No. CP-SP-1308E

Network Instrumentation Module

NX-D15/25 Controller Module

User's Manual of Functions

Thank you for purchasing the NX-D15/25.

This manual contains information for ensuring the correct use of the NX-D15/25. It also provides necessary information for installation, maintenance, and troubleshooting.

This manual should be read by those who design and maintain equipment that uses the NX-D15/25. Be sure to keep this manual nearby for handy reference.

Yamatake Corporation

NOTICE

Conventions Used in This Manual

■ To prevent injury to the operator and others, and to prevent property damage, the following types of safety precautions are indicated:

⚠ **WARNING**	Warnings are indicated when mishandling this product might result in death or serious injury.
⚠ **CAUTION**	Cautions are indicated when mishandling this product might result in minor injury to the user, or only physical damage to the product.

■ In describing the product, this manual uses the icons and conventions listed below.

⚠ Use caution when handling the product.

⃠ The indicated action is prohibited.

❗ Be sure to follow the indicated instructions.

Handling Precautions:

Handling Precautions indicate items that the user should pay attention to when handling the NX-D15/25.

Note: Notes indicate information that might benefit the user.

☞ This indicates the item or page that the user is requested to refer to.

[1], [2], [3]: Numbers within parentheses indicate steps in a sequence or parts of an explanation.

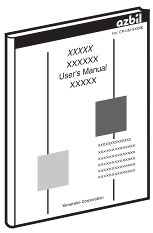
Safety Precautions

⚠ WARNING	
!	Before removing, mounting, or wiring the NX-D15/25, be sure to turn off the power to the module and all connected devices. Failure to do so might cause electric shock.
!	Be sure to check that the NX-D15/25 has been correctly wired before turning on the power. Incorrect wiring of the module can damage it or lead to hazardous conditions.

⚠ CAUTION	
!	To lock or unlock the DIN rail locking tab, use a tool such as a screwdriver.
⃠	Do not disassemble the NX-D15/25. Doing so might cause electric shock or device failure.
⃠	Do not block the ventilation holes. Doing so might cause fire or device failure.
!	Do not allow wire clippings, metal shavings, water, etc. to enter the case of this device. They can cause fire or device failure.
⃠	Do not touch electrically charged parts such as the power supply terminals. Doing so may result in an electric shock.
!	Before wiring the NX-D15/25, be sure to disconnect the power. Failure to do so might cause device failure.
!	Wire the NX-D15/25 in compliance with established standards, using the specified power source and recognized installation methods. Failure to do so could result in fire, electric shock, or malfunction.
!	Ensure that the total power consumption of all linked modules does not exceed 100 W. Otherwise fire or faulty operation could occur.
!	Do not supply power to the linked modules from multiple power sources. Doing so could result in fire or malfunction.
⃠	Do not use unused terminals on the NX-D15/25 as relay terminals. Doing so might cause electric shock, fire or device failure.
⃠	Do not short the output section. Doing so might cause device failure.
!	Firmly tighten the terminal screws to the torque listed in the specifications. Insufficient tightening might cause fire.
!	If there is a risk of a power surge caused by lightning, use a surge protector to prevent possible fire or failure of the device.
!	Use this device within the operating ranges given in the specifications (for temperature, humidity, voltage, vibration, shock, mounting direction, atmosphere, etc.). Otherwise, fire or device failure could result.
!	The NX-D15/25 does not operate for about 10 seconds after the power has been turned ON, depending on the settings. Be careful if the output from the module is used as an interlock signal.
!	When discarding the NX-D15/25, dispose of it as industrial waste, following local regulations.

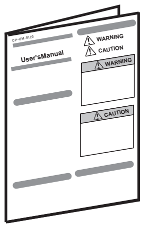
The Role of This Manual

A total of 6 different manuals are available for the Network Instrumentation Module. Read them as necessary for your specific requirements. If a manual you require is not available, contact Yamatake Corporation or its dealer. Alternatively, you can download the necessary manuals from “http://www.yamatake.com”.



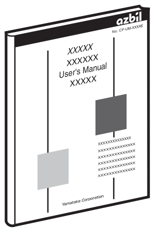
Network Instrumentation Module
User’s Manual
Network Design Version **Manual No. CP-SP-1313E**

Personnel who are in charge of design of a network using the Network Instrumentation Module should read this manual thoroughly. It describes how to design a network and gives examples.



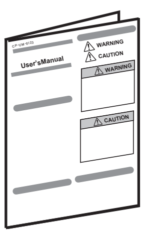
Network Instrumentation Module
NX-D15/25/35 Controller Module User's Manual for Installation
Manual No. CP-UM-5561JE

This manual is supplied with the NX-D15/25/35. Personnel in charge of design and/or manufacture of a system using the NX-D15/25/35 should thoroughly read this manual. It describes safety precautions, installation, wiring, and primary specifications.
For further information about operation, refer to the user’s manual, Abridged Version.



Network Instrumentation Module
NX-D15/25 Controller Module User’s Manual Abridged Version
Manual No. CP-UM-1308E

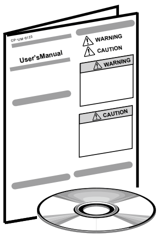
This manual.
Personnel who are using the NX-D15/25 for the first time or who are in charge of hardware design and/or maintenance of a control panel containing the NX-D15/25 should read this manual thoroughly. This manual describes the hardware, surveys the NX-D15/25 and other products used with it, explains installation, wiring, and troubleshooting, and gives hardware specifications.



Network Instrumentation Module
NX-CB1 Communication Box User’s Manual for Installation
Manual No. CP-UM-5558JE

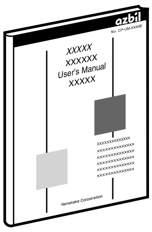
This manual is supplied with the NX-CB1. Personnel in charge of design and/or manufacture of a system using the NX-CB1 should read this manual thoroughly. It describes safety precautions, installation, wiring, and primary specifications.

Network Instrumentation Module
Smart Loader Package SLP-NX   Installation Guide
Manual No. CP-UM-5559JE



This manual is supplied with the SLP-NX Smart Loader Package and describes installation of the software on a personal computer.

Network Instrumentation Module
Smart Loader Package SLP-NX
User's Manual   **Manual No. CP-UM-5653E**



This manual is included in the SLP-NX Smart Loader Package as a PDF file.
Personnel in charge of design or configuration of a system using the Network Instrumentation Module should read this manual thoroughly.
The manual describes the software used to configure the Network Instrumentation Module using a personal computer. It also describes installation of the software on a personal computer, operation of the personal computer, various functions, and setup procedures.

Organization of This User's Manual

This manual is organized as follows:

Chapter 1. OVERVIEW

Overview, features, model selection guide, and part names and functions.

Chapter 2. INSTALLATION

Operating environment and installation procedures.

Chapter 3. WIRING

Wiring procedures and precautions, and connection examples.

Chapter 4. FUNCTIONS NECESSARY FOR CONTROL

Functions necessary for use of the NX-D15/25 for control.

Chapter 5. OPERATION AND GENERAL FUNCTIONS

Setup of the most commonly used functions.

Chapter 6. FUNCTIONS OFTEN USED FOR OPERATIONS OTHER THAN CONTROL

Setup of functions not related to control.

Chapter 7. FUNCTIONS USED AS REQUIRED

Setup of convenient functions.

Chapter 8. CPL COMMUNICATIONS FUNCTION

Communication with a host unit, such as a personal computer or PLC, using Yamatake's standard CPL communication and RS-485.

Chapter 9. MODBUS COMMUNICATIONS FUNCTION

Communication with a host unit, such as a personal computer or PLC, using MODBUS and RS-485.

Chapter 10. MODBUS/TCP COMMUNICATIONS FUNCTION

Communication with a host unit, such as a personal computer or PLC, using MODBUS/TCP and Ethernet.

Chapter 11. LIST OF COMMUNICATION DATA

A list of communication data in the memory of the NX-D15/25.

Chapter 12. LIST OF PARAMETER SETTINGS

A list of parameter settings.

Chapter 13. TROUBLESHOOTING

What to do in case of a problem.

Chapter 14. MAINTENANCE, INSPECTION, AND DISPOSAL

Maintenance, inspection, and disposal.

Chapter 15. SPECIFICATIONS

General specifications, performance specifications, external dimensions, and optional parts.

Appendix

Function block diagrams, standard bit codes, standard numerical bit codes, and explanations of characters and terms used in the manual.

Contents

Chapter 4. FUNCTIONS NECESSARY FOR CONTROL

Chapter 5. OPERATION AND GENERAL FUNCTIONS

Chapter 6. FUNCTIONS OFTEN USED FOR OPERATIONS OTHER THAN CONTROL

Chapter 7. FUNCTIONS USED AS REQUIRED

Chapter 8. CPL COMMUNICATIONS FUNCTION

Chapter 9. MODBUS COMMUNICATIONS FUNCTION

Appendices

Chapter 1. OVERVIEW

1 - 1 Overview and Features

■ Overview

The Instrumentation Network Module uses Ethernet as standard to achieve distributed instrumentation and high-speed communication, and reduce the required wiring and engineering. This gives customers the value of improved environments, quality and productivity.
The NX-D15/25 Controller Module is a module type of controller. One unit can perform up to four loops of PID control.

■ Features

● Higher communication speed

- Ethernet equipped as standard
  Each module is equipped with an Ethernet communication function.
  When modules are connected or distributed, the use of a daisy chain connection method greatly reduces the required wiring.
  Each module is also equipped with an RS-485 communication function.
  High-speed communication is possible to devices such as host systems, programmable logic controllers (PLCs) and display devices.
  The system can be upgraded to the Yamatake Monitor and Control System.
- Delivers a true distributed layout
  When connected by Ethernet, the system can be used with a distributed layout that has no functional differences from a connected layout.
- Communication redundancy
  Two communication configurations are available for the Ethernet network: non-ring and ring.

● Hardware

- Compact and highly functional
  The body is an ultra-compact 30×100×104 mm.
- Simple assembly
  The three-part structure consists of a base, main body and terminal block. For ease of operation, installation and removal can be performed without using any tools.
- Connected operation and distributed layout
  The input and output signals between modules can be linked. Also, modules used in a distributed layout can be linked in the same way as during connected use.
- Stand-alone operation is possible
  Power, control and communication are integrated into a single unit. This enables efficient use even for applications with low number of channels, and it also saves space.

● Controller functions

- One unit can perform up to four loops of PID control.
- The input is a full multi-range input that allows settings to be freely set for the thermocouple, resistance temperature detector (RTD), DC current and DC voltage.
- The control mode supports 2-loop (with RSP) and heat/cool control.
- The control output can be branched to control multiple final control elements.
- As an option, up to four inputs or outputs can be mounted for one of the following: current transformer, digital input or digital output.
- Logical operation processes such as digital input, digital output and internal events can be performed.
- Linking modules enables operations that use inputs and outputs from other modules.

● Engineering tools

The SLP-NX Smart Loader Package (sold separately) is available.
The Ethernet connection enables simultaneous connection to multiple modules.
This provides centralized management, setting and monitoring, which contributes to reduced engineering requirements.

1 - 2 Model Selection Table

■ Controller module

Basic model No.	Type	Ring connection	Wiring method	Channels	Output type	Option	Addition	Description
NX—								Instrumentation Network Module
	D15							Controller module ±0.3% FS, 500 ms sampling (SV connection not possible)
	D25							Controller module ±0.3% FS, 200 ms sampling
		N						Non-ring connection
		R						Ring connection
			T					Screw terminal block
				4				4 channels
					T			Transistor output
					C			Analog current output
					D			Analog voltage output
						0		None
						1		Current transformer input (with 4 ch.)
						2		Digital output (with 4 ch.)
						3		Digital input (with 4 ch.)
							0	None
							D	Inspection certificate
							Y	Supports traceability certification

■ Communication box

Basic model No.	Type	Ring connection 1	Ring connection 2	Ports	Option	Addition	Description
NX—							Instrumentation Network Module
	CB1						4-port switching hub
		N					Chain (side connector) non-ring connection communications
		R					Chain (side connector) ring connection communications
			N				Inter-chain (front port) non-ring connection communications
			R				Inter-chain (front port) connection communications
				04			4 ports
					0		RJ-45
						0	None
						D	Inspection certificate

■ Communication adapter, terminal adapter

Basic model No.	Type	Option 1	Option 2	Option 3	Option 4	Addition	Description
NX—							Instrumentation Network Module
*1	CL1						Communications adaptor for left side
*1	CR1						Communications adaptor for right side
*1	TL1						Terminal adaptor for left side (for ring connection between chains)
*1	TR1						Terminal adaptor for right side (for ring connection between chains)
		0					None
			0				None
				00			None
					00		None
						0	None
						D	Inspection certificate

*1. Left and right as seen from the front.

1 - 3 Names and Functions of Parts

■ Controller module

● Main body

LED operation lamp (shared area):

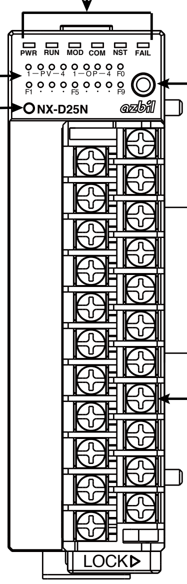
PWR :	Lit	Power ON (energized)
	Off	Power OFF (not energized)
RUN :	Lit	RUN mode (standard operation mode)
	Fast blink	In module RUN mode, and when PID control is READY for 1 loop or more
	Off	Operation status other than the above
MOD	Fast blink	Configuration data downloading in progress F/W downloading in progress
	Off	Normal action mode
COM	Lit	Local Ethernet packet sending or receiving in progress
	Off	Local Ethernet packet not sent or not received
NST	Lit	Ring diagnostics function OFF
	Fast blink	Ring cut status (ring is cut somewhere)
	Slow blink	Own ring or ring with adjacent node is cut
	Off	Ring normal
FAIL	Lit	Hard Failure
	Slow blink	Soft Failure or another alarm is operating
	Off	No error

LED operation lamp (individual area):

PV1 – 4	Fast blink	PV input error
	Off	PV input normal, or not used
OP1 – 4	Lit	Control output ON
	Off	Control output OFF
F0 – 9	Lit	User-defined 0 to 9, ON status
	Off	User-defined 0 to 9, OFF status

The lighting type and lighting status can be freely set (lit, fast blink, slow blink, off, inversion).

Push button:

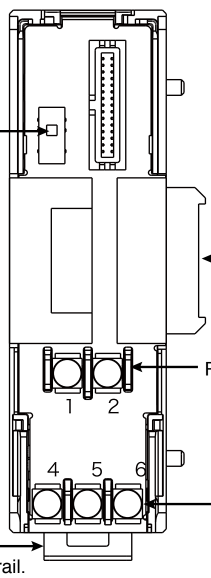


Loader jack:
Connect the special cable of the SLP-NX Smart Loader Package (sold separately) and perform the settings and monitoring with the loader.

Connection terminal:
A terminal for connecting the signal line.

● Base

RS-485 cutoff switch:
Used to disconnect the connection with the right side module of RS-485 communication.



Side connector:
Used to connect modules.

Power terminal:

No.	Signal
1	DC24V (+)
2	DC24V (–)

RS-485 communication terminal:
A 3-wire system RS-485 communication terminal.

No.	Signal
4	DA
5	DB
6	SG

DIN rail stopper:
Used for fixing to the DIN rail.

■ Communication box

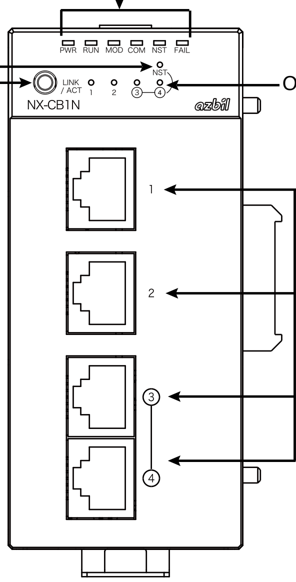
● Main body

LED operation lamp (shared area):

PWR :	Lit	Power ON (energized)
	Off	Power OFF (not energized)
RUN :	Lit	Normal operation in progress
	Flashing	Hardware Failure
	Off	Hardware Failure
MOD	Off	Normal
COM	Lit	Sending Ethernet packet to side connector network
	Off	Ethernet packet not sent to side connector network
NST	Lit	Non-ring communication
	Fast blink	Ring cut status (ring is cut somewhere)
	Slow blink	Own ring or ring with adjacent node is cut
	Off	Ring communication normal
FAIL	Lit	Hard Failure
	Flashing	Soft Failure
	Off	No error

Front panel NST operation lamp:

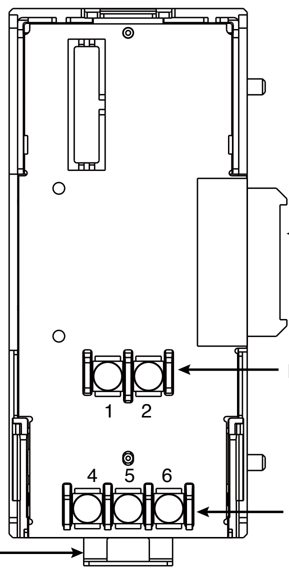
Maintenance jack:
(For manufacturer maintenance)
For internal use at Yamatake.
Cannot connect to the SLP-NX Smart Loader Package.



Operation lamps for ports 1 to 4

Ethernet ports 1 to 4:
Ports for connecting Ethernet cables.
When using a ring connection, use ports 3 and 4 to set the ring connection.

● Base



Side connector:
Used to connect modules.

Power terminal:

No.	Signal
1	DC24V (+)
2	DC24V (–)

DIN rail stopper:
Used for fixing to the DIN rail.

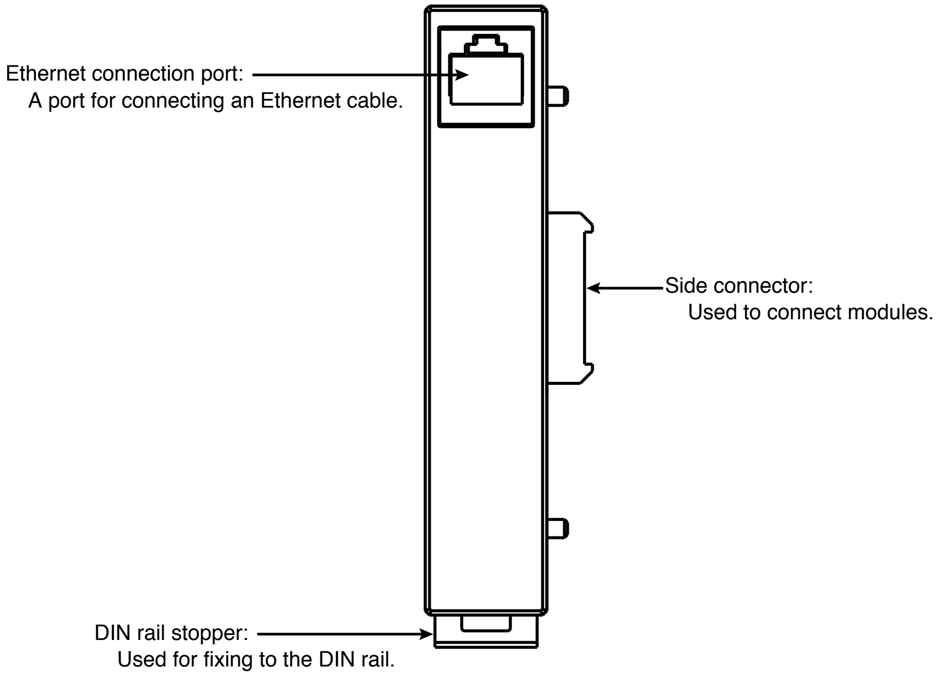
RS-485 communication terminal:
A 3-wire system RS-485 communication terminal.*

No.	Signal
4	DA
5	DB
6	SG

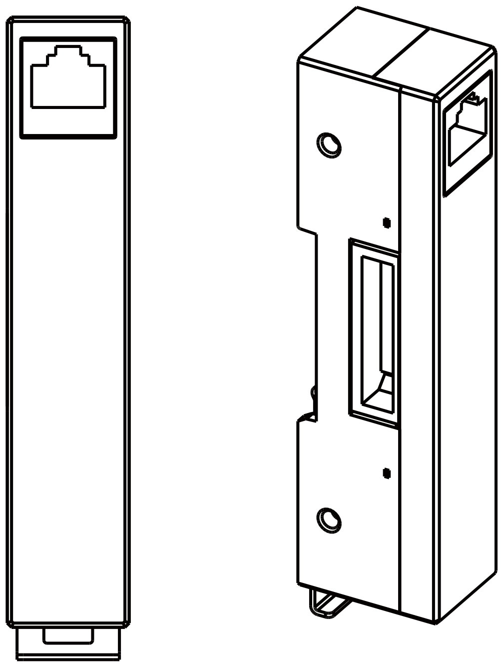
* Connect to the module that is connected on the right side.

■ Communication adapter

● For left connection

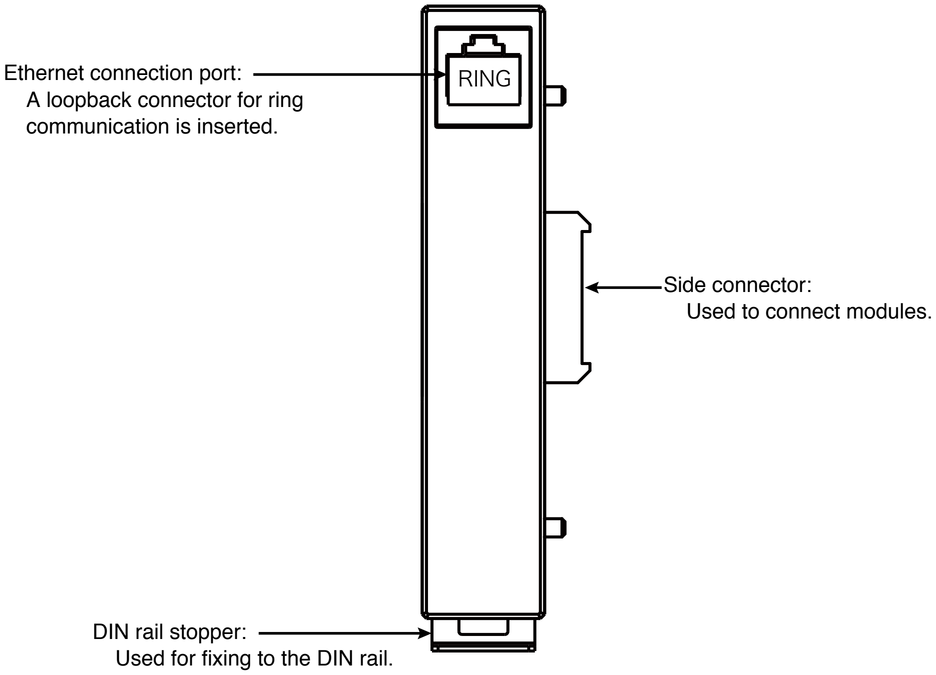


● For right connection

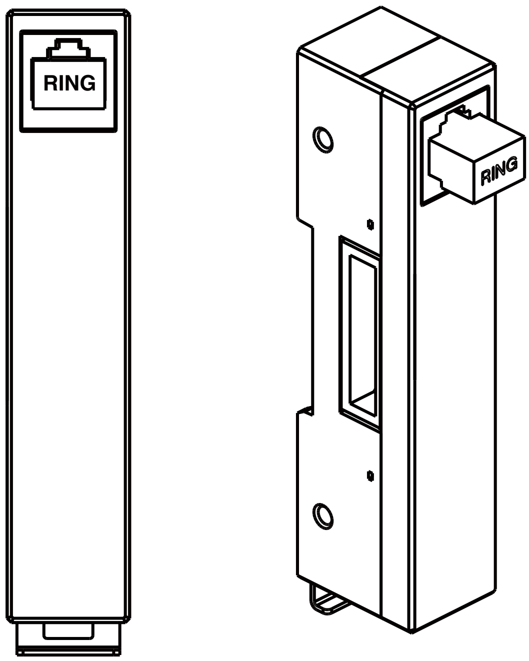


■ Terminal adapter

● For left connection

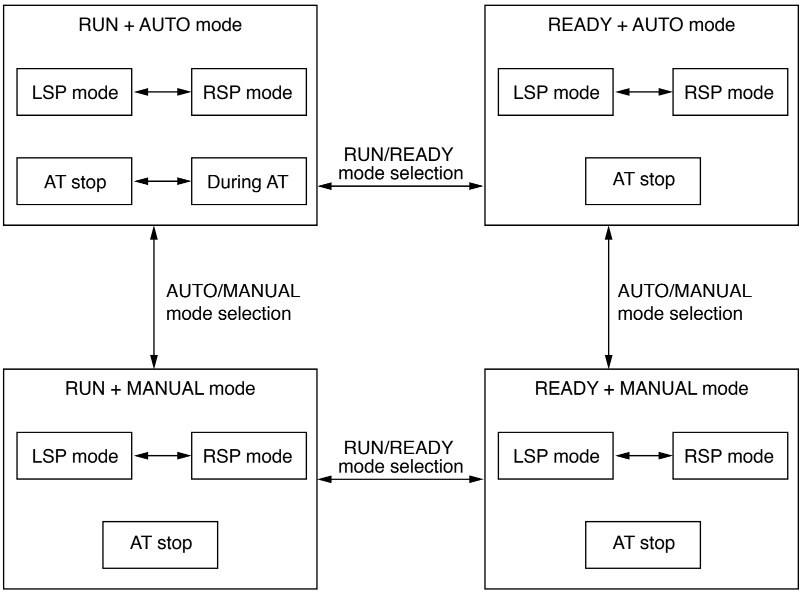


● For right connection



1 - 4 Operation Modes

The following shows the transition of operation modes:



RUN:	Control status
READY:	Control stop status
AUTO:	Automatic operation (The unit automatically determines the MV values.)
MANUAL:	Manual operation (The MV values are operated manually.)
LSP:	Local SP (The control is performed using the SP stored in the unit.)
RSP:	Remote SP (The analog input from the external device is used as SP.)
AT:	Auto tuning (The PID constants are set automatically using the limit cycle.)

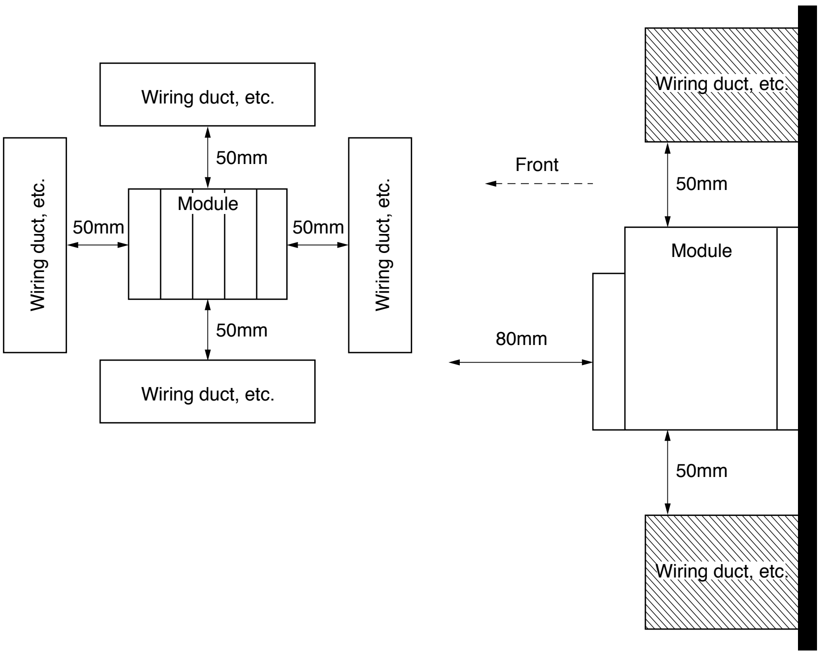
Chapter 2. INSTALLATION

⚠ WARNING
Before removing, mounting, or wiring the NX-D15/25, be sure to turn off the power to the module and all connected devices. Failure to do so might cause electric shock.

⚠ CAUTION
Use this device within the operating ranges given in the specifications (for temperature, humidity, voltage, vibration, shock, mounting direction, atmosphere, etc.). Otherwise, fire or device failure could result.
Do not block the ventilation holes. Doing so might cause fire or device failure.
Do not allow wire clippings, metal shavings, water, etc. to enter the case of this device. They can cause fire or device failure.

■ Installation location

During installation, leave clearance of at least 50 mm above and below, 50 mm on the right and left, and 80 mm from the front for air intake, removal, wiring, and maintenance.
When mounted, the module should be at least 100 mm away from another module or other device.
Do not mount the module above heat-generating equipment like a power generator.



Do not install in the following locations:

- Places with a high or low temperature or high or low humidity outside the specification range
- Places with sulfide gas or other corrosive gases
- Places exposed to dust or oily smoke
- Places exposed to direct sunlight, wind or rain
- Places exposed to mechanical vibration or shocks outside the specification range
- Near high voltage lines, welding machines or other sources of electrical noise
- Within 15 meters of a high voltage ignition device, such as a boiler
- Places with strong magnetic fields
- Places with flammable liquid or gas

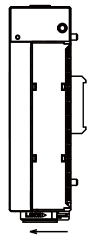
■ Terminal block installation and removal

● Removal method

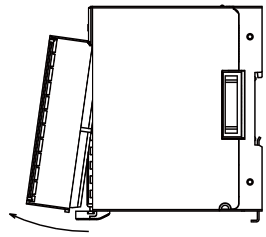
Handling Precautions

- Do not remove the terminal block other than for work, such as:
  - When wiring before installing the unit
  - During maintenance

[1] Slide the lock lever of the terminal block to the left to unlock the terminal block.

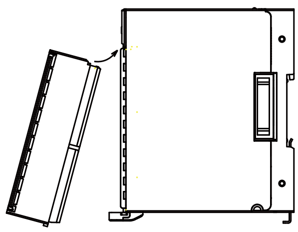


[2] Remove the terminal block by pulling it out towards you from the lower side.

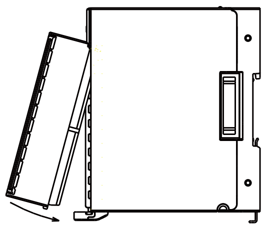


● Installation method

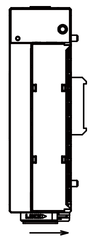
[1] Tilt the terminal block and insert the upper side of the terminal block into the groove in the case.



[2] Install so that the lower side of the terminal block is pushed in.



[3] Slide the lock lever of the terminal block to the right to lock the terminal block.



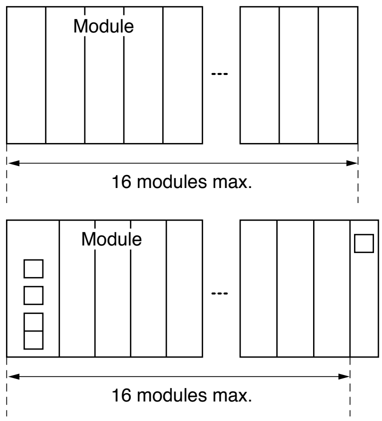
■ Module connection

This module can be connected to other modules with the left and right connectors on the base.
Connect the modules before installing them on the DIN rail. Connecting the modules connects the power and communication of each module, reducing the amount of wiring that is required. With RS-485 communication, the connection with the right side module can be disconnected with the RS-485 cutoff switch on the base.

Up to 16 modules can be linked.
In a distributed layout, if the horizontal length is too long, or if more than 16 modules are connected, divide the modules into two or more groups.

Handling Precautions

- The following are not included in the number of linked modules.
  - Communication adapter
  - Terminal adapter

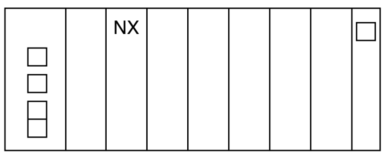


■ Installation method

Use the unit while it is installed on a DIN rail.
After fixing the DIN rail, pull out an ample amount of the DIN rail stopper and then attach the base to the rail. Next, push in the DIN rail stopper in the upper direction until it clicks.

Handling Precautions

- Install the unit with the DIN rail stopper under the vertical surface.



Connect the modules before mounting them on the DIN rail.

■ Installing the main body to the base

Handling Precautions

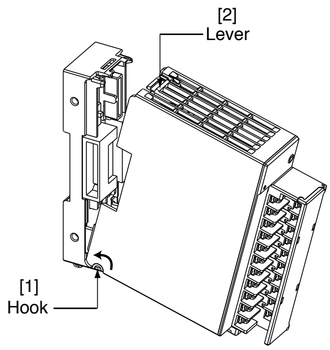
- Use the base and main body from the same package together as a pair.

[1] Attach the hook on the lower side of the main body to the base.

Handling Precautions

- First attach the hook on the lower side of the main body to the base. Failure to do so might cause damage.

[2] Insert the upper side of the main body until the lever clicks.



To remove, pull the upper side lever towards yourself while pressing it.

Chapter 3.　WIRING

3 - 1　Wiring Precautions

⚠ WARNING
Before removing, mounting, or wiring the NX-D15/25, be sure to turn off the power to the module and all connected devices. Failure to do so might cause electric shock.
Be sure to check that the NX-D15/25 has been correctly wired before turning on the power. Incorrect wiring of the module can damage it or lead to hazardous conditions.

⚠ CAUTION
Do not disassemble the NX-D15/25. Doing so might cause electric shock or device failure.
Do not allow wire clippings, metal shavings, water, etc. to enter the case of this device. They can cause fire or device failure.
Before wiring the NX-D15/25, be sure to disconnect the power. Failure to do so might cause device failure.
Wire the NX-D15/25 in compliance with established standards, using the specified power source and recognized installation methods. Failure to do so could result in fire, electric shock, or malfunction.
Firmly tighten the terminal screws to the torque listed in the specifications. Insufficient tightening might cause fire.
If there is a risk of a power surge caused by lightning, use a surge protector to prevent possible fire or failure of the device.
The NX-D15/25 does not operate for about 10 seconds after the power has been turned ON, depending on the settings. Be careful if the output from the module is used as an interlock signal.

■ Wiring precautions

- Make sure that the wiring follows regulations for indoor wiring and technical standards for electrical equipment.
- When connecting wires to the power terminals, use crimp terminals with insulating sleeves.
- Before wiring the unit, verify the device's model No. and terminal Nos. written on the label on the side of the main body.
- Use M3 crimp-type terminal lugs for wiring to a screw-type terminal block.
- Pay special attention so that no crimp type terminal lugs make contact with adjacent terminals.
- Leave a distance of at least 60 cm between I/O lead wires and communications lead wires or power lead wires. Also, do not pass these lead wires through the same conduit or wiring duct.
- When connecting in parallel to another device, check the requirements of the other device carefully before performing instrumentation.
- Position the lead wire that carries heater current so that it penetrates the current transformer. Ensure that the heater current does not exceed the allowable current described in the specifications. Failure to do so might damage the unit.
- To ensure stability, the unit is designed so that after the power is turned ON, there is no output for about 10 seconds (default). A warm-up of at least 30 minutes is recommended to allow the controller to attain the specified accuracy.
- When the wiring is completed, check that there are no wiring mistakes before turning the power ON.

3 - 2 Recommended Cables

- When there is a thermocouple input, connect the thermocouple wires to the terminals.
  When a thermocouple is connected to terminals, or the wiring distance is long, connect the wire via a shielded compensating lead wire.
  Be sure to use a shielded type of compensating lead wire.
- For inputs and outputs other than thermocouples, use a JCS 4364 instrument cable or equivalent. (Generally called twisted shielded cable for instrumentation use.)
  Recommended twisted shielded cables are:

Fujikura Ltd.	2 conductors	IPEV-S-0.9 mm^2 × 1P
	3 conductors	ITEV-S-0.9 mm^2 × 1T
Hitachi Cable, Ltd.	2 conductors	KPEV-S-0.9 mm^2 × 1P
	3 conductors	KTEV-S-0.9 mm^2 × 1T

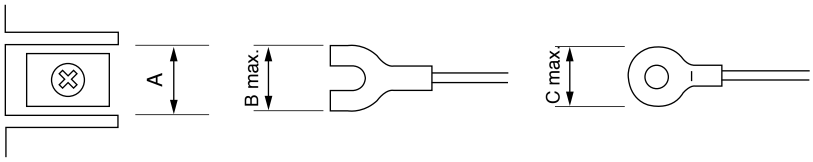
  - A shielded multiconductor microphone cord (MVVS) may be used, if electromagnetic induction noise is comparatively low.

3 - 3 Terminal Connections

⚠ CAUTION	
!	Firmly tighten the terminal screws to the torque listed in the specifications. Insufficient tightening might cause fire.
⊘	Do not use unused terminals on the NX-D15/25 as relay terminals. Doing so might cause electric shock, fire or device failure.
⊘	Do not short the output section. Doing so might cause device failure.

The following describes the connections of the unit terminals.

For wiring of the unit, use a crimp type terminal lug that is suitable for the M3 screw.



Applicable screw size	Terminal dimensions (mm)			Recommended crimp-type terminal lugs JST Mfg. Co., Ltd.	Applicable electrical wire size	JIS indication Model No. (Reference)
	A	B	C			
M3	6.1	5.8	5.8	RAV1.25-3	0.3 to 1.3 mm^2 AWG22 to 16	V1.25-3 V1.25 B3A

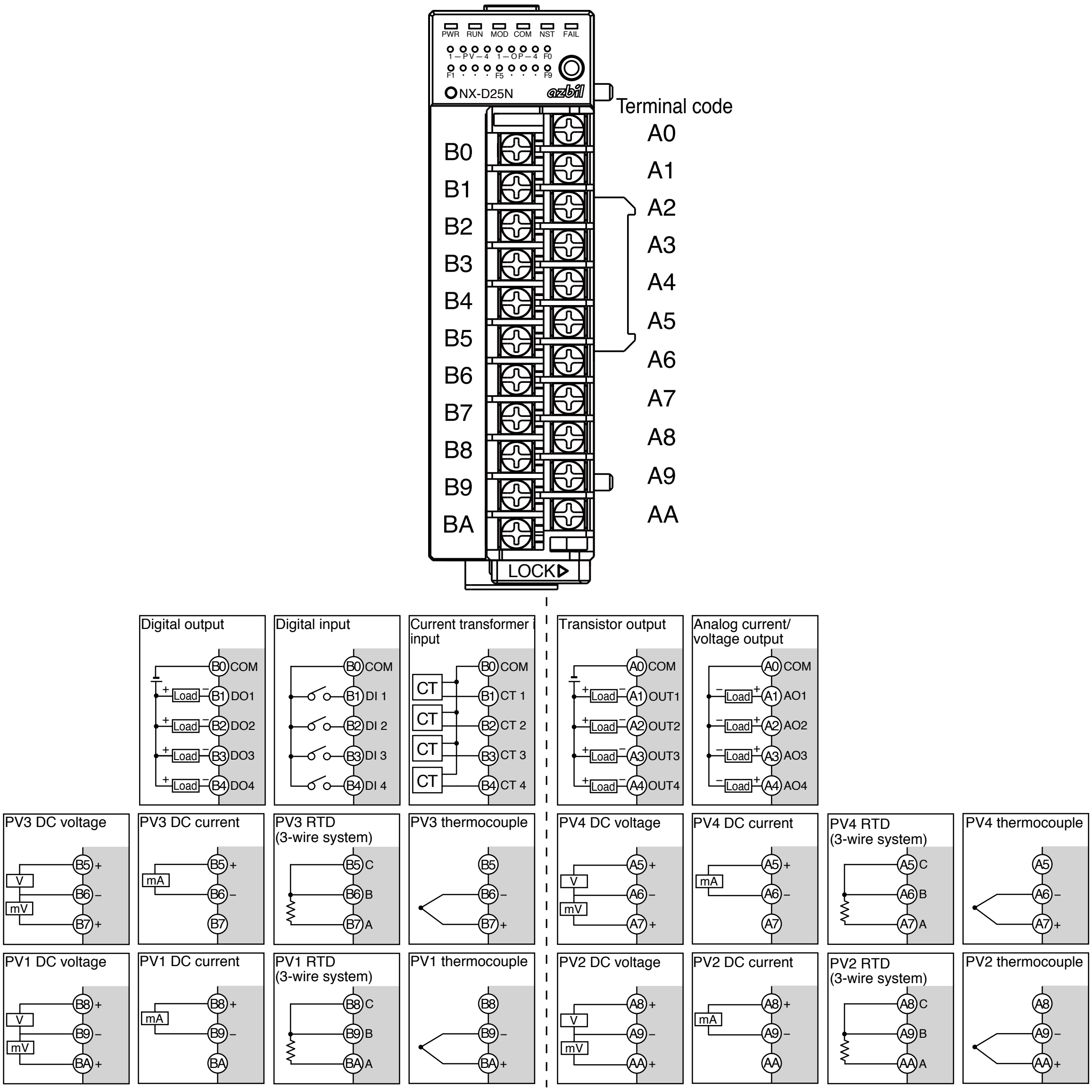
Handling Precautions

- When installing this unit in a place where the vibration or shock is large, always use an appropriate round crimp type terminal lug to avoid loose terminal connections.
- Pay special attention so that no crimp type terminal lugs make contact with adjacent terminals.
- The tightening torque of the terminal screw must be 0.5 to 0.7 N•m or less.

Note

- Crimp-type terminal lugs
  If you want to add a symbol or other label to the cables, in general use a crimp-type terminal lug sleeve. The crimp-type terminal lugs that are suitable for this connector are shown below as a reference.
  Manufacturer name : JST Mfg. Co., Ltd.
  Model No. : VTUB-1.25
  (With insulating coating, 1000 included, wire size: 0.25 to 1.65 mm^2)
  VTUB-2
  (With insulating coating, 1000 included, wire size: 1.04 to 2.63mm^2)
  TUB-1.25
  (No insulating coating, 1000 included, wire size: 0.25 to 1.65 mm^2)
  TUB-2
  (No insulating coating, 1000 included, wire size: 1.04 to 2.63 mm^2)

3 - 4 Terminal Wiring Diagram



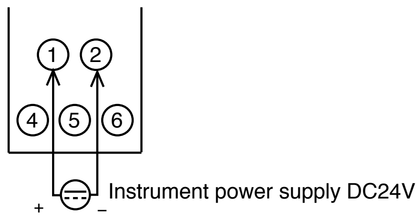
3 - 5 Terminal Connections

■ Power supply connections

⚠ WARNING	
!	Before removing, mounting, or wiring the NX-D15/25, be sure to turn off the power to the module and all connected devices. Failure to do so might cause electric shock.

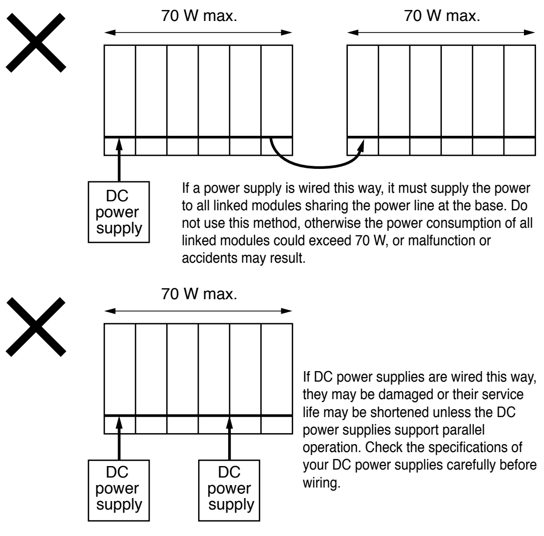
⚠ CAUTION	
!	Do not allow the total power consumption of all linked modules to exceed 70 W. Excessive wattage can result in fire or malfunction.

Connect the power terminal as shown below.



Handling Precautions

- The power supply is connected reciprocally between the connected modules.
- Supply power to one of the connected modules.
- Select a power supply that satisfies in full the total power consumption of the connected modules.



■ Noise countermeasures

Provide a power supply from a single-phase instrument power supply to minimize the effects of noise.
If the power supply generates noise, add an insulation transformer, and use a line filter.
(Yamatake Corporation Line Filter Model No.: 81446364-001)
Use a CR filter for quick-rising noises such as impulse noise.
(Yamatake Corporation CR Filter Model No.: 81446365-001)

! Handling Precautions

- After introducing noise-reduction measures, do not bundle the primary and secondary coils of the insulation transformer together, or put them into the same conduit or duct.

■ Power supply design

The required power supply capacity for a module varies depending on the module configuration.
For this reason, the required power supply capacity must be calculated and verified.
The procedures for power supply design are described below.
(1) Calculate the consumption current of the modules to be be used
(2) Determine the power supply capacity required
The design of power supply is described below.

● How to calculate the power consumption

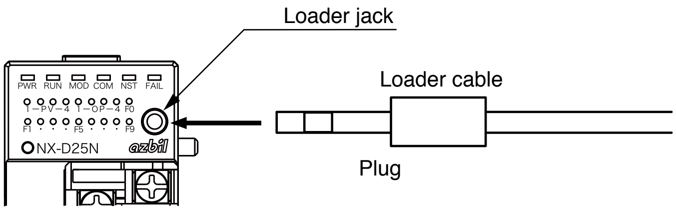
Modules are connected to the instrument power supply (24 Vdc) via side connector.
The power consumption of each module is shown in the table below.
Calculate the total power consumption from the number of modules to be be used.

Module	Power consumption (W)	Inrush current	Remarks
Controller module	4W	20 A max. (under operating conditions)	
Communication box	5W	10 A max. (under operating conditions)	
Communication adapter	—	—	No power supply required
Terminal adapter	—	—	No power supply required

● How to select the required power supply capacity

Calculate the required power from the table above, perform derating according to the ambient temperature or the load factor, and then select the power supply.
* Select a power supply that has a capacity to accommodate the power ON inrush current (under operating conditions).
If derating according to the load reduction factor or ambient temperature is not performed, the service life of the power supply may be shortened.
For details, contact the manufacturer of your power supply.

3 - 6 Loader Cable Connections

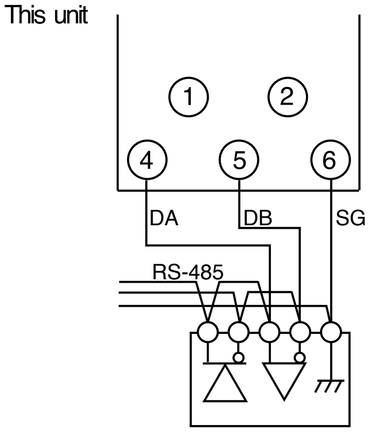


Handling Precautions

- Firmly insert the plug into the loader jack.
- When removing or inserting the loader cable, hold the plug. Do not pull the cable.
- Do not apply force to the loader cable or plug in any direction while the cable is connected.
  Doing so might damage the loader cable or loader jack, or affect the functionality or performance.

3 - 7 RS-485 Communication Connections

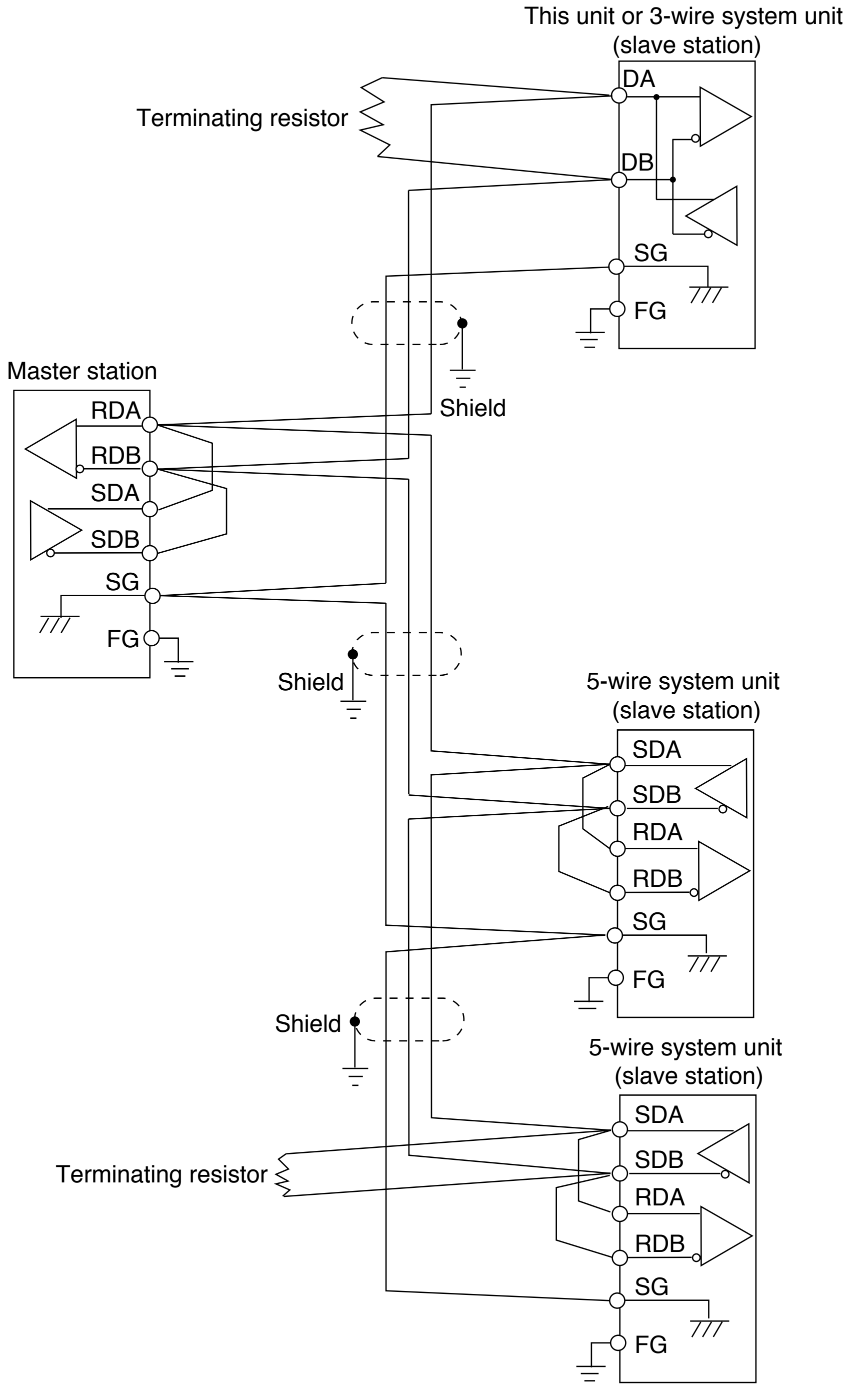
The communication (RS-485) is a 3-wire system connection.
Connect the communication wires to one of the connected modules.



Handling Precautions

- Attach a 0.5 W or greater terminating resistor of 150Ω ±5% at each end of the communications lines.
- Be sure to connect the SG terminals to each other. Failure to do so might cause unstable communications.
- Use a twisted pair cable as the communication wires.

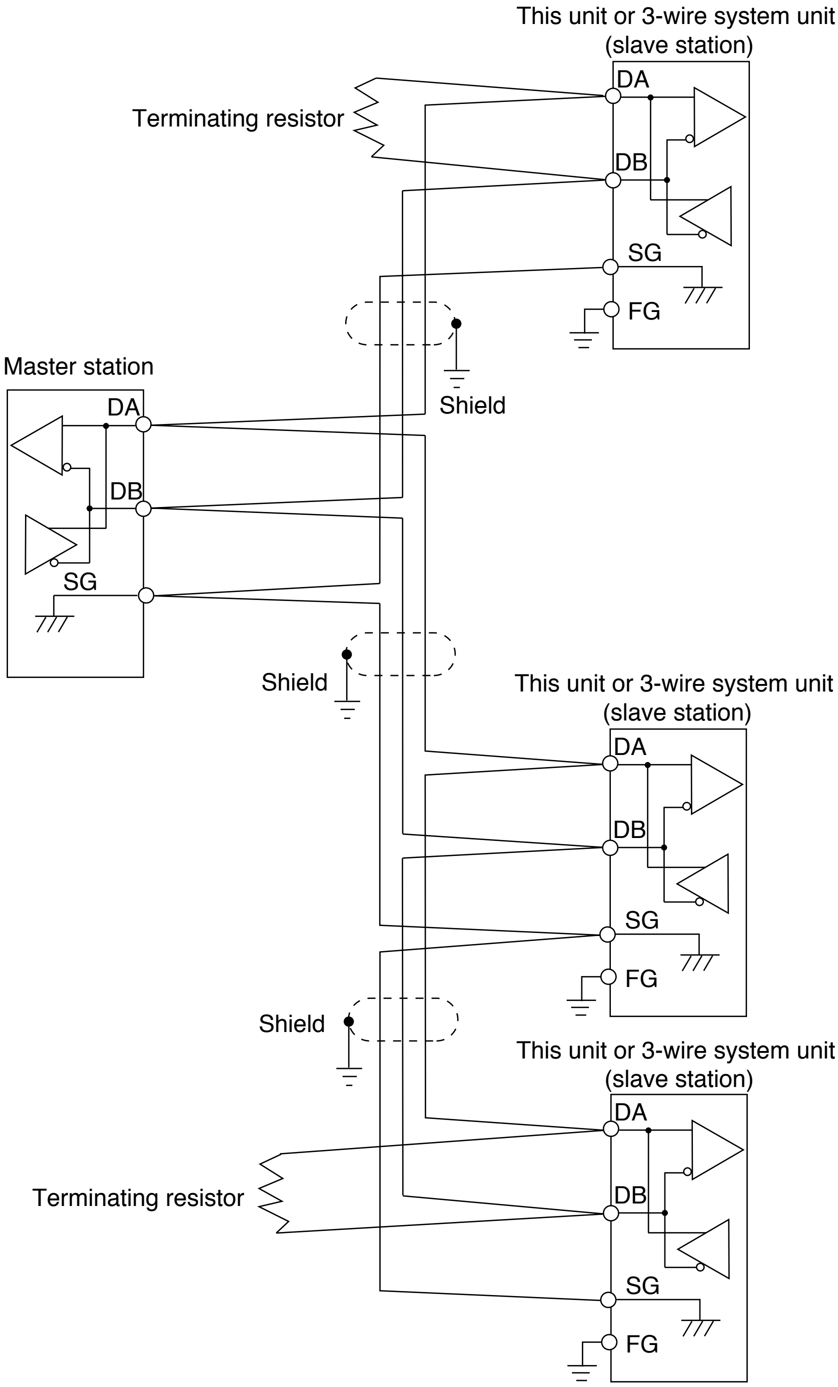
● **Combining with 5-wire system units**



Handling Precautions

- If units for which the connection of a terminating resistor is prohibited (Yamatake SDC15/25/26/35/36 or DMC10) are on the same transmission line, do not connect a terminating resistor to the external or communication line of the NX-D15/25.

● **3-wire system**



Handling Precautions

- If units for which the connection of a terminating resistor is prohibited (Yamatake SDC15/25/26/35/36 or DMC10) are on the same transmission line, do not connect a terminating resistor to the external or communication line of the NX-D15/25.

3 - 8 Noise Generation Sources and Noise Suppression

The following are typical noise generation sources:

1. Relays and contacts
2. Solenoid coils and solenoid valves
3. Power lines (especially those AC 90 V or higher)
4. Inductive loads
5. Motor commutators
6. Phase angle control SCR
7. Radio communication equipment
8. Welding machinery
9. High-voltage ignition devices

Effective measures for noise suppression are described below.

1. A CR filter is effective for quick-rising noises such as impulse noise.
   Recommended CR filter:
   Yamatake Corporation Model No.: 81446365-001
2. A varistor is effective for noises with high crest values.
   Recommended varistor:
   Yamatake Corporation Model No.: 81446366-001(for 100 V)
   81446367-001(for 200 V)

Handling Precautions

- Take great care when using a varistor because the varistor short-circuits when faulty.

3 - 9 I/O Isolation

The solid line indicates isolation from the rest of the circuit.

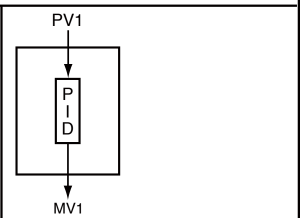
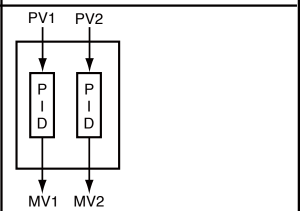
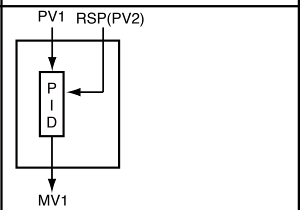
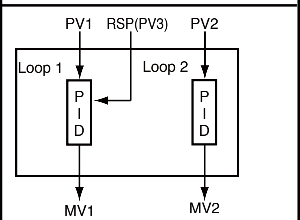
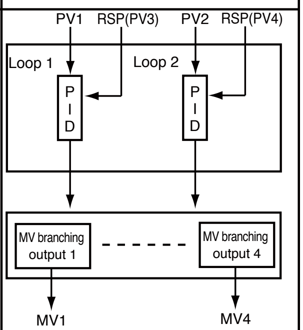
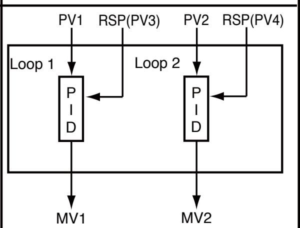
<table>
<tr><td colspan="2">Power supply</td></tr>
<tr><td>Logic circuit
Loader jack
RS-485, Ethernet communication
Display (LEDs, switches, etc.)
Current transformer input (ch1 to 4)</td><td rowspan="5">Transistor output (ch1 to 4)
Analog current output (ch1 to 4)
Analog voltage output (ch1 to 4)
Digital output (ch1 to 4)
Digital input (ch1 to 4)</td></tr>
<tr><td>PV input (ch1)</td></tr>
<tr><td>PV input (ch2)</td></tr>
<tr><td>PV input (ch3)</td></tr>
<tr><td>PV input (ch4)</td></tr>
</table>

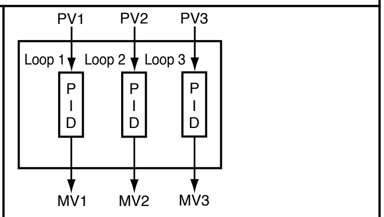
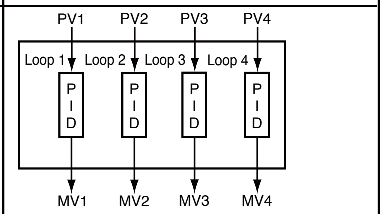
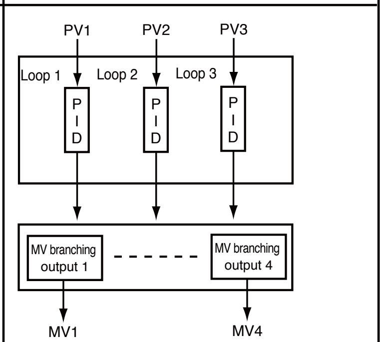
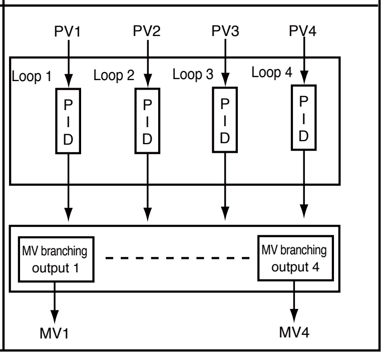
Chapter 4. FUNCTIONS NECESSARY FOR CONTROL

4 - 1 How to Set the Loop Configuration

■ Bank and settings

Bank	Item name	Contents of setup
Setup	Loop type	See table below

Loop type	
0: 1 loop	
1: 2 loops	
2: 1 loop (RSP)	
5: 2 loops (1 loop with RSP)	
8: 2 loops (RSP) + MV branching output	
9: 2 loops (RSP)	

Loop type	
21: 3 loops	
22: 4 loops	
23: 3 loops + MV branching output	
24: 4 loops + MV branching output	

4 - 2 How to Set the Input Type (PV Input)

■ Bank and settings

Bank	Item name	Contents of setup
PV input	Range type	See table below

■ Input types

● Thermocouple

Range type	Sensor type	Range		Resolution
1	K	–200 to +1200°C	–300 to +2200°F	1°C
2	K	0 to 1200°C	0 to 2200°F	1°C
3	K	0.0 to 800.0°C	0 to 1500°F	0.1°C
4	K	0.0 to 600.0°C	0 to 1100°F	0.1°C
5	K	0.0 to 400.0°C	0 to 700°F	0.1°C
6	K	–200.0 to +400.0°C	–300 to +700°F	0.1°C
7	K	–200.0 to +200.0°C	–300 to +400°F	0.1°C
8	J	0 to 1200°C	0 to 2200°F	1°C
9	J	0.0 to 800.0°C	0 to 1500°F	0.1°C
10	J	0.0 to 600.0°C	0 to 1100°F	0.1°C
11	J	–200.0 to +400.0°C	–300 to +700°F	0.1°C
12	E	0.0 to 800.0°C	0 to 1500°F	0.1°C
13	E	0.0 to 600.0°C	0 to 1100°F	0.1°C
14	T	–200.0 to +400.0°C	–300 to +700°F	0.1°C
15	R	0 to 1600°C	0 to 3000°F	1°C
16	S	0 to 1600°C	0 to 3000°F	1°C
17	B	0 to 1800°C	0 to 3300°F	1°C
18	N	0 to 1300°C	0 to 2300°F	1°C
19	PL II	0 to 1300°C	0 to 2200°F	1°C
20	WRe5-26	0 to 1400°C	0 to 2400°F	1°C
21	WRe5-26	0 to 2300°C	0 to 4200°F	1°C
22	Ni-Ni•Mo	0 to 1300°C	0 to 2300°F	1°C
23	PR40-20	0 to 1900°C	0 to 3400°F	1°C
24	DIN U	–200.0 to +400.0°C	–300 to +700°F	0.1°C
25	DIN L	–100.0 to +800.0°C	–150 to +1500°F	0.1°C
26	Gold-iron/ Chromel	0.1 to 360.1 K	–450 to +180°F	0.1 K

• The indicated value low limit for the B thermocouple is 20°C.

● Resistance temperature detector (RTD)

Range type	Sensor type	Range		Resolution
41	Pt100	–200.0 to +500.0°C	–328 to +932°F	0.1°C
42	JPt100	–200.0 to +500.0°C	–328 to +932°F	0.1°C
43	Pt100	–200.0 to +850.0°C	–328 to +1562°F	0.1°C
44	JPt100	–200.0 to +640.0°C	–328 to +1184°F	0.1°C
45	Pt100	–100.0 to +300.0°C	–148 to +572°F	0.1°C
46	JPt100	–100.0 to +300.0°C	–148 to +572°F	0.1°C
47	Pt100	–100.0 to +200.0°C	–148 to +392°F	0.1°C
48	JPt100	–100.0 to +200.0°C	–148 to +392°F	0.1°C
49	Pt100	–50.0 to +100.0°C	–58 to +212°F	0.1°C
50	JPt100	–50.0 to +100.0°C	–58 to +212°F	0.1°C
51	Pt100	–20.00 to +60.00°C	–4 to +140°F	0.01°C
52	JPt100	–20.00 to +60.00°C	–4 to +140°F	0.01°C

● Linear

Range type	Sensor type	Range
81	DC voltage	0 to 10 mV
82		–10 to +10 mV
83		0 to 100 mV
84		0 to 1 V
85		–1 to +1 V
86		1 to 5 V
87		0 to 5 V
88		0 to 10 V
89		2 to 10 V
90		0 to 20 mA
91	DC current	4 to 20 mA

■ Setting procedures

[1] Set the range type.
[2] Set the temperature unit (Celsius/Fahrenheit/Kelvin).
[3] Set the decimal point position as required.
[4] Set the alarm setting as required.

