	al conne racted	ection or from all	connected
Displa	y and Operatio	on Details											
		4	C		2	4		E					
			2		3	4		5					
		. ↓				. ↓		<b>↓</b>					
		No.1 to N	v lo 12		· ·	cannot h	e set dur	ind c	neration)				
			Constant		Name	Default	5		Unit				
		No.1	n003	Dun Coi	mmand Selection	0	2						
		No.2	n003										
					ference Selection		2		-				
		No.3	n019		ation Time 1	10.0		1.2	8				
		No.4	n020		ation Time 1	10.0		1.2	<u> </u>				
		No.5	n024	Rotatior	nal Speed 1	0		1	r/min				
		No.6	n025	Rotatior	nal Speed 2	0		1	r/min				
		No.7	n026	Rotatior	nal Speed 3	0		1	r∕min				
		No.8	n034	Lower F	req. Reference Limit	0		2	%				
		No.9	n017	Min.Out	put Freq.Valtage		0	.2	V				
		No.10	n095	Frequer	icy Detection Level	0.00	0.	02	Hz				
		No.11	n103	Torque	Compensation Gain	1.0	0.	2	-				
		No.12	n111	Slip Cor	npensation Gain	0.0	0.	2	-				
			-		Rea	d Value	•	Wr	ite	◀–	- 7		
						<b>A</b>							
						6							
No.	Item		Setting/ display	Desc	cription								
1	No.		Display	Displ	ays the item numbers	from the	e param	eter	table.				
2	Constant		Display		ays the constant num			arar	neters a	re sav	ed in th	e 3G3M	V.
3	Name		Display		ays descriptions of pa							<u></u>	
4 5	Default Set Val.		Display Setting/		ays the default value ays the set value of								value can be
			display		written. Each set item								
6 7	Read Value Write		Setting Setting		ts the present value s the settings to the E				r.				
Remar			Setting	vviite			in the t	Jiiit.					
* Wh	en using this S				elect Setting - Unit/S	cale Set	<i>ting</i> in t	he m	nenu bar	and s	et the s	cale for	number
	00 to 0.1 and th				min unit with <b>Parame</b>	ter n025	(Freque	ancu	Refere	100 54	ottinae	Refere	nce llnit
•••	•				5 to 2 through 39 (nun		• •	-			-		
			-		displayed normally.			20).					,
	•				that they will be store	ed after tl	ne Unit i	s tur	ned OFF	. The	settings	s will be	lost if the
3G	3MV is turned (	OFF witho	out writing th	e setting	gs to EEPROM. EEPP	ROM can	be writt	en u	p to 100	,000 ti	mes.		

3G3MV is turned OFF without writing the settings to EEPROM. EEPROM can be written up to 100,000 tir 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. \*

#### 1.1.5 Parameter No.13 to 24

Unit typ	e 3G3MV(-PDR	T2)	Storag directo		SmartActiveParts_E tor\3G3MV\Serial(De Net)\Parameters		Title	e P	aramete	Parameter No.13 to 24			
Functio										in serial connection or connected are extracted from all the			
Display	and Operation De	etails											
		1	2		3		4		5				
		ľ	1		5		ī		J I				
					. ↓		. ★		★				
	No	13 to No.2	24		(	cannot b	e set	durina a	peration				
	N	6	stant		Name	Defaul	6	Set Val.	Unit				
					trol Selection	0		2		_			
	No	.14 n'	130 F	propotio	onal Gain	1.0		0.2	-	]			
	No	.15 n	131	ntegral	Time	1.0		0.2	s				
	No	.16 n'	132 [	Derivativ	/e Time	0.00		0.02	s	Ĩ			
	No	.17 n'	133 F	PID Offs	et Adjustment	0		2	%				
	No				(I) Upper Limit	100		2	%				
										1			
					nary Delay Time	0.0		0.2	S	_			
	No				put Gain	1.0		0.2					
	No	.21 n'	129 F	F.b. Val	ue Adjustment Gain	_ 1.00		0.02		J			
	No	.22 n'	139 E	E. S. C.	ontrol Selection	0		1	-				
	No	.23 n	140 E	E. S. C	pefficient			0.2	-				
	No	.24	Í			(	Ē	0	-	Ĩ			
					Deer	, d Value		ورارا	ite				
					_ Keau			WI	rte				
						6							
No.	Item		etting/	Desc	ription								
1	No.		<b>splay</b> isplay	Displ	ays the item numbers	from the	e par	ameter	table.				
2	Constant		isplay	Displ	ays constant numbers	where	the p			aved in the 3G3MV.			
3	Name		isplay		ays descriptions of pa								
4 5	Default Set Val.		isplay etting/	Displ	ays the default value of	of each	parar	neter (i	.e., the c	lefault in the 3G3MV). g the button, the set value can			
5	Set Val.		splay		written. Each set item								
6	Read Value		etting	Read	Is the present value se	et for ea	ch pa	aramete	er.				
7	Write		etting		s the settings to the E								

1000 to 0.1 and the scale for 999 to 0.01

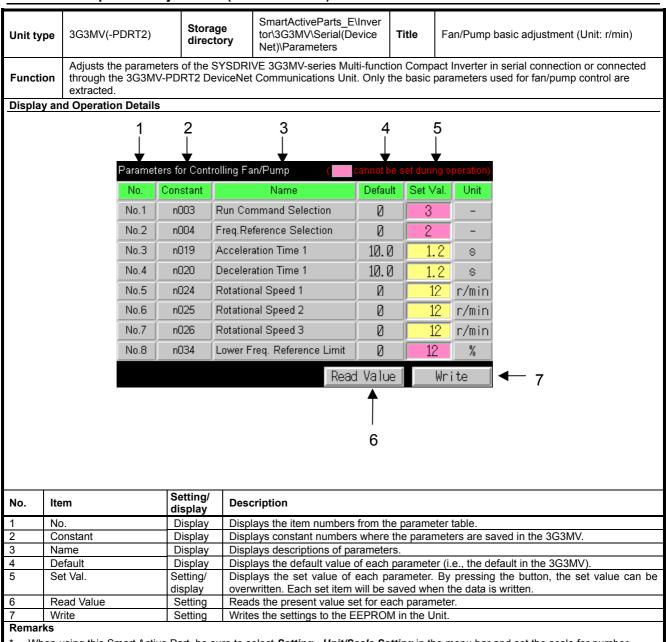
\* Execute EEPROM Write to save the settings so that they will be stored after the Unit is turned OFF. The settings will be lost if the 3G3MV is turned OFF without writing the settings to EEPROM. EEPROM can be written up to 100,000 times.

\* For details on the parameters, refer to the *3G3MV Operation Manual*.

1.1.6 Conveyer Basic Adjustment (Unit: r/min)

	3G3MV(-PDRT2)	Stora direc			itle	Conveyer b	asic ad	justmer	nt (unit: r/min)	)
Function			SYSDRIVE 3G3MV-series Mu eviceNet Communications Uni							
Display a	nd Operation Details	S								
	1 ↓	2 ↓	3 ↓	4 ↓	5 ↓					
	Parame	ters for Cont	roling Conveyer (	cannot he s	v set durin	g operation)				
	No.	Constant	Name	Default	Set Va					
				ļ						
	No.1	n003	Run Command Selection	0	2					
	No.2	n004	Freq.Reference Selection	0	2					
	No.3	n019	Acceleration Time 1	10.0	0.1	<mark>2</mark> s				
	No.4	n020	Deceleration Time 1	10.0	0.1	<mark>2</mark> s				
	No.5	n024	Rotational Speed 1	0	1	l r/min				
	No.6	n025	Rotational Speed 2	0	1	l r/min				
	No.7	n026	Rotational Speed 3	0		l r/min				
	No.8	n103	Torque Compensation Gain	1.0	0.2					
	No.9	n111	Slip Compensation Gain	0.0	0.2					
	140.5			)		_				
				d Value	J <b>a</b> '	Write		1		
				6		MIICE	] ~	7		
No. It	em	Setting/		1		<u>wiite (</u>		/		
	em	display	Description	<b>↑</b> 6	3			1		
1 N	em lo.			from the p	paramet	er table.	aved in t	the 3G3		
1 N 2 C 3 N	lo. constant lame	display Display Display Display Display	Description Displays the item numbers Displays constant numbers Displays descriptions of pa	from the p s where the arameters.	paramete e param	er table. eters are sa				
1 N 2 C 3 N 4 D	o. onstant ame efault	display Display Display Display Display Display	Description Displays the item numbers Displays constant numbers Displays descriptions of pa Displays the default value	from the p s where the irrameters. of each pa	paramete e param	er table. eters are sa (i.e., the de	efault in	the 3G	3MV).	can be
1 N 2 C 3 N 4 D	lo. constant lame	display Display Display Display Display	Description Displays the item numbers Displays constant numbers Displays descriptions of pa	from the p s where the irameters. of each para	paramete param rameter. I	er table. eters are sa (i.e., the de By pressing	efault in the bu	the 3G tton, th	3MV).	can be
1 N 2 C 3 N 4 D 5 S 6 R	lo. constant ame refault et Val. read Value	display Display Display Display Display Setting/ display Setting	Description Displays the item numbers Displays constant numbers Displays descriptions of pa Displays the default value Displays the set value of overwritten. Each set item Reads the present value so	6 from the p s where the irameters. of each para will be sav et for each	paramete e param rameter. I ed when parame	er table. eters are sa (i.e., the de By pressing n the data is eter.	efault in the bu	the 3G tton, th	3MV).	can be
1 N 2 C 3 N 4 D 5 S 6 R 7 W <b>Remarks</b>	io. onstant ame efault et Val. tead Value /rite	display Display Display Display Display Setting/ display Setting Setting	Description Displays the item numbers Displays constant numbers Displays descriptions of pa Displays the default value Displays the set value of overwritten. Each set item	6 from the p s where the rameters. of each para will be sav et for each EPROM ir	parameter rameter. I ed wher parame n the Un	er table. eters are sa (i.e., the de By pressing n the data is eter. it.	efault in the bu s written	the 3G3 itton, th	3MV). le set value (	

#### 1.1.7 Fan/Pump Basic Adjustment (Unit: r/min unit)



\* 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.

1.1.8 Fan/Pump Basic + Energy-saving Adjustment (Unit: r/min unit)

Unit type	3G3MV(-F	PDRT2)	Stora direc			ïtle	Fan/Pump basic + Energy-saving adjustment (Unit: r/min unit)
Function	through th	e <sup>`</sup> 3G3M\		eviceNet Communications U			act Inverter in serial connection or connected parameters used for fan and pump control and
Display an	nd Operation	n Details					
		1	2	3	4	ļ	5
		i	ī	l	ĺ		l
		★	★	★	★		<b>V</b>
		Controllin	iq and Ener	gy-Saving Fan/Pump 🛛 🚺	cannot be	set durir	ng operation)
			Constant	Name	Default	Set V	/al. 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		<mark>.2</mark>
		No.4	n020	Deceleration Time 1	10.0	1.	.2 8
		No.5	n024	Rotational Speed 1	Ø	1	2 r/min
		No.6	n025	Rotational Speed 2	0	1	2 r/min
		No.7	n026	Rotational Speed 3	0	1	2 r/min
		No.8	n034	Lower Freq. Reference Limit		12	
		No.9	n139	E. S. Control Selection	0	1	
		No.10	n140	E. S. Coefficient	0		.2 -
		100.10	11140			ji 1.	
			Setting/		6		
	em		display	Description			
1 No 2 Co	o. onstant		Display Display	Displays the item number			eter table. meters are saved in the 3G3MV.
	ame		Display	Displays descriptions of		o parai	
4 De	efault		Display	Displays the default valu	e of each pa		er (i.e., the default in the 3G3MV).
5 Se	et Val.		Setting/ display		•		By pressing the button, the set value can be
0 00				Overwhitten. Lach set iter			en the data is written
	ead Value		Setting	Reads the present value			en the data is written. neter.
6 Re	ead Value /rite			Reads the present value Writes the settings to the	set for each	n param	neter.

# 1.1.9 PID Control Adjustment

Unit ty	pe 3G3MV(-F	PDRT2)	Stora direc		SmartActiveParts_E tor\3G3MV\Serial(D Net)\Parameters		Title	PID cont	rol adjustment
Functi									er in serial connection or connected PID control are extracted.
Displa	y and Operatio	n Details	s						
	<u> </u>	4			0			-	
		1	2		3	4	:	5	
			$\perp$			$\perp$	-		
		V	•		• • • • • • • • • • • • • • • • • • •				
		PID Con	trol Selectio	n	(	cannot be			n)
		No.	Constant		Name	Default	Set V	′al. Unit	
		No.1	n128	PID Cor	ntrol Selection	0	8	- 1	
		No.2	n130	Proprtio	nal Gain	1.0	1.	2 -	
		No.3	 n131	Integral		1.0		2 s	
		No.4	 n132	Derivativ		0.00	0.1		-
		No.5	n133		set Adjustment			2 %	
					-	100			-
		No.6	n134		(I) Upper Limit	100	12		_
		No.7	n135		nary Delay Time	0.0	1.		_
		No.8	n163	PID Out	put Gain	1.0	1.	2 -	
		No.9	n129	F.b. Val	ue Adjustment Gain	1.00	0.1	12 -	
					Rea	d Value	1	Write	<b>↓</b> 7
						•			·
						l G			
						6			
No.	Item		Setting/ display	Desc	cription				
1	No.		Display	Disp	lays the item numbers	s from the	parame	ter table.	
2	Constant		Display					neters are	saved in the 3G3MV.
3	Name		Display		lays descriptions of pa				
4	Default		Display					-	default in the 3G3MV).
5	Set Val.		Setting/ display		lays the set value of written. Each set item				ing the button, the set value can be
6	Read Value		Setting		ds the present value s				
7	Write		Setting		es the settings to the I				
Remar								-	
		mart Acti	ve Part, be	sure to s	elect Setting - Unit/S	cale Set	t <i>ing</i> in th	ne menu b	ar and set the scale for number
10	00 to 0.1 and the	e scale fo	or 999 to 0.0	)1	-				
* Ex	ecute EEPROM	Write to	save the se	ttings so	that they will be store	ed after th	ne Unit is	s turned O	FF. The settings will be lost if the
3G	3MV is turned C	OFF with	out writing th	ne setting	gs to EEPROM. EEPP	ROM can	be writte	en up to 10	00,000 times.
					AV Operation Manual				

\* For details on the parameters, refer to the 3G3MV Operation Manual.

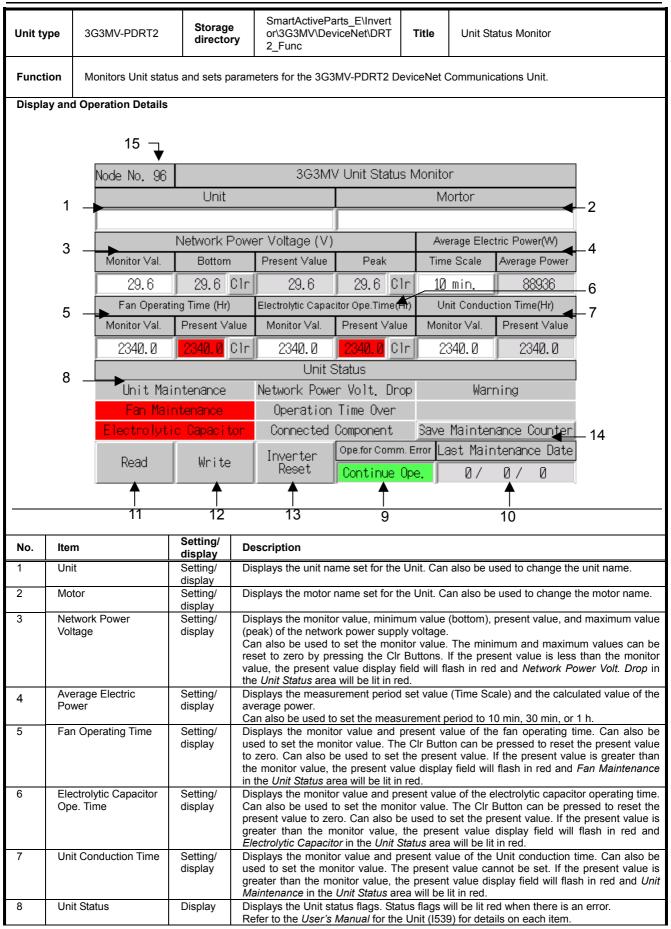
#### 1.1.10 Elevator Basic Adjustment (Unit: r/min unit)

	through the		store of the	rage SmartActiveParts_E\Inver tor\3G3MV\Serial(Device Net)\Parameters			Title Elevator basic ad						••)	
Display ar	nd Operation	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												
		n Details	6											
	1 2 3 4 5													
		i			U U		i l	,						
		. ↓	•		<b>V</b>	•		7						
			,		•	•	,							
		Paramet	ers for Cont	rolling El	evator (	cannot be	set duri	ng ope	eration)					
		No.	Constant		Name	Default	Set \	/al.	Unit					
		No.1	n003	Run Co	mmand Selection	0	3		-					
		No.2	n004	Freg. Re	ference Selection	0	2		-					
		No.3	n019	. <u> </u>	ation Time 1									
				ļ		10.0		.2	S					
		No.4	n020	Deceler	ation Time 1	10.0	1	.2	S					
		No.5	n024	Rotatio	nal Speed 1	0	1	.2 r	∵/min					
		No.6	n025	Rotatio	nal Speed 2	0	1	2 r	∵/min					
		No.7	n026	Rotatio	nal Speed 3	0			/min					
		No.8	n017	!	tput Freq.Valtage			.2	V					
		No.9	n095	Frequer	ncy Detection Level	0.00		12	Hz					
		No.10	n103	Torque	Compensation Gain	1.0	1.1	2	-					
		No.11	n111	Slip Co	mpensation Gain	0.0	1.2	2	-					
					Rea	d Value		Writ	e	<	- 7			
						•								
						6								
No. Ite	em		Setting/ display	Desc	ription									
N N			Display		ays the item numbers									
	onstant		Display		ays constant numbers			neters	are sa	ved i	n the 3	BG3MV.		
	ame		Display		ays descriptions of pa			r (i o	the de	foult	in the	202141/		
	efault et Val.		Display Setting/		ays the default value and ays the set value of									an h
			display		written. Each set item							, 110 30		
	ead Value		Setting	Read	Is the present value se	et for eacl	n param	ieter.						
	rite		Setting	Write	s the settings to the E	EPROM i	n the U	nit.						
Remarks * When	using this Sr	nart Activ	/e Part, be s	sure to s	elect Setting - Unit/S	cale Setti	<i>ng</i> in th	ie mer	nu bar a	and s	et the	scale fo	number	

\* 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.



		<b>.</b>	
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	Display	Displays the last maintenance date registered in the Unit.
	Date		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.

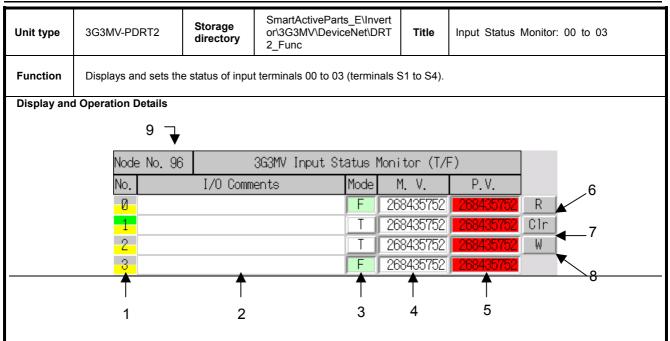
\* When using this Smart Active Part, be sure to select **Setting - Unit/Scale Setting** in the menu bar and set the scale for number 1000 to 0.1.

\* 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.

Inverte



No.	ltem	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.

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.

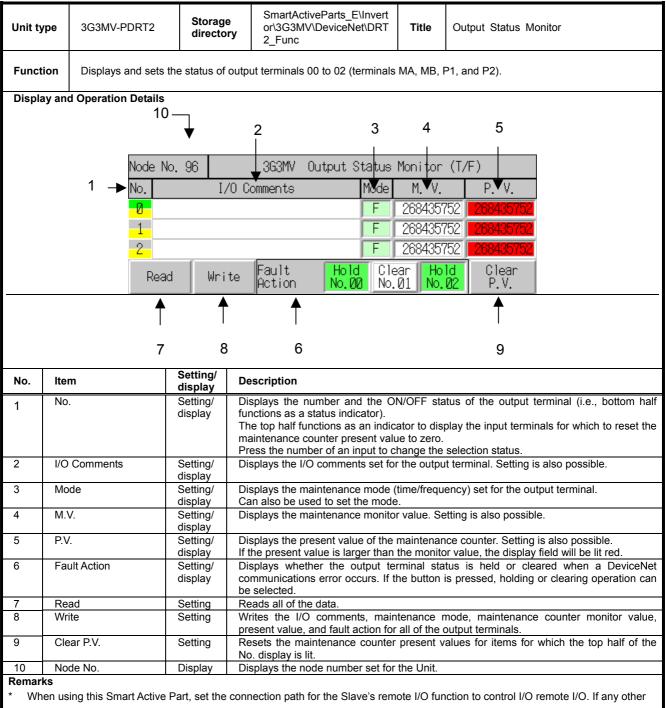
\* Maintenance counter values (number of contact operations and total ON time) are written to EEPROM in the DeviceNet Communications Unit approximately every 6 minutes. Depending on the timing of when the power supply is turned OFF, up to 6 minutes worth of data may be lost. For more accurate management, press the Save Maintenance Counter Button in the Unit Status Monitor Smart Active Part just before turning OFF the power supply.

Unit ty	ype 3	G3MV-PDRT2	Storage directory	SmartActiveParts_E\Invert or\3G3MV\DeviceNet\DRT 2_Func		Input Status	Monitor: 04 to 06
Funct	tion D	isplays and sets th	ne status of inp	out terminals 04 to 06 (terminal	s S5 to S7).		
Displa	ay and Op	eration Details					
		9 _					
		•	_				
		Node No. 96	3	3G3MV Input Status Mo	nitor (T/	Έ)	
		No.	I/O Com	ments Mode	M. V.	P.V.	6,
		4		F 2	68435752	268435752	R
		5		TZ	68435752	268435752	Clr
		6		FZ	68435752	268435752	₩ 4 7
		 ▲	<b></b>	•	<b>A</b>	<b>≜</b>	
		1	-	1		, F	8
		1	2	3	4	5	0
	T						
No.	ltem		Setting/ display	Description			
1	No.		Setting/ D		ON/OFF st	atus of the inp	out terminal (i.e., bottom half
-				unctions as a status indicator). The top half functions as an ind	icator to dis	play the input te	erminals for which to reset the
			m	naintenance counter present va	lue to zero.		
2	I/O Com	ments		Press the number of an input to Displays the I/O comments set t			
			display				<b>.</b>
3	Mode			Displays the maintenance mod Can also be used to set the mod		uency) set for th	ie input terminal.
4	M.V.			Displays the maintenance moni		etting is also po	ssible.
-	P.V.		display				ting is also possible
5	P.V.			Displays the present value of the present value is larger that			play field will be lit red.
-				the present value is larger tha			
6	R			Reads the ON/OFF status, I/C			
6 7	R Clr		rr Setting R	Reads the ON/OFF status, I/C nonitor value, and present valu Resets the maintenance counter	e for all of t	ne input termina	ls.
			Setting R N Setting V	Reads the ON/OFF status, I/C nonitor value, and present valu	e for all of the present vertices and the present vertices and the present vertices and the present of the presento of the present of the pre	he input termina alues for items	ls. for which the top half of the

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.

#### 1.1.14 Output Status Monitor



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.

Unit ty	pe 3G3MV-PDRT2	Storage directory	SmartActivePart or\3G3MV\Devic 2_Func		Title	Opera	tion Time Monito	pr
Functi	on Displays and sets	the operating ti	me for motors or peri	pheral device	es connec	ted to th	e 3G3MV.	
Displa	y and Operation Details			_			_	
	11 —	л <sup>2</sup>	2	3	4	ŀ	5	
		↓		1				
	Node No.	96	. 363MV Opera	ting Time	Monitor	(ms)		
	1 <b>→</b> No. Eq	uipment Nam	e ( Patterns)	Mon. Val	. Ope.	Time	Peak	
	0		(Ter.MA->Ter.S5)		. 0-0.	206	296	
			(Ter.P1->Ter.S6)		-=	296	296	
	1							
	2		(Ter.S3->Ter.S4)			296	296	
	3		(Ter.S5->Ter.S6)			296	296	
	4		(Ope.ON->Ter.S5)	296		296	296	
	5		(Ope.ON->Ter.S6)	296		296	296	
	Dro	. [	Meste Stat	us 🛄 🖬	C10	ear		
	Rea		Write Hold	Hold		ron	Clear Peak	
	<b></b>		<b></b>	<b></b>		<b>L</b>	<b></b>	
	I			I			I	
	7		8	6	ę	9	10	
		Sotting/						
No.	ltem	Setting/ display	Description					
1	No.	Setting/	Displays the number		as an indi	cator if t	he operating tim	e monitor error and
		display	peak value are to be Press the number of a		hange the	selectio	n status	
2	Equipment Name	Setting/	Displays the commer					ng is also possible.
3	Mon.Val.	display Setting/	Displays the operation	a timo monit	or value (	Sotting is	also possible	
3	won.val.	display			or value. 3	setting is		
4	Ope. Time	Display	Displays the operatin		e operatir	ng time i	is larger than the	e monitor value, the
5	Peak	Display	display field will be lit Displays the peak val		eratina tim	ne.		
6	Status Hold	Setting/	Displays whether the	e status is t	o be held	d or clea	ared (updated)	each time when an
		display	operating time monitor status can be selecte	oring error is	detected	. If the b	outton is pressed	, holding or clearing
7	Read	Setting	Reads the equipmen		rating tim	e monito	or value, operatir	g time, peak value,
	\\/::to	Cottine re	and status hold settin					the held a the s
8	Write	Setting	Writes the equipmen No. 00 to 05.	it name, ope	erating tim	ie monite	or value, and sta	atus noid setting for
9	Clear Error	Setting	Clears operating time	e monitoring e	errors for i	items for	which the No. di	splay is lit.
10	Clear Peak	Setting	Resets to zero the ite			lisplay is	lit.	
11 Remark	Node No.	Display	Displays the node nu	mber set for	the Unit.			

\* 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.

#### 1.1.16 Warning Torque Monitor

No.

Ø

1

Read

Т

7

Unit type	3G3MV-PDRT2	Storage directory	SmartActiveParts_E\Invert or\3G3MV\DeviceNet\DRT 2_Func	Title	Warning Torque Mo	nitor
Function	Sets the monitor val (torque).	ue and display	s the peak current for monitoring	g error sta	itus of the load using th	e Inverter's current
Display and	Operation Details					
	11 —	2	3	4	4 9	
	<u> </u>					_
	Node No. 96		3G3MV Warning Torque D	etectio	h (A) ⊥	

Hold

5

Mon. Val.

2.96

2.96

Detection

i Iter

Equipment Name

Torque Current during Frequency

Write

Т

8

Status

Accel/Decel Torque Current

ClearError

Clear Peak

Sensitivity Level 5 (Highest)

Clear Peak

- 10

Péak

2.96

2.96

6

No.	ltem	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.

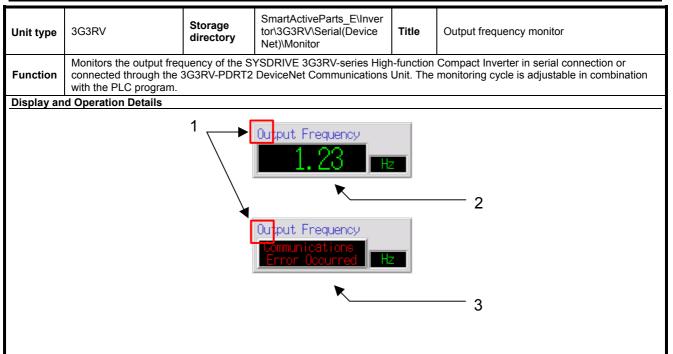
# 1.2 3G3RV

### 1.2.1 Speed Monitoring

Unit ty	pe 3G3RV	Storage directo		Title	Speed Monitoring
Functio					nverter in serial connection or connected cycle is adjustable in combination with a PLC
Display	and Operation Details				
		1	Rotational Speed		2 3
No.	Item	Setting/ display	Description		
1	Hidden indicator for trigger use	Display	displayed on the screen. The value the allocated address from the program in the PLC. Adjust the composition of the statement	ue can be ogram in t /cle accore	t current from the 3G3RV. This indicator is not read on a regular basis by turning ON and OFF he PLC. The monitor cycle is determined by the ding to the communications load. 15). Change the address if required.
2	Rotational Speed	Display	Displays the speed read from the		
З	Communications error display	Setting/ display	3G3RV. Reading is not performed	d while this	nications error occurs between the Unit and the s item is displayed. ted, press the displayed part so that reading will
<b>Sel</b> * The	en using this Smart Active l <b>ection)</b> on the 3G3RV. Sp e following diagram shows	pecifically, se a programm	t o1-03 to 2 through 39 (number of ning example on the PLC to monito	motor po	ency Reference Settings/Reference Unit les). e on a regular basis. The 0.1-second clock
pul:	se is allocated to the spec	0	s (Serial A: WR00511.15).		W511.15

- n, refreshi ng i onito stop 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.
- \*

#### 1.2.2 Output Frequency Monitor



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.
Dama	ulso.		

#### 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 0.1.
- \* When using this Smart Active Part, select the 0.01 Hz unit (default) with *Parameter n035 (Frequency Reference Settings/Reference Unit Selection)* on the 3G3RV. Specifically, set o1-03 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).



ntlp callout: 0.1-s clock pulse

- \* 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.

# 1.2.3 Output Current Monitor

Unit typ	be 3G3RV	Storage directory	SmartActiveParts_E\Inver tor\3G3RV\Serial(Device Net)\Monitor	Title	Output current monitor
Functio	on connected through th with the PLC program	e 3G3RV-PDF	SYSDRIVE 3G3RV-series High-fu RT2 DeviceNet Communications	nction Co Unit. The	mpact Inverter in serial connection or monitoring cycle is adjustable in combination
Display	and Operation Details				
		1	Ourput Current  12.3  Ourput Current  Communications Error Occurred		2 3
No.	Item	Setting/ display	Description		
1	Hidden indicator for trigger use	Display A d ir A	lisplayed on the screen. The value the PLC ON and OFF. The mon adjust the cycle according to the c	e can be r itor cycle communic	urrent from the 3G3RV. This indicator is not ead on a regular basis by turning the program is determined by the program in the PLC. ations load. 15). Change the address if required.
2	Output Current		Displays the output current read fr		
3		display 3	G3RV. Reading is not performed	while this	cations error occurs between the Unit and the titem is displayed. ed, press the displayed part so that reading will
100 * The	en using this Smart Active 0 to 0.1.	a programmin	g example on the PLC to monitor	-	e menu bar and set the scale for number e on a regular basis. The 0.1-second clock
1	2 CF100 2 し.1秒如ックハルス	*	• •	-	W511.15
-	callout: 0.1-s clock puls				
	•	•			tored on the screen and the operating
con			refreshing cycle will increase if th		of Smart Active Parts increases. ill 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. \*

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

Unit ty	ge 3G3RV	Stor diree	age ctory	SmartActiveParts_E\Inver tor\3G3RV\Serial(Device Net)\Pameters	Title	Paramet	er No. 1	to 12 (unit: Hz)	
Functio				IVE 3G3RV-series High-func t Communications Unit. Only					
Display	and Operation Details								
		•	_			_			
		1	2	3	4	5			
						$\perp$			
	No	.1 to No.12			oppot bo o	ot during or	oration		
		6	stant	News	_	et during op			
				Name	Default	Set Val.	Unit		
	N	lo.1 b1	-02 F	Run Command Selection	0	2	-		
	N	lo.2 b1	-01 F	Freq.Reference Selection	Ø	2	-		
	N	lo.3 C1	-01 A	Acceleration Time 1	10.0	0.2	S		
	N	lo.4 C1	-02 [	Deceleration Time 1	10.0	0.2	s		
	N	lo.5 d1	-01 F	Frequency Reference 1	0.00	0.02	Hz		
	N	lo.6 d1		Frequency Reference 2	0.00	0.02	Hz		
				Frequency Reference 3	0.00	0.02	Hz		
				Lower Freq. Reference Limit	0.0	0.2	%		
				vlin. Output Freq. Valtage		0.2	V		
	N	o.10 L4	-01 F	Frequency Detection Level	0.0	0.2	Hz		
	N	o.11 C4	-01 T	Forque Compensation Gain	1.00	0.02	-		
	N	o.12 C3	-01 5	Slip Compensation Gain	0.0	0.2	-		
				Read Value Enab	le Val.	Wri	te _		
				Ť	1		•		
				6	7	8	ξ		
No.	Item	Setting display		cription	1				
1	No.	Display		plays the item numbers from	the parame	eter table.			
2	Constant	Display	Disp	plays constant numbers wher			saved in	n the 3G3RV.	
3	Name	Display		plays descriptions of paramet					
4	Default	Display		plays the default value of each					
5	Set Val.	Setting display		plays the set value of each pa rwritten.	irameter. E	By pressing	the but	ton, the set value can be	
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									
Remark		<b>.</b>							
	-			select Setting - Unit/Scale S	e <i>tting</i> in t	ne menu ba	ar and s	et the scale for number	
	0 to 0.1 and the scale fo				4.00/=	-			
	•			0.01-Hz unit with <b>Parameter</b>	•			•	
Sel	ecuony on the 3G3RV. S	pecifically,	sei 01-0	03 to 0. If a unit other than 0.0	JI TZ IS SE	elected, val	ues for p	parameters un-un to un-us	

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 *3G3RV Operation Manual*.

#### 1.2.5 Parameter No.13 to 24

Unit ty	pe 3G3RV		Storage directory	SmartActiveParts_E\lr tor\3G3RV\Serial(Devi Net)\Pameters		Paramet	er No.13	to 24
Functi				DRIVE 3G3RV-series High- Net Communications Unit. (				
Displa	y and Operation D	etails						
		1	2	3	4	5		
		1		5		I I		
		. ↓		$\checkmark$	↓	. ↓		
		No.13 t	n No 24	(	cannot he s	et during op	eration)	
		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	b5-02	Integral Time	1.00	0.02		
		No.16	b5-05	Derivative Time	0.00	0.02	 	
		No.17	b5-03	PID Offset Adjustment				
					0.0	0.2	<u>%</u>	
		No.18	b5-04	Integral (I) Upper Limit	100.0	0.2	%	
		No.19	b5-08	PID Primary Delay Time	0.00	0.02	<u> </u>	
		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	-	
				Read Value E	nable Val.	Wri	i te	
					<b>↑</b>			
				6	7	8	8	
No.	Item		etting/ lisplay	Description				
1	No.			Displays the item numbers fr				
2	Constant			Displays constant numbers v Displays descriptions of para		meters are	saved in	the 3G3RV.
3 4	Name Default			Displays descriptions of para		er <i>l</i> ie the	default in	the 3G3RV/)
5	Set Val.			Displays the set value of eac				
	display			verwritten.				
6	Read Value			Reads the present value set				the stheme to the EEDDON
7 8	Enable Val. Write			Reflects set descriptions in the Vrites set descriptions to the				
Remar								
* Wh				to select <b>Setting - Unit/Sca</b>	<b>ile Setting</b> in t	he menu b	ar and se	t the scale for number

\* 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 *3G3RV Operation Manual*.

#### 1.2.6 Fan/Pump Basic Adjustment (Unit: Hz)

Unit type	3G3RV		Storage directory	SmartActiveParts_E\Invertor\3G3RV\Serial(Device Net)\Pameters	Title	Fan/Pum	np Basic	Adjustment (Unit:	Hz
Function				DRIVE 3G3RV-series High-fund Net Communications Unit. Only					
Display ar	nd Operation D	etails							
		1	2	3	4	5			
		$\downarrow$	$\downarrow$	$\downarrow$	↓	↓			
		Parame	ters for Cor	ntrolling Fan/Pump (	cannot be s	et during op	peration)		
		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	%		
				Read Value Enat	ole Val.	Wri	te		
				6	7	8	3		
No. Ite	em		etting/ splay	Description					
1 N	-	D	isplay [	Displays the item numbers from					
	onstant			Displays constant numbers whe		meters are	saved ir	n the 3G3RV.	
	ame			Displays descriptions of parame					
	efault			Displays the default value of each					
5 Se	et Val.		etting/ E splay c	Displays the set value of each poverwritten.	arameter. E	By pressing	the butt	on, the set value c	an
	ead value			Reads the present value set for	each parar	neter.			
	nable Val.			Reflects set descriptions in the o			ithout wi	riting them to the E	EP
8 W	/rite	S	etting V	Vrites set descriptions to the EE	PROM and	d reflects th	em in th	e operation of the	l Ini

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.

\* 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.

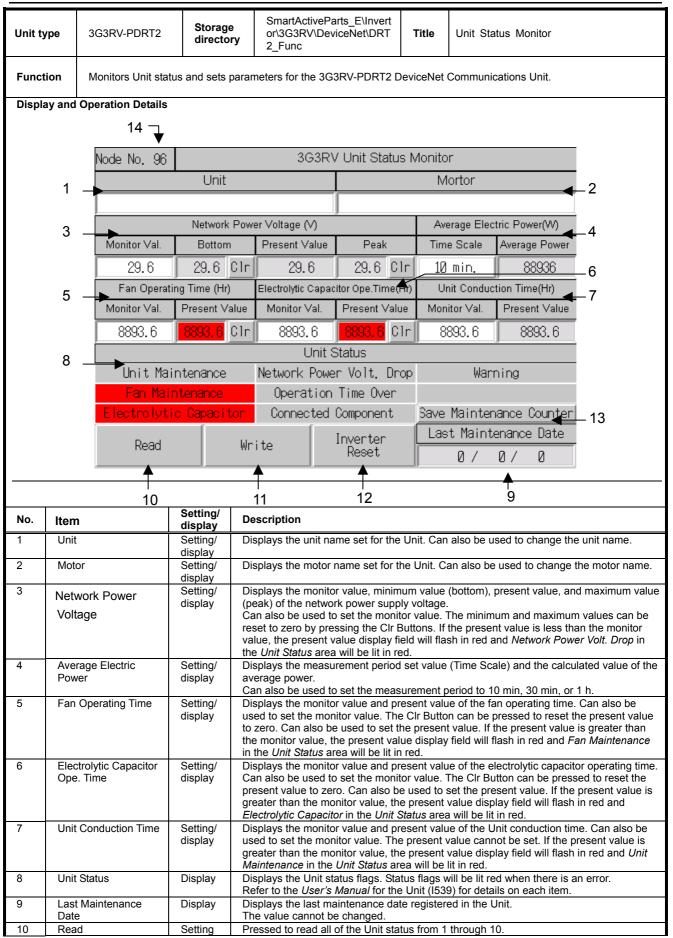
After writing the settings, press the Enable Val. button and reflect the setting in the operation of the Unit.

\* 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 3G3RV Operation Manual.

nverter

#### 1.2.7 Unit Status Monitor

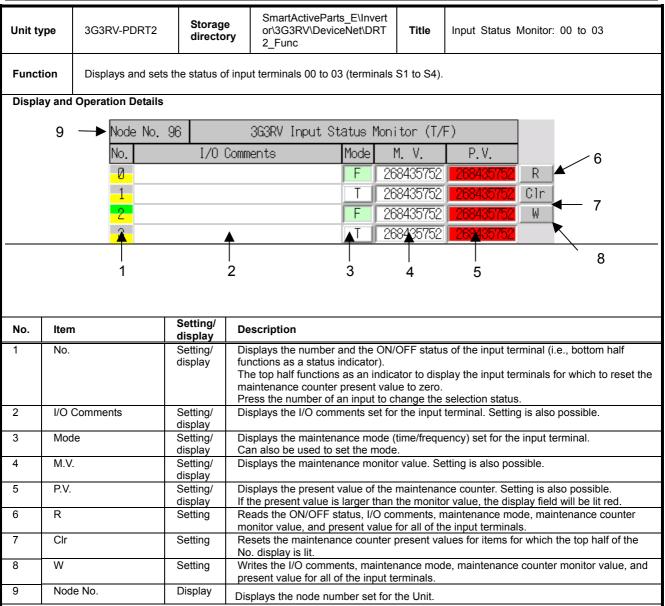


11	Write	Setting	Writes the Unit name, motor name, network power voltage monitor value, average electric power measurement period, Unit conduction time monitor value, fan operating time monitor value/present value, electrolytic capacitor operating time monitor value/present value, and operation for communications 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.

\* 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.



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.

#### 1.2.9 Input Status Monitor: 04 to 06

Node No. 96

No.

4

I/O Comments

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									

3G3RV Input Status Monitor (T/F)

Mode

Τ

F

M. V.

268435752

268435752

268485752

P.V.

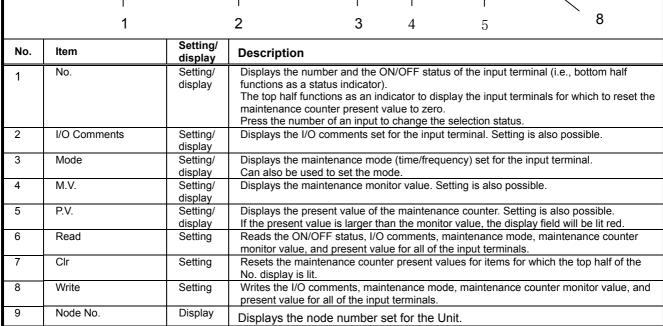
R

Clr

W

6

7



#### Remarks

\* 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.

#### 1.2.10 Output Status Monitor

Unit type 3G3RV-PDRT2		Г2 Storage director			Title	Output Status Monitor				
Func	<b>Function</b> Displays and sets the status of output terminals 00 to 02 (terminals M1, M2, P1, and P2).									
Displ	Display and Operation Details									
		10	2	3	4	5				
		10	I	1	1	1				
	Nod	le No. 96	_ 3G3RV Out	put St <u>at</u> us	Moniton	(T/E)				
		-								
	1 → <u>No.</u>	1/	0 Comments	Mode	M. V.	P. V.				
	0			F	268435					
	1			F	268435					
	2			F	268435	752 268435752				
		Read Wri	te <mark>Fault</mark> Action	Hold Ho No.00 No.		ar Clean Ø2 P.V.				
		<b>↑ ↑</b>	· •							
		 - 0								
		7 8	6			9				
No.	ltem	Setting/ display	Description							
1	No.	Setting/	Displays the numb	er and the ON/	OFF statu	s of the output terminal (i.e	e., bottom half			
		display	functions as a stat		ator to dis	play the input terminals for	which to reset the			
			maintenance cour	ter present valu	ue to zero.	• •				
2	I/O Comments	Setting/	Press the number			selection status. It terminal. Setting is also	nossible			
-		display								
3	Mode	Setting/ display	Displays the main Can also be used			ency) set for the output te	rminal.			
4	M.V.	Setting/				etting is also possible.				
5	P.V.	display Setting/	Displays the press	nt value of the	maintana	nce counter. Setting is also	nossiblo			
5	r.v.	display				or value, the display field w				
6	Fault Action	Setting/ display				is held or cleared when a s pressed, holding or clear				
7	Read	Setting	Reads all of the da	ita.						
8	Write	Setting	Writes the I/O com present value, and			le, maintenance counter n output terminals.	nonitor value,			
9	Clear P.V.	Setting	Resets the main	enance count	ter prese	nt values for items for w	hich the top half			
			of the No. displa							
10 <b>D</b> amaa	Node No.	Display	Displays the node	number set for	the Unit.					
Remar		tive Part set the	connection nath for t	he Slave's rem	ote I/O fur	iction to control I/O remote	NO If any other			
	ting is used for the rem									
	0		,							

\* 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.

Unit ty	/pe	3G3RV-PDRT2	Storage director		Parts_E\Inver eviceNet\DRT		e Opera	tion Time Moni	tor
Funct	ion	Displays and sets the operating time for motors or peripheral devices connected to the 3G3RV.							
Display and Operation Details									
		11		2	3		4	5	
		$\downarrow$		1	1			I	
		Node No.	96	3G3RV Ope	rating T <mark>i</mark> n	ne Moni	to <mark>r</mark> (ms)		
	1	No. Eq	uipment Na	me ( Patterns)	Mon. V	al. 0	pe. Time	Peak	
		0		(Ter.MA->Ter.S	35) 29	6	296	296	
		1		(Ter.P1->Ter.S	6) 29	6	296	296	
		2		(Ter.S3->Ter.S	64) 29	6	296	296	
		3		(Ter.S5->Ter.S	6) 29	6 📕	296	296	
		4		(Ope.ON->Ter.S	35) 29	6 📕	296	296	
		5		(Ope.ON->Ter.S	36) 29	6 📕	296	296	
		Read	t l	Write <mark>S</mark>	atus <mark>Ho</mark> old	ld	Clear Error	Clear Peak	
		<b>↑</b>			<b>≜</b>		<b></b>	<b>↑</b>	
		7		8	6		9	10	
No.	ltem		Setting/ display	Description					
1	No.		Setting/ display	Displays the numb peak value are to		as an in	dicator if the	operating time	monitor error and

		display	
1	1 <sup>No.</sup>		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.

\* 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.

Unit ty	ype 3G3RV-PDRT2 Storage directo		SmartActiveParts_E\Invert or\3G3RV\DeviceNet\DRT <b>T</b> 2_Func		Warning Torque Monitor					
Funct	Function Sets the monitor value and displays the peak current for monitoring error status of the load using the Inverter's current (torque).									
Displa	Display and Operation Details									
-	11 -	2	3	2	4 9					
	Node No.		3G3MV Warning Torque D							
	No.	Equipmer			ak CleanError					
	1 🔶 🛛 Acce	1/Decel Torqu	e Current 🛛 2.96		2 <mark>.96  </mark> Clear Peak <mark>◀—</mark> 10					
	1 Torq	ue Current du	ring Frequency 2.96		2.96 Clear Peak					
	D	. [	Deter	ction s	ensitivity					
	Read	l Write	e Status Hold Filt	er L	evel 5 (Highest)					
	<b>_</b>		<b>_</b>	4						
	-	1	ļ	l						
	7	8	5	ť	6					
	1	-								
No.	ltem	alopiay	Description							
1	No.	Display	Displays the number of the value	to be mon	itored.					
2	Equipment Name		Displays the name of the value to							
3	Mon.Val.		Displays the output current monitor value for the output current during acceleration/deceleration and output current monitor value for frequency agreements							
			(constant-speed operation). Settir							
4	Peak	Display	Displays the peak current during a		on/deceleration and peak current during					
			requency agreement. If the current is larger than the mo	onitor value	e, a warning torque monitoring error will be					
			detected and the display field will							
5	Status Hold	Setting/	Displays whether the status is to I	be held or	cleared (updated) each time when a warning					
			orque monitoring error is detecte can be selected.	a. If the bi	utton is pressed, holding or clearing status					
6	Detection Filter			on sensitiv	vity used to prevent detection when the					
					Press the button to select the detection					
7	Read		sensitivity from level 1 (lowest ser Reads the warning torque current		level 5 (highest sensitivity). alue, peak value, status hold setting, and					
			detection filter setting for No. 00 to	<u>o 01.</u>	ande, peak value, status noiu setting, allu					
8	Write	Setting V	Vrites the warning torque curr	ent moni	tor value, status hold setting, and					
			detection filter setting for No.							
9	Clear Error		Clears warning torque monitoring red. (The red displays will go out		items for which the peak display field is lit errors are cleared.)					
10	Clear Peak	0 - #***	Resets the peak values to zero							
11	Node No.		Displays the node number set for							
Pomar										

\* 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.

# **Servo Driver**

2

3

4

Remarks

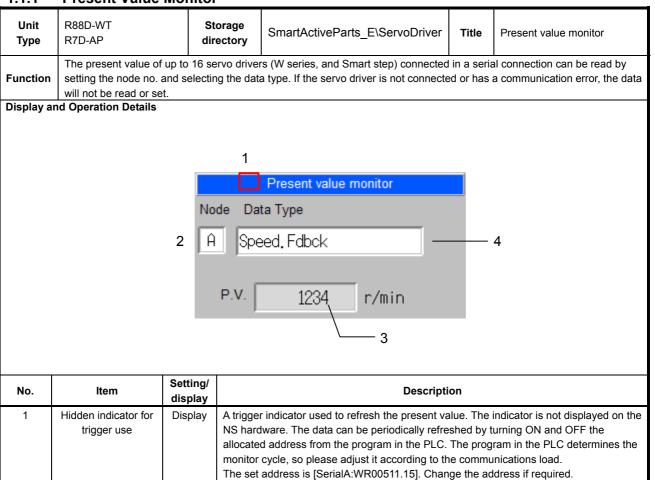
Node No.

Present value

Data type

### 1.1 R88D-WT/R7D-AP

### 1.1.1 Present Value Monitor



Switching a screen can also refresh the data

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.

Sets the node no. to be displayed.

Sets the present value.

the present value.)

no.

Setting

Display

Setting

Data refreshment will start only after the unit communicates normally with the set node

Selects a data type to display the type and the unit. (The Unit is displayed to the right of

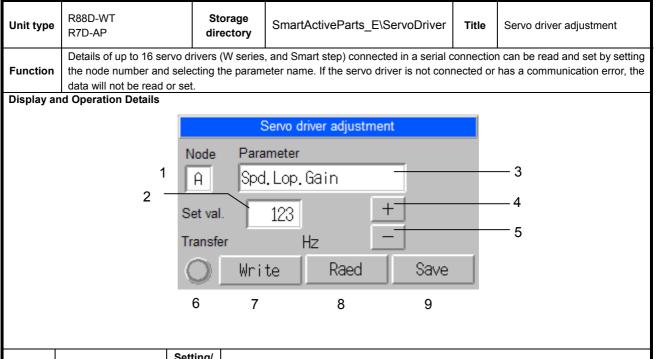
Servo Driver

#### **Parameter Setting** 1.1.2

Unit type	R88D-WT	St	orage	SmartActiveParts_E\ServoDriver	Title	Parameter setting			
onit type	R7D-AP	dir	ectory		Title	Farameter setting			
Function				drivers (W series, and Smart step) con ervo driver is not connected or has a co					
Display ar	nd Operation Details								
Parameter setting 3									
		Node	Para	meter Set val. Size					
	1 -								
	1 -	→ Â F	n   100	1A 0080' 2					
	2 -	Transfe	er			— 4			
		$\sim$	Wri	te Raed Save	1				
		$\mathbf{O}$	WEI	Le Kaeu Jave					
		5	6	7 8					
		5	0	7 0					
		<u> </u>	1						
No.	ltem	Setting/ display		Descripti	on				
<b>No.</b>	Item Node No.	Setting/ display Setting	Sets the	Descripti Node no.	on				
		display		-	on				
1	Node No.	display Setting Setting/	Set the	Node no.					
1 2	Node No. Parameter No.	display Setting Setting	Set the Displays	Node no. parameter no.					
1 2	Node No. Parameter No.	display Setting Setting/	Set the Displays overwrit	Node no. parameter no.					
1 2 3	Node No. Parameter No. Set value	display Setting Setting/ Display	Set the Displays overwrit Displays	Node no. parameter no. the set value read from the servo drive	r parame				
1 2 3 4	Node No. Parameter No. Set value Parameter Size	display Setting Setting/ Display Display	Set the Displays overwrit Displays It will fla Writes th	Node no. barameter no. the set value read from the servo drive ten. parameter size (fixed to 2). sh when the communication is in progre he settings to the RAM in the servo drive	r parame	ter. The value can be			
1 2 3 4 5 6	Node No. Parameter No. Set value Parameter Size Transferring Write	display Setting Setting/ Display Display Display Setting	Set the Displays overwrit Displays It will fla Writes the the last	Node no. barameter no. the set value read from the servo drive ten. parameter size (fixed to 2). sh when the communication is in progre he settings to the RAM in the servo drive three digits of the parameter address.	er parame ess. er parame	ter. The value can be eter no. Writes the set value in			
1 2 3 4 5	Node No. Parameter No. Set value Parameter Size Transferring	display Setting Setting/ Display Display Display	Set the Displays overwrit Displays It will fla Writes the the last Reads t	Node no. barameter no. the set value read from the servo drive ten. parameter size (fixed to 2). sh when the communication is in progre he settings to the RAM in the servo drive three digits of the parameter address. he details of servo driver parameter num	er parame ess. er parame	ter. The value can be eter no. Writes the set value in			
1 2 3 4 5 6	Node No. Parameter No. Set value Parameter Size Transferring Write	display Setting Setting/ Display Display Display Setting	Set the Displays overwrit Displays It will fla Writes the the last Reads the displays	Node no. barameter no. the set value read from the servo drive ten. parameter size (fixed to 2). sh when the communication is in progre he settings to the RAM in the servo drive three digits of the parameter address. he details of servo driver parameter num to the set value.	er parame ess. er parame	ter. The value can be eter no. Writes the set value in er from RAM or EEPROM and			
1 2 3 4 5 6	Node No. Parameter No. Set value Parameter Size Transferring Write	display Setting Setting/ Display Display Display Setting	Set the Displays overwrit Displays It will fla Writes the the last Reads the displays	Node no. barameter no. the set value read from the servo drive ten. parameter size (fixed to 2). sh when the communication is in progre he settings to the RAM in the servo drive three digits of the parameter address. the details of servo driver parameter num to the set value. ter No.: 0xxx(when the high order digit i	er parame ess. er parame nber eithe s 0) reads	ter. The value can be eter no. Writes the set value in er from RAM or EEPROM and s from the RAM area.			
1 2 3 4 5 6	Node No. Parameter No. Set value Parameter Size Transferring Write	display Setting Setting/ Display Display Display Setting	Set the Displays overwrit Displays It will fla Writes the the last Reads the displays Parame	Node no. barameter no. the set value read from the servo drive ten. parameter size (fixed to 2). sh when the communication is in progre he settings to the RAM in the servo drive three digits of the parameter address. he details of servo driver parameter num to the set value.	er parame ess. er parame hber eithe s 0) reads 1) reads	ter. The value can be eter no. Writes the set value in er from RAM or EEPROM and s from the RAM area. from the EEEPROM			

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 *Unit Manual* for details on Parameter. \*

#### 1.1.3 **Servo Driver Adjustment**



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

1.1.4	EITOI DISpidy								
Unit type	R88D-WT Storage R7D-AP directory		-	SmartActiveParts_E\ServoDriver	Title	Error display			
Function	<b>ction</b> 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									
	1								
				Error display					
Node Error Error code									
	2 2 🖲 00C8 Reset								
			·						
					_				
				345					
		Setting/		<b></b>					
No.	ltem	display		Descripti	on				
1	Hidden indicator for	Display		indicator used to refresh the error lamp					
	trigger use			d on the NS hardware. The value can b - the allocated address from the prograr	•				
				nes the monitor cycle, so please adjust i					
				address is [SerialA:WR00511.15]. Chan		-			
			Data ref	reshment will start only after the unit cor	nmunicat	es normally with the set node			
			no.						
-				ng a screen can also refresh the data.					
2	Node No.	Setting		Sets the node no. to be displayed.					
3	Error	Display		sh when an error occurs.	00 :- "	- Lesse al suda en 16 en 16			
4	Error code	Display	Shows the error code when an error occurs. (0000 is displayed when it operates normally.)						
5	Error reset	Setting		the developing error for the servo driver.					
Remarks		¥	•						
				elect <b>Setting - System Setting</b> in the m ion for \$SB. The Smart Active Part cann					

#### I/O Status monitor 1 (NS Storage Unit type R88D-WT SmartActiveParts\_E\ServoDriver Title directory Hardware) Monitors the I/O status of up to 16 servo drivers (W series) connected in a serial connection. If the servo driver is not Function connected or has a communication error, the data will not be monitored. **Display and Operation Details** 1 R8 D-WT I/O Status RUN Command Gain Reduction POT Signal NOT Signal 2 < 4 Alarm Reset Pos.Current.Limit Rev.Current.Limit Sensor ON SEN Speed, Reached Motor.Rev.Detect 3 5 Servo, Ready Alarm. 6 Error code ИИС Setting/ No. Item Description display Hidden indicator for Display A trigger indicator used to refresh the I/O status monitor. The indicator is not displayed on 1 the NS hardware. The value can be periodically refreshed by turning ON and OFF the trigger use 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 [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 Display Displays the input signal I/O status name. status name 3 Output signal I/O Display Displays the output signal I/O status name. status name 4 Input signal I/O Display It will flash when the input signal is ON. lamp Lamps are allocated in the following order. Please refer to the allocation below. No. Pin for CN Name display CN1-40 1 Allocated between Pn50A to Pn50D and Pn513 2 CN1-41 Same as above 3 CN1-42 Same as above 4 CN1-43 Same as above 5 CN1-44 Same as above CN1-45 6 Same as above CN1-46 7 Same as above CN1-4 Fixed to SEN 8

### 1.1.5 I/O Status Monitor 1 (NS Hardware)

5	Output signal I/O	Display	It will fla	ash wł	hen the output s	signal is ON.			
1 '	status lamp		Lamps ?	Lamps are allocated in the following order.					
1 '			Please	refer t	to the allocation	i below.			
1 '			N	No. Pin for CN Name Display					
1 '				1 CN1-25 Allocated between Pn50E to Pn510					
				2	CN1-27	Same as above			
		I		3	CN1-29	Same as above			
1 '			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.)						
Remar		<u> </u>		<b>,</b>		<b>.</b>			

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 *Unit Manual* 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.

### I/O Status monitor 1 (No Storage Unit type R88D-WT SmartActiveParts\_E\ServoDriver Title directory name) Monitors the I/O status of up to 16 servo drivers (W series) connected in a serial connection. If the servo driver is not Function connected or has a communication error, the data will not be monitored. 2 3 4 Setting/ Description No. Item display Hidden indicator for A trigger indicator used to refresh the I/O status monitor. The indicator is not displayed on 1 Display the NS hardware. The value can be periodically refreshed by turning ON and OFF the trigger use 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 It will flash when the input signal is ON. Display status lamp 3 Output signal I/O Display It will flash when the output signal is ON. status lamp 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 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 Unit Manual for details on Parameter.

#### 1.1.6 I/O Status 1 (No name)

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.

#### I/O Status Monitor 2 (NS Storage Unit type R7D-AP SmartActiveParts\_E\ServoDriver Title directory Hardware) Monitors the I/O status of up to 16 servo drivers (Smart step) connected in a serial connection. If the servo driver is not Function connected or has a communication error, the data will not be monitored. **Display and Operation Details** F/D I/O Status Run Command(RUN) 2 Alarm Reset(RESET) Position.Completed(INP) Brake Interlock(BKIR) 3 Alarm(ALM) Error code 0003 Δ Setting/ No. Description Item display 1 Hidden indicator for Display A trigger indicator used to refresh the I/O status monitor. The indicator is not displayed on trigger use 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 Display It will flash when the input signal is ON. status lamp 3 Output signal I/O Display It will flash when the output signal is ON. status lamp 4 Error code Display Shows the error code when an error occurs. (0000 is displayed when it operates normally.) Remarks

### 1.1.7 I/O Status Monitor 2 (NS Hardware)

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		orage ectory         SmartActiveParts_E\ServoDriver         Title         I/OS Statu name)		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 ar	nd Operation Details									
				$ \begin{array}{c} 1 \\ 2 \\ 3 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7$						
No.	No. Item Setting/ display Description									
1	Hidden indicator for trigger use	Display T h a su	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.							

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							
* Whe	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.						

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.

Setting level	lists the Smart Active Parts for the E5ZN Temperature Controller type	Channel	
Operation level	Temperature Controllers with	CH1	Operation Monitor for Standard Contro
	Thermocouples	0111	Operation Monitor for Heating/Cooling
			Control
			SP and Alarm Settings
			PV Hold Value
		0.110	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	CH1	Operation Monitor for Standard Contro
	Platinum-resistance Thermometers		Operation Monitor for Heating/Cooling
			Control
			SP and Alarm Settings
			PV Hold Value
			SP Setting
		CH2	Operation Monitor for Standard Contro
		0112	Operation Monitor for Heating/Cooling
			Control
			SP and Alarm Settings
			PV Hold Value
		<u></u>	SP Setting
djustment level	Temperature Controllers with	CH1	Manual MV Settings
	Thermocouples		Multi-SP Settings
		CH2	Manual MV Settings
			Multi-SP Settings
	Temperature Controllers with	CH1	Manual MV Settings
	Platinum-resistance Thermometers		Multi-SP Settings
		CH2	Manual MV Settings
			Multi-SP Settings
	Temperature Controllers with	CH1	Heater Burnout Detection
	Thermocouples or	0111	PID Settings
	Platinum-resistance Thermometers		Input Shift Values
			Manual Reset Value
			Cooling Coefficient, Dead Band, and
			Control Period
		01.10	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	CH1	Manual MV Settings
	Outputs and Thermocouple Inputs	CH2	Manual MV Settings
	Temperature Controllers with Analog	CH1	Manual MV Settings
	Outputs and Platinum-resistance Thermometer Inputs	CH2	Manual MV Settings

The following table lists the Smart Active Parts for the E57N Temperature Controller