Note

- The input indication accuracy may vary depending on the type of sensor. For details, refer to:
  ☞ Chapter 15. SPECIFICATIONS ■ PV input (page 15-1)

Handling Precautions

- When a range not in the table is set, the input indicated value is fixed to 0.0.

4 - 3 How to Set Range-Related Items

Range-related items are set corresponding to the input type set in section 4-2, How to Set the Input Type (previous page).

■ Bank and settings

Bank	Item name	Contents of setup
Loop (basic)	Range low limit for proportional band	Low limit of range used for PID control
	Range high limit for proportional band	High limit of range used for PID control
PV input	Alarm setting low limit	Under-range is detected with a PV below this value
	Alarm setting high limit	Over-range is detected with a PV exceeding this value
	Linear scaling low limit	Value when the low limit of the linear signal is input * This item must be set only when the linear input is selected.
	Linear scaling high limit	Value when the high limit of the linear signal is input * This item must be set only when the linear input is selected.

■ How to set the range width for the proportional band

The range low limit and high limit for the proportional band are settings for PID control.
Set the range low limit and high limit for the proportional band as required to suit the range of the PV input used in operations.
Perform PID adjustment after setting the proportional band range width. When the proportional band range width is changed, readjust the PID.

● Configuration method

Example: Loop 1 PV used in a K thermocouple range of 0.0 to 800.0°C
Configure the settings as shown below in the loop (basic) bank setup.

Item name	Setting
(Loop 1) Range low limit for proportional band	0.0
(Loop 1) Range high limit for proportional band	800.0

Note

- Set other range-related items as required in addition to the input type set in section 4-2, How to Set the Input Type (page 4-2).
  Because initialization is performed automatically as described below, setting is not normally required.
  The initializations below only occur when either the range type, temperature unit or decimal point position is set to a value that is different from its previous value. Initialization is not performed if the value is the same.
  - When the range type setting is changed to thermocouple/resistance temperature detector (RTD)
    Normally, settings other than the range type do not require any change.
    However, if required, set the decimal point position, temperature unit, alarm setting high limit/low limit or range high limit/low limit for proportional band.
  - When the range type setting is changed to linear range
    Normally, settings other than the linear scaling high limit/low limit do not require any change.
    The alarm setting low limit is initialized to -2000 and the alarm setting high limit is initialized to 32000. The alarm operates when there is an input below the minimum input or above the maximum input of the set range.

- Initialization of parameters when the range type is set

Input type	Alarm setting high limit/low limit	Range high limit/low limit for proportional band	Decimal point position
Thermocouple, resistance temperature detector (RTD)	Yes *1	Yes *1	Yes *2
Linear range	Yes *3	Yes *4	Yes *5

*1. The initialization value varies depending on the set temperature unit.
*2. The maximum decimal point position for the set range type and the set temperature unit is set.
*3. The alarm setting low limit and alarm setting high limit are set to -2000 and 32000 respectively.
*4. The current linear scaling high and low limits are set.
*5. 0 is set.

- Initialization of parameters when the temperature unit is set

Input type	Alarm setting high and low limits	Range high and low limits for proportional band	Decimal point position
Thermocouple, RTD	Yes *1	Yes *1	Yes *2
Linear range	Yes *3	Yes *4	Yes *5

*1. The initialization value varies depending on the set temperature unit.
*2. The maximum decimal point position for the set range type is set.
*3. The alarm setting low limit and alarm setting high limit are set to -2000 and 32000 respectively.
*4. The current linear scaling high and low limits are set.
*5. 0 is set.

- Initialization of parameters when the decimal point position is set

Input type	Alarm setting high and low limits	Range high and low limits for proportional band
Thermocouple, RTD	Yes *1	Yes *1
Linear range	Yes *2	Yes *3

*1. The initialization value varies depending on the set temperature unit.
*2. Alarm setting low limit = -2000 and alarm setting high limit = 32000 are set.
*3. The current linear scaling high and low limits are set.

- Initialization of parameters when the linear scaling is set

Input type	Alarm setting high and low limits
Linear range	Yes *1

*1. The linear range high limit/low limit values are set as the range width for the proportional band.

■ How to set the linear scaling

The linear scaling low limit and high limit are set when the input type is DC voltage or DC current. Set the linear scaling low limit and high limit to suit the output range (engineering range) of the connected unit.

● Configuration method

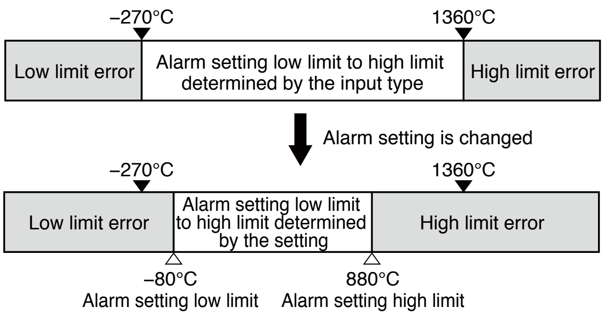
Example: PV1 used with a pressure transmitter connected

Specifications of transmitter		Setting of this unit		
Output signal	Output range	Bank	Item name	Setting
DC 4 mA	0.0 kPa	PV input	Linear scaling low limit	0.0
DC 20 mA	10.0 kPa	PV input	Linear scaling high limit	10.0

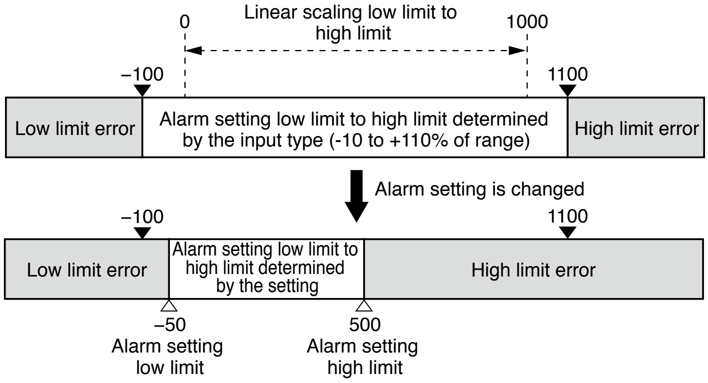
■ How to change the alarm setting

The alarm setting is determined by each input type.
In this unit, the alarm setting can be changed by setting a narrower range for the PV input.

● Example: Changing the alarm setting of PV1 (K thermocouple –200 to +1200°C)

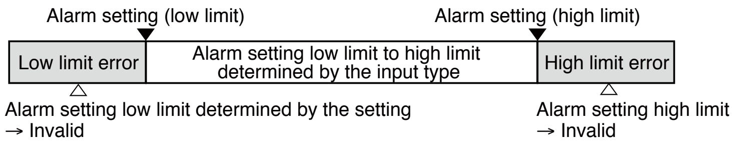


● **Example: Changing the alarm setting of PV1 (DC voltage, scaling 0 to 1000)**



Handling Precautions

- If the alarm setting high limit or low limit is set to outside the range of the alarm settings that is determined by the input type, then the alarm setting is not changed.



4 - 4 LSP Function

Up to four SP groups can be selected for each loop.
Additionally, the number of SP groups to use can be restricted with the “SP system group” item in the setup bank.

■ SP system group

Select the number of LSP groups for each loop.
For details on using the multi-SP, refer to:
☞ 6-3 How to Use the Multi-SP (page 6-11).

Bank	Item name	Contents of setup
Setup	SP system group	1 to 4

■ LSP

Up to four groups of LSP values can be set for each loop.

Bank	Item name	Contents of setup
LSP	LSP1	SP low limit to SP high limit
	LSP2	
	LSP3	
	LSP4	

■ PID group definition

The PID group number to use in LSP/RSP can be set.

Bank	Item name	Contents of setup
LSP	PID group definition 1 (for LSP)	1 to 4
	PID group definition 2 (for LSP)	
	PID group definition 3 (for LSP)	
	PID group definition 4 (for LSP)	
RSP	PID group definition (for RSP)	

■ SP group number

An LSP group number can be set for each loop.
The SP group selection can be changed for loops with an SP system group of 2 groups or more.

Bank	Item name	Contents of setup
SP group selection	SP group selection	1 to 4

■ SP high and low limits

SP high and low limits can be set for each loop to restrict the SP range.

Bank	Item name	Contents of setup
SP configuration	SP low limit	–19999 to +32000U (Depends on loop PV/SP decimal point position)
	SP high limit	

■ LSP ramp

The SP can be changed with a constant ramp.
For details, refer to:
☞ 6-4 How to Change the LSP with Constant Ramp (page 6-13).

■ RSP ramp

When the RSP is changed, the SP can be changed with a constant ramp.
For details, refer to:
☞ 6-5 How to Change the RSP with Constant Ramp (page 6-14).

Note

- “LSP” means a local SP, where data is held internally within the device.
  In contrast, an SP that is input externally via an analog input is an “RSP”, or remote SP.

4 - 5 How to Set the Decimal Point Position

The decimal point positions of items related to the loop PV/SP can be set.

■ Bank and settings

Bank	Item name	Contents of setup
Loop control	Loop PV/SP decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point

The decimal point position of this setting is applied to the following displays and setup items:

<table>
<tr><th>Bank</th><th>Item name</th><th>Remarks</th></tr>
<tr><td>Comm. (device) Basic</td><td>PV (loop), SP</td><td rowspan="7">Even when the decimal point position is changed, the set value does not change
(Within the settable range)
Example:
From no decimal point, changed to one digit after the decimal point
100 ⇒ 100.0</td></tr>
<tr><td>Loop (basic)</td><td>Range low and high limits for proportional band</td></tr>
<tr><td>SP configuration</td><td>SP low and high limits</td></tr>
<tr><td>PID</td><td>Differential 1 to 4</td></tr>
<tr><td>LSP</td><td>LSP1 to LSP4</td></tr>
<tr><td>RSP</td><td>RSP</td></tr>
<tr><td>Comm. (operation)</td><td>LSP</td></tr>
</table>

Handling Precautions

- For the thermocouple and resistance temperature detector (RTD), the number of settable digits for the decimal point position is determined by range type.
  ■ Refer to the range column of the table in “Input types” (page 4-2).
  Use a decimal point position that is within the range determined by the range type.

4 - 6 How to Set the Loop Control Action

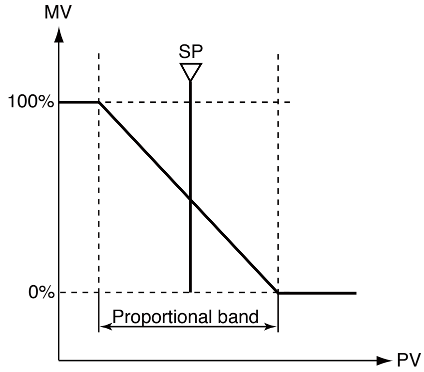
■ Bank and settings

Bank	Item name	Contents of setup
Loop (basic)	Control action	0: Reverse action (heating) 1: Direct action (cooling) 2: Heat/Cool 4: Reverse action (ON/OFF) 5: Direct action (ON/OFF)

The basic operation of the PID control is set.

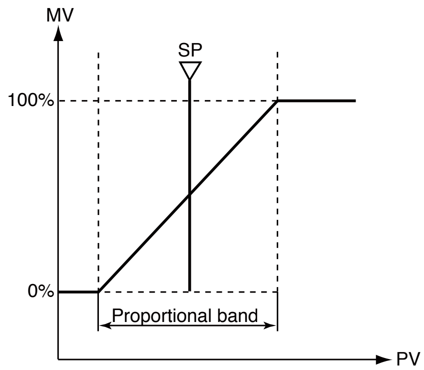
- Heating action: Reverse action

(MV decreases as the PV increases. Generally, this action is used for heating control.)

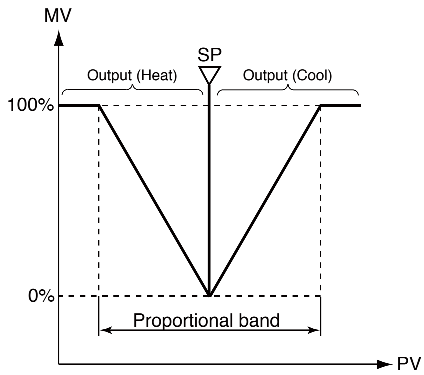


- Cooling action: Direct action

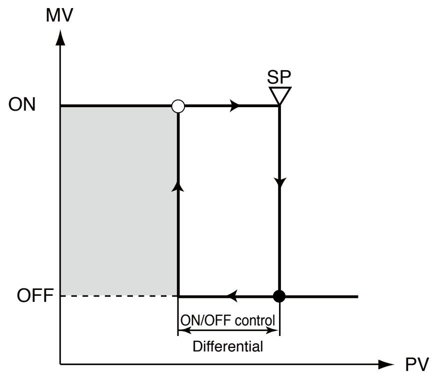
(MV increases as the PV increases. Generally, this action is used for cooling control.)



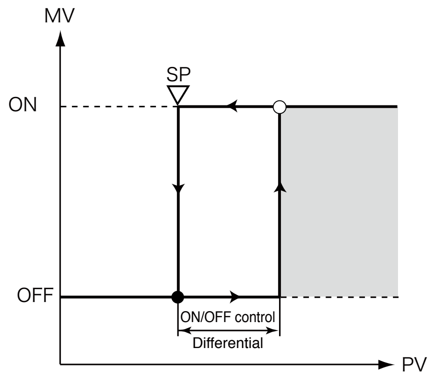
- Heating and cooling action



- ON/OFF action: Reverse action



- ON/OFF action: Direct action



● Example: Heating and cooling MV assigned to output

In this example, heating MV is assigned to analog current output 1 and cooling MV is assigned to analog current output 2 in loop 1 of an analog current output model.

[1] Configure the settings as shown below in the loop (basic) bank setup.

Item name	Setting
(Loop 1) Control action	2: Heat/Cool
(Loop 1) Heat/cool dead zone	0.0

[2] Configure the settings as shown below in the continuous output bank setup.

Item name	Setting
(Analog current output 1) Output range	0: 4 to 20 mA
(Analog current output 1) Output type	2: Heat MV
(Analog current output 1) Loop/channel definition	1: Loop 1
(Analog current output 1) Output decimal point position	1: 1 digit after the decimal point
(Analog current output 1) Output scaling low limit	0.0
(Analog current output 1) Output scaling high limit	100.0
(Analog current output 2) Output range	0: 4 to 20 mA
(Analog current output 2) Output type	3: Cool MV
(Analog current output 2) Loop/channel definition	1: Loop 1
(Analog current output 2) Output decimal point position	1: 1 digit after the decimal point
(Analog current output 2) Output scaling low limit	0.0
(Analog current output 2) Output scaling high limit	100.0

4 - 7 How to Set Outputs (continuous output and time proportional output)

Setup items vary depending on the type of output and operation method.

■ Output types and applications

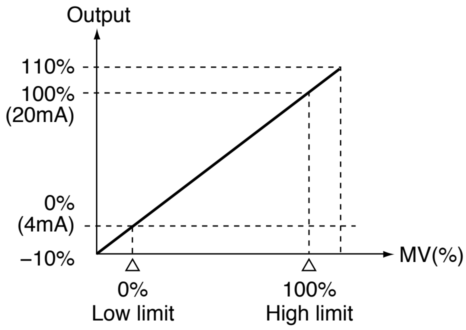
Output type	Application
Transistor	Time proportional output (MV) Alarm output (EV)
Analog current Analog voltage	Continuous output (MV) Transmission output (PV, SP, etc.)

■ Continuous output setup

Bank	Item name	Contents of setup
Continuous output	Output range	Analog current output 0: 4 to 20 mA, 1: 0 to 20 mA Analog voltage output 0: 1 to 5 V, 1: 0 to 5 V 2: 0 to 10 V 3: 2 to 10 V
	Output type	0: Fixed at 0% 1: MV 2: Heat MV (for heat/cool control) 3: Cool MV (for heat/cool control) 4: PV (loop) 5: SP 6: Deviation (PV - SP) 7: PV (input channel) For others, see the list of standard numeric values (on page App.-12)
	Loop/channel definition	0: Invalid 1 to 4: Loop /channel 1 to 4
	Output decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point
	Output scaling low limit	-19999 to +32000 U (Value assigned to the low limit of the output)
	Output scaling high limit	-19999 to +32000 U (Value assigned to the high limit of the output)

Use the output range to select the analog current and analog voltage range.
The data to output can be assigned with the output type and loop/channel definition.
In the output decimal point position, the decimal point position is set for the output scaling low limit and the output scaling high limit.

The output scaling low limit and high limit can be used to perform scaling output for the data assigned with the output type.
Reverse scaling can be performed by setting a high limit that is lower than the low limit.
The figure below shows an example where MV scaling output is performed for an analog current output (4 to 20 mA).

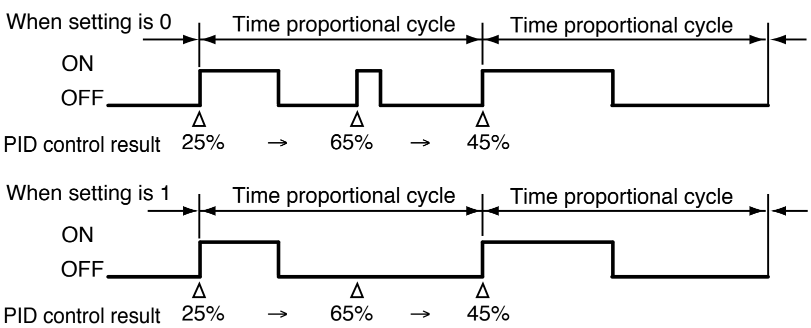


However, when the output range is 0 to 20 mA, 0 to 1 V, 0 to 5 V, or 0 to 10 V, the output is 0 to 110%.

■ Time proportional output setup

Bank	Item name	Contents of setup
OUT/DO output	Output type	1: Loop 1 MV 2: Loop 1 heat MV (for heat/cool control) 3: Loop 1 cool MV (for heat/cool control) 4: Loop 2 MV 5: Loop 2 heat MV (for heat/cool control) 6: Loop 2 cool MV (for heat/cool control) 7: Loop 3 MV 10: Loop 4 MV
	Latch	(Setting is invalid)
	Time proportional operation type	0: Control oriented 1: Actuator-life oriented
	Min. ON/OFF time	0 to 300 ms
	Time proportional cycle	0.1 to 120.0 s
	Phase shift	0 to 32000 ms

When the output type is set to 1 to 7, or 10, the time proportional value is output according to the settings of the time proportional cycle.
Depending on the time proportional operation type, the time proportional output is as follows.
When “0: Control oriented” is set, the output may be turned ON twice or more within the time proportional cycle.
When “1: Actuator-life oriented” is set, the output is turned ON zero times or only once within the time proportional cycle.



The minimum ON/OFF time is valid. Note that even when the setting is 0, the value is 1 ms.
The latch is invalid.

■ ON/OFF control setup

When outputting the MV of ON/OFF control, set as shown below.

Bank	Item name	Contents of setup
OUT/DO output	Output type	1: Loop 1 MV 4: Loop 2 MV 7: Loop 3 MV 10: Loop 4 MV
	Latch	(Setting is invalid)
	Time proportional operation type	0: Control oriented
	Min. ON/OFF time	10 ms (User sets any value)
	Time proportional cycle	2.0 s
	Phase shift	0 ms

■ ON/OFF output setup

Bank	Item name	Contents of setup
OUT/DO output	Output type	0: OFF 1024 to 2047: Standard bit See the list of standard bit Nos. (on page App.-11)
	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)
	Time proportional operation type	(Setting is invalid)
	Min. ON/OFF time	0 to 300 ms
	Time proportional cycle	(Setting is invalid)
	Phase shift	0 ms

When any of the standard bit Nos. 1024 to 2047 is set in the output type, the ON/OFF status of this standard bit is output.

Chapter 5. OPERATION AND GENERAL FUNCTIONS

5 - 1 Operation Displays

The front panel of the main body has LED displays and push buttons.
There are two types of LED flashing, fast blink (0.2 s cycles) and slow blink (1.4 s cycles).

■ PWR, RUN, MOD, COM, NST, FAIL

The lighting patterns and descriptions of the top LEDs are shown in the following table.

LED name	Color	Lighting pattern	Description
PWR	Green	Lit	Power ON (energized)
		Off	Power OFF (not energized)
RUN	Green	Lit	RUN mode (standard operation mode)
		Fast blink	In module RUN mode, and when PID control is READY for 1 loop or more
		Off	Operation status other than the above
MOD	Orange	Fast blink	Configuration data downloading in progress F/W downloading in progress
		Off	Normal action mode
COM	Green	Lit	Local Ethernet packet sending or receiving in progress
		Off	Local Ethernet packet not sent or not received
NST	Orange	Lit	Ring diagnostics function OFF
		Fast blink	Ring cut status (ring is cut somewhere)
		Slow blink	Own ring or ring with adjacent node is cut
		Off	Ring normal
FAIL	Red	Lit	Hard Failure
		Slow blink	Soft Failure
		Off	No error

■ PV1 to 4

The lighting patterns and descriptions of the middle PV1 to 4 LEDs are shown in the following table.

LED name	Color	Lighting pattern	Description
PV1	Green	Fast blink	PV input ch1 range high limit error, or range low limit error
		Off	PV input ch1 normal, or not used
PV2	Green	Fast blink	PV input ch2 range high limit error, or range low limit error
		Off	PV input ch2 normal, or not used
PV3	Green	Fast blink	PV input ch3 range high limit error, or range low limit error
		Off	PV input ch3 normal, or not used
PV4	Green	Fast blink	PV input ch4 range high limit error, or range low limit error
		Off	PV input ch4 normal, or not used

■ OP1 to 4

The lighting patterns and descriptions of the middle OP1 to 4 LEDs under normal conditions are shown in the following table.

LED name	Color	Lighting pattern	Description
OP1	Green	Lit	Transistor output ch1 ON
		Off	Transistor output ch1 OFF Analog current output ch1, or analog voltage output ch1
OP2	Green	Lit	Transistor output ch2 ON
		Off	Transistor output ch2 OFF Analog current output ch2, or analog voltage output ch2
OP3	Green	Lit	Transistor output ch3 ON
		Off	Transistor output ch3 OFF Analog current output ch3, or analog voltage output ch3
OP4	Green	Lit	Transistor output ch4 ON
		Off	Transistor output ch4 OFF Analog current output ch4, or analog voltage output ch4

■ F0 to 9

The lighting conditions and lighting patterns can be set for the lighting of the middle right end and bottom F0 to 9 LEDs under normal conditions.
The initial setting is to display the alarm and event statuses.

LED name	Color	Bank name	Item name	Setting	Initial value
F0	Red	UFLED	Conditions for lighting	1024 to 2047: Standard bit code	1792 (Representative of all alarms)
		UFLED	Lighting status	0: Off 3 (Fast blink) 1: Lit 2: Lit (reverse video) 3: Fast blink 4: Fast blink (conditional reverse video) 5: Slow blink 6: Slow blink (conditional reverse video)	
F1	Green	UFLED	Conditions for lighting	1024 to 2047 (Same as F0)	1088 (Event 1)
		UFLED	Lighting status	0 to 6 (Same as F0)	1 (Lit)
F2	Green	UFLED	Conditions for lighting	1024 to 2047 (Same as F0)	1089 (Event 2)
		UFLED	Lighting status	0 to 6 (Same as F0)	1 (Lit)
F3	Green	UFLED	Conditions for lighting	1024 to 2047 (Same as F0)	1090 (Event 3)
		UFLED	Lighting status	0 to 6 (Same as F0)	1 (Lit)
F4	Green	UFLED	Conditions for lighting	1024 to 2047 (Same as F0)	1091 (Event 4)
		UFLED	Lighting status	0 to 6 (Same as F0)	1 (Lit)
F5	Green	UFLED	Conditions for lighting	1024 to 2047 (Same as F0)	1092 (Event 5)
		UFLED	Lighting status	0 to 6 (Same as F0)	1 (Lit)
F6	Green	UFLED	Conditions for lighting	1024 to 2047 (Same as F0)	1093 (Event 6)
		UFLED	Lighting status	0 to 6 (Same as F0)	1 (Lit)
F7	Green	UFLED	Conditions for lighting	1024 to 2047 (Same as F0)	1094 (Event 7)
		UFLED	Lighting status	0 to 6 (Same as F0)	1 (Lit)
F8	Green	UFLED	Conditions for lighting	1024 to 2047 (Same as F0)	1545 (RS-485 communications status)
		UFLED	Lighting status	0 to 6 (Same as F0)	1 (Lit)
F9	Green	UFLED	Conditions for lighting	1024 to 2047 (Same as F0)	1968 (Parameter error)
		UFLED	Lighting status	0 to 6 (Same as F0)	3 (Fast blink)

■ Display when power turned ON

When the power is turned ON, the LEDs light as shown in the following table. This is different from the operation displays.
The LEDs then transition to the operation displays.

Order	LED lighting status (○: Lit, —: Off, ◊: Flashing, ✻: Depends on the status)								Status or process
	Top LEDs						Middle LEDs	Bottom LEDs	
	PWR	RUN	MOD	COM	NST	FAIL	PV1-4 OP1-4 F0	F1-9	
1	—	—	—	—	—	—	—	—	Power OFF
2	○	○	○	○	○	○	—	—	Immediately after power ON
3	○	—	—	—	—	—	○	—	LED lighting test (0.5 s)
4	○	—	—	—	—	—	—	○	LED lighting test (0.5 s)
5	○	—	—	—	—	—	—	—	Waiting for EEPROM read stability
6	○	✻	✻	✻	✻	✻	◊	◊	Operation start
7	○	✻	✻	✻	✻	✻	✻	✻	Operation display

■ LED lighting pattern under special conditions

Priority	LED lighting status (○: Lit, —: Off, ◊: Slow blink, ♦: Fast blink, ✻: Depends on the status)								Status or process
	Top LEDs						Middle LEDs	Bottom LEDs	
	PWR	RUN	MOD	COM	NST	FAIL	PV1-4 OP1-4 F0	F1-9	
	◊	◊	◊	◊	◊	◊	✻	✻	Wink function If specified with the SLP-NX.
	○	◊	◊	✻	✻	○	✻	✻	Base EEPROM read write error (AL87) Communications failed between the main body and base, or the base has fatal damage. Turn the power OFF and ON. If the error recurs, replace the module.
	○	◊	◊	✻	✻	◊	✻	✻	Base EEPROM incompatibility The connected base is not supported. Turn the power OFF and ON. If the error recurs, recover the base EEPROM using the push button. If it is still not recovered, replace the module.
	♦	♦	♦	♦	♦	♦	✻	✻	Wrong module insertion The model No. of the main body and that of the base do not match. Make sure that the inserted module has the correct model No., and then turn the power OFF and ON. If the error recurs, recover the base EEPROM using the push button. Ethernet congestion Ethernet congestion occurs in the network. If congestion continues, check for wrong connections in the network.
	○	◊	◊	✻	✻	—	✻	✻	Base EEPROM error (AL88) The main body parameters and base parameters do not match. Turn the power OFF and ON. If the error recurs, recover the base EEPROM using the push button.

■ Push button functions

The base EEPROM can be recovered using the push button.

Order	LED lighting status (○: Lit, —: Off, ◇: Slow blink, ♦: Fast blink, ✻: Depends on the status)								Status or process
	Top LEDs						Middle LEDs	Bottom LEDs	
	PWR	RUN	MOD	COM	NST	FAIL	PV1-4 OP1-4 F0	F1-9	
1	✻	✻	✻	✻	✻	✻	✻	✻	Normal operation in progress
									↓ (Press the push button)
2	—	—	—	—	—	—	✻	✻	All top LEDs are off.
									↓ (2 seconds elapsed)
3	○	○	○	○	○	○	✻	✻	All top LEDs are lit.
									↓ (Release the push button)
4	✻	✻	✻	✻	✻	✻	✻	✻	Normal operation in progress

Base EEPROM recovery is used to eliminate a mismatch between the main body and the base when there is a wrong module insertion, a base EEPROM error or base EEPROM incompatibility.

5 - 2 Operation Modes

The data settings related to the operation modes are shown in the table.
For an overview of the operation modes, refer to ☞ 1-4 Operation Modes (page 1-7).

■ Settings (operation mode selection)

Bank name	Item name	Contents of setup
Loop mode	RUN/READY	0: RUN 1: READY
	AUTO/MANUAL	0: AUTO 1: MANUAL
	AT stop/start	0: AT stop 1: AT start
	LSP/RSP	0: LSP 1: RSP

■ Settings (MANUAL settings)

Bank name	Item name	Contents of setup
Loop (extended)	Output operation at changing Auto/Manual	0: Bumpless 1: Preset
	Preset MANUAL value	–10.0 to 110.0 (%)

■ Settings (READY settings)

Bank name	Item name	Contents of setup
Loop output (MV)	Output at READY	–10.0 to 110.0 (%)
	Output at READY (Heat)	–10.0 to 110.0 (%)
	Output at READY (Cool)	–10.0 to 110.0 (%)

■ Settings (RSP settings)

Bank name	Item name	Contents of setup
RSP	RSP	—
	PID group definition (for RSP)	1 to 4 (group)

5 - 3 How to Change the Control Mode and Parameters

To change the control mode or setting parameters, use SLP-NX (sold separately) or use the host computer.
This section describes an overview of changing the control mode and setting parameters using SLP-NX.

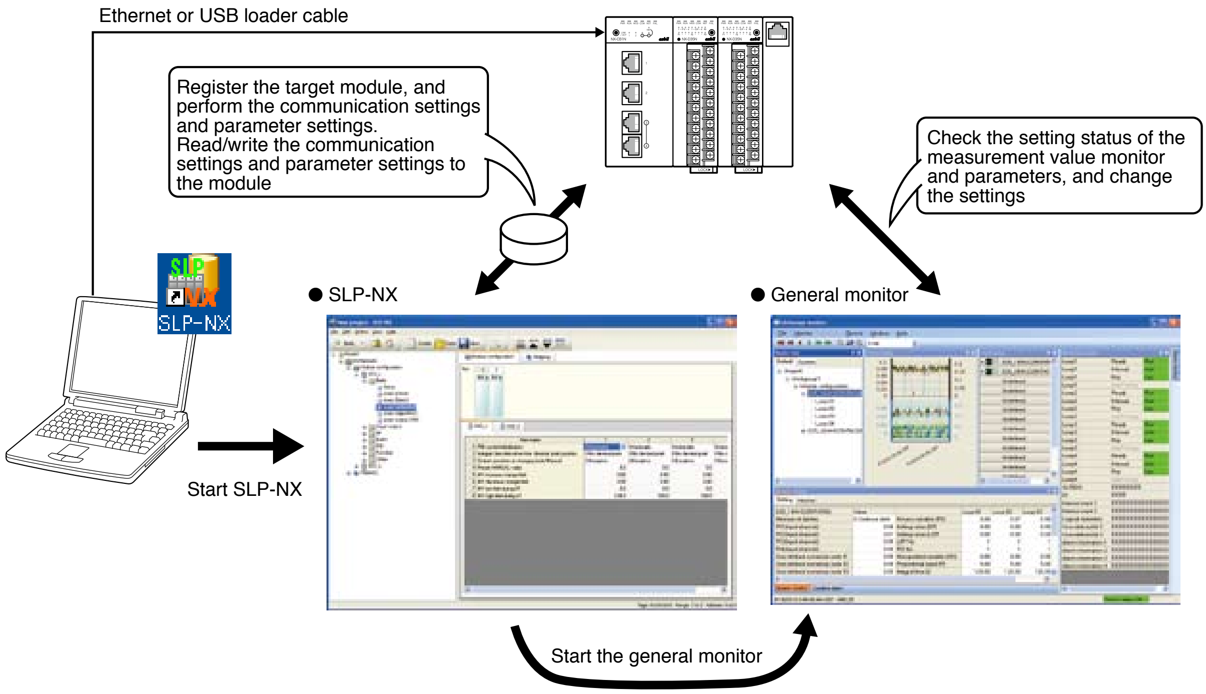
■ SLP-NX function system

SLP-NX has the following function system.

Function name	Application
SLP-NX	Functions are available for performing module registration, communication settings for each module, and parameter settings. Also, functions are available for reading and writing the module information from each module, communication settings, and parameter settings.
Universal monitor	Communication connection can be performed for each module, and status monitoring for the various measurement values and setting status checking and changing for each parameter can be performed individually.

■ How to change the setting parameters

The following describes how to change the settings for the setting parameters using the universal monitor.



● Setting change procedures

The following describes as an example how to change the PID control status from RUN to READY.

Note

- The following method is an example. The same change can be performed with other operation methods.

[1] Start SLP-NX.

[2] Open a project that is backed up on the computer.

[3] Connect the computer and Instrumentation Network Module. (Ethernet)

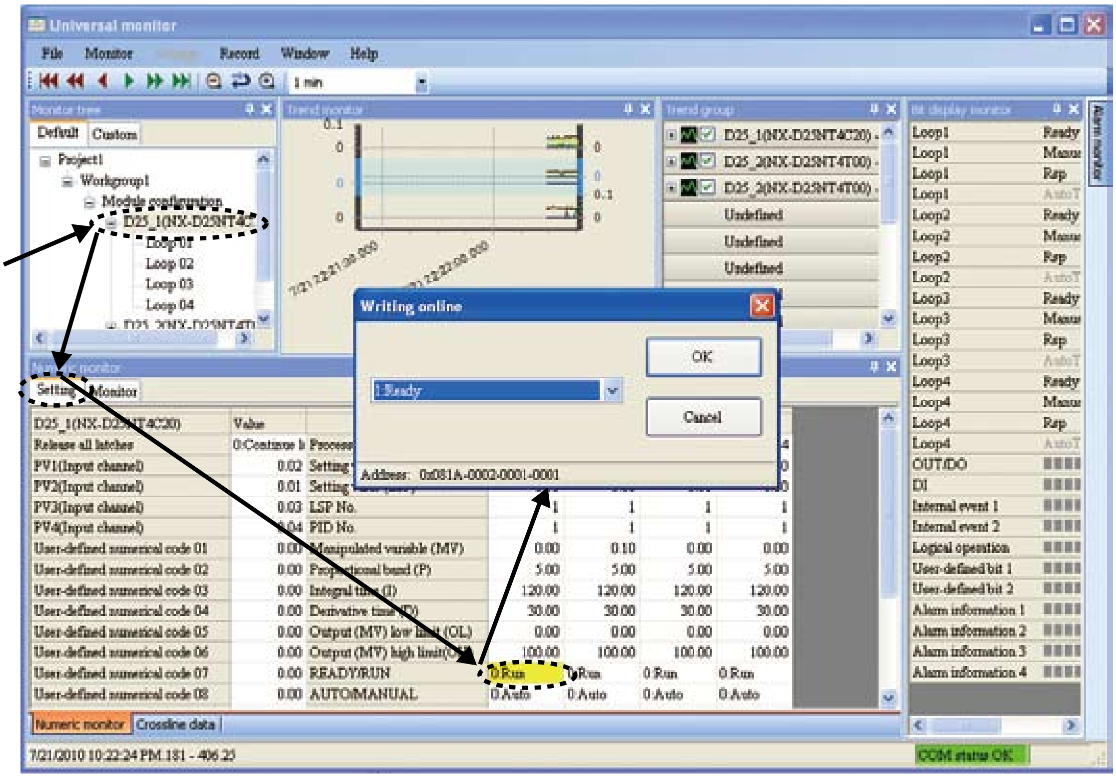
[4] Start the universal monitor with the following operation: [Online] → [Monitor].

[5] Click the target module for the change in “Monitor tree” on the universal monitor.

[6] Set the communications status to communication in progress with the following operation: [Monitor] → [Start].

[7] Double-click the [READY/RUN] area for the loops that is prepared in the “Numeric value monitor [Settings] tab” on the universal monitor to display the change dialog box.

[8] Change from [0:RUN] → [1:READY] with the pull down key, and then click the [OK].



5 - 4 How to Manually Output the MV (AUTO/MANUAL)

For each loop, the universal monitor can be used to manually output the MV.

Operate by following the procedure below.

[1] Display the loop that you want to operate on the universal monitor.

[2] Change the “Numeric value monitor [Settings] tab” from AUTO to MANUAL.

[3] Change the MV in the “Numeric value monitor [Settings] tab”.

5 - 5 How to Change to the Remote SP (RSP/LSP)

For loops with RSP, the universal monitor can be used to change from local SP (LSP) to remote SP (RSP), or the reverse.

Operate by following the procedure below.

[1] Display the loop that you want to operate on the universal monitor.

[2] Change the “Numeric value monitor [Settings] tab” from LSP to RSP. Alternatively, change from RSP to LSP.

5 - 6 How to Change to READY to Stop the Control

The universal monitor can be used to change from operation (RUN) to stop (READY), or the reverse.

Operate by following the procedure below.

[1] Display the loop that you want to operate on the universal monitor.

[2] Change the “Numeric value monitor [Settings] tab” from RUN to READY. Alternatively, change from READY to RUN.

5 - 7 How to Start the Auto Tuning

The universal monitor can be used to start or stop auto tuning (AT).

Operate by following the procedure below.

[1] Display the loop that you want to operate on the universal monitor.

[2] Check that the PV is normal.
Check that the status is ready for control in the RUN mode and AUTO mode.

[3] Set the AT to start in the “Numeric value monitor [Settings] tab”.

[4] Normally, the AT completes automatically.
To stop the AT while it is running, change the AT mode to cancel.

5 - 8 How to Change the SP

There are several methods for changing the SP of each loop.

■ How to rewrite SPs that are being used

For each loop, the universal monitor can be used to rewrite SP values.

Operate by following the procedure below.

[1] Display the loop that you want to operate on the universal monitor.

[2] Change the setting (LSP) value in "Numeric value monitor [Settings] tab".

Note that the SP cannot be rewritten when the mode is remote SP (RSP).

■ How to change the SP group selection

The SP group selection can be changed using the universal monitor for loops with an SP system group setting of 2 groups or more.
Note that the SP group selection cannot be changed when the SP group selection is being performed with an internal contact input.

Operate by following the procedure below.

[1] Display the loop that you want to operate on the universal monitor.

[2] Change the LSP number in the "Numeric value monitor [Settings] tab".

5 - 9 How to Change the PID

The PID can be changed with two methods; by changing the PID setting or by performing the auto tuning.

■ How to change the PID setting

The universal monitor can be used to change the PID value.

Operate by following the procedure below.

[1] Display the loop that you want to operate on the universal monitor.

[2] Change the PID value in the “Numeric value monitor [Settings] tab”.

■ How to perform the auto tuning

☞ 5-7 How to Start the Auto Tuning (page 5-11) .

5 - 10 How to Change the Event Action Point

Use SLP-NX to change the operating point.
Depending on the event type, some settings only have an event main setting, while others have both an event main setting and an event sub-setting.
For details on the event types, refer to ☞ 6-1 How to Use Events (page 6-1).

Operate by following the procedure below.

[1] Display the operating point bank using SLP-NX.

[2] Change the event main settings or the event sub-settings.

5 - 11 PID Control

When the control action setting is set to “0: Reverse action” or “1: Direct action”, the following control is performed.

PID control is performed when integral time ≠ 0 and derivative time ≠ 0.
PI control is performed when integral time ≠ 0 and derivative time = 0.
PD control is performed when integral time = 0 and derivative time ≠ 0.
P control is performed when integral time = 0 and derivative time = 0.

■ Settings

Bank name	Item name	Contents of setup
Loop (basic)	Control action	0: Reverse action (heating) 1: Direct action (cooling) 2: Heat/Cool 4: Reverse action (ON/OFF) 5: Direct action (ON/OFF)
Loop (extended)	Integral time/ derivative time decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point
PID	Proportional band 1 (PID group 1)	0.1 to 3200.0 (%)
	Integral time 1 (PID group 1)	0 to 32000 (s) 0.0 to 3200.0 (s) 0.00 to 320.00 (s) Depends on the integral time/derivative time decimal point position
	Derivative time 1 (PID group 1)	0 to 32000 (s) 0.0 to 3200.0 (s) 0.00 to 320.00 (s) Depends on the integral time/derivative time decimal point position
	Output (MV) low limit 1 (PID group 1)	–10.0 to +110.0 (%)
	Output (MV) high limit 1 (PID group 1)	–10.0 to +110.0 (%)
	Manual reset 1 (PID group 1)	–10.0 to +110.0 (%)
	PID group 2 settings	Same as PID group 1 above
	PID group 3 settings	
	PID group 4 settings	

5 - 12 Heat/Cool Control

When the control action setting is set to “2: Heat/Cool”, heat/cool control is performed.

■ Settings

Bank name	Item name	Contents of setup
Loop (basic)	Control action	0: Reverse action (heating) 1: Direct action (cooling) 2: Heat/Cool 4: Reverse action (ON/OFF) 5: Direct action (ON/OFF)
	Heat/cool dead zone	–100.0 to +100.0 (%)
Loop (extended)	Integral time/ derivative time decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point
PID	Proportional band 1 (PID group 1)	0.1 to 3200.0 (%)
	Integral time 1 (PID group 1)	0 to 32000 (s) 0.0 to 3200.0 (s) 0.00 to 320.00 (s) Depends on the integral time/derivative time decimal point position
	Derivative time 1 (PID group 1)	0 to 32000 (s) 0.0 to 3200.0 (s) 0.00 to 320.00 (s) Depends on the integral time/derivative time decimal point position
	Output (MV) low limit 1 (PID group 1)	–10.0 to +110.0 (%)
	Output (MV) high limit 1 (PID group 1)	–10.0 to +110.0 (%)
	Manual reset 1 (PID group 1)	–10.0 to +110.0 (%)
	Proportional band for cool side 1 (PID group 1)	0.1 to 3200.0 (%)
	Integral time for cool side 1 (PID group 1)	0 to 32000 (s) 0.0 to 3200.0 (s) 0.00 to 320.00 (s) Depends on the integral time/derivative time decimal point position
	Derivative time for cool side 1 (PID group 1)	0 to 32000 (s) 0.0 to 3200.0 (s) 0.00 to 320.00 (s) Depends on the integral time/derivative time decimal point position
	Output low limit for cool side 1 (PID group 1)	–10.0 to +110.0 (%)
	Output high limit for cool side 1 (PID group 1)	–10.0 to +110.0 (%)
	PID group 2 settings	Same as PID group 1 above
	PID group 3 settings	
	PID group 4 settings	

5 - 13 ON/OFF Control

When the control action setting is set to “3: Reverse action (ON/OFF)” or “4: Direct action (ON/OFF)”, on/off control is performed.
In the PID group selection, the differential can be changed.

■ Settings

Bank name	Item name	Contents of setup
Loop (basic)	Control action	0: Reverse action (heating) 1: Direct action (cooling) 2: Heat/Cool 4: Reverse action (ON/OFF) 5: Direct action (ON/OFF)
PID	Differential 1 (PID group 1)	0.0 to 3200.0
	Differential 2 (PID group 2)	0.0 to 3200.0
	Differential 3 (PID group 3)	0.0 to 3200.0
	Differential 4 (PID group 4)	0.0 to 3200.0

Chapter 6. FUNCTIONS OFTEN USED FOR OPERATIONS OTHER THAN CONTROL

6 - 1 How to Use Events

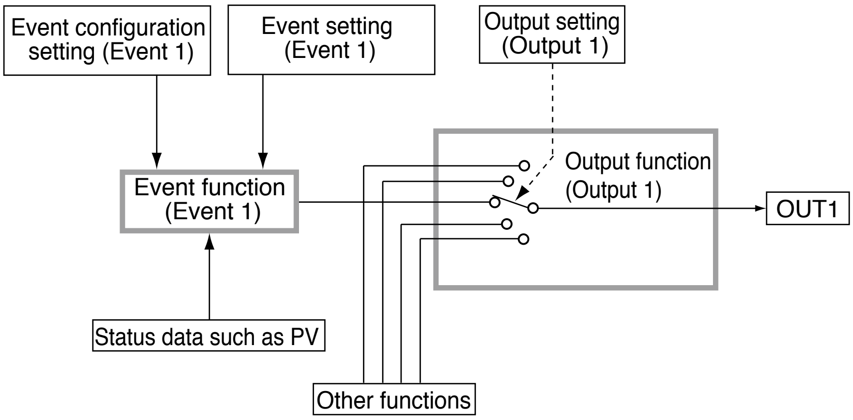
The ON/OFF status of the event is determined according to the conditions for each operation type.
The ON/OFF result of the event can be output to the ON/OFF output terminal or digital output terminal.
Additionally, the ON/OFF result status of the event can be used as input of the internal contact input function.

■ Setting banks

Operating point
Event config.
OUT/DO output

■ Example: PV high limit alarm (on if an error occurs)

The following is an example where the output of OUT 1 is turned ON if the PV of loop 1 exceeds 800°C.
In this example, the event function and output function are used.



[1] Set the event configuration of event 1.
Configure the settings as shown below in the event configuration bank setup.

Item name	Setting
(Event 1) Operation type	1: PV high limit
(Event 1) Loop/channel definition	1
(Event 1) Direct/Reverse	0: Direct
(Event 1) Standby	0: No standby
(Event 1) EVENT state at READY	0: Continuation
(Event 1) Decimal point position	0: No decimal point
(Event 1) Hysteresis	5
(Event 1) ON delay	0.0 (unit: s)
(Event 1) OFF delay	0.0 (unit: s)

[2] Set the event action point of event 1.
Configure the settings as shown below in the operating point bank setup.

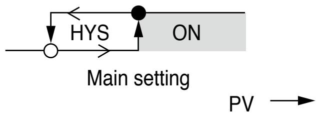
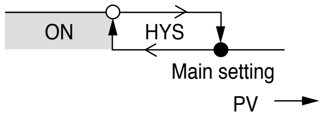
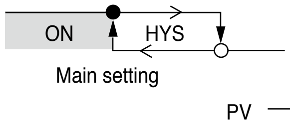
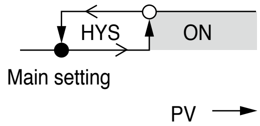
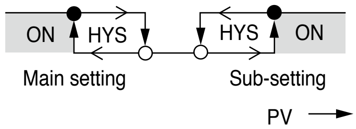
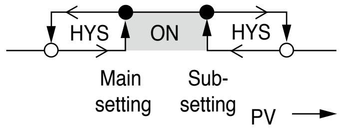
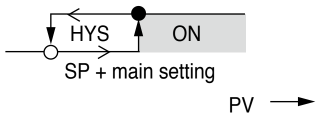
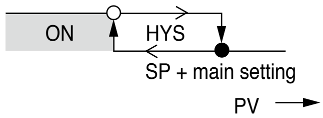
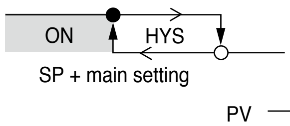
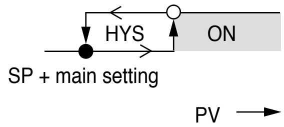
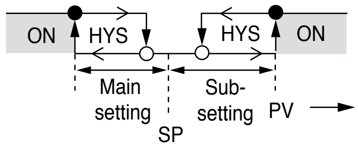
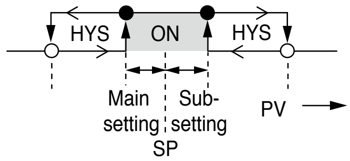
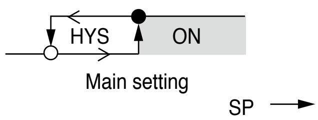
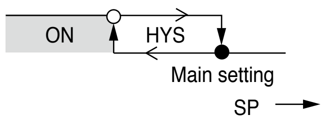
Item name	Setting
(Event 1) Main setting	800
(Event 1) Sub-setting	(Setting cannot be changed)

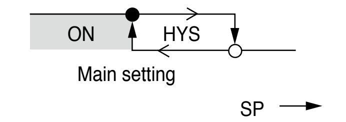
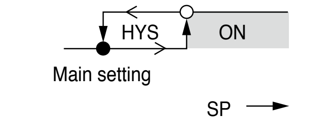
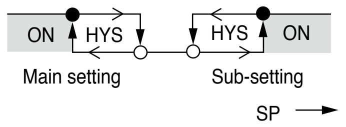
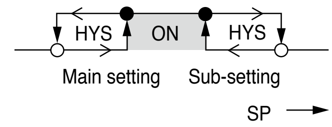
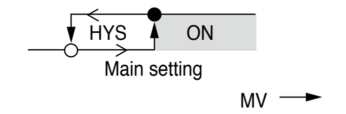
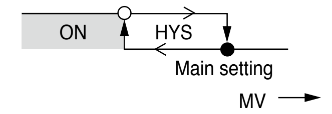
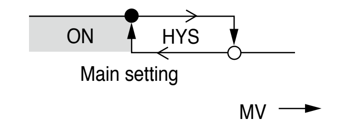
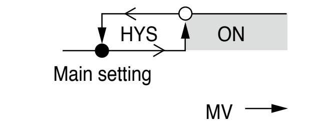
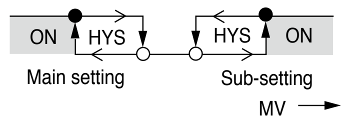
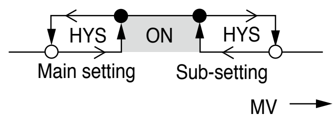
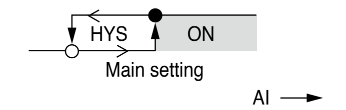
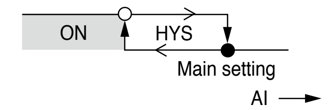
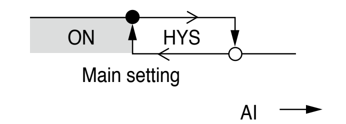
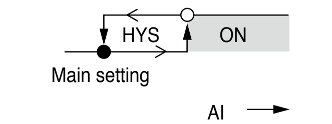
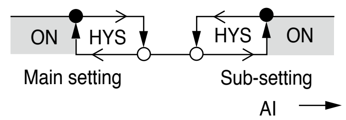
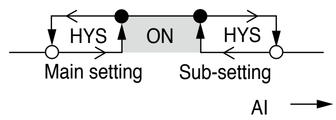
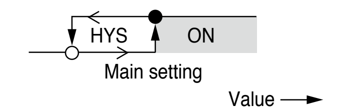
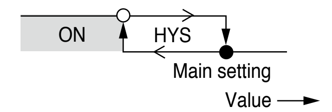
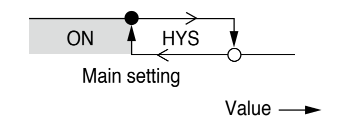
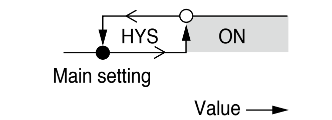
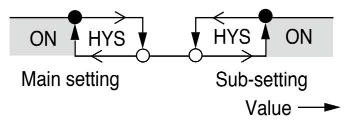
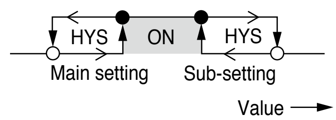
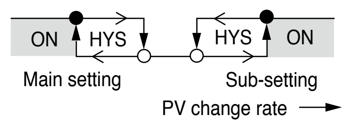
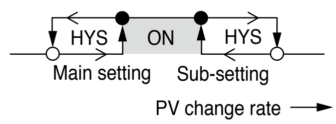
[3] Assign the ON/OFF status of event 1 to output 1.
Configure the settings as shown below in the OUT/DO output bank setup.

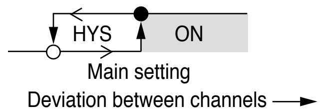
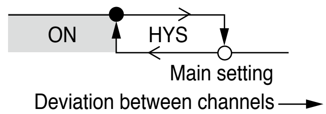
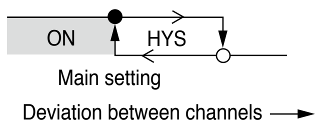
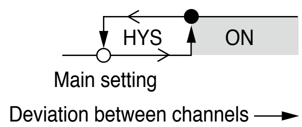
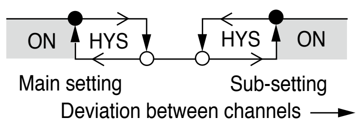
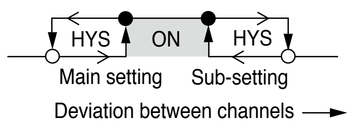
Item name	Setting
Output type	1088: Event 1
Latch	0: No latch
Time proportional operation type	(Setting cannot be changed)
Min. ON/OFF time	10 (ms)
Time proportional cycle	(Setting cannot be changed)
Phase shift	0 (ms)

■ Event operation type, direct/reverse, hysteresis, main setting, and sub-setting

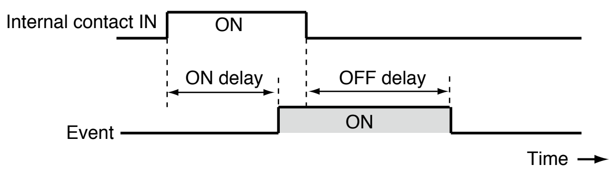
According to the operation type, direct/reverse, main setting, sub-setting, hysteresis, and other settings, the operation of the event is as follows:

Operation type	Operation type setting	Direct action ● shows that the ON/OFF is changed at this value. ○ shows that the ON/OFF is changed at a point where “1U” is added to this value.	Reverse action ● shows that the ON/OFF is changed at this value. ○ shows that the ON/OFF is changed at a point where “1U” is added to this value.
No event	0	Always OFF	Always OFF
PV high limit	1		
PV low limit	2		
PV high and low limits	3		
Deviation high limit	4		
Deviation low limit	5		
Deviation high and low limits	6		
Deviation high limit (Final SP reference)	7	Same as the direct action of the deviation high limit when the SP ramp is not used. The difference is that the SP ramp does not use the current SP, but it uses the final SP.	Same as the reverse action of the deviation high limit when the SP ramp is not used. The difference is that the SP ramp does not use the current SP, but it uses the final SP.
Deviation low limit (Final SP reference)	8	Same as the direct action of the deviation low limit when the SP ramp is not used. The difference is that the SP ramp does not use the current SP, but it uses the final SP.	Same as the reverse action of the deviation low limit when the SP ramp is not used. The difference is that the SP ramp does not use the current SP, but it uses the final SP.
Deviation high and low limits (Final SP reference)	9	Same as the direct action of the deviation high and low limits when the SP ramp is not used. The difference is that the SP ramp does not use the current SP, but it uses the final SP.	Same as the reverse action of the deviation high and low limits when the SP ramp is not used. The difference is that the SP ramp does not use the current SP, but it uses the final SP.
SP high limit	10		

Operation type	Operation type setting	Direct action ● shows that the ON/OFF is changed at this value. ○ shows that the ON/OFF is changed at a point where “1U” is added to this value.	Reverse action ● shows that the ON/OFF is changed at this value. ○ shows that the ON/OFF is changed at a point where “1U” is added to this value.
SP low limit	11		
SP high and low limits	12		
MV high limit	13		
MV low limit	14		
MV high and low limits	15		
AI high limit	18		
AI low limit	19		
AI high and low limits	20		
Standard numerical code high limit	26		
Standard numerical code low limit	27		
Standard numerical code high and low limits	28		
PV change rate	29		

<table>
<tr><th>Operation type</th><th>Operation type setting</th><th>Direct action
● shows that the ON/OFF is changed at this value.
○ shows that the ON/OFF is changed at a point where “1U” is added to this value.</th><th>Reverse action
● shows that the ON/OFF is changed at this value.
○ shows that the ON/OFF is changed at a point where “1U” is added to this value.</th></tr>
<tr><td>Deviation high limit between channels (PV1 - specified channel)</td><td>31</td><td rowspan="4">
</td><td rowspan="4">
</td></tr>
<tr><td>Deviation high limit between channels (PV2 - specified channel)</td><td>32</td></tr>
<tr><td>Deviation high limit between channels (PV3 - specified channel)</td><td>33</td></tr>
<tr><td>Deviation high limit between channels (PV4 - specified channel)</td><td>34</td></tr>
<tr><td>Deviation low limit between channels (PV1 - specified channel)</td><td>35</td><td rowspan="4">
</td><td rowspan="4">
</td></tr>
<tr><td>Deviation low limit between channels (PV2 - specified channel)</td><td>36</td></tr>
<tr><td>Deviation low limit between channels (PV3 - specified channel)</td><td>37</td></tr>
<tr><td>Deviation low limit between channels (PV4 - specified channel)</td><td>38</td></tr>
<tr><td>Deviation high and low limits between channels (PV1 - specified channel)</td><td>39</td><td rowspan="4">
</td><td rowspan="4">
</td></tr>
<tr><td>Deviation high and low limits between channels (PV2 - specified channel)</td><td>40</td></tr>
<tr><td>Deviation high and low limits between channels (PV3 - specified channel)</td><td>41</td></tr>
<tr><td>Deviation high and low limits between channels (PV4 - specified channel)</td><td>42</td></tr>
</table>

<table>
<tr><th>Operation type</th><th>Operation type setting</th><th>Direct action
● shows that the ON/OFF is changed at this value.
○ shows that the ON/OFF is changed at a point where “1U” is added to this value.</th><th>Reverse action
● shows that the ON/OFF is changed at this value.
○ shows that the ON/OFF is changed at a point where “1U” is added to this value.</th></tr>
<tr><td>Alarm
(status)</td><td>61</td><td>Alarm (alarm code AL01 to 99)
ON when activated, OFF at other times</td><td>Alarm (alarm code AL01 to 99)
OFF when activated, ON at other times</td></tr>
<tr><td>READY
(status)</td><td>62</td><td>ON in the READY mode
OFF in the RUN mode</td><td>OFF in the READY mode
ON in the RUN mode</td></tr>
<tr><td>MANUAL
(status)</td><td>63</td><td>ON in the MANUAL mode
OFF in the AUTO mode</td><td>OFF in the MANUAL mode
ON in the AUTO mode</td></tr>
<tr><td>RSP
(status)</td><td>64</td><td>ON in the RSP mode
OFF in the LSP mode</td><td>OFF in the RSP mode
ON in the LSP mode</td></tr>
<tr><td>During AT
(status)</td><td>65</td><td>ON when AT is executed
OFF when AT is stopped</td><td>OFF when AT is executed
ON when AT is stopped</td></tr>
<tr><td>During SP ramp</td><td>66</td><td>ON during SP ramp
OFF when SP ramp is not performed or is completed</td><td>OFF during SP ramp
ON when SP ramp is not performed or is completed</td></tr>
<tr><td>Control action
(status)</td><td>67</td><td>ON during direct action (cooling)
OFF during reverse action (heating)</td><td>OFF during direct action (cooling)
ON during reverse action (heating)</td></tr>
<tr><td>Timer
(status)</td><td>70</td><td colspan="2">The direct and reverse action settings are disabled for the timer event.
To use the timer event, it is necessary to set the operation type of the internal contact input to “Timer stop/start selection”.
Additionally, multiple timer events can be controlled from an individual internal contact input by setting an event No. in the loop/channel definition of the internal contact input.
● Setting items
・ON delay time:
A period of time necessary for the event change from OFF to ON after the internal contact input has been changed from OFF to ON.
・OFF delay time:
A period of time necessary for the event change from ON to OFF after the internal contact input has been changed from ON to OFF.

● Operation specifications
・The event is turned ON when the internal contact input ON continues for the ON delay time or longer.
・The event is turned OFF when the internal contact input OFF continues for the OFF delay time or longer.
・In other cases, the current status is continued.


● Caution
The default settings of the ON delay and OFF delay before shipment are 0.0s.
The default setting of the loop/channel definition of the internal contact input is “0”.
In this case, all timer events can be stopped or started through one internal contact input.
Additionally, when a value exceeding “1” is set for the loop/channel definition, one specified timer event can be stopped or started through one internal contact input.</td></tr>
</table>

■ Loop/channel definition setup

The content is as follows, depending on the operation type.

Loop/channel definition	Operation type target number	EVENT state at READY *1	Standby *2
Define the loop number (1 to 4) of the operation type	1 to 15, 18 to 20, 26 to 28, 31 to 42	○	○
	62 to 67	○	×
Specify loop number (1 to 4) when standby or EVENT state at READY is used	61, 70	○	×
Specify the number (2048 to 3071) of the standard numerical codes	26 to 28	×	×

*1. ○: Continuation/Forced OFF can be selected, × : Always Continuation

*2. ○: Standby/No standby can be selected, × : Always No standby

■ Event standby and EVENT state at READY

"Standby" is a function that does not turn ON the event even though the event satisfies the ON conditions when this unit is turned ON or when the READY mode is changed to the RUN mode.

The event is turned ON when the ON conditions are satisfied again once the OFF conditions have been satisfied.

"Standby + Standby at SP change" means that the standby is set again when the SP is changed (LSP and SP group) in addition to the standby functions.

However, when the same LSP value is written or when the SP value is not changed even though the SP group is changed, the unit does not enter the standby mode.

	READY		READY → RUN	
Event status at READY / Standby settings	0: Continuation	1: Forced OFF	0: Continuation	1: Forced OFF
0: None	Normal operation	OFF	Normal operation	Normal operation
1: Standby	OFF	OFF	OFF (Standby)	OFF (Standby)
2: Standby when the SP is modified	OFF	OFF	OFF (Standby)	OFF (Standby)

■ Event decimal point

The decimal point position of the main setting and sub-setting of the event setup bank (operating point) and the hysteresis setting of the event configuration bank can be changed.

■ ON delay and OFF delay

ON delay is a function that delays the timing at which the event status is changed from OFF to ON. OFF delay is a function that delays the timing at which the event status is changed from ON to OFF. However, note that the operation when the operation type is set to timer event is described on the previous page.

6 - 2 How to Use Internal Contact Input

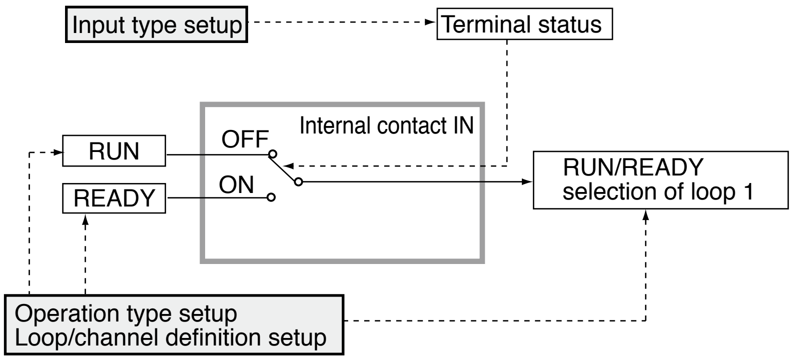
The internal contact input can take in ON/OFF data, such as the digital input (DI) that is specified in the input type, as internal contact input inside the instrument.
The mode selection operation specified in the operation type can be performed with the ON/OFF data in the specified input type.