Advanced function         Temperature Controllers with Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         CH1         SP Limits           CH2         Input 1 Type, Temperature Unit, Scaling and Decimal Point         SP Limits           Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         CH1         SP Limits           Common         Transfer Output Upper and Lower Limits           Common         Transfer Output Upper and Lower Limits           Ch1         SP Limits           Common         Temperature Controllers with Thermocouple or Platinum-resistance           CH2         SP Limits           Common         Common           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis	Setting level	Temperature Controller type	Channel	Smart Active Part name
Advanced function setting level         Temperature Controllers with Platinum-resistance Thermometers         CH2         SP Limits Common         Ch2         Input 1 Type, Temperature Unit, Scaling and Decimal Point SP Limits           Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         CH1         SP Limits         Ch11         SP Limits           CH2         SP Limits         Common         Input 1 Type, Temperature Unit Transfer Output Upper and Lower Limits           Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         CH1         SP Limits           CH2         SP Limits         Ch14         SP Limits           CH2         SP Limits         Ch14         SP Limits           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 3 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 3 Type, Open/Close in Alarm, Latch, Hysteresis           Common         Control Output 1 and 2 Allocations Auxiliary Output 3 and 4 Allocations Current/Voltage Output Sensor Error Indicator Used and Input Error Output           Common         Temperature Controllers with Thermocouples         CH1         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance Thermometer Inputs         CH1         SP Ramp	Initial setting level	Temperature Controllers with	CH1	Input 1 Type, Temperature Unit, Scaling,
Advanced function         Temperature Controllers with Platinum-resistance Thermometers         CH2         Input 1 Type, Temperature Unit, Scaling and Decimal Point           Temperature Controllers with Thermocuple or Platinum-resistance Thermometer Inputs         CH1         SP Limits           Temperature Controllers with Thermocuple or Platinum-resistance         CH1         SP Limits           Common         Inspect 1 Type, and Temperature Unit Transfer Output Upper and Lower Limits           Temperature Controllers with Thermocuple or Platinum-resistance         CH1         PID or ON/OFF Control Direct/Reverse Operation Alarm 3 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 3 Type, Open/Close in Alarm, Latch, Hysteresis           Advanced function setting level         Temperature Controllers with Thermocouples         CH1         SP Lonics in Alarm, Latch, Hysteresis           Advanced function setting level         Temperature Controllers with Thermocouples         CH1         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resisistance         CH1         SP Ramp </td <td></td> <td>Thermocouples</td> <td></td> <td>and Decimal Point</td>		Thermocouples		and Decimal Point
Advanced function         Temperature Controllers with Platinum-resistance Thermometers         Ch1         SP Limits           Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         Ch1         SP Limits           CH1         SP Limits         Common         Input 1 Type and Temperature Unit Transfer Output Upper and Lower Limits           CH1         SP Limits         Common         Input 1 Type Open/Close in Alarm, Latch, Hysteresis           CH2         SP Limits         Ch1         DirectReverse Operation           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           CH2         PID or ON/OFF Control         DirectReverse Operation           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 3 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         Current/Voltage Output           Sensor Error Indicator Used and Input Error Output         Platinum-resistance           Temperature Controllers with Thermocouples or Platinum-resistance         CH1				SP Limits
Advanced function setting level         Temperature Controllers with Platinum-resistance Thermometers         CH1         SP Limits           Temperature Controllers with Thermocuple or Platinum-resistance Thermometer Inputs         CH1         Plumits         Common           Alarm 1 Type, OpenClose in Alarm, Latch, Hysteresis         Alarm 1 Type, OpenClose in Alarm, Latch, Hysteresis         Alarm 1 Type, OpenClose in Alarm, Latch, Hysteresis           CH2         PID or ON/OFF Control         DirectReverse Operation           Alarm 3 Type, OpenClose in Alarm, Latch, Hysteresis         Alarm 3 Type, OpenClose in Alarm, Latch, Hysteresis           Alarm 3 Type, OpenClose in Alarm, Latch, Hysteresis         CH2           Alarm 3 Type, OpenClose in Alarm, Latch, Hysteresis         Alarm 3 Type, OpenClose in Alarm, Latch, Hysteresis           Alarm 3 Type, OpenClose in Alarm, Latch, Hysteresis         Common           Control         DirectReverse Operation           Alarm 3 Type, OpenClose in Alarm, Latch, Hysteresis         Alarm 3 Type, OpenClose in Alarm, Latch, Hysteresis           Common         Control Output 1 and 2 Allocations Auxiliary Output 1 and 2 Allocations           Auxilary Output 1 and 2 Allocations         Current/Voltage Output           Sensor Error Indicator Used and Input Erroperature Controllers with Thermocouples or Platinum-resistance         CH1           Temperature Controllers with Thermocouples or         CH1         SP Ramp			CH2	Input 1 Type, Temperature Unit, Scaling,
Advanced function         Temperature Controllers with Platinum-resistance Thermometers         CH1         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 3 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 3 Type, Open/Close in Alarm, Latch, Hysteresis           CH2         PID or ON/OFF Control           Direct/Reverse Operation         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         Common           Common         Control Output 1 and 2 Allocations           Current/Voltage Output         Sensor Error Indicator Used and Input Error Output           Temperature Controllers with         CH1         SP Ramp           Temperature Controllers with         CH2         SP Ramp				and Decimal Point
Advanced function setting level         Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         CH1         SP Limits           CH2         SP Limits         Common Input 1 Type and Temperature Unit Transfer Output Upper and Lower Limits           Temperature Controllers with Thermoceuple or Platinum-resistance Thermometer Inputs         CH1         PID or ON/OFF Control Direct/Reverse Operation Alarm 1 Type, Open/Close in Alarm, Latch, Hysteresis           CH2         PID or ON/OFF Control         Direct/Reverse Operation Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           CH2         PID or ON/OFF Control         Direct/Reverse Operation Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           CH2         PID or ON/OFF Control         Direct/Reverse Operation Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Common         Control Output 1 and 2 Allocations Auxiliary Output 1 and 2 Allocations Auxiliary Output 1 and 2 Allocations Current/Voltage Output Sensor Error Indicator Used and Input Error Output           Temperature Controllers with Thermocouple or Indicator Power ON         CH1         SP Ramp           Temperature Controllers with Thermocouple or Platinum-resistance Thermoreture Inputs         CH1         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH1         SP Ramp           CH3         SP Ramp         Filter         MV UpperLower Limits and Input Digita Filter (Models with Analog Outputs) </td <td></td> <td></td> <td></td> <td>SP Limits</td>				SP Limits
Advanced function setting level         Temperature Controllers with Thermocouple or Platinum-resistance         CH1         SP Limits           Common Thermoneter Inputs         CH1         SP Limits         Common Input 1 Type and Temperature Unit Transfer Output Upper and Lower Limits           CH1         PID or ON/OFF Control         Direct/Reverse Operation         Alarm 1 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 3 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 3 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 3 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 Current/Voltage Output           Sensor Error Indicator Used and Input Error Output         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance         CH1         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance         CH1         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance         CH1         SP Ramp           Temperature Controllers with Thermocouples or			Common	Transfer Output Upper and Lower Limits
Platinum-resistance Thermometers         CH2         SP Limits           Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         CH1         PlD or ON/OFF Control Direct/Reverse Operation           Alarm 1 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 1 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 3 Type, Open/Close in Alarm, Latch, Hysteresis         CH2           CH2         PID or ON/OFF Control           Direct/Reverse Operation         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           CH2         PID or ON/OFF Control           Direct/Reverse Operation         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           CM3         Common         Control Output 1 and 2 Allocations Auxiliary Output 3 and 4 Allocations Auxiliary Output 1 and 4 Allocations Auxiliary Output 1 and 4 Allocations Auxiliary Output 1 and 4 Allocations Auxiliary Output 3 and 4 Allocations Auxiliary Output 3 and 4 Allocations Current/Voltage Output           Temperature Controllers with Thermocouples or Platinum-resistance Thermoreture Controllers with Thermocouples or Platinum-resistance         CH1         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH2         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance		Temperature Controllers with		
Advanced function setting level         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 3 Type, Open/Close in Alarm, Latch, Hysteresis         CH2         PID or ON/OFF Control Direct/Reverse Operation Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           CH2         PID or ON/OFF Control Direct/Reverse Operation Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         CH2           CH2         PID or ON/OFF Control Direct/Reverse Operation Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         CH3           CH3         PID or ON/OFF Control Direct/Reverse Operation Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         CH3           Common         Control Output 1 and 2 Allocations Auxiliary Output 3 and 4 Allocations Current/Voltage Output         Control Output 1 and 2 Allocations Current/Voltage Output           Advanced function setting level         Temperature Controllers with Thermocouples or Platinum-resistance         CH1         SP Ramp CH2         SP Ramp CH2           Temperature Controllers with Thermocouples or Platinum-resistance         CH1         SP Ramp CH2         SP Ramp CH2         SP Ramp CH1         HBA Used, Latch, Hysteresis           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH1         SP Ramp CH2         SP Ramp CH2         SP Ramp CH2         SP Ramp CH3         SP Ramp				
Advanced function setting level         Temperature Controllers with Thermocouple or Platinum-resistance         CH1         PlD 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         PlD or ON/OFF Control Direct/Reverse Operation           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           CH2         PlD or ON/OFF Control Direct/Reverse Operation           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Common         Common           Common         Control Output 1 and 2 Allocations           Auxiliary Output 1 and 2 Allocations         Auxiliary Output 1 and 2 Allocations           Auxiliary Output         Sensor Error Indicator Used and Input Error Output           Operation after Power ON         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH1         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers				
Advanced function setting level         Temperature Controllers with Thermocouples or Platinum-resistance Thermometer inputs         CH1         PID or ON/OFF Control Direct/Reverse Operation Alarm 1 Type. Open/Close in Alarm, Latch, Hysteresis           Alarm 3 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 3 Type. Open/Close in Alarm, Latch, Hysteresis           Common         Control Output 1 and 2 Allocations Auxiliary Output 3 and 4 Allocations Current/Voltage Output           Sensor Error Indicator Used and Input Error Output         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH2         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH2         SP Ramp           CH1         HBA Used, Latch, Hysteresis MV Upper/Lower Limits and Input Digits Filter (Models with Analog Outputs)           Platinum-resistance Thermometers         CH2         SP R			Common	
Advanced function         Temperature Controllers with         CH1         SP Ramp           Advanced function         Temperature Controllers with         CH1         SP Ramp           Termorecupies or Platinum-resistance         CH2         SP Ramp           Common termore controllers with         CH2         PID or ON/OFF Control           Direct/Reverse Operation         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Advanced function         Temperature Controllers with         Control Output 1 and 2 Allocations           Auxiliary Output 3 and 4 Allocations         Auxiliary Output 3 and 4 Allocations           Auxiliary Output 3 and 4 Allocations         Auxiliary Output 3 and 4 Allocations           Auxiliary Output 3 and 4 Allocations         Current/Voltage Output           Sensor Error Indicator Used and Input Error Output         Operation after Power ON           CH1         SP Ramp         CH1           Temperature Controllers with         CH1         SP Ramp           Temperature Controllers with         CH1         HA Used, Latch, Hysteresis           MV Upper/Lower Limits and Input Digita Filter (Models with A		Tomporature Controllors with		
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           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 1 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 1 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Common         Control Output 1 and 2 Allocations           Current/Voltage Output         Sensor Error Indicator Used and Input Error Output           Operation after Power ON         CH1           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Thermocouples or Thermometers         CH2           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH1			СПІ	
Advanced function setting level         Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH1         SP Ramp CH2         S				
Advanced function         Temperature Controllers with         CH1         SP Ramp           Advanced function         Temperature Controllers with         CH2         PID or ON/OFF Control           Direct/Reverse Operation         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Advanced function         Common         Control Output 1 and 2 Allocations Auxiliary Output 3 and 4 Allocations Current/Voltage Output           Advanced function         Temperature Controllers with         CH1         SP Ramp           Thermocouples         CH2         SP Ramp         CH2           Temperature Controllers with Thermocouple or Platinum-resistance         CH2         SP Ramp           Temperature Controllers with Thermocouples or         CH1         BA Used, Latch, Hysteresis           MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter           Temperature Controllers with Thermocouples or         CH2         MV Upper/Lower Limits and Input Digita Filter				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 2 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Advanced function setting level         Temperature Controllers with Thermocouples         Common           Temperature Controllers with Platinum-resistance Thermometers         CH1         SP Ramp           Temperature Controllers with Thermocouples or Temperature Controllers with Thermocouple or Platinum-resistance         CH2         SP Ramp           CH1         SP Ramp         CH1         SP Ramp           Temperature Controllers with Thermocouples or Thermorecupies or Platinum-resistance Thermometers         CH2         SP Ramp           CH2         SP Ramp         CH1         SP Clower Limits and Input Digita Filter           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH2         SP Ramp           CH2         SP Ramp         CH1         SP Clower Limits and Input Digita Filter           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH2         SP Ramp           CH2				
Advanced function setting level         Temperature Controllers with Thermocouples         CH2         PID or ON/OFF Control Direct/Reverse Operation           Adarm 1 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 3 Type, Open/Close in Alarm, Latch, Hysteresis           Alarm 3 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 1 and 2 Allocations Current/Voltage Output Sensor Error Indicator Used and Input Error Output           Advanced function setting level         Temperature Controllers with Thermocouples         CH1         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH1         SP Ramp           CH1         SP Ramp         CH1         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance Thermocouples or Platinum-resistance Thermometers         CH1         MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter         SP Ramp         CH2         HBA Used, Latch, Hysteresis           Common         Ch1         SP Ramp         SP Ramp         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH2         SP Ramp           CH2         HBA Used, L				Alarm 3 Type, Open/Close in Alarm,
Advanced function setting level         Temperature Controllers with Thermocouples         CH1         SP Ramp CH2         SP Ramp			CH2	
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 3 and 4 Allocations           Current/Voltage Output           Sensor Error Indicator Used and Input Error Output           Platinum-resistance Thermometers           Temperature Controllers with Platinum-resistance Thermometers           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers           CH1         SP Ramp           CH2         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers           CH2         SP Ramp           CH2         SP Ramp           CH2         SP Ramp           CH2         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH2           MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)				
Advanced function setting level         Temperature Controllers with Thermocouples         CH1         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH1         SP Ramp           Temperature Controllers with Thermocouples         CH1         SP Ramp           CH1         SP Ramp         CH2           Temperature Controllers with Thermocouples         CH1         SP Ramp           Temperature Controllers with Thermocouples         CH2         SP Ramp           CH2         SP Ramp         CH2         SP Ramp           Temperature Controllers with Thermocouples or         CH2         SP Ramp         CH2           Temperature Controllers with Thermocouples or         CH2         SP Ramp         CH2           Temperature Controllers with Thermocouples or         CH2         SP Ramp         CH2           Temperature Controllers with Thermocouples or         MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter           Temperature Controllers with Thermocouples or         MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter         Standby Sequence Restart α         Cold Junction Compensation Method           Communications         <				
Alarm 2 Type, Open/Close in Alarm, Latch, Hysteresis         Alarm 3 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 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 Platinum-resistance Thermometers         Temperature Controllers with Thermocouple or Platinum-resistance Thermoeter Inputs         Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         Platinum-resistance Thermometers         Filter (Models with Analog Outputs)         Platinum-resistance Thermometers         Platinum-resistance Thermometers         CH2         HBA Used, Latch, Hysteresis         MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)         Platinum-resistance Thermometers         Platinum-resistance Thermometers         CH2         HBA Used, Latch, Hysteresis         MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)         Platinum-resistance Thermometers </td <td></td> <td></td> <td></td> <td></td>				
Advanced function setting level         Temperature Controllers with Thermocouples         CH1         SP Ramp           Temperature Controllers with Thermocouples         CH2         SP Ramp           Temperature Controllers with Thermocouple or Platinum-resistance Thermoreacy representer Controllers with Thermocouple or Platinum-resistance         CH2         SP Ramp           Temperature Controllers with Thermocouples or Thermoreacy representer Inputs         CH1         MV Upper/Lower Limits and Input Digita Filter           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH2         SP Ramp           CH2         SP Ramp         MV Upper/Lower Limits and Input Digita Filter           Temperature Controllers with Thermocouples or         CH1         HBA Used, Latch, Hysteresis           MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)         CH2           HBA Used, Latch, Hysteresis         MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)         Ch2 </td <td></td> <td></td> <td></td> <td></td>				
Advanced function setting level       Temperature Controllers with Thermocouples       CH1       SP Ramp         Temperature Controllers with Platinum-resistance Thermometers       CH1       SP Ramp         Temperature Controllers with Thermocouples       CH1       SP Ramp         Temperature Controllers with Thermocouples       CH1       SP Ramp         Temperature Controllers with Platinum-resistance Thermometers       CH2       SP Ramp         Temperature Controllers with Thermocouples or Temperature Controllers with Thermocouples or Platinum-resistance Thermometers       CH2       SP Ramp         CH2       SP Ramp       CH1       HBA Used, Latch, Hysteresis         MV Upper/Lower Limits and Input Digita Filter       Filter       MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter       CH2       HBA Used, Latch, Hysteresis         MV Upper/Lower Limits and Input Digita Filter       MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter       MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter       MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter       Filter (Models with Analog Outputs)         Common       Input Shift Type         Number of Multi-SP       Standby Sequence Restart a. Cold Junction Com				Latch, Hysteresis
Advanced function setting level         Temperature Controllers with Thermocouples         CH1         SP Ramp           Platinum-resistance Thermometers Thermocouples or Platinum-resistance Thermometers         CH2         SP Ramp           CH1         BP Ramp         CH2         SP Ramp           CH2         SP Ramp         CH2         SP Ramp           Temperature Controllers with Thermocouple or Platinum-resistance Thermocouple or Platinum-resistance         CH2         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH2         SP Ramp           CH1         HBA Used, Latch, Hysteresis         MV Upper/Lower Limits and Input Digita Filter           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH2         HBA Used, Latch, Hysteresis           MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)           CH2         HBA Used, Latch, Hysteresis         MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter           Common         Input Shift Type           Number of Multi-SP Uses, Event Input Allocation, Use Multi-SP         Standby Sequence Restart a. Cold Junction Compensation Method           Communications         Common         Communicatio				
Advanced function setting level         Temperature Controllers with Thermocouples         CH1         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH2         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH1         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH1         SP Ramp           Temperature Controllers with Thermocouple or Platinum-resistance Thermoeter Inputs         CH1         HBA Used, Latch, Hysteresis           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH1         HBA Used, Latch, Hysteresis           MV Upper/Lower Limits and Input Digita Filter         Filter         MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)           CH2         HBA Used, Latch, Hysteresis         MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)           CH2         HBA Used, Latch, Hysteresis         MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter         Standby Sequence Restart α Cold Junction Compensation Method           Communications         Common         Communications Settings			Common	Control Output 1 and 2 Allocations
Advanced function setting level         Temperature Controllers with Thermocouples         CH1         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH2         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH2         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH2         SP Ramp           Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         CH1         HBA Used, Latch, Hysteresis           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH1         HBA Used, Latch, Hysteresis           MV Upper/Lower Limits and Input Digita Filter         Filter         MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)           CH2         HBA Used, Latch, Hysteresis         MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter         Filter         MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter         Filter         MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter         Filter         MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter         Filter         MV Upper/Lower Limits and Input Digita Filter </td <td></td> <td></td> <td></td> <td>Auxiliary Output 1 and 2 Allocations</td>				Auxiliary Output 1 and 2 Allocations
Advanced function setting level         Temperature Controllers with Thermocouples         CH1         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH1         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH1         SP Ramp           Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         CH1         SP Ramp           Temperature Controllers with Thermocouple or Platinum-resistance Thermoreater Inputs         CH1         BA Used, Latch, Hysteresis           MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)           Platinum-resistance Thermometers         CH2         HBA Used, Latch, Hysteresis MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter         Filter (Models with Analog Outputs)         CH2           Common         Input Shift Type Number of Multi-SP Uses, Event Input Allocation, Use Multi-SP Standby Sequence Restart α         Cold Junction Compensation Method           Communications         Common         Communications Settings				Auxiliary Output 3 and 4 Allocations
Advanced function setting level         Temperature Controllers with Thermocouples         CH1         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH1         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH1         SP Ramp           Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         CH1         SP Ramp           Temperature Controllers with Thermocouple or Platinum-resistance Thermoreater Inputs         CH1         BA Used, Latch, Hysteresis           MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)           Platinum-resistance Thermometers         CH2         HBA Used, Latch, Hysteresis MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter         Filter (Models with Analog Outputs)         CH2           Common         Input Shift Type Number of Multi-SP Uses, Event Input Allocation, Use Multi-SP Standby Sequence Restart α         Cold Junction Compensation Method           Communications         Common         Communications Settings				Current/Voltage Output
Error Output Operation after Power ON           Advanced function setting level         Temperature Controllers with Thermocouples         CH1         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH2         SP Ramp           Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         CH1         SP Ramp           Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         CH1         HBA Used, Latch, Hysteresis           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         MV Upper/Lower Limits and Input Digita Filter           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)           CH2         HBA Used, Latch, Hysteresis MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits an				
Advanced function setting level         Temperature Controllers with Thermocouples         CH1         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH1         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH1         SP Ramp           Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         CH1         HBA Used, Latch, Hysteresis           MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)           CH2         HBA Used, Latch, Hysteresis MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Common         Input Shift Type Number of Multi-SP           Standby Sequence Restart a Cold Junction C				
Advanced function setting level         Temperature Controllers with Thermocouples         CH1         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH1         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH1         SP Ramp           Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         CH1         SP Ramp           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH1         HBA Used, Latch, Hysteresis MV Upper/Lower Limits and Input Digita Filter           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH2         HBA Used, Latch, Hysteresis MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)           CH2         HBA Used, Latch, Hysteresis MV Upper/Lower Limits and Input Digita Filter         Filter (Models with Analog Outputs)           Ch2         HBA Used, Latch, Hysteresis MV Upper/Lower Limits and Input Digita Filter         Filter           MV Upper/Lower Limits and Input Digita Filter         Filter (Models with Analog Outputs)         Input Shift Type           Number of Multi-SP         Standby Sequence Restart α         Cold Junction Compensation Method           Communications         Common         Communications Settings				
setting level         Thermocouples         CH2         SP Ramp           Temperature Controllers with Platinum-resistance Thermometers         CH1         SP Ramp           Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         CH1         HBA Used, Latch, Hysteresis           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         CH1         HBA Used, Latch, Hysteresis           MV Upper/Lower Limits and Input Digita Filter         Filter (Models with Analog Outputs)         CH2           Platinum-resistance Thermometers         CH2         HBA Used, Latch, Hysteresis           MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)         CH2           CH2         HBA Used, Latch, Hysteresis           MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter           Standby Sequence Restart         α           Cold Junction Compensation Method         Common           Communications         Common         Communications Settings	Advanced function	Temperature Controllers with	CH1	
Temperature Controllers with       CH1       SP Ramp         Platinum-resistance Thermometers       CH2       SP Ramp         Temperature Controllers with       HBA Used, Latch, Hysteresis         Thermocouple or Platinum-resistance       MV Upper/Lower Limits and Input Digita         Thermoreter Inputs       Filter         Temperature Controllers with       MV Upper/Lower Limits and Input Digita         Thermocouples or       Platinum-resistance Thermometers         Platinum-resistance Thermometers       CH2         HBA Used, Latch, Hysteresis       MV Upper/Lower Limits and Input Digita         Filter       MV Upper/L		•		
Platinum-resistance Thermometers         CH2         SP Ramp           Temperature Controllers with         HBA Used, Latch, Hysteresis           Thermocouple or Platinum-resistance         MV Upper/Lower Limits and Input Digita           Thermometer Inputs         MV Upper/Lower Limits and Input Digita           Temperature Controllers with         MV Upper/Lower Limits and Input Digita           Thermocouples or         Platinum-resistance Thermometers           Platinum-resistance Thermometers         CH2           HBA Used, Latch, Hysteresis         MV Upper/Lower Limits and Input Digita           Filter         MV Upper/Lo		·		
Temperature Controllers with Thermocouple or Platinum-resistance Thermometer Inputs         CH1         HBA Used, Latch, Hysteresis           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         MV Upper/Lower Limits and Input Digita Filter           CH2         HBA Used, Latch, Hysteresis           MV Upper/Lower Limits and Input Digita Filter           CH2         HBA Used, Latch, Hysteresis           MV Upper/Lower Limits and Input Digita Filter           MU Digita <td></td> <td></td> <td></td> <td></td>				
Thermocouple or Platinum-resistance Thermometer Inputs         MV Upper/Lower Limits and Input Digita Filter           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)           CH2         HBA Used, Latch, Hysteresis MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter           MU Upper/Lower Limits and Input Digita Filter           MU Uper/Lower Limits <t< td=""><td></td><td></td><td></td><td></td></t<>				
Thermometer Inputs         Filter           Temperature Controllers with Thermocouples or Platinum-resistance Thermometers         MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)           CH2         HBA Used, Latch, Hysteresis MV Upper/Lower Limits and Input Digita Filter           MV Upper/Lower Limits and Input Digita Filter </td <td></td> <td></td> <td>CH1</td> <td></td>			CH1	
Temperature Controllers with Thermocouples or Platinum-resistance Thermometers       MV Upper/Lower Limits and Input Digita Filter (Models with Analog Outputs)         CH2       HBA Used, Latch, Hysteresis MV Upper/Lower Limits and Input Digita Filter         MV Upper/Lower Limits and Input Digita Filter         Mumber of Multi-SP         Standby Sequenc				
Thermocouples or       Filter (Models with Analog Outputs)         Platinum-resistance Thermometers       CH2       HBA Used, Latch, Hysteresis         MV Upper/Lower Limits and Input Digita       Filter         MV Upper/Lower Limits and Input Digita       Filter (Models with Analog Outputs)         Common       Input Shift Type         Number of Multi-SP Uses, Event Input         Allocation, Use Multi-SP         Standby Sequence Restart         α         Communications       Common				
Platinum-resistance Thermometers       CH2       HBA Used, Latch, Hysteresis         MV Upper/Lower Limits and Input Digita       Filter         Number of Multi-SP       Vertex         Standby Sequence Restart       Ω         Ω       Cold Junction Compensation Method         Communications       Common       Communications Settings				
Communications       Communications         Communications       Communications				
Filter       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         Common       Communications Settings		Platinum-resistance Thermometers	CH2	
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           Common         Common Settings				
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         Common       Common Settings				
Common       Input Shift Type         Number of Multi-SP Uses, Event Input         Allocation, Use Multi-SP         Standby Sequence Restart         α         Cold Junction Compensation Method         Common       Common Settings				
Communications       Communications         Number of Multi-SP Uses, Event Input Allocation, Use Multi-SP         Standby Sequence Restart         α         Cold Junction Compensation Method				
Allocation, Use Multi-SP         Standby Sequence Restart         α         Cold Junction Compensation Method         Communications			Common	
Standby Sequence Restart       α       Cold Junction Compensation Method       Communications				
Communications Common Communications Settings				
Communications Common Communications Settings				Standby Sequence Restart
Communications Common Communications Settings				α
Communications Common Communications Settings				Cold Junction Compensation Method
	Communications		Common	
setting level				Communications Counge

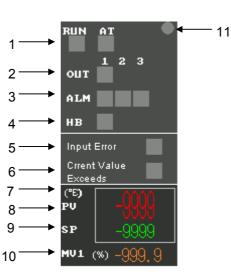
### 1.1 E5ZN

### 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\ TemperatureControll er\E5ZN\OperationLe vel	Title	Operation Monitor for Standard Control		
Function Continuously monitors operating status on a face plate.							
Display and Operation Details							



No.	ltem	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.				
Rema	arks						

\* 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 typ	e E5ZN	Storag director	SmartActiveParts_E\ TemperatureControll er\E5ZN\OperationLe vel	Title	Operation Monitor for Heating/Cooling Control			
Functio	n Continuously	y monitors ope	rating status on a face plat	e.				
Display	and Operation	Details						
			$1 \longrightarrow 1^{2} 3^{3}$	•	— 12			
	$3 \longrightarrow ALM$ $4 \longrightarrow HB$ $5 \longrightarrow Input Error$							
				99				
No.	ltem	Setting/ display		Des	cription			
1	RUN AUTO AT	Display D	isplays the run/stop, auto/r	nanual, an	d autotuning status.			
2	OUT		isplays the output status of					
3	ALM		isplays the output status of					
4	HB		isplays the heater burnout		tus.			
5	Input Error	Display D	isplays the input error statu	IS.				
6	Current Value Exceeds		isplays the status of a curre		exceeded error.			
7	(°C) / (°F)		isplays the temperature un	It.				
8	PV		isplays the process value.					
9	SP		isplays the set point.	deble ford				
10	MV-H		isplays the manipulated va					
11	MV-C	Display D	isplays the manipulated va	riable for c	cooling.			
	Display Update Indicator	Display F	ashes each time the displa	y is updat	ed.			

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

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

Unit type	E5ZN	Stor direc	age tory	SmartActiveParts_E\ TemperatureControll er\E5ZN\OperationLe vel	Title	SP and Alarm Settings			
Functior	Sets the set	point and tl	he ala	rm values for outputting	alarms.				
Display a	and Operation	Details							
			Ļ	2					
	CH1								
	1	→ SP	(°E)	-999.9		10			
			(°E)	Alarm Val, Upper	Lim,Lo	wer Lim.			
	3—	→ ALM	1	-9999 -99	99	-9999			
	4 —	→ ALM	2	-9999 -99	99	-9999			
	5—	→ ALM	3	-9999	,				
			Ť		<b>L</b>				
			Å			9			
			6	7 8		9			
			6	7 8		9			
No.	ltem	Setting/ display	6	/ 8		s			
<b>No.</b>	SP			7 8 the set point.					
-		display	Sets	the set point. ays the temperature uni	Deso t.	cription			
1	SP	display Setting	Sets Displ The limit.	the set point. ays the temperature uni ALM1 row contains the a	Deso t. alarm 1 set	cription tings: alarm value, upper limit, and lower			
1 2	SP (°C) / (°F)	display Setting	Sets Disp The limit. The	the set point. ays the temperature uni ALM1 row contains the a	Deso t. alarm 1 set	cription tings: alarm value, upper limit, and lower			
1 2 3	SP (°C) / (°F) ALM1	display Setting Display	Sets Displ The limit. The limit.	the set point. ays the temperature uni ALM1 row contains the a	Deso t. alarm 1 set alarm 2 set	tings: alarm value, upper limit, and lower			
1 2 3 4 5	SP           (°C) / (°F)           ALM1           ALM2	display Setting Display	Sets Displ The limit. The Displ	the set point. lays the temperature uni ALM1 row contains the a ALM2 row contains the a ALM3 row contains the a lays the output status of	Deso t. alarm 1 set alarm 2 set alarm 3 set alarm outp	tings: alarm value, upper limit, and lower tings: alarm value, upper limit, and lower ting: alarm value. buts 1, 2, and 3.			
1 2 3 4 5	SP (°C) / (°F) ALM1 ALM2 ALM3	display Setting Display	Sets Displ The limit. The Jimit. The Displ Sets alarm	the set point. lays the temperature uni ALM1 row contains the a ALM2 row contains the a ALM3 row contains the a lays the output status of the alarm value. The ala n type is set to anything	Deso t. alarm 1 set alarm 2 set alarm 3 set alarm outp arm value i other than	tings: alarm value, upper limit, and lower tings: alarm value, upper limit, and lower ting: alarm value. buts 1, 2, and 3. s displayed and can be set when the an upper/lower limit alarm.			
1 2 3 4 5 6 Al	SP (°C) / (°F) ALM1 ALM2 ALM3 arm Indicators	display Setting Display ~ Display	Sets Disp The limit. The limit. The Disp Sets alarm Sets	the set point. lays the temperature uni ALM1 row contains the a ALM2 row contains the a ALM3 row contains the a lays the output status of the alarm value. The ala n type is set to anything the alarm upper limit. Th	Deso t. alarm 1 set alarm 2 set alarm 3 set alarm outp arm value i other than ne alarm u	tings: alarm value, upper limit, and lower tings: alarm value, upper limit, and lower ting: alarm value, upper limit, and lower ting: alarm value. buts 1, 2, and 3. s displayed and can be set when the an upper/lower limit alarm. oper limit is displayed and can be set			
1 2 3 4 5 6 Al 7	SP (°C) / (°F) ALM1 ALM2 ALM3 arm Indicators Alarm Val.	display Setting Display ~ Display Setting	Sets Displ The limit. The Displ Sets alarn Sets wher Sets	the set point. lays the temperature uni ALM1 row contains the a ALM2 row contains the a ALM3 row contains the a lays the output status of the alarm value. The ala n type is set to anything the alarm upper limit. Th n the alarm type is set to	Deso t. alarm 1 set alarm 2 set alarm 3 set alarm outp arm value i other than ne alarm u an upper/l e alarm lo	tings: alarm value, upper limit, and lower tings: alarm value, upper limit, and lower ting: alarm value, upper limit, and lower ting: alarm value. buts 1, 2, and 3. s displayed and can be set when the an upper/lower limit alarm. oper limit is displayed and can be set ower limit is displayed and can be set when			

Do not use this SMART Active Part on the initial screen. Use System version 5 or higher version.

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### (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

PV Hold Value °C / °F hisplay Update	Display [	Displays the PV hold value. Displays the temperature uni The PV hold value is continue		ayed and updated. This indicator flashes			
	Display [						
V Hold Value		Displays the PV hold value.					
Item		Description					
		and Operation Details 1 <sup>—</sup>	1 → PV Hold Val.(*E) 1 2 Itom Setting/	tom Setting/ □			

### (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\ TemperatureControll er\E5ZN\OperationLe vel	Title	SP Setting
Function	Sets the se	et point.			
		1	CH1 → SP (°E) -999	9	
			1 2		
No.	Item	Setting/ display	1 2	Des	cription
<b>No.</b>	Item SP	display	2 s the set point.	Des	cription

### 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 typ	e E5ZN	Stora direct	ge Tem	rtActiveParts_E\ peratureControll 5ZN\AdjustmentL	Title	Manual MV Settings		
Functio	n Sets the mar	nual manipu	lated varial	ole.				
Display	and Operation	Details						
				CH1		2		
	1 → PU (°E) -999.9 → 3							
	MU (%) -999.9 + 5 - 6							
				<b>↑</b> 4				
No.	ltem	Setting/ display			Desc	ription		
1	PV	Display	Displays th	ne process value. T	he display	is updated continuously.		
2	(°C) / (°F)	Display	Displays th	ne temperature unit		·		
3	Display Lindato							
4	MV	Setting		anual manipulated				
5		Setting	Increments	s the manual manip	ulated var	iable by one engineering unit.		
6	▼	Setting				ariable by one engineering unit.		
5 6 Remark * Whe	▲ ▼ s en using this SM	Setting Setting ART Active	Increments Decremen Part, be su	s the manual manip ts the manual mani	pulated var pulated var <b>- System</b>	ariable by one engineering unit. <b>A Settings</b> in the menu bar, press t		

- 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) 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 typ	e E5ZN	Storage directory	SmartActiveParts_E\ TemperatureControll er\E5ZN\AdjustmentL evel	Title	Multi-SP Settings
Functio	n Sets set po	ints 0 and 1.			
Display	and Operatior	1 <sup></sup> 2	CH1 → SP9(°E) -999 → SP1(°E) -999 ↑ 3		
No.	ltem	Setting/ display		Des	cription
1	SP0	Setting Set	s set point 0.		
2	SP1		s set point 1.		
3	(°C) / (°F)	Display Dis	plays the temperature unit		
	s en using this SI	MART Active Par	· · ·	g - Systen	<b>n Settings</b> in the menu bar, press the

- Do not use this SMART Active Part on the initial screen.
- Use System version 5 or higher version.

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### (8) Heater Burnout Detection

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

Unit t	type E5ZN	Stor direc	age tory	SmartActiveParts_E\ TemperatureControll er\E5ZN\AdjustmentL evel	Title	Heater Burnout Detection			
Func	FunctionMonitors 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.								
Displ	ay and Operation								
	$1 \longrightarrow Heater Current Val 99.9 \longrightarrow 5$ $1 \longrightarrow Heater Burnout$ $2 \longrightarrow HB 99.9 \longrightarrow 3$ $4 \longrightarrow HBA Used OFF ON$								
No.	Item	Setting/ display			Desc	ription			
1	Heater Current Val	Display	Cont	inuously displays the he	ater curren	t.			
2	HB	Display	Cont	inuously displays the out	tput status	for heater burnout detection.			
3	Heater Burnout Detection	Setting		the heater burnout deter					
4	HBA Used	Display	Displays the setting status (advanced function setting level) for heater burnout detection.						
5	Display Update Indicator	Display	Flas	nes each time the heater	current or	HB display is updated.			
Rema * V		ART Active	Part.	be sure to select Setting	a - Svstem	<b>Settings</b> 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) 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	e E5ZN	Storage directory	SmartActiveParts_E\ TemperatureControll er\E5ZN\AdjustmentL evel	Title	PID Settings		
Functio	Sets the PID constants.						
Display	and Operation	Details					
			1.37-1				
		3 - 4 -					
No.	Item		→ (sec) 999 D Value 0000	9	cription		
<b>No.</b>	Item P Value	4 <sup></sup> Setting/ display	→ (sec) 999 D Value 0000	9	cription		
		4 Setting/ display Setting Se	→ (sec) 999 → D Value (sec) 999	Des	cription		
1	P Value	4	→ (sec) 9999 → D Value 9999 (sec) 9999	Des	cription		

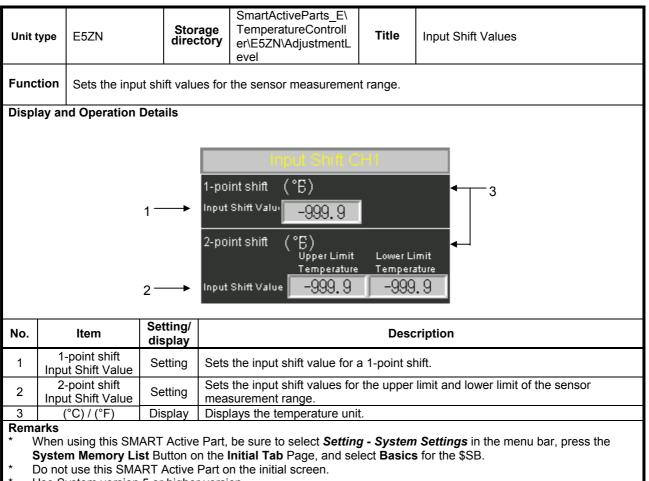
System Memory List Button on the Initial Tab Page, and select Basics for the \$SB. Do not use this SMART Active Part on the initial screen.

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



### (11) Manual Reset Value

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

Unit type	E5ZN	Storage directory	SmartActiveParts_E\ TemperatureControll er\E5ZN\AdjustmentL evel	Title	Manual Reset Value			
Function Sets the manual reset value.								
Display and Operation Details $1 \xrightarrow{Manual (X)} 999.9$								
No.	ltem	Setting/ display		Desc	ription			
	Item lanual Reset Value	display	s the manual reset value.	Desc	ription			

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

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

Unit t	ype E5ZN	Stora direct	age SmartActiveParts_E\ TemperatureControll er\E5ZN\AdjustmentL evel Title Cooling Coefficient, Dead Band, and Control Period					
Funct	Function Sets the cooling coefficient, dead band, and control period.							
Displa	Display and Operation Details							
	Display and Operation Details 1 Cooling Coefficient 99.99 2 Dead Band -999.9 3 Dead Band -999.9 4 Heating (sec) 99 5 Control Period 5 Cooling (sec) 99							
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.					
* D	When using this SM	<b>st</b> Button on ART Active F	Part, be sure to select <b>Setting - System Settings</b> in the menu bar, press the net the <b>Initial Tab</b> Page, and select <b>Basics</b> for the \$SB. Part on the initial screen. version.					

### (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 ty	rpe E5ZN	Storaç directo	ge SmartActiveParts_E\ TemperatureControll er\E5ZN\AdjustmentL evel	Title	Dead Band and Hysteresis				
Functi	ion Sets the de	ad band and h	systeresis for ON/OFF contro	ol.					
Displa	Display and Operation Details								
	$1 \longrightarrow \begin{array}{c} \text{Dead Band} \\ \text{Pggg. g} \\ 2 \longrightarrow \\ \text{Hysteresis} \\ \text{Heating} \\ 3 \longrightarrow \\ \text{Cooling} \\ \end{array} \begin{array}{c} 999.9 \\ 999.9 \\ \hline 4 \end{array}$								
No.	ltem	Setting/ display		Des	cription				
1	Dead Band	Setting S	Sets the dead band.						
2	Hysteresis Heating	Semina	Sets the hysteresis for the he Sets the hysteresis for stand	• ·	out for heating/cooling control.				
3	Hysteresis Cooling         Setting         Sets the hysteresis for the cooling output for heating/cooling control.								
4	(°C) / (°F)	Display [	Displays the temperature uni	t.					

### 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	SmartActivePart TemperatureCon er\E5ZN\InitialSe Level	ntroll Title		e, Temperature Unit, d Decimal Point			
Function	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 ar	nd Operation Det	ails							
			CI	1					
		Input Type S	election			ĺ			
	ſ	K(1)	K(2)	J(1)	J(2)				
		T(1)	<u> </u>	L	U(1)				
	1 {	<u>          N</u>	R	S	B				
		K10-70		K115-165	K160-260				
	Ĺ	T(2)	U(2)		_				
	2	Temperature Units	°C	°F					
	1 {	0-50mV							
			Upper Lim.	Lower Lim.					
	3→	Scaling	-9999	-9999	J				
	4	Decimal Poin Position	t <u>9</u>			l			
No.	ITem	etting/ splay		D	escription				

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.

### (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 ty	ype E5ZN	Storage director	SmartActiveParts_E\ TemperatureControll Y er\E5ZN\InitialSetting Level	Title	Input 1 Type and Temperature Unit	
Funct	tion Sets the input		mperature unit for a Temper	ature Conf	troller with a Platinum-resistance	
Displa	ay and Operation I	Details				
	1 { Pt100(1) Pt100(2) Pt100(3) JPT100(1) JPT100(2) 2 → Temperature °C °F					
No.	ltem	Setting/ display		Desc	cription	
1	Input Type Selection		Sets the input type for a Tem Thermometer Input.	perature C	Controller with a Platinum-resistance	
2	Temperature					
S	/hen using this SM/ ystem Memory Lis	<b>st</b> Button on th	art, be sure to select <b>Setting</b> he <b>Initial Tab</b> Page, and sel irt on the initial screen.		<b>n Settings</b> in the menu bar, press the <b>s</b> for the \$SB.	

<sup>\*</sup> 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 t	ype E5ZN	Stora directe	ge SmartActiveParts_E\ TemperatureControll er\E5ZN\InitialSetting Level	Title	SP Limits		
Func	tion Sets the up	per and lowe	limits for the set point.				
Displa	ay and Operation	Details					
			CH1				
2 → (°B) <sup>Upper Limit</sup> Lower Limit							
		1	SP Limit9999	-999	9		
		I '					
No.	Item	Setting/ display		Desc	cription		
	SP Limit		Pote the upper and lower limit	a for the c	at point		
1	Upper Limit	Setting	Sets the upper and lower limit				
	Upper Limit Lower Limit	Setting	Can be set anywhere within the	ne input te			
2	Upper Limit Lower Limit (°C) / (°F)	Setting		ne input te			
2 Rema	Upper Limit Lower Limit (°C) / (°F) arks	Setting Display	Can be set anywhere within the Displays the temperature unit	ne input te	emperature setting range.		
2 Rema * V	Upper Limit Lower Limit (°C) / (°F) arks Vhen using this SN	Setting Display	Can be set anywhere within the Displays the temperature unit Part, be sure to select <b>Setting</b>	ne input te <b> Systen</b>	mperature setting range.		
2 Rema * V S	Upper Limit Lower Limit (°C) / (°F) arks Vhen using this SN system Memory L	Setting Display	Can be set anywhere within the Displays the temperature unit	ne input te <b> Systen</b>	mperature setting range.		

Do not use this SMART Active Part on ut
 Use System version 5 or higher version.

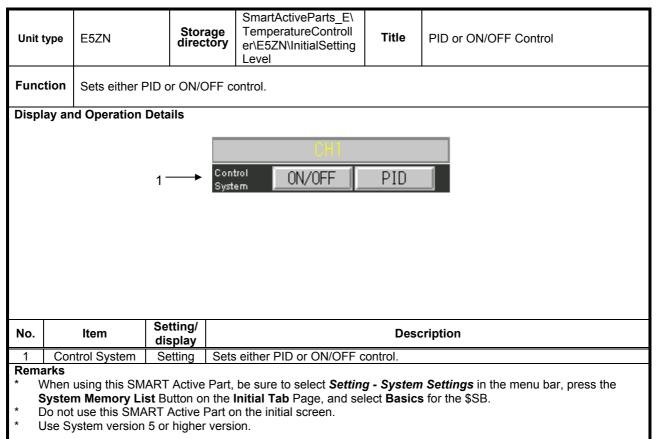
### (17) Transfer Output Upper and Lower Limits

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 t		Stora direc	age Temper tory er\E5ZN Level	ctiveParts_E\ ratureControll N\InitialSetting	Title	Transfer Output Upper and Lower Limits
Func	tion This SMA	RT Active Part				ut. er outputs when transfer outputs are set
Displ	ay and Operation	on Details				
		5 →	(°E)	Upper Limit	Lower Lim	it
			DUT1	-9999	-999	9 1
		2 ●	Fransfer Outout DUT2	-9999	-999	
		a \$	Fransfer Outout SUB3	-9999	-999	
			Fransfer Outout SUB4	-9999	-999	
		4	Fransfer Outout	0000	1 333	5
		Setting/				
No.	Item	display			Desc	ription
1	OUT1 Transfer Output Upper Limit Lower Limit	r Setting	Sets the uppe control outpu		its for scali	ng when a transfer output is set for
2	OUT2 Transfer Output Upper Limit Lower Limit	r Setting	Sets the uppe control outpu		its for scali	ng when a transfer output is set for
3	SUB3 Transfer Output Upper Limit Lower Limit	r Setting	Sets the uppe auxiliary outp		its for scali	ng when a transfer output is set for
4	SUB4 Transfer Output Sets the upper and lower limits for scaling when a transfer output is set for					
* V	Lower Limit         Image: Constraint of the second se					

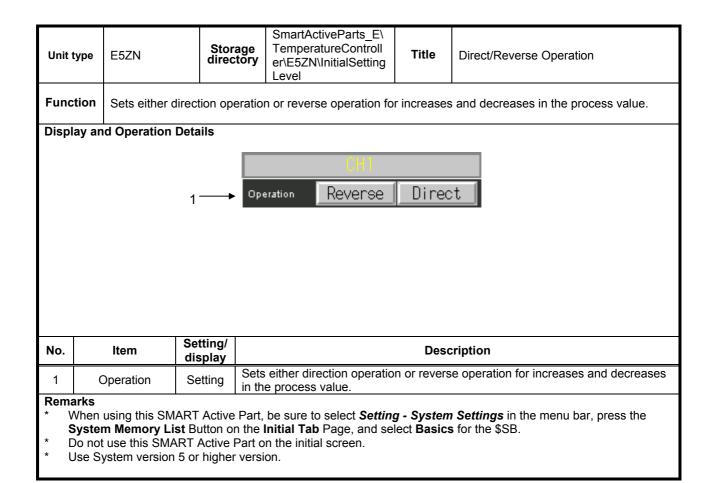
### (18) PID or ON/OFF Control

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



### (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



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

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

Unit typ	e E5ZN	Stor direc	age SmartActivePa TemperatureC er\E5ZN\Initial Level	ontroll	Title	Alarm 1 Type, Open/Close in Alarm, Hysteresis, Latch	
Functio	Sets the alar	rm type, ope	en/close in alarm oper	ration, late	ch, and hy	steresis for alarm 1.	
Display	and Operation	Details					
			(	CH1			
	1 → Alarm1 Type <u>99 Type(0-11)</u> ← 2						
3 → Alarm1open/ Close Open							
$4 \longrightarrow \begin{array}{c} \text{Alarm 1} \\ \text{Hysteresis} \end{array} (\$) 999.9 \\ \text{Alarm 1} \text{I steb} 999.9 \end{array}$							
		5→	Alarm1 Latch	F	ON		
No.	ltem	Setting/ display			Desc	cription	
1	Alarm 1 Type	Display	Displays the alarm ty				
2	Alarm 1 Type Setting Button	Setting	When pressed, displ Select the alarm type			setting menu.	
3	Alarm 1						
4	Alarm 1 Hysteresis	Setting Display	Sets ON/OFF hyster	resis for th	ne alarm o	putput.	
-	Alarm 1 Latch	Setting	Sets whether to latcl	h the alar	m output s	status.	
	en using this SM		Part, be sure to selec in the <b>Initial Tab</b> Page			<b>r Settings</b> in the menu bar, press the <b>s</b> for the \$SB.	

Do not use this SMART Active Part on the initial screen. Use System version 5 or higher version.

\*

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

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

Unit t	type E5ZN	Stora direct	Be     SmartActiveParts_E\       TemperatureControll     Title       ry     er\E5ZN\InitialSetting       Level     Title	pen/Close in Alarm, າ			
<b>Function</b> Sets the alarm type, open/close in alarm operation, latch, and hysteresis for alarm 2.							
Displ	ay and Operation	Details					
CH1							
		1 →	arm <sup>2</sup> Type 99 Type(0-11) ← 2				
		3→	arm2 open/ close Open				
$4 \longrightarrow \underset{\text{Hysteresis}}{\text{Alarm2}} (\$) \qquad 999.9$							
5 Alarm2 Latch OFF ON							
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.				
	Alarm 2	Setting	Sets ON/OFF hysteresis for the alarm output.				
4	-		Displays the temperature unit.				
4	Hysteresis	Display					
4 5 <b>Rema</b>	Hysteresis Alarm 2 Latch	Display Setting	Sets whether to latch the alarm output status.				

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

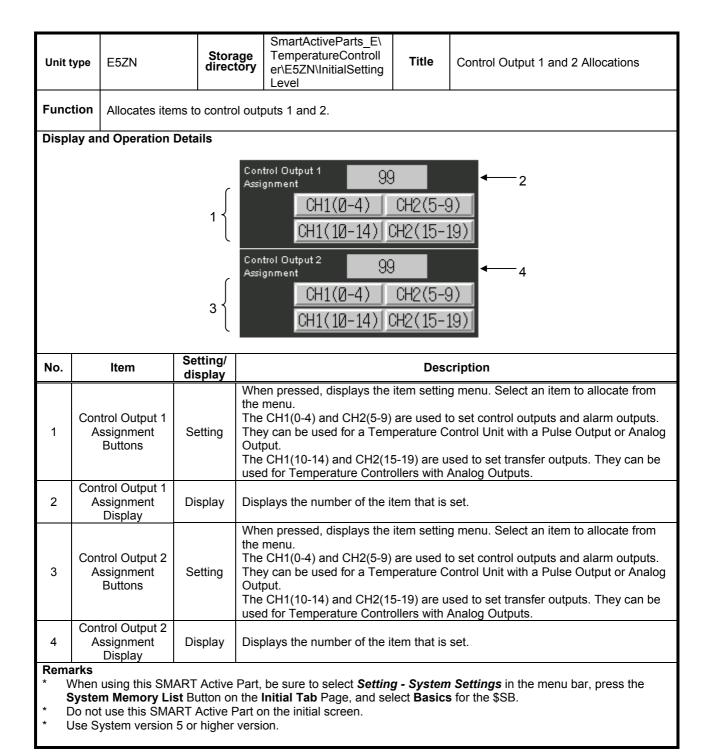
Setting level	Input type	Channel	Part
	Thermocouple input		Yes
	Platinum-resistance thermometer	CH2	Yes
	Common(Common)	All CH	No

Unit typ	e E5ZN	Stor direc	age ctory	SmartActiveParts_E\ TemperatureControll er\E5ZN\InitialSetting Level	Title	Alarm 3 Type, Open/Close in Alarm, Hysteresis, Latch		
Functio	<b>Function</b> Sets the alarm type, open/close in alarm operation, latch, and hysteresis for alarm 3.							
Display and Operation Details								
$\begin{array}{c} \hline \\ \hline \\ 1 \longrightarrow \\ Alarm3 \ Type \\ 99 \ Type(0-11) \\ 4 \longrightarrow \\ close \ in \ Alarm3 \\ close \ in \ Alarm3 \\ Hysteresis \\ \$ \\ 999.9 \\ 5 \longrightarrow \\ \end{array} \begin{array}{c} \hline \\ 1 \longrightarrow \\ 2 \longrightarrow$								
No.	ltem	Setting/ display			Desc	cription		
1	Alarm 3 Type	Display		ays the alarm type that i				
2	Alarm 3 Type Setting Button	Setting		n pressed, displays the a t the alarm type from the		setting 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				putput.		
5 Alarm 3 Latch Setting Sets whether to latch the alarm output status.				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								

\* Do not use this SMART Active Part on the initial screen.

### (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



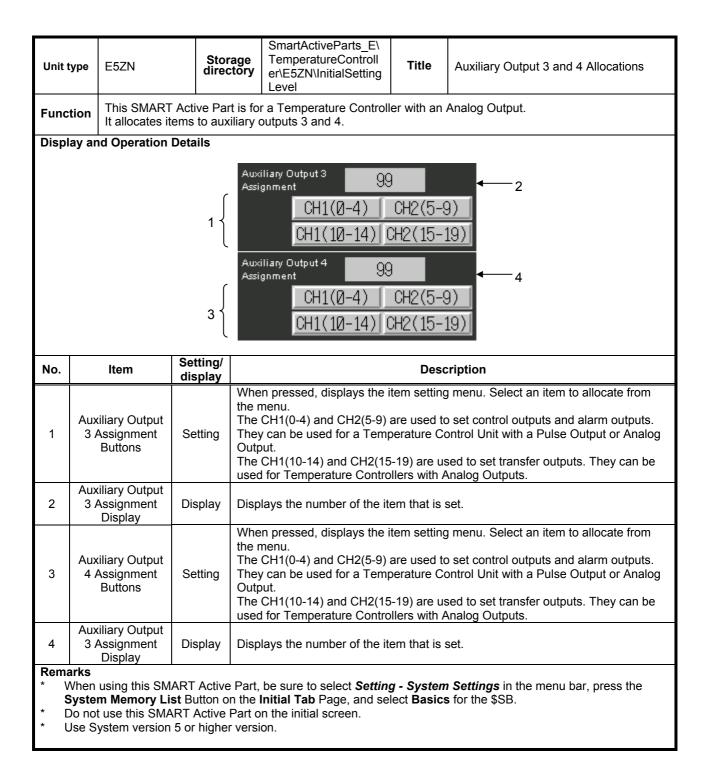
### (24) Auxiliary Output 1 and 2 Allocations

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

Unit 1	Unit type E5ZN		age tory	SmartActiveParts_E\ TemperatureControll er\E5ZN\InitialSetting Level	Title	Auxiliary Output 1 and 2 Allocations		
Func	Function It allocates items to auxiliary outputs 1 and 2.							
Display and Operation Details								
	Auxiliary Output 1       99       2         1 {       CH1(0-4)       CH2(5-9)         Auxiliary Output 2       99         Auxiliary Output 2       99         3 {       CH1(0-4)							
No.	ltem	Setting/ display			Des	cription		
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	<ul> <li>When pressed, displays the item setting menu. Select an item to allocate from the menu.</li> <li>Setting</li> <li>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.</li> </ul>						
4	4     Auxiliary Output       2     Assignment       Display     Displays the number of the item that is set.							
<ul> <li>Remarks</li> <li>* 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.</li> <li>* Do not use this SMART Active Part on the initial screen.</li> <li>* Use System version 5 or higher version.</li> </ul>								

#### (25) Auxiliary Output 3 and 4 Allocations

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



Temperature Controller (E5ZN)

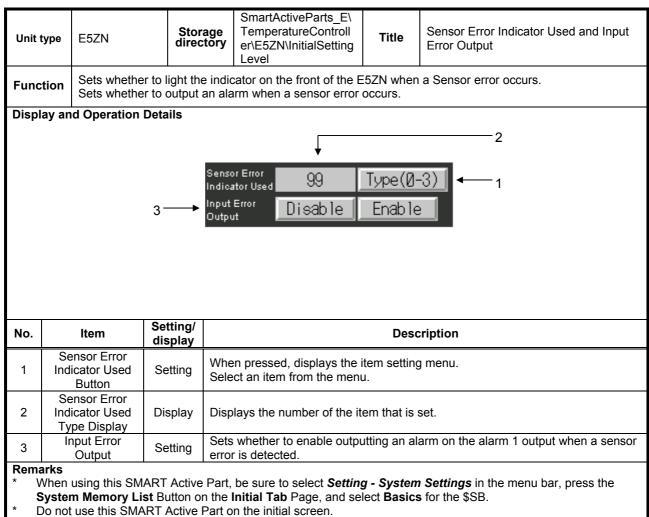
# (26) Current/Voltage Output

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

Unit t	ype E5ZN	Storage directory	SmartActiveParts_E\ TemperatureControll er\E5ZN\InitialSetting Level	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.						
Displa	ay and Operation	Details				
			irrent <u>4-20mA</u> Itage Itage <u>1-5V</u>	0-20mA 0-5V		
No.	ltem	Setting/ display		Desc	ription	
<b>No</b> .	Item Current Output	display	s the current output type f		•	
_		display Setting Set	s the current output type f	or control c	butputs 1 and 2.	

#### (27) Sensor Error Indicator Used and Input Error Output

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



(28) Operation after Power ON

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

Unit	type E5ZN	Stor direc		SmartActiveParts_E\ TemperatureControll er\E5ZN\InitialSetting Level	Title	Operation after Power ON		
Func	<b>Function</b> Sets the operating status to used after the power supply is turned ON.							
Displ	ay and Operation	Details						
	Display and Operation Details							
No.	ltem	Setting/ display			Desc	ription		
1	Operation at Power ON	Setting	Set 0			after the power supply is turned ON. ng status that existed when the power		
* E	Vhen using this SM	st Button of RT Active	n the I Part o	I <b>nitial Tab</b> Page, and se n the initial screen.		<b>Settings</b> in the menu bar, press the s for the \$SB.		

#### 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	CH2	No
	thermometer	All CH	Yes
	Common(Common)		

Unit typ	e E5ZN	Storage directory	SmartActiveParts_E\ TemperatureControll er\E5ZN\Advanced_L evel	Title	SP Ramp
Functio	n Sets the rate	e of change for t	he SP ramp.		
Display	and Operation	1	CH1 SP Ramp (°E/min.) 	999 [	
			Ť 2		
No.	ltem	Setting/ display	Ť 2	Desc	cription
<b>No.</b>	Item SP Ramp	display Sotting Set	s the maximum allowed c	hange per	-
1	SP Ramp °C /min)/(°F/min)	display Setting Set Set		hange per function.	-

## (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 t	ype E5ZN	Stora direc	SmartActiveParts_E TemperatureControll er\E5ZN\Advanced_ evel	Title	HBA Used, Latch, Hysteresis	
Func	tion Turns the he	ater burnou	t detection ON/OFF, turns t	he latch ON/	OFF, and sets the hysteresis.	
Displ	ay and Operation	Details				
			CH1			
			Jse Heater OFF Burnout	ON		
			Heater Burnout Latch	ON		
			Heater Burnout 99	.9		
Sotting/						
No	ltem	Setting/		Desc	cription	
	Item Use Heater	display			cription	
<b>No.</b>	Use Heater Burnout	-	Sets whether to use the he		-	
	Use Heater Burnout Heater Burnout Latch	display	Sets whether to use the he Sets whether to latch the h	eater burnout	detection function.	
1	Use Heater Burnout Heater Burnout Latch Heater Burnout Hysteresis	display Setting		eater burnout neater burnou	detection function.	

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

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

Unit t	ype E5ZN	Stora directe	ge SmartActiveParts_E\ TemperatureControll er\E5ZN\Advanced_I evel	Title	MV Upper/Lower Limits and Input Digital Filter
Func			r limits for the manipulated r the input digital filter.	variable.	
Displa	ay and Operation	Details			
		[	CH1		
		1 →	MV Upper Limit (%)	-999.	9
		2→	MV Lower Limit (%)	-999.	9
		3→	Input Digital Filter (sec)	999.	9
		Ū			
No.	Item	Setting/ display		Des	cription
1	MV Upper Limit	Setting	Sets the upper limit of the If the calculated manipulate to the upper limit.		variable. exceeds the upper limit, it will be restricted
2	MV Lower Limit		Sets the lower limit of the r		variable. alls below the lower limit, it will be

Remarks

3

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.

Sets the time constant for the input digital filter.

restricted to the lower limit.

Do not use this SMART Active Part on the initial screen.

Setting

Use System version 5 or higher version.

Input Digital

Filter

# (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	Stor direc	age Tem	rtActiveParts_E\ peratureControll 5ZN\Advanced_L	Title	Input Shift Type	
Fund	Function         Sets the input shift type to a 1-point shift or to a 2-point shift.							
Disp	Display and Operation Details							
	Display and Operation Details 1 → Input Shift 1-point shift 2-point shift Type							
No.		ltem	Setting/ display			Desc	ription	
1	Inpu	t Shift Type	Setting	Sets the in	put shift type to a	1-point shif	t or to a 2-point shift.	
Rema * V		using this SM <b>n Memory Li</b> s	ART Active	Part, be su		. Curatan	<b>Settings</b> in the menu bar, press the	

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

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

Unit t	ype E5ZN	Storaç directo	ge Temp	tActiveParts_E\ eratureControll ZN\Advanced_L	Title	Number of Multi-SP Uses, Event Input Allocation, Use Multi-SP
Func	tion Sets the nur	nber of Multi-	SP uses, e	vent input allocati	ion, and m	ulti-SP usage.
Displa	ay and Operation	Details				
		1  s $2  E$	o. of Multi- P Uses vent Input unction	No Multi-SP	Switch between S RUN/S1	P0/1
		3 <b>→→</b> U	se		ON	
		5 м	lulti-SP	0FF		
		hr	lulti-SP			
No.	ltem	Setting/ display	lulti-SP			cription
<b>No.</b>	Item No. of Multi-SP Uses	Setting/ display			Desc	cription
	No. of Multi-SP	Setting/ display Setting	Sets the nu	mber of multi-SP	Desc set point to	-
1	No. of Multi-SP Uses Event Input	Setting/ display Setting S Setting S	Sets the nu Sets wheth	mber of multi-SP	Desc set point to een RUN a	o use for the event inputs. nd STOP for the event input.

Do not use this SMART Active Part on th
 Use System version 5 or higher version.

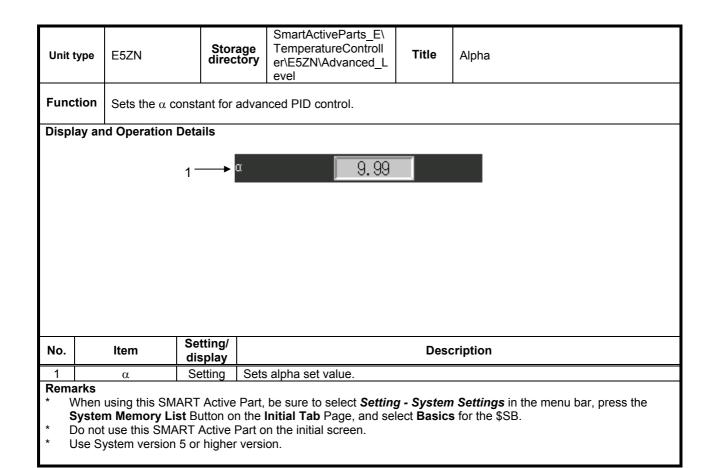
# (34) Standby Sequence Restart

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 ty	rpe E5ZN	Stora direc	age tory	SmartActiveParts_E\ TemperatureControll er\E5ZN\Advanced_L evel	Title	Standby Sequence Restart		
Funct	Function         Sets the condition for restarting after clearing the alarm standby sequence.           Display and Operation Details         Sets the condition for restarting after clearing the alarm standby sequence.							
Displa	Display and Operation Details							
	Display and Operation Details 1 Standby Sequer Condi. A Condi. B							
No.	ltem	Setting/ display			Desc	cription		
1	Standby Sequer Reset	Setting	Sele	ct Condition A or Conditi	on B.			
* W Sy * Do	Reset       Setting       Setting							

(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



## (36) Cold Junction Compensation Method

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

Unit	type E5ZN	Storage directory	SmartActiveParts_E\ TemperatureControll er\E5ZN\Advanced_L evel	Title	Cold Junction Compensation Method
Fund	ction Sets the cold	junction compe	nsation method.		
Disp	lay and Operation De	etails			
		<b>₄</b> ▶	Innction ensation External	Interna	
No.	Item	Setting/ display		Desc	ription
No. 1 Rema	Cold Junction Compensation	display Setting Set	t whether to perform cold ntroller or externally.		ription mpensation inside the Temperature

#### 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 t	ype E5ZN	Stora direct	ge SmartActiveP Temperature( er\E5ZN\Com Level	Controll	Title	Communications Settings
Funct	length: 7 bits	g settings an s, Stop bits: 2	e used when conne 2 bits, Parity: even.	C C		PT to the Temperature Controller: Data nunicate with any other settings.
Displa	ay and Operation	Details				
	1-	—► Data I		8b		
	2-		Bit <u>1</u> bit	2b	it	
	2-	Parity	NONE	EV	EN 👔	ODD
	5	Transm		999	39	
	4-	Wait T	ime(ms)	,	~	
No.	Item	Setting/ display			Desc	cription
1	Data Bit	Setting	Sets the communic A data length of 7 t Controller.			ct an NS-series PT to the Temperature
			Sets the number of	00000000		1.4
2	Stop Bit	Setting	Two stop bits are u Controller.	sed to co	nnect an N	op bits. S-series PT to the Temperature
2 3	Stop Bit Parity	Setting Setting	Two stop bits are u Controller. Sets the communic	sed to co ations pa	nnect an N	

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.

Operation controls	CH1	Bank Selection
JUNITORS	CH2	Bank Selection
	CH3	Bank Selection
	CH4	Bank Selection
Operation level		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
	00	SP Setting
		MV Manual Settings
	CH4	Operation Monitor for Standard Control
	0111	SP Setting
		MV Manual Settings
Adjustment	CH1	Input Shift Values
evel	OIII	SP Ramp
5701		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
	CHZ	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
	01.10	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
	1	MV at Stop and MV at PV Error
	1	
		Cooling Coefficient, Dead Band, and Control Period
		Cooling Coefficient, Dead Band, and Control Period Disturbance Settings
Adjustment 2	Common	Disturbance Settings
•	Common	Disturbance Settings First Order Lag Operation, Move Average, and Extraction of Square Root Low-cut Point for 4 Point
•	Common	Disturbance Settings 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
Adjustment 2 level	Common	Disturbance Settings First Order Lag Operation, Move Average, and Extraction of Square Root Low-cut Point for 4 Poin

Deals actting		LOD and Alarm Cattings
Bank setting	CH1	LSP and Alarm Settings
level		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
, i i i i i i i i i i i i i i i i i i i	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	Straight-line Approximation
hpprox_couning	channels	Broken-line Approximation (1 to 10)
	onannoio	Broken-line Approximation (11 to 20)
Input initial	CH1	Remote SP Upper/Lower Limits
setting level		
setting level	CH2	Remote SP Upper/Lower Limits
	CH3	Remote SP Upper/Lower Limits
	CH4	Remote SP Upper/Lower Limits
	All	Input 1 Type, Temperature Unit, Scaling, and Decimal Point
	channels	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
		Sensor Induction Noise Reduction
Control initial	CH1	Forward/Reverse Operation
setting	_	SP Limits
5	CH2	Forward/Reverse Operation
	0112	SP Limits
	CH3	Forward/Reverse Operation
	0115	SP Limits
	CH4	
	CH4	Forward/Reverse Operation
		SP Limits
	All	Output Types
	channels	Control Mode
		Position Proportional Control Initial Settings and Extended Settings
Initial setting 2	All	Control/Transfer Output 1 and 2 Allocations
level	channels	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
L		

Alarm setting	CH1	Alarm 1 Turas Lateb and Hustoropia
level	СПІ	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
	0112	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
	0110	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	All	Communications Settings
setting level	channels	
Advanced	All	Number of Enabled Channels
function setting level	channels	
Extended	CH1	$\alpha$ , AT Calculated Gain, AT Hysteresis, Tentative AT Execute Judgment Deviation
control setting level		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	
	Сп2	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
	СН3	$\alpha$ , 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	$\alpha$ , 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	Cold Junction Compensation Method
	channels	

# 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/E5E	R Stor direc	age tory:	SmartActiveParts_E\ TemperatureControll er\E5[]R\	Title	Bank Selection
Func	tion Switches th	ne bank num	ber.			
Displ	ay and Operation	Details				
			1-	CH1 Bank Selection		
No.	ltem	Setting/ display			Desc	cription
1	Bank Selection	Setting	Swit	tches the bank when the	desired ba	nk number is set.
* E	When using this SM System Memory L	<b>.ist</b> Button o ART Active	n the Part c	<b>Initial Tab</b> Page, and se		<b>Settings</b> in the menu bar, press the <b>s</b> for the \$SB.

#### 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 t	type E5AR/E5ER	Stora direct		SmartActiveParts_E\ TemperatureControll er\E5[]R\	Title	Operation Monitor for Standard Control
Func	tion Continuously	y monitors o	perat	ing status on a face plat	e.	
Displ	ay and Operation	Details				
			1 <sup></sup> 2 <sup></sup> 3 <sup></sup> 4 <sup></sup> 5 <sup></sup> 7 <sup></sup> 8 <sup></sup> 9 <sup></sup>	$\begin{array}{c} \text{CH1} \\ \text{RUN AUTO AT} \\ 1 & 2 & 3 \\ \text{OUT} \\ \text{ALM} \\ \text{Input Error} \\ \text{PV} \\ \text{PV} \\ \text{SP} \\ \text{-9999} \\ \text{MV} (\%) -999, \\ \text{Bank} \\ 9 \end{array}$	9	— 10
No.	ltem	Setting/ display			Des	cription
1	RUN AUTO AT	Display	Disp	lays the run/stop, auto/n	nanual, ar	nd autotuning status.
2	OUT	Display	Disp	lays the output status of	control ou	utputs 1 and 2.
3	ALM	Display		lays the output status of		
4	Input Error	Display		lays the input error statu		
5	(°C) / (°F)	Display		lays the temperature un	it.	
6	PV	Display		lays the process value.		
7	SP	Display	Disp	lays the set point.		
8	MV	Display		lays the manipulated va	riable.	
9	Bank	Display		lays the bank number.		
10	Display Update Indicator	Display		hes each time the displa	y is updat	ted.

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.

#### (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	Stor direc		SmartActiveParts_E\ TemperatureControll er\E5[]R\	Title	Operation Monitor for Heating/Cooling Control
Fund	tion Continuously	y monitors	operat	ng status on a face plat	e.	
Disp	ay and Operation	Details				
					_	
				CH1		
			. –	RUN AUTO AT	RSP 🗲	<sup>—</sup> 12
			1-	123	4	
			2-	→ опт	4	
			3-			
			5	HLM		
			4 -	→ Input Error		
			5-			
			6 -	→ (°E)	_	
			7-		Q I	
			0 —	→ SPQQQQ		
			8-		9	
			9-	→ ми-н(%) -999.	9	
			10 -	→ MU-C(%) -999.	9	
			11 -	→ Bank g	Ŭ.	
				· · ·		
No.	Item	Setting/			Des	cription
	RUN	display				-
4	AUTO	Diamlari	Diam	ave the warleten autole		totuning, and remate CD status
1	AT	Display	Disp	ays the run/stop, auto/m	ianual, au	totuning, and remote SP status.
	RSP	Disalau	Diam			
2 3	OUT ALM	Display Display		ays the output status of ays the output status of		
4	Input Error	Display		ays the input error statu		אין
5	RSP Input Error	Display		ays the RSP input error		
6	(°C) / (°F)	Display		ays the temperature uni		
7	PV	Display	Disp	ays the process value.		
8	SP	Display		ays the set point.		
9	MV-H	Display		ays the manipulated var		
	MV-C	Display		ays the manipulated var	riable for c	cooling.
10	Demle	Display	Disp	ays the bank number.		
10 11	Bank					
	Display Update Indicator	Display	Flas	nes each time the displa	y is updat	ed.

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.

#### (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	Stora direct		SmartActiveParts_E\ TemperatureControll er\E5[]R\	Title	Operation Monitor for Position Proportional Control
Func	tion Continuous	y monitors c	perat	ing status on a face plate	e. The fac	e plate is for position proportional control.
Displ	ay and Operation	Details				
					_	
				CH1		
				RUN AUTO AT	•	<sup>—</sup> 11
			1 -	→		
			2-	→ оцт 1 2		
			2			
			3-			
			4 -			
			5 —	Potentiometer		
			0	Error		
			6 -			
			'	0000		
			8-	→ sp <u>-9999</u>	9	
			9-	→ Valve(%)-999.	9	
			10-	→ Bank g		
			10	3		
No.	ltem	Setting/			Des	cription
		display				
1	RUN AUTO	Display	Disp	lays the run/stop, auto/m	nanual an	d autotuning status
•	AT	Diopidy	Diop		ianaai, an	
2	OUT	Display		lays the output status of		
3	ALM	Display		lays the output status of		puts 1, 2, and 3.
4	Input Error	Display	Disp	lays the input error statu	S.	
5	Potentiometer Error	Display	-	lays the potentiometer e		S.
6	(°C) / (°F)	Display		lays the temperature uni	t.	
7	PV	Display		lays the process value.		
8	SP	Display		lays the set point.		
9	Valve	Display		lays the percentage the	valve is op	pen.
10	Bank	Display	Disp	lays the bank number.		
11	Display Update Indicator	Display	Flas	hes each time the displa	y is updat	ed.

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.

(5) SP Setting

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

Unit typ	e E5AR/E5ER	Stora direc		SmartActiveParts_E\ TemperatureControll er\E5[]R\	Title	SP Setting
Functio	on Sets the set	point.				
Display	and Operation	Details				
			1	→ SP (*E) -9999	99	
				↑ 2		
No.	ltem	Setting/ display		1 2	Des	cription
<b>No.</b>	Item SP	Setting/ display Setting	Sets	2 2 s the set point.	Des	cription
	SP (°C) / (°F)	display				cription

## (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 t	ype E5AR/E5ER	Stora direct		SmartActiveParts_E\ TemperatureControll er\E5[]R\	Title	MV Manual Setting		
Func	Function Sets the manual manipulated variable.							
Displa	Display and Operation Details							
•								
				*				
						<b>↓</b> 3		
		1		PU (°E) -9.999	9 ~	J J		
					- +	<b>←</b> _5		
				MU (%) -999.9				
						<b>↓</b> 6		
				<b>↑</b> 4		-		
No.	Item	Setting/ display			Desc	cription		
1	PV	Setting	Disp	ays the process value.	The display	is updated continuously.		
2	(°C) / (°F)	Display		ays the temperature uni		· · · ·		
3	Display   Indate							
4	MV	Setting	Sets	the manual manipulated	l variable.			
5		Setting	Incre	ments the manual mani	pulated va	riable by one engineering unit.		
6	▼	Setting	Decr	ements the manual man	ipulated va	ariable by one engineering unit.		
S	When using this SM	st Button on	the I	be sure to select <b>Setting</b> nitial Tab Page, and sel n the initial screen.		<b>9 Settings</b> in the menu bar, press the s for the \$SB.		

# (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 t	ype E5AR/E5ER	Storag director		Title	Manual MV Setting for Position Proportional Control			
Func	Function Sets the manual manipulated variable.							
Displ	Display and Operation Details							
	2							
	1 → PU (°E) -9.9999							
	MU (%) <u>-999.9</u> + 5 - 6							
			4					
No.	ltem	Setting/ display		Desc	cription			
1	PV	Setting D	isplays the process value.	The display	is updated continuously.			
2	(°C) / (°F)	Display D	isplays the temperature uni	t.				
3 Display Update Indicator Setting Flashes each time the PV display is updated.								
4	MV	Setting S	ets the manual manipulated	d variable.				
5		Setting Ir	crements the manual mani	pulated va	riable by one engineering unit.			
6	▼	Setting D	ecrements the manual man	ipulated va	ariable by one engineering unit.			
* D	When using this SM	st Button on th RT Active Par	ne <b>Initial Tab</b> Page, and se t on the initial screen.		<b>9 Settings</b> in the menu bar, press the s for the \$SB.			

#### 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 t	ype E5AR/E5ER	Stora direc	age Tempe	ActiveParts_E\ ratureControll R\AdjustmentL	Title	Input Shift Values
Funct	tion Shifts the in	put by settin	g two points.			
Displa	ay and Operation	Details	Ļ	3		
				nput Shift C	H1	
			(°E)	Input Value	Adjustmo	ent Val
		1→	Input Data 1	-99999	-999.	99
		2→	Input Data 2	-99999	-999.	99
No.	Item	Setting/ display			Des	cription
1	Input Data 1 Input value Adjustment Val	Setting		ut value for input ted value for inp		
2	Input Data 2 Input value Adjustment Val	Setting		ut value for input ted value for inp		
3	(°C) / (°F)	Setting	Displays the	temperature uni	it.	
Rema * W	rks	ART Active	Part, be sure	to select Setting	g - Systen	<b>n Settings</b> in the menu bar, press the <b>s</b> for the \$SB.

Do not use this SMART Active Part on the initial screen.

## (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 1	type E5AR/E5ER	E5AR/E5ER Storage directory		SmartActiveParts_E\ TemperatureControll er\E5[]R\AdjustmentL evel	Title	SP Ramp			
Func	Function Sets the SP ramp time unit, SP ramp rise value, and SP ramp fall value.								
Displ	Display and Operation Details								
	$2 \longrightarrow P Ramp \\ Rise Value(%) \\ 3 \longrightarrow P Ramp \\ SP Ramp \\ SP Ramp \\ SP Ramp \\ 999999$								
No.	Item	Setting/ display			Dese	cription			
1	SP Ramp Time Unit	Setting	Sets	the time unit for the SP	ramp setti	ngs.			
2	SP Ramp Rise         Setting         Sets the SP ramp rise value.           Value         Set 0 disable the setting.								
3	SP Ramp Fall Sets the SP ramp fall value								
* C	Vhen using this SM	st Button of RT Active	n the Part o	I <b>nitial Tab</b> Page, and sel n the initial screen.		<b>n Settings</b> in the menu bar, press the <b>s</b> for the \$SB.			

# (10) Manual Reset Value

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

Unit t	ype E5AR/E5ER	Stora direct		Title	Manual Reset Value			
Function Sets the manual reset value.								
Function       Sets the manual reset value.         Display and Operation Details         1         Manual Reset Val. <sup>(%)</sup> 1								
No.	Item	Setting/ display		Des	cription			
<b>No</b> .	<b>Item</b> Manual Reset Val.		Sets the manual reset value		cription			

# (11) MV Change Rate Limits

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

Unit ty	pe E5AR/E5EI	R Stor direc		Title	MV Change Rate Limits			
<b>Function</b> Sets the maximum allowed change widths in the manipulated variables per second.								
Display	y and Operation	Details						
		1 <sup>-</sup> 2-		9.9				
No.	Item	Setting/ display		Des	cription			
MV Change         Setting         Sets the maximum allowed change width in the heating manipulated varial per second for heating/cooling control.           1         Rate Limit Heating         Setting         Sets the maximum allowed change width in the manipulated variables per second for standard control.           2         Sets the maximum allowed change width in the manipulated variables per second for standard control.           3         Sets the maximum allowed change width in the manipulated variables per second for standard control.					<b>-</b> .			
2	MV Change Rate Limit Heating	Setting	Sets the maximum allowed of per second for heating/coolid	change wid	Ith in the cooling manipulated variables			
2       Heating       Set 0.0 to disable this function.         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.								

# (12) Dead Band and Hysteresis

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

Unit	type E5	5AR/E5ER	Stora directe		Title	Dead Band and Hysteresis
<b>Function</b> Sets the dead band and hysteresis for ON/OFF control.						
Disp	ay and Op	peration D	etails			
$\begin{array}{c} & & \\ 1 & & \\ 1 & & \\ 1 & & \\ 1 & & \\ 1 & & \\ 1 & & \\ 1 & & \\ 1 & & \\ 1 & & \\ 2 & & \\ 2 & & \\ 1 & & \\ 1 & & \\ 1 & & \\ 1 & & \\ 2 & & \\ 1$						
			3-		. 99	
No.	Ite	m	3 — Setting/d isplay			cription
<b>No.</b>	Ite	m	-	Cooling 99	Des	<u>.</u>
		Band resis	isplay	Cooling 99	Des neating out	put for heating/cooling control.
1	Dead Hyste	Band eresis ting eresis	<b>isplay</b> Setting	Sets the dead band. Sets the hysteresis for the h Sets the hysteresis for stan	Des neating out dard contro	put for heating/cooling control.

## (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 typ	e E5AR/E5ER	Storag directo		Title	MV at Stop and MV at PV Error	
Functio	ion Sets the MV for when the control operation is stopped and the MV for when a PV or remote SP input error occurs.					
		1	Stop	99.9 99.9		
		L	PV Error (**)			
No.	Item	Setting/ display	PV Error (%)		cription	
1	MV at Stop	display Setting	Sets the manipulated variabl	Des e when the	e control operation stops.	
1	MV at Stop MV at PV Error	display Setting		Des e when the	e control operation stops.	

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## (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 t	Unit type E5AR/E5ER Storage directory					
Function Sets the cooling coefficient, c			ent, dead band, and control period.			
Displ	ay and Operation	Details				
	Control Period Heating (Sec) 99.99 Control Period Heating (Sec) 99.9 1 1 Control Period Control Period 1 99.99 1 1 1 Control Period Control Period 1 99.99 1 1 1 1 1 1 1 1 1 1 1 1 1					
No.	ltem	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	control Period Setting Sets the control period for the heating output for heating/cooling control.				
4	Control Period Cooling	Setting	Sets the control period for the cooling output for heating/cooling control.			
Rema						
S	system Memory Li	st Button or	Part, be sure to select <b>Setting - System Settings</b> in the menu bar, press the the <b>Initial Tab</b> Page, and select <b>Basics</b> for the \$SB.			

\* Do not use this SMART Active Part on the initial screen.

## (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 typ	e E5AR/E5EF	R Stor direc			
			sturbance. I when the disturbance overshoot adjustment function has been enabled. loot adjustment function is enabled in the Extended control setting level.		
Display	and Operation				
		1 2 3 4 5	UH         →         Disturbance         Gain         Constant at         Disturbance         Disturbance         Disturbance         Disturbance         Judge. Width         -99.99         Disturbance         Judge. Width         -99.99         Disturbance         Judge. Width         D         Disturbance         Judge. Width         D         D         E		
No.	ltem	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 Displays whether the disturbance overshoot adjustment function is enabled.				
Sys	en using this SM stem Memory L	ist Button o	Part, be sure to select <b>Setting - System Settings</b> in the menu bar, press the n the <b>Initial Tab</b> Page, and select <b>Basics</b> for the \$SB. Part on the initial screen.		

- Do not use this SMART Active Part on the initial screen. Use System version 5 or higher version.

#### 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

Function 2, 3, and 4. This SMART square root lo	Storage directory	SmartActiveParts_E\ TemperatureControll er\E5[]R\AdjustmentL evel	Title	First Order Lag Operation, Move Average, and Extraction of Square Root Low-cut Point for 4 Points
level 2.	Γ Active Part will t low-cut points ha	function when the first on ve been enabled.	der lag ope	of square root low-cut point for inputs 1, eration, move averages, and extraction of Active Part in the control initial setting

and Operation Details

	First Order Lag Operation	Move Average Count	Low-cut Point
$1 \longrightarrow $ Input 1	999.9	99	9.999
2	DE	DΕ	DE
1 Input 2	999.9	99	9.999
2→	DE	DΕ	DΕ
1 <b>──→</b> Input3	999.9	99	9.999
2 →	DE	DΕ	DΕ
1 ──→ Input 4	999.9	99	9.999
2→	DE	DE	DΕ

No.	ltem	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.
	arks When using this SMA		Part, be sure to select <b>Setting - System Settings</b> in the menu bar, press the the <b>Initial Tab</b> Page, and select <b>Basics</b> 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

		Stor direc				Position Proportional Control Adjustment	
<b>Function</b> Sets the dead band, open/close hysteresis, MV at stop, and MV at PV error for position proportional control.							
Display and Operation Details							
1       Position Propor.       99.9         2       Opne/Close       99.9         3       MV at STOP       Closed       Hold       Open         4       PV Error       Closed       Hold       Open							
	4			Closed Ho	ld [	Open	
No.	4 <sup></sup> Item	→ PV E		Closed Ho		Open	
	4	PV E	rror		Desc		
	Position Propor.	Setting/ display	Sets	the dead band for holdin	Desc ng the outp	cription	
1	Position Propor. Dead Band Open/Close	Setting/ display Setting	rror Sets Sets	the dead band for holdin	Desc ng the outp sis for posit	cription out for position proportional control. tion proportional control.	
1 2 3	Position Propor. Dead Band Open/Close Hysteresis MV at Stop MV at PV Error	Setting/ display Setting Setting	rror Sets Sets Sets	the dead band for holdin the open/close hysteres	Deso ng the outp sis for posit r close for	cription put for position proportional control. tion proportional control. when operation stops.	