■ Setting banks

Internal contact input

■ Example 1: RUN/READY mode selection from the digital input

The following is an example where the RUN/READY of loop 1 is changed to READY when the DI 1 terminal status is ON and changed to RUN when the DI 1 terminal status is OFF.

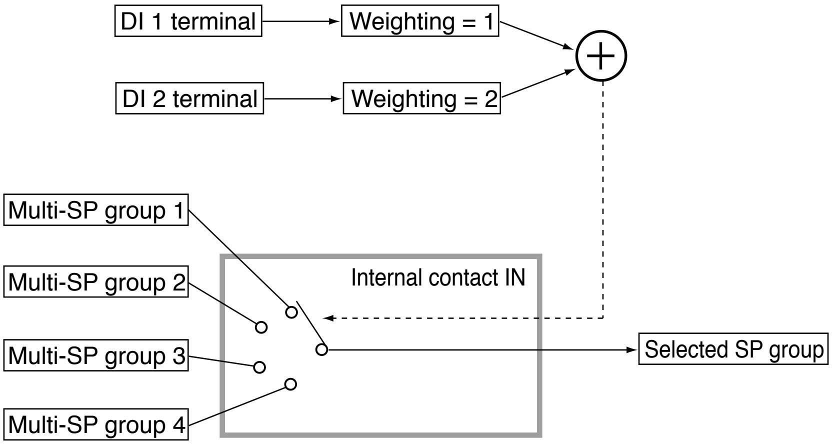


Set the RUN/READY mode selection to internal contact group 1.
Configure the settings as shown below in the internal contact input bank setup.

Item name	Setting
(Internal contact group 1) Operation type	21: RUN/READY mode selection
(Internal contact group 1) Input type	1152: DI 1 terminal status
(Internal contact group 1) Loop/channel definition	1: Loop 1
(Internal contact group 1) Weighting	(Setting cannot be changed)

■ Example 2: SP group selection from the digital input

The following is an example where the multi-SP group (1 to 4) of loop 1 is selected using the DI-1 to DI-2 terminals.



DI 1	OFF	ON	OFF	ON
DI 2	OFF	OFF	ON	ON
Sum of weights	0	1	2	3
Selected SP group	SP1	SP2	SP3	SP4

[1] Set the SP system group.
Configure the settings as shown below in the setup (basic) bank setup.

Item name	Setting
SP system group	4

[2] Set the SP group selection to internal contact input 1 or 2.
In the internal contact input bank, set two groups of internal contact inputs as described below.

Item name	Setting
(Internal contact IN group 1) Operation type	1: SP group selection
(Internal contact IN group 1) Input type	1152: DI 1 terminal status
(Internal contact IN group 1) Loop/channel definition	1
(Internal contact IN group 1) Weighting	1
(Internal contact IN group 2) Operation type	1: SP group selection
(Internal contact IN group 2) Input type	1153: DI 2 terminal status
(Internal contact IN group 2) Loop/channel definition	1
(Internal contact IN group 2) Weighting	2

■ Operation types

Select the operations that are selected with the internal contact input from "Operation type set values" in the following table.

Operation type set values and meanings	Loop/channel definition set values and meanings
0: No function	0 to 127: Invalid
1: SP group selection	0: All loops 1: Loop 1 2: Loop 2 3: Loop 3 4: Loop 4 5 to 127: Invalid
2: PID group selection	0: All loops 1: Loop 1 2: Loop 2 3: Loop 3 4: Loop 4 5 to 127: Invalid
9: AI group definition	0: All loops 1: Loop 1 2: Loop 2 3: Loop 3 4: Loop 4 5 to 127: Invalid
21: RUN/READY mode selection	0: All loops 1: Loop 1 2: Loop 2 3: Loop 3 4: Loop 4 5 to 127: Invalid
22: AUTO/MANUAL mode selection	0: All loops 1: Loop 1 2: Loop 2 3: Loop 3 4: Loop 4 5 to 127: Invalid
23: LSP/RSP mode selection	0: All loops 1: Loop 1 2: Loop 2 3: Loop 3 4: Loop 4 5 to 127: Invalid
24: AT start/stop selection	0: All loops 1: Loop 1 2: Loop 2 3: Loop 3 4: Loop 4 5 to 127: Invalid
41: Control operation direct/reverse selection	0: All loops 1: Loop 1 2: Loop 2 3: Loop 3 4: Loop 4 5 to 127: Invalid
42: SP RAMP permit/prohibit selection	0: All loops 1: Loop 1 2: Loop 2 3: Loop 3 4: Loop 4 5 to 127: Invalid
46: Timer stop/start selection	0: All timer events 1 to 24: Event number for timer event 25 to 127: Invalid
47: Release all latches	0 to 127: Invalid

■ Input types

Use to specify the ON/OFF data that the data internal contact input uses as input. This ON/OFF data shows various kinds of instrument statuses and is called "standard bit". For details about standard bit numeric values, refer to:

☞ ■ Standard bit codes (page App.-12)

■ Loop/channel definition

Use to specify the target loop or channel for the internal contact input operation. The meaning of the loop/channel definition varies depending on the operation type.

☞ Refer to the Operation types table above.

■ Weighting

Use to select a group or number in a specific operation type, such as SP group selection or PID group selection.

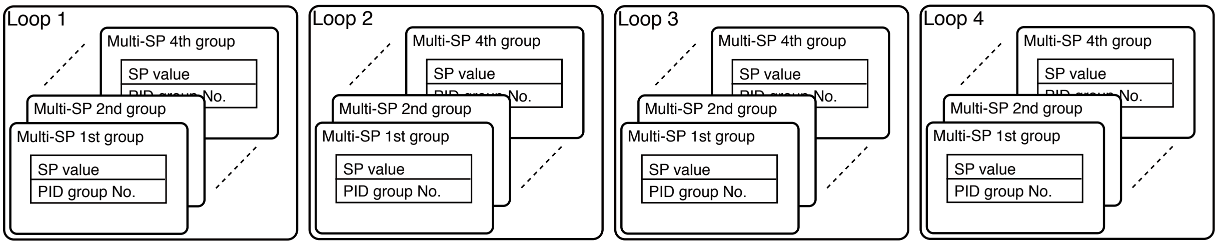
When the input is OFF, the value is "0". When the input is ON, the value is the set value.

When the operation type and loop/channel definition use the same internal contact input, the selection is determined by the sum of weighting values as shown in the table below.

Operation type \ Sum of weights	0	1 or higher
SP group selection	Group 1	Group with "1" added to the sum of weighting values is selected.
PID group selection	Group 1	Group with "1" added to the sum of weighting values is selected.

6 - 3 How to Use the Multi-SP

The multi-SP can be set by combining LSP value and PID group definition on an SP group basis.
Up to 4 SP groups per loop are provided. You can select one group from these groups and use it for control.



■ Setting banks

Setup bank
Loop 1 LSP bank
Loop 2 LSP bank
Loop 3 LSP bank
Loop 4 LSP bank
Loop 1 PID bank
Loop 2 PID bank
Loop 3 PID bank
Loop 4 PID bank
SP group selection bank

■ Features

A PID constant group can be specified for each SP group. When selecting an SP group, the PID constants corresponding to the PID group definition set in the SP group are used for the control. When using PID constants common to multiple SP groups, specify the same PID group.

■ Example: Multi-SP is used with two LSP groups

The following describes an example where two LSP groups and PID constants of two groups are used with two SP groups in loop 1.

[1] Set the SP to two groups using the multi-SP.
Configure the settings as shown below in the setup (basic) bank setup.

Item name	Setting
SP system group	2

[2] Set data for the SP group.
Configure the settings as shown below in the loop 1 LSP bank.

Item name	Setting
(Loop 1 SP group 1) LSP	100.0
(Loop 1 SP group 1) PID group definition (for LSP)	1
(Loop 1 SP group 2) LSP	200.0
(Loop 1 SP group 2) PID group definition (for LSP)	2

[3] Set data for the PID group.

Configure the settings as shown below in the loop 1 PID bank.

Item name	Setting
(Loop 1 PID group 1) Proportional band	5.0
(Loop 1 PID group 1) Integral time	120
(Loop 1 PID group 1) Derivative time	30
(Loop 1 PID group 1) Output (MV) low limit	0.0
(Loop 1 PID group 1) Output (MV) high limit	100.0
(Omitted)	
(Loop 1 PID group 2) Proportional band	5.0
(Loop 1 PID group 2) Integral time	100
(Loop 1 PID group 2) Derivative time	25
(Loop 1 PID group 2) Output (MV) low limit	0.0
(Loop 1 PID group 2) Output (MV) high limit	100.0
(Others omitted)	

[4] Select an SP group.

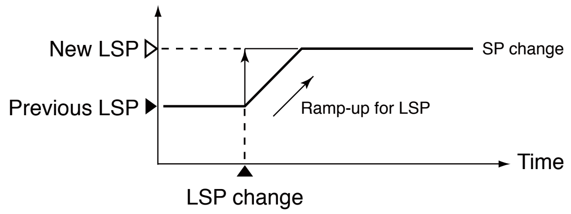
Select an SP group in the SP group selection bank.

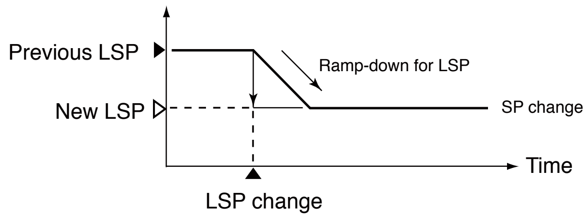
To select the SP 2 group, configure the setting as described in the table below.

Item name	Setting
(Loop 1) SP group selection	2: Select SP group 2

6 - 4 How to Change the LSP with Constant Ramp

When changing the set value of the LSP or the SP group selection, it is possible to change the SP with a constant SP ramp.





■ Bank and settings

Bank	Item name	Contents of setup
SP configuration	SP ramp unit	0: No decimal point/s 1: No decimal point/min 2: No decimal point/h 3: 0.1/s 4: 0.1/min 5: 0.1/h 6: 0.01/s 7: 0.01/min 8: 0.01/h 9: 0.001/s 10: 0.001/min 11: 0.001/h
	SP ramp-up for LSP	0U: No ramp 1 to 32000 U (Decimal point position varies depending on the SP ramp unit)
	SP ramp-down for LSP	0U: No ramp 1 to 32000 U (Decimal point position varies depending on the SP ramp unit)
	PV start for LSP	0: Allow PV start 1: Prevent PV start

■ Conditions for ramp start

- LSP value is changed.
- SP group is changed.
- Mode is changed from RSP to LSP.

■ Conditions for ramp start with PV used as start point

If any of the following arises, the ramp is started with PV used as the start point instead of the previous SP:

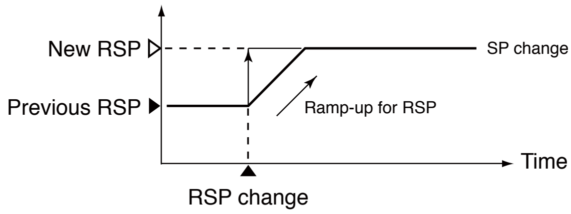
- The power is turned ON.
- The MANUAL mode is changed to the AUTO mode.
- The READY mode is changed to the RUN mode.
- The “Loop type” item of the setup bank is changed.

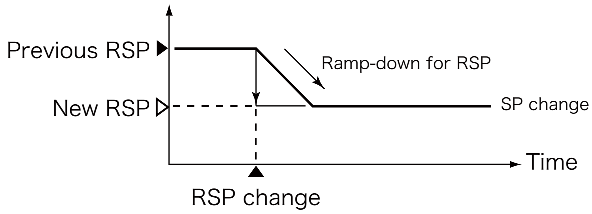
Handling Precautions

- When the unit is in the following statuses, ramp actions do not start. Additionally, if the unit enters one of the following statuses during ramp operation, the ramp operation is cancelled.
  - MANUAL mode
  - READY mode
  - Ramp operation is prohibited from the internal contact input
- When the unit is in the following statuses, ramp actions with PV used as the start point do not start.
  - When a PV input error occurs
  - When PV start for LSP is 1 (Prevent PV start)

6 - 5 How to Change the RSP with Constant Ramp

When the RSP is changed, the SP can be changed with a constant ramp.





■ Bank and settings

Bank	Item name	Contents of setup
SP configuration	SP ramp unit	0: No decimal point/s 1: No decimal point/min 2: No decimal point/h 3: 0.1/s 4: 0.1/min 5: 0.1/h 6: 0.01/s 7: 0.01/min 8: 0.01/h 9: 0.001/s 10: 0.001/min 11: 0.001/h
	SP ramp-up for RSP	0U: No ramp 1 to 32000 U (Decimal point position varies depending on the SP ramp unit)
	SP ramp-down for RSP	0U: No ramp 1 to 32000 U (Decimal point position varies depending on the SP ramp unit)
	PV start for RSP	0: Allow PV start 1: Prevent PV start

■ Conditions for ramp start

• RSP value is changed.
• Mode is changed from LSP to RSP.

■ Conditions for ramp start with PV used as start point

If any of the following arises, the ramp is started with PV used as the start point instead of the previous SP:

• The power is turned ON.
• The MANUAL mode is changed to the AUTO mode.
• The READY mode is changed to the RUN mode.
• The "Loop type" item of the setup bank is changed.

Handling Precautions

- When the unit is in the following statuses, ramp actions do not start. Additionally, if the unit enters one of the following statuses during ramp operation, the ramp operation is cancelled.
  - MANUAL mode
  - READY mode
  - Ramp operation is prohibited from the internal contact input
- When the unit is in the following statuses, ramp actions with PV used as the start point do not start.
  - When an input error occurs
  - When PV start for RSP is 1 (Prevent PV start)

6 - 6 CT (Current Transformer) Input

Current measurement using the current transformer input (CT input) can be performed on models that have a CT input.
There are four CT inputs, CH1 to CH4.
The following three types of currents are measured. Select the detection mode in the settings.

1. Current not related to the ON/OFF status of the unit output
2. Current when output ON is synchronized with the ON/OFF status of the unit output
3. Current when output OFF is synchronized with the ON/OFF status of the unit output

Use 2. to detect a heater burnout or overcurrent. Use 3. to detect a heater short-circuit (final control element short-circuit). Use 1. to measure the continuous current. For the sake of convenience, the measured value is used as the output ON current value.
- When the “CT operation” setting is set to “1” to “4”, currents (2) and (3) can be detected.
- When the “CT operation” setting is set to “0”, current (1) can be detected.

■ Bank and settings

Bank	Item name	Contents of setup
CT input	CT operation	0: Continuous current measurement 1: Detection of heater line break for OUT1 2: Detection of heater line break for OUT2 3: Detection of heater line break for OUT3 4: Detection of heater line break for OUT4
	Waiting time for CT measurement	30 to 300 ms
	Number of CT turns	100 to 4000 turns
	Number of CT power line passes	1 to 6 times
	Heater burnout detection current value	0.0 to 350.0 A
	Minimum current defined as overcurrent	0.0 to 350.0 A
	Minimum current defined as short-circuit	0.0 to 350.0 A
	Hysteresis	0.0 to 350.0 A
	Delay time	0.0 to 3200.0 s
	Condition for restoring status before measurement	1024 to 2047 (Standard bit code)

■ Measurable current

The measurable current varies depending on the number of CT turns and the number of CT power line passes.

Number of turns / Number of passes	100 turns	400 turns	800 turns	1600 turns	4000 turns
1	0.1 – 6.9A	0.2 – 27.5A	0.4 – 55.0A	0.8 – 110.0A	2.0 – 275.0A
2	0.1 – 3.4A	0.1 – 13.8A	0.2 – 27.5A	0.4 – 55.0A	1.0 – 137.5A
6	0.1 – 1.1A	0.1 – 4.6A	0.1 – 9.2A	0.2 – 18.3A	0.4 – 45.8A

■ CT operations

Different operations can be set for CT input 1, CT input 2, CT input 3 and CT input 4.
- When measuring the continuous current, regardless of the ON/OFF status of the output, the current when the output is ON is updated and the current when the output is OFF is fixed at 0.0 A.

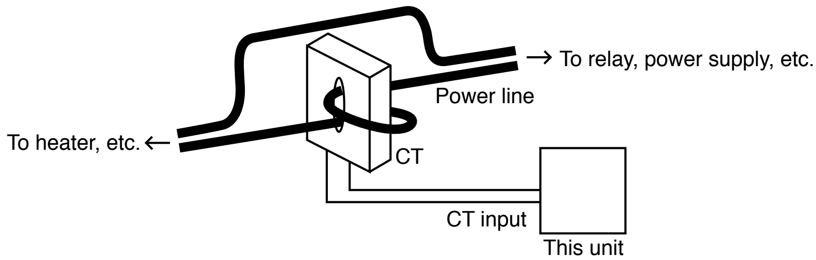
■ Waiting time for CT measurement

When the CT operation is heater burnout detection, the time from the change in the output ON/OFF status to the start of the current measurement can be set.
- After the change in the ON/OFF status of the monitored output, the current measurement starts when the measurement waiting time elapses. The current measurement finishes after 100 ms elapses.

■ Number of CT turns/Number of CT power line passes

Different CT settings can be set for CT input 1, CT input 2, CT input 3 and CT input 4.

- In the number of CT turns item, set the number of CT turns that are connected to the unit.
- In the number of CT power line passes item, set the number of times that the power lines pass through the CT holes.
  For example, if power lines pass through a CT hole twice as shown in the figure below, set “2”.



■ Heater burnout detection current value

When the output ON current value is at the set value or lower, heater burnout is detected.
When the setting is 0.0, the detection function is stopped.

■ Minimum current defined as overcurrent

When the output ON current value is at the set value or higher, overcurrent is detected.
When the setting is 0.0, the detection function is stopped.

■ Minimum current defined as short-circuit

When the output OFF current value is at the set value or higher, a short-circuit is detected.
When the setting is 0.0, the detection function is stopped.

■ Hysteresis

Set the hysteresis common to heater burnout detection, overcurrent detection and final control element short-circuit detection.

■ Delay time

Set the detection delay time common to heater burnout detection, overcurrent detection and final control element short-circuit detection.

■ Condition for restoring status before measurement

Set a standard bit code as a condition for restoring the status before current measurement.
Use when the control output is OFF after burnout detection and you want to cancel the status where burnout detection is being performed continuously.

! Handling Precautions

- The ON/OFF statuses of heater burnout detection, overcurrent detection and short-circuit detection are updated in the standard bits.
  ☞ Refer to ■ Standard bit codes (page App.-12).
- To output ON/OFF signals such as those from burnout or overcurrent detection from DO, set the CT operation that you want to output in the output type assignment.

Chapter 7. FUNCTIONS USED AS REQUIRED

7 - 1 MV at PV Error

When a PV input error occurs in the RUN mode and AUTO mode, the MV of PID control can be set to any fixed value.

■ Setting banks

Loop output (MV) bank

■ Example

The following is an example where the MV of PID control is set to 10% if there is a PV input error in loop 1.

[1] Set the selection of MV if PV is abnormal.
Configure the settings as shown below in the loop output (MV) bank setup.

Item name	Setting
(Loop 1) Selection of MV if PV is abnormal	1: Output MV if PV is abnormal

[2] Set the output at PV error.
Configure the settings as shown below in the loop output (MV) bank setup.

Item name	Setting
(Loop 1) Output at PV error	10.0

7 - 2 MV Change Limit

Handling Precautions

- This function is not supported by the NX-D15.

The MV change can be restricted by setting the value (%) of the MV change per second.

■ Setting banks

Loop (extended) bank

■ Example

This example describes how to set a change ratio limit of 10% during an MV increase change.

[1] Set the MV increase change limit.
Configure the settings as shown below in the loop (extended) bank setup.

Item name	Setting
(Loop 1) MV increase change limit	10.00

[2] Set the MV decrease change limit.
Configure the settings as shown below in the loop (extended) bank setup.

Item name	Setting
(Loop 1) MV decrease change limit	0.00

7 - 3 MV Branching Output

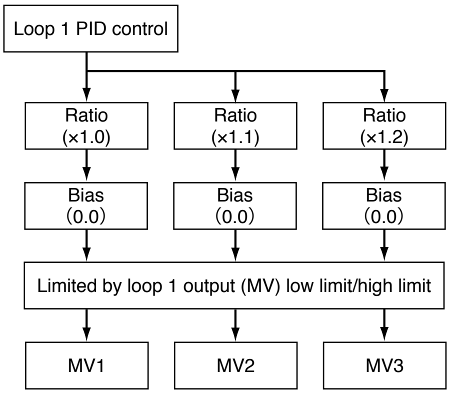
The PID MV of any group can be used for the branching output of MV (up to four) to which a ratio or bias has been applied.

■ Setting banks

MV branching output bank

■ Example

The following is an example where ratios of 1.0, 1.1 and 1.2 have been applied to the MV of loop 1, and output as MV1 to MV3.



[1] Set the MV1 setting.
Configure the settings as shown below in the MV branching output bank setup.

Item name	Setting
(MV1) Loop assignment	1
(MV1) Ratio	1.00
(MV1) Bias	0.00

[2] Set the MV2 setting.
Configure the settings as shown below in the MV branching output bank setup.

Item name	Setting
(MV2) Loop assignment	1
(MV2) Ratio	1.10
(MV2) Bias	0.00

[3] Set the MV3 setting.
Configure the settings as shown below in the MV branching output bank setup.

Item name	Setting
(MV3) Loop assignment	1
(MV3) Ratio	1.20
(MV3) Bias	0.00

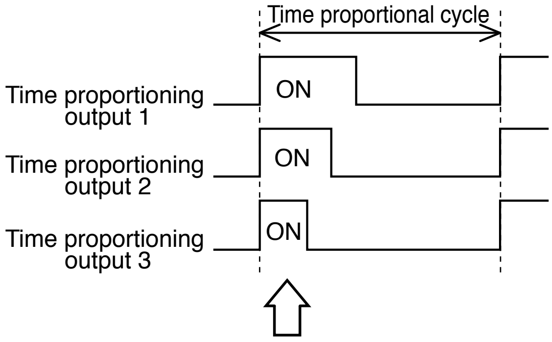
Handling Precautions

- Ratio/bias function is not available when the loop that was set in Loop No./Standard numerical code assignment is Output at PV error, Manual MV, Output at READY, or AT output.

7 - 4 Energy Conservation

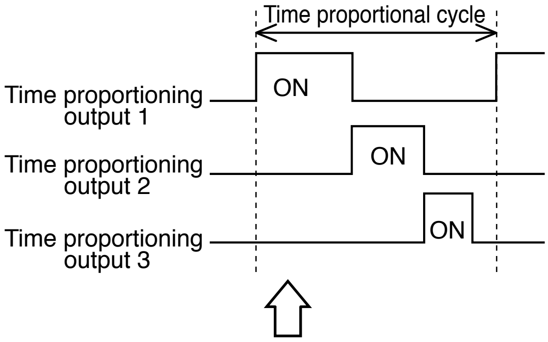
The energy conservation function can be used to ensure that all the time proportioning outputs do not turn ON at the same time.

Example of operation when energy conservation is not used



Each time proportioning output turns ON at the same time.

Example of operation when energy conservation is used



Each time proportioning output does not turn ON at the same time.

Up to 8 time proportioning outputs can be used to create an energy conservation group. An energy conservation group comprises one master output and at least one slave output. In the figures shown here of example operations using energy conservation, the master output is time proportioning output 1.

- The master output turns on from the start of the time proportional cycle.
- The first slave output turns on after the master output turns off.
- The second slave output turns on after the first slave output turns off.
- The subsequent slave outputs operate in the same way. The slave output turns on when the previous slave output turns off.

Handling Precautions

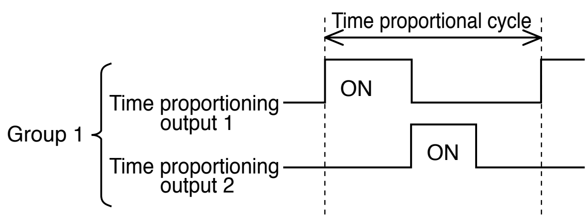
- Set the time proportional cycle of each output within a group to the same value.
- Set the time proportional operation type of each output within a group to 1 (actuator-life oriented).

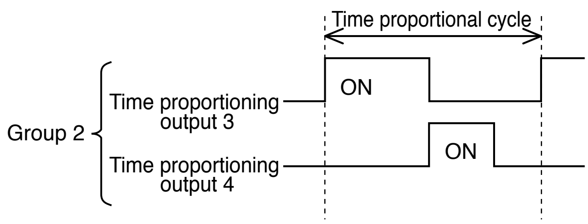
■ Setting banks

Energy conservation bank

■ Example

The following example is when two energy conservation groups are created, with output 1 and output 2 used in group 1, and output 3 and output 4 used in group 2.





[1] Set the output 1 setting.
Configure the settings as shown below in the energy conservation bank setup.

Item name	Setting
(Time proportioning output 1) Energy conservation time proportional operation	1: Used
(Time proportioning output 1) Energy conservation delay time	(Setting is invalid)
(Time proportioning output 1) Master/slave selection	0: Master
(Time proportioning output 1) Time proportional slave channel	2: Time proportioning 2

[2] Set the output 2 setting.
Configure the settings as shown below in the energy conservation bank setup.

Item name	Setting
(Time proportioning output 2) Energy conservation time proportional operation	1: Used
(Time proportioning output 2) Energy conservation delay time	Set the time (ms) required for absorbing the operation delay of the actuator.
(Time proportioning output 2) Master/slave selection	1: Other than master
(Time proportioning output 2) Time proportional slave channel	2: Time proportioning 2

[3] Set the output 3 setting.
Configure the settings as shown below in the energy conservation bank setup.

Item name	Setting
(Time proportioning output 3) Energy conservation time proportional operation	1: Used
(Time proportioning output 3) Energy conservation delay time	(Setting is invalid)
(Time proportioning output 3) Master/slave selection	0: Master
(Time proportioning output 3) Time proportional slave channel	4: Time proportioning 4

[4] Set the output 4 setting.
Configure the settings as shown below in the energy conservation bank setup.

Item name	Setting
(Time proportioning output 4) Energy conservation time proportional operation	1: Used
(Time proportioning output 4) Energy conservation delay time	Set the time (ms) required for absorbing the operation delay of the actuator.
(Time proportioning output 4) Master/slave selection	1: Other than master
(Time proportioning output 4) Time proportional slave channel	4: Time proportioning 4

Note

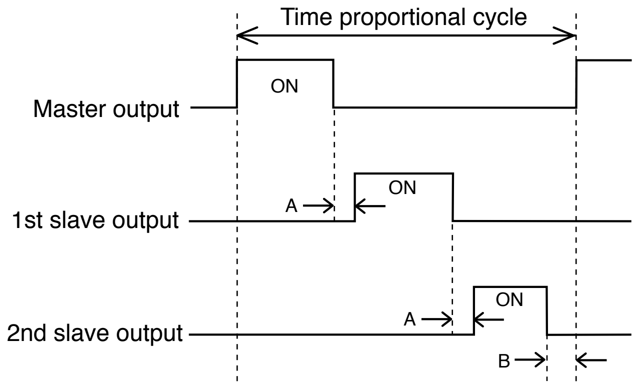
- In the setting for the final slave output in the group, set the time proportional slave channel to the output's own number. (In the example above, output 2 and output 4 are the final slave outputs.)

■ Energy conservation delay time

Set on the output side of the slave.

To prevent overlapping with the ON status of other outputs or actuators, the output starts after the previous output turns OFF and after the energy conservation delay time has elapsed. This is to prevent the ON status of the time proportioning output from overlapping due to the delay in the actuator operation. (Indicated by A in the figure below.)

Additionally, at the end of the time proportional cycle, an energy conservation delay time OFF is added. This is to prevent overlapping when the master output turns ON. (Indicated by B in the figure below.)



Handling Precautions

O Be sure to check the following settings before use.

- Set the time proportional cycle of each output within a group to the same value.
- Be sure to set “Actuator-life oriented”.
- Be sure to set the slave channels with an energy conservation delay time for the actuator delay.

O The following usage restrictions apply.

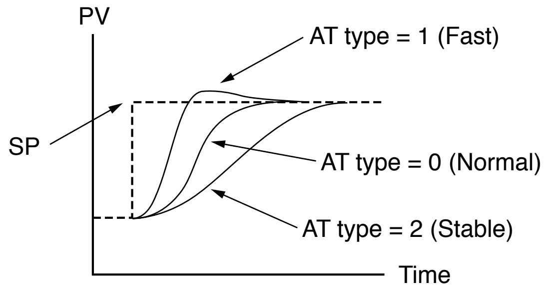
- When the master channel output is large and the slave channel output times do not fit within the time proportional cycle, the output is turned OFF at the end of the time proportional cycle of the slave time proportioning output. This means that the control calculation results might not be fully output.
- The energy conservation time proportioning output results are prioritized even in MANUAL mode, READY mode, and when the PV alarm operates. This means that depending on the MV of the master channel, the set MV might not be output.
- During stable times when PV = SP, the total of the control output of each channel and the energy conservation delay time must be 100% or less. When the value exceeds 100%, the slave channels cannot be controlled with the settings.
- The controllability varies greatly depending on whether energy conservation is used or not used.

7 - 5 AT (Auto Tuning)

When the AT is executed, the AT type can be selected to obtain AT results appropriate for the target control characteristics.
One of the following three types can be selected for the AT type.

0: Normal (regular control characteristics)
1: Fast (response to disturbance)
2: Stable (minimal up/down PV fluctuation)

The following graph shows the pattern of differences in the control results that use PID constants calculated with each AT type.



Difference in PV change
when SP is changed

■ Setting banks

Bank	Item name	Contents of setup
Loop (basic)	AT type	0: Normal (regular control characteristics) 1: Fast (response to disturbance) 2: Stable (minimal up/down PV fluctuation)
Loop (extended)	MV low limit during AT	−10.0 to +110.0
	MV high limit during AT	−10.0 to +110.0
Loop (algorithm)	AT adjustment factor, proportional band	0.00 to 320.00
	AT adjustment factor, integral time	0.00 to 320.00
	AT adjustment factor, derivative time	0.00 to 320.00

■ Example 1

This example describes how to set the AT type of loop 1 to “Fast”.

Set the AT type.
Configure the settings as shown below in the loop (basic) bank setup.

Item name	Setting
(Loop 1) AT type	1: Fast (response to disturbance)

■ Example 2

This example describes the setting where the AT result of derivative time is always 0.0 when the AT (auto tuning) of loop 1 is executed.

Set the AT adjustment factor.
Configure the settings as shown below in the loop (algorithm) bank setup.

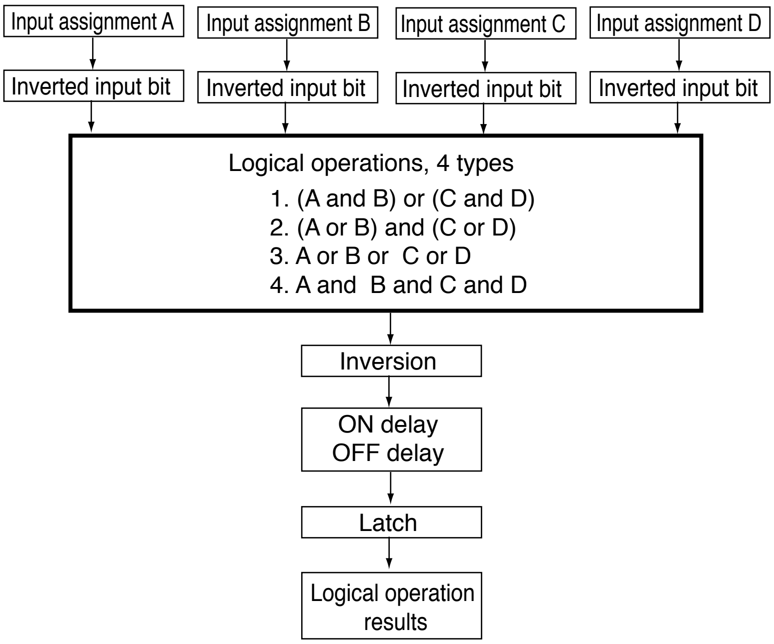
Item name	Setting
(Loop 1) AT adjustment factor, proportional band	1.00
(Loop 1) AT adjustment factor, integral time	1.00
(Loop 1) AT adjustment factor, derivative time	0.00

Note

- With the AT adjustment factor, the PID constant calculated with the AT is multiplied by the factor before being written to the PID constant setting. When using the PID constant calculated with the AT unchanged, the AT adjustment factor does not need to be set. Use the default setting (1.00) unchanged.

7 - 6 Logical Operations

This unit can perform logical operations (Boolean operation consisting of “0” and “1”) corresponding to various statuses and can use the logical operation results as ON/OFF outputs or internal contact inputs.
16 groups of logical operations are provided. One operation group consists of four inputs and one output.
Four kinds of logical operations are provided. Furthermore, the input or output logic can be inverted.



■ Processing sequence for logical operations

Certain logical operation results can be used as inputs of the logical operation in the same group or a different group. The operating process of the logical operation is performed at intervals of sampling cycles in the group No. order.
Therefore, the logical operation results of a smaller group No. can be used in the same sampling cycle. The logical operation results of the same group No. or a lager group No. are used in the next sampling cycle.

Note

- In logical operation groups 1 to 4, logical operations are performed before PID control, while in logical operation groups 5 to 16, logical operations are performed after PID control.

■ Example

The following is an example where digital output 1 is turned ON when any of the event 1, event 2, or representative of all alarms is turned ON using the logical operation group 1:

[1] Set the logical operation.
Configure the settings as shown below in the logical operation bank setup.

Item name	Setting
(Logical operation group 1) Calculation type	3: Calculation 3 (A or B or C or D)
(Logical operation group 1) Input assignment A	1088: Event 1
(Logical operation group 1) Input assignment B	1089: Event 2
(Logical operation group 1) Input assignment C	1792: Representative of all alarms
(Logical operation group 1) Input assignment D	1024: OFF
(Logical operation group 1) Inverted input bit A	0: Direct
(Logical operation group 1) Inverted input bit B	0: Direct
(Logical operation group 1) Inverted input bit C	0: Direct
(Logical operation group 1) Inverted input bit D	0: Direct
(Logical operation group 1) ON delay time	0.0 (unit: s)
(Logical operation group 1) OFF delay time	0.0 (unit: s)
(Logical operation group 1) Inversion	0: Direct
(Logical operation group 1) Latch	0: No latch

[2] Set the results of logical operation 1 for digital output 1.
Configure the settings as shown below in the OUT/DO output bank setup.

Item name	Setting
(OUT/DO output 1) Output type	1088: Event 1
(OUT/DO output 1) Latch	0: No latch
(OUT/DO output 1) Time proportional operation type	(Setting is invalid)
(OUT/DO output 1) Min. ON/OFF time	10 (ms)
(OUT/DO output 1) Time proportional cycle	(Setting is invalid)
(OUT/DO output 1) Phase shift	(Setting is invalid)

7 - 7 User-defined Bits

User-defined bits can be used instead of the digital input. User-defined bits are ON/OFF data that can be read and written from the communication. 32 bits are available.

■ Example

The following is an example where the RUN/READY mode selection of loop 1 is changed to READY when user-defined bit 1 is ON and changed to RUN when user-defined bit 1 is OFF.

[1] Set the RUN/READY mode selection for internal contact 1.
Configure the settings as shown below in the internal contact input bank setup.

Item name	Setting
(Internal contact group 1) Operation type	21: RUN/READY mode selection
(Internal contact group 1) Input type	1408: User defined bit 1
(Internal contact group 1) Loop/channel definition	1: Loop 1
(Internal contact group 1) Weighting	(Setting is invalid)

[2] Change the value of user-defined bit 1 from the communication.
Write 0 (RUN) or 1 (READY) in the data address of user-defined bit 1 in the user-defined bit bank.

7 - 8 User-defined Numbers

User-defined bits are numerical value data that can be read and written from the communication. 16 bits are available.

■ Example

The following is an example where the MV of a host device is received via communication, and is then output. User-defined number 1 is used to output the MV of a host device from analog current output 1.

[1] Assign user-defined number 1 to analog current output 1.
Configure the settings as shown below in the continuous output bank.

Item name	Setting
(Analog current output 1) Output range	0: 4 to 20 mA
(Analog current output 1) Output type	2111: User defined number 1
(Analog current output 1) Loop/channel definition	(Setting is invalid)
(Analog current output 1) Output decimal point position	0: No decimal point
(Analog current output 1) Output scaling low limit	0
(Analog current output 1) Output scaling high limit	1000

[2] Change the value of user-defined number 1 from the communication.
Write the value that is 10 times the host device MV in the data address of user-defined number 1 in the user-defined number bank. (When the MV of the host device is 50.0%, write 500 in user-defined number 1.)

Chapter 8. CPL COMMUNICATIONS FUNCTION

8 - 1 Outline of Communication

Communication with a PC, PLC or other host devices is available using a user-configured program that uses RS-485 communication.
CPL communication (Controller Peripheral Link: Yamatake Corporation's host communication protocol) or MODBUS communication can be selected as the communication protocol.
This chapter describes the CPL communications.

■ Features

The features of the unit's communication function are as follows:

- Up to 31 units can be connected to a single master station that functions as a host device.
- When the communication specifications of the host device conform to the RS-232C interface, the communication converter CMC10L (sold separately) is required.
  The CMC10L allows conversion between RS-232C and RS-485.
- Almost all of the unit parameters can be communicated.
  For details on the communication data, refer to:
  ☞ Chapter 11. LIST OF COMMUNICATION DATA
- Random access commands are available.
  Two or more parameters at separated addresses can be read or written by a single command.

■ Setup

The following setup is required for performing the CPL communications.

Item name	Contents of setup	Initial value
Communications type	0: CPL 1: MODBUS ACSII 2: MODBUS RTU	0
Station address	0: Does not communicate 1 to 127	127
Transmission speed	0: 4800 bps 1: 9600 bps 2: 19200 bps 3: 38400 bps 4: 57600 bps 5: 115200 bps	2
Data format (Data length)	0: 7 bits 1: 8 bits	1
Data format (Parity)	0: Even parity 1: Odd parity 2: No parity	0
Data format (Stop bit)	0: 1 bit 1: 2 bits	0
Minimum response time	1 to 250 ms	3

! Handling Precautions

- The setup cannot be performed via RS-485 communications.
- If you use the Yamatake CMC10L as an RS-485 converter, set the minimum response time to 3 ms or longer.
  The maximum transmission speed supported by the CMC10L is 38400 bps.

■ Communication procedure

The communication procedure is as follows:

[1] The instruction message is sent from the host device (master station) to one unit (slave station).

[2] The slave station receives the instruction message, and performs read or write processing according to the content of the message.

[3] The slave station sends a message corresponding to the processing content as a response message.

[4] The master station receives the response message.

Handling Precautions

- Two or more protocols cannot be used together on a single RS-485 transmission line (such as CPL, MODBUS ASCII, and MODBUS RTU).

8 - 2 Message Structure

■ Message structure

The following shows the message structure.
Messages are broadly classified into two layers: the data link layer and the application layer.

- Data link layer
  This layer contains the basic information required for communication. For example, the destination of the communication message and the check information of the message.
- Application layer
  Data is read and written in this layer. The content of the layer varies according to the purpose of the message.

Messages comprise parts (1) to (9) as shown in the figure below.
The command (details sent from the master station) and the response (details returned from the slave station) are stored in the application layer.

02H			58H		03H		0DH 0AH
STX			X		ETX		CR LF
①	②	③	④	⑤	⑥	⑦	⑧
Data link layer				Application layer	Data link layer		
1 frame							

① STX (start of message)
② Station address
③ Sub-address
④ Device code
⑤ Instruction message = command,
response message = response
⑥ ETX (end of command/response)
⑦ Checksum
⑧ Delimiter (end of message)

■ Data link layer

● Outline of the data link layer

The data link layer is of a fixed length. The position of each data item and the number of its characters are already decided. Note, however, that the data positions of the data link layer from ETX onwards shift according to the number of characters in the application layer.

● Response start conditions

- The device sends the response message only when all the message components in the data link layer of the instruction message are correct. If even one of these is incorrect, no response messages are sent, and the device waits for a new message.

● List of data link layer data definitions

The following list shows the definitions for data in the data link layer:

Data name	Character code	Number of characters	Meaning of data
STX	02H	1	Start of message
Station address	0 to 7FH are expressed as hexadecimal character codes	2	Identification of device to communicate with sub-address
Sub-address	“00” (30H, 30H)	2	No function
Device code	“X” (58H) or “x” (78H)	1	Device type
ETX	03H	1	Application layer end position
Checksum	00H to FFH are expressed as two-digit hexadecimal character codes	2	Checksum of message
Delimiter	CR (0DH), LF (0AH)	2	End of message

● Description of data items

- STX (02H)
  When STX is received, the unit judges this to be the start of the send message. It follows that if a delimiter has not been received previously, the unit judges that a message start STX has been received. The purpose of this is to enable recovery of the unit's response at the next message from the master station in the event that noise, for example, causes a message error.
- Station address
  Of the messages received, the unit creates response messages only when station addresses are the same. Station addresses in the messages are expressed as two hexadecimal characters.
  The unit returns the same station address as that of the received message.
  However, when the station address is set to "00" (30H 30H), the unit does not respond even if the station addresses match.
- Sub-address
  Two hexadecimal characters can be used, from "00" (30H 30H) to "FF" (46H 46H). The unit returns the same sub-address as that of the received message.
- Device code
  "X" (58H) or "x" (78H) can be used. This code is determined for each device series, and other codes cannot be selected. The unit returns the same device code as that of the received message. These can be used to identify the messages, for example by using "X" (58H) as the initial value and "x" (78H) in resend messages.
- ETX
  ETX indicates the end of the application layer.
- Checksum
  This value is for checking whether or not some abnormality (e.g. noise) causes the message content to change during communications.
- The checksum is expressed as two hexadecimal characters.
- How to calculate a checksum

  [1] Add the character codes in the message from STX through ETX in single byte units.

  [2] Take two's complement of the low-order one byte of the addition result.

  [3] Convert the obtained two's complement to a two-byte ASCII code.

  The following is a sample checksum calculation for a sample message:
  [Message example]
  STX : 02H
  "0" : 30H (first byte of the station address)
  "1" : 31H (second byte of the station address)
  "0" : 30H (first byte of the sub-address)
  "0" : 30H (second byte of the sub-address)
  "X" : 58H (device code)
  "R" : 52H (first byte of the command)
  "D" : 44H (second byte of the command)
  (omitted)
  ETX : 03H

[1] Add the character codes in the message from STX through ETX in single byte units. The adding calculation in single byte units is as follows:
02H + 30H + 31H + 30H + 30H + 58H + 52H + 44H +... + 03H
The result of this calculation is 376H.

[2] The low-order one byte of the addition result 376H is 76H. The two's complement of 76H is 8AH.

[3] Convert the obtained 8AH to a two-byte ASCII code. The result is:
"8": 38H
"A": 41H
The two bytes "8" (38H) and "A" (41H) are the checksum.

- Delimiter (CR/LF)
  This indicates the end of the message. Immediately after LF is received, the unit enters a state allowed to process the received message.

■ Application layer

The table below shows the configuration of the application layer.

Item	Description
Command	"RS" (decimal format continuous address data read)
	"WS" (decimal format continuous address data write)
	"RD" (hexadecimal format continuous address data read)
	"WD" (hexadecimal format continuous address data write)
	"RU" (hexadecimal format random address data read)
	"WU" (hexadecimal format random address data write)
Data delimiter	RS, WS command: "," (comma) Other commands: None
Word address	RS, WS command: Numeric value in decimal notation and "W", such as "501W". Other commands: Numeric value in hexadecimal notation, such as "01F5".
Read count	RS, WS command: Numeric value in decimal notation, such as "1". Other commands: Numeric value in hexadecimal notation, such as "0001".
Numerical value to be written	RS, WS command: Numeric value in decimal notation, such as "100". Other commands: Numeric value in hexadecimal notation, such as "0064".

The number of data records accessible by a single instruction message and response message cycle is as follows:

Command	RAM	EEPROM
RD	28	28
WD	28	28
RU	28	28
WU	16	16
RS	16	16
WS	16	16

8 - 3 Description of Commands

■ Fixed length continuous data read command (RD command)

Data in continuous data addresses is read in a hexadecimal format.

● Instruction message

Specifies the start data address and the number of data records. The structure of the application layer in the instruction message is as follows:

RD		
①	②	③

① Command
② Start data address
③ Number of data records

● Response message

The structure of the application layer in the response message is as follows:

- Normal end (reading of single data item)

00	
①	②

- Normal end (reading of multiple data items)

00			
①	②	③	④

- Abnormal end

XX
①

The abnormal end code is entered at XX.
For details of the codes, refer to:
☞ 8-6 List of End Codes (page 8-15).

① End code
② Data (1st item)
③ Data (2nd and following items)
④ Data (final item)

Note

- For details on hexadecimal number notation, refer to:
☞ ■ Hexadecimals (page 8-13) in 8-5 Numeric Representation in the Application Layer.

■ Fixed length continuous data write command (WD command)

Writing is performed in a hexadecimal format to data in continuous data addresses.

● Instruction message

Specifies the start data address and at least one data record. The structure of the application layer in the instruction message is as follows:

- Writing of single data item

W D		
①	②	③

- Writing of multiple data items

W D				
①	②	③	④	⑤

① Command
② Start data address
③ Data (1st item)
④ Data (2nd and following items)
⑤ Data (final item)

● Response message

The structure of the application layer in the response message is as follows:

- Normal end

0 0
①

- Abnormal end

X X
①

The abnormal end code is entered at XX.
For details of the codes, refer to:
☞ 8-6 List of End Codes (page 8-15).

① End code

Note

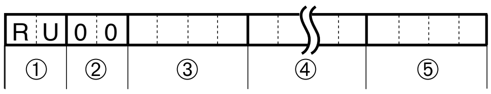
- For details on hexadecimal number notation, refer to:
☞ ■ Hexadecimals (page 8-13) in 8-5 Numeric Representation in the Application Layer.

■ Fixed length random data read command (RU command)

Data in random (non-continuous) data addresses is read in a hexadecimal format.

● Instruction message

Specifies at least one data record. The structure of the application layer in the instruction message is as follows:

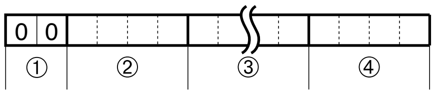


① Command
② Sub-command, fixed to “00”
③ Data address (1st item)
④ Data address (2nd and following items)
⑤ Data address (final item)

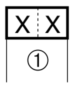
● Response message

The structure of the application layer in the response message is as follows:

- Normal end



- Abnormal end



The abnormal end code is entered at XX.
For details of the codes, refer to:
☞ 8-6 List of End Codes (page 8-15).

① End code
② Data (1st item)
③ Data (2nd and following items)
④ Data (final item)

Note

- For details on hexadecimal number notation, refer to:
  ☞ ■ Hexadecimals (page 8-13) in 8-5 Numeric Representation in the Application Layer.

■ Fixed length random data write command (WU command)

Writing is performed in a hexadecimal format to data in random (non-continuous) data addresses.

● Instruction message

Groups data addresses and data, and specifies at least one group. The structure of the application layer in the instruction message is as follows:

W U	0 0					
①	②	③	④	⑤	⑥	⑦

① Command
② Sub-command, fixed to “00”
③ Data address (1st group)
④ Write data (1st group)
⑤ Data address, write data (2nd and following groups)
⑥ Data address (final group)
⑦ Write data (final group)

● Response message

The structure of the application layer in the response message is as follows:

● Normal end

0 0
①

● Abnormal end

X X
①

The abnormal end code is entered at XX.
For details of the codes, refer to:
☞ 8-6 List of End Codes (page 8-15).

① End code

Note

- For details on hexadecimal number notation, refer to:
☞ ■ Hexadecimals (page 8-13) in 8-5 Numeric Representation in the Application Layer.

■ Continuous data read command (RS command)

Data in continuous data addresses is read in a decimal format.

● Instruction message

Specifies the start data address and the number of data records. The structure of the application layer in the instruction message is as follows:

R	S	,	4	0	9	6	W	,	1
①		②	③					②	④

① Command
② Data delimiter
③ Start data address ("W" is required)
④ Number of data records

● Response message

The structure of the application layer in the response message is as follows:

- Normal end (reading of single data item)

0	0	,	
①		②	③

- Normal end (reading of multiple data items)

0	0	,		,		,	
①		②	□③	②	④	②	⑤

- Abnormal end

X	X
①	

The abnormal end code is entered at XX.
For details of the codes, refer to:
☞ 8-6 List of End Codes (page 8-15).

① End code
② Data delimiter
③ Data (1st item)
④ Data (2nd and following items)
⑤ Data (final item)

Note

- For details on decimal number notation, refer to:
☞ ■ Decimals (page 8-14) in 8-5 Numeric Representation in the Application Layer.

■ Continuous data write command (WS command)

Writing is performed in a decimal format to data in continuous data addresses.

● Instruction message

Specifies the start address and at least one data record. The structure of the application layer in the instruction message is as follows:

W	S	,	4	0	9	6	W	,	1	,	6	5
①		②	③					②	④	②	⑤	

① Command
② Data delimiter
③ Start data address ("W" is required)
④ Data (1st item)
⑤ Data (2nd item)

● Response message

The structure of the application layer in the response message is as follows:

- Normal end

0	0
①	

- Abnormal end

X	X
①	

The abnormal end code is entered at XX.
For details of the codes, refer to:
☞ 8-6 List of End Codes (page 8-15).

① End code

Note

- For details on decimal number notation, refer to:
☞ ■ Decimals (page 8-14) in 8-5 Numeric Representation in the Application Layer.

8 - 4 Definition of Data Addresses

● RAM and EEPROM areas of data addresses

Data addresses are categorized as follows:

Data address hexadecimal	Data address decimal	Name	Remarks
100 to FFF	256 to 4095	EEPROM access data address	The write command accesses both the RAM area and EEPROM area, but the read command accesses the RAM area only . Since data is written to the EEPROM, the data does not change even after the power is turned off and back on again.
1000 to 4FFF	4096 to 20479	RAM access data address	The write and read commands access both the RAM area and EEPROM area. Since data is not written to the EEPROM, the data returns to the previous one stored in the EEPROM after the power is turned off and back on again.
5000 to 8FFF	20480 to 36863	EEPROM access data address	The write command accesses both the RAM area and EEPROM area, but the read command accesses the RAM area only . Since data is written to the EEPROM, the data does not change even after the power is turned off and back on again.

Handling Precautions

- The number of EEPROM erase/write cycles is limited.
  Accordingly, it is recommended that very frequently written parameters be written to RAM, which does not have a limitation on cycles.
  However, note that the data written to the RAM area is overwritten with the EEPROM area data when the power is turned ON.

● Write data range

If the write value exceeds the range determined by parameters, writing is not performed and an abnormal termination code is returned.

● Write conditions

An abnormal termination code is also returned when the writing is not possible due to the conditions.

● Undefined address read

When an undefined address is read, the end code does not result in an abnormality or warning when the data is 0.

8 - 5 Numeric Representation in the Application Layer

The numeric values in the application layer include the data address, number of data records and data values, and use hexadecimal or decimal notation depending on the command. This notation method is shared by both the instruction message and the response message.

■ Hexadecimals

The hexadecimal specifications are shown in the table below.
If the message does not match the specifications, the unit does not process the instruction message and instead returns an error response.

Item	Specification	Example of specification mismatch
Supported commands	RD WD RU WU	RS command (hexadecimal is not allowed) WS command (hexadecimal is not allowed)
Available characters	0 (30H) to 9 (39H) A (41H) to F (46H)	1 2 3 a (a is not allowed) – 1 2 3 (– is not allowed) 1 2 3 (Space is not allowed)
Number of characters	4	1 2 3 (3 characters) 0 1 2 3 4 (5 characters)
Expressible numeric values	8000H to 7FFFH (data with symbols) 0000H to FFFFH (data without symbols)	
Examples of normal character strings	0 0 0 0 1 2 A B 0 1 2 3 F F F F	

■ Decimals

The decimal specifications are shown in the table below.
In the data address, a capital letter "W" (57H) is added immediately after the decimal.
If the message does not match the specifications, the unit does not process the instruction message and instead returns an error response.

Item	Specification	Example of specification mismatch
Supported commands	RS Ws	RD command (decimal is not allowed) WD command (decimal is not allowed)
Available characters	0 (30H) to 9 (39H) –(2DH)	1 2 3 A (A is not allowed) + 1 2 3 (+ is not allowed) ␣ 1 2 3 (Space is not allowed)
Delimiter characters	,(2CH) Delimiter characters are used between two numeric values	
Number of characters	1 to 5 (positive numbers) 2 to 6 (negative numbers) 1 (Numeric value 0)	0 characters (Nothing between delimiter characters) 1 2 3 4 5 6 (6-character positive number)
Expressible numeric values	–32768 to +32767 (data with symbols) 0 to 65535 (data without symbols)	
Positive number notation	Starts with 1 (31H) to 9 (39H)	0 1 (Not allowed to start with 0)
Negative number notation	Starts with -(2DH), the second character is 1 (31H) to 9 (39H)	– 0 1 (0 is not allowed for the second character)
Numeric value 0 notation	0	– 0 (– is not allowed) 0 0 (Anything other than 1 character is not allowed)
Examples of normal character strings	1 3 2 7 6 7 – 1 2 – 3 2 7 6 8	

8 - 6 List of End Codes

The result of the application layer process for the instruction message can be understood from the end code of the response message.

Results other than "normal" are in two levels. An "error" occurs when nothing is processed, and a "warning" occurs when there is a possibility that some kind of processing will be performed.

■ End code of the read command

End code	Meaning	Unit processing
00 (Normal)	Normal termination	Returns a read value
99 (Error)	Undefined command	Returns only the end code (does not add data)
10 (Error)	Parameter error *	Returns only the end code (does not add data)
40 (Error)	No. of data records error	Returns only the end code (does not add data)
21 (Warning)	Data address error	Returns the data of the corresponding data address as a 0 value
22 (Warning)	Data range error	Returns the read value of the corresponding data address as 8000 or 7FFF in hexadecimal format, or –32768 or +32767 in decimal format.
23 (Warning)	Not allowed depending on the instrument conditions	Returns the data of the corresponding data address as a 0 value

*. The parameter errors are the following errors.
- Violation of the numeric representation
- Violation of the instruction message format

■ End code of the write command

End code	Meaning	Unit processing
00 (Normal)	Normal termination	Writes all data
99 (Error)	Undefined command	Does not write any data
10 (Error)	Parameter error *	Does not write any data
40 (Error)	No. of data records error	Does not write any data
21 (Warning)	Data address error	Does not write the corresponding data address
22 (Warning)	Data range error	Does not write the corresponding data address
23 (Warning)	Not allowed depending on the instrument conditions	Does not write the corresponding data address

*. The parameter errors are the following errors.
- Violation of the numeric representation
- Violation of the instruction message format
- Addition of excess data to the end of the frame

8 - 7 Reception and Transmission Timing

■ Timing specifications for instruction and response messages

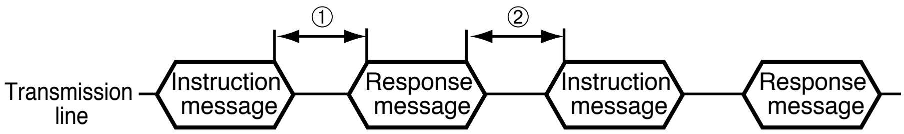
The cautions below are required with regard to the timing to transmit an instruction message from the master station and a response message from the slave station.

● Response monitor time

The maximum response time from the end of the instruction message transmission by the master station until when the master station receives a response message from the slave station is two seconds ((1) in the figure below).
So, the response monitor time should be set to two seconds.
Generally, when a response time-out occurs, the instruction message is resent.

● Transmission start time

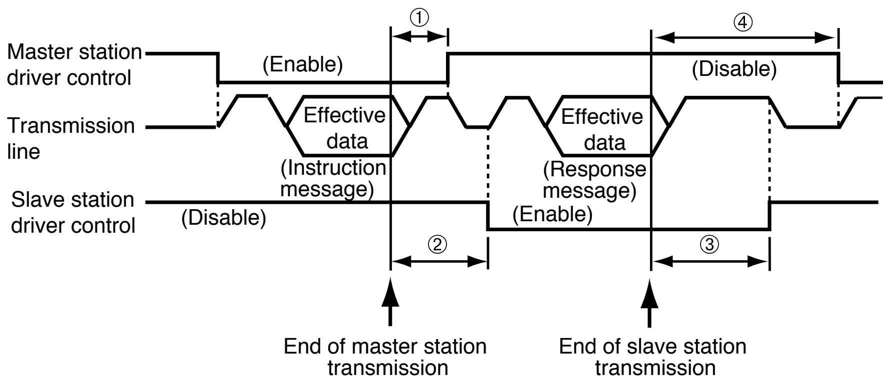
A wait time of 10 ms is required before the master station starts to transmit the next instruction message (to the same slave station or a different slave station) after the end of receiving response message ((2) in the figure below).



① End of master station transmission – Transmission start time of slave station = Max. 2000 ms
② End of slave station transmission – Transmission start time of master station = Min. 10 ms

■ RS-485 driver control timing specifications

When the transmission/reception on the RS-485 3-wire system is directly controlled by the master station, care should be paid to the following timing:



① End of master station transmission - Driver disable time = Max. 500 μs
② End of slave station reception – Driver enable time = Minimum response time
③ End of slave station transmission - Driver disable time = Max. 10 ms
④ End of master station reception - Driver enable time = Min. 10 ms

Chapter 9. MODBUS COMMUNICATIONS FUNCTION

9 - 1 Outline of Communication

Communication with a PC, PLC or other host devices is available using a user-configured program that uses RS-485 communication.
CPL communication (Controller Peripheral Link: Yamatake Corporation's host communication protocol) or MODBUS communication can be selected as the communication protocol. This chapter describes the MODBUS communications.

■ Features

The features of the unit's communication function are as follows:

- Up to 31 units can be connected to a single master station as a host device.
- When the communication specifications of the host device conform to the RS-232C interface, the communication converter CMC10L (sold separately) is required.
  The CMC10L allows conversion between RS-232C and RS-485.
- Almost all of the unit parameters can be communicated.
  For details on the communication parameters, refer to:
  ☞ Chapter 11. LIST OF COMMUNICATION DATA.

! Handling Precautions

- In MODBUS communications, the communication address (parameter) for the module that is set in the host device may be reduced by 1 in a communication message during transmission.
  Example: If the communication address (parameter) is set to 1001 in the host device, it will be 1000 in a communication message during transmission.
  The module sends/receives a message to/from the communication address (parameter) that is specified in the communication message.
  Be sure to understand the specifications of the host device before using the module.

■ Setup

The following setup is required for performing the MODBUS communications.

Item name	Contents of setup	Initial value
Communications type	0: CPL 1: MODBUS ACSII 2: MODBUS RTU	0
Station address	0: Does not communicate 1 to 127	127
Transmission speed	0: 4800 bps 1: 9600 bps 2: 19200 bps 3: 38400 bps 4: 57600 bps 5: 115200 bps	2
Data format (Data length)	0: 7 bits 1: 8 bits	1
Data format (Parity)	0: Even parity 1: Odd parity 2: No parity	0
Data format (Stop bit)	0: 1 bit 1: 2 bits	0
Minimum response time	1 to 250 ms	3

- When the communications type is set to MODBUS RTU, the operation is fixed to 8-bit data regardless of the data format (data length) setting.

! Handling Precautions

- The setup cannot be performed via RS-485 communications.
- If you use the Yamatake CMC10L as an RS-232C/RS-485 converter, set the minimum response time to 3 ms or longer.
  The maximum transmission speed supported by the CMC10L is 38400 bps.

■ Communication procedure

The communication procedure is as follows:

[1] The instruction message is sent from the host device (master station) to one unit (slave station).

[2] The slave station receives the instruction message, and performs read or write processing according to the content of the message.

[3] The slave station sends a message corresponding to the processing content as a response message.

[4] The master station receives the response message.

! Handling Precautions

- Two or more protocols cannot be used together on a single RS-485 transmission line (such as CPL, MODBUS ASCII, and MODBUS RTU).

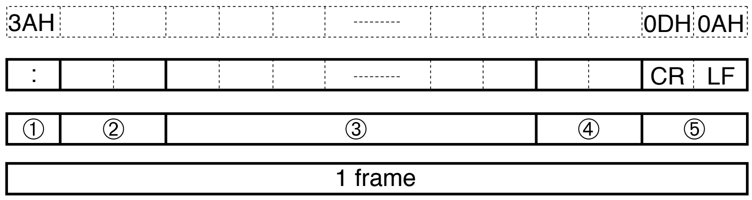
9 - 2 Message Structure

■ Message structure

The following shows the message structure.

● MODBUS ASCII

Messages other than the start code and end code all use hexadecimal ASCII codes.
MODBUS ASCII messages comprise parts (1) to (5) as shown below.
The command (details sent from the master station) and the response (details returned from the slave station) are stored in part (3).
One box below represents one character.



① Start code (1 byte)
② Station address (2 bytes)
③ Send message, response message
④ Check code (LRC) (2 bytes)
⑤ End code (2 bytes)

- Start code
  The start code is a colon (3AH).
  When the start code is received, the unit judges this to be the start of the send message. It follows that if an end code has not been received previously, the unit judges that a start code for the start of the message has been received. The purpose of this is to enable recovery of the unit's response at the next message from the master station in the event that noise, for example, causes a message error.

- Station address
  Of the messages received, the unit creates response messages only when station addresses are the same. Station addresses in the messages are expressed as two hexadecimal characters.
  However, when the station address is set to "00" (30H 30H), the unit does not respond even if the station addresses match.
  The unit returns the same station address as that of the received message.

- Check code (LRC)
  This value is for checking whether or not some abnormality (e.g. noise) causes the message content to change during communications. The check code is expressed as two hexadecimal characters. The procedure for calculating the check code is as follows.

  [1] Add from the start of the station address to immediately before the check code. Be sure that the added value is not the ASCII character value of the send message, but rather the one-byte binary data that is converted from the two ASCII characters.

[2] Take the two's complement of the addition result.

[3] Convert the low-order one byte of the addition result to the two characters that express the hexadecimal.

- End code (CR/LF)
  This indicates the end of the message. Immediately after LF is received, the unit enters a state allowed to process the received message.