## (18) Analog Parameter Control Rate

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

Unit 1	type E5AR/E5ER	Stor direc		Title	Analog Parameter Control Rate				
Func	Function         Sets the rate to use for proportional control.								
Displ	Display and Operation Details								
	Display and Operation Details 1 Analog Paramet -9.999								
No.	ltem	Setting/ display	Description						
1	Analog Paramet (Control Rate)	Setting	Sets the rate to use for proportional control.						
* V S	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.								

# 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

				SmartActivePar	te El			
		Stora	aue	TemperatureCo				
Unit t	ype E5AR/E5ER	direc		er\E5[]R\BankSe		Title	LSP and /	Alarm Settings
			,	Level	stang			
	Sets the loca	al set point a	and th	he alarm values for	or the d	splayed b	ank.	
<b>Function</b> When the bank number is changed, the display will be automatically updated to data for the								
specified bank.								
Displa	ay and Operation	Details						
-			3					2
			•				*	_
			CH1				1	
		LOD	/017-3		<b>D</b> 1		<u> </u>	<b>←</b> 12
	1		(*6)	-99.999	Bank		9 -	12
			(°E)	Alarm Val.	lloper	limle	werlim	
	A		_					
	4	- ALM1		-99999	-999	199 J -	-999999	
	5—	- ALM2	:	-99999	-999	199 -	-999999	
			. —	·				
	6—	-> ALM3		-999999	-999	199 <u> </u> -	-999999	
	7—	→ ALM4	1	-99999	-999	99 -	-999999	
				,				1
			1	<b>↑</b>		<b>↑</b>	<b>↑</b>	
			8	9	1	0	11	
No.	Item	Setting/				Des	cription	
1	LSP	display Setting	Sets	the set point for	the disr	laved har	nk	
	LOI	Octaing		lays the bank nur				1
2	Bank	Display						When the bank number is
		. ,		nged, all displayed				
3	(°C) / (°F)	Display		lays the temperat				
4	ALM1	~			ns the a	alarm 1 se	ttings: alarm	n value, upper limit, and lower
	, (EIVI 1		limit					
5	ALM2	~	I he limit		ns the a	alarm 2 se	ttings: alarm	n value, upper limit, and lower
		~			ne tha i	alarm 3 co	ttings: alarm	value upper limit and lower
6 ALM3 ~ The ALM3 row contains the alarm 3 settings: alarm value, upper limit, and lower limit.								
-	AL 844	~			ns the a	alarm 4 se	ttings: alarm	n value, upper limit, and lower
7	ALM4		limit				<u> </u>	
8	Displays the output status of alarm outputs 1, 2, 3, and 4. The display is						and 4. The display is	
5		ocung		inuously updated				
		Catting		the alarm value i				
9	Alarm Val.	Setting						the alarm type is set to
				hing other than and the alarm upper				
10	Upper Lim.	Setting						when the alarm type is set to
.0		County		pper/lower limit a				
				the alarm lower l		the displa	yed bank.	
11	Lower Lim.	Setting	The	alarm lower limit	is displ			when the alarm type is set to
		-	an u	pper/lower limit a	larm.			-
12	Display Update	Display	The	alarm display ind	icators	and bank	number disr	play are continuously updated.
.~	Indicator	Diopidy		alarin alopidy ind				

## **Temperature Controller (E5R**)

#### 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

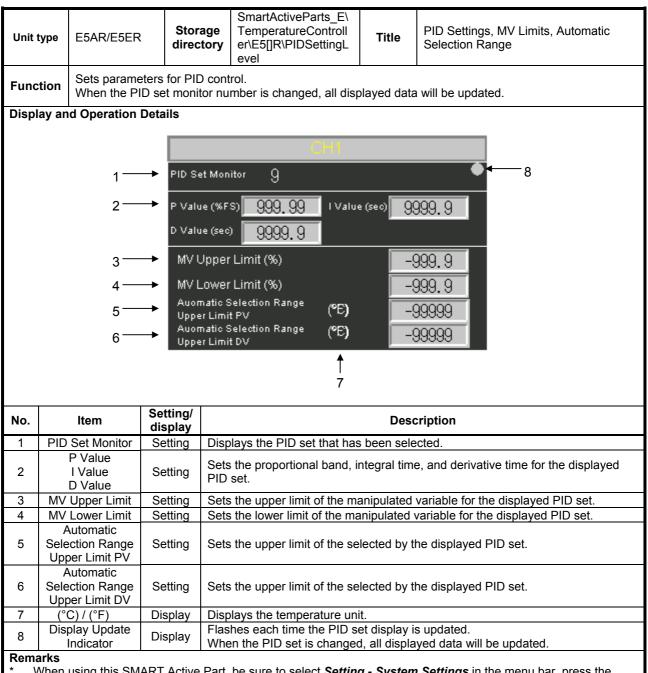
Unit t <u>y</u>		directo	er\E5[]R\BankSetting Level	Title	LSP Setting
Funct			r the displayed bank. s changed, the LSP display v	vill be auto	matically updated to data for the specified
		1 2	$ \begin{array}{c} & \text{CH1} \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ $	● <b>•</b> 99	4
No.	ltem	Setting/ display		Desc	cription
<b>No.</b>	Item Bank Selection	<b>display</b> Display	Displays the bank number th	at is currei	ntly selected.
1 2	Bank Selection LSP	<b>display</b> Display	Displays the bank number th Sets the local set point for the	at is currei	ntly selected.
1	Bank Selection	display Display Setting		at is currei e displaye	ntly selected.
1 2	Bank Selection LSP	display Display Setting Display	Sets the local set point for the Displays the temperature unit	at is currei e displaye t.	ntly selected.

- **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



\* 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.

#### 1.1.6 Approx\_setting

#### (22) Straight-line Approximation

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

		-		Smart	ActiveParts_E\				
		Stor	aqe		eratureControll				
Unit t	type E5AR/E5ER	direc			R\Approx_setti	Title	Straight-line Approximation		
			<u>(</u>	ng					
_	This SMART	racteristics	tor sti t will f	aignt-iii unction	ne approximatio when the data i	n. s enabled.			
Func							Active Part in the control initial setting		
	level 2. Display and Operation Details								
Displ	ay and Operation	Detalls							
				ight Lin	<sup>e</sup> Input	Output			
		1	App Dai	rox. 1 ta 1	-9.999	-9.999			
		2	Ua	ta 2	-9.999	-9.999			
		3			Disable	Enable	:		
				ight Lin	<sup>e</sup> Input	Output			
		4→	App Da	rox.2 ta 1	-9.999	-9.999			
			Da	ta 2	-9.999	-9.999			
		5			·				
		6			Disable	Enable			
		Setting/							
No.	ltem	display				Desc	cription		
	Straight-line								
1	Approx. 1 Data 1 Input	Setting	Sets	the inp	ut and output va	lues for dat	a 1 for straight-line approximation 1.		
	Data 1 Output								
	Straight-line								
2	Approx. 1 Data 2 Input	Setting	Sets	the inp	ut and output va	lues for dat	a 2 for straight-line approximation 1.		
	Data 2 Output								
	Straight-line		Disp	lays wh	ether straight-lir	ne approxim	ation 1 is enabled.		
3	Approx. 1 Enable/Disable	Display	The	setting	to enable this fu		ade with a SMART Active Part in the		
	Display		cont	oi initia	I setting level 2.				
	Straight-line Approx. 2								
4	Data 1 Input	Setting	Sets	the inp	ut and output va	lues for dat	a 1 for straight-line approximation 2.		
	Data 1 Output								
	Straight-line Approx. 2								
5	Data 2 Input	Setting	Sets	the inp	ut and output va	lues for dat	a 2 for straight-line approximation 2.		
	Data 2 Output								
	Straight-line Approx. 2						ation 2 is enabled.		
6	Enable/Disable	Display			to enable this fu I setting level 2.		ade with a SMART Active Part in the		
Dem	Display		Cont	orinitia	i setting level 2.				
Rema			Dert	h		•			
* V	* When using this SMART Active Part, be sure to select <b>Setting - System Settings</b> in the menu bar, press the <b>System Memory List</b> Button on the <b>Initial Tab</b> Page, and select <b>Basics</b> for the \$SB.								
S		st Button or	n the I	nitial T	ab Page, and se				

## (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 t	ype E5AR/E5ER	Storaç directo		Title	Broken-line Approximation (1 to 10)				
Func	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.								
Displa	Display and Operation Details								
	Broken Line Approximation       Data       Input       Output       Data       Input       Output         1       -9.999       -9.999       6       -9.999								
No.	ltem	Setting/ display		Des	cription				
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 va	lues for bro	ken-line approximation data 1 to 10.				
2	Broken-line Approximation Enable/Disable Display	Display	Displays whether broken-lin The setting to enable this fur control initial setting level 2	unction is m	nation is enabled. nade with a SMART Active Part in the				
* D	arks When using this SMA System Memory List	t Button on f RT Active Pa	the <b>Initial Tab</b> Page, and se art on the initial screen.		<b>Settings</b> in the menu bar, press the <b>s</b> for the \$SB.				

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

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

Unit	type E5AR/E5ER	Storage directory	SmartActiveParts_E\ TemperatureControll er\E5[]R\Approx_setti ng	Title	Broken-line Approximation (11 to 20)				
Func	Function       Sets the characteristics for broken-line approximation.         Function       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.								
Displ	Display and Operation Details								
	Display and Operation Details Proken Line Approximation $1 \rightarrow 1 - 9.999 - 9.999 - 9.999 - 9.999 - 9.999 - 9.999 - 9.999 - 9.999 - 9.999 - 9.999 - 9.999 - 9.999 - 9.999 - 9.999 - 7 - 7 - 9.999 - 10 - 10 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -$								
No.	ltem	Setting/ display		Des	cription				
	Broken-line Approximation Data 11 Broken-line Approximation Data 12 Broken-line Approximation Data 13 Broken-line								
1	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 S	Set the input and output va	lues for br	oken-line approximation data 11 to 20.				
2	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	E Setting 1	Displays whether broken-li	ne approxi unction is i					

Do not use this SMART Active Part on th
 Use System version 5 or higher version.

Temperature Controller (E5□R)

## 1.1.7 Input Initial Setting Level

## (25) Remote SP Upper/Lower Limits

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

Unit t	ype E5AR/E5EF	Storag directo		Title	Remote SP Upper/Lower Limits					
<b>Function</b> Sets the upper and lower limits of the remote SP.										
Function         Display and Operation Details         OH1         1       RSPH (PE)       -99999.9         2       RSPL (PE)       -99999.9										
		2-	→ <sup>RSPL</sup> (9E) <u>-99</u>	99.9						
No.	ltem	2 — Setting/ display	→ <sup>RSPL</sup> (9E) <u>-99</u>		cription					
1	RSPH	display Setting S	Sets the upper limit of the inp	Desc put range fr	or input 2.					
	RSPH RSPL	display Setting S		Desc put range fr	or input 2.					

#### (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	Channe	Part
Input initial setting level	CH1	No
	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit t	Unit type E5AR/E5ER Stora				Title	Input 1 Type, Temperature Unit, Scaling, and Decimal Point			
Func	<b>Function</b> Sets the input type and the temperature unit. When an analog input is selected, sets the scaling and decimal point position.								
Displ	Display and Operation Details								
	Input 1								
	Input Type Selection								
			.00(1		ГК	(1)	K(2)		
			(1)	J(2)		T	E		
	1	$\langle   -$	L			N (	R		
			S	В		W			
	2—	→ Tempe Units	erature	°C		°F			
		ſ 4-	20mA	0-20mA	1	-5V 👔	0-5V (		
	1	1 0	-10V						
		Scali	ng	 _Input Value	Displa	ay Value			
	3—	→ Data	1	99999	-99	3999			
	4	🔶 Data	2	99999	-99	3999			
	5—	→ Decim Positio	al Point n	t 9					
No.	ltem	Setting/ display				Des	cription		
1	Input Type	Setting	Sets	the input type.					
2	Selection Temperature	Setting			unit				
2	Units	Setting	Sets the temperature unit. Sets the input value and the display value for scaling data 1 when one of the following						
	Scaling Data 1	<b>0</b> ///	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.						
3	Input Value Display Value	Setting	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,						
				he input value and				2 when one of the following	
4	Scaling Data 2 Input Value	Setting	to 10	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.					
-	Display Value	County		•				nannel 1. ctive Part is set for channels 2,	
	<b>D I I D I</b>		Sets t	he number of digits				e of the following analog inputs 5 V, 0 to 5 V, or 0 to 10 V.	
5	Decimal Point Position	Setting	Scalin	ng data for the Input ng data for the Input	1 SMA	RT Active	Part is set for ch		

#### 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.

## (27) Sensor Induction Noise Reduction

Setting level	Channe	I Part
Input initial setting level	CH1	No
-	CH2	No
	CH3	No
	CH4	No
	All CH	Yes

Unit	type E5AR/E5ER	Storag directo		Title	Sensor Induction Noise Reduction			
Fund	tion Sets noise re	eduction of in	nductive noise from the powe	r supply in	npressed on the input.			
Disp	Display and Operation Details							
	1 Sen.Induction Noise Reduct. 60Hz							
No.	ltem	Setting/ display		Des	cription			
1	Sensor Induction Noise Reduction	Setting	Sets 50 or 60 Hz.					
* V	Remarks							

## 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	sype E5AR/E		orage ectory	SmartActiveParts_E\ TemperatureControll er\E5[]R\ControlInitial SettingLevel	Title	Direct/Reverse Operation		
Func	<b>Function</b> Sets either direction operation or reverse operation for increases and decreases in the process value.							
Displ	ay and Operat	on Details						
				CH1	r.			
		1	→ Op	eration Revense	Direc	t I		
		Sotting						
No.	ltem	Setting			Desc	ription		
<b>No.</b>	<b>Item</b> Operation		/ Sets	s either direction operatio		c <b>ription</b> se operation for increases and decreases		

(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/E5EF	R Stor direc	age tory	SmartActiveParts_E\ TemperatureControll er\E5[]R\ControlInitial SettingLevel	Title	SP Limits	
Fund	ction Sets the up	per and lowe	er limits	s for the set point.			
Disp	lay and Operation	Details					
				CH1			
		2→	(*	E) UpperLimit	Lower Lir	nit	
		_ 1 →	SP Li	mit <u>-99999</u>	-9999	39 1	
Na	lian	Setting/					
No.	ltem	Setting/ display			Desc	cription	
	SP Limits	display	Sets t	he upper and lower lim		-	
<b>No.</b>		•			its for the s	-	
	SP Limits Upper Limit	display	Can b		its for the s the input te	set point.	
1 2 <b>Rem</b>	SP Limits Upper Limit Lower Limit (°C) / (°F) arks	displaySettingDisplay	Can b Displa	be set anywhere within tays the temperature unit	its for the s the input te	set point. emperature setting range.	
1 2 <b>Rem</b> * \	SP Limits Upper Limit Lower Limit (°C) / (°F) arks When using this SM	display Setting Display	Can b Displa Part, b	be set anywhere within the set anywhere within the set of the temperature unit the select <b>Setting</b>	its for the s the input te t. g - System	set point. emperature setting range. <b>n Settings</b> in the menu bar, press the	
1 2 Rema * \	SP Limits Upper Limit Lower Limit (°C) / (°F) arks When using this SM	display Setting Display IART Active ist Button or	Can b Displa Part, b the <b>In</b>	be set anywhere within the set anywhere within the same the temperature united select <b>Setting</b> itial <b>Tab</b> Page, and select set set the set set set set set set set set set se	its for the s the input te t. g - System	set point. emperature setting range. <b>n Settings</b> in the menu bar, press the	

## (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 t	ype E5AR/E5ER	Stor direc		SmartActiveParts_E\ TemperatureControll er\E5[]R\ControlInitial SettingLevel	Title	Position Proportional Control Initial Settings and Extended Settings		
Func	Function Sets the control method and control parameters for position proportional control.							
Displ	ay and Operation	Details						
	1 Closed/ Floating Closed/ Floating Closed/ Floating Closed/ Floating Closed/ Floating PV Dead Band (°E) 99999 Operation at potentiometer Isable Enable							
No.	Item	Setting/ display			Desc	ription		
1	Closed/Floating	Setting	Sets	the control method for p	osition pro	portional control.		
2	Travel Time	Setting	Sets	the time from a complet	ely open va	alve to a completely closed valve.		
3	PV Dead Band	Setting	Sets	the process value dead	band.			
4	(°C) / (°F)	Display	Disp	plays the temperature uni	t.			
5	Operation at Sets the operation for when there is an input error for the potentiometer.							
* D	When using this SM	st Button or ART Active I	n the Part o	<b>Initial Tab</b> Page, and sel in the initial screen.		<b>Settings</b> in the menu bar, press the s for the \$SB.		

### (31) Output Types

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

Unit ty	ype E5AR/E5ER	Storage director		Title	Output Types			
Funct	Function Sets the output types for multi-output operation.							
Displa	and Operation	Details						
	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$							
	(		/oltage Linear Current					
	2	OUT3 Pulse 1		0-20mA	<u>4-20mA</u> ← 5			
	l	0014		0-20mA	4-20mA6			
No.	ltem	Setting/ display		Desc	cription			
1	OUT1 and OUT2	Setting S	ets the output type for outp	uts 1 and 2	to a pulse or linear output.			
2	OUT3 and OUT4	Setting S	ets the output type for outp	uts 3 and 4	to a pulse or linear output.			
3	OUT1 Current		isplayed when a linear curr elect 0 to 20 mA or 4 to 20		has been set.			
4	OUT2 Current		isplayed when a linear curr elect 0 to 20 mA or 4 to 20		has been set.			
5	OUT3 Current		isplayed when a linear curr elect 0 to 20 mA or 4 to 20		has been set.			
		D	Displayed when a linear current output has been set.					
6	OUT4 Current		elect 0 to 20 mA or 4 to 20	mA.				

\*

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.

## (32) Control Mode

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

Unit t	t <b>ype</b> E	E5AR/E5ER	Stora direct	age Temp tory er\E5[	ActivePa eratureCo ]R\Contro gLevel	ontroll	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							
			1 Contro Mode	RSP H	ndard eat Cool :cade t Cool	Heat C		SP Standard Cascade Standard
No.	!	ltem	Setting/ display				Des	cription
1	Cont	trol Mode	Setting	Sets the mo	de when	a buttor	n is presse	ed.
* D	When us System I Do not us	Memory Lis	<b>st</b> Button on RT Active F	h the <b>Initial T</b> Part on the in	<b>ab</b> Page	, and sel		<b>n Settings</b> in the menu bar, press the <b>s</b> for the \$SB.

#### 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		Stora direct		Title	Control/Transfer Output 1 and 2 Allocations					
Fund	Function         Allocates items to control/transfer outputs 1 and 2.									
Display and Operation Details										
Control/Transfer Output 1 Assignment 99 1 { Disable(0) CH1(1-8) CH2(9-15) CH3(17-23) CH4(25-31) Control/Transfer Output 2 Assignment 99 3 { Disable(0) 3 { Disable(0) CH1(1-8) CH2(9-15) CH1(1-8) CH2(9-15) CH3(17-23) CH4(25-31)										
No.	ltem	Setting/ display		Des	cription					
1	Control/Transfer Output 1 Assignment Buttons	Setting		pressed, d	annel 2 (9 to 15), channel 3 (17 to 23), and isplays the item setting menu. nu.					
2	Control/Transfer Output 1 Assignment Display	Display	Displays the number of the i	tem that is	set.					
3 Control/Transfer Output 2 Assignment Buttons Setting										
4     Control/Transfer       Output 2     Display       Assignment     Display										
	arks									

\* Do not use this SMART Active Part on the initial screen.

## (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

		Stor direc		SmartActiveParts_E\ TemperatureControll er\E5[]R\ControlInitial Setting2Level	Title	Control/Transfer Output 3 and 4 Allocations				
Func	Function Allocates items to control/transfer outputs 3 and 4.									
Display and Operation Details										
$ \begin{array}{c cccc}  & Control/Transfer & 99 \\  & Output 3 Assignment & 99 \\  & 1 \\  & Disable(0) \\  & CH1(1-8) & CH2(9-15) \\  & CH3(17-23) & CH4(25-31) \\  & Control/Transfer & 99 \\  & 0utput 4 Assignment & 99 \\  & 3 \\  & Disable(0) \\  & CH1(1-8) & CH2(9-15) \\ \end{array} $										
No.	Item	Setting/ display		<u>CH3(17-23)</u> (	)H4(25-) Des	cription				
1	Control/Transfer Output 3 Assignment Buttons	Setting	chai		oressed, d	annel 2 (9 to 15), channel 3 (17 to 23), and isplays the item setting menu. nu.				
2	Control/Transfer Output 3 Assignment Display	Control/Transfer Output 3 Assignment 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.										
4 Control/Transfer Output 4 Display Displays the number of the item that is set.										
* D	Vhen using this SM System Memory Li	st Button of ART Active	n the Part o	<b>Initial Tab</b> Page, and se on the initial screen.		<b>n Settings</b> in the menu bar, press the <b>s</b> for the \$SB.				

#### (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

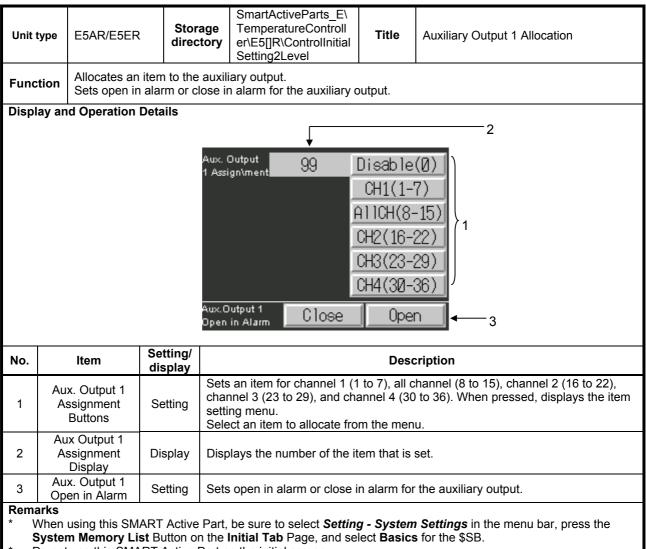
Unit ty	De E5AR/E5EF	Stor	<b>U</b>		Title	Event Input 1 Allocation		
Function         Allocates a function to the event input.								
Display and Operation Details								
				$\checkmark$		2		
Event Input       99       Disable(0)         1 Assignment       99       CH1(1-7)         CH2(8-12)       CH3(14-18)         CH4(20-24)       CH4(20-24)								
No.	Item	Setting/ display			Dese	cription		
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.					
2	Event Input 1 Assignment Display	Display	Displays the number of the item that is set.					
* Do	ks nen using this SM stem Memory Li	i <b>st</b> Button of ART Active	n the Part o	<b>Initial Tab</b> Page, and se in the initial screen.		<b>n Settings</b> in the menu bar, press the <b>s</b> for the \$SB.		

Temperature Controller (E5□R)

#### (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



- Do not use this SMART Active Part on the initial screen.
- \* Use System version 5 or higher version.

#### (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		directo	er\E5[]R\ControlInitial Setting2Level	Title	Transfer Output 1 Upper/Lower Limits					
Func	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.									
Displ	ay and Operation		0	•	•					
1 2 2 3 Upper Lower Limit Limit 1 -999999 -999999 -999999 -999999 3 1 1 1 1 1 1 1 1 1 1 1 1 1										
No.	Item	Setting/ display		Desc	cription					
<b>No.</b>	Item Transfer Output 1 Upper Limit Lower Limit	display Setting	The upper/lower limit settings enabled. They cannot be inp	r limit of th imits also s can be in ut when th	e transfer output. enables scaling the transfer output. put only when a transfer output has been e transfer output is disabled.					
	Transfer Output 1 Upper Limit	display Setting Display	Setting the upper and lower l The upper/lower limit settings enabled. They cannot be inp Enable: The enable indicator o a transfer output.	er limit of th imits also o s can be in <u>ut when th</u> will light w	e transfer output. enables scaling the transfer output. put only when a transfer output has been					
1	Transfer Output 1 Upper Limit Lower Limit Transfer Output 1 Enable/Disable Display (°C) / (°F)	display Setting Display	Setting the upper and lower l The upper/lower limit settings enabled. They cannot be inp Enable: The enable indicator o a transfer output. Disable: The disable indicator	r limit of th imits also s can be in <u>ut when th</u> will light w	te transfer output. enables scaling the transfer output. put only when a transfer output has been e transfer output is disabled. /hen control/transfer output 1 is allocated					

## (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		eControll ontrolInitial	Title	Enable Settings for First Order Lag Operation, Move Average, and Extraction of Square Root Low-cut Point for 4 Points		
Funct	tion Enables/disab			ion, move ave	erage cou	unt, and extraction of square root low-cut		
Display and Operation Details								
			First Order Lag Operation	Move Ave.Cou	unt Low-	cut Point		
	1	→ Input 1	DE	DE	D	<u>E</u>		
	2	→ Input 2	DE	DE	D	<u> </u>		
	3	→ Input3	DE	DE	D	E		
	4	→ Input 4	DE	DE	_[_D	E		
No.	ltem	Setting/ display			Des	scription		
1	Input 1 First Order Lag Operation Move Ave. Count Low-cut Point Enable/Disable Buttons		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		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		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		Enables or disables the first order lag operation, move average count, and extraction of square root low-cut point for input 4.					
S		Button on the	e <b>Initial Tab</b> Pa	age, and seled		<b>a Settings</b> in the menu bar, press the s for the \$SB.		

## (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 ty	pe E5AR/E5ER	Stora direc		SmartActiveParts_E\ TemperatureControll er\E5[]R\ControlInitial Setting2Level	Title	Enable Settings for Straight-line and Broken-line Approximation			
Function Enables/disables straight-line approximation and broken-line approximation.									
Display	y and Operation	Details							
1     →     Straight Line     Disable     Enable       2     →     Straight Line     Disable     Enable       3     →     Broken Line     Disable     Enable       3     →     Approx.     Disable     Enable									
No.	ltem	Setting/ display			Desc	cription			
1	Item Straight-line Approx. 1 Enable/Disable	Setting/ display Setting	Ena	bles/disables straight-line					
1 2	Straight-line Approx. 1	display		bles/disables straight-line bles/disables straight-line	e approxim	ation 1.			
1 2 3	Straight-line Approx. 1 Enable/Disable Straight-line Approx. 2	display Setting	Ena	Ū.	e approxim e approxim	ation 1.			

## 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	Channe	el Part
Alarm settinglevel	CH1	Yes
	CH2	Yes
	CH3	Yes
	CH4	Yes
	All CH	No

Unit t	ype E5AR/E5ER	Stora direc	age Tem	rtActiveParts_E\ peratureControll 5[]R\AlarmSettin /el	Title	Alarm 1 Type, Latch, and Hysteresis	
Funct	tion Sets the ala	rm type, lato	ch, and hys	teresis for alarm 1.			
Displa	ay and Operation	Details					
	$\begin{array}{c} & \\ & \\ 2 \longrightarrow \\ A \text{ larm 1 Type } 99 & \underline{\text{Type}(\emptyset-11)} \\ 3 \longrightarrow \\ A \text{ larm 1 Latch } 0 FF & 0 N \\ 4 \longrightarrow \\ 4 \text{ Hysteresis} 99.99 \\ \end{array}$						
No.	Item	Setting/ display			Desc	cription	
1	Alarm 1 Type	Display	Displays t	he alarm type that	is set.		
2	Alarm 1 Type Buttons	Setting	When pres		alarm type	setting menu. Select the alarm type from	
3	Alarm 1 Latch	Setting	Sets whet	her to latch the ala	rm output s	status.	
4	Alarm 1 Hysteresis	Display	Sets ON/0	OFF hysteresis for t	the alarm o	putput.	
	-	st Button or				<b>n Settings</b> in the menu bar, press the s for the \$SB.	

\* Do not use this SMART Active Part on the initial screen.

# (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/E5E	R Stora		Titlo	Standby Sequence Restart				
Fund	tion Sets the co	ondition for rea	starting after clearing the al	arm standby	sequence.				
Disp	Display and Operation Details								
	Display and Operation Details CHI 1								
No.	ltem	Setting/ display		Desc	cription				
<b>No.</b>	Item Standby Sequence Reset	display	Select Condition A or Con		cription				

#### 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 1		directory	er\E5[]R\Comm ionsSettingLev	ontroll nunicat el	Title	Communications Settings
Func	tion The following length: 7 bits The PT and	g settings are u s, Stop bits: 2 b the Temperatu	its, Parity: even.	ing an N	IS-series F	ngs. PT to the Temperature Controller: Data nunicate with any other settings.
Displ	ay and Operation	Details				
	1	Comms. Unit No.	99			
	2-	Comms. Speed	9600	19.3	2k [	38.4k
	3—	→ Data Length	7bit	8bi	t	
	4 → Stop Bit		1bit	2bi	t	
	5-	Parity	NONE	EVE	N []	ODD
	6-	₩ait Tim (m:	s) 99			
No.	ltem	Setting/ display			Desc	cription
1	Comms. Unit No.		ts the communication the communication of the control of the contr		t number.	Set a different unit number for each
2	Comms. Speed	Setting Se	ts the baud rate.		connected	Temperature Controllers to the same
3	Data Length	Setting A Co	ontroller.	s is use	d to conne	ct an NS-series PT to the Temperature
4 Stop Bit Setting Sets the number of communications stop bits. Two stop bits are used to connect an NS-series PT to th Controller.						
5	Parity		ts the communicaten parity is used to			eries PT to the Temperature Controller.
6	Wait Time		ts the transmission			•
Rema * T		perature Contr	oller will not be ab	le to con	nmunicate	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.

## 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 1	type E5AF	R/E5ER	Storage directory		Title	Number of Enabled Channels
Func				Is to enable for a Tempera	ture Contro	oller with more than one input.
Displ	lay and Ope	ration Det	ails			
	T		1	→ Enabled No. of Chan. 99		
No.	ltem		etting/ isplay		Desc	cription
1	Enabled N Chan.		Te setting	ets the number of channels emperature Controllers with emperature Controllers with	ו Two Inpu	ts: Set 1 for proportional, remote SP standard, or remote SP heating/cooling control. Set 1 or 2 for all other types of control.
* C	When using the System Mem	n <b>ory List</b> B nis SMART	T Active Par Button on the Active Part	rt, be sure to select <b>Setting</b> e <b>Initial Tab</b> Page, and sel t on the initial screen.	g - System	<b>n Settings</b> in the menu bar, press the

#### 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 ty	ype E5AR/E5ER	Storag directo		II Titlo	Operation at Power ON, PID Automatic Selection, Manual Output, and MV Change Rate
Funct			er ON, PID automatic se nange rate limit mode.	lection, PID a	utomatic selection hysteresis, manual
Displa	ay and Operation	Details			
			CH1		
	1-	Operati at Pwr 0		TOP 👔 M	1ANUAL
	2-	Selectio		⊳V [	DV
	3-	PID Se Hysteres	t Auto. Selection sis (X) 99	9.99	
	4-	Method		MV Out.	Default V.
	5-	→ Manual Value	MV Initial (%) –999.	9	
	6-	→ MV Cha Limit M	inge Rate MOC ode MOC	de Ø 🗍 M	ode 1
No.	ltem	Setting/ display		Des	cription
1	Operation at Power ON	Setting s	Set CONTINUE to continuut upply was turned OFF.	ue the operation	wer supply is turned ON. ing status that existed when the power a after the power supply is turned ON.
2	PID Set Automatic Selection Data		Sets whether to use the p election.	process value	or deviation for the PID automatic
3	PID Set Automatic Selection Hysteresis	Setting S	Sets the hysteresis for sw	vitching the P	ID set.
4	Manual Output Method	Setting S	Sets the MV output metho	od when swite	ching from automatic to manual.
	Manual MV Initial Value	Setting S	Sets the initial value of th	e MV when o	utputting the initial value is set.
5					
5 6	MV Change Rate Limit Mode	Setting S	Sets whether to use mod	e 0 or mode 1	for the MV change rate limit.

- 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.

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

						S	etting level	Channel	Part
						Extended	control setting level	CH1	Yes
								CH2	Yes
								CH3	Yes
								CH4	Yes
								All CH	No
Unit t		direo	rage ctory	Temperati er\E5[]R\E ttingLevel	veParts_E\ ureControll ExtendedSe	Title	Enable Settings for at Run, Operation a Input Error, and Dis Adjustment	at Potentiomet sturbance Ove	er rshoot
Func		disturbance				s at run op	peration, operation a	t potentiomet	er input
Displ	ay and Operatio	n Details							
					CH1				
	1		king		OFF	10	4		
	2	PV	 king		OFF	10	4		
	3	Вил	pless		Disable	e Enable			
	4	Ope	.at Pot	t Potentiometer Dicable Enable					
		Dist		e Overshoot					
	5	Adju	ıstment	i					
No.	ltem	Setting/ display				Desc	ription		
1	SP Tracking ON/OFF	Setting	OFF	: Local SP	ion when swit not affected b ? used initially	y remote S		local SP mod	е.
2	PV Tracking ON/OFF	Setting	OFF		does not follo		e PV during manual	mode.	
3	Bumpless at Run Enable/Disable	Setting	Disa	ble: Do not	use bumples use bumples mpless opera	s operation	n when switching fror า.	n stop to run	status.
4	Ope. at Potentiometer Input Error Enable/Disable	Setting	Sets pote Disa	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.					
Rema	arks		Dort	ho ouro to			Cottings in the man	u bor procet	ho
S	When using this S System Memory	List Button o	n the I	Initial Tab	Page, and sel		<b>Settings</b> in the men for the \$SB.	iu bar, press t	ne

Do not use this SMART Active Part on the initial screen.

## (46) $\alpha$ , 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 t					$\alpha,$ AT Calculated Gain, AT Hysteresis, and Tentative AT Execute Judgment Deviation			
<b>Function</b> Sets the $\alpha$ , AT calculated gain, AT hysteresis, and tentative AT execute judgment deviation.								
Displa	ay and Operation	Details						
				CH1				
	1-	a		9.99				
	2-	→ AT Ca	liculate	ed Gain 99.9				
	_	АТ Ну	toroci	₅(%) <b>9.9</b>	_			
	3-							
	4 -	→ Limit Ampli	Cycle I tude (	av   99.9				
	5-	Temp	. A.T. I	Excution Deviation (%)	9			
	5	naĝe	menti	veviation (%)				
No.	ltem	Setting/ display			Des	cription		
1	α	Setting	Sets	the $\alpha$ constant for advar	nced PID	control.		
2	AT Calculated Gain	Setting	Sets	the gain when calculatir	ng PID cor	nstants using autotuning.		
3	AT Hysteresis	Setting	Sets	the hysteresis for the lin	nit cycle o	peration during autotuning.		
4	Limit Cycle MV Amplitude	Setting	Sets	the amplitude of the lim	it cycle op	eration during autotuning.		
5	Temp. A.T. Execution Judgement Deviation	Setting	Sets the judgment deviation for executing tentative AT when autotuning.					
S	/hen using this SM <b>ystem Memory Li</b>	<b>st</b> Button or	the I	be sure to select <b>Setting</b> nitial Tab Page, and sel n the initial screen.		<b>n Settings</b> in the menu bar, press the <b>s</b> for the \$SB.		

## (47) Cold Junction Compensation Method

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

Unit	type E5AR/E5ER	Storage director		Title	Cold Junction Compensation Method				
Fund	<b>Function</b> Sets the cold junction compensation method for input 1, input 2, input 3, and input 4.								
Disp	Display and Operation Details								
Imput 1 Cold Junction Compensation External Internal Input 2 Cold Junction Compensation External Internal 3 Cold Junction Compensation External Internal 4 Cold Junction Compensation External Internal									
No.	ltem	Setting/ display		Desc	cription				
<b>No.</b> 1	Item Input 1 Cold Junction Compensation	display Setting S	et whether to perform cold ontroller or externally for in	junction co	cription mpensation inside the Temperature				
	Input 1 Cold Junction	display Setting S Sotting S	ontroller or externally for in	junction co put 1. junction co					
1	Input 1 Cold Junction Compensation Input 2 Cold Junction	display Setting S Setting S Setting S	ontroller or externally for in et whether to perform cold ontroller or externally for in	junction co put 1. junction co put 2. junction co	mpensation inside the Temperature				
1	Input 1 Cold Junction Compensation Input 2 Cold Junction Compensation Input 3 Cold Junction	display       Setting     S       Setting     S       Setting     S       Setting     S       Setting     S	ontroller or externally for in et whether to perform cold ontroller or externally for in et whether to perform cold ontroller or externally for in	junction co put 1. junction co put 2. junction co put 3. junction co	mpensation inside the Temperature				

# Temperature Controller (E5 N)

# 1.1 E5AN, E5EN, E5DN, and E5GN

The following table !	icts the SMADT Active Dert	e for the EFAN F	SEN ESDN and ESCN Tomporature Controllers
		E5AN/E5EN	55EN, E5DN, and E5GN Temperature Controllers. Operation Monitor for Standard Control
Operation level	Temperature Controllers with Thermocouples	EDAIN/EDEIN	
	with memocouples		Operation Monitor for Heating/Cooling Control
		5501	SP and Alarm Settings
		E5CN	Operation Monitor for Standard Control
			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
	Temperature Controllers	E5AN/E5EN	Operation Monitor for Standard Control
	with Platinum-resistance		Operation Monitor for Heating/Cooling Control
	Thermometers		SP and Alarm Settings
		E5CN	Operation Monitor for Standard Control
			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
Adjustment level	Temperature Controllers	ALL E5[]N	Multi-SP Settings
	with Thermocouples	u.,	
	Temperature Controllers	ALL E5[]N	Multi-SP Settings
	with Platinum-resistance		
	Thermometers		
	Temperature Controllers	ALL E5[]N	Heater Burnout Detection
	with Thermocouples or		PID Settings
	Platinum-resistance		Input Shift Values
	Thermometers		Manual Reset Value
			Cooling Coefficient, Dead Band, and Control
			Period
			Dead Band and Hysteresis
Initial setting level	Temperature Controllers	ALL E5[]N	Input Type, Temperature Unit, Scaling, and
initial botting lover	with Thermocouples		Decimal Point
			SP Limits
	Temperature Controllers	ALL E5[]N	Input Type and Temperature Unit
	with Platinum-resistance		SP Limits
	Thermometers		
	Temperature Controllers	ALL E5[]N	PID or ON/OFF Control
	with Thermocouples or		Direct/Reverse Operation
	Platinum-resistance		Control Mode
	Thermometers		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	Temperature Controllers	ALL E5[]N	SP Ramp
setting level	with Thermocouples		
-	Temperature Controllers	ALL E5[]N	SP Ramp
	with Platinum-resistance		
	Thermometers		
	Temperature Controllers	ALL E5[]N	Multi-SP ON/OFF
	with Thermocouples or		HBA Used, Latch, Hysteresis
	Platinum-resistance		MV Upper/Lower Limits and Input Digital Filter
	Thermometers		Standby Sequence Restart
			α
			Input Error Output
			Cold Junction Compensation Method
0	ALL E5[]N	ALL E5[]N	Communications Settings
Communications setting level			g-

## 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 ty	e E5AN, E5EN Stora direct		age tory       SmartActiveParts_E\ TemperatureControll er\E5[]N\OperationLe 						
Funct	Function Continuously monitors operating status on a face plate.								
Displa	Display and Operation Details								
			$1 \longrightarrow HB$ $4 \longrightarrow HB$ $5 \longrightarrow Input Error$ $6 \longrightarrow Exceeds$ $7 \longrightarrow (\ensurement Value)$ $8 \longrightarrow PV$ $9 \longrightarrow SP$ $-9999.9$ $10 \longrightarrow MV1 (\ensurement (\ensurement with with (\ensurement with with with (\ensurement with with with with with with with wit$						
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.						
<b>S</b> ∗ D	When using this SM	st Button or ART Active I	Part, be sure to select <b>Setting - System Settings</b> in the menu bar, press the n the <b>Initial Tab</b> Page, and select <b>Basics</b> for the \$SB. Part on the initial screen.						

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

				Setting	level		Input type	Part
				Operation	level	Ther	mocouple input	Yes
						Plati	num-resistance thermometer	Yes
						Com	imon(Common)	No
Unit ty	ype E5AN, E5E	EN Stor direc	age tory	SmartActiveParts_E\ TemperatureControll er\E5[]N\OperationLe vel	Titl	e	Operation Monitor for Heatin Control	g/Cooling
Func	tion Continuous	sly monitors o	operati	ng status on a face plate	9.			
Displ	ay and Operation	n Details						
			$ \begin{array}{c} 1 \\ 2 \\ 3 \\ 4 \\ 5 \\ 6 \\ 7 \\ 8 \\ 9 \\ 10 \\ 11 \\ \end{array} $	$\begin{array}{c} RUN  AT \\ & 1 & 2 & 3 \\ \bullet & OUT \\ \bullet & ALM \\ \bullet & HB \\ \bullet & Input Error \\ \bullet & Current Value \\ \bullet & Exceeds \\ \bullet & (^{PE)} \\ \bullet & PU \\ \bullet & SP \\ \bullet & -9999 \\ \bullet & MU1 (\%) & -999, \\ \bullet & MU2 (\%) & -999, \end{array}$		<b></b>	- 12	
No.	ltem	Setting/ display			0	Desc	ription	
1	RUN AUTO AT	Display		ays the run/stop and aut		<u> </u>		
2	OUT	Display		ays the output status of				
3	ALM	Display		ays the output status of				
4	HB	Display		ays the heater burnout o		statu	IS.	
5	Input Error	nout Error Display Displays the input error 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.
Domo	arke		

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.

#### (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 ty	ype E5AN, E5E	N Stora direc		SmartActivePa TemperatureCo er\E5[]N\Opera vel	ontroll	Title	SP and Alarm Settings	
Fund	<b>Function</b> Sets the set point and the alarm values for outputting alarms. Alarm output status is continuously updated.							
Displ	ay and Operation	Details						
1								
	1	→ SP	(°E)	-9999				
	2-	→	(°E)	<u>Alarm Val.</u>	Upper	<u>Lim, Lo</u>	wer Lim <u>.</u>	
	3-		L 📃	-9999	-99	99	-9999	
	<u> </u>		2	-9999	-999	99	-9999	
	5-	ALM	3	-9999	-999	99 Í	-9999	
	5			,		, <u> </u>		
			⊺ 6	⊺ 7		 8	T 9	
			0	,		0	3	
	r	Cotting of						
No.	ltem	Setting/ display				Des	cription	
1	SP	Setting		the set point.				
2	(°C) / (°F)	Display		lays the tempera				
3	ALM1	~	I he limit		ins the a	alarm 1 se	ttings: alarm value, upper limit, and lower	
4	ALM2	~			ins the a	alarm 2 se	ttings: alarm value, upper limit, and lower	
		~	limit The		ins the a	alarm 3 se	ttings: alarm value, upper limit, and lower	
5	ALM3		limit					
6	Alarm Indicators	Display		lays the output s display is continu			buts 1, 2, and 3.	
7	Alarm Val.	Setting	Sets	the alarm value	. The ala	arm value	is displayed and can be set when the	
							an upper/lower limit alarm. pper limit is displayed and can be set	
8	Upper Lim.	Setting					lower limit alarm.	
9	Lower Lim.	Setting	Sets	the alarm lower	limit. Th	e alarm lo	wer limit is displayed and can be set lower limit alarm.	
10	Display Update	Display					usly updated. This indicator flashes each	
10	Indicator	Display	time	the data is upda	ted.			

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.

time the data is updated.

Do not use this SMART Active Part on the initial screen.

Use System version 5 or higher version.

#### (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 typ	pe E5CN	Stora direc							
Functi	tion Continuously monitors operating status on a face plate.								
Displa	y and Operation	Details							
			RUN AT 🔍 🗲 11						
			4 — → HB						
			5 Input Error						
			6 Current Value						
			10						
No.	ltem	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.						
	MV Display Update	Display	Displays the manipulated variable of output 1.						
10			Flashes each time the display is updated.						

When using this SMART Active Part, be sure to select **Setting - System Settings** in 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 ty	Unit type E5CN Stora direct			reControll	Title	Operation Monitor for Heating/Cooling Control		
Function Continuously monitors operating status on a face plate.								
Displa	ay and Operation	Details						
			$ \begin{array}{cccc} 6 & & Curre \\ \hline 6 & & Exce \\ 7 & & (^{\mathbf{P}}E) \\ 8 & & PV \\ 9 & & SP \\ 0 & & MV1 \\ \end{array} $	AT 1 2 3 Error nt Value eds -999, 9 (%) -999, 9 (%) -999, 9		-12		
No.	ltem	Setting/ display	Description					
1	RUN AT	Display	)isplays the run/					
2	OUT	Display	isplays the out					
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 1.					
12	Display Update Indicator	Display	Flashes each time the display is updated.					
Remarks								
S	<ul> <li>* 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.</li> <li>* Do not use this SMART Active Part on the initial screen.</li> </ul>							

#### (6) SP and Alarm Settings for E5CN

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

Sets the set of the se	•			Lim, 19 J -	-9999 -9999 € 8
1 — 2 — 3 — 4 —	→ SP (*( → (*) → ALM1 → ALM2	<ul> <li>⇒ -9999</li> <li>⇒ Alarm Val.</li> <li>-9999</li> <li>-9999</li> <li>-9999</li> </ul>	-999: -999: 1	19 <u> </u> 19 <u> </u> -	-9999 -9999 1
1	ALM1	<ul> <li>⇒ -9999</li> <li>⇒ Alarm Val.</li> <li>-9999</li> <li>-9999</li> <li>-9999</li> </ul>	-999: -999: 1	19 <u> </u> 19 <u> </u> -	-9999 -9999 1
1	ALM1	<ul> <li>Alarm Val,</li> <li>-9999</li> <li>-9999</li> <li>↑</li> <li>↑</li> <li>↑</li> </ul>	-999: -999: 1	19 <u> </u> 19 <u> </u> -	-9999 -9999 1
2	→ ALM1 → ALM2 Setting/	-9999 -9999 ↑ ↑	-999: -999: 1	19 <u> </u> 19 <u> </u> -	-9999
3	→ ALM1 → ALM2 Setting/	-9999 -9999 ↑ ↑	-999: -999: 1	19 <u> </u> 19 <u> </u> -	-9999
4	Setting/	<mark>-9999</mark> ↑ ↑	-999	19 <u>j</u>	-9999
Item		$ \begin{array}{c} \uparrow \\ 5 \\ 6 \end{array} $	<b>↑</b> 7	7	<b>↑</b> 8
ltem		5 6	7	7	8
ltem					
	alopiaj			Dese	cription
SP		Sets the set point.			
°C) / (°F)		Displays the temper			
ALM1			ains the al	larm 1 sei	ttings: alarm value, upper limit, and low
ALM2			ains the al	larm 2 set	ettings: alarm value, upper limit, and low
n Indicators	Display	Displays the output			puts 1 and 2.
					is displayed and can be set when the
larm Val.	Setting	alarm type is set to a	anything o	other than	n an upper/lower limit alarm.
oper Lim.					
ower Lim.	Sotting	Sets the alarm lowe	r limit. The	e alarm lo	ower limit is displayed and can be set
lay Update	Display	The alarm indicator	display is		usly updated. This indicator flashes eac
	ALM2 n Indicators arm Val. oper Lim. wer Lim.	ALM2	ALM2       ~       The ALM2 row contalimit.         n Indicators       Display       Displays the output of The display is contination of the display is contination.         arm Val.       Setting       Sets the alarm value alarm type is set to a set the alarm uppe when the alarm type.         oper Lim.       Setting       Sets the alarm uppe when the alarm type.         wer Lim.       Setting       Sets the alarm uppe when the alarm type.         lay Update       Display.       The alarm indicator	ALM2       ~       The ALM2 row contains the alimit.         n Indicators       Display       Displays the output status of a The display is continuously up arm Val.         Setting       Sets the alarm value. The ala alarm type is set to anything of sets the alarm upper limit. The when the alarm type is set to anything of sets the alarm upper limit. The when the alarm type is set to anything of sets the alarm upper limit. The when the alarm type is set to anything of sets the alarm upper limit. The when the alarm type is set to anything of the alarm lower limit. The when the alarm type is set to anything of the alarm type is set to anything of the alarm lower limit. The alarm type is set to anything of the alarm type is set	ALM2       ~       The ALM2 row contains the alarm 2 set limit.         n Indicators       Display       Displays the output status of alarm out The display is continuously updated.         arm Val.       Setting       Sets the alarm value. The alarm value alarm type is set to anything other than when the alarm type is set to an upper limit. The alarm lower limit. The lower limit. The alarm lower limit. The alarm lower limit. The ala

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 ty	vpe E5GN	Stor direc		SmartActiveParts_E\ TemperatureControll er\E5[]N\OperationLe vel	Title	Operation Monitor for Standard Control
Func	tion Continuously	y monitors o	operat	ting status on a face plate	Э.	
Displa	ay and Operation	Details				
			1 <sup>-</sup> 2- 3 <sup>-</sup> 4 <sup>-</sup> 5 <sup>-</sup> 6 <sup>-</sup> 7- 8 <sup>-</sup>	$ \begin{array}{c} & 1 & 2 & 3 \\ & & & & \\ & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ $	9	-9
No.	ltem	Setting/ display			Desc	cription
1	RUN AT	Display	Disp	lays the run/stop and au	totuning st	atus.
2	OUT	Display		lays the output status of		
3	ALM	Display		lays the output status of		but 1.
4	Input Error	Display		lays the input error statu		
5	(°C) / (°F)	Display		lays the temperature uni	t.	
6	PV	Display	Disp	lays the process value.		
7	SP	Display		lays the set point.		
8	MV1	Display		lays the manipulated var	iable.	
9	Display Update Indicator	Display		hes each time the displa		ed.
Rema * V	-	ART Active	Part,	be sure to select Setting	g - System	<b>Settings</b> 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) SP and Alarm Settings for E5GN

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

Unit t	ype E5GN	Stor direc		SmartActiveParts_E\ TemperatureControll er\E5[]N\OperationLe vel	Title	SP and Alarm Settings
Func	tion Sets the set	point and th	ne ala	rm values for outputting	alarms.	
Displ	ay and Operation	Details				
	1-	SP	("E)	-9999		● ← 8
	2- 3-		(°E)	Alarm Val, Upper -9999 -999		wer Lim. -9999
			<b>↑</b> 4	<b>↑</b> 5	<b>†</b> 6	<b>↑</b> 7
		Setting/				
No.	ltem	display			Des	cription
1	SP	Setting		the set point.		
2	(°C) / (°F)			lays the temperature uni		
3	ALM1	~	I he limit		alarm 1 se	ttings: alarm value, upper limit, and lower
4	Alarm Indicators	Display		lays the output status of display is continuously u		put 1.
5	Alarm Val.	Setting	Sets	the alarm value. The ala	arm value	is displayed and can be set when the an upper/lower limit alarm.
6	Upper Lim.	Setting	Sets		ne alarm u	pper limit is displayed and can be set
7	Lower Lim.	Setting	Sets	the alarm lower limit. Th n the alarm type is set to	e alarm lo	ower limit is displayed and can be set
8	Display Update Indicator	Setting	The			usly updated. This indicator flashes each
	When using this SM		Part,	·		<b>n Settings</b> in the menu bar, press the <b>s</b> for the \$SB.

System Memory List Button on the Initial Tab Page, an Do not use this SMART Active Part on the initial screen.

(9) SP Setting

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

Unit ty	/pe E5AN, E5E E5CN, E50		rage ctory	SmartActiveParts_E\ TemperatureControll er\E5[]N\OperationLe vel	Title	SP Setting
Func	tion Sets the se	et point.				
Displa	ay and Operation	n Details				
			1—	→ <sup>sp</sup> (°£) -999 ↑ 2	9	
No.	Item	Setting/ display	Des	cription		
1	Item SP			scription		
_	SP (°C) / (°F)	display	Sets	-		

## 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 ty	ype E5AN, E5E E5CN, E5G			SmartActiveParts_E\ TemperatureControll er\E5[]N\AdjustmentL evel	Title	Multi-SP Settings
Func	tion Sets the se	t points for r	nulti-S	SP operation.		
Displ	ay and Operation	Details				
•	<i>·</i> ·					
			1—	→ sp@(°E) -999	9	
			2—	→ sp1(°E) -999	9	
			3—	→ sp2(°E) -999	9	
			4—	<b>→ sp3</b> (°G) <u>-999</u>	9	
				5		
No.	ltem	Setting/ display			Des	cription
1	SP0	Setting	Sets	s set point 0.		
2	SP1	Setting	Sets	s set point 1.		
3	SP2	Setting		s set point 2.		
4	SP3	Setting	Sets	s set point 3.		
5	(°C) / (°F)	Display	Disp	plays the temperature unit	t.	
Rema			_		-	
						<i>n Settings</i> in the menu bar, press the
				Initial Tab Page, and sel	ect Basic	s for the \$SB.
L	Jo not use this Sivi Jse Svstem versioi			n the initial screen.		
L L	13E QASIEIII AGISIOI	TO ULTIUNE	veisi	UH.		

#### (11) Heater Burnout Detection

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

Unit ty	rpe E5AN, E5EN E5CN	۱, Stora direct		Title	Heater Burnout Detection
Funct	tion This SMART	Active Part	out current and sets the heat will function when heater but a SMART Active Part in the	mout detec	tion is enabled.
Displa	ay and Operation				
		1 2-	Heater Current Val 99 Heater Bu Detection HBA Used OFF	rnout	3
		4 -			
No.	ltem	4 Setting/ display			cription
<b>No.</b> 1	Item Heater Current Val	Setting/	Continuously displays the he	Desc	•
	Heater Current	Setting/ display	Continuously displays the he	Desc eater currer	•
1	Heater Current Val	Setting/ display Display	Continuously displays the he	Desc eater currer	nt. for heater burnout detection.
1 2	Heater Current Val HB Heater Burnout	Setting/ display Display Display	Continuously displays the he Continuously displays the ou Sets the heater burnout deter	Desc eater currer itput status ection value	nt. for heater burnout detection.
1 2 3	Heater Current Val HB Heater Burnout Detection	Setting/ display Display Display Setting	Continuously displays the he Continuously displays the ou Sets the heater burnout dete Displays the setting status (a	Desc eater currer at <u>put status</u> ection value advanced fu	nt. for heater burnout detection. e. unction setting level) for heater burnout

## (12) PID Settings

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

Unit ty	ype E5AN, E5E E5CN, E5G			SmartActiveParts_E\ TemperatureControll er\E5[]N\AdjustmentL evel	Title	PID Settings			
Function Sets the PID constants.									
Displ	ay and Operation	Details							
$1 \longrightarrow P  Value \qquad 9999.9$ $3 \longrightarrow P  Value \qquad 9999.9$ $1  Value \qquad 99999$ $4 \longrightarrow P  Value \qquad 99999$ $4 \longrightarrow P  Value \qquad 99999$									
			4	(sec) 0000	,				
No.	ltem	Setting/ display	4	(sec) 0000		cription			
<b>No</b> .	<b>Item</b> P Value	-		s the proportional band.		cription			
_		display	Sets		Desc	cription			
1	P Value (°C) / (°F) I Value	display Setting	Sets	s the proportional band.	Desc	cription			
1 2	P Value (°C) / (°F) I Value D Value	display Setting Display	Sets Disp Sets	s the proportional band.	Desc	cription			

#### (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			•	SmartActiveParts_E\ TemperatureControll er\E5[]N\AdjustmentL evel	Title	Input Shift Values				
Func	Function Sets the input shift values for the sensor measurement range.									
Displ	Display and Operation Details									
Display and Operation Details 1 -point shift (°E) 1 - Input Shift Value -999.9 2-point shift (°E) Upper Limit Lower Limit Temperature Temperature 2 - Input Shift Value -999.9 -999.9										
No.	Item	Setting/ display			Dese	cription				
<b>No.</b>	<b>Item</b> 1-point shift Input Shift Value		Sets	the input shift value for		-				
	1-point shift Input Shift Value 2-point shift Input Shift Value Upper Limit Temperature Lower Limit	display	Sets		a 1-point s	-				
1	1-point shift Input Shift Value 2-point shift Input Shift Value Upper Limit Temperature Lower Limit Temperature (°C) / (°F)	display Setting	Sets mea	the input shift values for	a 1-point s	hift.				

Temperature Controller (E5⊡N)

## (14) Manual Reset Value

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

Unit ty		E5AN, E5EN, E5CN, E5GN	Storage directory	SmartActiveParts_E\ TemperatureControll er\E5[]N\AdjustmentL evel	Title	Manual Reset Value				
Func	Function Sets the manual reset value.									
Displ	Display and Operation Details									
	Display and Operation Details $1 \longrightarrow \frac{Manual}{Reset Val.}$ 9999.9									
No.	ľ		Setting/ display		Desc	cription				
1		ual Reset								
* V S	Val.       Val.       Val.         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.									

#### (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 ty	ype E5AN, E5E1 E5CN, E5G	,	<b>U</b>	Title	Cooling Coefficient, Dead Band, and Control Period			
Func	tion Sets the coo	oling coeffic	ient, dead band, and control	period.				
Display and Operation Details								
$1 \xrightarrow{\text{Cooling Coefficient}} 99.99$ $2 \xrightarrow{\text{Dead Band}} -999.9$ $4 \xrightarrow{\text{Control Period}} 0UT1  (sec)  99$ $5 \xrightarrow{\text{Control Period}} 99$								
		5		99				
No.	Item	5 Setting/ display			cription			
<b>No</b> .	Item Cooling Coefficient	Setting/		Des	-			
	Cooling	Setting/ display	→ OUT2 <sup>(sec)</sup>	Des for heating	/cooling control.			
1	Cooling Coefficient	Setting/ display Setting	Sets the cooling coefficient Sets the dead band for hea Displays the temperature u	Des for heating ting/cooling nit.	/cooling control. g control.			
1	Cooling Coefficient Dead Band	Setting/ display Setting Setting	Sets the cooling coefficient Sets the dead band for hea Displays the temperature u Sets the control period for the	Des for heating ting/cooling nit. he control o	/cooling control.			
1 2 3	Cooling Coefficient Dead Band (°C) / (°F) Control Period	Setting/ display Setting Display	Sets the cooling coefficient Sets the dead band for hea Displays the temperature u Sets the control period for the Sets the control period for the Sets the control period for the Sets the control period for the sets the set	Des for heating ting/cooling nit. he control o he control o he control o	/cooling control. g control. putput OUT1 for heating/cooling control.			

## (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				SmartActiveParts_E\ TemperatureControll er\E5[]N\AdjustmentL evel	Title	Dead Band and Hysteresis			
Function         Sets the dead band and hysteresis for ON/OFF control.									
Display and Operation Details									
	$1 \longrightarrow Pead Band -999.9$ $2 \longrightarrow OUT1 999.9$ $3 \longrightarrow OUT2 999.9$ $4$								
No.		ltem	Setting/ display			Desc	cription		
display									
1	2 Hysteresis Setting Sets the hysteresis for the control output OUT1 for heating/cooling control.								
-			Setting						
-	Hy	OUT1 steresis	Setting Setting	Sets	the hysteresis for the co	ntrol outpu	ut OUT1 for standard control.		
2 3 4	2         OUT1         Setting         Sets the hysteresis for the control output OUT1 for standard control.           3         Hysteresis OUT2         Sets the hysteresis for the control output OUT2 for heating/cooling control.								

tem version 5 or higher version.

#### 1.1.3 Initial Setting Level

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

				Se	etting le	vel		Input type	Part
					Initial setting level Thermocouple input		Yes		
						Platinum-re	esistance thermom	eter No	
							Common(C	Common)	No
							-		-
				SmartActivePar					
Unit typ	E5AN, E5EN			TemperatureCo		Title		Гуре, Temperature	e Unit, Scaling
0	E5CN, E5G	N direc	tory	er\E5[]N\InitialS	etting		and D	ecimal Point	
				Level					
<b>Function</b> 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.									
		•	s selec	cted, sets the sca	lling an	a aecin	nai point po	sition.	
Displa	y and Operation	Details							
		Input	Type S	election					
		(K	(1)	K(2)	l J(	(1)	J(2)		
				E E		/	1		
			(1)			_	U(1)		
	1	$\langle  $	N	R		S	B		
		K1	0-70	K60-120	K11F	5-165	K160-2	โกล	
						, 100			
			(2)	U(2)					
	2	→ Tempe	rature	°C	( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	'F	1		
	2	Units							
	1	{ 0-	50mV						
				Input Value	Display	/Value			
	3—	→		-9999	-99		1		
	3	Scalir	ng	-9999	1 -90	199	l		
	4	→ Decima		9					
		Position	n						
	•	Setting/				_			
No.	ltem	display				L	Description		
1	Input Type	Setting		the thermocoupl					
·		octuriy	The	same input type a	applies	to both	channels 1	and 2.	
2	Temperature Units	Setting	Sets	the temperature	unit.				
	Scaling	-		-					
3	Input Value	Setting				an ana	alog input (C	) to 50 mV), sets th	ne upper and
-	Display Value.		lowe	r limits for scaling	<b>j</b> .				
4	Decimal point	Setting					alog input (C	to 50 mV), sets th	ne number of
	position	Setting	place	es below the deci	imal po	nt.			
Remar			Dert	ha aura ta aala -t	Cattin		tom Cattin	na in the mean is	n nroog the
	nen using this SM /stem Memory Li							<b>gs</b> in the menu bai \$SB	, press the
	o not use this SMA							ψΟΒ.	
* 114		Earbigho			-				

## (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			Title	Input Type and Temperature Unit					
Function         Sets the input type and temperature unit for a Temperature Controller with a Platinum-resistance           Thermometer Input.         Thermometer Input.										
Display and Operation Details $1 \begin{cases} nput Type Selection \\ Pt100(1) Pt100(2) Pt100(3) JPT100(1) \\ JPT100(2) \\ 2 \rightarrow Temperature C F$										
	2—	Units								
No.	2 Item	Setting/d isplay			cription					
<b>No.</b>	2 Item Input Type	Setting/d	,,,_,,_,,_,,_,,,_,,,,	Des	cription Controller with a Platinum-resistance					
1		Setting/d isplay	Sets the input type for a T	Des	•					

# (19) SP Limits

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

Unit ty			Storage director		Title	SP Limits			
Func	Function         Sets the upper and lower limits for the set point.								
Displ	ay and Opera	tion Deta	ails						
Display and Operation Details 2 (°E) Upper Limit Lower Limit 1 SP Limit -9999 -9999									
No.	ltem		tting/ splay		Desc	ription			
<b>No.</b>	Item SP Limit Upper Limit Lower Limit	dis	splay Se	ets the upper and lower lim an be set anywhere within	its for the s	set point.			
-	SP Limit Upper Limit Lower Limit (°C) / (°F)	dis Set	tting Ca		its for the s the input te	set point.			

## (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 ty	ype E5AN, E5EN E5CN, E5GN			Titlo	PID or ON/OFF Control				
Func	nction Sets either PID or ON/OFF control.								
Displ	ay and Operation	Details							
	Display and Operation Details								
No.	Item	Setting/ display		Des	cription				
<b>No.</b>	Item Control System	display	Sets either PID or ON/OF		cription				

#### (21) Direct/Reverse Operation

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

Unit t	ype E5AN, E5E E5CN, E5C		-			Direct/Reverse Operation				
Func	<b>Function</b> Sets either direction operation or reverse operation for increases and decreases in the process value.									
Disp	ay and Operation	Details								
		1	• Ope	ration Reverse	Direc	t				
No.	ltem	Setting/ display			Desc	cription				
1	Operation	Setting		•	n or revers	e operation for increases and decreases				
* V	1     Operation     Setting     Sets either direction operation or reverse operation for increases and decreases in the process value.       Remarks     Remarks									

## (22) Control Mode

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

Unit ty	ype E5AN, E5El E5CN, E5G	·	•	SmartActiveParts_E\ TemperatureControll er\E5[]N\InitialSetting Level	Title	Control Mode			
Func	tion Sets standa								
Displ	ay and Operation	Details							
	1 Control Standard Heat Cool								
No.	ltem	Setting/ display			Desc	cription			
<b>No.</b>	Item Control Mode	Setting/ display Setting	Sets	standard control or hea		-			

# (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 ty	Unit type E5AN, E5EN, Storage E5CN, E5GN directory		•	SmartActiveParts_E\ TemperatureControll er\E5[]N\InitialSetting Level	Title	ST ON/OFF and ST Stable Range			
<b>Function</b> Turns the ST function ON and OFF, and sets the ST stable range.									
Displa	ay and Operation	Details							
$1 \longrightarrow ST \qquad OFF ON \\ 2 \longrightarrow Stable Range 999.9 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ $									
				3					
No.	Item	Setting/ display		3	Desc	cription			
<b>No</b> .	Item ST ON/OFF		Turn	3 is the ST function ON an		cription			
_	ST	display		3 is the ST function ON an the ST stable range.		cription			
1	ST ON/OFF ST Stable Range (°C) / (°F)	display Setting	Sets		d OFF.	cription			

# Temperature Controller (E5□N)

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

	(24) Alanni Ty	/pe, Alam	ΠΟμ	Jen/Close				Hysteresis, Alarm 1 Later	
					Setting lev		L	Input type	Part
					Initial setting	level	The	ermocouple input	No
								tinum-resistance thermometer	No
							Con	mmon(Common)	Yes
			_						
Unit ty	ype E5AN, E5EN E5CN, E5GN		age ctory	Temperate	tiveParts_E\ tureControll InitialSetting	Tif	tle	Alarm 1 Type, Open/Close i Hysteresis, Latch	in Alarm,
Func	tion Sets the alar	rm type, ope	en/clos	se in alarm	ι operation, la	tch, a	nd h	nysteresis for alarm 1.	
Displ	ay and Operation	Details							
		$3 \longrightarrow 4 \longrightarrow 5 \longrightarrow 1$	Alarm1 Alarm1 close in Alarm1 Hysteres Alarm1	1 open/ n Alarm 1 (%)	99 Close 999.9 OFF		e(Ø- )pen ON		
No.	ltem	Setting/ display					Des	scription	
1	Alarm 1 Type	Display	Displ	ays the ala	arm type that i	is set			
2	Alarm 1 Type Setting Button	Setting		n pressed,				e setting menu. Select the alar	m type from
3	Alarm 1 open/close in Alarm	Setting	Sets	open in al:	arm or close i	n alar	m fo	or the alarm output.	
4	Alarm 1 Hysteresis (°C) / (°F)	Setting Display			hysteresis for t mperature uni		arm (	output.	
5	Alarm 1 Latch	Setting	Sets	whether to	o latch the ala	rm ou	utput	status.	
Rema			_			_	_		
								<b>m Settings</b> in the menu bar, p	ress the
S	System Memory Lis	st Button or	n the Ir	nitial Tab	Page, and se	ect B	asic	<b>s</b> 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 ty	rpe E5AN, E5EN E5CN	N, Stora direct		Title	Alarm 2 Type, Open/Close in Alarm, Latch, Hysteresis	
Func	tion Sets the ala	rm type, ope	n/close in alarm operation, la	tch, and h	ysteresis for alarm 2.	
Displa	ay and Operation	Details				
$1 \longrightarrow Alarm2 Type 99 Type(0-11) \leftarrow 2$ $3 \longrightarrow Alarm2 open/ close in Alarm Close 0pen 4 4 \longrightarrow Alarm2 (\$) 999.9 + 4larm2 Latoh 0FF 0N = 5$						
No.	ltem	Setting/ display		Dese	cription	
<b>No.</b>	Item Alarm 2 Type	display	Displays the alarm type that		cription	
_		display Display		is set.	cription e setting menu. Select the alarm type from	
1	Alarm 2 Type Alarm 2 Type Setting Button Alarm 2 open/close in Alarm	display Display Setting	When pressed, displays the	is set. alarm type	setting menu. Select the alarm type from	
1 2	Alarm 2 Type Alarm 2 Type Setting Button Alarm 2 open/close in	display Display Setting Setting Setting	When pressed, displays the the menu.	is set. alarm type in alarm for the alarm o	e setting menu. Select the alarm type from r the alarm output.	
1 2 3	Alarm 2 Type Alarm 2 Type Setting Button Alarm 2 open/close in Alarm Alarm 2 Hysteresis (°C) / (°F) Alarm 2 Latch	display Display Setting Setting Display	When pressed, displays the the menu. Sets open in alarm or close i Sets ON/OFF hysteresis for	is set. alarm type in alarm fo the alarm o it.	e setting menu. Select the alarm type from r the alarm output. output.	

#### (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 ty	pe E5AN, E5EM	N, Stor direc	•	SmartActiveParts_E\ TemperatureControll er\E5[]N\InitialSetting Level	Title	Alarm 3 Type, Open/Close in Alarm, Hysteresis, Latch	
Funct	tion Sets the ala	rm type, op	en/clo	se in alarm operation, la	tch, and h	ysteresis for alarm 3.	
Displa	ay and Operation	Details					
		$1 \longrightarrow \\ 3 \longrightarrow \\ 4 \longrightarrow \\ 5 \longrightarrow $	Alarm: close i Alarm: Hyster	3 Type 99 3 Type 99 n Alarm Close 3 (%) 999.9 3 Latch OFF	Гуре(Ø- Open ON	<u>11)</u> ← 2	
No.	ltem	Setting/ display			Des	cription	
1	Alarm 3 Type	Display	Disp	lays the alarm type that	is set.		
2	Alarm 3 Type Setting Button	Setting		n pressed, displays the a nenu.	alarm type	e setting menu. Select the alarm type from	
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 ala	rm output	status.	
	/hen using this SM			be sure to select Setting		n 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.

## 1.1.4 Advanced Function Setting Level

#### (27) SP Ramp

	Setting level Input type		Part				
			CPU Bus Units Setting le	evel	Thermocouple input Ye		Yes
					Platin	num-resistance thermometer	Yes
					Comr	mon(Common)	No
Unit ty	ype E5AN, E5EN, E5CN, E5GN			Ti	tle	SP Ramp	
Func	tion Sets the rate	of change fo	r the SP ramp.				
Displ	ay and Operation D	etails					
			2				
No.	Item	Setting/ display			Dese	cription	
1	SP Ramp		Sets the maximum allowed change per minute. Set 0 to disable the SP ramp function.				
2	(°C/min)/(°F/min)	Display	Displays the temperature un	it.			
* C	Vhen using this SMA System Memory List	t Button on t RT Active Pa	he <b>Initial Tab</b> Page, and sel rt on the initial screen.			<b>9 Settings</b> in the menu bar, p 5 for the \$SB.	ress the

Temperature Controller (E5□N)

## (28) Multi-SP ON/OFF

				Setting level		Input type	Part
			Advanced function setting level		level		No
				P		Platinum-resistance thermometer	No
						Common(Common)	Yes
Unit type	E5AN, E5EN E5CN, E5GI			SmartActiveParts_E\ TemperatureControll er\E5[]N\AdvancedFu nctionSettingLevel	Title	Multi-SP ON/OFF	
Function         Sets whether the set point can be switched.							
Display	and Operation	Details					
No.	ltem	Setting/ display			De	escription	
<b>No.</b> 1	<b>Item</b> Multi-SP		Set 0	whether the set point can ON to enable switching. OFF to disable switching.		-	

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

					<b>D</b> 1
			Setting level	Input type	Part
	Advanced function setting level Thermocouple input			No	
				Platinum-resistance thermometer	No
	Common(Common) Y				Yes
Unit t	ype E5AN, E5EN E5CN	N, Stora direct		HBA Used, Latch, Hysteresis	
Fund	tion Turns the he	eater burnou	it detection ON/OFF, turns the latch C	N/OFF, and sets the hysteresis.	
Displ	ay and Operation	Details			
			Heater Burnout 99.9 Hysteresis		
No.	Item	Setting/ display	D	escription	
<b>No.</b>	Item HBA Used		Do Sets whether to use the heater burne	•	
		display		but detection function.	
1	HBA Used Heater Burnout Latch Heater Burnout Hysteresis	display Setting	Sets whether to use the heater burne	out detection function.	