Note

- The following is an example of the check code (LRC) calculation.
  [Message example]
  : : 3AH (start of message)
  '0' : 30H (first byte of the station address)
  'A' : 41H (second byte of the station address)
  '0' : 30H (first byte of the read command)
  '3' : 33H (second byte of the read command)
  '0' : 30H (first byte of the start data address)
  '3' : 33H (second byte of the start data address)
  'E' : 45H (third byte of the start data address)
  '9' : 39H (fourth byte of the start data address)
  '0' : 30H (first byte of the read count)
  '0' : 30H (second byte of the read count)
  '0' : 30H (third byte of the read count)
  '2' : 32H (fourth byte of the read count)

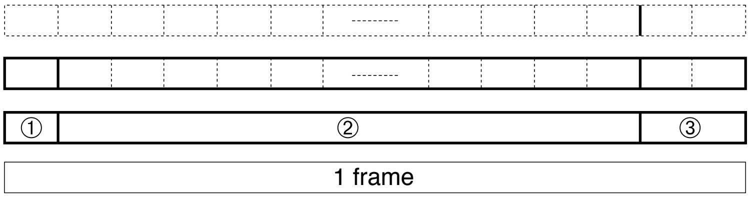
[1] Add from the first byte of the station address to immediately before the check code. The adding calculation is as follows:
0AH + 03H + 03H + E9H + 00H + 02H
The result of this calculation is FBH.

[2] The low-order one byte of the addition result FBH is unchanged at FBH. The two's complement of FBH is 05H.

[3] Convert the obtained 05H to a two-byte ASCII code. The result is:
'0' : 30H
'5' : 35H
The two bytes '0' (30H) and '5' (35H) are the two-byte check code.

● MODBUS RTU

All messages use binary data.
MODBUS RTU messages comprise parts (1) to (3) as shown below.
The command (details sent from the master station) and the response (details returned from the slave station) are stored in part (2).
All messages use binary data. (One box below represents one byte.)



① Station address (1 byte)
② Send message, response message
③ Check code (2 bytes)

- Station address
  Of the messages received, the unit creates response messages only when station addresses are the same. Station addresses in the messages are one byte. However, when the station address is set to "0", the unit does not respond even if the station addresses match. The unit returns the same station address as that of the received message.
- Check code (CRC)
  This value is for checking whether or not some abnormality (e.g. noise) causes the message content to change during communications. The check code is two bytes.

The procedure for calculating the check code (CRC) is as follows.

The part from the start of the station address in the message to immediately before the check code is the subject of the calculation. The binary data of the message is used unchanged in the calculation. The check code is 16-bit data, and can be calculated with the C language function get_crc16() as shown below. In the message, the low-order one byte is first, and the high-order one byte is last. This order is the reverse of the other 16-bit data.

[Explanation]	Calculate the CRC 16 bits
[Argument 1]	Character string length (number of bytes)
[Argument 2]	Pointer for start of character string
[Function value]	Calculation result

```
unsigned short get_crc16(signed int len, const unsigned char
*p)
{
    unsigned short crc16;
    unsigned short next;
    unsigned short carry;
    signed int i;
    crc16 = 0xffff;

    while (len > 0)
    {
    next = (unsigned short)*p;
    crc16 ^= next;
    for (i = 0; i < 8; i++)
    {
    carry = crc16 & 0x0001;
    crc16 >>= 1;
    if (carry != 0)
    {
    crc16 ^= 0xa001;
    }
    }
    p++;
    len--;
    }

    return crc16;
}
```

- One frame end judgment
  The message end (one frame end) is judged when the time in which a character has not been received exceeds the time specified for the transmission speed. One frame end is judged when the next character is not received before the time-outs shown below.
  However, note that there is a variation of ±1 ms in the time-outs shown in the table below.

Set transmission speed (bps)	Time-out transmission speed (bps)
4800	9 ms or longer
9600	5 ms or longer
19200	3 ms or longer
38400	2 ms or longer
57600	2 ms or longer
115200	2 ms or longer

■ Command types

The command (send message) types supported by this unit are as follows:

Command type	Description		Conformance class
	ASCII	RTU	
Multiple data item read	"03" (2 bytes)	03H (1 byte)	class 0
Multiple data item write	"10" (2 bytes)	10H (1 byte)	class 0
One data item write	"06" (2 bytes)	06H (1 byte)	class 1 Note:

Note: This unit does not support class 1 commands other than one data item write.

■ Exception codes

When a response message error occurs, the following exception codes are added after the function code.

Error type	Exception code		Description
	ASCII	RTU	
Invalid function	"01" (2 bytes)	01H (1 byte)	Function code not supported code by the unit
Invalid data address	"02" (2 bytes)	02H (1 byte)	Including data addresses that cannot be read or written
Invalid data	"03" (2 bytes)	03H (1 byte)	Errors other than the above

■ No. of data records

The number of data records that can be read or written in a one frame message is as follows:

Command type (Function code)	No. of data records			
	ASCII		RTU	
	RAM	EEPROM	RAM	EEPROM
Multiple data item read (03)	1 to 16 items	1 to 16 items	1 to 32 items	1 to 32 items
Multiple data item write (10)	1 to 16 items	1 to 16 items	1 to 32 items	1 to 32 items
One data item write (06)	1 item	1 item	1 item	1 item

Note

- For details on the MODBUS communication specifications, refer to:
  ☞ "Modicon Modbus Protocol Reference Guide (PI-MBUS-300 Rev.J)" MODICON, Inc.
  ☞ "OPEN MODBUS/TCP SPECIFICATION (Release 1.0)" Schneider Electric.

9 - 3 Description of Commands

■ Multiple data item read command (03H)

Data in continuous data addresses is read in a hexadecimal format.

● Instruction message

Specifies the start data address and the number of data records. The structure of the instruction message is as follows:

MODBUS ASCII

3AH	30H	41H	30H	33H	30H	33H	45H	39H	30H	30H	30H	32H	30H	35H	0DH	0AH
:	0	A	0	3	0	3	E	9	0	0	0	2	0	5	CR	LF
①	②		③		④				⑤				⑥		⑦	

① Start code
② Station address
③ Function code
④ Start data address
⑤ No. of data records
⑥ Check code (LRC)
⑦ End code

MODBUS RTU

0AH	03H	03H	E9H	00H	02H	14H	C0H
①	②	③		④		⑤	

① Start code
② Function code
③ Start data address
④ No. of data records
⑤ Check code (CRC)

● Response message

The structure of the response message is as follows:

MODBUS ASCII

- Normal example

3AH	30H	41H	30H	33H	30H	34H	30H	33H	30H	31H	30H	30H	30H	33H	45H	38H	0DH	0AH
:	0	A	0	3	0	4	0	3	0	1	0	0	0	3	E	8	CR	LF
①	②		③		④		⑤				⑥				⑦		⑧	

① Start code
② Station address
③ Function code
④ No. of data records ×2
⑤ Read data 1
⑥ Read data 2
⑦ Check code (LRC)
⑧ End code

• Error example

3AH	30H	41H	38H	34H	30H	31H	37H	31H	0DH	0AH
:	0	A	8	4	0	1	7	1	CR	LF
①	②		③		④		⑤		⑥	

① Start code
② Station address
③ Function code (When an error occurs, 1 is set for the MSB of the send message's function code. In this example, a response of 84 is given for the undefined 04.)
④ Exception code (☞ page 9-6)
⑤ Check code (LRC)
⑥ End code

MODBUS RTU

• Normal example

0AH	03H	04H	03H	01H	00H	03H	51H	76H
①	②	③	④		⑤		⑥	

① Station address
② Function code
③ Read count ×2 (number of bytes)
④ Read data 1
⑤ Read data 2
⑥ Check code (CRC)

• Error example

0AH	84H	01H	F3H	02H
①	②	③	④	

① Station address
② Function code (When an error occurs, 1 is set for the MSB of the send message's function code. In this example, a response of 84 is given for the undefined 04.)
③ Exception code (☞ page 9-6)
④ Check code (CRC)

■ Multiple data item write command (10H)

Writing is performed in a hexadecimal format to data in continuous data addresses.

● Instruction message

Specifies the start address, number of data records, and at least one data record.
The structure of the instruction message is as follows:
Example: The 01A0H and 0E53H values are written in two continuous data addresses from 05DDH.

MODBUS ASCII

3AH	30H	31H	31H	30H	30H	35H	44H	44H	30H	30H	30H	32H	30H	34H
:	0	1	1	0	0	5	D	D	0	0	0	2	0	4
①	②		③		④				⑤				⑥	

30H	31H	41H	30H	30H	45H	35H	33H	30H	35H	0DH	0AH
0	1	A	0	0	E	5	3	0	5	CR	LF
⑦				⑧				⑨		⑩	

① Start code
② Station address
③ Function code
④ Write start data address 1
⑤ No. of write data records
⑥ No. of write data records ×2
⑦ Write data 1
⑧ Write data 2
⑨ Check code (LRC)
⑩ End code

MODBUS RTU

01H	10H	05H	DDH	00H	02H	04H	01H	A0H	0EH	53H	45H	B9H
①	②	③		④		⑤	⑥		⑦		⑧	

① Station address
② Function code
③ Write start data address
④ No. of write data records
⑤ No. of write data records ×2
⑥ Write data 1
⑦ Write data 2
⑧ Check code (CRC)

● Response message

The structure of the response message is as follows:

MODBUS ASCII

3AH	30H	31H	31H	30H	30H	35H	44H	44H	30H	30H	30H	32H	30H	42H	0DH	0AH
:	0	1	1	0	0	5	D	D	0	0	0	2	0	B	CR	LF
①	②		③		④				⑤				⑥		⑦	

① Start code
② Station address
③ Function code
④ Write start data address 1
⑤ No. of write data records
⑥ Check code
⑦ End code

MODBUS RTU

01H	10H	05H	DDH	00H	02H	D1H	3EH
①	②	③		④		⑤	

① Station address
② Function code
③ Write start data address
④ No. of write data records
⑤ Check code (CRC)

Note

- The response message when an error occurs is the same as when an error occurs for the multiple data item read command.

■ One data item write command (06H)

Writing is performed in a hexadecimal format to data for which there is only one data address.

● Send message

Specifies the data address and the data. The structure of the instruction message is as follows:

Example: The 01A0H value is written in the 05DDH data address.

MODBUS ASCII

3AH	30H	31H	30H	36H	30H	35H	44H	44H	30H	31H	41H	30H	37H	36H	0DH	0AH
:	0	1	0	6	0	5	D	D	0	1	A	0	7	6	CR	LF
①	②		③		④				⑤				⑥		⑦	

① Start code
② Station address
③ Function code
④ Data address
⑤ Write data
⑥ Check code (LRC)
⑦ End code

MODBUS RTU

01H	06H	05H	DDH	01H	A0H	18H	D4H
①	②	③		④		⑤	

① Station address
② Function code
③ Data address
④ Write data
⑤ Check code (CRC)

● Response message

The normal response message is the same as the send message.

Note

- The response message when an error occurs is the same as when an error occurs for the multiple data item read command.

9 - 4 Numeric Representation

The numeric values include the data address, number of data records and data values, and all use the hexadecimal notation. The numeric representation varies depending on whether the communications type is MODBUS ASCII or MODBUS RTU. This notation method is shared by both the instruction message and the response message.

■ ASCII hexadecimals

The ASCII hexadecimal specifications are shown in the table below.
If the message does not match the specifications, the unit does not process the instruction message and instead returns an error response.

Item	Specification	Example of specification mismatch
Available characters	0 (30H) to 9 (39H) A (41H) to F (46H)	1 2 3 a (a is not allowed) – 1 2 3 (– is not allowed) 1 2 3 (Space is not allowed)
Number of characters	4 or 2	1 2 3 (3 characters) 0 1 2 3 4 (5 characters)
Expressible numeric values (4 characters)	8000H to 7FFFH (data with symbols) 0000H to FFFFH (data without symbols)	
Expressible numeric values (2 characters)	00H to FFH (data without symbols)	
Examples of normal character strings	0 0 0 0 1 2 A B 0 1 2 3 F F F F 0 1 1 0	

■ RTU hexadecimals

The RTU hexadecimal specifications are shown in the table below.
If the message does not match the specifications, the unit does not process the instruction message and instead returns an error response.

Item	Specification	Example of specification mismatch
Available characters	00H to FFH (all)	
Number of characters	2 or 1	00H 01H 02H (3 characters)
Expressible numeric values (2 characters)	8000H to 7FFFH (data with symbols) 0000H to FFFFH (data without symbols)	
Expressible numeric values (1 characters)	00H to FFH (data without symbols)	
Examples of normal character strings	00H 01H 12H ABH 01H 23H FFH FFH 10H 04H	

9 - 5 Specifications Shared with CPL Communications Function

■ Definition of data addresses

☞ Refer to 8-4 Definition of Data Addresses (page 8-12).

■ RS-485 driver control timing specifications

☞ Refer to 8-7 Reception and Transmission Timing (page 8-16).

Chapter 10. MODBUS TCP COMMUNICATIONS FUNCTION

10 - 1 Outline of Communication

This unit can communicate with host devices in MODBUS TCP protocol that conforms to Ethernet TCP/IP.

■ Features

The features of the unit's communication function are as follows:

- When an Ethernet interface communication adapter (1 port) or communication box (4 ports) is mounted on the right or left (communication box is left only) of a connected unit and an Ethernet cable is connected, all modules in the connected block can be accessed.
- The host device can perform communication via Ethernet when the unit's IP address is specified.
- Almost all of the unit parameters can be communicated.
  For details on the communication parameters, refer to:
  ☞ Chapter 11. LIST OF COMMUNICATION DATA.

Handling Precautions

- In MODBUS communications, the communication address (parameter) for the module that is set in the host device may be reduced by 1 in a communication message during transmission.
  Example: If the communication address (parameter) is set to 1001 in the host device, it will be 1000 in a communication message during transmission.
  The module sends/receives a message to/from the communication address (parameter) that is specified in the communication message.
  Be sure to understand the specifications of the host device before using the module.

■ Setup

The following setup is required for performing the MODBUS TCP communications with the unit.

Item	Initial value
IP address	192.168.255.254
Net mask	255.255.255.0
Default gateway	None

- The net mask and default gateway can be set for each chain by selecting “All” in the actual module configuration screen of the SLP-NX (sold separately).
- The port number used by MODBUS TCP is 502, but this can be changed as required.

■ Communication procedure

The communication procedure is as follows:

[1] The instruction message is sent from the host device (master station) to one unit (slave station).

[2] The slave station receives the instruction message, and performs read or write processing according to the content of the message.

[3] The slave station sends a message corresponding to the processing content as a response message.

[4] The master station receives the response message.

Handling Precautions

- Up to two TCP connections can be supported for MODBUS TCP. However, you should also check for restrictions resulting from other communications or communication functions.

10 - 2 Message Structure

■ Message structure

A TCP/IP frame is used. The MODBUS TCP message is expressed in the TCP data section.

● MODBUS TCP

①	②	③	④	⑤	⑥

① Transaction Identifier (2 bytes)	No particular definition.
② Protocol Identifier (2 bytes)	0x0000 when the protocol is MODBUS.
③ Length (2 bytes)	Expresses the number of bytes in (4) to (6).
④ Unit Identifier (1 byte)	Specify 0xFF or 0x00.
⑤ Function (1 byte)	Specify a function code.
⑥ Data (n bytes)	A data string that depends on the function code.

● Data details

- Transaction Identifier
  Contains the same value in a request - response pair.
  The communication master station can use the Transaction Identifier to recognize that a response is the pair of a request.

- Protocol Identifier
  Specify with 0x0000 when the protocol is MODBUS.

- Length
  Expresses the data length from Unit Identifier to Data as the number of bytes.

- Unit Identifier
  Specify 0xFF or 0x00.

- Function
  Specify a function code.

- Data
  The communication data.

● Frame detection method

A TCP frame is detected as one MODBUS TCP frame.

● Used port

The TCP port number used by MODBUS TCP is No. 502. (Can be changed.)

● Function code

Supports Function Codes 3(0x03), 16(0x10) and (0x06).

■ Exception codes

When a response message error occurs, the following exception codes are added after the function code.

Error type	Exception code	Description
Invalid function	“01” (2 bytes)	Function code not supported code by the unit
Invalid data address	“02” (2 bytes)	Including data addresses that cannot be read or written
Invalid data	“03” (2 bytes)	Errors other than the above
Busy	“06” (2 bytes)	Status where the unit cannot process. Resend.

■ No. of data records

The number of data records that can be read or written in a one frame message is as follows:

Command type (Function code)	No. of data records	
	RAM	EEPROM
Multiple data item read (03)	1 to 64 items	1 to 64 items
Multiple data item write (10)	1 to 32 items	1 to 32 items
One data item write (06)	1 item	1 item

Note

- For details on the MODBUS communication specifications, refer to:
  ☞ “Modicon Modbus Protocol Reference Guide (PI-MBUS-300 Rev.J)” MODICON, Inc.
- ☞ “OPEN MODBUS/TCP SPECIFICATION (Release 1.0)” Schneider Electric.

10 - 3 Description of Commands

■ Application section

The following data descriptions

X X
①

are single byte hex descriptions (left side is the upper nibble).

■ Read holding registers (FC=0x03)

● One data item

• Request

0 3		
①	②	③

① Function code (Read Holding Registers)
② Start data address
③ Number of data records (= 1)

• Normal response

0 3		
①	②	③

① Function code (Read Holding Registers)
② Number of bytes (= 2)
③ Read data

• Abnormal response

8 3	
①	②

① Error code (Read Holding Registers)
② Exception code (= 01/02/03/06)

● Multiple data items

• Request

0 3		
①	②	③

① Function code (Read Holding Registers)
② Start data address
③ Number of data records

• Normal response

0 3			…	
①	②	③		③

① Function code (Read Holding Registers)
② Number of bytes
③ Read data (data items continue for the number of read data items)

• Abnormal response

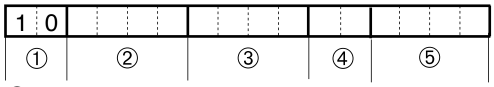
8 3	
①	②

① Error code (Read Holding Registers)
② Exception code (= 01/02/03/06)

■ Write multiple registers (FC=0x10)

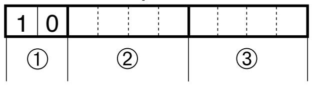
● One data item

- Request



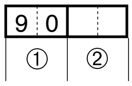
① Function code (Write Multiple Registers)
② Start data address
③ Number of data records (= 1)
④ Number of bytes (= number of data records × 2)
⑤ Write data

- Normal response



① Function code (Write Multiple Registers)
② Start data address
③ Number of data records (= 1)

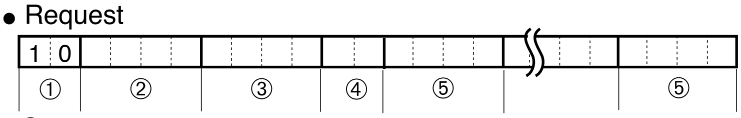
- Abnormal response



① Error code (Write Multiple Registers)
② Exception code (= 01/02/03/06)

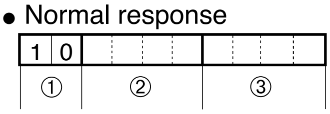
● Multiple data items

- Request



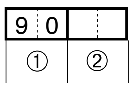
① Function code (Write Multiple Registers)
② Start data address
③ Number of data records
④ Number of bytes (= number of data records × 2)
⑤ Write data

- Normal response



① Function code (Write Multiple Registers)
② Start data address
③ Number of data records

- Abnormal response



① Error code (Write Multiple Registers)
② Exception code (= 01/02/03/06)

■ Write single register (FC=0x06)

- Request

0 6		
①	②	③

① Function code (Write Single Register)
② Write address
③ Write data

- Normal response

0 6		
①	②	③

① Function code (Write Single Register)
② Write address
③ Write data (echo back)

- Abnormal response

8 6	
①	②

① Error code (Write Single Register)
② Exception code (= 01/02/03/06)

Chapter 11. LIST OF COMMUNICATION DATA

The following shows the meanings of the symbols stated in the "RAM/EEPROM Read/Write" columns:

No symbol	: Possible
×	: Impossible

Handling Precautions

- When reading the EEPROM address, data in the RAM is read in the same manner as the reading of the RAM address.
- Even there is no symbol, reading or writing might not be possible depending on the conditions.

Decimal point information

–	: No decimal point
1 to 3	: Decimal point position (original value of data is multiplied by 10, 100, or 1000)
PID_PV	: Determined by the settings for loops 1 to 4 in the loop (basic) bank (loop PV/SV decimal point position).
PV	: Determined by the settings for PV1 to 4 in the PV input bank (decimal point position).
RAMP	: Determined by the settings for loops 1 to 4 in the SP configuration bank (SP ramp unit).
OUT	: Determined by the settings for outputs 1 to 4 in the continuous output bank (output decimal point position).
EV	: Determined by the settings for event Nos. 1 to 24 in the event configuration bank (decimal point position).
PID	: Determined by the settings for loops 1 to 4 in the loop (extended) bank (integral time/derivative time decimal point position).

Handling Precautions

- In MODBUS communications, the communication address (parameter) for the module that is set in the host device may be reduced by 1 in a communication message during transmission.
  Example: If the communication address (parameter) is set to 1001 in the host device, it will be 1000 in a communication message during transmission.

  The module sends/receives a message to/from the communication address (parameter) that is specified in the communication message. Be sure to understand the specifications of the host device before using the module.

Monitor/Communications Profile

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Monitor	Comm. (device)	1	READY/RUN	14352	3810	30736	7810		×		×	–	
Monitor	Comm. (device)	1	Auto/Manual	14353	3811	30737	7811		×		×	–	
Monitor	Comm. (device)	1	AT cancel/execute	14354	3812	30738	7812		×		×	–	
Monitor	Comm. (device)	1	LSP/RSP	14355	3813	30739	7813		×		×	–	
Monitor	Comm. (device)	1	PV (loop)	14356	3814	30740	7814		×		×	PID_PV	
Monitor	Comm. (device)	1	SP	14357	3815	30741	7815		×		×	PID_PV	
Monitor	Comm. (device)	1	MV	14358	3816	30742	7816		×		×	1	
Monitor	Comm. (device)	2	READY/RUN	14360	3818	30744	7818		×		×	–	
Monitor	Comm. (device)	2	Auto/Manual	14361	3819	30745	7819		×		×	–	
Monitor	Comm. (device)	2	AT cancel/execute	14362	381A	30746	781A		×		×	–	
Monitor	Comm. (device)	2	LSP/RSP	14363	381B	30747	781B		×		×	–	
Monitor	Comm. (device)	2	PV (loop)	14364	381C	30748	781C		×		×	PID_PV	
Monitor	Comm. (device)	2	SP	14365	381D	30749	781D		×		×	PID_PV	
Monitor	Comm. (device)	2	MV	14366	381E	30750	781E		×		×	1	
Monitor	Comm. (device)	3	READY/RUN	14368	3820	30752	7820		×		×	–	
Monitor	Comm. (device)	3	Auto/Manual	14369	3821	30753	7821		×		×	–	
Monitor	Comm. (device)	3	AT cancel/execute	14370	3822	30754	7822		×		×	–	
Monitor	Comm. (device)	3	PV (loop)	14372	3824	30756	7824		×		×	PID_PV	
Monitor	Comm. (device)	3	SP	14373	3825	30757	7825		×		×	PID_PV	
Monitor	Comm. (device)	3	MV	14374	3826	30758	7826		×		×	1	
Monitor	Comm. (device)	4	READY/RUN	14376	3828	30760	7828		×		×	–	
Monitor	Comm. (device)	4	Auto/Manual	14377	3829	30761	7829		×		×	–	
Monitor	Comm. (device)	4	AT cancel/execute	14378	382A	30762	782A		×		×	–	
Monitor	Comm. (device)	4	PV (loop)	14380	382C	30764	782C		×		×	PID_PV	
Monitor	Comm. (device)	4	SP	14381	382D	30765	782D		×		×	PID_PV	
Monitor	Comm. (device)	4	MV	14382	382E	30766	782E		×		×	1	
Monitor	Comm. (operation)	1	SP group selection	14592	3900	30976	7900					–	
Monitor	Comm. (operation)	1	LSP	14593	3901	30977	7901					PID_PV	
Monitor	Comm. (operation)	1	Manual MV	14594	3902	30978	7902					1	
Monitor	Comm. (operation)	1	READY/RUN	14595	3903	30979	7903					–	
Monitor	Comm. (operation)	1	Auto/Manual	14596	3904	30980	7904					–	
Monitor	Comm. (operation)	1	AT cancel/execute	14597	3905	30981	7905					–	
Monitor	Comm. (operation)	1	LSP/RSP	14598	3906	30982	7906					–	
Monitor	Comm. (operation)	2	SP group selection	14600	3908	30984	7908					–	
Monitor	Comm. (operation)	2	LSP	14601	3909	30985	7909					PID_PV	
Monitor	Comm. (operation)	2	Manual MV	14602	390A	30986	790A					1	
Monitor	Comm. (operation)	2	READY/RUN	14603	390B	30987	790B					–	
Monitor	Comm. (operation)	2	Auto/Manual	14604	390C	30988	790C					–	
Monitor	Comm. (operation)	2	AT cancel/execute	14605	390D	30989	790D					–	
Monitor	Comm. (operation)	2	LSP/RSP	14606	390E	30990	790E					–	
Monitor	Comm. (operation)	3	SP group selection	14608	3910	30992	7910					–	
Monitor	Comm. (operation)	3	LSP	14609	3911	30993	7911					PID_PV	
Monitor	Comm. (operation)	3	Manual MV	14610	3912	30994	7912					1	
Monitor	Comm. (operation)	3	READY/RUN	14611	3913	30995	7913					–	
Monitor	Comm. (operation)	3	Auto/Manual	14612	3914	30996	7914					–	
Monitor	Comm. (operation)	3	AT cancel/execute	14613	3915	30997	7915					–	
Monitor	Comm. (operation)	4	SP group selection	14616	3918	31000	7918					–	
Monitor	Comm. (operation)	4	LSP	14617	3919	31001	7919					PID_PV	
Monitor	Comm. (operation)	4	Manual MV	14618	391A	31002	791A					1	
Monitor	Comm. (operation)	4	READY/RUN	14619	391B	31003	791B					–	
Monitor	Comm. (operation)	4	Auto/Manual	14620	391C	31004	791C					–	
Monitor	Comm. (operation)	4	AT cancel/execute	14621	391D	31005	791D					–	
Monitor	Comm. (current PID)	1	Current proportional band	14848	3A00	31232	7A00					1	
Monitor	Comm. (current PID)	1	Current integral time	14849	3A01	31233	7A01					PID	
Monitor	Comm. (current PID)	1	Current derivative time	14850	3A02	31234	7A02					PID	
Monitor	Comm. (current PID)	1	Current manual reset	14851	3A03	31235	7A03					1	
Monitor	Comm. (current PID)	1	Current output low limit	14852	3A04	31236	7A04					1	
Monitor	Comm. (current PID)	1	Current output high limit	14853	3A05	31237	7A05					1	

Monitor/Communications Profile

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Monitor	Comm. (current PID)	1	Current proportional band for cooling	14854	3A06	31238	7A06					1	
Monitor	Comm. (current PID)	1	Current integral time for cooling	14855	3A07	31239	7A07					PID	
Monitor	Comm. (current PID)	1	Current derivative time for cooling	14856	3A08	31240	7A08					PID	
Monitor	Comm. (current PID)	1	Current MV low limit for cooling	14858	3A0A	31242	7A0A					1	
Monitor	Comm. (current PID)	1	Current MV high limit for cooling	14859	3A0B	31243	7A0B					1	
Monitor	Comm. (current PID)	2	Current proportional band	14860	3A0C	31244	7A0C					1	
Monitor	Comm. (current PID)	2	Current integral time	14861	3A0D	31245	7A0D					PID	
Monitor	Comm. (current PID)	2	Current derivative time	14862	3A0E	31246	7A0E					PID	
Monitor	Comm. (current PID)	2	Current manual reset	14863	3A0F	31247	7A0F					1	
Monitor	Comm. (current PID)	2	Current output low limit	14864	3A10	31248	7A10					1	
Monitor	Comm. (current PID)	2	Current output high limit	14865	3A11	31249	7A11					1	
Monitor	Comm. (current PID)	2	Current proportional band for cooling	14866	3A12	31250	7A12					1	
Monitor	Comm. (current PID)	2	Current integral time for cooling	14867	3A13	31251	7A13					PID	
Monitor	Comm. (current PID)	2	Current derivative time for cooling	14868	3A14	31252	7A14					PID	
Monitor	Comm. (current PID)	2	Current MV low limit for cooling	14870	3A16	31254	7A16					1	
Monitor	Comm. (current PID)	2	Current MV high limit for cooling	14871	3A17	31255	7A17					1	
Monitor	Comm. (current PID)	3	Current proportional band	14872	3A18	31256	7A18					1	
Monitor	Comm. (current PID)	3	Current integral time	14873	3A19	31257	7A19					PID	
Monitor	Comm. (current PID)	3	Current derivative time	14874	3A1A	31258	7A1A					PID	
Monitor	Comm. (current PID)	3	Current manual reset	14875	3A1B	31259	7A1B					1	
Monitor	Comm. (current PID)	3	Current output low limit	14876	3A1C	31260	7A1C					1	
Monitor	Comm. (current PID)	3	Current output high limit	14877	3A1D	31261	7A1D					1	
Monitor	Comm. (current PID)	4	Current proportional band	14884	3A24	31268	7A24					1	
Monitor	Comm. (current PID)	4	Current integral time	14885	3A25	31269	7A25					PID	
Monitor	Comm. (current PID)	4	Current derivative time	14886	3A26	31270	7A26					PID	
Monitor	Comm. (current PID)	4	Current manual reset	14887	3A27	31271	7A27					1	
Monitor	Comm. (current PID)	4	Current output low limit	14888	3A28	31272	7A28					1	
Monitor	Comm. (current PID)	4	Current output high limit	14889	3A29	31273	7A29					1	

Monitor/Loop Mode

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Monitor	Loop mode	1	RUN/READY	6960	1B30	23344	5B30					–	
Monitor	Loop mode	1	Auto/Manual	6961	1B31	23345	5B31					–	
Monitor	Loop mode	1	AT stop/start	6962	1B32	23346	5B32					–	
Monitor	Loop mode	1	LSP/RSP	6963	1B33	23347	5B33					–	
Monitor	Loop mode	2	RUN/READY	6976	1B40	23360	5B40					–	
Monitor	Loop mode	2	Auto/Manual	6977	1B41	23361	5B41					–	
Monitor	Loop mode	2	AT stop/start	6978	1B42	23362	5B42					–	
Monitor	Loop mode	2	LSP/RSP	6979	1B43	23363	5B43					–	
Monitor	Loop mode	3	RUN/READY	6992	1B50	23376	5B50					–	
Monitor	Loop mode	3	Auto/Manual	6993	1B51	23377	5B51					–	
Monitor	Loop mode	3	AT stop/start	6994	1B52	23378	5B52					–	
Monitor	Loop mode	4	RUN/READY	7008	1B60	23392	5B60					–	
Monitor	Loop mode	4	Auto/Manual	7009	1B61	23393	5B61					–	
Monitor	Loop mode	4	AT stop/start	7010	1B62	23394	5B62					–	

Monitor/Monitor

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Monitor	Alarm	1	Alarm information 1	10288	2830	26672	6830		×		×	–	See Alarm information 1
Monitor	Alarm	1	Alarm information 2	10289	2831	26673	6831		×		×	–	See Alarm information 2
Monitor	Alarm	1	Alarm information 3	10290	2832	26674	6832		×		×	–	See Alarm information 3
Monitor	Alarm	1	Alarm information 4	10291	2833	26675	6833		×		×	–	See Alarm information 4
Monitor	Basic	1	PV (loop)	10304	2840	26688	6840		×		×	PID_PV	
Monitor	Basic	1	SP	10305	2841	26689	6841		×		×	PID_PV	
Monitor	Basic	1	MV	10306	2842	26690	6842		×		×	1	
Monitor	Basic	1	Heat MV	10307	2843	26691	6843		×		×	1	
Monitor	Basic	1	Cool MV	10308	2844	26692	6844		×		×	1	
Monitor	Basic	1	AT progress	10309	2845	26693	6845		×		×	–	
Monitor	Basic	1	SP group selection	10310	2846	26694	6846		×		×	–	
Monitor	Basic	1	PID group selection	10311	2847	26695	6847		×		×	–	
Monitor	Basic	1	PV (input channel)	10312	2848	26696	6848		×		×	PV	
Monitor	Basic	2	PV (loop)	10320	2850	26704	6850		×		×	PID_PV	
Monitor	Basic	2	SP	10321	2851	26705	6851		×		×	PID_PV	
Monitor	Basic	2	MV	10322	2852	26706	6852		×		×	1	
Monitor	Basic	2	Heat MV	10323	2853	26707	6853		×		×	1	
Monitor	Basic	2	Cool MV	10324	2854	26708	6854		×		×	1	
Monitor	Basic	2	AT progress	10325	2855	26709	6855		×		×	–	
Monitor	Basic	2	SP group selection	10326	2856	26710	6856		×		×	–	
Monitor	Basic	2	PID group selection	10327	2857	26711	6857		×		×	–	
Monitor	Basic	2	PV (input channel)	10328	2858	26712	6858		×		×	PV	
Monitor	Basic	3	PV (loop)	10336	2860	26720	6860		×		×	PID_PV	
Monitor	Basic	3	SP	10337	2861	26721	6861		×		×	PID_PV	
Monitor	Basic	3	MV	10338	2862	26722	6862		×		×	1	
Monitor	Basic	3	AT progress	10341	2865	26725	6865		×		×	–	
Monitor	Basic	3	SP group selection	10342	2866	26726	6866		×		×	–	
Monitor	Basic	3	PID group selection	10343	2867	26727	6867		×		×	–	
Monitor	Basic	3	PV (input channel)	10344	2868	26728	6868		×		×	PV	
Monitor	Basic	4	PV (loop)	10352	2870	26736	6870		×		×	PID_PV	
Monitor	Basic	4	SP	10353	2871	26737	6871		×		×	PID_PV	
Monitor	Basic	4	MV	10354	2872	26738	6872		×		×	1	
Monitor	Basic	4	AT progress	10357	2875	26741	6875		×		×	–	
Monitor	Basic	4	SP group selection	10358	2876	26742	6876		×		×	–	
Monitor	Basic	4	PID group selection	10359	2877	26743	6877		×		×	–	
Monitor	Basic	4	PV (input channel)	10360	2878	26744	6878		×		×	PV	
Monitor	AO percent	1	AO percent data	10448	28D0	26832	68D0		×		×	1	
Monitor	AO percent	2	AO percent data	10449	28D1	26833	68D1		×		×	1	
Monitor	AO percent	3	AO percent data	10450	28D2	26834	68D2		×		×	1	
Monitor	AO percent	4	AO percent data	10451	28D3	26835	68D3		×		×	1	
Monitor	OUT/DO terminal ON/OFF	1	OUT/DO terminal, ON/OFF data	10464	28E0	26848	68E0		×		×	–	
Monitor	OUT/DO terminal ON/OFF	2	OUT/DO terminal, ON/OFF data	10465	28E1	26849	68E1		×		×	–	
Monitor	OUT/DO terminal ON/OFF	3	OUT/DO terminal, ON/OFF data	10466	28E2	26850	68E2		×		×	–	
Monitor	OUT/DO terminal ON/OFF	4	OUT/DO terminal, ON/OFF data	10467	28E3	26851	68E3		×		×	–	
Monitor	OUT/DO terminal ON/OFF	5	OUT/DO terminal, ON/OFF data	10468	28E4	26852	68E4		×		×	–	
Monitor	OUT/DO terminal ON/OFF	6	OUT/DO terminal, ON/OFF data	10469	28E5	26853	68E5		×		×	–	
Monitor	OUT/DO terminal ON/OFF	7	OUT/DO terminal, ON/OFF data	10470	28E6	26854	68E6		×		×	–	
Monitor	OUT/DO terminal ON/OFF	8	OUT/DO terminal, ON/OFF data	10471	28E7	26855	68E7		×		×	–	

Monitor/Remaining Delay Time

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Monitor	Remaining delay time	1	Remaining delay time	10512	2910	26896	6910		×		×	1	
Monitor	Remaining delay time	2	Remaining delay time	10513	2911	26897	6911		×		×	1	
Monitor	Remaining delay time	3	Remaining delay time	10514	2912	26898	6912		×		×	1	
Monitor	Remaining delay time	4	Remaining delay time	10515	2913	26899	6913		×		×	1	
Monitor	Remaining delay time	5	Remaining delay time	10516	2914	26900	6914		×		×	1	
Monitor	Remaining delay time	6	Remaining delay time	10517	2915	26901	6915		×		×	1	
Monitor	Remaining delay time	7	Remaining delay time	10518	2916	26902	6916		×		×	1	
Monitor	Remaining delay time	8	Remaining delay time	10519	2917	26903	6917		×		×	1	
Monitor	Remaining delay time	9	Remaining delay time	10520	2918	26904	6918		×		×	1	
Monitor	Remaining delay time	10	Remaining delay time	10521	2919	26905	6919		×		×	1	
Monitor	Remaining delay time	11	Remaining delay time	10522	291A	26906	691A		×		×	1	
Monitor	Remaining delay time	12	Remaining delay time	10523	291B	26907	691B		×		×	1	
Monitor	Remaining delay time	13	Remaining delay time	10524	291C	26908	691C		×		×	1	
Monitor	Remaining delay time	14	Remaining delay time	10525	291D	26909	691D		×		×	1	
Monitor	Remaining delay time	15	Remaining delay time	10526	291E	26910	691E		×		×	1	
Monitor	Remaining delay time	16	Remaining delay time	10527	291F	26911	691F		×		×	1	
Monitor	Remaining delay time	17	Remaining delay time	10528	2920	26912	6920		×		×	1	
Monitor	Remaining delay time	18	Remaining delay time	10529	2921	26913	6921		×		×	1	
Monitor	Remaining delay time	19	Remaining delay time	10530	2922	26914	6922		×		×	1	
Monitor	Remaining delay time	20	Remaining delay time	10531	2923	26915	6923		×		×	1	
Monitor	Remaining delay time	21	Remaining delay time	10532	2924	26916	6924		×		×	1	
Monitor	Remaining delay time	22	Remaining delay time	10533	2925	26917	6925		×		×	1	
Monitor	Remaining delay time	23	Remaining delay time	10534	2926	26918	6926		×		×	1	
Monitor	Remaining delay time	24	Remaining delay time	10535	2927	26919	6927		×		×	1	

Monitor/Computation Result

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Monitor	Computation result	1	Instrument internal computation result 1	10608	2970	26992	6970		×		×	–	See Instrument internal computation result 1 (bitmap)
Monitor	Computation result	1	Instrument internal computation result 2	10609	2971	26993	6971		×		×	–	See Instrument internal computation result 2 (bitmap)
Monitor	Computation result	1	Instrument internal computation result 3	10610	2972	26994	6972		×		×	–	See Instrument internal computation result 3 (bitmap)
Monitor	Computation result	1	Instrument internal computation result 5	10612	2974	26996	6974		×		×	–	See Instrument internal computation result 5 (bitmap)
Monitor	Computation result	1	Instrument internal computation result 13	10620	297C	27004	697C		×		×	–	See Instrument internal computation result 13 (bitmap)
Monitor	Computation result	1	Instrument internal computation result 21	10628	2984	27012	6984		×		×	–	See Instrument internal computation result 21 (bitmap)

Monitor/Standard Bit

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Monitor	Bits: 1024-1151	1	Always 0 (Off)	17664	4500	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Always 1 (On)	17665	4501	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 1	17728	4540	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 2	17729	4541	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 3	17730	4542	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 4	17731	4543	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 5	17732	4544	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 6	17733	4545	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 7	17734	4546	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 8	17735	4547	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 9	17736	4548	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 10	17737	4549	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 11	17738	454A	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 12	17739	454B	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 13	17740	454C	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 14	17741	454D	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 15	17742	454E	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 16	17743	454F	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 17	17744	4550	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 18	17745	4551	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 19	17746	4552	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 20	17747	4553	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 21	17748	4554	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 22	17749	4555	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 23	17750	4556	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	Event 24	17751	4557	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	CT1 heater line break detection	17760	4560	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	CT2 heater line break detection	17761	4561	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	CT3 heater line break detection	17762	4562	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	CT4 heater line break detection	17763	4563	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	CT1 overcurrent detection	17764	4564	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	CT2 overcurrent detection	17765	4565	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	CT3 overcurrent detection	17766	4566	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	CT4 overcurrent detection	17767	4567	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	CT1 short-circuit detection	17768	4568	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	CT2 short-circuit detection	17769	4569	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	CT3 short-circuit detection	17770	456A	–	–		×	×	×	–	
Monitor	Bits: 1024-1151	1	CT4 short-circuit detection	17771	456B	–	–		×	×	×	–	
Monitor	Bits: 1152-1279	1	DI1 terminal status	17792	4580	–	–		×	×	×	–	
Monitor	Bits: 1152-1279	1	DI2 terminal status	17793	4581	–	–		×	×	×	–	
Monitor	Bits: 1152-1279	1	DI3 terminal status	17794	4582	–	–		×	×	×	–	
Monitor	Bits: 1152-1279	1	DI4 terminal status	17795	4583	–	–		×	×	×	–	
Monitor	Bits: 1280-1407	1	OUT1 terminal status	17920	4600	–	–		×	×	×	–	
Monitor	Bits: 1280-1407	1	OUT2 terminal status	17921	4601	–	–		×	×	×	–	
Monitor	Bits: 1280-1407	1	OUT3 terminal status	17922	4602	–	–		×	×	×	–	
Monitor	Bits: 1280-1407	1	OUT4 terminal status	17923	4603	–	–		×	×	×	–	
Monitor	Bits: 1280-1407	1	DO1 terminal status	17924	4604	–	–		×	×	×	–	
Monitor	Bits: 1280-1407	1	DO2 terminal status	17925	4605	–	–		×	×	×	–	
Monitor	Bits: 1280-1407	1	DO3 terminal status	17926	4606	–	–		×	×	×	–	
Monitor	Bits: 1280-1407	1	DO4 terminal status	17927	4607	–	–		×	×	×	–	

Monitor/Standard Bit

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Monitor	Bits: 1408-1535	1	User-defined bit 1	18048	4680	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 2	18049	4681	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 3	18050	4682	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 4	18051	4683	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 5	18052	4684	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 6	18053	4685	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 7	18054	4686	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 8	18055	4687	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 9	18056	4688	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 10	18057	4689	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 11	18058	468A	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 12	18059	468B	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 13	18060	468C	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 14	18061	468D	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 15	18062	468E	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 16	18063	468F	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 17	18064	4690	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 18	18065	4691	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 19	18066	4692	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 20	18067	4693	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 21	18068	4694	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 22	18069	4695	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 23	18070	4696	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 24	18071	4697	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 25	18072	4698	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 26	18073	4699	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 27	18074	469A	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 28	18075	469B	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 29	18076	469C	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 30	18077	469D	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 31	18078	469E	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	User-defined bit 32	18079	469F	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	Results of logical operation 1	18080	46A0	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	Results of logical operation 2	18081	46A1	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	Results of logical operation 3	18082	46A2	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	Results of logical operation 4	18083	46A3	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	Results of logical operation 5	18084	46A4	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	Results of logical operation 6	18085	46A5	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	Results of logical operation 7	18086	46A6	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	Results of logical operation 8	18087	46A7	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	Results of logical operation 9	18088	46A8	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	Results of logical operation 10	18089	46A9	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	Results of logical operation 11	18090	46AA	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	Results of logical operation 12	18091	46AB	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	Results of logical operation 13	18092	46AC	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	Results of logical operation 14	18093	46AD	–	–		×	×	×	–	
Monitor	Bits: 1408-1535	1	Results of logical operation 15	18094	46AE	–	–		×	×	×	–	

Monitor/Standard Bit

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Monitor	Bits: 1408-1535	1	Results of logical operation 16	18095	46AF	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	RS-485 status (normal transmission of 1 frame)	18185	4709	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 1 RUN/READY status	18208	4720	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 2 RUN/READY status	18209	4721	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 3 RUN/READY status	18210	4722	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 4 RUN/READY status	18211	4723	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 1 Auto/Manual status	18224	4730	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 2 Auto/Manual status	18225	4731	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 3 Auto/Manual status	18226	4732	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 4 Auto/Manual status	18227	4733	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 1 AT pause/AT status	18240	4740	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 2 AT pause/AT status	18241	4741	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 3 AT pause/AT status	18242	4742	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 4 AT pause/AT status	18243	4743	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 1 LSP/RSP status	18256	4750	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 2 LSP/RSP status	18257	4751	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 1 SP ramp-up in progress	18288	4770	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 2 SP ramp-up in progress	18289	4771	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 3 SP ramp-up in progress	18290	4772	–	–		×	×	×	–	
Monitor	Bits: 1536-1663	1	Loop 4 SP ramp-up in progress	18291	4773	–	–		×	×	×	–	
Monitor	Bits: 1664-1791	1	Loop 1 SP ramp-down in progress	18304	4780	–	–		×	×	×	–	
Monitor	Bits: 1664-1791	1	Loop 2 SP ramp-down in progress	18305	4781	–	–		×	×	×	–	
Monitor	Bits: 1664-1791	1	Loop 3 SP ramp-down in progress	18306	4782	–	–		×	×	×	–	
Monitor	Bits: 1664-1791	1	Loop 4 SP ramp-down in progress	18307	4783	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	Representative of all alarms	18432	4800	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	AD1 fault (AL11)	18448	4810	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	AD2 fault (AL12)	18449	4811	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	AD3 fault (AL13)	18450	4812	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	AD4 fault (AL14)	18451	4813	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	PV1 high limit error (AL01)	18464	4820	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	PV2 high limit error (AL03)	18465	4821	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	PV3 high limit error (AL05)	18466	4822	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	PV4 high limit error (AL07)	18467	4823	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	PV1 low limit error (AL02)	18480	4830	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	PV2 low limit error (AL04)	18481	4831	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	PV3 low limit error (AL06)	18482	4832	–	–		×	×	×	–	

Monitor/Standard Bit

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Monitor	Bits: 1792-1919	1	PV4 low limit error (AL08)	18483	4833	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	CJ1 error (AL71)	18496	4840	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	CJ2 error (AL72)	18497	4841	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	CJ3 error (AL73)	18498	4842	–	–		×	×	×	–	
Monitor	Bits: 1792-1919	1	CJ4 error (AL74)	18499	4843	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 1	18560	4880	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 2	18561	4881	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 3	18562	4882	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 4	18563	4883	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 5	18564	4884	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 6	18565	4885	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 7	18566	4886	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 8	18567	4887	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 9	18568	4888	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 10	18569	4889	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 11	18570	488A	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 12	18571	488B	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 13	18572	488C	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 14	18573	488D	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 15	18574	488E	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitoring 16	18575	488F	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	CT1 input error (AL25)	18592	48A0	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	CT2 input error (AL26)	18593	48A1	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	CT3 input error (AL27)	18594	48A2	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	CT4 input error (AL28)	18595	48A3	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Parameter error (AL94/AL97)	18608	48B0	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Adjustment data error (AL95/AL98)	18609	48B1	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	EEPROM not initialized (AL83)	18610	48B2	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	ROM error (AL99)	18612	48B4	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	EEPROM RW error (AL86)	18614	48B6	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Reception monitors 1-16 (AL31)	18619	48BB	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Transmission time-out between modules (AL32)	18620	48BC	–	–		×	×	×	–	
Monitor	Bits: 1920-2047	1	Writing to EEPROM	18621	48BD	–	–		×	×	×	–	

Standard Numerical Code/Standard Numerical Code

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Standard numerical code	Numbers: 2048-2175	1	User-defined number 1	18751	493F	–	–		×	×	×	–	
Standard numerical code	Numbers: 2048-2175	1	User-defined number 2	18752	4940	–	–		×	×	×	–	
Standard numerical code	Numbers: 2048-2175	1	User-defined number 3	18753	4941	–	–		×	×	×	–	
Standard numerical code	Numbers: 2048-2175	1	User-defined number 4	18754	4942	–	–		×	×	×	–	
Standard numerical code	Numbers: 2048-2175	1	User-defined number 5	18755	4943	–	–		×	×	×	–	
Standard numerical code	Numbers: 2048-2175	1	User-defined number 6	18756	4944	–	–		×	×	×	–	
Standard numerical code	Numbers: 2048-2175	1	User-defined number 7	18757	4945	–	–		×	×	×	–	
Standard numerical code	Numbers: 2048-2175	1	User-defined number 8	18758	4946	–	–		×	×	×	–	
Standard numerical code	Numbers: 2048-2175	1	User-defined number 9	18759	4947	–	–		×	×	×	–	
Standard numerical code	Numbers: 2048-2175	1	User-defined number 10	18760	4948	–	–		×	×	×	–	
Standard numerical code	Numbers: 2048-2175	1	User-defined number 11	18761	4949	–	–		×	×	×	–	
Standard numerical code	Numbers: 2048-2175	1	User-defined number 12	18762	494A	–	–		×	×	×	–	
Standard numerical code	Numbers: 2048-2175	1	User-defined number 13	18763	494B	–	–		×	×	×	–	
Standard numerical code	Numbers: 2048-2175	1	User-defined number 14	18764	494C	–	–		×	×	×	–	
Standard numerical code	Numbers: 2048-2175	1	User-defined number 15	18765	494D	–	–		×	×	×	–	
Standard numerical code	Numbers: 2048-2175	1	User-defined number 16	18766	494E	–	–		×	×	×	–	
Standard numerical code	Numbers: 2304-2431	1	PV1	18944	4A00	–	–		×	×	×	PV1	
Standard numerical code	Numbers: 2304-2431	1	PV2	18945	4A01	–	–		×	×	×	PV2	
Standard numerical code	Numbers: 2304-2431	1	PV3	18946	4A02	–	–		×	×	×	PV3	
Standard numerical code	Numbers: 2304-2431	1	PV4	18947	4A03	–	–		×	×	×	PV4	
Standard numerical code	Numbers: 2304-2431	1	AI1	18952	4A08	–	–		×	×	×	PV1	
Standard numerical code	Numbers: 2304-2431	1	AI2	18953	4A09	–	–		×	×	×	PV1	
Standard numerical code	Numbers: 2304-2431	1	AI3	18954	4A0A	–	–		×	×	×	PV1	
Standard numerical code	Numbers: 2304-2431	1	AI4	18955	4A0B	–	–		×	×	×	PV1	
Standard numerical code	Numbers: 2304-2431	1	Loop 1 PV	18960	4A10	–	–		×	×	×	PID1_PV	
Standard numerical code	Numbers: 2304-2431	1	Loop 2 PV	18961	4A11	–	–		×	×	×	PID2_PV	
Standard numerical code	Numbers: 2304-2431	1	Loop 3 PV	18962	4A12	–	–		×	×	×	PID3_PV	
Standard numerical code	Numbers: 2304-2431	1	Loop 4 PV	18963	4A13	–	–		×	×	×	PID4_PV	
Standard numerical code	Numbers: 2304-2431	1	Loop 1 SP (in use)	18976	4A20	–	–		×	×	×	PID1_PV	
Standard numerical code	Numbers: 2304-2431	1	Loop 2 SP (in use)	18977	4A21	–	–		×	×	×	PID2_PV	
Standard numerical code	Numbers: 2304-2431	1	Loop 3 SP (in use)	18978	4A22	–	–		×	×	×	PID3_PV	
Standard numerical code	Numbers: 2304-2431	1	Loop 4 SP (in use)	18979	4A23	–	–		×	×	×	PID4_PV	
Standard numerical code	Numbers: 2304-2431	1	Loop 1 SP (final value)	18992	4A30	–	–		×	×	×	PID1_PV	
Standard numerical code	Numbers: 2304-2431	1	Loop 2 SP (final value)	18993	4A31	–	–		×	×	×	PID2_PV	

Standard Numerical Code/Standard Numerical Code

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Standard numerical code	Numbers: 2304-2431	1	Loop 3 SP (final value)	18994	4A32	–	–		×	×	×	PID3_PV	
Standard numerical code	Numbers: 2304-2431	1	Loop 4 SP (final value)	18995	4A33	–	–		×	×	×	PID4_PV	
Standard numerical code	Numbers: 2304-2431	1	Loop 1 MV	19056	4A70	–	–		×	×	×	1	
Standard numerical code	Numbers: 2304-2431	1	Loop 2 MV	19057	4A71	–	–		×	×	×	1	
Standard numerical code	Numbers: 2304-2431	1	Loop 3 MV	19058	4A72	–	–		×	×	×	1	
Standard numerical code	Numbers: 2304-2431	1	Loop 4 MV	19059	4A73	–	–		×	×	×	1	
Standard numerical code	Numbers: 2432-2559	1	Loop 1 MV for heating	19072	4A80	–	–		×	×	×	1	
Standard numerical code	Numbers: 2432-2559	1	Loop 2 MV for heating	19073	4A81	–	–		×	×	×	1	
Standard numerical code	Numbers: 2432-2559	1	Loop 1 MV for cooling	19088	4A90	–	–		×	×	×	1	
Standard numerical code	Numbers: 2432-2559	1	Loop 2 MV for cooling	19089	4A91	–	–		×	×	×	1	
Standard numerical code	Numbers: 2432-2559	1	CT1 measured current when output ON	19136	4AC0	–	–		×	×	×	1	
Standard numerical code	Numbers: 2432-2559	1	CT2 measured current when output ON	19137	4AC1	–	–		×	×	×	1	
Standard numerical code	Numbers: 2432-2559	1	CT3 measured current when output ON	19138	4AC2	–	–		×	×	×	1	
Standard numerical code	Numbers: 2432-2559	1	CT4 measured current when output ON	19139	4AC3	–	–		×	×	×	1	
Standard numerical code	Numbers: 2432-2559	1	CT1 measured current when output OFF	19152	4AD0	–	–		×	×	×	1	
Standard numerical code	Numbers: 2432-2559	1	CT2 measured current when output OFF	19153	4AD1	–	–		×	×	×	1	
Standard numerical code	Numbers: 2432-2559	1	CT3 measured current when output OFF	19154	4AD2	–	–		×	×	×	1	
Standard numerical code	Numbers: 2432-2559	1	CT4 measured current when output OFF	19155	4AD3	–	–		×	×	×	1	
Standard numerical code	Numbers: 2432-2559	1	Loop 1 deviation (PV - SP)	19168	4AE0	–	–		×	×	×	PID1_PV	
Standard numerical code	Numbers: 2432-2559	1	Loop 2 deviation (PV - SP)	19169	4AE1	–	–		×	×	×	PID2_PV	
Standard numerical code	Numbers: 2432-2559	1	Loop 3 deviation (PV - SP)	19170	4AE2	–	–		×	×	×	PID3_PV	
Standard numerical code	Numbers: 2432-2559	1	Loop 4 deviation (PV - SP)	19171	4AE3	–	–		×	×	×	PID4_PV	

Monitor/Standard Numerical Code

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Standard numerical code	Numbers: 2560-2687	1	Event 1 timer remaining time	19296	4B60	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 2 timer remaining time	19297	4B61	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 3 timer remaining time	19298	4B62	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 4 timer remaining time	19299	4B63	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 5 timer remaining time	19300	4B64	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 6 timer remaining time	19301	4B65	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 7 timer remaining time	19302	4B66	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 8 timer remaining time	19303	4B67	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 9 timer remaining time	19304	4B68	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 10 timer remaining time	19305	4B69	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 11 timer remaining time	19306	4B6A	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 12 timer remaining time	19307	4B6B	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 13 timer remaining time	19308	4B6C	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 14 timer remaining time	19309	4B6D	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 15 timer remaining time	19310	4B6E	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 16 timer remaining time	19311	4B6F	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 17 timer remaining time	19312	4B70	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 18 timer remaining time	19313	4B71	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 19 timer remaining time	19314	4B72	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 20 timer remaining time	19315	4B73	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 21 timer remaining time	19316	4B74	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 22 timer remaining time	19317	4B75	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 23 timer remaining time	19318	4B76	–	–		×	×	×	1	
Standard numerical code	Numbers: 2560-2687	1	Event 24 timer remaining time	19319	4B77	–	–		×	×	×	1	

Monitor/User-defined Bit

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Monitor	User-defined bit	1	User-defined bits 1-16	10080	2760	26464	6760					–	See User-defined bits 1-16
Monitor	User-defined bit	1	User-defined bit 1	10081	2761	26465	6761					–	
Monitor	User-defined bit	1	User-defined bit 2	10082	2762	26466	6762					–	
Monitor	User-defined bit	1	User-defined bit 3	10083	2763	26467	6763					–	
Monitor	User-defined bit	1	User-defined bit 4	10084	2764	26468	6764					–	
Monitor	User-defined bit	1	User-defined bit 5	10085	2765	26469	6765					–	
Monitor	User-defined bit	1	User-defined bit 6	10086	2766	26470	6766					–	
Monitor	User-defined bit	1	User-defined bit 7	10087	2767	26471	6767					–	
Monitor	User-defined bit	1	User-defined bit 8	10088	2768	26472	6768					–	
Monitor	User-defined bit	1	User-defined bit 9	10089	2769	26473	6769					–	
Monitor	User-defined bit	1	User-defined bit 10	10090	276A	26474	676A					–	
Monitor	User-defined bit	1	User-defined bit 11	10091	276B	26475	676B					–	
Monitor	User-defined bit	1	User-defined bit 12	10092	276C	26476	676C					–	
Monitor	User-defined bit	1	User-defined bit 13	10093	276D	26477	676D					–	
Monitor	User-defined bit	1	User-defined bit 14	10094	276E	26478	676E					–	
Monitor	User-defined bit	1	User-defined bit 15	10095	276F	26479	676F					–	
Monitor	User-defined bit	1	User-defined bit 16	10096	2770	26480	6770					–	
Monitor	User-defined bit	1	User-defined bits 17-32	10097	2771	26481	6771					–	See User-defined bits 17-32
Monitor	User-defined bit	1	User-defined bit 17	10098	2772	26482	6772					–	
Monitor	User-defined bit	1	User-defined bit 18	10099	2773	26483	6773					–	
Monitor	User-defined bit	1	User-defined bit 19	10100	2774	26484	6774					–	
Monitor	User-defined bit	1	User-defined bit 20	10101	2775	26485	6775					–	
Monitor	User-defined bit	1	User-defined bit 21	10102	2776	26486	6776					–	
Monitor	User-defined bit	1	User-defined bit 22	10103	2777	26487	6777					–	
Monitor	User-defined bit	1	User-defined bit 23	10104	2778	26488	6778					–	
Monitor	User-defined bit	1	User-defined bit 24	10105	2779	26489	6779					–	
Monitor	User-defined bit	1	User-defined bit 25	10106	277A	26490	677A					–	
Monitor	User-defined bit	1	User-defined bit 26	10107	277B	26491	677B					–	
Monitor	User-defined bit	1	User-defined bit 27	10108	277C	26492	677C					–	
Monitor	User-defined bit	1	User-defined bit 28	10109	277D	26493	677D					–	
Monitor	User-defined bit	1	User-defined bit 29	10110	277E	26494	677E					–	
Monitor	User-defined bit	1	User-defined bit 30	10111	277F	26495	677F					–	
Monitor	User-defined bit	1	User-defined bit 31	10112	2780	26496	6780					–	
Monitor	User-defined bit	1	User-defined bit 32	10113	2781	26497	6781					–	

Monitor/User-defined Number

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Monitor	User-defined number	1	User-defined number 1	12224	2FC0	28608	6FC0					–	
Monitor	User-defined number	1	User-defined number 2	12225	2FC1	28609	6FC1					–	
Monitor	User-defined number	1	User-defined number 3	12226	2FC2	28610	6FC2					–	
Monitor	User-defined number	1	User-defined number 4	12227	2FC3	28611	6FC3					–	
Monitor	User-defined number	1	User-defined number 5	12228	2FC4	28612	6FC4					–	
Monitor	User-defined number	1	User-defined number 6	12229	2FC5	28613	6FC5					–	
Monitor	User-defined number	1	User-defined number 7	12230	2FC6	28614	6FC6					–	
Monitor	User-defined number	1	User-defined number 8	12231	2FC7	28615	6FC7					–	
Monitor	User-defined number	1	User-defined number 9	12232	2FC8	28616	6FC8					–	
Monitor	User-defined number	1	User-defined number 10	12233	2FC9	28617	6FC9					–	
Monitor	User-defined number	1	User-defined number 11	12234	2FCA	28618	6FCA					–	
Monitor	User-defined number	1	User-defined number 12	12235	2FCB	28619	6FCB					–	
Monitor	User-defined number	1	User-defined number 13	12236	2FCC	28620	6FCC					–	
Monitor	User-defined number	1	User-defined number 14	12237	2FCD	28621	6FCD					–	
Monitor	User-defined number	1	User-defined number 15	12238	2FCE	28622	6FCE					–	
Monitor	User-defined number	1	User-defined number 16	12239	2FCF	28623	6FCF					–	

Communications/Ethernet Communications

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Communications	Ethernet communications	1	MAC address 1	–	–	800	0320	×	×		×	–	
Communications	Ethernet communications	1	MAC address 2	–	–	801	0321	×	×		×	–	
Communications	Ethernet communications	1	MAC address 3	–	–	802	0322	×	×		×	–	
Communications	Ethernet communications	1	MAC address 4	–	–	803	0323	×	×		×	–	
Communications	Ethernet communications	1	MAC address 5	–	–	804	0324	×	×		×	–	
Communications	Ethernet communications	1	MAC address 6	–	–	805	0325	×	×		×	–	
Communications	Ethernet communications	1	IPv4 address 1	–	–	817	0331	×	×			–	Changed settings are enabled after the power is restarted
Communications	Ethernet communications	1	IPv4 address 2	–	–	818	0332	×	×			–	Changed settings are enabled after the power is restarted
Communications	Ethernet communications	1	IPv4 address 3	–	–	819	0333	×	×			–	Changed settings are enabled after the power is restarted
Communications	Ethernet communications	1	IPv4 address 4	–	–	820	0334	×	×			–	Changed settings are enabled after the power is restarted
Communications	Ethernet communications	1	IPv4 address net mask 1	–	–	821	0335	×	×				Changed settings are enabled after the power is restarted
Communications	Ethernet communications	1	IPv4 address net mask 2	–	–	822	0336	×	×				Changed settings are enabled after the power is restarted
Communications	Ethernet communications	1	IPv4 address net mask 3	–	–	823	0337	×	×			–	Changed settings are enabled after the power is restarted
Communications	Ethernet communications	1	IPv4 address net mask 4	–	–	824	0338	×	×				Changed settings are enabled after the power is restarted
Communications	Ethernet communications	1	IPv4 default gateway 1	–	–	825	0339	×	×				Changed settings are enabled after the power is restarted
Communications	Ethernet communications	1	IPv4 default gateway 2	–	–	826	033A	×	×				Changed settings are enabled after the power is restarted
Communications	Ethernet communications	1	IPv4 default gateway 3	–	–	827	033B	×	×				Changed settings are enabled after the power is restarted
Communications	Ethernet communications	1	IPv4 default gateway 4	–	–	828	033C	×	×				Changed settings are enabled after the power is restarted
Communications	Ethernet communications	1	MODBUS TCP port number	–	–	830	033E	×	×				Changed settings are enabled after the power is restarted

Communications/RS-485 Communications

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Communications	RS-485 communication	1	Communications type	10240	2800	26624	6800					–	
Communications	RS-485 communication	1	Station address	10241	2801	26625	6801					–	
Communications	RS-485 communication	1	Transmission speed	10242	2802	26626	6802					–	
Communications	RS-485 communication	1	Data format (data length)	10243	2803	26627	6803					–	
Communications	RS-485 communication	1	Data format (parity)	10244	2804	26628	6804					–	
Communications	RS-485 communication	1	Data format (stop bit)	10245	2805	26629	6805					–	
Communications	RS-485 communication	1	Minimum response time	10246	2806	26630	6806					–	

Basic/Setup

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Basic	Setup	1	SP system group	8818	2272	25202	6272					–	
Basic	Setup	1	Start delay at power ON	8820	2274	25204	6274					–	
Basic	Setup	1	Advanced function password 1	8828	227C	25212	627C					–	
Basic	Setup	1	Advanced function password 2	8829	227D	25213	627D					–	
Basic	Setup	1	Advanced function password 3	8830	227E	25214	627E					–	
Basic	Setup	1	Advanced function password 4	8831	227F	25215	627F					–	
Basic	Setup	1	Advanced function password 5	8832	2280	25216	6280					–	
Basic	Setup	1	Advanced function password 6	8833	2281	25217	6281					–	
Basic	Setup	1	Advanced function password 7	8834	2282	25218	6282					–	
Basic	Setup	1	Advanced function password 8	8835	2283	25219	6283					–	
Basic	Setup	1	Advanced function password 9	8836	2284	25220	6284					–	
Basic	Setup	1	Advanced function password 10	8837	2285	25221	6285					–	
Basic	Setup	1	Advanced function password 11	8838	2286	25222	6286					–	
Basic	Setup	1	Advanced function password 12	8839	2287	25223	6287					–	
Basic	Setup	1	Advanced function password 13	8840	2288	25224	6288					–	
Basic	Setup	1	Advanced function password 14	8841	2289	25225	6289					–	
Basic	Setup	1	Advanced function password 15	8842	228A	25226	628A					–	
Basic	Setup	1	Advanced function password 16	8843	228B	25227	628B					–	
Basic	Setup	1	Loop type	8880	22B0	25264	62B0					–	Changed settings are enabled after the power is restarted
Basic	Setup	1	Release all latches	8882	22B2	25266	62B2					–	

Basic/Loop (Input)

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Basic	Loop (input)	1	Assigned PV	10704	29D0	27088	69D0					–	
Basic	Loop (input)	1	Assigned RSP	10705	29D1	27089	69D1					–	
Basic	Loop (input)	1	Assigned AI	10707	29D3	27091	69D3					–	
Basic	Loop (input)	2	Assigned PV	10720	29E0	27104	69E0					–	
Basic	Loop (input)	2	Assigned RSP	10721	29E1	27105	69E1					–	
Basic	Loop (input)	2	Assigned AI	10723	29E3	27107	69E3					–	
Basic	Loop (input)	3	Assigned PV	10736	29F0	27120	69F0					–	
Basic	Loop (input)	3	Assigned AI	10739	29F3	27123	69F3					–	
Basic	Loop (input)	4	Assigned PV	10752	2A00	27136	6A00					–	
Basic	Loop (input)	4	Assigned AI	10755	2A03	27139	6A03					–	

Basic/Loop

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Basic	Loop (basic)	1	Loop PV/SP decimal point position	8048	1F70	24432	5F70					–	
Basic	Loop (basic)	1	Control action	8050	1F72	24434	5F72					–	
Basic	Loop (basic)	1	Range low limit for proportional band	8052	1F74	24436	5F74					PID_PV	
Basic	Loop (basic)	1	Range high limit for proportional band	8053	1F75	24437	5F75					PID_PV	
Basic	Loop (basic)	1	AT type	8054	1F76	24438	5F76					–	
Basic	Loop (basic)	1	Heat/cool dead zone	8055	1F77	24439	5F77					1	
Basic	Loop (basic)	1	Initial output of PID control	8056	1F78	24440	5F78					1	
Basic	Loop (basic)	2	Loop PV/SP decimal point position	8064	1F80	24448	5F80					–	
Basic	Loop (basic)	2	Control action	8066	1F82	24450	5F82					–	
Basic	Loop (basic)	2	Range low limit for proportional band	8068	1F84	24452	5F84					PID_PV	
Basic	Loop (basic)	2	Range high limit for proportional band	8069	1F85	24453	5F85					PID_PV	
Basic	Loop (basic)	2	AT type	8070	1F86	24454	5F86					–	
Basic	Loop (basic)	2	Heat/cool dead zone	8071	1F87	24455	5F87					1	
Basic	Loop (basic)	2	Initial output of PID control	8072	1F88	24456	5F88					1	
Basic	Loop (basic)	3	Loop PV/SP decimal point position	8080	1F90	24464	5F90					–	
Basic	Loop (basic)	3	Control action	8082	1F92	24466	5F92					–	
Basic	Loop (basic)	3	Range low limit for proportional band	8084	1F94	24468	5F94					PID_PV	
Basic	Loop (basic)	3	Range high limit for proportional band	8085	1F95	24469	5F95					PID_PV	
Basic	Loop (basic)	3	AT type	8086	1F96	24470	5F96					–	
Basic	Loop (basic)	3	Initial output of PID control	8088	1F98	24472	5F98					1	
Basic	Loop (basic)	4	Loop PV/SP decimal point position	8096	1FA0	24480	5FA0					–	
Basic	Loop (basic)	4	Control action	8098	1FA2	24482	5FA2					–	
Basic	Loop (basic)	4	Range low limit for proportional band	8100	1FA4	24484	5FA4					PID_PV	
Basic	Loop (basic)	4	Range high limit for proportional band	8101	1FA5	24485	5FA5					PID_PV	
Basic	Loop (basic)	4	AT type	8102	1FA6	24486	5FA6					–	
Basic	Loop (basic)	4	Initial output of PID control	8104	1FA8	24488	5FA8					1	

Basic/Loop

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Basic	Loop (extended)	1	PID control initialization	8112	1FB0	24496	5FB0					–	
Basic	Loop (extended)	1	Integral time/derivative time decimal point position	8113	1FB1	24497	5FB1					–	
Basic	Loop (extended)	1	Output operation at changing Auto/Manual	8114	1FB2	24498	5FB2					–	
Basic	Loop (extended)	1	Preset MANUAL value	8115	1FB3	24499	5FB3					1	
Basic	Loop (extended)	1	MV increase change limit	8116	1FB4	24500	5FB4					2	NX-D15 not supported
Basic	Loop (extended)	1	MV decrease change limit	8117	1FB5	24501	5FB5					2	NX-D15 not supported
Basic	Loop (extended)	1	MV low limit during AT	8119	1FB7	24503	5FB7					1	
Basic	Loop (extended)	1	MV high limit during AT	8120	1FB8	24504	5FB8					1	
Basic	Loop (extended)	2	PID control initialization	8144	1FD0	24528	5FD0					–	
Basic	Loop (extended)	2	Integral time/derivative time decimal point position	8145	1FD1	24529	5FD1					–	
Basic	Loop (extended)	2	Output operation at changing Auto/Manual	8146	1FD2	24530	5FD2					–	
Basic	Loop (extended)	2	Preset MANUAL value	8147	1FD3	24531	5FD3					1	
Basic	Loop (extended)	2	MV increase change limit	8148	1FD4	24532	5FD4					2	NX-D15 not supported
Basic	Loop (extended)	2	MV decrease change limit	8149	1FD5	24533	5FD5					2	NX-D15 not supported
Basic	Loop (extended)	2	MV low limit during AT	8151	1FD7	24535	5FD7					1	
Basic	Loop (extended)	2	MV high limit during AT	8152	1FD8	24536	5FD8					1	
Basic	Loop (extended)	3	PID control initialization	8176	1FF0	24560	5FF0					–	
Basic	Loop (extended)	3	Integral time/derivative time decimal point position	8177	1FF1	24561	5FF1					–	
Basic	Loop (extended)	3	Output operation at changing Auto/Manual	8178	1FF2	24562	5FF2					–	
Basic	Loop (extended)	3	Preset MANUAL value	8179	1FF3	24563	5FF3					1	
Basic	Loop (extended)	3	MV increase change limit	8180	1FF4	24564	5FF4					2	NX-D15 not supported
Basic	Loop (extended)	3	MV decrease change limit	8181	1FF5	24565	5FF5					2	NX-D15 not supported
Basic	Loop (extended)	3	MV low limit during AT	8183	1FF7	24567	5FF7					1	
Basic	Loop (extended)	3	MV high limit during AT	8184	1FF8	24568	5FF8					1	
Basic	Loop (extended)	4	PID control initialization	8208	2010	24592	6010					–	
Basic	Loop (extended)	4	Integral time/derivative time decimal point position	8209	2011	24593	6011					–	
Basic	Loop (extended)	4	Output operation at changing Auto/Manual	8210	2012	24594	6012					–	
Basic	Loop (extended)	4	Preset MANUAL value	8211	2013	24595	6013					1	
Basic	Loop (extended)	4	MV increase change limit	8212	2014	24596	6014					2	NX-D15 not supported
Basic	Loop (extended)	4	MV decrease change limit	8213	2015	24597	6015					2	NX-D15 not supported
Basic	Loop (extended)	4	MV low limit during AT	8215	2017	24599	6017					1	
Basic	Loop (extended)	4	MV high limit during AT	8216	2018	24600	6018					1	

Basic/Loop

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Basic	Loop (algorithm)	1	AT adjustment factor, proportional band	8240	2030	24624	6030					2	
Basic	Loop (algorithm)	1	AT adjustment factor, integral time	8241	2031	24625	6031					2	
Basic	Loop (algorithm)	1	AT adjustment factor, derivative time	8242	2032	24626	6032					2	
Basic	Loop (algorithm)	1	Just-FiTTER settling band	8246	2036	24630	6036					2	
Basic	Loop (algorithm)	1	Just-FiTTER overshoot suppression factor	8247	2037	24631	6037					–	
Basic	Loop (algorithm)	1	SP lag factor	8250	203A	24634	603A					1	
Basic	Loop (algorithm)	2	AT adjustment factor, proportional band	8272	2050	24656	6050					2	
Basic	Loop (algorithm)	2	AT adjustment factor, integral time	8273	2051	24657	6051					2	
Basic	Loop (algorithm)	2	AT adjustment factor, derivative time	8274	2052	24658	6052					2	
Basic	Loop (algorithm)	2	Just-FiTTER settling band	8278	2056	24662	6056					2	
Basic	Loop (algorithm)	2	Just-FiTTER overshoot suppression factor	8279	2057	24663	6057					–	
Basic	Loop (algorithm)	2	SP lag factor	8282	205A	24666	605A					1	
Basic	Loop (algorithm)	3	AT adjustment factor, proportional band	8304	2070	24688	6070					2	
Basic	Loop (algorithm)	3	AT adjustment factor, integral time	8305	2071	24689	6071					2	
Basic	Loop (algorithm)	3	AT adjustment factor, derivative time	8306	2072	24690	6072					2	
Basic	Loop (algorithm)	3	Just-FiTTER settling band	8310	2076	24694	6076					2	
Basic	Loop (algorithm)	3	Just-FiTTER overshoot suppression factor	8311	2077	24695	6077					–	
Basic	Loop (algorithm)	3	SP lag factor	8314	207A	24698	607A					1	
Basic	Loop (algorithm)	4	AT adjustment factor, proportional band	8336	2090	24720	6090					2	
Basic	Loop (algorithm)	4	AT adjustment factor, integral time	8337	2091	24721	6091					2	
Basic	Loop (algorithm)	4	AT adjustment factor, derivative time	8338	2092	24722	6092					2	
Basic	Loop (algorithm)	4	Just-FiTTER settling band	8342	2096	24726	6096					2	
Basic	Loop (algorithm)	4	Just-FiTTER overshoot suppression factor	8343	2097	24727	6097					–	
Basic	Loop (algorithm)	4	SP lag factor	8346	209A	24730	609A					1	

Basic/Loop Output

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Basic	Loop output (MV)	1	Output at READY	8368	20B0	24752	60B0					1	
Basic	Loop output (MV)	1	Output at READY (Heat)	8369	20B1	24753	60B1					1	
Basic	Loop output (MV)	1	Output at READY (Cool)	8370	20B2	24754	60B2					1	
Basic	Loop output (MV)	1	Selection of MV if PV is abnormal	8371	20B3	24755	60B3					–	
Basic	Loop output (MV)	1	Output at PV error	8372	20B4	24756	60B4					1	
Basic	Loop output (MV)	2	Output at READY	8384	20C0	24768	60C0					1	
Basic	Loop output (MV)	2	Output at READY (Heat)	8385	20C1	24769	60C1					1	
Basic	Loop output (MV)	2	Output at READY (Cool)	8386	20C2	24770	60C2					1	
Basic	Loop output (MV)	2	Selection of MV if PV is abnormal	8387	20C3	24771	60C3					–	
Basic	Loop output (MV)	2	Output at PV error	8388	20C4	24772	60C4					1	
Basic	Loop output (MV)	3	Output at READY	8400	20D0	24784	60D0					1	
Basic	Loop output (MV)	3	Output at READY (Heat)	8401	20D1	24785	60D1					1	
Basic	Loop output (MV)	3	Selection of MV if PV is abnormal	8403	20D3	24787	60D3					–	
Basic	Loop output (MV)	3	Output at PV error	8404	20D4	24788	60D4					1	
Basic	Loop output (MV)	4	Output at READY	8416	20E0	24800	60E0					1	
Basic	Loop output (MV)	4	Output at READY (Heat)	8417	20E1	24801	60E1					1	
Basic	Loop output (MV)	4	Selection of MV if PV is abnormal	8419	20E3	24803	60E3					–	
Basic	Loop output (MV)	4	Output at PV error	8420	20E4	24804	60E4					1	

Input-output/PV Input

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Input-output	PV input	1	Range type	9024	2340	25408	6340					–	
Input-output	PV input	1	Decimal point position	9025	2341	25409	6341					–	
Input-output	PV input	1	Temperature unit	9026	2342	25410	6342					–	
Input-output	PV input	1	Alarm setting low limit	9027	2343	25411	6343					PV	
Input-output	PV input	1	Alarm setting high limit	9028	2344	25412	6344					PV	
Input-output	PV input	1	Cold junction compensation	9029	2345	25413	6345					–	
Input-output	PV input	1	Linear scaling low limit	9032	2348	25416	6348					PV	
Input-output	PV input	1	Linear scaling high limit	9033	2349	25417	6349					PV	
Input-output	PV input	1	Square root extraction dropout	9034	234A	25418	634A					1	
Input-output	PV input	1	Filter	9035	234B	25419	634B					2	
Input-output	PV input	1	Bias	9036	234C	25420	634C					PV	
Input-output	PV input	1	Ratio	9037	234D	25421	634D					3	
Input-output	PV input	2	Range type	9056	2360	25440	6360					–	
Input-output	PV input	2	Decimal point position	9057	2361	25441	6361					–	
Input-output	PV input	2	Temperature unit	9058	2362	25442	6362					–	
Input-output	PV input	2	Alarm setting low limit	9059	2363	25443	6363					PV	
Input-output	PV input	2	Alarm setting high limit	9060	2364	25444	6364					PV	
Input-output	PV input	2	Cold junction compensation	9061	2365	25445	6365					–	
Input-output	PV input	2	Linear scaling low limit	9064	2368	25448	6368					PV	
Input-output	PV input	2	Linear scaling high limit	9065	2369	25449	6369					PV	
Input-output	PV input	2	Square root extraction dropout	9066	236A	25450	636A					1	
Input-output	PV input	2	Filter	9067	236B	25451	636B					2	
Input-output	PV input	2	Bias	9068	236C	25452	636C					PV	
Input-output	PV input	2	Ratio	9069	236D	25453	636D					3	
Input-output	PV input	3	Range type	9088	2380	25472	6380					–	
Input-output	PV input	3	Decimal point position	9089	2381	25473	6381					–	
Input-output	PV input	3	Temperature unit	9090	2382	25474	6382					–	
Input-output	PV input	3	Alarm setting low limit	9091	2383	25475	6383					PV	
Input-output	PV input	3	Alarm setting high limit	9092	2384	25476	6384					PV	
Input-output	PV input	3	Cold junction compensation	9093	2385	25477	6385					–	
Input-output	PV input	3	Linear scaling low limit	9096	2388	25480	6388					PV	
Input-output	PV input	3	Linear scaling high limit	9097	2389	25481	6389					PV	
Input-output	PV input	3	Square root extraction dropout	9098	238A	25482	638A					1	
Input-output	PV input	3	Filter	9099	238B	25483	638B					2	
Input-output	PV input	3	Bias	9100	238C	25484	638C					PV	
Input-output	PV input	3	Ratio	9101	238D	25485	638D					3	
Input-output	PV input	4	Range type	9120	23A0	25504	63A0					–	
Input-output	PV input	4	Decimal point position	9121	23A1	25505	63A1					–	
Input-output	PV input	4	Temperature unit	9122	23A2	25506	63A2					–	
Input-output	PV input	4	Alarm setting low limit	9123	23A3	25507	63A3					PV	
Input-output	PV input	4	Alarm setting high limit	9124	23A4	25508	63A4					PV	
Input-output	PV input	4	Cold junction compensation	9125	23A5	25509	63A5					–	
Input-output	PV input	4	Linear scaling low limit	9128	23A8	25512	63A8					PV	
Input-output	PV input	4	Linear scaling high limit	9129	23A9	25513	63A9					PV	
Input-output	PV input	4	Square root extraction dropout	9130	23AA	25514	63AA					1	
Input-output	PV input	4	Filter	9131	23AB	25515	63AB					2	
Input-output	PV input	4	Bias	9132	23AC	25516	63AC					PV	
Input-output	PV input	4	Ratio	9133	23AD	25517	63AD					3	

Input-output/Continuous Output

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Input-output	Continuous output	1	Output range	9216	2400	25600	6400					–	
Input-output	Continuous output	1	Output type	9217	2401	25601	6401					–	
Input-output	Continuous output	1	Loop/channel definition	9218	2402	25602	6402					–	
Input-output	Continuous output	1	Output decimal point position	9219	2403	25603	6403					–	
Input-output	Continuous output	1	Output scaling low limit	9220	2404	25604	6404					OUT	
Input-output	Continuous output	1	Output scaling high limit	9221	2405	25605	6405					OUT	
Input-output	Continuous output	2	Output range	9232	2410	25616	6410					–	
Input-output	Continuous output	2	Output type	9233	2411	25617	6411					–	
Input-output	Continuous output	2	Loop/channel definition	9234	2412	25618	6412					–	
Input-output	Continuous output	2	Output decimal point position	9235	2413	25619	6413					–	
Input-output	Continuous output	2	Output scaling low limit	9236	2414	25620	6414					OUT	
Input-output	Continuous output	2	Output scaling high limit	9237	2415	25621	6415					OUT	
Input-output	Continuous output	3	Output range	9248	2420	25632	6420					–	
Input-output	Continuous output	3	Output type	9249	2421	25633	6421					–	
Input-output	Continuous output	3	Loop/channel definition	9250	2422	25634	6422					–	
Input-output	Continuous output	3	Output decimal point position	9251	2423	25635	6423					–	
Input-output	Continuous output	3	Output scaling low limit	9252	2424	25636	6424					OUT	
Input-output	Continuous output	3	Output scaling high limit	9253	2425	25637	6425					OUT	
Input-output	Continuous output	4	Output range	9264	2430	25648	6430					–	
Input-output	Continuous output	4	Output type	9265	2431	25649	6431					–	
Input-output	Continuous output	4	Loop/channel definition	9266	2432	25650	6432					–	
Input-output	Continuous output	4	Output decimal point position	9267	2433	25651	6433					–	
Input-output	Continuous output	4	Output scaling low limit	9268	2434	25652	6434					OUT	
Input-output	Continuous output	4	Output scaling high limit	9269	2435	25653	6435					OUT	

Input-output / OUT/DO Output

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Input-output	OUT/DO output	1	Output type	9328	2470	25712	6470					–	
Input-output	OUT/DO output	1	Latch	9329	2471	25713	6471					–	
Input-output	OUT/DO output	1	Time proportional operation type	9330	2472	25714	6472					–	
Input-output	OUT/DO output	1	Min. ON/OFF time	9331	2473	25715	6473					–	
Input-output	OUT/DO output	1	Time proportional cycle	9332	2474	25716	6474					1	
Input-output	OUT/DO output	1	Phase shift	9336	2478	25720	6478					–	
Input-output	OUT/DO output	2	Output type	9344	2480	25728	6480					–	
Input-output	OUT/DO output	2	Latch	9345	2481	25729	6481					–	
Input-output	OUT/DO output	2	Time proportional operation type	9346	2482	25730	6482					–	
Input-output	OUT/DO output	2	Min. ON/OFF time	9347	2483	25731	6483					–	
Input-output	OUT/DO output	2	Time proportional cycle	9348	2484	25732	6484					1	
Input-output	OUT/DO output	2	Phase shift	9352	2488	25736	6488					–	
Input-output	OUT/DO output	3	Output type	9360	2490	25744	6490					–	
Input-output	OUT/DO output	3	Latch	9361	2491	25745	6491					–	
Input-output	OUT/DO output	3	Time proportional operation type	9362	2492	25746	6492					–	
Input-output	OUT/DO output	3	Min. ON/OFF time	9363	2493	25747	6493					–	
Input-output	OUT/DO output	3	Time proportional cycle	9364	2494	25748	6494					1	
Input-output	OUT/DO output	3	Phase shift	9368	2498	25752	6498					–	
Input-output	OUT/DO output	4	Output type	9376	24A0	25760	64A0					–	
Input-output	OUT/DO output	4	Latch	9377	24A1	25761	64A1					–	
Input-output	OUT/DO output	4	Time proportional operation type	9378	24A2	25762	64A2					–	
Input-output	OUT/DO output	4	Min. ON/OFF time	9379	24A3	25763	64A3					–	
Input-output	OUT/DO output	4	Time proportional cycle	9380	24A4	25764	64A4					1	
Input-output	OUT/DO output	4	Phase shift	9384	24A8	25768	64A8					–	
Input-output	OUT/DO output	5	Output type	9392	24B0	25776	64B0					–	
Input-output	OUT/DO output	5	Latch	9393	24B1	25777	64B1					–	
Input-output	OUT/DO output	5	Time proportional operation type	9394	24B2	25778	64B2					–	
Input-output	OUT/DO output	5	Min. ON/OFF time	9395	24B3	25779	64B3					–	
Input-output	OUT/DO output	5	Time proportional cycle	9396	24B4	25780	64B4					1	
Input-output	OUT/DO output	5	Phase shift	9400	24B8	25784	64B8					–	
Input-output	OUT/DO output	6	Output type	9408	24C0	25792	64C0					–	
Input-output	OUT/DO output	6	Latch	9409	24C1	25793	64C1					–	
Input-output	OUT/DO output	6	Time proportional operation type	9410	24C2	25794	64C2					–	
Input-output	OUT/DO output	6	Min. ON/OFF time	9411	24C3	25795	64C3					–	
Input-output	OUT/DO output	6	Time proportional cycle	9412	24C4	25796	64C4					1	
Input-output	OUT/DO output	6	Phase shift	9416	24C8	25800	64C8					–	
Input-output	OUT/DO output	7	Output type	9424	24D0	25808	64D0					–	
Input-output	OUT/DO output	7	Latch	9425	24D1	25809	64D1					–	
Input-output	OUT/DO output	7	Time proportional operation type	9426	24D2	25810	64D2					–	
Input-output	OUT/DO output	7	Min. ON/OFF time	9427	24D3	25811	64D3					–	
Input-output	OUT/DO output	7	Time proportional cycle	9428	24D4	25812	64D4					1	
Input-output	OUT/DO output	7	Phase shift	9432	24D8	25816	64D8					–	
Input-output	OUT/DO output	8	Output type	9440	24E0	25824	64E0					–	
Input-output	OUT/DO output	8	Latch	9441	24E1	25825	64E1					–	
Input-output	OUT/DO output	8	Time proportional operation type	9442	24E2	25826	64E2					–	
Input-output	OUT/DO output	8	Min. ON/OFF time	9443	24E3	25827	64E3					–	
Input-output	OUT/DO output	8	Time proportional cycle	9444	24E4	25828	64E4					1	
Input-output	OUT/DO output	8	Phase shift	9448	24E8	25832	64E8					–	

Input-output/CT Input

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Input-output	CT input	1	CT operation	11152	2B90	27536	6B90					–	
Input-output	CT input	1	Waiting time for CT measurement	11153	2B91	27537	6B91					–	
Input-output	CT input	1	Number of CT turns	11154	2B92	27538	6B92					–	
Input-output	CT input	1	Number of CT power line passes	11155	2B93	27539	6B93					–	
Input-output	CT input	1	Heater burnout detection current value	11156	2B94	27540	6B94					1	
Input-output	CT input	1	Minimum current defined as overcurrent	11157	2B95	27541	6B95					1	
Input-output	CT input	1	Minimum current defined as short circuit	11158	2B96	27542	6B96					1	
Input-output	CT input	1	Hysteresis	11159	2B97	27543	6B97					1	
Input-output	CT input	1	Delay time	11160	2B98	27544	6B98					1	
Input-output	CT input	1	Condition for restoring status before measurement	11161	2B99	27545	6B99					–	
Input-output	CT input	2	CT operation	11168	2BA0	27552	6BA0					–	
Input-output	CT input	2	Waiting time for CT measurement	11169	2BA1	27553	6BA1					–	
Input-output	CT input	2	Number of CT turns	11170	2BA2	27554	6BA2					–	
Input-output	CT input	2	Number of CT power line passes	11171	2BA3	27555	6BA3					–	
Input-output	CT input	2	Heater burnout detection current value	11172	2BA4	27556	6BA4					1	
Input-output	CT input	2	Minimum current defined as overcurrent	11173	2BA5	27557	6BA5					1	
Input-output	CT input	2	Minimum current defined as short circuit	11174	2BA6	27558	6BA6					1	
Input-output	CT input	2	Hysteresis	11175	2BA7	27559	6BA7					1	
Input-output	CT input	2	Delay time	11176	2BA8	27560	6BA8					1	
Input-output	CT input	2	Condition for restoring status before measurement	11177	2BA9	27561	6BA9					–	
Input-output	CT input	3	CT operation	11184	2BB0	27568	6BB0					–	
Input-output	CT input	3	Waiting time for CT measurement	11185	2BB1	27569	6BB1					–	
Input-output	CT input	3	Number of CT turns	11186	2BB2	27570	6BB2					–	
Input-output	CT input	3	Number of CT power line passes	11187	2BB3	27571	6BB3					–	
Input-output	CT input	3	Heater burnout detection current value	11188	2BB4	27572	6BB4					1	
Input-output	CT input	3	Minimum current defined as overcurrent	11189	2BB5	27573	6BB5					1	
Input-output	CT input	3	Minimum current defined as short circuit	11190	2BB6	27574	6BB6					1	
Input-output	CT input	3	Hysteresis	11191	2BB7	27575	6BB7					1	
Input-output	CT input	3	Delay time	11192	2BB8	27576	6BB8					1	
Input-output	CT input	3	Condition for restoring status before measurement	11193	2BB9	27577	6BB9					–	
Input-output	CT input	4	CT operation	11200	2BC0	27584	6BC0					–	
Input-output	CT input	4	Waiting time for CT measurement	11201	2BC1	27585	6BC1					–	
Input-output	CT input	4	Number of CT turns	11202	2BC2	27586	6BC2					–	
Input-output	CT input	4	Number of CT power line passes	11203	2BC3	27587	6BC3					–	
Input-output	CT input	4	Heater burnout detection current value	11204	2BC4	27588	6BC4					1	
Input-output	CT input	4	Minimum current defined as overcurrent	11205	2BC5	27589	6BC5					1	
Input-output	CT input	4	Minimum current defined as short circuit	11206	2BC6	27590	6BC6					1	
Input-output	CT input	4	Hysteresis	11207	2BC7	27591	6BC7					1	
Input-output	CT input	4	Delay time	11208	2BC8	27592	6BC8					1	
Input-output	CT input	4	Condition for restoring status before measurement	11209	2BC9	27593	6BC9					–	

SP/SP Group Selection

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
SP	SP group selection	1	SP group selection	4096	1000	20480	5000					–	
SP	SP group selection	2	SP group selection	4100	1004	20484	5004					–	
SP	SP group selection	3	SP group selection	4104	1008	20488	5008					–	
SP	SP group selection	4	SP group selection	4108	100C	20492	500C					–	

SP/LSP

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
SP	LSP	1	LSP1	4112	1010	20496	5010					PID_PV	
SP	LSP	1	PID group definition 1 (for LSP)	4113	1011	20497	5011					–	
SP	LSP	1	LSP2	4114	1012	20498	5012					PID_PV	
SP	LSP	1	PID group definition 2 (for LSP)	4115	1013	20499	5013					–	
SP	LSP	1	LSP3	4116	1014	20500	5014					PID_PV	
SP	LSP	1	PID group definition 3 (for LSP)	4117	1015	20501	5015					–	
SP	LSP	1	LSP4	4118	1016	20502	5016					PID_PV	
SP	LSP	1	PID group definition 4 (for LSP)	4119	1017	20503	5017					–	
SP	LSP	2	LSP1	4144	1030	20528	5030					PID_PV	
SP	LSP	2	PID group definition 1 (for LSP)	4145	1031	20529	5031					–	
SP	LSP	2	LSP2	4146	1032	20530	5032					PID_PV	
SP	LSP	2	PID group definition 2 (for LSP)	4147	1033	20531	5033					–	
SP	LSP	2	LSP3	4148	1034	20532	5034					PID_PV	
SP	LSP	2	PID group definition 3 (for LSP)	4149	1035	20533	5035					–	
SP	LSP	2	LSP4	4150	1036	20534	5036					PID_PV	
SP	LSP	2	PID group definition 4 (for LSP)	4151	1037	20535	5037					–	
SP	LSP	3	LSP1	4176	1050	20560	5050					PID_PV	
SP	LSP	3	PID group definition 1 (for LSP)	4177	1051	20561	5051					–	
SP	LSP	3	LSP2	4178	1052	20562	5052					PID_PV	
SP	LSP	3	PID group definition 2 (for LSP)	4179	1053	20563	5053					–	
SP	LSP	3	LSP3	4180	1054	20564	5054					PID_PV	
SP	LSP	3	PID group definition 3 (for LSP)	4181	1055	20565	5055					–	
SP	LSP	3	LSP4	4182	1056	20566	5056					PID_PV	
SP	LSP	3	PID group definition 4 (for LSP)	4183	1057	20567	5057					–	
SP	LSP	4	LSP1	4208	1070	20592	5070					PID_PV	
SP	LSP	4	PID group definition 1 (for LSP)	4209	1071	20593	5071					–	
SP	LSP	4	LSP2	4210	1072	20594	5072					PID_PV	
SP	LSP	4	PID group definition 2 (for LSP)	4211	1073	20595	5073					–	
SP	LSP	4	LSP3	4212	1074	20596	5074					PID_PV	
SP	LSP	4	PID group definition 3 (for LSP)	4213	1075	20597	5075					–	
SP	LSP	4	LSP4	4214	1076	20598	5076					PID_PV	
SP	LSP	4	PID group definition 4 (for LSP)	4215	1077	20599	5077					–	

SP/RSP

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
SP	RSP	1	RSP	4240	1090	20624	5090		×		×	PID_PV	
SP	RSP	1	PID group definition (for RSP)	4241	1091	20625	5091					–	
SP	RSP	2	RSP	4244	1094	20628	5094		×		×	PID_PV	
SP	RSP	2	PID group definition (for RSP)	4245	1095	20629	5095					–	

SP/SP Configuration

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
SP	SP configuration	1	SP low limit	4256	10A0	20640	50A0					PID_PV	
SP	SP configuration	1	SP high limit	4257	10A1	20641	50A1					PID_PV	
SP	SP configuration	2	SP low limit	4260	10A4	20644	50A4					PID_PV	
SP	SP configuration	2	SP high limit	4261	10A5	20645	50A5					PID_PV	
SP	SP configuration	3	SP low limit	4264	10A8	20648	50A8					PID_PV	
SP	SP configuration	3	SP high limit	4265	10A9	20649	50A9					PID_PV	
SP	SP configuration	4	SP low limit	4268	10AC	20652	50AC					PID_PV	
SP	SP configuration	4	SP high limit	4269	10AD	20653	50AD					PID_PV	
SP	SP configuration	1	SP ramp unit	4272	10B0	20656	50B0					–	
SP	SP configuration	1	SP ramp-up for LSP	4273	10B1	20657	50B1					RAMP	
SP	SP configuration	1	SP ramp-down for LSP	4274	10B2	20658	50B2					RAMP	
SP	SP configuration	1	SP ramp-up for RSP	4276	10B4	20660	50B4					RAMP	
SP	SP configuration	1	SP ramp-down for RSP	4277	10B5	20661	50B5					RAMP	
SP	SP configuration	1	PV start for LSP	4280	10B8	20664	50B8					–	
SP	SP configuration	1	PV start for RSP	4281	10B9	20665	50B9					–	
SP	SP configuration	2	SP ramp unit	4288	10C0	20672	50C0					–	
SP	SP configuration	2	SP ramp-up for LSP	4289	10C1	20673	50C1					RAMP	
SP	SP configuration	2	SP ramp-down for LSP	4290	10C2	20674	50C2					RAMP	
SP	SP configuration	2	SP ramp-up for RSP	4292	10C4	20676	50C4					RAMP	
SP	SP configuration	2	SP ramp-down for RSP	4293	10C5	20677	50C5					RAMP	
SP	SP configuration	2	PV start for LSP	4296	10C8	20680	50C8					–	
SP	SP configuration	2	PV start for RSP	4297	10C9	20681	50C9					–	
SP	SP configuration	3	SP ramp unit	4304	10D0	20688	50D0					–	
SP	SP configuration	3	SP ramp-up for LSP	4305	10D1	20689	50D1					RAMP	
SP	SP configuration	3	SP ramp-down for LSP	4306	10D2	20690	50D2					RAMP	
SP	SP configuration	3	PV start for LSP	4312	10D8	20696	50D8					–	
SP	SP configuration	4	SP ramp unit	4320	10E0	20704	50E0					–	
SP	SP configuration	4	SP ramp-up for LSP	4321	10E1	20705	50E1					RAMP	
SP	SP configuration	4	SP ramp-down for LSP	4322	10E2	20706	50E2					RAMP	
SP	SP configuration	4	PV start for LSP	4328	10E8	20712	50E8					–	

Event/Event Settings

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Event	Operating point	1	Event main setting	4336	10F0	20720	50F0					EV	
Event	Operating point	1	Event sub-setting	4337	10F1	20721	50F1					EV	
Event	Operating point	2	Event main setting	4338	10F2	20722	50F2					EV	
Event	Operating point	2	Event sub-setting	4339	10F3	20723	50F3					EV	
Event	Operating point	3	Event main setting	4340	10F4	20724	50F4					EV	
Event	Operating point	3	Event sub-setting	4341	10F5	20725	50F5					EV	
Event	Operating point	4	Event main setting	4342	10F6	20726	50F6					EV	
Event	Operating point	4	Event sub-setting	4343	10F7	20727	50F7					EV	
Event	Operating point	5	Event main setting	4344	10F8	20728	50F8					EV	
Event	Operating point	5	Event sub-setting	4345	10F9	20729	50F9					EV	
Event	Operating point	6	Event main setting	4346	10FA	20730	50FA					EV	
Event	Operating point	6	Event sub-setting	4347	10FB	20731	50FB					EV	
Event	Operating point	7	Event main setting	4348	10FC	20732	50FC					EV	
Event	Operating point	7	Event sub-setting	4349	10FD	20733	50FD					EV	
Event	Operating point	8	Event main setting	4350	10FE	20734	50FE					EV	
Event	Operating point	8	Event sub-setting	4351	10FF	20735	50FF					EV	
Event	Operating point	9	Event main setting	4352	1100	20736	5100					EV	
Event	Operating point	9	Event sub-setting	4353	1101	20737	5101					EV	
Event	Operating point	10	Event main setting	4354	1102	20738	5102					EV	
Event	Operating point	10	Event sub-setting	4355	1103	20739	5103					EV	
Event	Operating point	11	Event main setting	4356	1104	20740	5104					EV	
Event	Operating point	11	Event sub-setting	4357	1105	20741	5105					EV	
Event	Operating point	12	Event main setting	4358	1106	20742	5106					EV	
Event	Operating point	12	Event sub-setting	4359	1107	20743	5107					EV	
Event	Operating point	13	Event main setting	4360	1108	20744	5108					EV	
Event	Operating point	13	Event sub-setting	4361	1109	20745	5109					EV	
Event	Operating point	14	Event main setting	4362	110A	20746	510A					EV	
Event	Operating point	14	Event sub-setting	4363	110B	20747	510B					EV	
Event	Operating point	15	Event main setting	4364	110C	20748	510C					EV	
Event	Operating point	15	Event sub-setting	4365	110D	20749	510D					EV	
Event	Operating point	16	Event main setting	4366	110E	20750	510E					EV	
Event	Operating point	16	Event sub-setting	4367	110F	20751	510F					EV	
Event	Operating point	17	Event main setting	4368	1110	20752	5110					EV	
Event	Operating point	17	Event sub-setting	4369	1111	20753	5111					EV	
Event	Operating point	18	Event main setting	4370	1112	20754	5112					EV	
Event	Operating point	18	Event sub-setting	4371	1113	20755	5113					EV	
Event	Operating point	19	Event main setting	4372	1114	20756	5114					EV	
Event	Operating point	19	Event sub-setting	4373	1115	20757	5115					EV	
Event	Operating point	20	Event main setting	4374	1116	20758	5116					EV	
Event	Operating point	20	Event sub-setting	4375	1117	20759	5117					EV	
Event	Operating point	21	Event main setting	4376	1118	20760	5118					EV	
Event	Operating point	21	Event sub-setting	4377	1119	20761	5119					EV	
Event	Operating point	22	Event main setting	4378	111A	20762	511A					EV	
Event	Operating point	22	Event sub-setting	4379	111B	20763	511B					EV	
Event	Operating point	23	Event main setting	4380	111C	20764	511C					EV	
Event	Operating point	23	Event sub-setting	4381	111D	20765	511D					EV	
Event	Operating point	24	Event main setting	4382	111E	20766	511E					EV	
Event	Operating point	24	Event sub-setting	4383	111F	20767	511F					EV	

Event/Event Configuration

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Event	Event config.	1	Operation type	4400	1130	20784	5130					–	
Event	Event config.	1	Loop/channel definition	4401	1131	20785	5131					–	
Event	Event config.	1	Direct/Reverse	4402	1132	20786	5132					–	
Event	Event config.	1	Standby	4403	1133	20787	5133					–	
Event	Event config.	1	EVENT state at READY	4404	1134	20788	5134					–	
Event	Event config.	1	Decimal point position	4405	1135	20789	5135					–	
Event	Event config.	1	Hysteresis	4406	1136	20790	5136					EV	
Event	Event config.	1	ON delay	4407	1137	20791	5137					1	
Event	Event config.	1	OFF delay	4408	1138	20792	5138					1	
Event	Event config.	2	Operation type	4416	1140	20800	5140					–	
Event	Event config.	2	Loop/channel definition	4417	1141	20801	5141					–	
Event	Event config.	2	Direct/Reverse	4418	1142	20802	5142					–	
Event	Event config.	2	Standby	4419	1143	20803	5143					–	
Event	Event config.	2	EVENT state at READY	4420	1144	20804	5144					–	
Event	Event config.	2	Decimal point position	4421	1145	20805	5145					–	
Event	Event config.	2	Hysteresis	4422	1146	20806	5146					EV	
Event	Event config.	2	ON delay	4423	1147	20807	5147					1	
Event	Event config.	2	OFF delay	4424	1148	20808	5148					1	
Event	Event config.	3	Operation type	4432	1150	20816	5150					–	
Event	Event config.	3	Loop/channel definition	4433	1151	20817	5151					–	
Event	Event config.	3	Direct/Reverse	4434	1152	20818	5152					–	
Event	Event config.	3	Standby	4435	1153	20819	5153					–	
Event	Event config.	3	EVENT state at READY	4436	1154	20820	5154					–	
Event	Event config.	3	Decimal point position	4437	1155	20821	5155					–	
Event	Event config.	3	Hysteresis	4438	1156	20822	5156					EV	
Event	Event config.	3	ON delay	4439	1157	20823	5157					1	
Event	Event config.	3	OFF delay	4440	1158	20824	5158					1	
Event	Event config.	4	Operation type	4448	1160	20832	5160					–	
Event	Event config.	4	Loop/channel definition	4449	1161	20833	5161					–	
Event	Event config.	4	Direct/Reverse	4450	1162	20834	5162					–	
Event	Event config.	4	Standby	4451	1163	20835	5163					–	
Event	Event config.	4	EVENT state at READY	4452	1164	20836	5164					–	
Event	Event config.	4	Decimal point position	4453	1165	20837	5165					–	
Event	Event config.	4	Hysteresis	4454	1166	20838	5166					EV	
Event	Event config.	4	ON delay	4455	1167	20839	5167					1	
Event	Event config.	4	OFF delay	4456	1168	20840	5168					1	
Event	Event config.	5	Operation type	4464	1170	20848	5170					–	
Event	Event config.	5	Loop/channel definition	4465	1171	20849	5171					–	
Event	Event config.	5	Direct/Reverse	4466	1172	20850	5172					–	
Event	Event config.	5	Standby	4467	1173	20851	5173					–	
Event	Event config.	5	EVENT state at READY	4468	1174	20852	5174					–	
Event	Event config.	5	Decimal point position	4469	1175	20853	5175					–	
Event	Event config.	5	Hysteresis	4470	1176	20854	5176					EV	
Event	Event config.	5	ON delay	4471	1177	20855	5177					1	
Event	Event config.	5	OFF delay	4472	1178	20856	5178					1	
Event	Event config.	6	Operation type	4480	1180	20864	5180					–	
Event	Event config.	6	Loop/channel definition	4481	1181	20865	5181					–	
Event	Event config.	6	Direct/Reverse	4482	1182	20866	5182					–	
Event	Event config.	6	Standby	4483	1183	20867	5183					–	
Event	Event config.	6	EVENT state at READY	4484	1184	20868	5184					–	
Event	Event config.	6	Decimal point position	4485	1185	20869	5185					–	
Event	Event config.	6	Hysteresis	4486	1186	20870	5186					EV	
Event	Event config.	6	ON delay	4487	1187	20871	5187					1	
Event	Event config.	6	OFF delay	4488	1188	20872	5188					1	

Event/Event Configuration

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Event	Event config.	7	Operation type	4496	1190	20880	5190					–	
Event	Event config.	7	Loop/channel definition	4497	1191	20881	5191					–	
Event	Event config.	7	Direct/Reverse	4498	1192	20882	5192					–	
Event	Event config.	7	Standby	4499	1193	20883	5193					–	
Event	Event config.	7	EVENT state at READY	4500	1194	20884	5194					–	
Event	Event config.	7	Decimal point position	4501	1195	20885	5195					–	
Event	Event config.	7	Hysteresis	4502	1196	20886	5196					EV	
Event	Event config.	7	ON delay	4503	1197	20887	5197					1	
Event	Event config.	7	OFF delay	4504	1198	20888	5198					1	
Event	Event config.	8	Operation type	4512	11A0	20896	51A0					–	
Event	Event config.	8	Loop/channel definition	4513	11A1	20897	51A1					–	
Event	Event config.	8	Direct/Reverse	4514	11A2	20898	51A2					–	
Event	Event config.	8	Standby	4515	11A3	20899	51A3					–	
Event	Event config.	8	EVENT state at READY	4516	11A4	20900	51A4					–	
Event	Event config.	8	Decimal point position	4517	11A5	20901	51A5					–	
Event	Event config.	8	Hysteresis	4518	11A6	20902	51A6					EV	
Event	Event config.	8	ON delay	4519	11A7	20903	51A7					1	
Event	Event config.	8	OFF delay	4520	11A8	20904	51A8					1	
Event	Event config.	9	Operation type	4528	11B0	20912	51B0					–	
Event	Event config.	9	Loop/channel definition	4529	11B1	20913	51B1					–	
Event	Event config.	9	Direct/Reverse	4530	11B2	20914	51B2					–	
Event	Event config.	9	Standby	4531	11B3	20915	51B3					–	
Event	Event config.	9	EVENT state at READY	4532	11B4	20916	51B4					–	
Event	Event config.	9	Decimal point position	4533	11B5	20917	51B5					–	
Event	Event config.	9	Hysteresis	4534	11B6	20918	51B6					EV	
Event	Event config.	9	ON delay	4535	11B7	20919	51B7					1	
Event	Event config.	9	OFF delay	4536	11B8	20920	51B8					1	
Event	Event config.	10	Operation type	4544	11C0	20928	51C0					–	
Event	Event config.	10	Loop/channel definition	4545	11C1	20929	51C1					–	
Event	Event config.	10	Direct/Reverse	4546	11C2	20930	51C2					–	
Event	Event config.	10	Standby	4547	11C3	20931	51C3					–	
Event	Event config.	10	EVENT state at READY	4548	11C4	20932	51C4					–	
Event	Event config.	10	Decimal point position	4549	11C5	20933	51C5					–	
Event	Event config.	10	Hysteresis	4550	11C6	20934	51C6					EV	
Event	Event config.	10	ON delay	4551	11C7	20935	51C7					1	
Event	Event config.	10	OFF delay	4552	11C8	20936	51C8					1	
Event	Event config.	11	Operation type	4560	11D0	20944	51D0					–	
Event	Event config.	11	Loop/channel definition	4561	11D1	20945	51D1					–	
Event	Event config.	11	Direct/Reverse	4562	11D2	20946	51D2					–	
Event	Event config.	11	Standby	4563	11D3	20947	51D3					–	
Event	Event config.	11	EVENT state at READY	4564	11D4	20948	51D4					–	
Event	Event config.	11	Decimal point position	4565	11D5	20949	51D5					–	
Event	Event config.	11	Hysteresis	4566	11D6	20950	51D6					EV	
Event	Event config.	11	ON delay	4567	11D7	20951	51D7					1	
Event	Event config.	11	OFF delay	4568	11D8	20952	51D8					1	
Event	Event config.	12	Operation type	4576	11E0	20960	51E0					–	
Event	Event config.	12	Loop/channel definition	4577	11E1	20961	51E1					–	
Event	Event config.	12	Direct/Reverse	4578	11E2	20962	51E2					–	
Event	Event config.	12	Standby	4579	11E3	20963	51E3					–	
Event	Event config.	12	EVENT state at READY	4580	11E4	20964	51E4					–	
Event	Event config.	12	Decimal point position	4581	11E5	20965	51E5					–	
Event	Event config.	12	Hysteresis	4582	11E6	20966	51E6					EV	
Event	Event config.	12	ON delay	4583	11E7	20967	51E7					1	
Event	Event config.	12	OFF delay	4584	11E8	20968	51E8					1	

Event/Event Configuration

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Event	Event config.	13	Operation type	4592	11F0	20976	51F0					–	
Event	Event config.	13	Loop/channel definition	4593	11F1	20977	51F1					–	
Event	Event config.	13	Direct/Reverse	4594	11F2	20978	51F2					–	
Event	Event config.	13	Standby	4595	11F3	20979	51F3					–	
Event	Event config.	13	EVENT state at READY	4596	11F4	20980	51F4					–	
Event	Event config.	13	Decimal point position	4597	11F5	20981	51F5					–	
Event	Event config.	13	Hysteresis	4598	11F6	20982	51F6					EV	
Event	Event config.	13	ON delay	4599	11F7	20983	51F7					1	
Event	Event config.	13	OFF delay	4600	11F8	20984	51F8					1	
Event	Event config.	14	Operation type	4608	1200	20992	5200					–	
Event	Event config.	14	Loop/channel definition	4609	1201	20993	5201					–	
Event	Event config.	14	Direct/Reverse	4610	1202	20994	5202					–	
Event	Event config.	14	Standby	4611	1203	20995	5203					–	
Event	Event config.	14	EVENT state at READY	4612	1204	20996	5204					–	
Event	Event config.	14	Decimal point position	4613	1205	20997	5205					–	
Event	Event config.	14	Hysteresis	4614	1206	20998	5206					EV	
Event	Event config.	14	ON delay	4615	1207	20999	5207					1	
Event	Event config.	14	OFF delay	4616	1208	21000	5208					1	
Event	Event config.	15	Operation type	4624	1210	21008	5210					–	
Event	Event config.	15	Loop/channel definition	4625	1211	21009	5211					–	
Event	Event config.	15	Direct/Reverse	4626	1212	21010	5212					–	
Event	Event config.	15	Standby	4627	1213	21011	5213					–	
Event	Event config.	15	EVENT state at READY	4628	1214	21012	5214					–	
Event	Event config.	15	Decimal point position	4629	1215	21013	5215					–	
Event	Event config.	15	Hysteresis	4630	1216	21014	5216					EV	
Event	Event config.	15	ON delay	4631	1217	21015	5217					1	
Event	Event config.	15	OFF delay	4632	1218	21016	5218					1	
Event	Event config.	16	Operation type	4640	1220	21024	5220					–	
Event	Event config.	16	Loop/channel definition	4641	1221	21025	5221					–	
Event	Event config.	16	Direct/Reverse	4642	1222	21026	5222					–	
Event	Event config.	16	Standby	4643	1223	21027	5223					–	
Event	Event config.	16	EVENT state at READY	4644	1224	21028	5224					–	
Event	Event config.	16	Decimal point position	4645	1225	21029	5225					–	
Event	Event config.	16	Hysteresis	4646	1226	21030	5226					EV	
Event	Event config.	16	ON delay	4647	1227	21031	5227					1	
Event	Event config.	16	OFF delay	4648	1228	21032	5228					1	
Event	Event config.	17	Operation type	4656	1230	21040	5230					–	
Event	Event config.	17	Loop/channel definition	4657	1231	21041	5231					–	
Event	Event config.	17	Direct/Reverse	4658	1232	21042	5232					–	
Event	Event config.	17	Standby	4659	1233	21043	5233					–	
Event	Event config.	17	EVENT state at READY	4660	1234	21044	5234					–	
Event	Event config.	17	Decimal point position	4661	1235	21045	5235					–	
Event	Event config.	17	Hysteresis	4662	1236	21046	5236					EV	
Event	Event config.	17	ON delay	4663	1237	21047	5237					1	
Event	Event config.	17	OFF delay	4664	1238	21048	5238					1	
Event	Event config.	18	Operation type	4672	1240	21056	5240					–	
Event	Event config.	18	Loop/channel definition	4673	1241	21057	5241					–	
Event	Event config.	18	Direct/Reverse	4674	1242	21058	5242					–	
Event	Event config.	18	Standby	4675	1243	21059	5243					–	
Event	Event config.	18	EVENT state at READY	4676	1244	21060	5244					–	
Event	Event config.	18	Decimal point position	4677	1245	21061	5245					–	
Event	Event config.	18	Hysteresis	4678	1246	21062	5246					EV	
Event	Event config.	18	ON delay	4679	1247	21063	5247					1	
Event	Event config.	18	OFF delay	4680	1248	21064	5248					1	

Event/Event Configuration

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Event	Event config.	19	Operation type	4688	1250	21072	5250					–	
Event	Event config.	19	Loop/channel definition	4689	1251	21073	5251					–	
Event	Event config.	19	Direct/Reverse	4690	1252	21074	5252					–	
Event	Event config.	19	Standby	4691	1253	21075	5253					–	
Event	Event config.	19	EVENT state at READY	4692	1254	21076	5254					–	
Event	Event config.	19	Decimal point position	4693	1255	21077	5255					–	
Event	Event config.	19	Hysteresis	4694	1256	21078	5256					EV	
Event	Event config.	19	ON delay	4695	1257	21079	5257					1	
Event	Event config.	19	OFF delay	4696	1258	21080	5258					1	
Event	Event config.	20	Operation type	4704	1260	21088	5260					–	
Event	Event config.	20	Loop/channel definition	4705	1261	21089	5261					–	
Event	Event config.	20	Direct/Reverse	4706	1262	21090	5262					–	
Event	Event config.	20	Standby	4707	1263	21091	5263					–	
Event	Event config.	20	EVENT state at READY	4708	1264	21092	5264					–	
Event	Event config.	20	Decimal point position	4709	1265	21093	5265					–	
Event	Event config.	20	Hysteresis	4710	1266	21094	5266					EV	
Event	Event config.	20	ON delay	4711	1267	21095	5267					1	
Event	Event config.	20	OFF delay	4712	1268	21096	5268					1	
Event	Event config.	21	Operation type	4720	1270	21104	5270					–	
Event	Event config.	21	Loop/channel definition	4721	1271	21105	5271					–	
Event	Event config.	21	Direct/Reverse	4722	1272	21106	5272					–	
Event	Event config.	21	Standby	4723	1273	21107	5273					–	
Event	Event config.	21	EVENT state at READY	4724	1274	21108	5274					–	
Event	Event config.	21	Decimal point position	4725	1275	21109	5275					–	
Event	Event config.	21	Hysteresis	4726	1276	21110	5276					EV	
Event	Event config.	21	ON delay	4727	1277	21111	5277					1	
Event	Event config.	21	OFF delay	4728	1278	21112	5278					1	
Event	Event config.	22	Operation type	4736	1280	21120	5280					–	
Event	Event config.	22	Loop/channel definition	4737	1281	21121	5281					–	
Event	Event config.	22	Direct/Reverse	4738	1282	21122	5282					–	
Event	Event config.	22	Standby	4739	1283	21123	5283					–	
Event	Event config.	22	EVENT state at READY	4740	1284	21124	5284					–	
Event	Event config.	22	Decimal point position	4741	1285	21125	5285					–	
Event	Event config.	22	Hysteresis	4742	1286	21126	5286					EV	
Event	Event config.	22	ON delay	4743	1287	21127	5287					1	
Event	Event config.	22	OFF delay	4744	1288	21128	5288					1	
Event	Event config.	23	Operation type	4752	1290	21136	5290					–	
Event	Event config.	23	Loop/channel definition	4753	1291	21137	5291					–	
Event	Event config.	23	Direct/Reverse	4754	1292	21138	5292					–	
Event	Event config.	23	Standby	4755	1293	21139	5293					–	
Event	Event config.	23	EVENT state at READY	4756	1294	21140	5294					–	
Event	Event config.	23	Decimal point position	4757	1295	21141	5295					–	
Event	Event config.	23	Hysteresis	4758	1296	21142	5296					EV	
Event	Event config.	23	ON delay	4759	1297	21143	5297					1	
Event	Event config.	23	OFF delay	4760	1298	21144	5298					1	
Event	Event config.	24	Operation type	4768	12A0	21152	52A0					–	
Event	Event config.	24	Loop/channel definition	4769	12A1	21153	52A1					–	
Event	Event config.	24	Direct/Reverse	4770	12A2	21154	52A2					–	
Event	Event config.	24	Standby	4771	12A3	21155	52A3					–	
Event	Event config.	24	EVENT state at READY	4772	12A4	21156	52A4					–	
Event	Event config.	24	Decimal point position	4773	12A5	21157	52A5					–	
Event	Event config.	24	Hysteresis	4774	12A6	21158	52A6					EV	
Event	Event config.	24	ON delay	4775	12A7	21159	52A7					1	
Event	Event config.	24	OFF delay	4776	12A8	21160	52A8					1	

PID/PID

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
PID	PID	1	Proportional band 1	7024	1B70	23408	5B70					1	
PID	PID	1	Integral time 1	7025	1B71	23409	5B71					PID	
PID	PID	1	Derivative time 1	7026	1B72	23410	5B72					PID	
PID	PID	1	Output (MV) low limit 1	7027	1B73	23411	5B73					1	
PID	PID	1	Output (MV) high limit 1	7028	1B74	23412	5B74					1	
PID	PID	1	Manual reset 1	7029	1B75	23413	5B75					1	
PID	PID	1	Proportional band for cool side 1	7030	1B76	23414	5B76					1	
PID	PID	1	Integral time for cool side 1	7031	1B77	23415	5B77					PID	
PID	PID	1	Derivative time for cool side 1	7032	1B78	23416	5B78					PID	
PID	PID	1	Output low limit for cool side 1	7033	1B79	23417	5B79					1	
PID	PID	1	Output high limit for cool side 1	7034	1B7A	23418	5B7A					1	
PID	PID	1	Differential 1	7035	1B7B	23419	5B7B					PID_PV	
PID	PID	1	Proportional band 2	7040	1B80	23424	5B80					1	
PID	PID	1	Integral time 2	7041	1B81	23425	5B81					PID	
PID	PID	1	Derivative time 2	7042	1B82	23426	5B82					PID	
PID	PID	1	Output (MV) low limit 2	7043	1B83	23427	5B83					1	
PID	PID	1	Output (MV) high limit 2	7044	1B84	23428	5B84					1	
PID	PID	1	Manual reset 2	7045	1B85	23429	5B85					1	
PID	PID	1	Proportional band for cool side 2	7046	1B86	23430	5B86					1	
PID	PID	1	Integral time for cool side 2	7047	1B87	23431	5B87					PID	
PID	PID	1	Derivative time for cool side 2	7048	1B88	23432	5B88					PID	
PID	PID	1	Output low limit for cool side 2	7049	1B89	23433	5B89					1	
PID	PID	1	Output high limit for cool side 2	7050	1B8A	23434	5B8A					1	
PID	PID	1	Differential 2	7051	1B8B	23435	5B8B					PID_PV	
PID	PID	1	Proportional band 3	7056	1B90	23440	5B90					1	
PID	PID	1	Integral time 3	7057	1B91	23441	5B91					PID	
PID	PID	1	Derivative time 3	7058	1B92	23442	5B92					PID	
PID	PID	1	Output (MV) low limit 3	7059	1B93	23443	5B93					1	
PID	PID	1	Output (MV) high limit 3	7060	1B94	23444	5B94					1	
PID	PID	1	Manual reset 3	7061	1B95	23445	5B95					1	
PID	PID	1	Proportional band for cool side 3	7062	1B96	23446	5B96					1	
PID	PID	1	Integral time for cool side 3	7063	1B97	23447	5B97					PID	
PID	PID	1	Derivative time for cool side 3	7064	1B98	23448	5B98					PID	
PID	PID	1	Output low limit for cool side 3	7065	1B99	23449	5B99					1	
PID	PID	1	Output high limit for cool side 3	7066	1B9A	23450	5B9A					1	
PID	PID	1	Differential 3	7067	1B9B	23451	5B9B					PID_PV	
PID	PID	1	Proportional band 4	7072	1BA0	23456	5BA0					1	
PID	PID	1	Integral time 4	7073	1BA1	23457	5BA1					PID	
PID	PID	1	Derivative time 4	7074	1BA2	23458	5BA2					PID	
PID	PID	1	Output (MV) low limit 4	7075	1BA3	23459	5BA3					1	
PID	PID	1	Output (MV) high limit 4	7076	1BA4	23460	5BA4					1	
PID	PID	1	Manual reset 4	7077	1BA5	23461	5BA5					1	
PID	PID	1	Proportional band for cool side 4	7078	1BA6	23462	5BA6					1	
PID	PID	1	Integral time for cool side 4	7079	1BA7	23463	5BA7					PID	
PID	PID	1	Derivative time for cool side 4	7080	1BA8	23464	5BA8					PID	
PID	PID	1	Output low limit for cool side 4	7081	1BA9	23465	5BA9					1	
PID	PID	1	Output high limit for cool side 4	7082	1BAA	23466	5BAA					1	
PID	PID	1	Differential 4	7083	1BAB	23467	5BAB					PID_PV	

PID/PID

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
PID	PID	2	Proportional band 1	7280	1C70	23664	5C70					1	
PID	PID	2	Integral time 1	7281	1C71	23665	5C71					PID	
PID	PID	2	Derivative time 1	7282	1C72	23666	5C72					PID	
PID	PID	2	Output (MV) low limit 1	7283	1C73	23667	5C73					1	
PID	PID	2	Output (MV) high limit 1	7284	1C74	23668	5C74					1	
PID	PID	2	Manual reset 1	7285	1C75	23669	5C75					1	
PID	PID	2	Proportional band for cool side 1	7286	1C76	23670	5C76					1	
PID	PID	2	Integral time for cool side 1	7287	1C77	23671	5C77					PID	
PID	PID	2	Derivative time for cool side 1	7288	1C78	23672	5C78					PID	
PID	PID	2	Output low limit for cool side 1	7289	1C79	23673	5C79					1	
PID	PID	2	Output high limit for cool side 1	7290	1C7A	23674	5C7A					1	
PID	PID	2	Differential 1	7291	1C7B	23675	5C7B					PID_PV	
PID	PID	2	Proportional band 2	7296	1C80	23680	5C80					1	
PID	PID	2	Integral time 2	7297	1C81	23681	5C81					PID	
PID	PID	2	Derivative time 2	7298	1C82	23682	5C82					PID	
PID	PID	2	Output (MV) low limit 2	7299	1C83	23683	5C83					1	
PID	PID	2	Output (MV) high limit 2	7300	1C84	23684	5C84					1	
PID	PID	2	Manual reset 2	7301	1C85	23685	5C85					1	
PID	PID	2	Proportional band for cool side 2	7302	1C86	23686	5C86					1	
PID	PID	2	Integral time for cool side 2	7303	1C87	23687	5C87					PID	
PID	PID	2	Derivative time for cool side 2	7304	1C88	23688	5C88					PID	
PID	PID	2	Output low limit for cool side 2	7305	1C89	23689	5C89					1	
PID	PID	2	Output high limit for cool side 2	7306	1C8A	23690	5C8A					1	
PID	PID	2	Differential 2	7307	1C8B	23691	5C8B					PID_PV	
PID	PID	2	Proportional band 3	7312	1C90	23696	5C90					1	
PID	PID	2	Integral time 3	7313	1C91	23697	5C91					PID	
PID	PID	2	Derivative time 3	7314	1C92	23698	5C92					PID	
PID	PID	2	Output (MV) low limit 3	7315	1C93	23699	5C93					1	
PID	PID	2	Output (MV) high limit 3	7316	1C94	23700	5C94					1	
PID	PID	2	Manual reset 3	7317	1C95	23701	5C95					1	
PID	PID	2	Proportional band for cool side 3	7318	1C96	23702	5C96					1	
PID	PID	2	Integral time for cool side 3	7319	1C97	23703	5C97					PID	
PID	PID	2	Derivative time for cool side 3	7320	1C98	23704	5C98					PID	
PID	PID	2	Output low limit for cool side 3	7321	1C99	23705	5C99					1	
PID	PID	2	Output high limit for cool side 3	7322	1C9A	23706	5C9A					1	
PID	PID	2	Differential 3	7323	1C9B	23707	5C9B					PID_PV	
PID	PID	2	Proportional band 4	7328	1CA0	23712	5CA0					1	
PID	PID	2	Integral time 4	7329	1CA1	23713	5CA1					PID	
PID	PID	2	Derivative time 4	7330	1CA2	23714	5CA2					PID	
PID	PID	2	Output (MV) low limit 4	7331	1CA3	23715	5CA3					1	
PID	PID	2	Output (MV) high limit 4	7332	1CA4	23716	5CA4					1	
PID	PID	2	Manual reset 4	7333	1CA5	23717	5CA5					1	
PID	PID	2	Proportional band for cool side 4	7334	1CA6	23718	5CA6					1	
PID	PID	2	Integral time for cool side 4	7335	1CA7	23719	5CA7					PID	
PID	PID	2	Derivative time for cool side 4	7336	1CA8	23720	5CA8					PID	
PID	PID	2	Output low limit for cool side 4	7337	1CA9	23721	5CA9					1	
PID	PID	2	Output high limit for cool side 4	7338	1CAA	23722	5CAA					1	
PID	PID	2	Differential 4	7339	1CAB	23723	5CAB					PID_PV	