E5AN, E5EN, E5CN, E5GN

Unit type

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

	1 0				
	Setting level		Input type	Part	
	Advanced function settir	ng level	Thermocouple input	No	
			Platinum-resistance thermometer	No	
			Common(Common)	Yes	
Storage directory	SmartActiveParts_E\ TemperatureControll er\E5[]N\AdvancedFu	Title	MV Upper/Lower Limits and In Filter	put Digita	

		nctionSettingLevel					
Function	Sets the upper and lower limits for the manipulated variable. Sets the time constant for the input digital filter.						
Display an	d Operation Deta	ils					
	1 <sup></sup> 2 <sup></sup> 3 <sup></sup>	→ MV Upper Limit (%) → MV Lower Limit (%) → Input Digital Filter (sec)	-999.9 -999.9 999.9				

No.	ltem	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 t	ype E5AN, E5EN E5CN, E5G		•	Title	Standby Sequence Restart		
Fund	Sets the condition for restarting after clearing the alarm standby sequence.						
Disp	lay and Operation	Details					
Display and Operation Details 1 Standby Sequence Reset Condi.A Condi.B							
No.	Item	Setting/ display		Desc	ription		
<b>No</b> .	Item Standby Sequence Reset	•	Select Condition A or Condit		ription		

(32)	) α

				Setting level		Input type	Par
				Advanced function settir	ig level	Thermocouple input	No
					•	Platinum-resistance thermom	eter No
						Common(Common)	Yes
				SmartActiveParts E\			
lue 14 40 mm e	E5AN, E5EN	, Stor	age	TemperatureControll	Title		
Jnit type	E5CN, E5GN			er\E5[]N\AdvancedFu	Title	α	
			-	nctionSettingLevel			
unction	Sets the $\alpha$ co	onstant for	advar	nced PID control.			
vispiay a	nd Operation I	Jetails					
					_		
		1	α	9.99			
				,	_		
		Setting/	Γ				
No.	ltem	Setting/ display			De	scription	
No.		display	Sets	a set value	De	scription	
1	ltem α		Sets	a set value.	De	scription	
1 Remarks	α	display Setting				•	nress the
1 Remarks Wher	$\alpha$ using this SM/	display Setting	Part,	be sure to select Setting	y - Syste	<b>m Settings</b> in the menu bar,	press the
1 Remarks Wher Syste	α using this SMA m Memory Lis	display Setting ART Active at Button or	Part, n the l		y - Syste	<b>m Settings</b> in the menu bar,	press the

## (33) Input Error Output

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

Unit t	ype E5AN, E5EI E5CN, E5G		-	SmartActiveParts_E\ TemperatureControll er\E5[]N\AdvancedFu nctionSettingLevel	Title	Input Error Output					
Func	Function         Sets whether to output an alarm when a sensor input error occurs.										
Displ	ay and Operation	Details									
			Output Input E		ON						
No.	ltem	Setting/ display			Desc	cription					
1	Output Input Error	Setting									
* V											

## (34) Cold Junction Compensation Method

5AN, E5EN, 5CN, E5GN ets the cold ju <b>Dperation Def</b>	E5GN directory		Title	Thermocouple input Platinum-resistance thermometer Common(Common) Cold Junction Compensation M	No Yes
5CN, E5GN ets the cold ju	E5GN directory	TemperatureControll er\E5[]N\AdvancedFu nctionSettingLevel ensation method.	Title	Common(Common) Cold Junction Compensation M	Yes
5CN, E5GN ets the cold ju	E5GN directory	TemperatureControll er\E5[]N\AdvancedFu nctionSettingLevel ensation method.	Title	Cold Junction Compensation M	
5CN, E5GN ets the cold ju	E5GN directory	TemperatureControll er\E5[]N\AdvancedFu nctionSettingLevel ensation method.			
5CN, E5GN ets the cold ju	E5GN directory	TemperatureControll er\E5[]N\AdvancedFu nctionSettingLevel ensation method.			lethod
-	ation Details	Junction External	Inter	nal	
Dperation Def	Cold J		Inter	nal	
1	1		Inter	nal	
	Setting/ display		Des	cription	
Junction ensation S ethod	tion Setting Set		unction c	ompensation inside the Temperatu	lre
Junction ensation	ion tion Setting Con	ntroller or externally.	unction o	ompensation inside the Temperatu	
Jui en	nct sat	nction sation Setting Cor od	display       nction sation od     Setting       Set whether to perform cold ju Controller or externally.       this SMART Active Part, be sure to select Setting	display         nction sation od       Setting         Setting od       Set whether to perform cold junction c Controller or externally.         this SMART Active Part, be sure to select Setting - System	action Setting Set whether to perform cold junction compensation inside the Temperatu

#### 1.1.5 Communications Setting Level

#### (35) Communications Settings

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

				SmartActiveP				
Unit type	E5AN, E5E			Temperature		Title	•	Communications Settings
onnetype	E5CN, E5G	N direc	tory	er\E5[]N\Com		THE		Communications Octaings
				ionsSettingLe				
				number and c				
Function				d wnen conne , Parity: even.	cting an N	IS-seri	es P	T to the Temperature Controller: Data
					not he shi	e to co	h	unicate with any other settings.
Display a	nd Operation		lature	Controller will			Jiiiii	anicate with any other settings.
bispidy d		Details						
	4 —		n. Unit					
	1	No.		99				
	2-		Rate	1200 (	240	a 1		4800
	_	Dadd	nate					1000
				9600	19.2	<u>k</u>		
3 ──→ Data Bit				_7bit	8bi	t		
	4-	Stop I	Bit	1bit	2bi	t		
			. ľ	NONE	EVE	M Í		ODD (
	5-					N		
No.	ltem	Setting/ display				C	Descr	ription
1 C	comms. Unit	Setting				t numb	ber. S	et a different unit number for each
	No.			perature Contro the baud rate.	oller.			
2	Baud Rate	Setting			T and all	conne	cted .	Temperature Controllers to the same
-		Coung	setti			001110	Sicu	
				the communic	ations dat	a leng	th.	
3	Data Bit	Setting						t an NS-series PT to the Temperature
				roller.				· · · · · · · · · · · · · · · · · · ·
				the number of				
4	Stop Bit	Setting			sed to cor	nnect a	an NS	S-series PT to the Temperature
				roller.				
5	Parity	Setting		the communic				ries PT to the Temperature Controller.
Pomarka			Ever	i parity is used	to conner	JUDIIN	10-56	
Remarks								unless the following settings are used:

\* 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)

# 1.1 Smart Active Parts (from Ver5 or Earlier)

## 1.1.1 SP Setting 00 to 15

Model	E5ZN-DRT	Locatio	SmartActiveParts_E\Tem peratureController\E5ZN\ Title SP Setting 00 to 15 Ver5toearlier	5					
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 performed when it is not connected to the E5ZN-DRT or a communication error has been occurred.									
[Image]	]								
	Ē	5ZN Tempe	ature Controller SP Setting						
	Inp	ut Value	100 Copy to All 1						
		Set	Input Set Input 2						
	ØØch								
	00ch								
	01ch								
	01ch								
	02ch								
	02ch								
	Ø3ch								
	Ø3ch								
	Ø4ch								
	04ch								
	105ch		13ch1						
	105ch		13ch2						
	106ch		14ch1						
	106ch		14ch2						
	07ch	1	15ch1						
	07ch		15ch2						
			4						
		Read 🖌	Set->Input Write 5						
			6						
No.	Item	Setting/	Details						
		Display							
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 be updated when reading or writing values.	. The value wi					
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.						
	Write	Setting	Write input values to the SP. After writing the values, those will be read						
5 6	Set -> Input	Setting	the columns under Set. Sets values under Set to the Input.						

#### 1.1.2 PID Setting (Unit 0 to 7)

Model		N-DRT	Location	n era r5to	artActiveP tureContro pearlier	ting (Unit 0 to 7)			
Functio	n butto	ons. Reading		rom and	to E5ZN t	emperatur	e controller	cannot be	o E5ZN-DRT by pressing performed when it is not
[Image]									
		E5ZN T	emperature	Control	ler PID	Setting	(UnitИt	07)	
			, P	т					
		Input Va		5.0	466	- 80	Copy to A	11	- 1
			Set V				out Value		- 2 - 3
			PII		D	P	I	D	- 3
		00ch1	8.0	233	40	16.0	466	- 80	
		ØØch2	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	
		Ø3ch1 Ø3ch2	0.0 0.0	0	0 0	0.0 0.0	00	0	
		03ch2	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	
		Ø5ch2	0.0	Ō	0	0.0	0	Ō	
		Ø6ch1							
		Ø6ch2							
		07ch1							
		07ch2							- 4
		Rea	d	Se	t ->Inpu	t. xl	Wri	te [	
						<u> </u>			- 5 - 6
									- 0
No.	ľ	tem	Setting/ Display				Deta	ils	
1	Сор	y to All	Setting	The set	input valu	es on top t	o the input v	alues for e	each Ch.
2	Set	Value	Display	value w	ill be upda	ted when r	eading or w	riting value	
3	Inpu	t Value	Setting						ure controller. Text and ange has been set.
4	R	Read	Setting				the columns		
5	V	Vrite	Setting	read to	columns u	nder Set V	alue after w		e controller. Those will be
6	Set -	-> Input	Setting	Sets set	t values to	input value	es.		
[Note]	socorda	or more for	Comm Time (	Jut in the	DT when	using these	o Smart Act	ivo Porto	Neo coloct Sattinga Unit
			or the scale at						Also, select Settings-Unit

2. 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	erature r5toea		Ve Titl		RUN/STOP			
Functio	controllers connect on executed for all to	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	]									
	E5Z	E5ZN Temperature Controller RUN/STOP Command								
	RUN ALL	. RL	IN /	STOP ALL		1 STOP 2				
	00ch1/ 00ct	12 01ch1	01ch2		2 01ct	h1	<u>01ch2</u> 3			
	RUN		RUN	STOR	P STC	OP 🚺	STOP			
	Ø2ch1 Ø2ct	12 03ch1	03ch2	02ch1 02ch2	2 <b>] (0</b> 3ch	h1 (	<u>13ch2</u> 4			
	RUN RU	N RUN	RUN	STOP STOP	STO	OP	STOP			
	04ch1 04ct	12 Ø5ch1	05ch2	04ch1 04ch2	2] <b>Ø</b> 5ch	h1 [	05ch2			
	RUN RU	N RUN	RUN	STOP STOP	P STC	OP	STOP			
	Ø6ch1 Ø6ct	12 07ch1	07ch2	06ch1 06ch2	2] Ø7ch	h1 [	07ch2			
	RUN RU	N RUN	RUN	STOP STOP	P STO	OP	STOP			
	Ø8ch1 Ø8ct		] <u>Ø9ch2</u>	08ch1 08ch2			<u>09ch2</u>			
	RUN RU		RUN	STOP STOP			STOP			
	<u>10ch1</u> 10ch		<u>11ch2</u>	10ch1 10ch2			<u>11ch2</u>			
	RUN RU		RUN	STOP STOP	_		STOP			
	12ch1 12ch		] <u>13ch2</u>	12ch1 12ch2			13ch2			
	RUN RU		RUN	STOP STOP	_		STOP			
	14ch1 14ch		15ch2	14ch1 14ch2			15ch2			
	RUN RU	N RUN	RUN	STOP	P STO	JP	STOP			
		Setting/								
No.	Item	Display				etails				
1	RUN ALL	Setting		start control con to E5ZN-DRT.	nmand (	(RUN	) for all temperature controllers			
2	ALL STOP	Setting	Executes s		mand (	STOF	P) for all temperature controllers			
3	RUN	Setting	Executes s	tart control (RUN)			n appropriate Unit No.			
4	STOP	Setting	Executes s	top control (STOF	P) for wor	rd in a	an appropriate Unit No.			
[Note] Set 6 s	seconds or more for Com	n.Time-Out	in the PT w	hen using those S	Smart Ac	tive P	Parts.			
				-						
1										

#### 1.1.4 AT Execute/Stop

Model	E5ZN-DRT	Location	perat Ver5t	tActivePar ureContro toearlier	ller\E5ZN\	Title		cute/Stop		
Functio	on E5ZN-DRT. AT exe each unit by word (	ecute/Stop c Ch) individua	commands for the maximum 16 temperature controllers connected to the commands can be executed for all temperature controllers at once and for ually. These commands cannot be executed for E5ZN temperature controller mmunication error is occurred.							
[Image	]									
	E5ZN Ter	perature (	Controlle	er AT Ex	ecute/St	op Comma	and			
	Execute A	11 Execu	ute	te Stop All			p	1 2		
	ØOch1 / ØOch				00ch2	01ch1		3		
	Exec. Exec		Exec.	Stop	Stop	Stop	Stop			
	Ø2ch1 Ø2ch		Ø3ch2	Ø2ch1	R2ch2	Ø3ch1	M3ch2	4		
	Exec. Exec		Exec.	Stop	Stop	Stop	Stop	- 4		
	04ch1 04ch		Ø5ch2	04ch1	04ch2	Ø5ch1	Ø5ch2			
	Exec. Exec		Exec.	Stop	Stop	Stop	Stop			
	Ø6ch1 Ø6ch		07ch2	Ø6ch1	Ø6ch2	Ø7ch1	Ø7ch2			
	Exec. Exec		Exec.	Stop	Stop	Stop	Stop			
	Ø8ch1 Ø8ch		Ø9ch2	Ø8ch1	Ø8ch2	Ø9ch1	109ch2			
	Exec. Exec		Exec.	Stop	Stop	Stop	Stop			
	10ch1 10ch		11ch2	10ch1	10ch2	11ch1	11ch2			
	Exec. Exec		Exec.	Stop	Stop	Stop	Stop			
	[12ch1] [12ch		13ch2	12ch1	12ch2	13ch1	13ch2			
	Exec. Exec		Exec.	Stop	Stop	Stop	Stop			
	[14ch1] [14ch	2 15ch1	15ch2	14ch1	14ch2	15ch1	15ch2			
	Exec. Exec		Exec.	Stop	Stop	Stop	Stop			
No.	Item	Setting/ Display				Deta	ils			
1	Execute All	Setting	controllers	s connecte	ed to the E	5ZN-DRT			temperature	
2	Stop All	Setting	Executes AT stop command for the maximum 16 temperature control							
3	Execute	Setting						opropriate Ur		
4	Stop	Setting	⊢xecutes	AI Stop C	ommand f	for word in	an appro	priate Unit N	10.	
[Note] Set 6 s	seconds or more for <b>Comn</b>	n.Time-Out i	n the PT w	/hen using	those Sm	nart Active	Parts.			

# **Temperature Controller (from Ver5 or earlier)**

#### 1.1.5 Auto/Manual

Model	E5ZN-DRT	Locatio	n perature Ver5toe		Title	Auto/Manual					
Function	Auto/Manual com (Ch) individually.	recutes Auto/Manual commands for the maximum 16 temperature controllers connected to the E5ZN-DRT to/Manual commands can be executed for all temperature controllers at once and for each unit by work h) individually. These commands cannot be executed for E5ZN temperature controller which is no nnected or a communication error is occurred.									
[Image]		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~									
	E5Z	N Tempera	ture Contro	ller Auto/Manu	nd 1						
	Auto I	A11	Auto 🖊	Manual Al	1 Mar	ual 2					
	00ch1/-00	<del>Ich2] Ø1ct</del>	1 01ch2	<u> </u>	2 Ø1ch1	<u>01ch2</u> 3					
	Auto A	iuto Auf	o Auto	Manu. Manu	. Manu.	Manu.					
	Ø2ch1 Ø2	2ch2 Ø3cł	n1 Ø3ch2	02ch1 02ch	2 <b>Ø</b> 3ch1	<u> </u>					
	Auto A	iuto Auf		Manu, Manu	. Manu.	Manu.					
	04ch1 04	lch2   Ø5cł	1 05ch2	04ch1 04ch2	2] <b>Ø</b> 5ch1	] <u>Ø5ch2</u>					
	Auto A	iuto Aut	o Auto	Manu, Manu	. Manu.	Manu.					
	<u>Ø6ch1</u> Ø6	<u>ich2</u> 07ct	n1 07ch2	06ch1 06ch2	2] Ø7ch1	] @7ch2					
	Auto A	iuto Auf		Manu. Manu		Manu.					
	<u>Ø8ch1</u> Ø8	<u>3ch2</u> [09cł	1 09ch2	08ch1 08ch		_ <u>Ø9ch2</u> _					
		iuto Auf		Manu. Manu	Manu.						
		<u>11ch</u>		10ch1 10ch		<u>11ch2</u>					
		iuto Aut		Manu. Manu		Manu.					
		<u>2ch2   13ch</u>		12ch1 12ch							
		Auto Aut		Manu, Manu		Manu.					
		<u>1ch2</u> [ <u>15c</u> ł		14ch1 14ch		<u>15ch2</u>					
	Auto A	iuto Aut	io Auto	Manu. Manu	. Manu.	Manu.					
		Setting/									
No.	Item	Display			Deta	ils					
1	Auto All	Setting		omatic operation nnected to the E		for the maximum 16 temperature					
2	Manual All	Setting		nual operation co nnected to the E		the maximum 16 temperature					
3	Auto	Setting	Executes aut	omatic operation	command f	for word in an appropriate Unit No.					
4	Manual	Setting	Executes ma	nual operation co	mmand for	word in an appropriate Unit No.					
[Note] Set 6 seco	onds or more for <i>Co</i>	mm.Time-C	<b>)ut</b> in the PT w	hen using those	Smart Activ	e Parts.					
				<b>U</b>							
1											

### 1.1.6 Setting Area 0 for Unit 0

Model		E5ZN-DRT		Locati		peratu Ver5to	ActiveParts_E\T ireController\E52 bearlier	ΖN\	Title		•	ea 0 for l		
Functio	on	by pressin	g buttons. not conne	Reading	and	writing	setting area o for from and to E5 RT or a commun	ZN te	emperat	ture co	ontrolle	er canno	t be pe	erformed
[Image]	;]													
		FP	57N Tempe	praturo	Cont	roller	· Setting Area	- Ø 4	for Un	i+ 0		1		
		L(			00110			101		100			— 1	
			/CH1	/—	- CH2				- CH1		CH	2	— 2 — 3	
				npy/t Se		nput		Se	t Inp	ut S	Set	Input	- 3	
	SP		/ 90	100 /	0	200	<del>[Temperature  </del>		). Ø	<u>.</u> 0	0.0	0.0	- 4	
		rm Value <u>1</u>	0	80	0	0	Input Offset			5.0	0.0			
	Uppe		0	90	0	0	Upper Limit Tem. Offset	l e	1.0	2.0	0.0	0.0		
	Lowe	er Limit <u>1</u> rm Value2	0	70	0	0				_				
		<u>m vanue∠</u> er Limit2	0	0	0 0	0	Lower Limit Tem. Offset	0	1.0 0	2.0	0.0	0.0		
	<u> </u>	er Limit2	0	0	0	0	PropotionalB	1	1.0 8	3. Ø	8.0	16.0		
		rm Value3	0	0	0	0	IntegralTime			233	233	466		
		ualMani.V	0.0		0.0	0.0	Derivative T		20	40	40	80		
		ter Burn.	0.0		0.0	0.0	Cooling Coe.					20.00		
	SPØ		0	0	0	0	Dead Band			2.0	0.0	0.0		
	SP1		0	Ø	Ø	Ō	Manua (RstVal)			2.0	0.0	0.0		
							Heating					20.0		
							Hysterēsis	U	If	0.0	10.0	20.0		
							Cooling	5	<u>.0 10</u>	a. ø	10.0	20.0	- 5	
						$\square$	Hysteresis							
		CH1/CH2				ÇH1				CH2			- 8	
		Read		Set-)	>Inpu	ıt 🗍	Write /	Set	:->Inpu	ut 🗍	Wri	te —	- 9	
													Ū	
				Setting/	'									
No.		Item		Display					Deta	ils				
1		CH1 Se	t	Display	Dis		alue for setting a ing/writing.	area o	o read f	rom C	H1. Th	ne value	will be	updated
2		CH1 Inpu	ut	Setting	Se	ts value	for setting area d if a value out o					nd backg	round	color will
3		CH2 Se	t	Display	Dis	plays v	alue for setting a ing/writing.					ne value	will be	updated
4		CH2 Inpu	ut	Setting	Se	ts value	e for setting area d if a value out o					nd backg	round	color will
5	С	H1/CH2 R	Read	Setting	Re	ads se	tting area 0 se nder Set.					d display	/s ther	n in the
6	CI	H1 Set ->	Input	Setting	Se		s displayed in t	he co	olumns	under	Set	to appro	priate	columns
7		CH1 Writ	te	Setting	Wr	ites inp	ut values for C nder Set after w			g area	a 0. T	he value	es will	be read
8	С	H2 Set-> I	nput	Setting	Se		s displayed in t			under	Set	to appro	priate	columns
9		CH2 Writ	te	Setting	Wr	ites inp	ut values for C nder Set after wi			g area	a O. T	he value	es will	be read
[Note]														

[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	Ver5toearlier
Functio	on	by pressing buttor	s. Reading	rom and to setting area o for temperature controller connected to E5ZN-DRT and writing from and to E5ZN temperature controller cannot be performed E5ZN-DRT or a communication error has been occurred.
[Image	9]			
	No.	10 E5Z	N Tomporat	ture Controller Setting Area Ø (Unit Ø to 15)
	<u>no.</u>			2
				one one
	SP	Se/t	Inpu/t Set	15 15 Temporature 5
		rm Value1 0		15 15 Input Offset 0.0 0.0 0.0 0.0
		er Limit1 0 er Limit1 0	0	20 20 Upper Limit 0.0 0.0 0.0 0.0
		rm Value2 0 er Limit2 0	0	0 0 Lower Limit 0.0 0.0 0.0 0.0 0 0 Tem. Offset 0.0 0.0 0.0
		er Limit2 🛛 🖉	0	0 0 PropotionalB 0.0 8.0 0.0 8.0
		m Value3 0 ualMani.V 0.0	0 0.0 0	0 0 IntegralTime 0 233 0 233 1.0 0.0 DerivativeT. 0 40 0 40
		ter Burn. 0.0		1.0 0.0 Cooling Coe. 0.00 10.00 0.00 10.00
	SP (	0 0	0	0 0 Dead band 0.0 0.0 0.0 0.0
	SP (	1 0	0	0 0 ManualRstVal 0.0 0.0 0.0 0.0
				Heating Hysteresis 0.0 10.0 0.0 10.0
		[		Cooling 0.0 10.0 0.0 10.0 6 / Hysteresis 0.0 10.0 0.0 10.0 7
		CH1/CH2		QH1 6H2 8
		Read	Set->1	Input Write Set->Input Write — 10
·	_			
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 o 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 o 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	C	H1/CH2 Read	Setting	Reads setting area 0 settings in the CH1/2 and displays them in the columns under Set.
7	С	H1 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	С	H2 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.

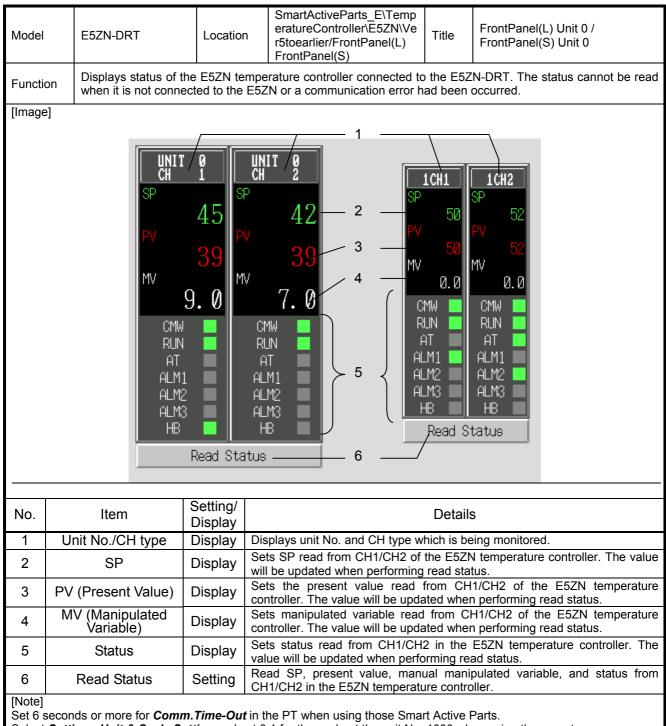
### **Temperature Controller (from Ver5 or earlier)**

[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



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

### 1.1.9 PV Hold

Model	E5ZN-DRT	Location	SmartActiveParts_E\Temp eratureController\E5ZN\Ve r5toearlier/PVHold
Functi			eads PV for each unit and displays them. This command cannot be executed or which is not connected or a communication error is occurred.
[Image	2]		
			E5ZN PV Hold
			PV Hold Execution 1
		00ch1 00ch2 01ch1 01ch2 02ch1 02ch1 02ch2 03ch1 03ch2 04ch1 04ch2 05ch1 05ch2 06ch1 06ch2 07ch1	Value       Value         97       Ø8ch1         95       Ø8ch2         102       Ø9ch1         99       Ø9ch2         104       10ch1         100       10ch2         96       11ch1         102       11ch2         99       12ch1         101       12ch2         102       13ch1         100       13ch1         11ch2       11         1101       12ch2         1102       13ch1         1104       13ch2         1105       13ch2         114ch1       14ch2         15ch1       1
l		Ø7ch2	13ch2
		R	ead 3
-	[	<u> </u>	
No.	ltem	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 s	seconds or more for <b>Comr</b>	n.Time-Out	t in the PT when using those Smart Active Parts.



### 1.1. DRT2

### 1.1.1 Unit Maintenance Information

Unit ty	pe DRT2		rage ctory	SmartActiveParts_E\DR T2\Unit	Title	DRT2 Unit maintenance information
Funct	ion Monitors DRT2	Smart Slav	e Unit n	naintenance information an	d makes par	rameter settings.
Displa	y and Operation Det	ails				
				DRT2 Unit Mainten	ance Info	rmation
	1 ——		lnit Na	ame		
	2					
	2 —		Commer	וד		
	3	Last Ma	lintena	ance Date 🛛 🖉 /	0/0	
				Monitor V	alue F	Present Value
	4	Unit C	onduct	ion Time	0.0 h	0.0 h
	Ţ			r Voltage	0.0 V	0.0 V
			( TOWEI	Voltage	0.0	0.0
	5		Botto	m		0.0 V
	L		Peak	:	ſ	0.0 V
	C		1.1. M-			
	6 J			intenance Flag	Network	Power Voltage Drops
	Ĺ	1/0	U Powe	r Supply Error		
		Main	tenanc	e Counter Save	Rea	d Write
				<b></b>	<b></b>	• <b>•</b>
				 7	 8	 3 9
				,		5
		Cotting/				
No.	ltem	Setting/ display			Desc	ription
1	Unit Name	Display	Displa displa	ys the model number of t	he Unit. Th	e model number of the Expansion Unit is not
2	Comment	Display	Displa	ys the comment set for the	Unit.	
3	Last Maintenance	Setting/			date of th	e Unit. The last maintenance date can be
•	Date Unit Conduction	display	Overw		t in the Unit	along with the present value. The conduction
4	Unit Conduction Time	Setting/ display		lys the conduction time se an be overwritten.		along with the present value. The conduction
5	Network Power Voltage	Setting/ display	Displa voltag set thr Unit co	ys the set value, present v e for the network. The set	value can b d color of the ue):	um value, and maximum value of power supply e overwritten. If the present value exceeds the present value will change. Orange
				splayed color varies with the		

Unit Maintenance Flag:

I/O Power Supply Error:

Reads items 1 to 6.

Network Power Voltage Drops:

Saves the maintenance counter.

Writes items 3 to 5 and then reads items 1 to 6.

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

Display

Setting

Setting

Setting

Orange

Red

Red

DRT2

6

7

8

9

Remarks

Error status

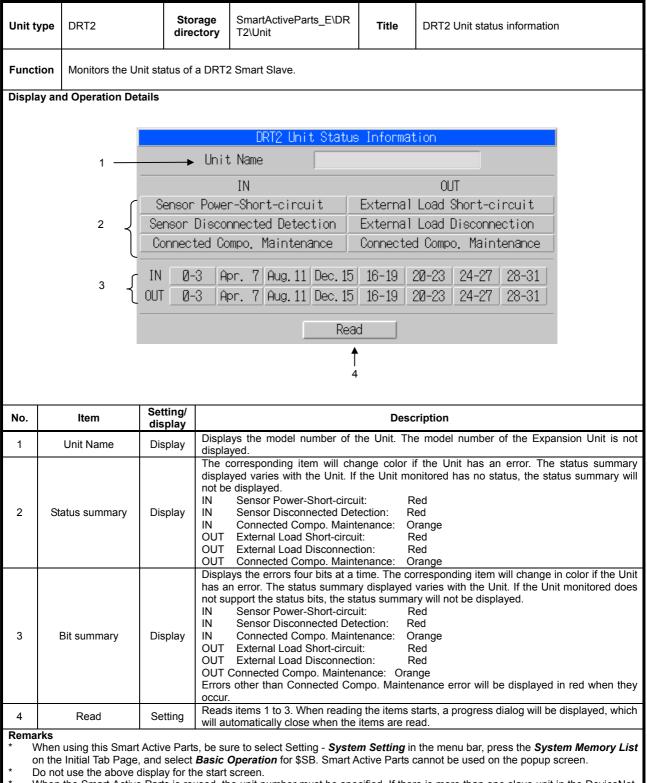
Maintenance

Counter Save

Read

Write

specify the slave unit numbers. Use this display in system version 5.



\* 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 ty	ype DRT2		orage ctory	SmartActiveParts_E\DR T2\IN	Title	DRT2 input information m	nonitor
Functi	ion Displays and s	sets 4 bits of	input in	formation.			
Displa	y and Operation De	etails					
						9	10
	1			DRT2 IN Informat	tion Moni	tor	
	U	nit Name				Read V	Write
	Bit	I	/0 Con	nments Set	Value	P.V. Unit S	Dis
	0				Ø	0	
	1				0	0	
	2				0	0	
	.3				. 0		
			<b>f</b>				1
	2		3		4	5 6 7	8
No.	ltem	Setting/ display			Desc	ription	
<b>No</b> .	<b>Item</b> Unit Name	Setting/ display Display	Displa	ays the model number of t		•	xpansion Unit is no
		display	displa	yed. ays the bits along with the O	he Unit. Th	e model number of the Ex	•
1	Unit Name	display Display Display Display	displa Displa yellow	yed. ays the bits along with the O	he Unit. Th N/OFF stati	e model number of the Ex	•
1	Unit Name Bit	display Display Display	displa Displa yellow Displa Displa	yed. ays the bits along with the O v. ays the I/O comments set fo ays maintenance monitor se	he Unit. Th N/OFF statu r the bits. t values. Th	e model number of the Ex us of the bits. A bit that is ON e values can be overwritten	N will be displayed in n.
1 2 3 4	Unit Name Bit I/O Comments Set Value	display Display Display Display Setting/ display Setting/	displa Displa yellow Displa Displa	yed. ays the bits along with the O v. ays the I/O comments set fo ays maintenance monitor se ays the present maintenance	he Unit. Th N/OFF statu r the bits. t values. Th ce values o	e model number of the Ex us of the bits. A bit that is ON e values can be overwritten f the maintenance counter.	N will be displayed in n. The values can be
1 2 3	Unit Name Bit I/O Comments	display Display Display Display Setting/ display	displa Displa yellow Displa Displa Oispla overw	yed. ays the bits along with the O v. ays the I/O comments set fo ays maintenance monitor se	he Unit. Th N/OFF statu r the bits. t values. Th ce values o exceeds the	e model number of the Ex us of the bits. A bit that is ON e values can be overwritten f the maintenance counter.	N will be displayed ir n. The values can be
1 2 3 4	Unit Name Bit I/O Comments Set Value	display Display Display Display Setting/ display Setting/	displa Displa yellow Displa Displa Overw prese Displa	yed. ays the bits along with the O v. ays the I/O comments set fo ays maintenance monitor se ays the present maintenance rritten. If the present value nt value will change to oran ays the maintenance unit (in	he Unit. Th N/OFF statu r the bits. t values. Th te values o exceeds the ge. seconds/tin	e model number of the Ex us of the bits. A bit that is ON e values can be overwritten f the maintenance counter. set threshold value, the di nes) set for each bit.	N will be displayed in N. The values can be Splayed color of the
1 2 3 4 5	Unit Name Bit I/O Comments Set Value P.V.	display Display Display Display Setting/ display Setting/ display	displa Displa yellow Displa Displa overw prese Displa Displa Uspla Unit.	yed. ays the bits along with the O v. ays the I/O comments set fo ays maintenance monitor se ays the present maintenance nt value will change to oran ays the maintenance unit (in ays the status of sensor po If the Unit does not support	he Unit. Th N/OFF statu r the bits. t values. Th ce values o exceeds the ge. seconds/tin ower short-( t sensor por	e model number of the Ex us of the bits. A bit that is ON e values can be overwritten f the maintenance counter. set threshold value, the di nes) set for each bit. circuiting. The indicator dis wer short-circuit detection, the	N will be displayed in The values can be splayed color of the play varies with the
1 2 3 4 5 6	Unit Name Bit I/O Comments Set Value P.V. Unit	display Display Display Display Setting/ display Setting/ display	displa Displa yellow Displa Displa Overw prese Displa Unit. turn C	ays the bits along with the O ays the bits along with the O ays the I/O comments set fo ays maintenance monitor se ays the present maintenance rritten. If the present value at value will change to oran ays the maintenance unit (in ays the status of sensor po	he Unit. Th N/OFF statu r the bits. t values. Th ce values o exceeds the ge. seconds/tin over short- t sensor por e to red if a	e model number of the Ex us of the bits. A bit that is ON e values can be overwritten f the maintenance counter. set threshold value, the di mes) set for each bit. circuiting. The indicator dis wer short-circuit detection, to short-circuit has been detection.	N will be displayed in The values can be isplayed color of the play varies with the the indicator will no
1 2 3 4 5 6	Unit Name Bit I/O Comments Set Value P.V. Unit	display Display Display Display Setting/ display Setting/ display	displa Displa yellow Displa Displa Displa Overw prese Displa Displa Unit. turn C	yed. ays the bits along with the O v. ays the I/O comments set for ays maintenance monitor se ays the present maintenance rritten. If the present value of nt value will change to oran ays the maintenance unit (in ays the status of sensor po ff the Unit does not support DN. The indicator will change indicator displays the status nit. If the Unit does not sup	he Unit. Th N/OFF statu r the bits. t values. Th exceeds the ge. seconds/tin over short- t sensor por e to red if a of sensor of oport sensor	e model number of the Ex us of the bits. A bit that is ON e values can be overwritten f the maintenance counter. e set threshold value, the di mes) set for each bit. circuiting. The indicator dis wer short-circuit detection, t short-circuit has been detect disconnection. The indicator r disconnection detection, t	A will be displayed in The values can be isplayed color of the play varies with the the indicator will no sted. r display varies with
1 2 3 4 5 6 7	Unit Name Bit I/O Comments Set Value P.V. Unit S	display Display Display Display Setting/ display Setting/ display Display Display	displa Displa yellow Displa Displa Displa Overw prese Displa Unit. Unit. The ir the U turn C	yed. ays the bits along with the O v. ays the I/O comments set for ays maintenance monitor se ays the present maintenance ritten. If the present value of nt value will change to oran ays the maintenance unit (in ays the status of sensor por DN. The indicator will change indicator displays the status nit. If the Unit does not sup DN. The indicator will flash in	he Unit. Th N/OFF statu r the bits. t values. Th ce values o exceeds the ge. seconds/tir ower short-( t sensor po e to red if a of sensor oport senso n red if the s	e model number of the Ex us of the bits. A bit that is ON e values can be overwritten f the maintenance counter. e set threshold value, the di nes) set for each bit. circuiting. The indicator dis wer short-circuit detection, t short-circuit has been detection lisconnection. The indicator r disconnection detection, t ensor is not connected.	N will be displayed in The values can be isplayed color of the play varies with the the indicator will no ted. r display varies with the indicator will no
1 2 3 4 5 6 7	Unit Name Bit I/O Comments Set Value P.V. Unit S	display Display Display Display Setting/ display Setting/ display Display Display	displa Displa yellow Displa Displa Displa Overw prese Displa Unit. Unit. The in turn C Reads	yed. ays the bits along with the O v. ays the I/O comments set fo ays maintenance monitor se ays the present maintenance ritten. If the present value on the value will change to oran ays the maintenance unit (in ays the status of sensor por DN. The indicator will change ndicator displays the status nit. If the Unit does not sup DN. The indicator will flash in s items 1 to 8. When reading	he Unit. The N/OFF statu r the bits. t values. The evalues of exceeds the ge. seconds/tin swer short- t sensor por e to red if a of sensor of opport sensor n red if the s g the items	e model number of the Ex us of the bits. A bit that is ON e values can be overwritten f the maintenance counter. e set threshold value, the di mes) set for each bit. circuiting. The indicator dis wer short-circuit detection, t short-circuit has been detect disconnection. The indicator r disconnection, the indicator ensor is not connected. starts, a progress dialog will	N will be displayed in The values can be isplayed color of the play varies with the the indicator will no ted. r display varies with the indicator will no
1 2 3 4 5 6 7 8	Unit Name Bit I/O Comments Set Value P.V. Unit S Dis	display Display Display Display Setting/ display Setting/ display Display Display Display	displa Displa Vellow Displa Displa Displa Overw prese Displa Unit. Turn C The ir the U turn C Reads will au	yed. ays the bits along with the O v. ays the I/O comments set for ays maintenance monitor se ays the present maintenance ritten. If the present value of nt value will change to oran ays the maintenance unit (in ays the status of sensor por DN. The indicator will change indicator displays the status nit. If the Unit does not sup DN. The indicator will flash in	he Unit. The N/OFF statu r the bits. t values. The evalues of exceeds the ge. seconds/tin over short- t sensor por e to red if a of sensor of opport sensor n red if the s g the items are red	e model number of the Ex us of the bits. A bit that is ON e values can be overwritten f the maintenance counter. e set threshold value, the di mes) set for each bit. circuiting. The indicator dis wer short-circuit detection, t short-circuit has been detect disconnection. The indicator r disconnection detection, t ensor is not connected. starts, a progress dialog will ead.	N will be displayed i N. The values can b isplayed color of th play varies with th the indicator will no ted. r display varies wit the indicator will no