PID/PID

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
PID	PID	3	Proportional band 1	7536	1D70	23920	5D70					1	
PID	PID	3	Integral time 1	7537	1D71	23921	5D71					PID	
PID	PID	3	Derivative time 1	7538	1D72	23922	5D72					PID	
PID	PID	3	Output (MV) low limit 1	7539	1D73	23923	5D73					1	
PID	PID	3	Output (MV) high limit 1	7540	1D74	23924	5D74					1	
PID	PID	3	Manual reset 1	7541	1D75	23925	5D75					1	
PID	PID	3	Differential 1	7547	1D7B	23931	5D7B					PID_PV	
PID	PID	3	Proportional band 2	7552	1D80	23936	5D80					1	
PID	PID	3	Integral time 2	7553	1D81	23937	5D81					PID	
PID	PID	3	Derivative time 2	7554	1D82	23938	5D82					PID	
PID	PID	3	Output (MV) low limit 2	7555	1D83	23939	5D83					1	
PID	PID	3	Output (MV) high limit 2	7556	1D84	23940	5D84					1	
PID	PID	3	Manual reset 2	7557	1D85	23941	5D85					1	
PID	PID	3	Differential 2	7563	1D8B	23947	5D8B					PID_PV	
PID	PID	3	Proportional band 3	7568	1D90	23952	5D90					1	
PID	PID	3	Integral time 3	7569	1D91	23953	5D91					PID	
PID	PID	3	Derivative time 3	7570	1D92	23954	5D92					PID	
PID	PID	3	Output (MV) low limit 3	7571	1D93	23955	5D93					1	
PID	PID	3	Output (MV) high limit 3	7572	1D94	23956	5D94					1	
PID	PID	3	Manual reset 3	7573	1D95	23957	5D95					1	
PID	PID	3	Differential 3	7579	1D9B	23963	5D9B					PID_PV	
PID	PID	3	Proportional band 4	7584	1DA0	23968	5DA0					1	
PID	PID	3	Integral time 4	7585	1DA1	23969	5DA1					PID	
PID	PID	3	Derivative time 4	7586	1DA2	23970	5DA2					PID	
PID	PID	3	Output (MV) low limit 4	7587	1DA3	23971	5DA3					1	
PID	PID	3	Output (MV) high limit 4	7588	1DA4	23972	5DA4					1	
PID	PID	3	Manual reset 4	7589	1DA5	23973	5DA5					1	
PID	PID	3	Differential 4	7595	1DAB	23979	5DAB					PID_PV	
PID	PID	4	Proportional band 1	7792	1E70	24176	5E70					1	
PID	PID	4	Integral time 1	7793	1E71	24177	5E71					PID	
PID	PID	4	Derivative time 1	7794	1E72	24178	5E72					PID	
PID	PID	4	Output (MV) low limit 1	7795	1E73	24179	5E73					1	
PID	PID	4	Output (MV) high limit 1	7796	1E74	24180	5E74					1	
PID	PID	4	Manual reset 1	7797	1E75	24181	5E75					1	
PID	PID	4	Differential 1	7803	1E7B	24187	5E7B					PID_PV	
PID	PID	4	Proportional band 2	7808	1E80	24192	5E80					1	
PID	PID	4	Integral time 2	7809	1E81	24193	5E81					PID	
PID	PID	4	Derivative time 2	7810	1E82	24194	5E82					PID	
PID	PID	4	Output (MV) low limit 2	7811	1E83	24195	5E83					1	
PID	PID	4	Output (MV) high limit 2	7812	1E84	24196	5E84					1	
PID	PID	4	Manual reset 2	7813	1E85	24197	5E85					1	
PID	PID	4	Differential 2	7819	1E8B	24203	5E8B					PID_PV	
PID	PID	4	Proportional band 3	7824	1E90	24208	5E90					1	
PID	PID	4	Integral time 3	7825	1E91	24209	5E91					PID	
PID	PID	4	Derivative time 3	7826	1E92	24210	5E92					PID	
PID	PID	4	Output (MV) low limit 3	7827	1E93	24211	5E93					1	
PID	PID	4	Output (MV) high limit 3	7828	1E94	24212	5E94					1	
PID	PID	4	Manual reset 3	7829	1E95	24213	5E95					1	
PID	PID	4	Differential 3	7835	1E9B	24219	5E9B					PID_PV	
PID	PID	4	Proportional band 4	7840	1EA0	24224	5EA0					1	
PID	PID	4	Integral time 4	7841	1EA1	24225	5EA1					PID	
PID	PID	4	Derivative time 4	7842	1EA2	24226	5EA2					PID	
PID	PID	4	Output (MV) low limit 4	7843	1EA3	24227	5EA3					1	
PID	PID	4	Output (MV) high limit 4	7844	1EA4	24228	5EA4					1	
PID	PID	4	Manual reset 4	7845	1EA5	24229	5EA5					1	
PID	PID	4	Differential 4	7851	1EAB	24235	5EAB					PID_PV	

Function/Internal Contact IN

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Function	Internal contact IN	1	Operation type	9472	2500	25856	6500					–	
Function	Internal contact IN	1	Input type	9473	2501	25857	6501					–	
Function	Internal contact IN	1	Loop/channel definition	9474	2502	25858	6502					–	
Function	Internal contact IN	1	Weighting	9475	2503	25859	6503					–	
Function	Internal contact IN	2	Operation type	9480	2508	25864	6508					–	
Function	Internal contact IN	2	Input type	9481	2509	25865	6509					–	
Function	Internal contact IN	2	Loop/channel definition	9482	250A	25866	650A					–	
Function	Internal contact IN	2	Weighting	9483	250B	25867	650B					–	
Function	Internal contact IN	3	Operation type	9488	2510	25872	6510					–	
Function	Internal contact IN	3	Input type	9489	2511	25873	6511					–	
Function	Internal contact IN	3	Loop/channel definition	9490	2512	25874	6512					–	
Function	Internal contact IN	3	Weighting	9491	2513	25875	6513					–	
Function	Internal contact IN	4	Operation type	9496	2518	25880	6518					–	
Function	Internal contact IN	4	Input type	9497	2519	25881	6519					–	
Function	Internal contact IN	4	Loop/channel definition	9498	251A	25882	651A					–	
Function	Internal contact IN	4	Weighting	9499	251B	25883	651B					–	
Function	Internal contact IN	5	Operation type	9504	2520	25888	6520					–	
Function	Internal contact IN	5	Input type	9505	2521	25889	6521					–	
Function	Internal contact IN	5	Loop/channel definition	9506	2522	25890	6522					–	
Function	Internal contact IN	5	Weighting	9507	2523	25891	6523					–	
Function	Internal contact IN	6	Operation type	9512	2528	25896	6528					–	
Function	Internal contact IN	6	Input type	9513	2529	25897	6529					–	
Function	Internal contact IN	6	Loop/channel definition	9514	252A	25898	652A					–	
Function	Internal contact IN	6	Weighting	9515	252B	25899	652B					–	
Function	Internal contact IN	7	Operation type	9520	2530	25904	6530					–	
Function	Internal contact IN	7	Input type	9521	2531	25905	6531					–	
Function	Internal contact IN	7	Loop/channel definition	9522	2532	25906	6532					–	
Function	Internal contact IN	7	Weighting	9523	2533	25907	6533					–	
Function	Internal contact IN	8	Operation type	9528	2538	25912	6538					–	
Function	Internal contact IN	8	Input type	9529	2539	25913	6539					–	
Function	Internal contact IN	8	Loop/channel definition	9530	253A	25914	653A					–	
Function	Internal contact IN	8	Weighting	9531	253B	25915	653B					–	
Function	Internal contact IN	9	Operation type	9536	2540	25920	6540					–	
Function	Internal contact IN	9	Input type	9537	2541	25921	6541					–	
Function	Internal contact IN	9	Loop/channel definition	9538	2542	25922	6542					–	
Function	Internal contact IN	9	Weighting	9539	2543	25923	6543					–	
Function	Internal contact IN	10	Operation type	9544	2548	25928	6548					–	
Function	Internal contact IN	10	Input type	9545	2549	25929	6549					–	
Function	Internal contact IN	10	Loop/channel definition	9546	254A	25930	654A					–	
Function	Internal contact IN	10	Weighting	9547	254B	25931	654B					–	
Function	Internal contact IN	11	Operation type	9552	2550	25936	6550					–	
Function	Internal contact IN	11	Input type	9553	2551	25937	6551					–	
Function	Internal contact IN	11	Loop/channel definition	9554	2552	25938	6552					–	
Function	Internal contact IN	11	Weighting	9555	2553	25939	6553					–	
Function	Internal contact IN	12	Operation type	9560	2558	25944	6558					–	
Function	Internal contact IN	12	Input type	9561	2559	25945	6559					–	
Function	Internal contact IN	12	Loop/channel definition	9562	255A	25946	655A					–	
Function	Internal contact IN	12	Weighting	9563	255B	25947	655B					–	
Function	Internal contact IN	13	Operation type	9568	2560	25952	6560					–	
Function	Internal contact IN	13	Input type	9569	2561	25953	6561					–	
Function	Internal contact IN	13	Loop/channel definition	9570	2562	25954	6562					–	
Function	Internal contact IN	13	Weighting	9571	2563	25955	6563					–	
Function	Internal contact IN	14	Operation type	9576	2568	25960	6568					–	
Function	Internal contact IN	14	Input type	9577	2569	25961	6569					–	
Function	Internal contact IN	14	Loop/channel definition	9578	256A	25962	656A					–	
Function	Internal contact IN	14	Weighting	9579	256B	25963	656B					–	

Function/Internal Contact IN

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Function	Internal contact IN	15	Operation type	9584	2570	25968	6570					–	
Function	Internal contact IN	15	Input type	9585	2571	25969	6571					–	
Function	Internal contact IN	15	Loop/channel definition	9586	2572	25970	6572					–	
Function	Internal contact IN	15	Weighting	9587	2573	25971	6573					–	
Function	Internal contact IN	16	Operation type	9592	2578	25976	6578					–	
Function	Internal contact IN	16	Input type	9593	2579	25977	6579					–	
Function	Internal contact IN	16	Loop/channel definition	9594	257A	25978	657A					–	
Function	Internal contact IN	16	Weighting	9595	257B	25979	657B					–	

Function/Logical Operation

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Function	Logical operation	1	Calculation type	9824	2660	26208	6660					–	
Function	Logical operation	1	Input assignment A	9825	2661	26209	6661					–	
Function	Logical operation	1	Input assignment B	9826	2662	26210	6662					–	
Function	Logical operation	1	Input assignment C	9827	2663	26211	6663					–	
Function	Logical operation	1	Input assignment D	9828	2664	26212	6664					–	
Function	Logical operation	1	Inverted input bit A	9829	2665	26213	6665					–	
Function	Logical operation	1	Inverted input bit B	9830	2666	26214	6666					–	
Function	Logical operation	1	Inverted input bit C	9831	2667	26215	6667					–	
Function	Logical operation	1	Inverted input bit D	9832	2668	26216	6668					–	
Function	Logical operation	1	ON delay time	9833	2669	26217	6669					1	
Function	Logical operation	1	OFF delay time	9834	266A	26218	666A					1	
Function	Logical operation	1	Inversion	9835	266B	26219	666B					–	
Function	Logical operation	1	Latch	9836	266C	26220	666C					–	
Function	Logical operation	2	Calculation type	9840	2670	26224	6670					–	
Function	Logical operation	2	Input assignment A	9841	2671	26225	6671					–	
Function	Logical operation	2	Input assignment B	9842	2672	26226	6672					–	
Function	Logical operation	2	Input assignment C	9843	2673	26227	6673					–	
Function	Logical operation	2	Input assignment D	9844	2674	26228	6674					–	
Function	Logical operation	2	Inverted input bit A	9845	2675	26229	6675					–	
Function	Logical operation	2	Inverted input bit B	9846	2676	26230	6676					–	
Function	Logical operation	2	Inverted input bit C	9847	2677	26231	6677					–	
Function	Logical operation	2	Inverted input bit D	9848	2678	26232	6678					–	
Function	Logical operation	2	ON delay time	9849	2679	26233	6679					1	
Function	Logical operation	2	OFF delay time	9850	267A	26234	667A					1	
Function	Logical operation	2	Inversion	9851	267B	26235	667B					–	
Function	Logical operation	2	Latch	9852	267C	26236	667C					–	
Function	Logical operation	3	Calculation type	9856	2680	26240	6680					–	
Function	Logical operation	3	Input assignment A	9857	2681	26241	6681					–	
Function	Logical operation	3	Input assignment B	9858	2682	26242	6682					–	
Function	Logical operation	3	Input assignment C	9859	2683	26243	6683					–	
Function	Logical operation	3	Input assignment D	9860	2684	26244	6684					–	
Function	Logical operation	3	Inverted input bit A	9861	2685	26245	6685					–	
Function	Logical operation	3	Inverted input bit B	9862	2686	26246	6686					–	
Function	Logical operation	3	Inverted input bit C	9863	2687	26247	6687					–	
Function	Logical operation	3	Inverted input bit D	9864	2688	26248	6688					–	
Function	Logical operation	3	ON delay time	9865	2689	26249	6689					1	
Function	Logical operation	3	OFF delay time	9866	268A	26250	668A					1	
Function	Logical operation	3	Inversion	9867	268B	26251	668B					–	
Function	Logical operation	3	Latch	9868	268C	26252	668C					–	
Function	Logical operation	4	Calculation type	9872	2690	26256	6690					–	
Function	Logical operation	4	Input assignment A	9873	2691	26257	6691					–	
Function	Logical operation	4	Input assignment B	9874	2692	26258	6692					–	
Function	Logical operation	4	Input assignment C	9875	2693	26259	6693					–	
Function	Logical operation	4	Input assignment D	9876	2694	26260	6694					–	
Function	Logical operation	4	Inverted input bit A	9877	2695	26261	6695					–	
Function	Logical operation	4	Inverted input bit B	9878	2696	26262	6696					–	
Function	Logical operation	4	Inverted input bit C	9879	2697	26263	6697					–	
Function	Logical operation	4	Inverted input bit D	9880	2698	26264	6698					–	
Function	Logical operation	4	ON delay time	9881	2699	26265	6699					1	
Function	Logical operation	4	OFF delay time	9882	269A	26266	669A					1	
Function	Logical operation	4	Inversion	9883	269B	26267	669B					–	
Function	Logical operation	4	Latch	9884	269C	26268	669C					–	

Function/Logical Operation

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Function	Logical operation	5	Calculation type	9888	26A0	26272	66A0					–	
Function	Logical operation	5	Input assignment A	9889	26A1	26273	66A1					–	
Function	Logical operation	5	Input assignment B	9890	26A2	26274	66A2					–	
Function	Logical operation	5	Input assignment C	9891	26A3	26275	66A3					–	
Function	Logical operation	5	Input assignment D	9892	26A4	26276	66A4					–	
Function	Logical operation	5	Inverted input bit A	9893	26A5	26277	66A5					–	
Function	Logical operation	5	Inverted input bit B	9894	26A6	26278	66A6					–	
Function	Logical operation	5	Inverted input bit C	9895	26A7	26279	66A7					–	
Function	Logical operation	5	Inverted input bit D	9896	26A8	26280	66A8					–	
Function	Logical operation	5	ON delay time	9897	26A9	26281	66A9					1	
Function	Logical operation	5	OFF delay time	9898	26AA	26282	66AA					1	
Function	Logical operation	5	Inversion	9899	26AB	26283	66AB					–	
Function	Logical operation	5	Latch	9900	26AC	26284	66AC					–	
Function	Logical operation	6	Calculation type	9904	26B0	26288	66B0					–	
Function	Logical operation	6	Input assignment A	9905	26B1	26289	66B1					–	
Function	Logical operation	6	Input assignment B	9906	26B2	26290	66B2					–	
Function	Logical operation	6	Input assignment C	9907	26B3	26291	66B3					–	
Function	Logical operation	6	Input assignment D	9908	26B4	26292	66B4					–	
Function	Logical operation	6	Inverted input bit A	9909	26B5	26293	66B5					–	
Function	Logical operation	6	Inverted input bit B	9910	26B6	26294	66B6					–	
Function	Logical operation	6	Inverted input bit C	9911	26B7	26295	66B7					–	
Function	Logical operation	6	Inverted input bit D	9912	26B8	26296	66B8					–	
Function	Logical operation	6	ON delay time	9913	26B9	26297	66B9					1	
Function	Logical operation	6	OFF delay time	9914	26BA	26298	66BA					1	
Function	Logical operation	6	Inversion	9915	26BB	26299	66BB					–	
Function	Logical operation	6	Latch	9916	26BC	26300	66BC					–	
Function	Logical operation	7	Calculation type	9920	26C0	26304	66C0					–	
Function	Logical operation	7	Input assignment A	9921	26C1	26305	66C1					–	
Function	Logical operation	7	Input assignment B	9922	26C2	26306	66C2					–	
Function	Logical operation	7	Input assignment C	9923	26C3	26307	66C3					–	
Function	Logical operation	7	Input assignment D	9924	26C4	26308	66C4					–	
Function	Logical operation	7	Inverted input bit A	9925	26C5	26309	66C5					–	
Function	Logical operation	7	Inverted input bit B	9926	26C6	26310	66C6					–	
Function	Logical operation	7	Inverted input bit C	9927	26C7	26311	66C7					–	
Function	Logical operation	7	Inverted input bit D	9928	26C8	26312	66C8					–	
Function	Logical operation	7	ON delay time	9929	26C9	26313	66C9					1	
Function	Logical operation	7	OFF delay time	9930	26CA	26314	66CA					1	
Function	Logical operation	7	Inversion	9931	26CB	26315	66CB					–	
Function	Logical operation	7	Latch	9932	26CC	26316	66CC					–	
Function	Logical operation	8	Calculation type	9936	26D0	26320	66D0					–	
Function	Logical operation	8	Input assignment A	9937	26D1	26321	66D1					–	
Function	Logical operation	8	Input assignment B	9938	26D2	26322	66D2					–	
Function	Logical operation	8	Input assignment C	9939	26D3	26323	66D3					–	
Function	Logical operation	8	Input assignment D	9940	26D4	26324	66D4					–	
Function	Logical operation	8	Inverted input bit A	9941	26D5	26325	66D5					–	
Function	Logical operation	8	Inverted input bit B	9942	26D6	26326	66D6					–	
Function	Logical operation	8	Inverted input bit C	9943	26D7	26327	66D7					–	
Function	Logical operation	8	Inverted input bit D	9944	26D8	26328	66D8					–	
Function	Logical operation	8	ON delay time	9945	26D9	26329	66D9					1	
Function	Logical operation	8	OFF delay time	9946	26DA	26330	66DA					1	
Function	Logical operation	8	Inversion	9947	26DB	26331	66DB					–	
Function	Logical operation	8	Latch	9948	26DC	26332	66DC					–	

Function/Logical Operation

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Function	Logical operation	9	Calculation type	9952	26E0	26336	66E0					–	
Function	Logical operation	9	Input assignment A	9953	26E1	26337	66E1					–	
Function	Logical operation	9	Input assignment B	9954	26E2	26338	66E2					–	
Function	Logical operation	9	Input assignment C	9955	26E3	26339	66E3					–	
Function	Logical operation	9	Input assignment D	9956	26E4	26340	66E4					–	
Function	Logical operation	9	Inverted input bit A	9957	26E5	26341	66E5					–	
Function	Logical operation	9	Inverted input bit B	9958	26E6	26342	66E6					–	
Function	Logical operation	9	Inverted input bit C	9959	26E7	26343	66E7					–	
Function	Logical operation	9	Inverted input bit D	9960	26E8	26344	66E8					–	
Function	Logical operation	9	ON delay time	9961	26E9	26345	66E9					1	
Function	Logical operation	9	OFF delay time	9962	26EA	26346	66EA					1	
Function	Logical operation	9	Inversion	9963	26EB	26347	66EB					–	
Function	Logical operation	9	Latch	9964	26EC	26348	66EC					–	
Function	Logical operation	10	Calculation type	9968	26F0	26352	66F0					–	
Function	Logical operation	10	Input assignment A	9969	26F1	26353	66F1					–	
Function	Logical operation	10	Input assignment B	9970	26F2	26354	66F2					–	
Function	Logical operation	10	Input assignment C	9971	26F3	26355	66F3					–	
Function	Logical operation	10	Input assignment D	9972	26F4	26356	66F4					–	
Function	Logical operation	10	Inverted input bit A	9973	26F5	26357	66F5					–	
Function	Logical operation	10	Inverted input bit B	9974	26F6	26358	66F6					–	
Function	Logical operation	10	Inverted input bit C	9975	26F7	26359	66F7					–	
Function	Logical operation	10	Inverted input bit D	9976	26F8	26360	66F8					–	
Function	Logical operation	10	ON delay time	9977	26F9	26361	66F9					1	
Function	Logical operation	10	OFF delay time	9978	26FA	26362	66FA					1	
Function	Logical operation	10	Inversion	9979	26FB	26363	66FB					–	
Function	Logical operation	10	Latch	9980	26FC	26364	66FC					–	
Function	Logical operation	11	Calculation type	9984	2700	26368	6700					–	
Function	Logical operation	11	Input assignment A	9985	2701	26369	6701					–	
Function	Logical operation	11	Input assignment B	9986	2702	26370	6702					–	
Function	Logical operation	11	Input assignment C	9987	2703	26371	6703					–	
Function	Logical operation	11	Input assignment D	9988	2704	26372	6704					–	
Function	Logical operation	11	Inverted input bit A	9989	2705	26373	6705					–	
Function	Logical operation	11	Inverted input bit B	9990	2706	26374	6706					–	
Function	Logical operation	11	Inverted input bit C	9991	2707	26375	6707					–	
Function	Logical operation	11	Inverted input bit D	9992	2708	26376	6708					–	
Function	Logical operation	11	ON delay time	9993	2709	26377	6709					1	
Function	Logical operation	11	OFF delay time	9994	270A	26378	670A					1	
Function	Logical operation	11	Inversion	9995	270B	26379	670B					–	
Function	Logical operation	11	Latch	9996	270C	26380	670C					–	
Function	Logical operation	12	Calculation type	10000	2710	26384	6710					–	
Function	Logical operation	12	Input assignment A	10001	2711	26385	6711					–	
Function	Logical operation	12	Input assignment B	10002	2712	26386	6712					–	
Function	Logical operation	12	Input assignment C	10003	2713	26387	6713					–	
Function	Logical operation	12	Input assignment D	10004	2714	26388	6714					–	
Function	Logical operation	12	Inverted input bit A	10005	2715	26389	6715					–	
Function	Logical operation	12	Inverted input bit B	10006	2716	26390	6716					–	
Function	Logical operation	12	Inverted input bit C	10007	2717	26391	6717					–	
Function	Logical operation	12	Inverted input bit D	10008	2718	26392	6718					–	
Function	Logical operation	12	ON delay time	10009	2719	26393	6719					1	
Function	Logical operation	12	OFF delay time	10010	271A	26394	671A					1	
Function	Logical operation	12	Inversion	10011	271B	26395	671B					–	
Function	Logical operation	12	Latch	10012	271C	26396	671C					–	

Function/Logical Operation

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Function	Logical operation	13	Calculation type	10016	2720	26400	6720					–	
Function	Logical operation	13	Input assignment A	10017	2721	26401	6721					–	
Function	Logical operation	13	Input assignment B	10018	2722	26402	6722					–	
Function	Logical operation	13	Input assignment C	10019	2723	26403	6723					–	
Function	Logical operation	13	Input assignment D	10020	2724	26404	6724					–	
Function	Logical operation	13	Inverted input bit A	10021	2725	26405	6725					–	
Function	Logical operation	13	Inverted input bit B	10022	2726	26406	6726					–	
Function	Logical operation	13	Inverted input bit C	10023	2727	26407	6727					–	
Function	Logical operation	13	Inverted input bit D	10024	2728	26408	6728					–	
Function	Logical operation	13	ON delay time	10025	2729	26409	6729					1	
Function	Logical operation	13	OFF delay time	10026	272A	26410	672A					1	
Function	Logical operation	13	Inversion	10027	272B	26411	672B					–	
Function	Logical operation	13	Latch	10028	272C	26412	672C					–	
Function	Logical operation	14	Calculation type	10032	2730	26416	6730					–	
Function	Logical operation	14	Input assignment A	10033	2731	26417	6731					–	
Function	Logical operation	14	Input assignment B	10034	2732	26418	6732					–	
Function	Logical operation	14	Input assignment C	10035	2733	26419	6733					–	
Function	Logical operation	14	Input assignment D	10036	2734	26420	6734					–	
Function	Logical operation	14	Inverted input bit A	10037	2735	26421	6735					–	
Function	Logical operation	14	Inverted input bit B	10038	2736	26422	6736					–	
Function	Logical operation	14	Inverted input bit C	10039	2737	26423	6737					–	
Function	Logical operation	14	Inverted input bit D	10040	2738	26424	6738					–	
Function	Logical operation	14	ON delay time	10041	2739	26425	6739					1	
Function	Logical operation	14	OFF delay time	10042	273A	26426	673A					1	
Function	Logical operation	14	Inversion	10043	273B	26427	673B					–	
Function	Logical operation	14	Latch	10044	273C	26428	673C					–	
Function	Logical operation	15	Calculation type	10048	2740	26432	6740					–	
Function	Logical operation	15	Input assignment A	10049	2741	26433	6741					–	
Function	Logical operation	15	Input assignment B	10050	2742	26434	6742					–	
Function	Logical operation	15	Input assignment C	10051	2743	26435	6743					–	
Function	Logical operation	15	Input assignment D	10052	2744	26436	6744					–	
Function	Logical operation	15	Inverted input bit A	10053	2745	26437	6745					–	
Function	Logical operation	15	Inverted input bit B	10054	2746	26438	6746					–	
Function	Logical operation	15	Inverted input bit C	10055	2747	26439	6747					–	
Function	Logical operation	15	Inverted input bit D	10056	2748	26440	6748					–	
Function	Logical operation	15	ON delay time	10057	2749	26441	6749					1	
Function	Logical operation	15	OFF delay time	10058	274A	26442	674A					1	
Function	Logical operation	15	Inversion	10059	274B	26443	674B					–	
Function	Logical operation	15	Latch	10060	274C	26444	674C					–	
Function	Logical operation	16	Calculation type	10064	2750	26448	6750					–	
Function	Logical operation	16	Input assignment A	10065	2751	26449	6751					–	
Function	Logical operation	16	Input assignment B	10066	2752	26450	6752					–	
Function	Logical operation	16	Input assignment C	10067	2753	26451	6753					–	
Function	Logical operation	16	Input assignment D	10068	2754	26452	6754					–	
Function	Logical operation	16	Inverted input bit A	10069	2755	26453	6755					–	
Function	Logical operation	16	Inverted input bit B	10070	2756	26454	6756					–	
Function	Logical operation	16	Inverted input bit C	10071	2757	26455	6757					–	
Function	Logical operation	16	Inverted input bit D	10072	2758	26456	6758					–	
Function	Logical operation	16	ON delay time	10073	2759	26457	6759					1	
Function	Logical operation	16	OFF delay time	10074	275A	26458	675A					1	
Function	Logical operation	16	Inversion	10075	275B	26459	675B					–	
Function	Logical operation	16	Latch	10076	275C	26460	675C					–	

Function/Energy Conservation

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Function	Energy conservation	1	Energy conservation time proportional operation	11536	2D10	27920	6D10					–	
Function	Energy conservation	1	Energy conservation delay time	11537	2D11	27921	6D11					–	
Function	Energy conservation	1	Master/slave selection	11538	2D12	27922	6D12					–	
Function	Energy conservation	1	Time proportional slave channel	11540	2D14	27924	6D14					–	
Function	Energy conservation	2	Energy conservation time proportional operation	11544	2D18	27928	6D18					–	
Function	Energy conservation	2	Energy conservation delay time	11545	2D19	27929	6D19					–	
Function	Energy conservation	2	Master/slave selection	11546	2D1A	27930	6D1A					–	
Function	Energy conservation	2	Time proportional slave channel	11548	2D1C	27932	6D1C					–	
Function	Energy conservation	3	Energy conservation time proportional operation	11552	2D20	27936	6D20					–	
Function	Energy conservation	3	Energy conservation delay time	11553	2D21	27937	6D21					–	
Function	Energy conservation	3	Master/slave selection	11554	2D22	27938	6D22					–	
Function	Energy conservation	3	Time proportional slave channel	11556	2D24	27940	6D24					–	
Function	Energy conservation	4	Energy conservation time proportional operation	11560	2D28	27944	6D28					–	
Function	Energy conservation	4	Energy conservation delay time	11561	2D29	27945	6D29					–	
Function	Energy conservation	4	Master/slave selection	11562	2D2A	27946	6D2A					–	
Function	Energy conservation	4	Time proportional slave channel	11564	2D2C	27948	6D2C					–	
Function	Energy conservation	5	Energy conservation time proportional operation	11568	2D30	27952	6D30					–	
Function	Energy conservation	5	Energy conservation delay time	11569	2D31	27953	6D31					–	
Function	Energy conservation	5	Master/slave selection	11570	2D32	27954	6D32					–	
Function	Energy conservation	5	Time proportional slave channel	11572	2D34	27956	6D34					–	
Function	Energy conservation	6	Energy conservation time proportional operation	11576	2D38	27960	6D38					–	
Function	Energy conservation	6	Energy conservation delay time	11577	2D39	27961	6D39					–	
Function	Energy conservation	6	Master/slave selection	11578	2D3A	27962	6D3A					–	
Function	Energy conservation	6	Time proportional slave channel	11580	2D3C	27964	6D3C					–	
Function	Energy conservation	7	Energy conservation time proportional operation	11584	2D40	27968	6D40					–	
Function	Energy conservation	7	Energy conservation delay time	11585	2D41	27969	6D41					–	
Function	Energy conservation	7	Master/slave selection	11586	2D42	27970	6D42					–	
Function	Energy conservation	7	Time proportional slave channel	11588	2D44	27972	6D44					–	
Function	Energy conservation	8	Energy conservation time proportional operation	11592	2D48	27976	6D48					–	
Function	Energy conservation	8	Energy conservation delay time	11593	2D49	27977	6D49					–	
Function	Energy conservation	8	Master/slave selection	11594	2D4A	27978	6D4A					–	
Function	Energy conservation	8	Time proportional slave channel	11596	2D4C	27980	6D4C					–	

Function/MV Branching Output

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Function	MV branching output	1	Loop assignment	11776	2E00	28160	6E00					–	
Function	MV branching output	1	Ratio	11777	2E01	28161	6E01					2	
Function	MV branching output	1	Bias	11778	2E02	28162	6E02					2	
Function	MV branching output	2	Loop assignment	11780	2E04	28164	6E04					–	
Function	MV branching output	2	Ratio	11781	2E05	28165	6E05					2	
Function	MV branching output	2	Bias	11782	2E06	28166	6E06					2	
Function	MV branching output	3	Loop assignment	11784	2E08	28168	6E08					–	
Function	MV branching output	3	Ratio	11785	2E09	28169	6E09					2	
Function	MV branching output	3	Bias	11786	2E0A	28170	6E0A					2	
Function	MV branching output	4	Loop assignment	11788	2E0C	28172	6E0C					–	
Function	MV branching output	4	Ratio	11789	2E0D	28173	6E0D					2	
Function	MV branching output	4	Bias	11790	2E0E	28174	6E0E					2	

Function/Reception Monitoring

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Function	Reception monitoring	1	Address (l)	–	–	3840	0F00	×	×			–	
Function	Reception monitoring	1	Address (h)	–	–	3841	0F01	×	×			–	When writing, write 0
Function	Reception monitoring	1	Time-out (l)	–	–	3842	0F02	×	×			–	
Function	Reception monitoring	1	Time-out (h)	–	–	3843	0F03	×	×			–	When writing, write 0
Function	Reception monitoring	1	Mode	–	–	3844	0F04	×	×			–	
Function	Reception monitoring	2	Address (l)	–	–	3848	0F08	×	×			–	
Function	Reception monitoring	2	Address (h)	–	–	3849	0F09	×	×			–	When writing, write 0
Function	Reception monitoring	2	Time-out (l)	–	–	3850	0F0A	×	×			–	
Function	Reception monitoring	2	Time-out (h)	–	–	3851	0F0B	×	×			–	When writing, write 0
Function	Reception monitoring	2	Mode	–	–	3852	0F0C	×	×			–	
Function	Reception monitoring	3	Address (l)	–	–	3856	0F10	×	×			–	
Function	Reception monitoring	3	Address (h)	–	–	3857	0F11	×	×			–	When writing, write 0
Function	Reception monitoring	3	Time-out (l)	–	–	3858	0F12	×	×			–	
Function	Reception monitoring	3	Time-out (h)	–	–	3859	0F13	×	×			–	When writing, write 0
Function	Reception monitoring	3	Mode	–	–	3860	0F14	×	×			–	
Function	Reception monitoring	4	Address (l)	–	–	3864	0F18	×	×			–	
Function	Reception monitoring	4	Address (h)	–	–	3865	0F19	×	×			–	When writing, write 0
Function	Reception monitoring	4	Time-out (l)	–	–	3866	0F1A	×	×			–	
Function	Reception monitoring	4	Time-out (h)	–	–	3867	0F1B	×	×			–	When writing, write 0
Function	Reception monitoring	4	Mode	–	–	3868	0F1C	×	×			–	
Function	Reception monitoring	5	Address (l)	–	–	3872	0F20	×	×			–	
Function	Reception monitoring	5	Address (h)	–	–	3873	0F21	×	×			–	When writing, write 0
Function	Reception monitoring	5	Time-out (l)	–	–	3874	0F22	×	×			–	
Function	Reception monitoring	5	Time-out (h)	–	–	3875	0F23	×	×			–	When writing, write 0
Function	Reception monitoring	5	Mode	–	–	3876	0F24	×	×			–	
Function	Reception monitoring	6	Address (l)	–	–	3880	0F28	×	×			–	
Function	Reception monitoring	6	Address (h)	–	–	3881	0F29	×	×			–	When writing, write 0
Function	Reception monitoring	6	Time-out (l)	–	–	3882	0F2A	×	×			–	
Function	Reception monitoring	6	Time-out (h)	–	–	3883	0F2B	×	×			–	When writing, write 0
Function	Reception monitoring	6	Mode	–	–	3884	0F2C	×	×			–	
Function	Reception monitoring	7	Address (l)	–	–	3888	0F30	×	×			–	
Function	Reception monitoring	7	Address (h)	–	–	3889	0F31	×	×			–	When writing, write 0
Function	Reception monitoring	7	Time-out (l)	–	–	3890	0F32	×	×			–	
Function	Reception monitoring	7	Time-out (h)	–	–	3891	0F33	×	×			–	When writing, write 0
Function	Reception monitoring	7	Mode	–	–	3892	0F34	×	×			–	
Function	Reception monitoring	8	Address (l)	–	–	3896	0F38	×	×			–	
Function	Reception monitoring	8	Address (h)	–	–	3897	0F39	×	×			–	When writing, write 0
Function	Reception monitoring	8	Time-out (l)	–	–	3898	0F3A	×	×			–	
Function	Reception monitoring	8	Time-out (h)	–	–	3899	0F3B	×	×			–	When writing, write 0
Function	Reception monitoring	8	Mode	–	–	3900	0F3C	×	×			–	
Function	Reception monitoring	9	Address (l)	–	–	3904	0F40	×	×			–	
Function	Reception monitoring	9	Address (h)	–	–	3905	0F41	×	×			–	When writing, write 0
Function	Reception monitoring	9	Time-out (l)	–	–	3906	0F42	×	×			–	
Function	Reception monitoring	9	Time-out (h)	–	–	3907	0F43	×	×			–	When writing, write 0
Function	Reception monitoring	9	Mode	–	–	3908	0F44	×	×			–	

Function/Reception Monitoring

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Function	Reception monitoring	10	Address (l)	–	–	3912	0F48	×	×			–	
Function	Reception monitoring	10	Address (h)	–	–	3913	0F49	×	×			–	When writing, write 0
Function	Reception monitoring	10	Time-out (l)	–	–	3914	0F4A	×	×			–	
Function	Reception monitoring	10	Time-out (h)	–	–	3915	0F4B	×	×			–	When writing, write 0
Function	Reception monitoring	10	Mode	–	–	3916	0F4C	×	×			–	
Function	Reception monitoring	11	Address (l)	–	–	3920	0F50	×	×			–	
Function	Reception monitoring	11	Address (h)	–	–	3921	0F51	×	×			–	When writing, write 0
Function	Reception monitoring	11	Time-out (l)	–	–	3922	0F52	×	×			–	
Function	Reception monitoring	11	Time-out (h)	–	–	3923	0F53	×	×			–	When writing, write 0
Function	Reception monitoring	11	Mode	–	–	3924	0F54	×	×			–	
Function	Reception monitoring	12	Address (l)	–	–	3928	0F58	×	×			–	
Function	Reception monitoring	12	Address (h)	–	–	3929	0F59	×	×			–	When writing, write 0
Function	Reception monitoring	12	Time-out (l)	–	–	3930	0F5A	×	×			–	
Function	Reception monitoring	12	Time-out (h)	–	–	3931	0F5B	×	×			–	When writing, write 0
Function	Reception monitoring	12	Mode	–	–	3932	0F5C	×	×			–	
Function	Reception monitoring	13	Address (l)	–	–	3936	0F60	×	×			–	
Function	Reception monitoring	13	Address (h)	–	–	3937	0F61	×	×			–	When writing, write 0
Function	Reception monitoring	13	Time-out (l)	–	–	3938	0F62	×	×			–	
Function	Reception monitoring	13	Time-out (h)	–	–	3939	0F63	×	×			–	When writing, write 0
Function	Reception monitoring	13	Mode	–	–	3940	0F64	×	×			–	
Function	Reception monitoring	14	Address (l)	–	–	3944	0F68	×	×			–	
Function	Reception monitoring	14	Address (h)	–	–	3945	0F69	×	×			–	When writing, write 0
Function	Reception monitoring	14	Time-out (l)	–	–	3946	0F6A	×	×			–	
Function	Reception monitoring	14	Time-out (h)	–	–	3947	0F6B	×	×			–	When writing, write 0
Function	Reception monitoring	14	Mode	–	–	3948	0F6C	×	×			–	
Function	Reception monitoring	15	Address (l)	–	–	3952	0F70	×	×			–	
Function	Reception monitoring	15	Address (h)	–	–	3953	0F71	×	×			–	When writing, write 0
Function	Reception monitoring	15	Time-out (l)	–	–	3954	0F72	×	×			–	
Function	Reception monitoring	15	Time-out (h)	–	–	3955	0F73	×	×			–	When writing, write 0
Function	Reception monitoring	15	Mode	–	–	3956	0F74	×	×			–	
Function	Reception monitoring	16	Address (l)	–	–	3960	0F78	×	×			–	
Function	Reception monitoring	16	Address (h)	–	–	3961	0F79	×	×			–	When writing, write 0
Function	Reception monitoring	16	Time-out (l)	–	–	3962	0F7A	×	×			–	
Function	Reception monitoring	16	Time-out (h)	–	–	3963	0F7B	×	×			–	When writing, write 0
Function	Reception monitoring	16	Mode	–	–	3964	0F7C	×	×			–	

Other/UF LED Settings

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Other	UF LED settings	1	Conditions for lighting	10160	27B0	26544	67B0					–	
Other	UF LED settings	1	Lighting status	10161	27B1	26545	67B1					–	
Other	UF LED settings	2	Conditions for lighting	10164	27B4	26548	67B4					–	
Other	UF LED settings	2	Lighting status	10165	27B5	26549	67B5					–	
Other	UF LED settings	3	Conditions for lighting	10168	27B8	26552	67B8					–	
Other	UF LED settings	3	Lighting status	10169	27B9	26553	67B9					–	
Other	UF LED settings	4	Conditions for lighting	10172	27BC	26556	67BC					–	
Other	UF LED settings	4	Lighting status	10173	27BD	26557	67BD					–	
Other	UF LED settings	5	Conditions for lighting	10176	27C0	26560	67C0					–	
Other	UF LED settings	5	Lighting status	10177	27C1	26561	67C1					–	
Other	UF LED settings	6	Conditions for lighting	10180	27C4	26564	67C4					–	
Other	UF LED settings	6	Lighting status	10181	27C5	26565	67C5					–	
Other	UF LED settings	7	Conditions for lighting	10184	27C8	26568	67C8					–	
Other	UF LED settings	7	Lighting status	10185	27C9	26569	67C9					–	
Other	UF LED settings	8	Conditions for lighting	10188	27CC	26572	67CC					–	
Other	UF LED settings	8	Lighting status	10189	27CD	26573	67CD					–	
Other	UF LED settings	9	Conditions for lighting	10192	27D0	26576	67D0					–	
Other	UF LED settings	9	Lighting status	10193	27D1	26577	67D1					–	
Other	UF LED settings	10	Conditions for lighting	10196	27D4	26580	67D4					–	
Other	UF LED settings	10	Lighting status	10197	27D5	26581	67D5					–	

Other/Instrument Information

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Other	Instrument info.	1	F/W information 1 (ROM ID)	10768	2A10	27152	6A10		×		×	–	
Other	Instrument info.	1	F/W information 2 (ROM version 1)	10769	2A11	27153	6A11		×		×	–	
Other	Instrument info.	1	F/W information 3 (ROM version 2)	10770	2A12	27154	6A12		×		×	–	
Other	Instrument info.	1	F/W information 4 (Version for SLP)	10771	2A13	27155	6A13		×		×	–	
Other	Instrument info.	1	Date code (year)	10774	2A16	27158	6A16		×		×	–	
Other	Instrument info.	1	Date code (month/day)	10775	2A17	27159	6A17		×		×	–	
Other	Instrument info.	1	Production No.	10776	2A18	27160	6A18		×		×	–	

Other/PV Tag Name

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Other	PV tag name	1	Tag name 1	6640	19F0	23024	59F0					–	
Other	PV tag name	1	Tag name 2	6641	19F1	23025	59F1					–	
Other	PV tag name	1	Tag name 3	6642	19F2	23026	59F2					–	
Other	PV tag name	1	Tag name 4	6643	19F3	23027	59F3					–	
Other	PV tag name	1	Tag name 5	6644	19F4	23028	59F4					–	
Other	PV tag name	1	Tag name 6	6645	19F5	23029	59F5					–	
Other	PV tag name	1	Tag name 7	6646	19F6	23030	59F6					–	
Other	PV tag name	1	Tag name 8	6647	19F7	23031	59F7					–	
Other	PV tag name	2	Tag name 1	6656	1A00	23040	5A00					–	
Other	PV tag name	2	Tag name 2	6657	1A01	23041	5A01					–	
Other	PV tag name	2	Tag name 3	6658	1A02	23042	5A02					–	
Other	PV tag name	2	Tag name 4	6659	1A03	23043	5A03					–	
Other	PV tag name	2	Tag name 5	6660	1A04	23044	5A04					–	
Other	PV tag name	2	Tag name 6	6661	1A05	23045	5A05					–	
Other	PV tag name	2	Tag name 7	6662	1A06	23046	5A06					–	
Other	PV tag name	2	Tag name 8	6663	1A07	23047	5A07					–	
Other	PV tag name	3	Tag name 1	6672	1A10	23056	5A10					–	
Other	PV tag name	3	Tag name 2	6673	1A11	23057	5A11					–	
Other	PV tag name	3	Tag name 3	6674	1A12	23058	5A12					–	
Other	PV tag name	3	Tag name 4	6675	1A13	23059	5A13					–	
Other	PV tag name	3	Tag name 5	6676	1A14	23060	5A14					–	
Other	PV tag name	3	Tag name 6	6677	1A15	23061	5A15					–	
Other	PV tag name	3	Tag name 7	6678	1A16	23062	5A16					–	
Other	PV tag name	3	Tag name 8	6679	1A17	23063	5A17					–	
Other	PV tag name	4	Tag name 1	6688	1A20	23072	5A20					–	
Other	PV tag name	4	Tag name 2	6689	1A21	23073	5A21					–	
Other	PV tag name	4	Tag name 3	6690	1A22	23074	5A22					–	
Other	PV tag name	4	Tag name 4	6691	1A23	23075	5A23					–	
Other	PV tag name	4	Tag name 5	6692	1A24	23076	5A24					–	
Other	PV tag name	4	Tag name 6	6693	1A25	23077	5A25					–	
Other	PV tag name	4	Tag name 7	6694	1A26	23078	5A26					–	
Other	PV tag name	4	Tag name 8	6695	1A27	23079	5A27					–	

Other/OUT Tag Name

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Other	OUT tag name	1	Tag name 1	6704	1A30	23088	5A30					–	
Other	OUT tag name	1	Tag name 2	6705	1A31	23089	5A31					–	
Other	OUT tag name	1	Tag name 3	6706	1A32	23090	5A32					–	
Other	OUT tag name	1	Tag name 4	6707	1A33	23091	5A33					–	
Other	OUT tag name	1	Tag name 5	6708	1A34	23092	5A34					–	
Other	OUT tag name	1	Tag name 6	6709	1A35	23093	5A35					–	
Other	OUT tag name	1	Tag name 7	6710	1A36	23094	5A36					–	
Other	OUT tag name	1	Tag name 8	6711	1A37	23095	5A37					–	
Other	OUT tag name	2	Tag name 1	6720	1A40	23104	5A40					–	
Other	OUT tag name	2	Tag name 2	6721	1A41	23105	5A41					–	
Other	OUT tag name	2	Tag name 3	6722	1A42	23106	5A42					–	
Other	OUT tag name	2	Tag name 4	6723	1A43	23107	5A43					–	
Other	OUT tag name	2	Tag name 5	6724	1A44	23108	5A44					–	
Other	OUT tag name	2	Tag name 6	6725	1A45	23109	5A45					–	
Other	OUT tag name	2	Tag name 7	6726	1A46	23110	5A46					–	
Other	OUT tag name	2	Tag name 8	6727	1A47	23111	5A47					–	
Other	OUT tag name	3	Tag name 1	6736	1A50	23120	5A50					–	
Other	OUT tag name	3	Tag name 2	6737	1A51	23121	5A51					–	
Other	OUT tag name	3	Tag name 3	6738	1A52	23122	5A52					–	
Other	OUT tag name	3	Tag name 4	6739	1A53	23123	5A53					–	
Other	OUT tag name	3	Tag name 5	6740	1A54	23124	5A54					–	
Other	OUT tag name	3	Tag name 6	6741	1A55	23125	5A55					–	
Other	OUT tag name	3	Tag name 7	6742	1A56	23126	5A56					–	
Other	OUT tag name	3	Tag name 8	6743	1A57	23127	5A57					–	
Other	OUT tag name	4	Tag name 1	6752	1A60	23136	5A60					–	
Other	OUT tag name	4	Tag name 2	6753	1A61	23137	5A61					–	
Other	OUT tag name	4	Tag name 3	6754	1A62	23138	5A62					–	
Other	OUT tag name	4	Tag name 4	6755	1A63	23139	5A63					–	
Other	OUT tag name	4	Tag name 5	6756	1A64	23140	5A64					–	
Other	OUT tag name	4	Tag name 6	6757	1A65	23141	5A65					–	
Other	OUT tag name	4	Tag name 7	6758	1A66	23142	5A66					–	
Other	OUT tag name	4	Tag name 8	6759	1A67	23143	5A67					–	

Other/Option Tag Name

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Other	Option tag name	1	Tag name 1	6768	1A70	23152	5A70					–	
Other	Option tag name	1	Tag name 2	6769	1A71	23153	5A71					–	
Other	Option tag name	1	Tag name 3	6770	1A72	23154	5A72					–	
Other	Option tag name	1	Tag name 4	6771	1A73	23155	5A73					–	
Other	Option tag name	1	Tag name 5	6772	1A74	23156	5A74					–	
Other	Option tag name	1	Tag name 6	6773	1A75	23157	5A75					–	
Other	Option tag name	1	Tag name 7	6774	1A76	23158	5A76					–	
Other	Option tag name	1	Tag name 8	6775	1A77	23159	5A77					–	
Other	Option tag name	2	Tag name 1	6784	1A80	23168	5A80					–	
Other	Option tag name	2	Tag name 2	6785	1A81	23169	5A81					–	
Other	Option tag name	2	Tag name 3	6786	1A82	23170	5A82					–	
Other	Option tag name	2	Tag name 4	6787	1A83	23171	5A83					–	
Other	Option tag name	2	Tag name 5	6788	1A84	23172	5A84					–	
Other	Option tag name	2	Tag name 6	6789	1A85	23173	5A85					–	
Other	Option tag name	2	Tag name 7	6790	1A86	23174	5A86					–	
Other	Option tag name	2	Tag name 8	6791	1A87	23175	5A87					–	
Other	Option tag name	3	Tag name 1	6800	1A90	23184	5A90					–	
Other	Option tag name	3	Tag name 2	6801	1A91	23185	5A91					–	
Other	Option tag name	3	Tag name 3	6802	1A92	23186	5A92					–	
Other	Option tag name	3	Tag name 4	6803	1A93	23187	5A93					–	
Other	Option tag name	3	Tag name 5	6804	1A94	23188	5A94					–	
Other	Option tag name	3	Tag name 6	6805	1A95	23189	5A95					–	
Other	Option tag name	3	Tag name 7	6806	1A96	23190	5A96					–	
Other	Option tag name	3	Tag name 8	6807	1A97	23191	5A97					–	
Other	Option tag name	4	Tag name 1	6816	1AA0	23200	5AA0					–	
Other	Option tag name	4	Tag name 2	6817	1AA1	23201	5AA1					–	
Other	Option tag name	4	Tag name 3	6818	1AA2	23202	5AA2					–	
Other	Option tag name	4	Tag name 4	6819	1AA3	23203	5AA3					–	
Other	Option tag name	4	Tag name 5	6820	1AA4	23204	5AA4					–	
Other	Option tag name	4	Tag name 6	6821	1AA5	23205	5AA5					–	
Other	Option tag name	4	Tag name 7	6822	1AA6	23206	5AA6					–	
Other	Option tag name	4	Tag name 8	6823	1AA7	23207	5AA7					–	

Other/Tag for All Loops

Folder name	Bank name	No.	Item name	RAM address		EEPROM address		RAM		EEPROM		Decimal point information	Remarks
				Decimal	Hexa-decimal	Decimal	Hexa-decimal	Read	Write	Read	Write		
Other	Tag for all loops	1	Tag name 1	6832	1AB0	23216	5AB0					–	
Other	Tag for all loops	1	Tag name 2	6833	1AB1	23217	5AB1					–	
Other	Tag for all loops	1	Tag name 3	6834	1AB2	23218	5AB2					–	
Other	Tag for all loops	1	Tag name 4	6835	1AB3	23219	5AB3					–	
Other	Tag for all loops	1	Tag name 5	6836	1AB4	23220	5AB4					–	
Other	Tag for all loops	1	Tag name 6	6837	1AB5	23221	5AB5					–	
Other	Tag for all loops	1	Tag name 7	6838	1AB6	23222	5AB6					–	
Other	Tag for all loops	1	Tag name 8	6839	1AB7	23223	5AB7					–	
Other	Tag for all loops	2	Tag name 1	6848	1AC0	23232	5AC0					–	
Other	Tag for all loops	2	Tag name 2	6849	1AC1	23233	5AC1					–	
Other	Tag for all loops	2	Tag name 3	6850	1AC2	23234	5AC2					–	
Other	Tag for all loops	2	Tag name 4	6851	1AC3	23235	5AC3					–	
Other	Tag for all loops	2	Tag name 5	6852	1AC4	23236	5AC4					–	
Other	Tag for all loops	2	Tag name 6	6853	1AC5	23237	5AC5					–	
Other	Tag for all loops	2	Tag name 7	6854	1AC6	23238	5AC6					–	
Other	Tag for all loops	2	Tag name 8	6855	1AC7	23239	5AC7					–	
Other	Tag for all loops	3	Tag name 1	6864	1AD0	23248	5AD0					–	
Other	Tag for all loops	3	Tag name 2	6865	1AD1	23249	5AD1					–	
Other	Tag for all loops	3	Tag name 3	6866	1AD2	23250	5AD2					–	
Other	Tag for all loops	3	Tag name 4	6867	1AD3	23251	5AD3					–	
Other	Tag for all loops	3	Tag name 5	6868	1AD4	23252	5AD4					–	
Other	Tag for all loops	3	Tag name 6	6869	1AD5	23253	5AD5					–	
Other	Tag for all loops	3	Tag name 7	6870	1AD6	23254	5AD6					–	
Other	Tag for all loops	3	Tag name 8	6871	1AD7	23255	5AD7					–	
Other	Tag for all loops	4	Tag name 1	6880	1AE0	23264	5AE0					–	
Other	Tag for all loops	4	Tag name 2	6881	1AE1	23265	5AE1					–	
Other	Tag for all loops	4	Tag name 3	6882	1AE2	23266	5AE2					–	
Other	Tag for all loops	4	Tag name 4	6883	1AE3	23267	5AE3					–	
Other	Tag for all loops	4	Tag name 5	6884	1AE4	23268	5AE4					–	
Other	Tag for all loops	4	Tag name 6	6885	1AE5	23269	5AE5					–	
Other	Tag for all loops	4	Tag name 7	6886	1AE6	23270	5AE6					–	
Other	Tag for all loops	4	Tag name 8	6887	1AE7	23271	5AE7					–	

Bitmap assignment

■ Alarm information

● Alarm information 1

RAM address : 10288 (2830H)
EEPROM address : 26672 (6830H) LSB

b^{15}	b^{14}	b^{13}	b^{12}	b^{11}	b^{10}	b^{9}	b^{8}	b^{7}	b^{6}	b^{5}	b^{4}	b^{3}	b^{2}	b^{1}	b^{0}
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1 : PV1 high limit (soft failure) AL01
2 : PV1 low limit (soft failure) AL02
3 : PV2 high limit (soft failure) AL03
4 : PV2 low limit (soft failure) AL04
5 : PV3 high limit (soft failure) AL05
6 : PV3 low limit (soft failure) AL06
7 : PV4 high limit (soft failure) AL07
8 : PV4 low limit (soft failure) AL08
9 : AD1 fault (soft failure) AL11
10 : AD2 fault (soft failure) AL12
11 : AD3 fault (soft failure) AL13
12 : AD4 fault (soft failure) AL14
13 – 16 : Undefined

● Alarm information 2

RAM address : 10289 (2831H)
EEPROM address : 26673 (6831H) LSB

b^{15}	b^{14}	b^{13}	b^{12}	b^{11}	b^{10}	b^{9}	b^{8}	b^{7}	b^{6}	b^{5}	b^{4}	b^{3}	b^{2}	b^{1}	b^{0}
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1 – 4 : Undefined
5 : CT1 input error (soft failure) AL25
6 : CT2 input error (soft failure) AL26
7 : CT3 input error (soft failure) AL27
8 : CT4 input error (soft failure) AL28
9 : Reception monitors 1–16 (soft failure) AL31
10 : Transmission timeout between modules (soft failure) AL32
11 : RS-485 setting error (soft failure) AL33
12 – 16 : Undefined

● **Alarm information 3**

RAM address : 10290 (2832H)
EEPROM address : 26674 (6832H) LSB

b^{15}	b^{14}	b^{13}	b^{12}	b^{11}	b^{10}	b^{9}	b^{8}	b^{7}	b^{6}	b^{5}	b^{4}	b^{3}	b^{2}	b^{1}	b^{0}
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1 : Base EEPROM read/write error (hard failure) AL87
2 : Base EEPROM error (soft failure) AL88
3 – 16 : Undefined

● **Alarm information 4**

RAM address : 10291 (2833H)
EEPROM address : 26675 (6833H) LSB

b^{15}	b^{14}	b^{13}	b^{12}	b^{11}	b^{10}	b^{9}	b^{8}	b^{7}	b^{6}	b^{5}	b^{4}	b^{3}	b^{2}	b^{1}	b^{0}
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1 : CJ1 error (soft failure) AL71
2 : CJ2 error (soft failure) AL72
3 : CJ3 error (soft failure) AL73
4 : CJ4 error (soft failure) AL74
5 : Undefined
6 : Undefined
7 : Base EEPROM not initialized (hard failure) AL83
8 : MAC address error (hard failure) AL84
9 : RAM read/write error (hard failure) AL85
10 : EEPROM read/write error (hard failure) AL86
11 : Parameter data RAM error (soft failure) AL94
12 : Adjustment data RAM error (soft failure) AL95
13 : Undefined
14 : Parameter data EEPROM error (soft failure) AL97
15 : Adjustment data EEPROM error (soft failure) AL98
16 : ROM error (hard failure) AL99

■ Instrument internal computation result

● Internal computation result 1

RAM address : 10608 (2970H)
EEPROM address : 26992 (6970H) LSB

b^{15}	b^{14}	b^{13}	b^{12}	b^{11}	b^{10}	b^{9}	b^{8}	b^{7}	b^{6}	b^{5}	b^{4}	b^{3}	b^{2}	b^{1}	b^{0}
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1 : Internal event status 1 EV01
2 : Internal event status 2 EV02
3 : Internal event status 3 EV03
4 : Internal event status 4 EV04
5 : Internal event status 5 EV05
6 : Internal event status 6 EV06
7 : Internal event status 7 EV07
8 : Internal event status 8 EV08
9 : Internal event status 9 EV09
10 : Internal event status 10 EV10
11 : Internal event status 11 EV11
12 : Internal event status 12 EV12
13 : Internal event status 13 EV13
14 : Internal event status 14 EV14
15 : Internal event status 15 EV15
16 : Internal event status 16 EV16

● Internal computation result 2

RAM address : 10609 (2971H)
EEPROM address : 26993 (6971H) LSB

b^{15}	b^{14}	b^{13}	b^{12}	b^{11}	b^{10}	b^{9}	b^{8}	b^{7}	b^{6}	b^{5}	b^{4}	b^{3}	b^{2}	b^{1}	b^{0}
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1 : Internal event status 17 EV17
2 : Internal event status 18 EV18
3 : Internal event status 19 EV19
4 : Internal event status 20 EV20
5 : Internal event status 21 EV21
6 : Internal event status 22 EV22
7 : Internal event status 23 EV23
8 : Internal event status 24 EV24
9 – 16 : Undefined

● Internal computation result 3

RAM address : 10610 (2972H)
EEPROM address : 26994 (6972H) LSB

b^{15}	b^{14}	b^{13}	b^{12}	b^{11}	b^{10}	b^{9}	b^{8}	b^{7}	b^{6}	b^{5}	b^{4}	b^{3}	b^{2}	b^{1}	b^{0}
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1 : Heater line break detection CT1
2 : Heater line break detection CT2
3 : Heater line break detection CT3
4 : Heater line break detection CT4
5 : Excessive current detection CT1
6 : Excessive current detection CT2
7 : Excessive current detection CT3
8 : Excessive current detection CT4
9 : Short-circuit detection CT1
10 : Short-circuit detection CT2
11 : Short-circuit detection CT3
12 : Short-circuit detection CT4
13 – 16 : Undefined

● Internal computation result 5

RAM address : 10612 (2974H)
EEPROM address : 26996 (6974H) LSB

b^{15}	b^{14}	b^{13}	b^{12}	b^{11}	b^{10}	b^{9}	b^{8}	b^{7}	b^{6}	b^{5}	b^{4}	b^{3}	b^{2}	b^{1}	b^{0}
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1 : Terminal status D11
2 : Terminal status D12
3 : Terminal status D13
4 : Terminal status D14
5 – 16 : Undefined

● Internal computation result 13

RAM address : 10620 (297CH)
EEPROM address : 27004 (697CH) LSB

b^{15}	b^{14}	b^{13}	b^{12}	b^{11}	b^{10}	b^{9}	b^{8}	b^{7}	b^{6}	b^{5}	b^{4}	b^{3}	b^{2}	b^{1}	b^{0}
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1 : Terminal status OUT1
2 : Terminal status OUT2
3 : Terminal status OUT3
4 : Terminal status OUT4
5 : Terminal status D01
6 : Terminal status D02
7 : Terminal status D03
8 : Terminal status D04
9 – 16 : Undefined

● Internal computation result 21

RAM address : 10628 (2984H)
EEPROM address : 27012 (6984H) LSB

b^{15}	b^{14}	b^{13}	b^{12}	b^{11}	b^{10}	b^{9}	b^{8}	b^{7}	b^{6}	b^{5}	b^{4}	b^{3}	b^{2}	b^{1}	b^{0}
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1 : Result of logical operation 1 BF01
2 : Result of logical operation 2 BF02
3 : Result of logical operation 3 BF03
4 : Result of logical operation 4 BF04
5 : Result of logical operation 5 BF05
6 : Result of logical operation 6 BF06
7 : Result of logical operation 7 BF07
8 : Result of logical operation 8 BF08
9 : Result of logical operation 9 BF09
10 : Result of logical operation 10 BF10
11 : Result of logical operation 11 BF11
12 : Result of logical operation 12 BF12
13 : Result of logical operation 13 BF13
14 : Result of logical operation 14 BF14
15 : Result of logical operation 15 BF15
16 : Result of logical operation 16 BF16

● Internal computation result 55

RAM address : 10662 (29A6H)
EEPROM address : 27046 (69A6H) LSB

b^{15}	b^{14}	b^{13}	b^{12}	b^{11}	b^{10}	b^{9}	b^{8}	b^{7}	b^{6}	b^{5}	b^{4}	b^{3}	b^{2}	b^{1}	b^{0}
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1 : Reception monitoring 1 TF01
2 : Reception monitoring 2 TF02
3 : Reception monitoring 3 TF03
4 : Reception monitoring 4 TF04
5 : Reception monitoring 5 TF05
6 : Reception monitoring 6 TF06
7 : Reception monitoring 7 TF07
8 : Reception monitoring 8 TF08
9 : Reception monitoring 9 TF09
10 : Reception monitoring 10 TF10
11 : Reception monitoring 11 TF11
12 : Reception monitoring 12 TF12
13 : Reception monitoring 13 TF13
14 : Reception monitoring 14 TF14
15 : Reception monitoring 15 TF15
16 : Reception monitoring 16 TF16

■ User-defined bit

● User-defined bits 1–16

RAM address : 10080 (2760H)
EEPROM address : 26464 (6760H) LSB

b^{15}	b^{14}	b^{13}	b^{12}	b^{11}	b^{10}	b^{9}	b^{8}	b^{7}	b^{6}	b^{5}	b^{4}	b^{3}	b^{2}	b^{1}	b^{0}
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1 : User-defined bit 1 UB01
2 : User-defined bit 2 UB02
3 : User-defined bit 3 UB03
4 : User-defined bit 4 UB04
5 : User-defined bit 5 UB05
6 : User-defined bit 6 UB06
7 : User-defined bit 7 UB07
8 : User-defined bit 8 UB08
9 : User-defined bit 9 UB09
10 : User-defined bit 10 UB10
11 : User-defined bit 11 UB11
12 : User-defined bit 12 UB12
13 : User-defined bit 13 UB13
14 : User-defined bit 14 UB14
15 : User-defined bit 15 UB15
16 : User-defined bit 16 UB16

● User-defined bits 17–32

RAM address : 10097 (2771H)
EEPROM address : 26481 (6771H) LSB

b^{15}	b^{14}	b^{13}	b^{12}	b^{11}	b^{10}	b^{9}	b^{8}	b^{7}	b^{6}	b^{5}	b^{4}	b^{3}	b^{2}	b^{1}	b^{0}
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1 : User-defined bit 17 UB17
2 : User-defined bit 18 UB18
3 : User-defined bit 19 UB19
4 : User-defined bit 20 UB20
5 : User-defined bit 21 UB21
6 : User-defined bit 22 UB22
7 : User-defined bit 23 UB23
8 : User-defined bit 24 UB24
9 : User-defined bit 25 UB25
10 : User-defined bit 26 UB26
11 : User-defined bit 27 UB27
12 : User-defined bit 28 UB28
13 : User-defined bit 29 UB29
14 : User-defined bit 30 UB30
15 : User-defined bit 31 UB31
16 : User-defined bit 32 UB32

Chapter 12. LIST OF PARAMETER SETTINGS

Meaning of display levels

0	: Displayed in simple, standard or multiple functions
1	: Displayed in standard or multiple functions
2	: Displayed in multiple functions

NX-D15 and NX-D25

No symbol	: Supported
×	: Not supported

Meaning of the decimal point position in the Remarks field

PID_PV	: Determined by the settings for loops 1 to 4 in the loop (basic) bank (loop PV/SV decimal point position).
PV	: Determined by the settings for PV1 to 4 in the PV input bank (decimal point position).
RAMP	: Determined by the settings for loops 1 to 4 in the SP configuration bank (SP ramp unit).
OUT	: Determined by the settings for outputs 1 to 4 in the continuous output bank (output decimal point position).
EV	: Determined by the settings for event Nos. 1 to 24 in the event configuration bank (decimal point position).
PID	: Determined by the settings for loops 1 to 4 in the loop (extended) bank (integral time/derivative time decimal point position).

Monitor/Communications Profile

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	Comm. (device)	1	READY/RUN	0: RUN 1: READY	0		0			
Monitor	Comm. (device)	1	Auto/Manual	0: AUTO 1: MANUAL	0		0			
Monitor	Comm. (device)	1	AT cancel/execute	0: AT stop 1: AT execute	0		0			
Monitor	Comm. (device)	1	LSP/RSP	0: LSP 1: RSP	0		0			
Monitor	Comm. (device)	1	PV (loop)		–		0	Decimal point position = PID_PV		
Monitor	Comm. (device)	1	SP		0.0		0	Decimal point position = PID_PV		
Monitor	Comm. (device)	1	MV		–	%	0			
Monitor	Comm. (device)	2	READY/RUN	0: RUN 1: READY	0		0			
Monitor	Comm. (device)	2	Auto/Manual	0: AUTO 1: MANUAL	0		0			
Monitor	Comm. (device)	2	AT cancel/execute	0: AT stop 1: AT execute	0		0			
Monitor	Comm. (device)	2	LSP/RSP	0: LSP 1: RSP	0		0			
Monitor	Comm. (device)	2	PV (loop)		–		0	Decimal point position = PID_PV		
Monitor	Comm. (device)	2	SP		0.0		0	Decimal point position = PID_PV		
Monitor	Comm. (device)	2	MV		–	%	0			
Monitor	Comm. (device)	3	READY/RUN	0: RUN 1: READY	0		0			
Monitor	Comm. (device)	3	Auto/Manual	0: AUTO 1: MANUAL	0		0			
Monitor	Comm. (device)	3	AT cancel/execute	0: AT stop 1: AT execute	0		0			
Monitor	Comm. (device)	3	PV (loop)		–		0	Decimal point position = PID_PV		
Monitor	Comm. (device)	3	SP		0.0		0	Decimal point position = PID_PV		
Monitor	Comm. (device)	3	MV		–	%	0			
Monitor	Comm. (device)	4	READY/RUN	0: RUN 1: READY	0		0			
Monitor	Comm. (device)	4	Auto/Manual	0: AUTO 1: MANUAL	0		0			
Monitor	Comm. (device)	4	AT cancel/execute	0: AT stop 1: AT execute	0		0			
Monitor	Comm. (device)	4	PV (loop)		–		0	Decimal point position = PID_PV		
Monitor	Comm. (device)	4	SP		0.0		0	Decimal point position = PID_PV		
Monitor	Comm. (device)	4	MV		–	%	0			
Monitor	Comm. (operation)	1	SP group selection	1 to SP system group (4 max.)	1		0			
Monitor	Comm. (operation)	1	LSP	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
Monitor	Comm. (operation)	1	Manual MV	-10.0 to 110.0%	0.0	%	0			
Monitor	Comm. (operation)	1	READY/RUN	0: RUN 1: READY	0		0			
Monitor	Comm. (operation)	1	Auto/Manual	0: AUTO 1: MANUAL	0		0			
Monitor	Comm. (operation)	1	AT cancel/execute	0: AT stop 1: AT execute	0		0			
Monitor	Comm. (operation)	1	LSP/RSP	0: LSP 1: RSP	0		0			
Monitor	Comm. (operation)	2	SP group selection	1 to SP system group (4 max.)	1		0			
Monitor	Comm. (operation)	2	LSP	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
Monitor	Comm. (operation)	2	Manual MV	-10.0 to 110.0%	0.0	%	0			
Monitor	Comm. (operation)	2	READY/RUN	0: RUN 1: READY	0		0			
Monitor	Comm. (operation)	2	Auto/Manual	0: AUTO 1: MANUAL	0		0			
Monitor	Comm. (operation)	2	AT cancel/execute	0: AT stop 1: AT execute	0		0			
Monitor	Comm. (operation)	2	LSP/RSP	0: LSP 1: RSP	0		0			
Monitor	Comm. (operation)	3	SP group selection	1 to SP system group (4 max.)	1		0			
Monitor	Comm. (operation)	3	LSP	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
Monitor	Comm. (operation)	3	Manual MV	-10.0 to 110.0%	0.0	%	0			
Monitor	Comm. (operation)	3	READY/RUN	0: RUN 1: READY	0		0			
Monitor	Comm. (operation)	3	Auto/Manual	0: AUTO 1: MANUAL	0		0			
Monitor	Comm. (operation)	3	AT cancel/execute	0: AT stop 1: AT execute	0		0			
Monitor	Comm. (operation)	4	SP group selection	1 to SP system group (4 max.)	1		0			
Monitor	Comm. (operation)	4	LSP	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
Monitor	Comm. (operation)	4	Manual MV	-10.0 to 110.0%	0.0	%	0			
Monitor	Comm. (operation)	4	READY/RUN	0: RUN 1: READY	0		0			
Monitor	Comm. (operation)	4	Auto/Manual	0: AUTO 1: MANUAL	0		0			
Monitor	Comm. (operation)	4	AT cancel/execute	0: AT stop 1: AT execute	0		0			

Monitor/Communications Profile

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	Comm. (current PID)	1	Current proportional band	0.1 to 3200.0%	5.0	%	0			
Monitor	Comm. (current PID)	1	Current integral time	0 to 32000 s, 0.0 to 3200.0s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
Monitor	Comm. (current PID)	1	Current derivative time	0 to 32000 s, 0.0 to 3200.0s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
Monitor	Comm. (current PID)	1	Current manual reset	-10.0 to 110.0%	50.0	%	0			
Monitor	Comm. (current PID)	1	Current output low limit	-10.0 to 110.0%	0.0	%	0			
Monitor	Comm. (current PID)	1	Current output high limit	-10.0 to 110.0%	100.0	%	0			
Monitor	Comm. (current PID)	1	Current proportional band for cooling	0.1 to 3200.0%	5.0	%	0			
Monitor	Comm. (current PID)	1	Current integral time for cooling	0 to 32000 s, 0.0 to 3200.0s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
Monitor	Comm. (current PID)	1	Current derivative time for cooling	0 to 32000 s, 0.0 to 3200.0s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
Monitor	Comm. (current PID)	1	Current MV low limit for cooling	-10.0 to 110.0%	0.0	%	0			
Monitor	Comm. (current PID)	1	Current MV high limit for cooling	-10.0 to 110.0%	100.0	%	0			
Monitor	Comm. (current PID)	2	Current proportional band	0.1 to 3200.0%	5.0	%	0			
Monitor	Comm. (current PID)	2	Current integral time	0 to 32000 s, 0.0 to 3200.0s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
Monitor	Comm. (current PID)	2	Current derivative time	0 to 32000 s, 0.0 to 3200.0s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
Monitor	Comm. (current PID)	2	Current manual reset	-10.0 to 110.0%	50.0	%	0			
Monitor	Comm. (current PID)	2	Current output low limit	-10.0 to 110.0%	0.0	%	0			
Monitor	Comm. (current PID)	2	Current output high limit	-10.0 to 110.0%	100.0	%	0			
Monitor	Comm. (current PID)	2	Current proportional band for cooling	0.1 to 3200.0%	5.0	%	0			
Monitor	Comm. (current PID)	2	Current integral time for cooling	0 to 32000 s, 0.0 to 3200.0s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
Monitor	Comm. (current PID)	2	Current derivative time for cooling	0 to 32000 s, 0.0 to 3200.0s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
Monitor	Comm. (current PID)	2	Current MV low limit for cooling	-10.0 to 110.0%	0.0	%	0			
Monitor	Comm. (current PID)	2	Current MV high limit for cooling	-10.0 to 110.0%	100.0	%	0			

Monitor/Communications Profile

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	Comm. (current PID)	3	Current proportional band	0.1 to 3200.0%	5.0	%	0			
Monitor	Comm. (current PID)	3	Current integral time	0 to 32000 s, 0.0 to 3200.0s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
Monitor	Comm. (current PID)	3	Current derivative time	0 to 32000 s, 0.0 to 3200.0s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
Monitor	Comm. (current PID)	3	Current manual reset	-10.0 to 110.0%	50.0	%	0			
Monitor	Comm. (current PID)	3	Current output low limit	-10.0 to 110.0%	0.0	%	0			
Monitor	Comm. (current PID)	3	Current output high limit	-10.0 to 110.0%	100.0	%	0			
Monitor	Comm. (current PID)	4	Current proportional band	0.1 to 3200.0%	5.0	%	0			
Monitor	Comm. (current PID)	4	Current integral time	0 to 32000 s, 0.0 to 3200.0s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
Monitor	Comm. (current PID)	4	Current derivative time	0 to 32000 s, 0.0 to 3200.0s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
Monitor	Comm. (current PID)	4	Current manual reset	-10.0 to 110.0%	50.0	%	0			
Monitor	Comm. (current PID)	4	Current output low limit	-10.0 to 110.0%	0.0	%	0			
Monitor	Comm. (current PID)	4	Current output high limit	-10.0 to 110.0%	100.0	%	0			

Monitor/Loop Mode

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	Loop mode	1	RUN/READY	0: RUN 1: READY	0		0			
Monitor	Loop mode	1	Auto/Manual	0: AUTO 1: MANUAL	0		0			
Monitor	Loop mode	1	AT stop/start	0: AT stop 1: AT start	0		0			
Monitor	Loop mode	1	LSP/RSP	0: LSP 1: RSP	0		0			
Monitor	Loop mode	2	RUN/READY	0: RUN 1: READY	0		0			
Monitor	Loop mode	2	Auto/Manual	0: AUTO 1: MANUAL	0		0			
Monitor	Loop mode	2	AT stop/start	0: AT stop 1: AT start	0		0			
Monitor	Loop mode	2	LSP/RSP	0: LSP 1: RSP	0		0			
Monitor	Loop mode	3	RUN/READY	0: RUN 1: READY	0		0			
Monitor	Loop mode	3	Auto/Manual	0: AUTO 1: MANUAL	0		0			
Monitor	Loop mode	3	AT stop/start	0: AT stop 1: AT start	0		0			
Monitor	Loop mode	4	RUN/READY	0: RUN 1: READY	0		0			
Monitor	Loop mode	4	Auto/Manual	0: AUTO 1: MANUAL	0		0			
Monitor	Loop mode	4	AT stop/start	0: AT stop 1: AT start	0		0			

Monitor/Monitor

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	Alarm	1	Alarm information 1		–		0	See Alarm information 1		
Monitor	Alarm	1	Alarm information 2		–		0	See Alarm information 2		
Monitor	Alarm	1	Alarm information 3		–		0	See Alarm information 3		
Monitor	Alarm	1	Alarm information 4		–		0	See Alarm information 4		
Monitor	Basic	1	PV (loop)		–		0	Decimal point position = PID_PV		
Monitor	Basic	1	SP		–		0	Decimal point position = PID_PV		
Monitor	Basic	1	MV		–		0			
Monitor	Basic	1	Heat MV		–		0			
Monitor	Basic	1	Cool MV		–		0			
Monitor	Basic	1	AT progress	0: Stopped 1 to 4: AT progress number	–		0			
Monitor	Basic	1	SP group selection		–		0			
Monitor	Basic	1	PID group selection		–		0			
Monitor	Basic	1	PV (input channel)		–		0	Decimal point position = PV		
Monitor	Basic	2	PV (loop)		–		0	Decimal point position = PID_PV		
Monitor	Basic	2	SP		–		0	Decimal point position = PID_PV		
Monitor	Basic	2	MV		–		0			
Monitor	Basic	2	Heat MV		–		0			
Monitor	Basic	2	Cool MV		–		0			
Monitor	Basic	2	AT progress	0: Stopped 1 to 4: AT progress number	–		0			
Monitor	Basic	2	SP group selection		–		0			
Monitor	Basic	2	PID group selection		–		0			
Monitor	Basic	2	PV (input channel)		–		0	Decimal point position = PV		
Monitor	Basic	3	PV (loop)		–		0	Decimal point position = PID_PV		
Monitor	Basic	3	SP		–		0	Decimal point position = PID_PV		
Monitor	Basic	3	MV		–		0			
Monitor	Basic	3	AT progress	0: Stopped 1 to 4: AT progress number	–		0			
Monitor	Basic	3	SP group selection		–		0			
Monitor	Basic	3	PID group selection		–		0			
Monitor	Basic	3	PV (input channel)		–		0	Decimal point position = PV		
Monitor	Basic	4	PV (loop)		–		0	Decimal point position = PID_PV		
Monitor	Basic	4	SP		–		0	Decimal point position = PID_PV		
Monitor	Basic	4	MV		–		0			
Monitor	Basic	4	AT progress	0: Stopped 1 to 4: AT progress number	–		0			
Monitor	Basic	4	SP group selection		–		0			
Monitor	Basic	4	PID group selection		–		0			
Monitor	Basic	4	PV (input channel)		–		0	Decimal point position = PV		

Monitor/Monitor

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	AO percent	1	AO percent data		–	%	0			
Monitor	AO percent	2	AO percent data		–	%	0			
Monitor	AO percent	3	AO percent data		–	%	0			
Monitor	AO percent	4	AO percent data		–	%	0			
Monitor	OUT/DO terminal ON/OFF	1	OUT/DO terminal, ON/OFF data		–		0			
Monitor	OUT/DO terminal ON/OFF	2	OUT/DO terminal, ON/OFF data		–		0			
Monitor	OUT/DO terminal ON/OFF	3	OUT/DO terminal, ON/OFF data		–		0			
Monitor	OUT/DO terminal ON/OFF	4	OUT/DO terminal, ON/OFF data		–		0			
Monitor	OUT/DO terminal ON/OFF	5	OUT/DO terminal, ON/OFF data		–		0			
Monitor	OUT/DO terminal ON/OFF	6	OUT/DO terminal, ON/OFF data		–		0			
Monitor	OUT/DO terminal ON/OFF	7	OUT/DO terminal, ON/OFF data		–		0			
Monitor	OUT/DO terminal ON/OFF	8	OUT/DO terminal, ON/OFF data		–		0			

Monitor/Remaining Delay Time

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	Remaining delay time	1	Remaining delay time		–	s	0			
Monitor	Remaining delay time	2	Remaining delay time		–	s	0			
Monitor	Remaining delay time	3	Remaining delay time		–	s	0			
Monitor	Remaining delay time	4	Remaining delay time		–	s	0			
Monitor	Remaining delay time	5	Remaining delay time		–	s	0			
Monitor	Remaining delay time	6	Remaining delay time		–	s	0			
Monitor	Remaining delay time	7	Remaining delay time		–	s	0			
Monitor	Remaining delay time	8	Remaining delay time		–	s	0			
Monitor	Remaining delay time	9	Remaining delay time		–	s	0			
Monitor	Remaining delay time	10	Remaining delay time		–	s	0			
Monitor	Remaining delay time	11	Remaining delay time		–	s	0			
Monitor	Remaining delay time	12	Remaining delay time		–	s	0			
Monitor	Remaining delay time	13	Remaining delay time		–	s	0			
Monitor	Remaining delay time	14	Remaining delay time		–	s	0			
Monitor	Remaining delay time	15	Remaining delay time		–	s	0			
Monitor	Remaining delay time	16	Remaining delay time		–	s	0			
Monitor	Remaining delay time	17	Remaining delay time		–	s	0			
Monitor	Remaining delay time	18	Remaining delay time		–	s	0			
Monitor	Remaining delay time	19	Remaining delay time		–	s	0			
Monitor	Remaining delay time	20	Remaining delay time		–	s	0			
Monitor	Remaining delay time	21	Remaining delay time		–	s	0			
Monitor	Remaining delay time	22	Remaining delay time		–	s	0			
Monitor	Remaining delay time	23	Remaining delay time		–	s	0			
Monitor	Remaining delay time	24	Remaining delay time		–	s	0			

Monitor/Computation Result

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	Computation result	1	Instrument internal computation result 1 (bitmap)		–		0	See Instrument internal computation result 1		
Monitor	Computation result	1	Instrument internal computation result 2 (bitmap)		–		0	See Instrument internal computation result 2		
Monitor	Computation result	1	Instrument internal computation result 3 (bitmap)		–		0	See Instrument internal computation result 3		
Monitor	Computation result	1	Instrument internal computation result 5 (bitmap)		–		0	See Instrument internal computation result 5		
Monitor	Computation result	1	Instrument internal computation result 13 (bitmap)		–		0	See Instrument internal computation result 13		
Monitor	Computation result	1	Instrument internal computation result 21 (bitmap)		–		0	See Instrument internal computation result 21		

Monitor/Standard Bit

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	Bits: 1024-1151	1	Always 0 (Off)		–		0			
Monitor	Bits: 1024-1151	1	Always 1 (On)		–		0			
Monitor	Bits: 1024-1151	1	Event 1		–		0			
Monitor	Bits: 1024-1151	1	Event 2		–		0			
Monitor	Bits: 1024-1151	1	Event 3		–		0			
Monitor	Bits: 1024-1151	1	Event 4		–		0			
Monitor	Bits: 1024-1151	1	Event 5		–		0			
Monitor	Bits: 1024-1151	1	Event 6		–		0			
Monitor	Bits: 1024-1151	1	Event 7		–		0			
Monitor	Bits: 1024-1151	1	Event 8		–		0			
Monitor	Bits: 1024-1151	1	Event 9		–		0			
Monitor	Bits: 1024-1151	1	Event 10		–		0			
Monitor	Bits: 1024-1151	1	Event 11		–		0			
Monitor	Bits: 1024-1151	1	Event 12		–		0			
Monitor	Bits: 1024-1151	1	Event 13		–		0			
Monitor	Bits: 1024-1151	1	Event 14		–		0			
Monitor	Bits: 1024-1151	1	Event 15		–		0			
Monitor	Bits: 1024-1151	1	Event 16		–		0			
Monitor	Bits: 1024-1151	1	Event 17		–		0			
Monitor	Bits: 1024-1151	1	Event 18		–		0			
Monitor	Bits: 1024-1151	1	Event 19		–		0			
Monitor	Bits: 1024-1151	1	Event 20		–		0			
Monitor	Bits: 1024-1151	1	Event 21		–		0			
Monitor	Bits: 1024-1151	1	Event 22		–		0			
Monitor	Bits: 1024-1151	1	Event 23		–		0			
Monitor	Bits: 1024-1151	1	Event 24		–		0			
Monitor	Bits: 1024-1151	1	CT1 heater line break detection		–		0			
Monitor	Bits: 1024-1151	1	CT2 heater line break detection		–		0			
Monitor	Bits: 1024-1151	1	CT3 heater line break detection		–		0			
Monitor	Bits: 1024-1151	1	CT4 heater line break detection		–		0			
Monitor	Bits: 1024-1151	1	CT1 overcurrent detection		–		0			
Monitor	Bits: 1024-1151	1	CT2 overcurrent detection		–		0			
Monitor	Bits: 1024-1151	1	CT3 overcurrent detection		–		0			
Monitor	Bits: 1024-1151	1	CT4 overcurrent detection		–		0			
Monitor	Bits: 1024-1151	1	CT1 short-circuit detection		–		0			
Monitor	Bits: 1024-1151	1	CT2 short-circuit detection		–		0			
Monitor	Bits: 1024-1151	1	CT3 short-circuit detection		–		0			
Monitor	Bits: 1024-1151	1	CT4 short-circuit detection		–		0			
Monitor	Bits: 1152-1279	1	DI1 terminal status		–		0			
Monitor	Bits: 1152-1279	1	DI2 terminal status		–		0			
Monitor	Bits: 1152-1279	1	DI3 terminal status		–		0			
Monitor	Bits: 1152-1279	1	DI4 terminal status		–		0			
Monitor	Bits: 1280-1407	1	OUT1 terminal status		–		0			
Monitor	Bits: 1280-1407	1	OUT2 terminal status		–		0			
Monitor	Bits: 1280-1407	1	OUT3 terminal status		–		0			
Monitor	Bits: 1280-1407	1	OUT4 terminal status		–		0			
Monitor	Bits: 1280-1407	1	DO1 terminal status		–		0			
Monitor	Bits: 1280-1407	1	DO2 terminal status		–		0			
Monitor	Bits: 1280-1407	1	DO3 terminal status		–		0			
Monitor	Bits: 1280-1407	1	DO4 terminal status		–		0			

Monitor/Standard Bit

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	Bits: 1408-1535	1	User-defined bit 1		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 2		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 3		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 4		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 5		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 6		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 7		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 8		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 9		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 10		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 11		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 12		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 13		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 14		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 15		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 16		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 17		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 18		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 19		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 20		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 21		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 22		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 23		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 24		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 25		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 26		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 27		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 28		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 29		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 30		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 31		–		0			
Monitor	Bits: 1408-1535	1	User-defined bit 32		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 1		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 2		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 3		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 4		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 5		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 6		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 7		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 8		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 9		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 10		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 11		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 12		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 13		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 14		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 15		–		0			
Monitor	Bits: 1408-1535	1	Results of logical operation 16		–		0			

Monitor/Standard Bit

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	Bits: 1536-1663	1	RS-485 status (normal transmission of 1 frame)		–		0			
Monitor	Bits: 1536-1663	1	Loop 1 RUN/READY status		–		0			
Monitor	Bits: 1536-1663	1	Loop 2 RUN/READY status		–		0			
Monitor	Bits: 1536-1663	1	Loop 3 RUN/READY status		–		0			
Monitor	Bits: 1536-1663	1	Loop 4 RUN/READY status		–		0			
Monitor	Bits: 1536-1663	1	Loop 1 AUTO/MANUAL status		–		0			
Monitor	Bits: 1536-1663	1	Loop 2 AUTO/MANUAL status		–		0			
Monitor	Bits: 1536-1663	1	Loop 3 AUTO/MANUAL status		–		0			
Monitor	Bits: 1536-1663	1	Loop 4 AUTO/MANUAL status		–		0			
Monitor	Bits: 1536-1663	1	Loop 1 AT pause/AT status		–		0			
Monitor	Bits: 1536-1663	1	Loop 2 AT pause/AT status		–		0			
Monitor	Bits: 1536-1663	1	Loop 3 AT pause/AT status		–		0			
Monitor	Bits: 1536-1663	1	Loop 4 AT pause/AT status		–		0			
Monitor	Bits: 1536-1663	1	Loop 1 LSP/RSP status		–		0			
Monitor	Bits: 1536-1663	1	Loop 2 LSP/RSP status		–		0			
Monitor	Bits: 1536-1663	1	Loop 1 SP ramp-up in progress		–		0			
Monitor	Bits: 1536-1663	1	Loop 2 SP ramp-up in progress		–		0			
Monitor	Bits: 1536-1663	1	Loop 3 SP ramp-up in progress		–		0			
Monitor	Bits: 1536-1663	1	Loop 4 SP ramp-up in progress		–		0			
Monitor	Bits: 1664-1791	1	Loop 1 SP ramp-down in progress		–		0			
Monitor	Bits: 1664-1791	1	Loop 2 SP ramp-down in progress		–		0			
Monitor	Bits: 1664-1791	1	Loop 3 SP ramp-down in progress		–		0			
Monitor	Bits: 1664-1791	1	Loop 4 SP ramp-down in progress		–		0			
Monitor	Bits: 1792-1919	1	Representative of all alarms		–		0			

Monitor/Standard Bit

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	Bits: 1792-1919	1	AD1 fault (AL11)		–		0			
Monitor	Bits: 1792-1919	1	AD2 fault (AL12)		–		0			
Monitor	Bits: 1792-1919	1	AD3 fault (AL13)		–		0			
Monitor	Bits: 1792-1919	1	AD4 fault (AL14)		–		0			
Monitor	Bits: 1792-1919	1	PV1 high limit error (AL01)		–		0			
Monitor	Bits: 1792-1919	1	PV2 high limit error (AL03)		–		0			
Monitor	Bits: 1792-1919	1	PV3 high limit error (AL05)		–		0			
Monitor	Bits: 1792-1919	1	PV4 high limit error (AL07)		–		0			
Monitor	Bits: 1792-1919	1	PV1 low limit error (AL02)		–		0			
Monitor	Bits: 1792-1919	1	PV2 low limit error (AL04)		–		0			
Monitor	Bits: 1792-1919	1	PV3 low limit error (AL06)		–		0			
Monitor	Bits: 1792-1919	1	PV4 low limit error (AL08)		–		0			
Monitor	Bits: 1792-1919	1	CJ1 error (AL71)		–		0			
Monitor	Bits: 1792-1919	1	CJ2 error (AL72)		–		0			
Monitor	Bits: 1792-1919	1	CJ3 error (AL73)		–		0			
Monitor	Bits: 1792-1919	1	CJ4 error (AL74)		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 1		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 2		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 3		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 4		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 5		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 6		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 7		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 8		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 9		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 10		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 11		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 12		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 13		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 14		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 15		–		0			
Monitor	Bits: 1920-2047	1	Reception monitoring 16		–		0			
Monitor	Bits: 1920-2047	1	CT1 input error (AL25)		–		0			
Monitor	Bits: 1920-2047	1	CT2 input error (AL26)		–		0			
Monitor	Bits: 1920-2047	1	CT3 input error (AL27)		–		0			
Monitor	Bits: 1920-2047	1	CT4 input error (AL28)		–		0			
Monitor	Bits: 1920-2047	1	Parameter error (AL94/AL97)		–		0			
Monitor	Bits: 1920-2047	1	Adjustment data error (AL95/AL98)		–		0			
Monitor	Bits: 1920-2047	1	EEPROM not initialized (AL83)		–		0			
Monitor	Bits: 1920-2047	1	ROM error (AL99)		–		0			
Monitor	Bits: 1920-2047	1	EEPROM RW error (AL86)		–		0			
Monitor	Bits: 1920-2047	1	Reception monitors 1-16 (AL31)		–		0			
Monitor	Bits: 1920-2047	1	Transmission time-out between modules (AL32)		–		0			
Monitor	Bits: 1920-2047	1	Writing to EEPROM		–		0			

Monitor/Standard Numerical Code

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	Numbers: 2048-2175	1	User-defined number 1		–		0			
Monitor	Numbers: 2048-2175	1	User-defined number 2		–		0			
Monitor	Numbers: 2048-2175	1	User-defined number 3		–		0			
Monitor	Numbers: 2048-2175	1	User-defined number 4		–		0			
Monitor	Numbers: 2048-2175	1	User-defined number 5		–		0			
Monitor	Numbers: 2048-2175	1	User-defined number 6		–		0			
Monitor	Numbers: 2048-2175	1	User-defined number 7		–		0			
Monitor	Numbers: 2048-2175	1	User-defined number 8		–		0			
Monitor	Numbers: 2048-2175	1	User-defined number 9		–		0			
Monitor	Numbers: 2048-2175	1	User-defined number 10		–		0			
Monitor	Numbers: 2048-2175	1	User-defined number 11		–		0			
Monitor	Numbers: 2048-2175	1	User-defined number 12		–		0			
Monitor	Numbers: 2048-2175	1	User-defined number 13		–		0			
Monitor	Numbers: 2048-2175	1	User-defined number 14		–		0			
Monitor	Numbers: 2048-2175	1	User-defined number 15		–		0			
Monitor	Numbers: 2048-2175	1	User-defined number 16		–		0			
Monitor	Numbers: 2304-2431	1	PV1		–		0	Decimal point position = PV		
Monitor	Numbers: 2304-2431	1	PV2		–		0	Decimal point position = PV		
Monitor	Numbers: 2304-2431	1	PV3		–		0	Decimal point position = PV		
Monitor	Numbers: 2304-2431	1	PV4		–		0	Decimal point position = PV		
Monitor	Numbers: 2304-2431	1	AI1		–		0	Decimal point position = PV		
Monitor	Numbers: 2304-2431	1	AI2		–		0	Decimal point position = PV		
Monitor	Numbers: 2304-2431	1	AI3		–		0	Decimal point position = PV		
Monitor	Numbers: 2304-2431	1	AI4		–		0	Decimal point position = PV		
Monitor	Numbers: 2304-2431	1	Loop 1 PV		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2304-2431	1	Loop 2 PV		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2304-2431	1	Loop 3 PV		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2304-2431	1	Loop 4 PV		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2304-2431	1	Loop 1 SP (in use)		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2304-2431	1	Loop 2 SP (in use)		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2304-2431	1	Loop 3 SP (in use)		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2304-2431	1	Loop 4 SP (in use)		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2304-2431	1	Loop 1 SP (final value)		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2304-2431	1	Loop 2 SP (final value)		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2304-2431	1	Loop 3 SP (final value)		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2304-2431	1	Loop 4 SP (final value)		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2304-2431	1	Loop 1 MV		0.0	%	0			
Monitor	Numbers: 2304-2431	1	Loop 2 MV		0.0	%	0			
Monitor	Numbers: 2304-2431	1	Loop 3 MV		0.0	%	0			
Monitor	Numbers: 2304-2431	1	Loop 4 MV		0.0	%	0			
Monitor	Numbers: 2432-2559	1	Loop 1 MV for heating		0.0	%	0			
Monitor	Numbers: 2432-2559	1	Loop 2 MV for heating		0.0	%	0			
Monitor	Numbers: 2432-2559	1	Loop 1 MV for cooling		0.0	%	0			
Monitor	Numbers: 2432-2559	1	Loop 2 MV for cooling		0.0	%	0			
Monitor	Numbers: 2432-2559	1	CT1 measured current when output ON		0.0	A	0			
Monitor	Numbers: 2432-2559	1	CT2 measured current when output ON		0.0	A	0			
Monitor	Numbers: 2432-2559	1	CT3 measured current when output ON		0.0	A	0			
Monitor	Numbers: 2432-2559	1	CT4 measured current when output ON		0.0	A	0			

Monitor/Standard Numerical Code

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	Numbers: 2432-2559	1	CT1 measured current when output OFF		0.0	A	0			
Monitor	Numbers: 2432-2559	1	CT2 measured current when output OFF		0.0	A	0			
Monitor	Numbers: 2432-2559	1	CT3 measured current when output OFF		0.0	A	0			
Monitor	Numbers: 2432-2559	1	CT4 measured current when output OFF		0.0	A	0			
Monitor	Numbers: 2432-2559	1	Loop 1 deviation (PV - SP)		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2432-2559	1	Loop 2 deviation (PV - SP)		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2432-2559	1	Loop 3 deviation (PV - SP)		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2432-2559	1	Loop 4 deviation (PV - SP)		–		0	Decimal point position = PID_PV		
Monitor	Numbers: 2560-2687	1	Event 1 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 2 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 3 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 4 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 5 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 6 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 7 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 8 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 9 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 10 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 11 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 12 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 13 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 14 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 15 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 16 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 17 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 18 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 19 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 20 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 21 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 22 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 23 timer remaining time		–	s	0			
Monitor	Numbers: 2560-2687	1	Event 24 timer remaining time		–	s	0			

Monitor/User-defined Bit

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	User-defined bit	1	User-defined bits 1-16		0		0	See User-defined bits 1-16		
Monitor	User-defined bit	1	User-defined bit 1	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 2	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 3	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 4	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 5	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 6	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 7	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 8	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 9	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 10	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 11	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 12	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 13	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 14	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 15	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 16	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bits 17-32		0		0	See User-defined bits 17-32		
Monitor	User-defined bit	1	User-defined bit 17	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 18	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 19	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 20	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 21	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 22	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 23	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 24	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 25	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 26	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 27	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 28	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 29	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 30	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 31	0: OFF 1: ON	0		0			
Monitor	User-defined bit	1	User-defined bit 32	0: OFF 1: ON	0		0			

Monitor/User-defined Number

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Monitor	User-defined number	1	User-defined number 1	-32768 to 32767	0		1			
Monitor	User-defined number	1	User-defined number 2	-32768 to 32767	0		1			
Monitor	User-defined number	1	User-defined number 3	-32768 to 32767	0		1			
Monitor	User-defined number	1	User-defined number 4	-32768 to 32767	0		1			
Monitor	User-defined number	1	User-defined number 5	-32768 to 32767	0		1			
Monitor	User-defined number	1	User-defined number 6	-32768 to 32767	0		1			
Monitor	User-defined number	1	User-defined number 7	-32768 to 32767	0		1			
Monitor	User-defined number	1	User-defined number 8	-32768 to 32767	0		1			
Monitor	User-defined number	1	User-defined number 9	-32768 to 32767	0		1			
Monitor	User-defined number	1	User-defined number 10	-32768 to 32767	0		1			
Monitor	User-defined number	1	User-defined number 11	-32768 to 32767	0		1			
Monitor	User-defined number	1	User-defined number 12	-32768 to 32767	0		1			
Monitor	User-defined number	1	User-defined number 13	-32768 to 32767	0		1			
Monitor	User-defined number	1	User-defined number 14	-32768 to 32767	0		1			
Monitor	User-defined number	1	User-defined number 15	-32768 to 32767	0		1			
Monitor	User-defined number	1	User-defined number 16	-32768 to 32767	0		1			

Communications/Ethernet Communications

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Communications	Ethernet communications	1	MAC address 1	0 to 255	0		0			
Communications	Ethernet communications	1	MAC address 2	0 to 255	32		0			
Communications	Ethernet communications	1	MAC address 3	0 to 255	4		0			
Communications	Ethernet communications	1	MAC address 4	0 to 255	98		0			
Communications	Ethernet communications	1	MAC address 5	0 to 255	Unique to device		0			
Communications	Ethernet communications	1	MAC address 6	0 to 255	Unique to device		0			
Communications	Ethernet communications	1	IPv4 address 1	0 to 255	192		0	Changed settings are enabled after the power is restarted		
Communications	Ethernet communications	1	IPv4 address 2	0 to 255	168		0	Changed settings are enabled after the power is restarted		
Communications	Ethernet communications	1	IPv4 address 3	0 to 255	255		0	Changed settings are enabled after the power is restarted		
Communications	Ethernet communications	1	IPv4 address 4	0 to 255	254		0	Changed settings are enabled after the power is restarted		
Communications	Ethernet communications	1	IPv4 address net mask 1	0 to 255	255		0	Changed settings are enabled after the power is restarted		
Communications	Ethernet communications	1	IPv4 address net mask 2	0 to 255	255		0	Changed settings are enabled after the power is restarted		
Communications	Ethernet communications	1	IPv4 address net mask 3	0 to 255	255		0	Changed settings are enabled after the power is restarted		
Communications	Ethernet communications	1	IPv4 address net mask 4	0 to 255	0		0	Changed settings are enabled after the power is restarted		
Communications	Ethernet communications	1	IPv4 default gateway 1	0 to 255	0		0	Changed settings are enabled after the power is restarted		
Communications	Ethernet communications	1	IPv4 default gateway 2	0 to 255	0		0	Changed settings are enabled after the power is restarted		
Communications	Ethernet communications	1	IPv4 default gateway 3	0 to 255	0		0	Changed settings are enabled after the power is restarted		
Communications	Ethernet communications	1	IPv4 default gateway 4	0 to 255	0		0	Changed settings are enabled after the power is restarted		
Communications	Ethernet communications	1	MODBUS TCP port number	0 to 65535	502		0	Changed settings are enabled after the power is restarted		

Communications/RS-485 Communications

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Communications	RS-485 communication	1	Communications type	0: CPL 1: MODBUS ASCII 2: MODBUS RTU	0					
Communications	RS-485 communication	1	Station address	0 to 127	127					
Communications	RS-485 communication	1	Transmission speed	0: 4800 bps 1: 9600 bps 2: 19200 bps 3: 38400 bps 4: 57600 bps 5: 115200 bps	2					
Communications	RS-485 communication	1	Data format (data length)	0: 7 bits 1: 8 bits	1					
Communications	RS-485 communication	1	Data format (parity)	0: Even parity 1: Odd parity 2: No parity	0					
Communications	RS-485 communication	1	Data format (stop bit)	0: 1 stop bit 1: 2 stop bits	0					
Communications	RS-485 communication	1	Minimum response time	1 to 250	3	ms				

Basic/Setup

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Basic	Setup	1	SP system group	1 to 4	1		0			
Basic	Setup	1	Start delay at power ON	0 to 60 s	2	s	1			
Basic	Setup	1	Advanced function password 1	0 to 65535	0		2			
Basic	Setup	1	Advanced function password 2	0 to 65535	0		2			
Basic	Setup	1	Advanced function password 3	0 to 65535	0		2			
Basic	Setup	1	Advanced function password 4	0 to 65535	0		2			
Basic	Setup	1	Advanced function password 5	0 to 65535	0		2			
Basic	Setup	1	Advanced function password 6	0 to 65535	0		2			
Basic	Setup	1	Advanced function password 7	0 to 65535	0		2			
Basic	Setup	1	Advanced function password 8	0 to 65535	0		2			
Basic	Setup	1	Advanced function password 9	0 to 65535	0		2			
Basic	Setup	1	Advanced function password 10	0 to 65535	0		2			
Basic	Setup	1	Advanced function password 11	0 to 65535	0		2			
Basic	Setup	1	Advanced function password 12	0 to 65535	0		2			
Basic	Setup	1	Advanced function password 13	0 to 65535	0		2			
Basic	Setup	1	Advanced function password 14	0 to 65535	0		2			
Basic	Setup	1	Advanced function password 15	0 to 65535	0		2			
Basic	Setup	1	Advanced function password 16	0 to 65535	0		2			
Basic	Setup	1	Loop type	0: 1 loop 1: 2 loops 2: 1 loop (RSP) 5: 2 loops (1 loop with RSP) 8: 2 loops (RSP) + MV branching output 9: 2 loops (RSP) 1: 3 loops 22: 4 loops 23: 3 loops + MV branching output 24: 4 loops + MV branching output	4-loop model = 22, 2-loop model = 1		1	Changed settings are enabled after the power is restarted		
Basic	Setup	1	Release all latches	0: Continue latch 1: Release latch	0		1			

Basic/Loop (Input)

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Basic	Loop (input)	1	Assigned PV	0: Default 1: PV1 2: PV2 3: PV3 4: PV4 2048-3071: Standard numerical codes	0		1			
Basic	Loop (input)	1	Assigned RSP	0: Default 1: PV1 2: PV2 3: PV3 4: PV4 2048-3071: Standard numerical codes	0		1			
Basic	Loop (input)	1	Assigned AI	D15 0: Default 1: AI1 2: AI2 3: AI3 4: AI4 D25 0: Default 1: AI1 2: AI2 3: AI3 4: AI4 2048-3071: Standard numerical codes	0		1			
Basic	Loop (input)	2	Assigned PV	0: Default 1: PV1 2: PV2 3: PV3 4: PV4 2048-3071: Standard numerical codes	0		1			
Basic	Loop (input)	2	Assigned RSP	0: Default 1: PV1 2: PV2 3: PV3 4: PV4 2048-3071: Standard numerical codes	0		1			
Basic	Loop (input)	2	Assigned AI	D15 0: Default 1: AI1 2: AI2 3: AI3 4: AI4 D25 0: Default 1: AI1 2: AI2 3: AI3 4: AI4 2048-3071: Standard numerical codes	0		1			
Basic	Loop (input)	3	Assigned PV	0: Default 1: PV1 2: PV2 3: PV3 4: PV4 2048-3071: Standard numerical codes	0		1			
Basic	Loop (input)	3	Assigned AI	D15 0: Default 1: AI1 2: AI2 3: AI3 4: AI4 D25 0: Default 1: AI1 2: AI2 3: AI3 4: AI4 2048-3071: Standard numerical codes	0		1			
Basic	Loop (input)	4	Assigned PV	0: Default 1: PV1 2: PV2 3: PV3 4: PV4 2048-3071: Standard numerical codes	0		1			
Basic	Loop (input)	4	Assigned AI	D15 0: Default 1: AI1 2: AI2 3: AI3 4: AI4 D25 0: Default 1: AI1 2: AI2 3: AI3 4: AI4 2048-3071: Standard numerical codes	0		1			

Basic/Loop

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Basic	Loop (basic)	1	Loop PV/SP decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	1		1			
Basic	Loop (basic)	1	Control action	0: Reverse action (heating) 1: Direct action (cooling) 2: Heat/Cool 4: Reverse action (ON/OFF) 5: Direct action (ON/OFF)	0		0			
Basic	Loop (basic)	1	Range low limit for proportional band	-19999 to 32000 U	0.0		1	Decimal point position = PID_PV		
Basic	Loop (basic)	1	Range high limit for proportional band	-19999 to 32000 U	1000.0		1	Decimal point position = PID_PV		
Basic	Loop (basic)	1	AT type	0: Normal (regular control characteristics) 1: Fast (response to disturbance) 2: Stable (minimal up/down PV fluctuation)	0		1			
Basic	Loop (basic)	1	Heat/cool dead zone	-100.0 to 100.0%	0.0	%	1			
Basic	Loop (basic)	1	Initial output of PID control	-10.0 to 110.0%	0.0	%	1			
Basic	Loop (basic)	2	Loop PV/SP decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	1		1			
Basic	Loop (basic)	2	Control action	0: Reverse action (heating) 1: Direct action (cooling) 2: Heat/Cool 4: Reverse action (ON/OFF) 5: Direct action (ON/OFF)	0		0			
Basic	Loop (basic)	2	Range low limit for proportional band	-19999 to 32000 U	0.0		1	Decimal point position = PID_PV		
Basic	Loop (basic)	2	Range high limit for proportional band	-19999 to 32000 U	1000.0		1	Decimal point position = PID_PV		
Basic	Loop (basic)	2	AT type	0: Normal (regular control characteristics) 1: Fast (response to disturbance) 2: Stable (minimal up/down PV fluctuation)	0		0			
Basic	Loop (basic)	2	Heat/cool dead zone	-100.0 to 100.0%	0.0	%	1			
Basic	Loop (basic)	2	Initial output of PID control	-10.0 to 110.0%	0.0	%	1			
Basic	Loop (basic)	3	Loop PV/SP decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	1		1			
Basic	Loop (basic)	3	Control action	0: Reverse action (heating) 1: Direct action (cooling) 2: Heat/Cool 4: Reverse action (ON/OFF) 5: Direct action (ON/OFF)	0		0			
Basic	Loop (basic)	3	Range low limit for proportional band	-19999 to 32000 U	0.0		1	Decimal point position = PID_PV		
Basic	Loop (basic)	3	Range high limit for proportional band	-19999 to 32000 U	1000.0		1	Decimal point position = PID_PV		
Basic	Loop (basic)	3	AT type	0: Normal (regular control characteristics) 1: Fast (response to disturbance) 2: Stable (minimal up/down PV fluctuation)	0		0			
Basic	Loop (basic)	3	Initial output of PID control	-10.0 to 110.0%	0.0	%	1			
Basic	Loop (basic)	4	Loop PV/SP decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	1		1			
Basic	Loop (basic)	4	Control action	0: Reverse action (heating) 1: Direct action (cooling) 2: Heat/Cool 4: Reverse action (ON/OFF) 5: Direct action (ON/OFF)	0		0			
Basic	Loop (basic)	4	Range low limit for proportional band	-19999 to 32000 U	0.0		1	Decimal point position = PID_PV		
Basic	Loop (basic)	4	Range high limit for proportional band	-19999 to 32000 U	1000.0		1	Decimal point position = PID_PV		

Basic/Loop

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Basic	Loop (basic)	4	AT type	0: Normal (regular control characteristics) 1: Fast (response to disturbance) 2: Stable (minimal up/down PV fluctuation)	0		0			
Basic	Loop (basic)	4	Initial output of PID control	-10.0 to 110.0%	0.0	%	1			
Basic	Loop (extended)	1	PID control initialization	0: Automatic 1: No initialization 2: With initialization (when an SP differing from the current one is input)	0		0			
Basic	Loop (extended)	1	Integral time/derivative time decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point	0		1			
Basic	Loop (extended)	1	Output operation at changing Auto/Manual	0: Bumpless 1: Preset	0		0			
Basic	Loop (extended)	1	Preset MANUAL value	-10.0 to 110.0%	0.0	%	0			
Basic	Loop (extended)	1	MV increase change limit	0.00: No limit 0.01 to 320.00: %/s	0.00	%/s	0		×	
Basic	Loop (extended)	1	MV decrease change limit	0.00: No limit 0.01 to 320.00: %/s	0.00	%/s	0		×	
Basic	Loop (extended)	1	MV low limit during AT	-10.0 to 110.0%	0.0	%	1			
Basic	Loop (extended)	1	MV high limit during AT	-10.0 to 110.0%	100.0	%	1			
Basic	Loop (extended)	2	PID control initialization	0: Automatic 1: No initialization 2: With initialization (when an SP differing from the current one is input)	0		0			
Basic	Loop (extended)	2	Integral time/derivative time decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point	0		1			
Basic	Loop (extended)	2	Output operation at changing Auto/Manual	0: Bumpless 1: Preset	0		0			
Basic	Loop (extended)	2	Preset MANUAL value	-10.0 to 110.0%	0.0	%	0			
Basic	Loop (extended)	2	MV increase change limit	0.00: No limit 0.01 to 320.00: %/s	0.00	%/s	0		×	
Basic	Loop (extended)	2	MV decrease change limit	0.00: No limit 0.01 to 320.00: %/s	0.00	%/s	0		×	
Basic	Loop (extended)	2	MV low limit during AT	-10.0 to 110.0%	0.0	%	1			
Basic	Loop (extended)	2	MV high limit during AT	-10.0 to 110.0%	100.0	%	1			
Basic	Loop (extended)	3	PID control initialization	0: Automatic 1: No initialization 2: With initialization (when an SP differing from the current one is input)	0		0			
Basic	Loop (extended)	3	Integral time/derivative time decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point	0		1			
Basic	Loop (extended)	3	Output operation at changing Auto/Manual	0: Bumpless 1: Preset	0		0			
Basic	Loop (extended)	3	Preset MANUAL value	-10.0 to 110.0%	0.0	%	0			
Basic	Loop (extended)	3	MV increase change limit	0.00: No limit 0.01 to 320.00: %/s	0.00	%/s	0		×	
Basic	Loop (extended)	3	MV decrease change limit	0.00: No limit 0.01 to 320.00: %/s	0.00	%/s	0		×	
Basic	Loop (extended)	3	MV low limit during AT	-10.0 to 110.0%	0.0	%	1			
Basic	Loop (extended)	3	MV high limit during AT	-10.0 to 110.0%	100.0	%	1			
Basic	Loop (extended)	4	PID control initialization	0: Automatic 1: No initialization 2: With initialization (when an SP differing from the current one is input)	0		0			
Basic	Loop (extended)	4	Integral time/derivative time decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point	0		1			
Basic	Loop (extended)	4	Output operation at changing Auto/Manual	0: Bumpless 1: Preset	0		0			
Basic	Loop (extended)	4	Preset MANUAL value	-10.0 to 110.0%	0.0	%	0			
Basic	Loop (extended)	4	MV increase change limit	0.00: No limit 0.01 to 320.00: %/s	0.00	%/s	0		×	
Basic	Loop (extended)	4	MV decrease change limit	0.00: No limit 0.01 to 320.00: %/s	0.00	%/s	0		×	
Basic	Loop (extended)	4	MV low limit during AT	-10.0 to 110.0%	0.0	%	1			
Basic	Loop (extended)	4	MV high limit during AT	-10.0 to 110.0%	100.0	%	1			

Basic/Loop

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Basic	Loop (algorithm)	1	AT adjustment factor, proportional band	0.00 to 320.00	1.00		1			
Basic	Loop (algorithm)	1	AT adjustment factor, integral time	0.00 to 320.00	1.00		1			
Basic	Loop (algorithm)	1	AT adjustment factor, derivative time	0.00 to 320.00	1.00		1			
Basic	Loop (algorithm)	1	Just-FiTTER settling band	0.00 to 10.00	0.30		2			
Basic	Loop (algorithm)	1	Just-FiTTER overshoot suppression factor	0 to 99	0		2			
Basic	Loop (algorithm)	1	SP lag factor	0.0 to 3200.0	0.0		1			
Basic	Loop (algorithm)	2	AT adjustment factor, proportional band	0.00 to 320.00	1.00		1			
Basic	Loop (algorithm)	2	AT adjustment factor, integral time	0.00 to 320.00	1.00		1			
Basic	Loop (algorithm)	2	AT adjustment factor, derivative time	0.00 to 320.00	1.00		1			
Basic	Loop (algorithm)	2	Just-FiTTER settling band	0.00 to 10.00	0.30		2			
Basic	Loop (algorithm)	2	Just-FiTTER overshoot suppression factor	0 to 99	0		2			
Basic	Loop (algorithm)	2	SP lag factor	0.0 to 3200.0	0.0		1			
Basic	Loop (algorithm)	3	AT adjustment factor, proportional band	0.00 to 320.00	1.00		1			
Basic	Loop (algorithm)	3	AT adjustment factor, integral time	0.00 to 320.00	1.00		1			
Basic	Loop (algorithm)	3	AT adjustment factor, derivative time	0.00 to 320.00	1.00		1			
Basic	Loop (algorithm)	3	Just-FiTTER settling band	0.00 to 10.00	0.30		2			
Basic	Loop (algorithm)	3	Just-FiTTER overshoot suppression factor	0 to 99	0		2			
Basic	Loop (algorithm)	3	SP lag factor	0.0 to 3200.0	0.0		1			
Basic	Loop (algorithm)	4	AT adjustment factor, proportional band	0.00 to 320.00	1.00		1			
Basic	Loop (algorithm)	4	AT adjustment factor, integral time	0.00 to 320.00	1.00		1			
Basic	Loop (algorithm)	4	AT adjustment factor, derivative time	0.00 to 320.00	1.00		1			
Basic	Loop (algorithm)	4	Just-FiTTER settling band	0.00 to 10.00	0.30		2			
Basic	Loop (algorithm)	4	Just-FiTTER overshoot suppression factor	0 to 99	0		2			
Basic	Loop (algorithm)	4	SP lag factor	0.0 to 3200.0	0.0		1			

Basic/Loop Output

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Basic	Loop output (MV)	1	Output at READY	-10.0 to 110.0%	0.0	%	0			
Basic	Loop output (MV)	1	Output at READY (Heat)	-10.0 to 110.0%	0.0	%	1			
Basic	Loop output (MV)	1	Output at READY (Cool)	-10.0 to 110.0%	0.0	%	1			
Basic	Loop output (MV)	1	Selection of MV if PV is abnormal	0: Continue control operation 1: Output MV if PV is abnormal	0		0			
Basic	Loop output (MV)	1	Output at PV error	-10.0 to 110.0%	0.0	%	0			
Basic	Loop output (MV)	2	Output at READY	-10.0 to 110.0%	0.0	%	0			
Basic	Loop output (MV)	2	Output at READY (Heat)	-10.0 to 110.0%	0.0	%	1			
Basic	Loop output (MV)	2	Output at READY (Cool)	-10.0 to 110.0%	0.0	%	1			
Basic	Loop output (MV)	2	Selection of MV if PV is abnormal	0: Continue control operation 1: Output MV if PV is abnormal	0		0			
Basic	Loop output (MV)	2	Output at PV error	-10.0 to 110.0%	0.0	%	0			
Basic	Loop output (MV)	3	Output at READY	-10.0 to 110.0%	0.0	%	0			
Basic	Loop output (MV)	3	Output at READY (Heat)	-10.0 to 110.0%	0.0	%	1			
Basic	Loop output (MV)	3	Selection of MV if PV is abnormal	0: Continue control operation 1: Output MV if PV is abnormal	0		0			
Basic	Loop output (MV)	3	Output at PV error	-10.0 to 110.0%	0.0	%	0			
Basic	Loop output (MV)	4	Output at READY	-10.0 to 110.0%	0.0	%	0			
Basic	Loop output (MV)	4	Output at READY (Heat)	-10.0 to 110.0%	0.0	%	1			
Basic	Loop output (MV)	4	Selection of MV if PV is abnormal	0: Continue control operation 1: Output MV if PV is abnormal	0		0			
Basic	Loop output (MV)	4	Output at PV error	-10.0 to 110.0%	0.0	%	0			

Input-output/PV Input

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Input-output	PV input	1	Range type	* See the range table	88		0			
Input-output	PV input	1	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	1		0			
Input-output	PV input	1	Temperature unit	0: Celsius (°C) 1: Fahrenheit (°F) 2: Kelvin (K)	0		0			
Input-output	PV input	1	Alarm setting low limit	-19999 to 32000 U	-1999.9		1	Decimal point position = PV		
Input-output	PV input	1	Alarm setting high limit	-19999 to 32000 U	3200.0		1	Decimal point position = PV		
Input-output	PV input	1	Cold junction compensation	0: Use internal compensation 1: Do not use internal compensation	0		1			
Input-output	PV input	1	Linear scaling low limit	-19999 to 32000 U	0.0		0	Decimal point position = PV		
Input-output	PV input	1	Linear scaling high limit	-19999 to 32000 U	1000.0		0	Decimal point position = PV		
Input-output	PV input	1	Square root extraction dropout	0.0 to 10.0%	0.0	%	1			
Input-output	PV input	1	Filter	0.00 to 120.00 s	0.0	s	0			
Input-output	PV input	1	Bias	-19999 to 32000 U	0.0		0	Decimal point position = PV		
Input-output	PV input	1	Ratio	0.001 to 32.000	1.000		0			
Input-output	PV input	2	Range type	* See the range table	88		0			
Input-output	PV input	2	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	1		0			
Input-output	PV input	2	Temperature unit	0: Celsius (°C) 1: Fahrenheit (°F) 2: Kelvin (K)	0		0			
Input-output	PV input	2	Alarm setting low limit	-19999 to 32000 U	-1999.9		1	Decimal point position = PV		
Input-output	PV input	2	Alarm setting high limit	-19999 to 32000 U	3200.0		1	Decimal point position = PV		
Input-output	PV input	2	Cold junction compensation	0: Use internal compensation 1: Do not use internal compensation	0		1			
Input-output	PV input	2	Linear scaling low limit	-19999 to 32000 U	0.0		0	Decimal point position = PV		
Input-output	PV input	2	Linear scaling high limit	-19999 to 32000 U	1000.0		0	Decimal point position = PV		
Input-output	PV input	2	Square root extraction dropout	0.0 to 10.0%	0.0	%	1			
Input-output	PV input	2	Filter	0.00 to 120.00 s	0.0	s	0			
Input-output	PV input	2	Bias	-19999 to 32000 U	0.0		0	Decimal point position = PV		
Input-output	PV input	2	Ratio	0.001 to 32.000	1.000		0			
Input-output	PV input	3	Range type	* See the range table	88		0			
Input-output	PV input	3	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	1		0			
Input-output	PV input	3	Temperature unit	0: Celsius (°C) 1: Fahrenheit (°F) 2: Kelvin (K)	0		0			
Input-output	PV input	3	Alarm setting low limit	-19999 to 32000 U	-1999.9		1	Decimal point position = PV		
Input-output	PV input	3	Alarm setting high limit	-19999 to 32000 U	3200.0		1	Decimal point position = PV		
Input-output	PV input	3	Cold junction compensation	0: Use internal compensation 1: Do not use internal compensation	0		1			
Input-output	PV input	3	Linear scaling low limit	-19999 to 32000 U	0.0		0	Decimal point position = PV		
Input-output	PV input	3	Linear scaling high limit	-19999 to 32000 U	1000.0		0	Decimal point position = PV		
Input-output	PV input	3	Square root extraction dropout	0.0 to 10.0%	0.0	%	1			
Input-output	PV input	3	Filter	0.00 to 120.00 s	0.0	s	0			
Input-output	PV input	3	Bias	-19999 to 32000 U	0.0		0	Decimal point position = PV		
Input-output	PV input	3	Ratio	0.001 to 32.000	1.000		0			

Input-output/PV Input

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Input-output	PV input	4	Range type	* See the range table	88		0			
Input-output	PV input	4	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	1		0			
Input-output	PV input	4	Temperature unit	0: Celsius (°C) 1: Fahrenheit (°F) 2: Kelvin (K)	0		0			
Input-output	PV input	4	Alarm setting low limit	-19999 to 32000 U	-1999.9		1	Decimal point position = PV		
Input-output	PV input	4	Alarm setting high limit	-19999 to 32000 U	3200.0		1	Decimal point position = PV		
Input-output	PV input	4	Cold junction compensation	0: Use internal compensation 1: Do not use internal compensation	0		1			
Input-output	PV input	4	Linear scaling low limit	-19999 to 32000 U	0.0		0	Decimal point position = PV		
Input-output	PV input	4	Linear scaling high limit	-19999 to 32000 U	1000.0		0	Decimal point position = PV		
Input-output	PV input	4	Square root extraction dropout	0.0 to 10.0%	0.0	%	1			
Input-output	PV input	4	Filter	0.00 to 120.00 s	0.0	s	0			
Input-output	PV input	4	Bias	-19999 to 32000 U	0.0		0	Decimal point position = PV		
Input-output	PV input	4	Ratio	0.001 to 32.000	1.000		0			

Input-output/Continuous Output

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Input-output	Continuous output	1	Output range	Analog current output 0: 4 to 20 mA 1: 0 to 20 mA Analog voltage output 0: 1 to 5 V 1: 0 to 5 V 2: 0 to 10 V 3: 2 to 10 V	0		0			
Input-output	Continuous output	1	Output type	0: 0 % (fixed) 1: MV 2: Heat MV (for heat/cool control) 3: Cool MV (for heat/cool control) 4: PV (loop) 5: SP 6: Deviation (PV - SP) 7: PV (input channel) 2048-3071: Standard numerical codes	1		0			
Input-output	Continuous output	1	Loop/channel definition	0: Invalid 1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 5: Channel 5 6: Channel 6 7: Channel 7 8: Channel 8	1		0			
Input-output	Continuous output	1	Output decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	1		0			
Input-output	Continuous output	1	Output scaling low limit	-19999 to 32000 U	0.0		0	Decimal point position = OUT		
Input-output	Continuous output	1	Output scaling high limit	-19999 to 32000 U	100.0		0	Decimal point position = OUT		
Input-output	Continuous output	2	Output range	Analog current output 0: 4 to 20 mA 1: 0 to 20 mA Analog voltage output 0: 0 to 5 V 1: 0 to 5 V 2: 0 to 10 V 3: 2 to 10 V	0		0			
Input-output	Continuous output	2	Output type	0: 0 % (fixed) 1: MV 2: Heat MV (for heat/cool control) 3: Cool MV (for heat/cool control) 4: PV (loop) 5: SP 6: Deviation (PV - SP) 7: PV (input channel) 2048-3071: Standard numerical codes	1		0			
Input-output	Continuous output	2	Loop/channel definition	0: Invalid 1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 5: Channel 5 6: Channel 6 7: Channel 7 8: Channel 8	2		0			
Input-output	Continuous output	2	Output decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	1		0			
Input-output	Continuous output	2	Output scaling low limit	-19999 to 32000 U	0.0		0	Decimal point position = OUT		
Input-output	Continuous output	2	Output scaling high limit	-19999 to 32000 U	100.0		0	Decimal point position = OUT		

Input-output/Continuous Output

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Input-output	Continuous output	3	Output range	Analog current output 0: 4 to 20 mA 1: 0 to 20 mA Analog voltage output 0: 1 to 5 V 1: 0 to 5 V 2: 0 to 10 V 3: 2 to 10 V	0		0			
Input-output	Continuous output	3	Output type	0: 0 % (fixed) 1: MV 2: Heat MV (for heat/cool control) 3: Cool MV (for heat/cool control) 4: PV (loop) 5: SP 6: Deviation (PV - SP) 7: PV (input channel) 2048-3071: Standard numerical codes	1		0			
Input-output	Continuous output	3	Loop/channel definition	0: Invalid 1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 5: Channel 5 6: Channel 6 7: Channel 7 8: Channel 8	3		0			
Input-output	Continuous output	3	Output decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	1		0			
Input-output	Continuous output	3	Output scaling low limit	-19999 to 32000 U	0.0		0	Decimal point position = OUT		
Input-output	Continuous output	3	Output scaling high limit	-19999 to 32000 U	100.0		0	Decimal point position = OUT		
Input-output	Continuous output	4	Output range	Analog current output 0: 4 to 20 mA 1: 0 to 20 mA Analog voltage output 0: 1 to 5 V 1: 0 to 5 V 2: 0 to 10 V 3: 2 to 10 V	0		0			
Input-output	Continuous output	4	Output type	0: 0 % (fixed) 1: MV 2: Heat MV (for heat/cool control) 3: Cool MV (for heat/cool control) 4: PV (loop) 5: SP 6: Deviation (PV - SP) 7: PV (input channel) 2048-3071: Standard numerical codes	1		0			
Input-output	Continuous output	4	Loop/channel definition	0: Invalid 1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 5: Channel 5 6: Channel 6 7: Channel 7 8: Channel 8	4		0			
Input-output	Continuous output	4	Output decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	1		0			
Input-output	Continuous output	4	Output scaling low limit	-19999 to 32000 U	0.0		0	Decimal point position = OUT		
Input-output	Continuous output	4	Output scaling high limit	-19999 to 32000 U	100.0		0	Decimal point position = OUT		