\* 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 ty	/pe DRT2		Storage directory	SmartActiveParts_E\DI T2\OUT	R Title	DRT2 ou	tput inform	ation mor	nitor	
Funct	ion Displays a	nd sets 4 bit	ts of output i	nformation.						
Displa	y and Operation	n Details								
						9		10		
				DRT2 OUT Info	ormation Mo	nitor 🚽		•		
	1	🕨 Unit N	lame 🛛				Read	Wr	ite	
	Bi	t	I/0 Co	omments	Set Value	P. V.	Unit	S	Dis	
	Z				0		0	<u></u>		
	1				0		0	-		
	2				0		0			
	13				0		0	-		
					<u>ا</u> لا	•	0			
	Ť		Ť		Î	Ť	Ť	Ť	Ť	
	2		3		4	5	6	7	8	
No.	ltem	Settir displ			Des	cription				
1	Unit Name	Displ	lay Displa displa	ays the model number of ved.	of the Unit. Th	ne model nu	umber of t	he Expar	nsion Unit	is not
2	Bit	Displ	Displa	ays the bits along with the	e ON/OFF stat	us of the bit	s. A bit tha	t is ON wi	ll be displa	ayed in
3	I/O Comment		lay Displa	ays the I/O comments set	t for the bits.					
4	Set Value	Settir displ		ays maintenance monitor	r set values. Th	ne values ca	n be over	written.		
5	P.V.	Settir	ng/ Displa	ays the present maintenaritten. If the present value						
6	Unit	displ	piese	nt value will change to or		(a) act for	ach hit			
0	Unit	Displ		ays the maintenance unit ays the status of sensor				or display	varies w	ith the
7	S	Displ	lay Unit. I	f the Unit does not supp	port sensor po	wer short-ci	rcuit detec	ction, the	indicator	
8	Dis	Displ	lay The ir the Ui turn C	DN. The indicator will chan ndicator displays the star nit. If the Unit does not DN. The indicator will flas	tus of sensor support senso sh in red if the s	disconnection disconnection disconnection disconnection	on. The ind ction detect t connecte	dicator dis tion, the d.	splay varie indicator	will not
9	Read	Setti		s items 1 to 8. When read	-	•	gress dialo	og will be	displayed	, which
10	Write	Setti		itomatically close when t items 4 to 5 and then re						
Rema			0						•	
* N	n the Initial Tab P Ionitors are avail	Page, and se able for bits	elect <b>Date</b> ar 0 to 3, 4 to	re to select <b>Setting</b> - <b>Sy</b> ad <b>Time for \$SW</b> . 7, 8 to 11, 12 to 15, 16 environment resistance,	to 19, 20 to 23	3, 24 to 27,	or 28 to 3	1. Select		-

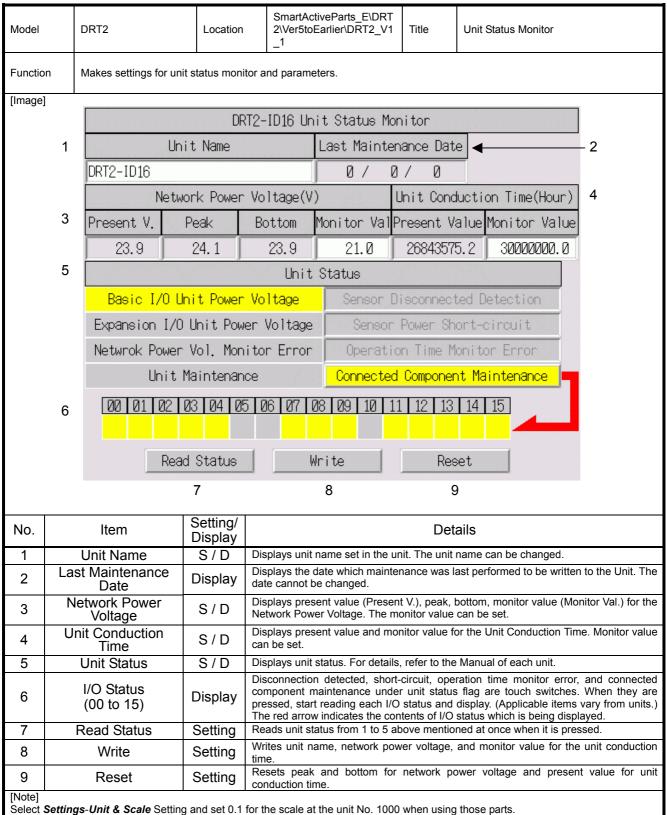
### 1.1.5 Monitor Time Information

Unit ty	pe DRT2		rage ctory	SmartActiveParts_E\DR T2\MONITOR	Title	DRT2 mon	tor time	e informatio	n
Functi	on Displays and s	sets 4 bits of	ON timi	ng information for output to	input.				
Displa	y and Operation De	etails							
						7	8		
				DRT2 Monitor I	nformatic	х <b>р</b>			
	1 —	Unit	: Name			Read	Wr	ite	
		Bit		I/O Comments	Set Va	alue P	٧.	Unit	
		0		17 0 00/1110/100		и	0	ms	
					_	0	0		
		1			_			ms	
		2				0	0	ms	
		3				0	0	MS	
		↑		1	<b>↑</b>	4	•	1	
		2		3	4	Ę	5	6	
No.	Item	Setting/			Desc	ription			
	1 Incid N	display	Displa	ys the model number of t	he Unit. The	e model nun	ber of	the Expan	sion Unit
1	Unit Name	Display	displa	yed.				•	
2	Bit	Display		lys the bits.					
-	I/O Comments	Display Setting/		iys the I/O comments set fo					
4	Set Value	display	-	iys set values. The values o					
5	P.V.	Setting/		ive the present values. The					
	Unit	display Display		reshold value, the displayed uys the units.		present valt		nange to of	ange.
6		Diopidy		s items 1 and 3 to 5. When i	eading the i	tems starts, a	a progre	ess dialog v	vill be disr
6		Setting							
6 7 8	Read	Setting Setting	which	will automatically close when item 4 and then reads item	en the items	are read.			

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.

DRT2

### 1.1.6 Smart Slave



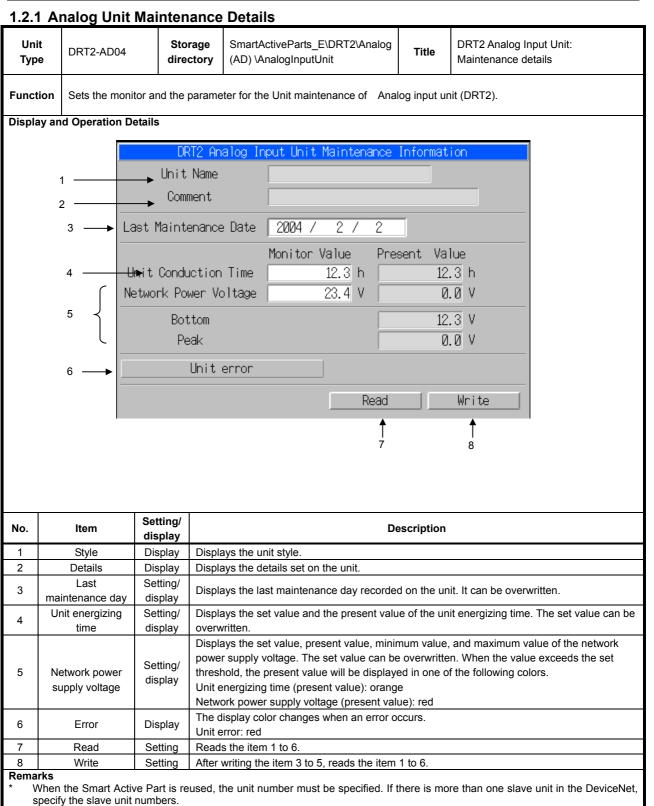
The contents of unit status flag differ from units. For details, refer to DRT2 series manuals.

### DRT2

Model	DRT2	Location	SmartActiveParts_E\DRT 2\Ver5toEarlier\DRT2_V1 _1 Title I/O Status Monitor
Functio	Displays and makes	settings for I/C	D status by 4 bits.
[Image]	]		
Г			-IDØ8C I/O Status Monitor
H	D:+ 1/0.0		
L	Bit I/O Con	IMENTS	Mode Set Val. Present ValS D De
	4 I/0_1		
	5		F 52 268435752 ON Rs + 10
	6		T 4465 12 OFF W - 11
	7		F 7789 268435752 ON
1	1 2		3 4 5 6 7 8
No.	Item	Setting/	Details
		Display	
1	Bit	Display Display	Displays an appropriate bit and ON/OFF status with lamp.
1 2	Bit I/O comments	Display Display S / D	Displays an appropriate bit and ON/OFF status with lamp. Displays I/O comments set for bits. This can be changed.
1 2 3	Bit I/O comments Mode	Display Display S / D S / D	Displays an appropriate bit and ON/OFF status with lamp. Displays I/O comments set for bits. This can be changed. Displays maintenance mode either Time (T) or Frequency (F).
1 2	Bit I/O comments Mode Set value (Set V.) Present Value	Display Display S / D	Displays an appropriate bit and ON/OFF status with lamp. Displays I/O comments set for bits. This can be changed.
1 2 3 4	Bit I/O comments Mode Set value (Set V.)	Display Display S / D S / D S / D	Displays an appropriate bit and ON/OFF status with lamp. Displays I/O comments set for bits. This can be changed. Displays maintenance mode either Time (T) or Frequency (F). Displays the monitor value for maintenance. The value can be changed. Displays the present value in the maintenance counter. The value can be changed Displays short-circuit detection flag for environment-resistive units. When using unit, it detects sensor power sort-circuit. When using OUT unit, it detects external for
1 2 3 4 5	Bit I/O comments Mode Set value (Set V.) Present Value (Present Val)	Display Display S / D S / D S / D S / D	Displays an appropriate bit and ON/OFF status with lamp. Displays I/O comments set for bits. This can be changed. Displays maintenance mode either Time (T) or Frequency (F). Displays the monitor value for maintenance. The value can be changed. Displays the present value in the maintenance counter. The value can be changed Displays short-circuit detection flag for environment-resistive units. When using unit, it detects sensor power sort-circuit. When using OUT unit, it detects external is short-circuit. Displays the detected sensor disconnected flag for IN unit.
1 2 3 4 5 6	Bit I/O comments Mode Set value (Set V.) Present Value (Present Val) Short-circuit (S)	Display Display S / D S / D S / D S / D Display	Displays an appropriate bit and ON/OFF status with lamp. Displays I/O comments set for bits. This can be changed. Displays maintenance mode either Time (T) or Frequency (F). Displays the monitor value for maintenance. The value can be changed. Displays the present value in the maintenance counter. The value can be changed Displays short-circuit detection flag for environment-resistive units. When using unit, it detects sensor power sort-circuit. When using OUT unit, it detects external is
1 2 3 4 5 6 7 8 9	Bit I/O comments Mode Set value (Set V.) Present Value (Present Val) Short-circuit (S) Disconnected (D) Disconnection Detected (D.D.) Read	Display Display S / D S / D S / D Display Display Display Setting	Displays an appropriate bit and ON/OFF status with lamp. Displays I/O comments set for bits. This can be changed. Displays maintenance mode either Time (T) or Frequency (F). Displays the monitor value for maintenance. The value can be changed. Displays the present value in the maintenance counter. The value can be changed Displays short-circuit detection flag for environment-resistive units. When using unit, it detects sensor power sort-circuit. When using OUT unit, it detects external is short-circuit. Displays the detected sensor disconnected flag for IN unit. Displays whether the sensor disconnected detection flag for IN unit has been set
1 2 3 4 5 6 7 8	Bit I/O comments Mode Set value (Set V.) Present Value (Present Val) Short-circuit (S) Disconnected (D) Disconnection Detected (D.D.)	Display Display S / D S / D S / D S / D Display Display	Displays an appropriate bit and ON/OFF status with lamp. Displays I/O comments set for bits. This can be changed. Displays maintenance mode either Time (T) or Frequency (F). Displays the monitor value for maintenance. The value can be changed. Displays the present value in the maintenance counter. The value can be changed Displays short-circuit detection flag for environment-resistive units. When using unit, it detects sensor power sort-circuit. When using OUT unit, it detects external I short-circuit. Displays the detected sensor disconnected flag for IN unit. Displays whether the sensor disconnected detection flag for IN unit has been se not. This setting can be changed

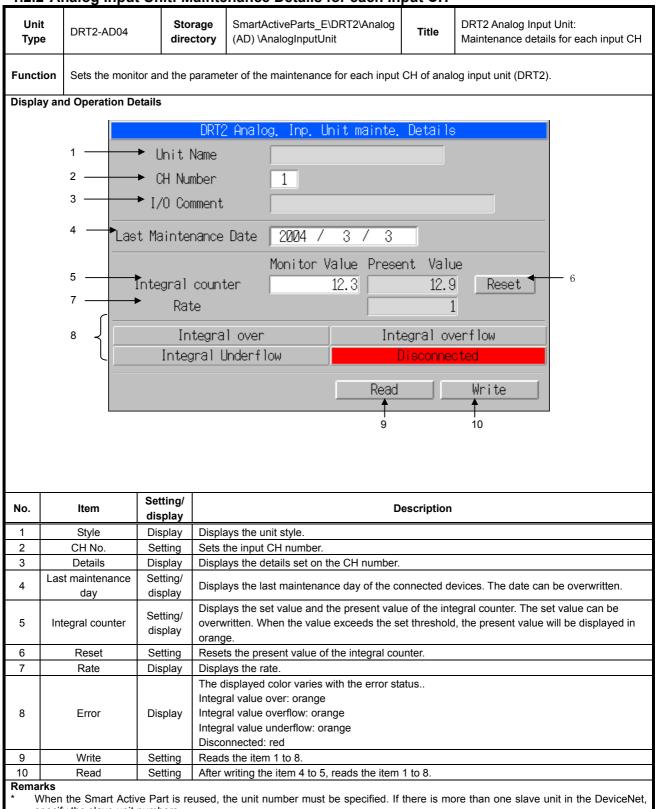
Please use an appropriate Smart Active Parts in accordance with units to be connected (environment-resistive unit, IN unit, and OUT unit etc...). This is not supported for an expansion unit.

### 1.2. Analog



Use this display in system version 5 or later.

### DRT2



### 1.2.2 Analog Input Unit: Maintenance Details for each Input CH

specify the slave unit numbers.

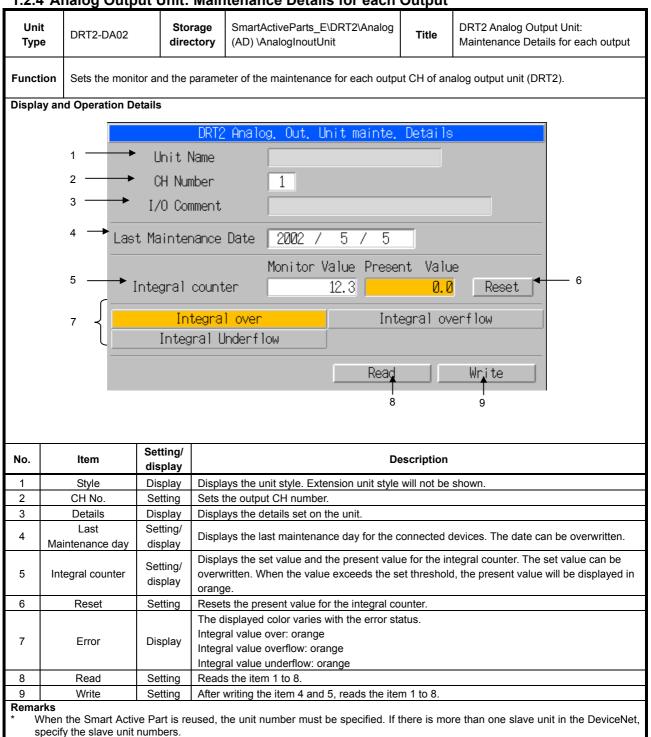
Use this display in system version 5 or later.

Uni Typ	DRT2-DA02		-	ctiveParts_E\DRT2\Analog nalogInputUnit	Title	DRT2 Analog Output Unit: Maintenance Details
unct	ion Sets the moni	tor and the	parameter of the	unit maintenance for the an	alog output	t unit (DRT2).
)ispla	y and Operation D	etails				
			DRT2 Analog (	)utput Unit Maintenar	nce Infor	mation
	1		it Name			
	2	<b></b> ► 60	omment			
	-					
	3	Last Mair	ntenance Date	2004 / 4 / 4	ł	
				Monitor Value A	Present	Value
	4	Unit Con	duction Time	123456.7 h		0.0 h
	ſ	Network (	Power Voltage	e 24.3 V		0.0 V
	5	R	ottom	(		0.0 V
	L		Peak	l ſ		0.0 V
	-		I CUN			<u></u>
	6		Unit error			
	-			Rea	id 🚺	Write
	-			<b>1</b> 7		8
No.	Item	Setting/ display		De	escription	
1	Style	Display	Displays the un	1		
2	Details	Display	Displays the de	tails set on the unit.		
3	Last maintenance day	Setting/ display	Displays the las	st maintenance day recorde	d on the un	it. The date can be overwritten.
4	Unit power	Setting/		t value and the present valu	ie of the un	it energizing time. The set value can b
	supply voltage	display	overwritten.	t value present value mini	mum value	and maximum value for the network
5	Network power supply	Setting/ display	power supply v threshold, the c Unit energizing	oltage. The set value can be	e overwritte ent value wil e	in. When the value exceeds the set
6	Error	Display	The display col Unit error: red	or changes when an error o	ccurs.	
7	Read	Setting	Reads the item	1 to 6.		
	Write	Setting	After writing the			

1.2.3 Analog Output Unit Maintenance Details

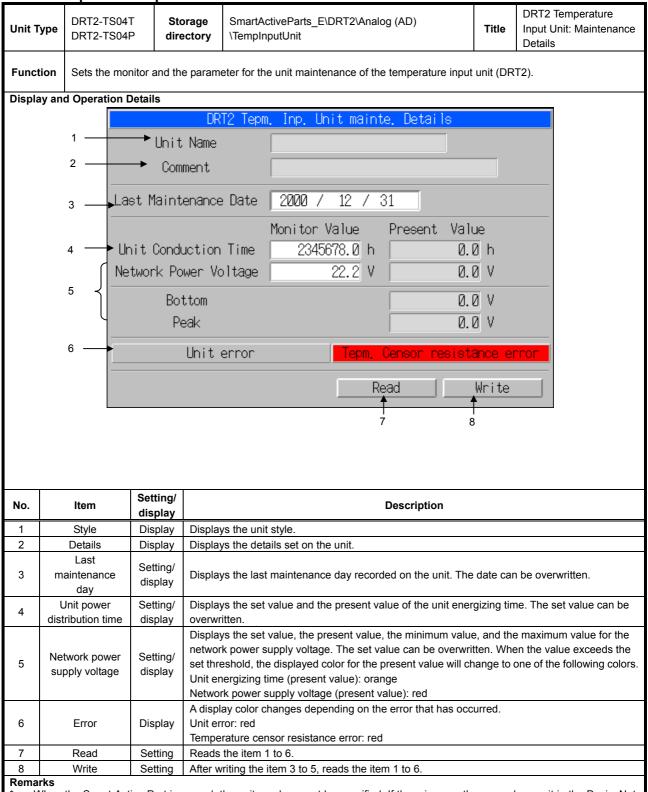
specify the slave unit numbers. Use this display in system version 5 or later. -

DRT2



### 1.2.4 Analog Output Unit: Maintenance Details for each Output

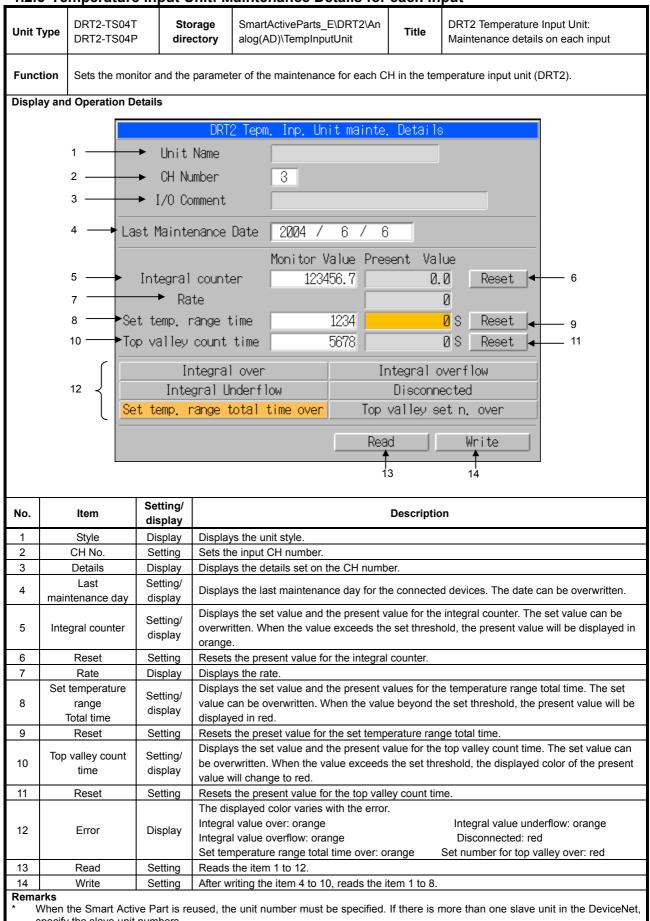
Use this display in system version 5 or later.



### 1.2.5 Temperature Input Unit: Maintenance Details

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

specify the slave unit numbers.

Use this display in system version 5 or later. B

# 1.1 Loop Controller Unit 1.1.1 Seament Program 2 Time Width/Output Value

1.1.1	Segment Pro	gram 2 I	Ime	Width/Output	value		
Unit ty	pe LC001/LCB0 LCB05/LCB0		rage ctory	SmartActiveParts_ ProcessController \Time_Function_P	\LCB	Title	Segment Program 2: Time width/output value setting
Functio	on Sets	the time wid	Ith and	the output value of e	each step	o for the loop	o controller segment program 2 block.
Display	/ and Operation De	etails					
	7 — 8 — 9 —		1 10 2 20 <del>3 30</del> <del>4 40</del> 5 50 6 60 7 70 8 80	0.00       Read         value       Time width       Unit       S         .00       200.0       \$       11         .00       200.0       \$       12         .00       200.0       \$       13         .00       200.0       \$       13         .00       200.0       \$       15         .00       200.0       \$       15         .00       200.0       \$       17         .00       200.0       \$       19         .00       200.0       \$       19         .00       200.0       \$       19         .00       200.0       \$       19         .00       200.0       \$       19         .00       200.0       \$       20	3 Write 90.00 80.00 70.00 60.00 50.00 40.00 20.00 10.00 0.00 10.00	200.0         \$           200.0         \$           200.0         \$           200.0         \$           200.0         \$           200.0         \$           200.0         \$           200.0         \$           200.0         \$           200.0         \$           200.0         \$           200.0         \$           200.0         \$           200.0         \$           200.0         \$           200.0         \$           200.0         \$	
No.	Item	Setting/ display				Desc	ription
1	Default	Setting/ display			Sets a	nd displays	the default (step 0).
2	Read	Setting		ů.	· ·		e width and time unit) from the target block.
3	Write	Setting	١	*			me width and time unit) to the target block.
4	Backup	Setting	This				FROM in the loop controller. f the system version 1.5 or later, and LCB05D.
5	Scale 1	Setting	Sets	the vertical axis for	the outp		be displayed in the graph in the range of -15% 115%.
6	Scale 2	Setting	Sets t	he vertical axis for t	he output		e displayed in the graph in the range of $\pm$ 320%.
7	Output Value	Setting/					
'	(1 to 30 step)	display		Sets the C	ouput val	ue ioi each	step in the range of ± 320.00%.
8	Time Width	Setting/	Sets	the output time widtl	h for each		range of 0 to 3200.0. The unit will be set in the
	(1 to 30 step)	display Sotting/		Soto the or	tout time		m 9.
9	Time Unit (1to 30 step)	Setting/ display		Sets the ou	itput time	unit for eac	h step to hour, minute or second.
10	Graph erea	Display	step.	Please be advised t	hat the ti d when th	me width wil le scale 1 is	nent program 2 as a continuous graph for each Il not be applied to the horizontal axis. The step set and the output value is out of the range % 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 dispay the following screen. (This screen shows when deselecting the *Edit SAP Library*" in the option.)

Input the Destination Address.		
Destination port name of commands( <u>H</u>	) SerialA	•
Destination Network Address( $\underline{N}$ )	0	+
Destination Node Address(Q)	0	* *
Destination Unit No.( <u>U</u> )	[255]	•
Unput the following value depending of CPU Unit :0 (Fixed) CPU BUS Unit :Unit No. +16 Special I/O Unit :Machine No. +		use.)
Device Net Slave Node Address(D)	0	-

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 dispay the following screen. (This screen shows when deselecting the *Edit SAP Library*" in the option.)

Numeral Type UINT(unsigned 1word)		Button Shape —— (• Rectangle	C Select Sha	pe	
Action Type					
Set Value					
• Value(G)	)				
C Indirect(H)		Set	D		
Increment/Decrement()     C Value(P)					
C Indirect(Q)		Set(	2)		
⊂ Display Pop-up Menu(	Edit Menu@)				
Address					

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, wirte 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 ty	ino	LC001/LCB01 Storage LCB05/LCB05D directory		SmartActiveParts_E\ ProcessController\LCB \Time_Function_Program		Title		Segme	nt program 2	2: Wait setting	
Funct	ion Sets th	e wait width	and the	e wait time c	fea	ch step for th	ne segment	prog	ram 2 bloc	k in the Loo	p Controller.
Displa	Display and Operation Details										
							1	:	2 :	3	
							Read	Wr	ite	Backup	
	4		it width 0.00	Waittime 0.0	s 11	Waitwidth Ø. ØØ	Wait time 0. 0	s 21	Wait width 0.00	Wait time Ø. Ø	
	4 - 5 -		0.00	0.0	12	0.00		22	0.00	0.0	
	5 -		0.00	0.0	13	0.00		23	0.00	0.0	
			0.00	0.0	14	0.00		24	0.00	0.0	
			0.00	0.0	15	0.00		25	0.00	0.0	
			0.00	0.0	16	0.00		26	0.00	0.0	
			0.00	0.0	17	0.00		27	0.00	0.0	
			0.00	0.0	18	0.00		28	0.00	0.0	
			0.00	0.0	19	0.00		29	0.00	0.0	
		10 1	0.00	0.0	20	0.00	0.0	30	0.00	0.0	
No.	ltem	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.								

	Process Controller
3. Setting the unit number	Active Parts, please follow the settings below. er: double click the Smart Active Parts pasted on the project to dispay the following sreen. (This screen ng the <i>Edit SAP Library</i> " in the option.)
<ol> <li>Setting the target Func- the following screen. (1</li> </ol>	Special Active Parts Communication Settine         ipput the Destination Address         ipput the Destination Address(0)         Destination Network, Address(0)         Destination Notice Address(0)         Device Net Slave Node Address(0)         Device Net Slave Node Address(0)         OK         Device Net Slave Node Address(0)         Notice Response
Specify the block addu Function block on the 0	Display Expansion Tabs()     Apply( <u>A</u> )     OK     Cancel     Help  ress in the setting value for the loop controller of the Function block. Please check the address for the CX-Process Tool.
1000 to 0.1 and for nur * The above item 4 and After editing the item, v	Active Parts, be sure to select <b>Setting – Unit/Scale Setting</b> in the menu bar and set the scale for number nber 999 to 0.01 5 set on the NS will be applied to the loop controller only after writing these settings to the loop controller. wirte it to the loop controller with the Write button. Please be advised that the edited item will be lost if you ithout writing it with the Write button.

### 1.1.3 Segment Program Time Width/Output Setting

Unit ty			rage SmartActiveParts_E\ ProcessController\LCB \Time_Function_Program		<b>Title</b>	Segment Program: Time Width/Output Setting		
Functio	<b>Function</b> Sets the time width and output setting for each step of the segment program in the loop controller.							
Display	y and Operation De	tails						
	1 2 3 4 5 ↓ ↓ ↓ ↓ Time axis unit ⊖ Default -320.00 Read Write Backup							
	8 9 10	s Output v2 1 ► 320. 2 -320. 3 320. 4 -320. 5 320. 1	200.0 <del>20</del> € 200.0 20 200.0 20 200.0	S         Output value           6         -320.00           7         320.00           8         -320.00           9         320.00           10         -320.00	Time width S 200.0 11 200.0 12 200.0 13 200.0 14 200.0 15	Output value         Time width           320.00         200.0           -320.00         200.0           320.00         200.0           -320.00         200.0           -320.00         200.0           320.00         200.0           -320.00         200.0           Scale 1         Scale €           -         -           -         -           -         0.00           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -		
No.	ltem	S1 Setting/ display				ription		
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 5	Write Backup	Setting Setting	Writes all the target data (output value, time width and time unit) to the block.           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 $\pm$ 320%.					
8	Output value (1 to 15 steps)	Setting/ display	Sets the output value for each step in the range of $\pm$ 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 erea	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 wil 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 Ative Parts, please follow the settings below.
- 5. Setting the unit number: double click the Smart Active Parts pasted on the project to dispay the following sreen. (This screen shows when deselecting the *Edit SAP Library*" in the option.)

	Smart Active Parts Communication Setting		X	
	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 CPU Unit :0 (Fixed) CPU BUS Unit :Unit No. +16 Special I/O Unit :Machine No	on the unit you want to use.)		
	Device Net Slave Node Address(			
		OK Cancel		
he following screen. (This scree				the project to d
General Cold	or/Shape   Label   Frame   Max/Min		1	
Comment(C				
Numeral T	ype Button Shape	C Select Shape		
- Action Ty				
Set V				
C In	ndirect(H) Set(	D		
	nent/Decrement			
	idirect(Q) Set(	2)		
C Displa	ay Pop-up Menu(M) Edit Menu(@)			
- Address -				
Wir7	ite Address( <u>W</u> ) \$WO	Set(4)		
☐ Use As De ☐ Display Ex	fault(D) pansion Tabs(T)	Apply( <u>A</u> ) OK C.	ancel 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, 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, wirte 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.

### 1.1.4 Ramp Program Parameter Setting

display

Setting/

display

13.

**Process Controller** 

1.1.4	Ramp Progr	ram Para					
Unit ty	ype LC001/LCB0 LCB05/LCB05		SmartActiveParts_E\         Title         Segment paragram: Paramter setting           ctory         \Time_Function_Program         Segment paragram: Paramter setting				
Function         Sets the ramp rate and the soak value for each step on the ramp program in the loop controller.							
Displa	ay and Operation De	tails					
		1 ⊥	$\begin{array}{cccccccccccccccccccccccccccccccccccc$				
		Read	Write Backup Scale 1 Scale 2				
	6						
	7	S Ran	ip rate Unit Soak value Soak time Unit S Ramp rate Unit Soak value Soak time Unit				
	9	-1	1.00 s 100.00 100.0 s 9 0.00 s -300.00 10.0 s 1.00 s 200.00 100.0 s 10 0.00 s -300.00 10.0 s				
	10 11		<u>1.00</u> s 200.00 100.0 s 10 0.00 s −300.00 10.0 s 1.00 s 300.00 100.0 s 11 0.00 s −300.00 10.0 s				
	12	4	<u>1.00 s 150.00 100.0 s 12 0.00 s -300.00 10.0 s</u>				
	13		<u>1.00 s 0.00 10.0</u> 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 1.00 s -300.00 10.0 s 15 0.00 s -300.00 10.0 s				
			1.00 s -300.00 10.0 s				
			- 200.00				
	1	4	- 100.00				
			- 0.00				
			— -100.00				
			— -200.00				
		S1	S5 S10 S15				
No.	ltem	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 $\pm 320\%$ .				
6	Default	Setting/ display	Sets and displays the default (step 0).				
7	Wait Width (Applied all each	Setting/	Sets the wait width for each step in the range of 0 to 320.00%.				
	step)	display					
	Wait Time	Setting/	Sets the wait time width for each step in the range of 0 to 3200.0. The set value is applied				
8	(Applied to each	display	for each step, and the time unit will be set for each step ramp rate in item 10.				
	step) Ramp rate	Setting/	Inputs the ramp rate for each step as a rate per time unit. Sets in the range of $\pm$ 115.00%.				
9 (1 to 15 steps) display The unit time will be set in item 10.							
	Ramp rate unit	Setting/					
10	time	display	Sets the ramp rate for each step to hour, minute or second.				
	(1 to 15 Steps) Soak value	Setting/	Sets the soak value for each step, which is obtained after the ramp rate has completed, in				
11	(1 to 15 Steps)	display	Sets the soak value for each step, which is obtained after the ramp rate has completed, in the range of $\pm$ 320.00%.				
12	Soak time	Setting/	Sets the soak time for each step in the range of 0~3200.0. The time unit will be set in item				

Sets the soak time unit for each step to hour, minute or second.

13

(1 to 15 Steps)

Soak time unit

(1 to 15 Steps)

			Process Controller
14	Graph erea	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 horixontal axis. The step wil be displayed in red when the scale 1 is set and the output value is out of range between -15% and 115%.

Process Controller	
	arts, please follow the settings below. e click the Smart Active Parts pasted on the project to dispay the following sreen. (This screen <i>lit SAP Library</i> " in the option.)
	Smart Active Parts Communication Setting
	Destination Address
	Input the Destination Address.
	Destination port name of commands( <u>H</u> ) SerialA 💌
	Destination Network Address(M)
	Destination Node Address(Q)
	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
8. Setting the target Function bloc	aber +16 in the transfer direction number of the LC001 and 225 for LCB01/05/05D. A address: double click the <i>Read</i> button of the Smart Active Parts pasted on the project to dispay en shows when selecting the <i>Edit SAP Library</i> " in the option.)
Word Button - P	BW0136
General Colo	r/Shape   Label   Frame   Max/Min
Comment(C)	
- Numeral T	signed 1word)
Action Typ	
<ul> <li>Set Value</li> </ul>	
	direct( <u>H</u> ) Set( <u>1</u> )
	nent/Decrement@
	alue(2) 1 direct(Q) Set(2)
C Displa	y Pop-up Menu(M) Edit: Menu(Q)_
Address	
Writ	te Address ∰ \$₩0 Set(4)

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.

Apply(A) OK Cancel Help

🔲 Use As Default(<u>D</u>)

🔲 Display Expansion Tabs(T)

- \* 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, wirte 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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