Input-output / OUT/DO Output

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Input-output	OUT/DO output	1	Output type	0: OFF 1: Loop 1 MV 2: Loop 1 heat MV (for heat/cool control) 3: Loop 1 cool MV (for heat/cool control) 4: Loop 2 MV 5: Loop 2 heat MV (for heat/cool control) 6: Loop 2 cool MV (for heat/cool control) 7: Loop 3 MV 10: Loop 4 MV 1024 to 2047: Standard bit	1		0			
Input-output	OUT/DO output	1	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Input-output	OUT/DO output	1	Time proportional operation type	0: Control oriented 1: Actuator-life oriented	0		0			
Input-output	OUT/DO output	1	Min. ON/OFF time	0 to 300 ms	10	ms	0			
Input-output	OUT/DO output	1	Time proportional cycle	0.1 to 120.0 s	2.0	s	0			
Input-output	OUT/DO output	1	Phase shift	0 to 32000 ms	0	ms	0			
Input-output	OUT/DO output	2	Output type	0: OFF 1: Loop 1 MV 2: Loop 1 heat MV (for heat/cool control) 3: Loop 1 cool MV (for heat/cool control) 4: Loop 2 MV 5: Loop 2 heat MV (for heat/cool control) 6: Loop 2 cool MV (for heat/cool control) 7: Loop 3 MV 10: Loop 4 MV 1024 to 2047: Standard bit	4		0			
Input-output	OUT/DO output	2	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Input-output	OUT/DO output	2	Time proportional operation type	0: Control oriented 1: Actuator-life oriented	0		0			
Input-output	OUT/DO output	2	Min. ON/OFF time	0 to 300 ms	10	ms	0			
Input-output	OUT/DO output	2	Time proportional cycle	0.1 to 120.0 s	2.0	s	0			
Input-output	OUT/DO output	2	Phase shift	0 to 32000 ms	0	ms	2			
Input-output	OUT/DO output	3	Output type	0: OFF 1: Loop 1 MV 2: Loop 1 heat MV (for heat/cool control) 3: Loop 1 cool MV (for heat/cool control) 4: Loop 2 MV 5: Loop 2 heat MV (for heat/cool control) 6: Loop 2 cool MV (for heat/cool control) 7: Loop 3 MV 10: Loop 4 MV 1024 to 2047: Standard bit	7		0			
Input-output	OUT/DO output	3	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Input-output	OUT/DO output	3	Time proportional operation type	0: Control oriented 1: Actuator-life oriented	0		0			
Input-output	OUT/DO output	3	Min. ON/OFF time	0 to 300 ms	10	ms	0			
Input-output	OUT/DO output	3	Time proportional cycle	0.1 to 120.0 s	2.0	s	0			
Input-output	OUT/DO output	3	Phase shift	0 to 32000 ms	0	ms	2			
Input-output	OUT/DO output	4	Output type	0: OFF 1: Loop 1 MV 2: Loop 1 heat MV (for heat/cool control) 3: Loop 1 cool MV (for heat/cool control) 4: Loop 2 MV 5: Loop 2 heat MV (for heat/cool control) 6: Loop 2 cool MV (for heat/cool control) 7: Loop 3 MV 10: Loop 4 MV 1024 to 2047: Standard bit	10		0			
Input-output	OUT/DO output	4	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Input-output	OUT/DO output	4	Time proportional operation type	0: Control oriented 1: Actuator-life oriented	0		0			
Input-output	OUT/DO output	4	Min. ON/OFF time	0 to 300 ms	10	ms	0			
Input-output	OUT/DO output	4	Time proportional cycle	0.1 to 120.0 s	2.0	s	0			
Input-output	OUT/DO output	4	Phase shift	0 to 32000 ms	0	ms	2			

Input-output / OUT/DO Output

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Input-output	OUT/DO output	5	Output type	0: OFF 1: Loop 1 MV 2: Loop 1 heat MV (for heat/cool control) 3: Loop 1 cool MV (for heat/cool control) 4: Loop 2 MV 5: Loop 2 heat MV (for heat/cool control) 6: Loop 2 cool MV (for heat/cool control) 7: Loop 3 MV 10: Loop 4 MV 1024 to 2047: Standard bit	1088		0			
Input-output	OUT/DO output	5	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Input-output	OUT/DO output	5	Time proportional operation type	0: Control oriented 1: Actuator-life oriented	0		0			
Input-output	OUT/DO output	5	Min. ON/OFF time	0 to 300 ms	10	ms	0			
Input-output	OUT/DO output	5	Time proportional cycle	0.1 to 120.0 s	2.0	s	0			
Input-output	OUT/DO output	5	Phase shift	0 to 32000 ms	0	ms	2			
Input-output	OUT/DO output	6	Output type	0: OFF 1: Loop 1 MV 2: Loop 1 heat MV (for heat/cool control) 3: Loop 1 cool MV (for heat/cool control) 4: Loop 2 MV 5: Loop 2 heat MV (for heat/cool control) 6: Loop 2 cool MV (for heat/cool control) 7: Loop 3 MV 10: Loop 4 MV 1024 to 2047: Standard bit	1089		0			
Input-output	OUT/DO output	6	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Input-output	OUT/DO output	6	Time proportional operation type	0: Control oriented 1: Actuator-life oriented	0		0			
Input-output	OUT/DO output	6	Min. ON/OFF time	0 to 300 ms	10	ms	0			
Input-output	OUT/DO output	6	Time proportional cycle	0.1 to 120.0 s	2.0	s	0			
Input-output	OUT/DO output	6	Phase shift	0 to 32000 ms	0	ms	2			
Input-output	OUT/DO output	7	Output type	0: OFF 1: Loop 1 MV 2: Loop 1 heat MV (for heat/cool control) 3: Loop 1 cool MV (for heat/cool control) 4: Loop 2 MV 5: Loop 2 heat MV (for heat/cool control) 6: Loop 2 cool MV (for heat/cool control) 7: Loop 3 MV 10: Loop 4 MV 1024 to 2047: Standard bit	1090		0			
Input-output	OUT/DO output	7	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Input-output	OUT/DO output	7	Time proportional operation type	0: Control oriented 1: Actuator-life oriented	0		0			
Input-output	OUT/DO output	7	Min. ON/OFF time	0 to 300 ms	10	ms	0			
Input-output	OUT/DO output	7	Time proportional cycle	0.1 to 120.0 s	2.0	s	0			
Input-output	OUT/DO output	7	Phase shift	0 to 32000 ms	0	ms	2			
Input-output	OUT/DO output	8	Output type	0: OFF 1: Loop 1 MV 2: Loop 1 heat MV (for heat/cool control) 3: Loop 1 cool MV (for heat/cool control) 4: Loop 2 MV 5: Loop 2 heat MV (for heat/cool control) 6: Loop 2 cool MV (for heat/cool control) 7: Loop 3 MV 10: Loop 4 MV 1024 to 2047: Standard bit	1091		0			
Input-output	OUT/DO output	8	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Input-output	OUT/DO output	8	Time proportional operation type	0: Control oriented 1: Actuator-life oriented	0		0			
Input-output	OUT/DO output	8	Min. ON/OFF time	0 to 300 ms	10	ms	0			
Input-output	OUT/DO output	8	Time proportional cycle	0.1 to 120.0 s	2.0	s	0			
Input-output	OUT/DO output	8	Phase shift	0 to 32000 ms	0	ms	2			

Input-output/CT Input

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Input-output	CT input	1	CT operation	0: Continuous current measurement (clamp meter mode) 1: Detection of heater line break for terminal OUT1 2: Detection of heater line break for terminal OUT2 3: Detection of heater line break for terminal OUT3 4: Detection of heater line break for terminal OUT4	0		0			
Input-output	CT input	1	Waiting time for CT measurement	30 to 300 ms	30	ms	0			
Input-output	CT input	1	Number of CT turns	100 to 4000	800		1			
Input-output	CT input	1	Number of CT power line passes	1 to 6	1		1			
Input-output	CT input	1	Heater burnout detection current value	0.0 to 350.0 A	0.0	A	1			
Input-output	CT input	1	Minimum current defined as overcurrent	0.0 to 350.0 A	0.0	A	1			
Input-output	CT input	1	Minimum current defined as short circuit	0.0 to 350.0 A	0.0	A	1			
Input-output	CT input	1	Hysteresis	0.0 to 350.0 A	5.0	A	1			
Input-output	CT input	1	Delay time	0 to 3200.0 s	0.0	s	1			
Input-output	CT input	1	Condition for restoring status before measurement	1024 to 2047: Standard bit	1024		1			
Input-output	CT input	2	CT operation	0: Continuous current measurement (clamp meter mode) 1: Detection of heater line break for terminal OUT1 2: Detection of heater line break for terminal OUT2 3: Detection of heater line break for terminal OUT3 4: Detection of heater line break for terminal OUT4	0		0			
Input-output	CT input	2	Waiting time for CT measurement	30 to 300 ms	30	ms	0			
Input-output	CT input	2	Number of CT turns	100 to 4000	800		1			
Input-output	CT input	2	Number of CT power line passes	1 to 6	1		1			
Input-output	CT input	2	Heater burnout detection current value	0.0 to 350.0 A	0.0	A	1			
Input-output	CT input	2	Minimum current defined as overcurrent	0.0 to 350.0 A	0.0	A	1			
Input-output	CT input	2	Minimum current defined as short circuit	0.0 to 350.0 A	0.0	A	1			
Input-output	CT input	2	Hysteresis	0.0 to 350.0 A	5.0	A	1			
Input-output	CT input	2	Delay time	0 to 3200.0 s	0.0	s	1			
Input-output	CT input	2	Condition for restoring status before measurement	1024 to 2047: Standard bit	1024		1			
Input-output	CT input	3	CT operation	0: Continuous current measurement (clamp meter mode) 1: Detection of heater line break for terminal OUT1 2: Detection of heater line break for terminal OUT2 3: Detection of heater line break for terminal OUT3 4: Detection of heater line break for terminal OUT4	0		0			
Input-output	CT input	3	Waiting time for CT measurement	30 to 300 ms	30	ms	0			
Input-output	CT input	3	Number of CT turns	100 to 4000	800		1			
Input-output	CT input	3	Number of CT power line passes	1 to 6	1		1			
Input-output	CT input	3	Heater burnout detection current value	0.0 to 350.0 A	0.0	A	1			
Input-output	CT input	3	Minimum current defined as overcurrent	0.0 to 350.0 A	0.0	A	1			
Input-output	CT input	3	Minimum current defined as short circuit	0.0 to 350.0 A	0.0	A	1			
Input-output	CT input	3	Hysteresis	0.0 to 350.0 A	5.0	A	1			
Input-output	CT input	3	Delay time	0 to 3200.0 s	0.0	s	1			
Input-output	CT input	3	Condition for restoring status before measurement	1024 to 2047: Standard bit	1024		1			

Input-output/CT Input

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Input-output	CT input	4	CT operation	0: Continuous current measurement (clamp meter mode) 1: Detection of heater line break for terminal OUT1 2: Detection of heater line break for terminal OUT2 3: Detection of heater line break for terminal OUT3 4: Detection of heater line break for terminal OUT4	0		0			
Input-output	CT input	4	Waiting time for CT measurement	30 to 300 ms	30	ms	0			
Input-output	CT input	4	Number of CT turns	100 to 4000	800		1			
Input-output	CT input	4	Number of CT power line passes	1 to 6	1		1			
Input-output	CT input	4	Heater burnout detection current value	0.0 to 350.0 A	0.0	A	1			
Input-output	CT input	4	Minimum current defined as overcurrent	0.0 to 350.0 A	0.0	A	1			
Input-output	CT input	4	Minimum current defined as short circuit	0.0 to 350.0 A	0.0	A	1			
Input-output	CT input	4	Hysteresis	0.0 to 350.0 A	5.0	A	1			
Input-output	CT input	4	Delay time	0 to 3200.0 s	0.0	s	1			
Input-output	CT input	4	Condition for restoring status before measurement	1024 to 2047: Standard bit	1024		1			

SP/SP Group Selection

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
SP	SP group selection	1	SP group selection	1 to SP system group (4 max.)	1		0			
SP	SP group selection	2	SP group selection	1 to SP system group (4 max.)	1		0			
SP	SP group selection	3	SP group selection	1 to SP system group (4 max.)	1		0			
SP	SP group selection	4	SP group selection	1 to SP system group (4 max.)	1		0			

SP/LSP

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
SP	LSP	1	LSP1	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	1	PID group definition 1 (for LSP)	1 to 4	1		0			
SP	LSP	1	LSP2	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	1	PID group definition 2 (for LSP)	1 to 4	1		0			
SP	LSP	1	LSP3	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	1	PID group definition 3 (for LSP)	1 to 4	1		0			
SP	LSP	1	LSP4	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	1	PID group definition 4 (for LSP)	1 to 4	1		0			
SP	LSP	2	LSP1	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	2	PID group definition 1 (for LSP)	1 to 4	1		0			
SP	LSP	2	LSP2	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	2	PID group definition 2 (for LSP)	1 to 4	1		0			
SP	LSP	2	LSP3	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	2	PID group definition 3 (for LSP)	1 to 4	1		0			
SP	LSP	2	LSP4	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	2	PID group definition 4 (for LSP)	1 to 4	1		0			
SP	LSP	3	LSP1	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	3	PID group definition 1 (for LSP)	1 to 4	1		0			
SP	LSP	3	LSP2	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	3	PID group definition 2 (for LSP)	1 to 4	1		0			
SP	LSP	3	LSP3	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	3	PID group definition 3 (for LSP)	1 to 4	1		0			
SP	LSP	3	LSP4	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	3	PID group definition 4 (for LSP)	1 to 4	1		0			
SP	LSP	4	LSP1	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	4	PID group definition 1 (for LSP)	1 to 4	1		0			
SP	LSP	4	LSP2	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	4	PID group definition 2 (for LSP)	1 to 4	1		0			
SP	LSP	4	LSP3	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	4	PID group definition 3 (for LSP)	1 to 4	1		0			
SP	LSP	4	LSP4	SP low limit to SP high limit U	0.0		0	Decimal point position = PID_PV		
SP	LSP	4	PID group definition 4 (for LSP)	1 to 4	1		0			

SP/RSP

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
SP	RSP	1	RSP		–		1	Decimal point position = PID_PV		
SP	RSP	1	PID group definition (for RSP)	1 to 4	1		1			
SP	RSP	2	RSP		–		1	Decimal point position = PID_PV		
SP	RSP	2	PID group definition (for RSP)	1 to 4	1		1			

SP/SP Configuration

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
SP	SP configuration	1	SP low limit	-19999 to 32000 U	-1999.9		0	Decimal point position = PID_PV		
SP	SP configuration	1	SP high limit	-19999 to 32000 U	3200.0		0	Decimal point position = PID_PV		
SP	SP configuration	2	SP low limit	-19999 to 32000 U	-1999.9		0	Decimal point position = PID_PV		
SP	SP configuration	2	SP high limit	-19999 to 32000 U	3200.0		0	Decimal point position = PID_PV		
SP	SP configuration	3	SP low limit	-19999 to 32000 U	-1999.9		0	Decimal point position = PID_PV		
SP	SP configuration	3	SP high limit	-19999 to 32000 U	3200.0		0	Decimal point position = PID_PV		
SP	SP configuration	4	SP low limit	-19999 to 32000 U	-1999.9		0	Decimal point position = PID_PV		
SP	SP configuration	4	SP high limit	-19999 to 32000 U	3200.0		0	Decimal point position = PID_PV		
SP	SP configuration	1	SP ramp unit	0 = No decimal point/s, 1 = No decimal point/min, 2 = No decimal point/h, 3 = 0.1/s, 4 = 0.1/min, 5 = 0.1/h, 6 = 0.01/s, 7 = 0.01/min, 8 = 0.01/h, 9 = 0.001/s, 10 = 0.001/min, 11 = 0.001/h	0		1			
SP	SP configuration	1	SP ramp-up for LSP	0 U (No ramp) 1 to 32000 U	0		1	Decimal point position = RAMP		
SP	SP configuration	1	SP ramp-down for LSP	0 U (No ramp) 1 to 32000 U	0		1	Decimal point position = RAMP		
SP	SP configuration	1	SP ramp-up for RSP	0 U (No ramp) 1 to 32000 U	0		1	Decimal point position = RAMP		
SP	SP configuration	1	SP ramp-down for RSP	0 U (No ramp) 1 to 32000 U	0		1	Decimal point position = RAMP		
SP	SP configuration	1	PV start for LSP	0: Allow PV start 1: Prevent PV start	0		1			
SP	SP configuration	1	PV start for RSP	0: Allow PV start 1: Prevent PV start	0		1			
SP	SP configuration	2	SP ramp unit	0 = No decimal point/s, 1 = No decimal point/min, 2 = No decimal point/h, 3 = 0.1/s, 4 = 0.1/min, 5 = 0.1/h, 6 = 0.01/s, 7 = 0.01/min, 8 = 0.01/h, 9 = 0.001/s, 10 = 0.001/min, 11 = 0.001/h	0		1			
SP	SP configuration	2	SP ramp-up for LSP	0 U (No ramp) 1 to 32000 U	0		1	Decimal point position = RAMP		
SP	SP configuration	2	SP ramp-down for LSP	0 U (No ramp) 1 to 32000 U	0		1	Decimal point position = RAMP		
SP	SP configuration	2	SP ramp-up for RSP	0 U (No ramp) 1 to 32000 U	0		1	Decimal point position = RAMP		
SP	SP configuration	2	SP ramp-down for RSP	0 U (No ramp) 1 to 32000 U	0		1	Decimal point position = RAMP		
SP	SP configuration	2	PV start for LSP	0: Allow PV start 1: Prevent PV start	0		1			
SP	SP configuration	2	PV start for RSP	0: Allow PV start 1: Prevent PV start	0		1			
SP	SP configuration	3	SP ramp unit	0 = No decimal point/s, 1 = No decimal point/min, 2 = No decimal point/h, 3 = 0.1/s, 4 = 0.1/min, 5 = 0.1/h, 6 = 0.01/s, 7 = 0.01/min, 8 = 0.01/h, 9 = 0.001/s, 10 = 0.001/min, 11 = 0.001/h	0		1			
SP	SP configuration	3	SP ramp-up for LSP	0 U (No ramp) 1 to 32000 U	0		1	Decimal point position = RAMP		
SP	SP configuration	3	SP ramp-down for LSP	0 U (No ramp) 1 to 32000 U	0		1	Decimal point position = RAMP		
SP	SP configuration	3	PV start for LSP	0: Allow PV start 1: Prevent PV start	0		1			
SP	SP configuration	4	SP ramp unit	0 = No decimal point/s, 1 = No decimal point/min, 2 = No decimal point/h, 3 = 0.1/s, 4 = 0.1/min, 5 = 0.1/h, 6 = 0.01/s, 7 = 0.01/min, 8 = 0.01/h, 9 = 0.001/s, 10 = 0.001/min, 11 = 0.001/h	0		1			
SP	SP configuration	4	SP ramp-up for LSP	0 U (No ramp) 1 to 32000 U	0		1	Decimal point position = RAMP		
SP	SP configuration	4	SP ramp-down for LSP	0 U (No ramp) 1 to 32000 U	0		1	Decimal point position = RAMP		
SP	SP configuration	4	PV start for LSP	0: Allow PV start 1: Prevent PV start	0		1			

Event/Event Settings

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Event	Operating point	1	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	1	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	2	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	2	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	3	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	3	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	4	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	4	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	5	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	5	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	6	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	6	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	7	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	7	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	8	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	8	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	9	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	9	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	10	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	10	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	11	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	11	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	12	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	12	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	13	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	13	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	14	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	14	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	15	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	15	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	16	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	16	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	17	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	17	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	18	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	18	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	19	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	19	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	20	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	20	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	21	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	21	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	22	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	22	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	23	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	23	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	24	Event main setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		
Event	Operating point	24	Event sub-setting	-19999 to 32000 U	0.0		0	Decimal point position = EV		

Event/Event Configuration

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Event	Event config.	1	Operation type	0: No event 1: PV high limit 2: PV low limit 3: PV high and low limits 4: Deviation high limit 5: Deviation low limit 6: Deviation high and low limits 7: Deviation high limit (final SP basis) 8: Deviation low limit (final SP basis) 9: Deviation high and low limits (final SP basis) 10: SP high limit 11: SP low limit 12: SP high and low limits 13: MV high limit 14: MV low limit 15: MV high and low limits 18: AI high limit 19: AI low limit 20: AI high and low limits 26: Upper limit for standard numerical codes 27: Lower limit for standard numerical codes 28: Upper and lower limits for standard numerical codes 29: PV change rate 31: High limit of deviation between channels (specified by PV1) 32: High limit of deviation between channels (specified by PV2) 33: High limit of deviation between channels (specified by PV3) 34: High limit of deviation between channels (specified by PV4) 35: Low limit of deviation between channels (specified by PV1) 36: Low limit of deviation between channels (specified by PV2) 37: Low limit of deviation between channels (specified by PV3) 38: Low limit of deviation between channels (specified by PV4) 39: High and low limits of deviation between channels (specified by PV1) 40: High and low limits of deviation between channels (specified by PV2) 41: High and low limits of deviation between channels (specified by PV3) 42: High and low limits of deviation between channels (specified by PV4) 61: Alarm (status) 62: READY (status) 63: MANUAL (status) 64: RSP (status) 65: During AT (status) 66: During SP ramp (status) 67: Control direct action (status) 70: Timer (status)	0		0			
Event	Event config.	1	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	1	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	1	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	1	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	1	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	1	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	1	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	1	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	2	Operation type	Same as Event 1	0		0			
Event	Event config.	2	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	2	Direct/Reverse	0: Direct 1: Reverse	0		0			

Event/Event Configuration

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Event	Event config.	2	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	2	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	2	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	2	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	2	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	2	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	3	Operation type	Same as Event 1	0		0			
Event	Event config.	3	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	3	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	3	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	3	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	3	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	3	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	3	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	3	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	4	Operation type	Same as Event 1	0		0			
Event	Event config.	4	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	4	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	4	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	4	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	4	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	4	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	4	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	4	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	5	Operation type	Same as Event 1	0		0			
Event	Event config.	5	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	5	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	5	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	5	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	5	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	5	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	5	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	5	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	6	Operation type	Same as Event 1	0		0			
Event	Event config.	6	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			

Event/Event Configuration

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Event	Event config.	6	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	6	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	6	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	6	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	6	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	6	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	6	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	7	Operation type	Same as Event 1	0		0			
Event	Event config.	7	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	7	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	7	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	7	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	7	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	7	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	7	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	7	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	8	Operation type	Same as Event 1	0		0			
Event	Event config.	8	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	8	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	8	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	8	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	8	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	8	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	8	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	8	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	9	Operation type	Same as Event 1	0		0			
Event	Event config.	9	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	9	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	9	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	9	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	9	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	9	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	9	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	9	OFF delay	0.0 to 3200.0 s	0.0	s	0			

Event/Event Configuration

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Event	Event config.	10	Operation type	Same as Event 1	0		0			
Event	Event config.	10	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	10	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	10	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	10	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	10	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	10	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	10	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	10	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	11	Operation type	Same as Event 1	0		0			
Event	Event config.	11	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	11	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	11	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	11	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	11	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	11	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	11	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	11	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	12	Operation type	Same as Event 1	0		0			
Event	Event config.	12	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	12	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	12	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	12	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	12	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	12	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	12	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	12	OFF delay	0.0 to 3200.0 s	0.0	s	0			

Event/Event Configuration

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Event	Event config.	13	Operation type	Same as Event 1	0		0			
Event	Event config.	13	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	13	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	13	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	13	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	13	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	13	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	13	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	13	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	14	Operation type	Same as Event 1	0		0			
Event	Event config.	14	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	14	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	14	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	14	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	14	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	14	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	14	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	14	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	15	Operation type	Same as Event 1	0		0			
Event	Event config.	15	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	15	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	15	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	15	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	15	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	15	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	15	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	15	OFF delay	0.0 to 3200.0 s	0.0	s	0			

Event/Event Configuration

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Event	Event config.	16	Operation type	Same as Event 1	0		0			
Event	Event config.	16	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	16	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	16	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	16	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	16	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	16	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	16	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	16	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	17	Operation type	Same as Event 1	0		0			
Event	Event config.	17	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	17	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	17	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	17	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	17	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	17	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	17	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	17	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	18	Operation type	Same as Event 1	0		0			
Event	Event config.	18	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	18	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	18	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	18	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	18	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	18	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	18	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	18	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	19	Operation type	Same as Event 1	0		0			

Event/Event Configuration

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Event	Event config.	19	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	19	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	19	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	19	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	19	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	19	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	19	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	19	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	20	Operation type	Same as Event 1	0		0			
Event	Event config.	20	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	20	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	20	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	20	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	20	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	20	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	20	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	20	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	21	Operation type	Same as Event 1	0		0			
Event	Event config.	21	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	21	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	21	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	21	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	21	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	21	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	21	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	21	OFF delay	0.0 to 3200.0 s	0.0	s	0			

Event/Event Configuration

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Event	Event config.	22	Operation type	Same as Event 1	0		0			
Event	Event config.	22	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	22	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	22	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	22	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	22	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	22	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	22	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	22	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	23	Operation type	Same as Event 1	0		0			
Event	Event config.	23	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	23	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	23	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	23	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	23	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	23	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	23	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	23	OFF delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	24	Operation type	Same as Event 1	0		0			
Event	Event config.	24	Loop/channel definition	1: Loop 1/Channel 1 2: Loop 2/Channel 2 3: Loop 3/Channel 3 4: Loop 4/Channel 4 2048-3071: Standard numerical codes	1		0			
Event	Event config.	24	Direct/Reverse	0: Direct 1: Reverse	0		0			
Event	Event config.	24	Standby	0: No standby 1: Standby 2: Standby + standby when the SP is modified	0		0			
Event	Event config.	24	EVENT state at READY	0: Continuation 1: Forced OFF	0		0			
Event	Event config.	24	Decimal point position	0: No decimal point 1: 1 digit after the decimal point 2: 2 digits after the decimal point 3: 3 digits after the decimal point 4: 4 digits after the decimal point	0		0			
Event	Event config.	24	Hysteresis	0 to 32000 U	5.0		0	Decimal point position = EV		
Event	Event config.	24	ON delay	0.0 to 3200.0 s	0.0	s	0			
Event	Event config.	24	OFF delay	0.0 to 3200.0 s	0.0	s	0			

PID/PID

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
PID	PID	1	Proportional band 1	0.1 to 3200.0%	5.0	%	0			
PID	PID	1	Integral time 1	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	1	Derivative time 1	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	1	Output (MV) low limit 1	-10.0 to 110.0%	0.0	%	0			
PID	PID	1	Output (MV) high limit 1	-10.0 to 110.0%	100.0	%	0			
PID	PID	1	Manual reset 1	-10.0 to 110.0%	50.0	%	0			
PID	PID	1	Proportional band for cool side 1	0.1 to 3200.0%	5.0	%	1			
PID	PID	1	Integral time for cool side 1	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	1	Decimal point position = PID		
PID	PID	1	Derivative time for cool side 1	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	1	Decimal point position = PID		
PID	PID	1	Output low limit for cool side 1	-10.0 to 110.0%	0.0	%	1			
PID	PID	1	Output high limit for cool side 1	-10.0 to 110.0%	100.0	%	1			
PID	PID	1	Differential 1	0 to 32000 U	5.0		1	Decimal point position = PID_PV		
PID	PID	1	Proportional band 2	0.1 to 3200.0%	5.0	%	0			
PID	PID	1	Integral time 2	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	1	Derivative time 2	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	1	Output (MV) low limit 2	-10.0 to 110.0%	0.0	%	0			
PID	PID	1	Output (MV) high limit 2	-10.0 to 110.0%	100.0	%	0			
PID	PID	1	Manual reset 2	-10.0 to 110.0%	50.0	%	0			
PID	PID	1	Proportional band for cool side 2	0.1 to 3200.0%	5.0	%	1			
PID	PID	1	Integral time for cool side 2	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	1	Decimal point position = PID		
PID	PID	1	Derivative time for cool side 2	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	1	Decimal point position = PID		
PID	PID	1	Output low limit for cool side 2	-10.0 to 110.0%	0.0	%	1			
PID	PID	1	Output high limit for cool side 2	-10.0 to 110.0%	100.0	%	1			
PID	PID	1	Differential 2	0 to 32000 U	5.0		1	Decimal point position = PID_PV		

PID/PID

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
PID	PID	1	Proportional band 3	0.1 to 3200.0%	5.0	%	0			
PID	PID	1	Integral time 3	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	1	Derivative time 3	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	1	Output (MV) low limit 3	-10.0 to 110.0%	0.0	%	0			
PID	PID	1	Output (MV) high limit 3	-10.0 to 110.0%	100.0	%	0			
PID	PID	1	Manual reset 3	-10.0 to 110.0%	50.0	%	0			
PID	PID	1	Proportional band for cool side 3	0.1 to 3200.0%	5.0	%	1			
PID	PID	1	Integral time for cool side 3	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	1	Decimal point position = PID		
PID	PID	1	Derivative time for cool side 3	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	1	Decimal point position = PID		
PID	PID	1	Output low limit for cool side 3	-10.0 to 110.0%	0.0	%	1			
PID	PID	1	Output high limit for cool side 3	-10.0 to 110.0%	100.0	%	1			
PID	PID	1	Differential 3	0 to 32000 U	5.0		1	Decimal point position = PID_PV		
PID	PID	1	Proportional band 4	0.1 to 3200.0%	5.0	%	0			
PID	PID	1	Integral time 4	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	1	Derivative time 4	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	1	Output (MV) low limit 4	-10.0 to 110.0%	0.0	%	0			
PID	PID	1	Output (MV) high limit 4	-10.0 to 110.0%	100.0	%	0			
PID	PID	1	Manual reset 4	-10.0 to 110.0%	50.0	%	0			
PID	PID	1	Proportional band for cool side 4	0.1 to 3200.0%	5.0	%	1			
PID	PID	1	Integral time for cool side 4	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	1	Decimal point position = PID		
PID	PID	1	Derivative time for cool side 4	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	1	Decimal point position = PID		
PID	PID	1	Output low limit for cool side 4	-10.0 to 110.0%	0.0	%	1			
PID	PID	1	Output high limit for cool side 4	-10.0 to 110.0%	100.0	%	1			
PID	PID	1	Differential 4	0 to 32000 U	5.0		1	Decimal point position = PID_PV		

PID/PID

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
PID	PID	2	Proportional band 1	0.1 to 3200.0%	5.0	%	0			
PID	PID	2	Integral time 1	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	2	Derivative time 1	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	2	Output (MV) low limit 1	-10.0 to 110.0%	0.0	%	0			
PID	PID	2	Output (MV) high limit 1	-10.0 to 110.0%	100.0	%	0			
PID	PID	2	Manual reset 1	-10.0 to 110.0%	50.0	%	0			
PID	PID	2	Proportional band for cool side 1	0.1 to 3200.0%	5.0	%	1			
PID	PID	2	Integral time for cool side 1	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	1	Decimal point position = PID		
PID	PID	2	Derivative time for cool side 1	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	1	Decimal point position = PID		
PID	PID	2	Output low limit for cool side 1	-10.0 to 110.0%	0.0	%	1			
PID	PID	2	Output high limit for cool side 1	-10.0 to 110.0%	100.0	%	1			
PID	PID	2	Differential 1	0 to 32000 U	5.0		1	Decimal point position = PID_PV		
PID	PID	2	Proportional band 2	0.1 to 3200.0%	5.0	%	0			
PID	PID	2	Integral time 2	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	2	Derivative time 2	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	2	Output (MV) low limit 2	-10.0 to 110.0%	0.0	%	0			
PID	PID	2	Output (MV) high limit 2	-10.0 to 110.0%	100.0	%	0			
PID	PID	2	Manual reset 2	-10.0 to 110.0%	50.0	%	0			
PID	PID	2	Proportional band for cool side 2	0.1 to 3200.0%	5.0	%	1			
PID	PID	2	Integral time for cool side 2	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	1	Decimal point position = PID		
PID	PID	2	Derivative time for cool side 2	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	1	Decimal point position = PID		
PID	PID	2	Output low limit for cool side 2	-10.0 to 110.0%	0.0	%	1			
PID	PID	2	Output high limit for cool side 2	-10.0 to 110.0%	100.0	%	1			

PID/PID

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
PID	PID	2	Differential 2	0 to 32000 U	5.0		1	Decimal point position = PID_PV		
PID	PID	2	Proportional band 3	0.1 to 3200.0%	5.0	%	0			
PID	PID	2	Integral time 3	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	2	Derivative time 3	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	2	Output (MV) low limit 3	-10.0 to 110.0%	0.0	%	0			
PID	PID	2	Output (MV) high limit 3	-10.0 to 110.0%	100.0	%	0			
PID	PID	2	Manual reset 3	-10.0 to 110.0%	50.0	%	0			
PID	PID	2	Proportional band for cool side 3	0.1 to 3200.0%	5.0	%	1			
PID	PID	2	Integral time for cool side 3	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	1	Decimal point position = PID		
PID	PID	2	Derivative time for cool side 3	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	1	Decimal point position = PID		
PID	PID	2	Output low limit for cool side 3	-10.0 to 110.0%	0.0	%	1			
PID	PID	2	Output high limit for cool side 3	-10.0 to 110.0%	100.0	%	1			
PID	PID	2	Differential 3	0 to 32000 U	5.0		1	Decimal point position = PID_PV		
PID	PID	2	Proportional band 4	0.1 to 3200.0%	5.0	%	0			
PID	PID	2	Integral time 4	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	2	Derivative time 4	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	2	Output (MV) low limit 4	-10.0 to 110.0%	0.0	%	0			
PID	PID	2	Output (MV) high limit 4	-10.0 to 110.0%	100.0	%	0			
PID	PID	2	Manual reset 4	-10.0 to 110.0%	50.0	%	0			
PID	PID	2	Proportional band for cool side 4	0.1 to 3200.0%	5.0	%	1			
PID	PID	2	Integral time for cool side 4	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	1	Decimal point position = PID		
PID	PID	2	Derivative time for cool side 4	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	1	Decimal point position = PID		
PID	PID	2	Output low limit for cool side 4	-10.0 to 110.0%	0.0	%	1			
PID	PID	2	Output high limit for cool side 4	-10.0 to 110.0%	100.0	%	1			
PID	PID	2	Differential 4	0 to 32000 U	5.0		1	Decimal point position = PID_PV		

PID/PID

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
PID	PID	3	Proportional band 1	0.1 to 3200.0%	5.0	%	0			
PID	PID	3	Integral time 1	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	3	Derivative time 1	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	3	Output (MV) low limit 1	-10.0 to 110.0%	0.0	%	0			
PID	PID	3	Output (MV) high limit 1	-10.0 to 110.0%	100.0	%	0			
PID	PID	3	Manual reset 1	-10.0 to 110.0%	50.0	%	0			
PID	PID	3	Differential 1	0 to 32000 U	5.0		1	Decimal point position = PID_PV		
PID	PID	3	Proportional band 2	0.1 to 3200.0%	5.0	%	0			
PID	PID	3	Integral time 2	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	3	Derivative time 2	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	3	Output (MV) low limit 2	-10.0 to 110.0%	0.0	%	0			
PID	PID	3	Output (MV) high limit 2	-10.0 to 110.0%	100.0	%	0			
PID	PID	3	Manual reset 2	-10.0 to 110.0%	50.0	%	0			
PID	PID	3	Differential 2	0 to 32000 U	5.0		1	Decimal point position = PID_PV		
PID	PID	3	Proportional band 3	0.1 to 3200.0%	5.0	%	0			
PID	PID	3	Integral time 3	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	3	Derivative time 3	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	3	Output (MV) low limit 3	-10.0 to 110.0%	0.0	%	0			
PID	PID	3	Output (MV) high limit 3	-10.0 to 110.0%	100.0	%	0			
PID	PID	3	Manual reset 3	-10.0 to 110.0%	50.0	%	0			
PID	PID	3	Differential 3	0 to 32000 U	5.0		1	Decimal point position = PID_PV		
PID	PID	3	Proportional band 4	0.1 to 3200.0%	5.0	%	0			
PID	PID	3	Integral time 4	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	3	Derivative time 4	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	3	Output (MV) low limit 4	-10.0 to 110.0%	0.0	%	0			
PID	PID	3	Output (MV) high limit 4	-10.0 to 110.0%	100.0	%	0			
PID	PID	3	Manual reset 4	-10.0 to 110.0%	50.0	%	0			
PID	PID	3	Differential 4	0 to 32000 U	5.0		1	Decimal point position = PID_PV		

PID/PID

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
PID	PID	4	Proportional band 1	0.1 to 3200.0%	5.0	%	0			
PID	PID	4	Integral time 1	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	4	Derivative time 1	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	4	Output (MV) low limit 1	-10.0 to 110.0%	0.0	%	0			
PID	PID	4	Output (MV) high limit 1	-10.0 to 110.0%	100.0	%	0			
PID	PID	4	Manual reset 1	-10.0 to 110.0%	50.0	%	0			
PID	PID	4	Differential 1	0 to 32000 U	5.0		1	Decimal point position = PID_PV		
PID	PID	4	Proportional band 2	0.1 to 3200.0%	5.0	%	0			
PID	PID	4	Integral time 2	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	4	Derivative time 2	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	4	Output (MV) low limit 2	-10.0 to 110.0%	0.0	%	0			
PID	PID	4	Output (MV) high limit 2	-10.0 to 110.0%	100.0	%	0			
PID	PID	4	Manual reset 2	-10.0 to 110.0%	50.0	%	0			
PID	PID	4	Differential 2	0 to 32000 U	5.0		1	Decimal point position = PID_PV		
PID	PID	4	Proportional band 3	0.1 to 3200.0%	5.0	%	0			
PID	PID	4	Integral time 3	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	4	Derivative time 3	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	4	Output (MV) low limit 3	-10.0 to 110.0%	0.0	%	0			
PID	PID	4	Output (MV) high limit 3	-10.0 to 110.0%	100.0	%	0			
PID	PID	4	Manual reset 3	-10.0 to 110.0%	50.0	%	0			
PID	PID	4	Differential 3	0 to 32000 U	5.0		1	Decimal point position = PID_PV		
PID	PID	4	Proportional band 4	0.1 to 3200.0%	5.0	%	0			
PID	PID	4	Integral time 4	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No integral operation at 0, 0.0 or 0.00)	120	s	0	Decimal point position = PID		
PID	PID	4	Derivative time 4	0 to 32000 s, 0.0 to 3200.0 s or 0.00 to 320.00 s (No derivative operation at 0, 0.0 or 0.00)	30	s	0	Decimal point position = PID		
PID	PID	4	Output (MV) low limit 4	-10.0 to 110.0%	0.0	%	0			
PID	PID	4	Output (MV) high limit 4	-10.0 to 110.0%	100.0	%	0			
PID	PID	4	Manual reset 4	-10.0 to 110.0%	50.0	%	0			
PID	PID	4	Differential 4	0 to 32000 U	5.0		1	Decimal point position = PID_PV		

Function/Internal Contact IN

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Function	Internal contact IN	1	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/ reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	1	Input type	1024 to 2047: Standard bit	1152		0			
Function	Internal contact IN	1	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	1	Weighting	0 to 127	1		0			
Function	Internal contact IN	2	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/ reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	2	Input type	1024 to 2047: Standard bit	1153		0			
Function	Internal contact IN	2	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	2	Weighting	0 to 127	1		0			
Function	Internal contact IN	3	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/ reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	3	Input type	1024 to 2047: Standard bit	1154		0			
Function	Internal contact IN	3	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	3	Weighting	0 to 127	1		0			
Function	Internal contact IN	4	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/ reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	4	Input type	1024 to 2047: Standard bit	1155		0			
Function	Internal contact IN	4	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	4	Weighting	0 to 127	1		0			

Function/Internal Contact IN

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Function	Internal contact IN	5	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	5	Input type	1024 to 2047: Standard bit	1024		0			
Function	Internal contact IN	5	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	5	Weighting	0 to 127	1		0			
Function	Internal contact IN	6	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	6	Input type	1024 to 2047: Standard bit	1024		0			
Function	Internal contact IN	6	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	6	Weighting	0 to 127	1		0			
Function	Internal contact IN	7	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	7	Input type	1024 to 2047: Standard bit	1024		0			
Function	Internal contact IN	7	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	7	Weighting	0 to 127	1		0			
Function	Internal contact IN	8	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	8	Input type	1024 to 2047: Standard bit	1024		0			
Function	Internal contact IN	8	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	8	Weighting	0 to 127	1		0			

Function/Internal Contact IN

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Function	Internal contact IN	9	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/ reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	9	Input type	1024 to 2047: Standard bit			0			
Function	Internal contact IN	9	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	9	Weighting	0 to 127	1		0			
Function	Internal contact IN	10	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/ reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	10	Input type	1024 to 2047: Standard bit			0			
Function	Internal contact IN	10	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	10	Weighting	0 to 127	1		0			
Function	Internal contact IN	11	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/ reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	11	Input type	1024 to 2047: Standard bit			0			
Function	Internal contact IN	11	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	11	Weighting	0 to 127	1		0			
Function	Internal contact IN	12	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/ reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	12	Input type	1024 to 2047: Standard bit			0			
Function	Internal contact IN	12	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	12	Weighting	0 to 127	1		0			

Function/Internal Contact IN

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Function	Internal contact IN	13	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/ reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	13	Input type	1024 to 2047: Standard bit			0			
Function	Internal contact IN	13	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	13	Weighting	0 to 127	1		0			
Function	Internal contact IN	14	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/ reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	14	Input type	1024 to 2047: Standard bit			0			
Function	Internal contact IN	14	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	14	Weighting	0 to 127	1		0			
Function	Internal contact IN	15	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/ reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	15	Input type	1024 to 2047: Standard bit			0			
Function	Internal contact IN	15	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	15	Weighting	0 to 127	1		0			
Function	Internal contact IN	16	Operation type	0: No function 1: SP group selection 2: PID group selection 9: AI group definition 21: RUN/READY mode selection 22: AUTO/MANUAL mode selection 23: LSP/RSP mode selection 24: AT start/stop selection 41: Control operation direct/ reverse selection 42: SP RAMP permit/prohibit selection 46: Timer stop/start selection 47: Release all latches	0		0			
Function	Internal contact IN	16	Input type	1024 to 2047: Standard bit			0			
Function	Internal contact IN	16	Loop/channel definition	0 to 24: (Meaning varies depending on the operation type)	1		0	Refer to: ■ Loop/channel definition (page 6-10)		
Function	Internal contact IN	16	Weighting	0 to 127	1		0			

Function/Logical Operation

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Function	Logical operation	1	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	1	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	1	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	1	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	1	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	1	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	1	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	1	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	1	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	1	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	1	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	1	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	1	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Function	Logical operation	2	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	2	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	2	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	2	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	2	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	2	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	2	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	2	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	2	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	2	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	2	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	2	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	2	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Function	Logical operation	3	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	3	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	3	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	3	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	3	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	3	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	3	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	3	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	3	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	3	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	3	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	3	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	3	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			

Function/Logical Operation

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Function	Logical operation	4	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	4	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	4	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	4	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	4	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	4	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	4	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	4	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	4	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	4	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	4	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	4	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	4	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Function	Logical operation	5	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	5	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	5	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	5	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	5	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	5	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	5	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	5	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	5	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	5	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	5	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	5	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	5	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Function	Logical operation	6	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	6	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	6	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	6	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	6	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	6	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	6	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	6	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	6	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	6	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	6	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	6	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	6	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			

Function/Logical Operation

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Function	Logical operation	7	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	7	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	7	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	7	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	7	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	7	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	7	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	7	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	7	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	7	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	7	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	7	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	7	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Function	Logical operation	8	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	8	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	8	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	8	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	8	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	8	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	8	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	8	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	8	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	8	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	8	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	8	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	8	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Function	Logical operation	9	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	9	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	9	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	9	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	9	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	9	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	9	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	9	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	9	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	9	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	9	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	9	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	9	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			

Function/Logical Operation

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Function	Logical operation	10	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	10	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	10	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	10	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	10	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	10	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	10	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	10	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	10	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	10	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	10	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	10	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	10	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Function	Logical operation	11	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	11	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	11	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	11	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	11	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	11	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	11	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	11	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	11	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	11	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	11	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	11	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	11	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Function	Logical operation	12	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	12	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	12	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	12	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	12	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	12	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	12	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	12	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	12	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	12	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	12	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	12	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	12	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			

Function/Logical Operation

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Function	Logical operation	13	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	13	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	13	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	13	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	13	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	13	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	13	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	13	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	13	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	13	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	13	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	13	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	13	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Function	Logical operation	14	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	14	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	14	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	14	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	14	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	14	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	14	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	14	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	14	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	14	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	14	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	14	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	14	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			
Function	Logical operation	15	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	15	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	15	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	15	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	15	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	15	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	15	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	15	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	15	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	15	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	15	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	15	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	15	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			

Function/Logical Operation

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Function	Logical operation	16	Calculation type	1: Calculation 1: (A and B) or (C and D) 2: Calculation 2: (A or B) and (C or D) 3: Calculation 3: (A or B or C or D) 4: Calculation 4: (A and B and C and D)	1		1			
Function	Logical operation	16	Input assignment A	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	16	Input assignment B	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	16	Input assignment C	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	16	Input assignment D	1024 to 2047: Standard bit	1024		1			
Function	Logical operation	16	Inverted input bit A	0: Direct 1: Reverse	0		1			
Function	Logical operation	16	Inverted input bit B	0: Direct 1: Reverse	0		1			
Function	Logical operation	16	Inverted input bit C	0: Direct 1: Reverse	0		1			
Function	Logical operation	16	Inverted input bit D	0: Direct 1: Reverse	0		1			
Function	Logical operation	16	ON delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	16	OFF delay time	0.0 to 3200.0 s	0.0	s	1			
Function	Logical operation	16	Inversion	0: Direct 1: Reverse	0		1			
Function	Logical operation	16	Latch	0: No latch 1: Latch when ON 2: Latch when OFF (except OFF before power ON)	0		1			

Function/Energy Conservation

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Function	Energy conservation	1	Energy conservation time proportional operation	0: Not used 1: Used	0		2			
Function	Energy conservation	1	Energy conservation delay time	0 to 1000 ms	10	ms	2			
Function	Energy conservation	1	Master/slave selection	0: Master 1: Other than master	0		2			
Function	Energy conservation	1	Time proportional slave channel	1: Time proportioning 1 2: Time proportioning 2 3: Time proportioning 3 4: Time proportioning 4 5: Time proportioning 5 6: Time proportioning 6 7: Time proportioning 7 8: Time proportioning 8	0		2			
Function	Energy conservation	2	Energy conservation time proportional operation	0: Not used 1: Used	0		2			
Function	Energy conservation	2	Energy conservation delay time	0 to 1000 ms	10	ms	2			
Function	Energy conservation	2	Master/slave selection	0: Master 1: Other than master	0		2			
Function	Energy conservation	2	Time proportional slave channel	1: Time proportioning 1 2: Time proportioning 2 3: Time proportioning 3 4: Time proportioning 4 5: Time proportioning 5 6: Time proportioning 6 7: Time proportioning 7 8: Time proportioning 8	0		2			
Function	Energy conservation	3	Energy conservation time proportional operation	0: Not used 1: Used	0		2			
Function	Energy conservation	3	Energy conservation delay time	0 to 1000 ms	10	ms	2			
Function	Energy conservation	3	Master/slave selection	0: Master 1: Other than master	0		2			
Function	Energy conservation	3	Time proportional slave channel	1: Time proportioning 1 2: Time proportioning 2 3: Time proportioning 3 4: Time proportioning 4 5: Time proportioning 5 6: Time proportioning 6 7: Time proportioning 7 8: Time proportioning 8	0		2			
Function	Energy conservation	4	Energy conservation time proportional operation	0: Not used 1: Used	0		2			
Function	Energy conservation	4	Energy conservation delay time	0 to 1000 ms	10	ms	2			
Function	Energy conservation	4	Master/slave selection	0: Master 1: Other than master	0		2			
Function	Energy conservation	4	Time proportional slave channel	1: Time proportioning 1 2: Time proportioning 2 3: Time proportioning 3 4: Time proportioning 4 5: Time proportioning 5 6: Time proportioning 6 7: Time proportioning 7 8: Time proportioning 8	0		2			
Function	Energy conservation	5	Energy conservation time proportional operation	0: Not used 1: Used	0		2			
Function	Energy conservation	5	Energy conservation delay time	0 to 1000 ms	10	ms	2			
Function	Energy conservation	5	Master/slave selection	0: Master 1: Other than master	0		2			
Function	Energy conservation	5	Time proportional slave channel	1: Time proportioning 1 2: Time proportioning 2 3: Time proportioning 3 4: Time proportioning 4 5: Time proportioning 5 6: Time proportioning 6 7: Time proportioning 7 8: Time proportioning 8	0		2			

Function/Energy Conservation

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Function	Energy conservation	6	Energy conservation time proportional operation	0: Not used 1: Used	0		2			
Function	Energy conservation	6	Energy conservation delay time	0 to 1000 ms	10	ms	2			
Function	Energy conservation	6	Master/slave selection	0: Master 1: Other than master	0		2			
Function	Energy conservation	6	Time proportional slave channel	1: Time proportioning 1 2: Time proportioning 2 3: Time proportioning 3 4: Time proportioning 4 5: Time proportioning 5 6: Time proportioning 6 7: Time proportioning 7 8: Time proportioning 8	0		2			
Function	Energy conservation	7	Energy conservation time proportional operation	0: Not used 1: Used	0		2			
Function	Energy conservation	7	Energy conservation delay time	0 to 1000 ms	10	ms	2			
Function	Energy conservation	7	Master/slave selection	0: Master 1: Other than master	0		2			
Function	Energy conservation	7	Time proportional slave channel	1: Time proportioning 1 2: Time proportioning 2 3: Time proportioning 3 4: Time proportioning 4 5: Time proportioning 5 6: Time proportioning 6 7: Time proportioning 7 8: Time proportioning 8	0		2			
Function	Energy conservation	8	Energy conservation time proportional operation	0: Not used 1: Used	0		2			
Function	Energy conservation	8	Energy conservation delay time	0 to 1000 ms	10	ms	2			
Function	Energy conservation	8	Master/slave selection	0: Master 1: Other than master	0		2			
Function	Energy conservation	8	Time proportional slave channel	1: Time proportioning 1 2: Time proportioning 2 3: Time proportioning 3 4: Time proportioning 4 5: Time proportioning 5 6: Time proportioning 6 7: Time proportioning 7 8: Time proportioning 8	0		2			

Function/MV Branching Output

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Function	MV branching output	1	Loop assignment	0: Not used 1: Loop 1 2: Loop 2 3: Loop 3 4: Loop 4	0		2			
Function	MV branching output	1	Ratio	0.01 to 320.00	1.00		2			
Function	MV branching output	1	Bias	-199.00 to 320.00%	0.00	%	2			
Function	MV branching output	2	Loop assignment	0: Not used 1: Loop 1 2: Loop 2 3: Loop 3 4: Loop 4	0		2			
Function	MV branching output	2	Ratio	0.01 to 320.00	1.00		2			
Function	MV branching output	2	Bias	-199.00 to 320.00%	0.00	%	2			
Function	MV branching output	3	Loop assignment	0: Not used 1: Loop 1 2: Loop 2 3: Loop 3 4: Loop 4	0		2			
Function	MV branching output	3	Ratio	0.01 to 320.00	1.00		2			
Function	MV branching output	3	Bias	-199.00 to 320.00%	0.00	%	2			
Function	MV branching output	4	Loop assignment	0: Not used 1: Loop 1 2: Loop 2 3: Loop 3 4: Loop 4	0		2			
Function	MV branching output	4	Ratio	0.01 to 320.00	1.00		2			
Function	MV branching output	4	Bias	-199.00 to 320.00%	0.00	%	2			

Function/Reception Monitoring

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Function	Reception monitoring	1	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	1	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	1	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	1	Time-out (l)	0 to 65535(×10 ms)	18000	(×10 ms)	1			
Function	Reception monitoring	1	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			
Function	Reception monitoring	2	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	2	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	2	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	2	Time-out (l)	0 to 65535(×10 ms)	18000	(×10 ms)	1			
Function	Reception monitoring	2	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			
Function	Reception monitoring	3	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	3	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	3	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	3	Time-out (l)	0 to 65535(×10 ms)	18000	(×10 ms)	1			
Function	Reception monitoring	3	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			
Function	Reception monitoring	4	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	4	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	4	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	4	Time-out (l)	0 to 65535(×10 ms)	18000	(×10 ms)	1			
Function	Reception monitoring	4	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			
Function	Reception monitoring	5	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	5	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	5	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	5	Time-out (l)	0 to 65535(×10 ms)	18000	(×10 ms)	1			
Function	Reception monitoring	5	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			
Function	Reception monitoring	6	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	6	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	6	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	6	Time-out (l)	0 to 65535(×10 ms)	18000	(×10 ms)	1			
Function	Reception monitoring	6	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			
Function	Reception monitoring	7	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	7	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	7	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	7	Time-out (l)	0 to 65535(×10 ms)	18000	(×10 ms)	1			
Function	Reception monitoring	7	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			
Function	Reception monitoring	8	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	8	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	8	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	8	Time-out (l)	0 to 65535(×10 ms)	18000	(×10 ms)	1			
Function	Reception monitoring	8	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			
Function	Reception monitoring	9	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	9	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	9	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	9	Time-out (l)	0 to 65535(×10 ms)	18000	(×10 ms)	1			
Function	Reception monitoring	9	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			

Function/Reception Monitoring

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Function	Reception monitoring	10	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	10	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	10	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	10	Time-out (l)	0 to 65535(×10 ms)	18000	(×10 ms)	1			
Function	Reception monitoring	10	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			
Function	Reception monitoring	11	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	11	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	11	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	11	Time-out (l)	0 to 65535(×10 ms)	18000	(×10 ms)	1			
Function	Reception monitoring	11	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			
Function	Reception monitoring	12	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	12	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	12	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	12	Time-out (l)	0 to 65535(×10 ms)	18000	(×10 ms)	1			
Function	Reception monitoring	12	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			
Function	Reception monitoring	13	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	13	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	13	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	13	Time-out (l)	0 to 65535	18000	(×10 ms)	1			
Function	Reception monitoring	13	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			
Function	Reception monitoring	14	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	14	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	14	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	14	Time-out (l)	0 to 65535	18000	(×10 ms)	1			
Function	Reception monitoring	14	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			
Function	Reception monitoring	15	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	15	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	15	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	15	Time-out (l)	0 to 65535	18000	(×10 ms)	1			
Function	Reception monitoring	15	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			
Function	Reception monitoring	16	Address (h)	0 to 65535	0		1	When writing, write 0		
Function	Reception monitoring	16	Address (l)	0 to 65535	0		1			
Function	Reception monitoring	16	Time-out (h)	Fixed at 0	0		1	When writing, write 0		
Function	Reception monitoring	16	Time-out (l)	0 to 65535	18000	(×10 ms)	1			
Function	Reception monitoring	16	Mode	0: Without reception monitoring 1: With reception monitoring	0		1			

Other/UF LED Settings

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Other	UF LED settings	1	Conditions for lighting	1024 to 2047: Standard bit	1792		1			
Other	UF LED settings	1	Lighting status	0: Off 1: Lit 2: Lit (reverse video) 3: Fast blink 4: Fast blink (conditional reverse video) 5: Slow blink 6: Slow blink (conditional reverse video)	3		1			
Other	UF LED settings	2	Conditions for lighting	1024 to 2047: Standard bit	1088		1			
Other	UF LED settings	2	Lighting status	0: Off 1: Lit 2: Lit (reverse video) 3: Fast blink 4: Fast blink (conditional reverse video) 5: Slow blink 6: Slow blink (conditional reverse video)	1		1			
Other	UF LED settings	3	Conditions for lighting	1024 to 2047: Standard bit	1089		1			
Other	UF LED settings	3	Lighting status	0: Off 1: Lit 2: Lit (reverse video) 3: Fast blink 4: Fast blink (conditional reverse video) 5: Slow blink 6: Slow blink (conditional reverse video)	1		1			
Other	UF LED settings	4	Conditions for lighting	1024 to 2047: Standard bit	1090		1			
Other	UF LED settings	4	Lighting status	0: Off 1: Lit 2: Lit (reverse video) 3: Fast blink 4: Fast blink (conditional reverse video) 5: Slow blink 6: Slow blink (conditional reverse video)	1		1			
Other	UF LED settings	5	Conditions for lighting	1024 to 2047: Standard bit	1091		1			
Other	UF LED settings	5	Lighting status	0: Off 1: Lit 2: Lit (reverse video) 3: Fast blink 4: Fast blink (conditional reverse video) 5: Slow blink 6: Slow blink (conditional reverse video)	1		1			
Other	UF LED settings	6	Conditions for lighting	1024 to 2047: Standard bit	1092		1			
Other	UF LED settings	6	Lighting status	0: Off 1: Lit 2: Lit (reverse video) 3: Fast blink 4: Fast blink (conditional reverse video) 5: Slow blink 6: Slow blink (conditional reverse video)	1		1			
Other	UF LED settings	7	Conditions for lighting	1024 to 2047: Standard bit	1093		1			
Other	UF LED settings	7	Lighting status	0: Off 1: Lit 2: Lit (reverse video) 3: Fast blink 4: Fast blink (conditional reverse video) 5: Slow blink 6: Slow blink (conditional reverse video)	1		1			
Other	UF LED settings	8	Conditions for lighting	1024 to 2047: Standard bit	1094		1			
Other	UF LED settings	8	Lighting status	0: Off 1: Lit 2: Lit (reverse video) 3: Fast blink 4: Fast blink (conditional reverse video) 5: Slow blink 6: Slow blink (conditional reverse video)	1		1			

Other/UF LED Settings

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Other	UF LED settings	9	Conditions for lighting	1024 to 2047: Standard bit	1545		1			
Other	UF LED settings	9	Lighting status	0: Off 1: Lit 2: Lit (reverse video) 3: Fast blink 4: Fast blink (conditional reverse video) 5: Slow blink 6: Slow blink (conditional reverse video)	3		1			
Other	UF LED settings	10	Conditions for lighting	1024 to 2047: Standard bit	1968		1			
Other	UF LED settings	10	Lighting status	0: Off 1: Lit 2: Lit (reverse video) 3: Fast blink 4: Fast blink (conditional reverse video) 5: Slow blink 6: Slow blink (conditional reverse video)	3		1			

Other/Instrument Information

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Other	Instrument info.	1	F/W information 1 (ROM ID)		–		0			
Other	Instrument info.	1	F/W information 2 (ROM version 1)		–		0			
Other	Instrument info.	1	F/W information 3 (ROM version 2)		–		0			
Other	Instrument info.	1	F/W information 4 (Version for SLP)		–		0			
Other	Instrument info.	1	Date code (year)		–		0			
Other	Instrument info.	1	Date code (month/ day)		–		0			
Other	Instrument info.	1	Production No.		–		0			

Other/PV Tag Name

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Other	PV tag name	1	Tag name 1	0 to 65535	0		0			
Other	PV tag name	1	Tag name 2	0 to 65535	0		0			
Other	PV tag name	1	Tag name 3	0 to 65535	0		0			
Other	PV tag name	1	Tag name 4	0 to 65535	0		0			
Other	PV tag name	1	Tag name 5	0 to 65535	0		0			
Other	PV tag name	1	Tag name 6	0 to 65535	0		0			
Other	PV tag name	1	Tag name 7	0 to 65535	0		0			
Other	PV tag name	1	Tag name 8	0 to 65535	0		0			
Other	PV tag name	2	Tag name 1	0 to 65535	0		0			
Other	PV tag name	2	Tag name 2	0 to 65535	0		0			
Other	PV tag name	2	Tag name 3	0 to 65535	0		0			
Other	PV tag name	2	Tag name 4	0 to 65535	0		0			
Other	PV tag name	2	Tag name 5	0 to 65535	0		0			
Other	PV tag name	2	Tag name 6	0 to 65535	0		0			
Other	PV tag name	2	Tag name 7	0 to 65535	0		0			
Other	PV tag name	2	Tag name 8	0 to 65535	0		0			
Other	PV tag name	3	Tag name 1	0 to 65535	0		0			
Other	PV tag name	3	Tag name 2	0 to 65535	0		0			
Other	PV tag name	3	Tag name 3	0 to 65535	0		0			
Other	PV tag name	3	Tag name 4	0 to 65535	0		0			
Other	PV tag name	3	Tag name 5	0 to 65535	0		0			
Other	PV tag name	3	Tag name 6	0 to 65535	0		0			
Other	PV tag name	3	Tag name 7	0 to 65535	0		0			
Other	PV tag name	3	Tag name 8	0 to 65535	0		0			
Other	PV tag name	4	Tag name 1	0 to 65535	0		0			
Other	PV tag name	4	Tag name 2	0 to 65535	0		0			
Other	PV tag name	4	Tag name 3	0 to 65535	0		0			
Other	PV tag name	4	Tag name 4	0 to 65535	0		0			
Other	PV tag name	4	Tag name 5	0 to 65535	0		0			
Other	PV tag name	4	Tag name 6	0 to 65535	0		0			
Other	PV tag name	4	Tag name 7	0 to 65535	0		0			
Other	PV tag name	4	Tag name 8	0 to 65535	0		0			

Other/OUT Tag Name

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Other	OUT tag name	1	Tag name 1	0 to 65535	0		0			
Other	OUT tag name	1	Tag name 2	0 to 65535	0		0			
Other	OUT tag name	1	Tag name 3	0 to 65535	0		0			
Other	OUT tag name	1	Tag name 4	0 to 65535	0		0			
Other	OUT tag name	1	Tag name 5	0 to 65535	0		0			
Other	OUT tag name	1	Tag name 6	0 to 65535	0		0			
Other	OUT tag name	1	Tag name 7	0 to 65535	0		0			
Other	OUT tag name	1	Tag name 8	0 to 65535	0		0			
Other	OUT tag name	2	Tag name 1	0 to 65535	0		0			
Other	OUT tag name	2	Tag name 2	0 to 65535	0		0			
Other	OUT tag name	2	Tag name 3	0 to 65535	0		0			
Other	OUT tag name	2	Tag name 4	0 to 65535	0		0			
Other	OUT tag name	2	Tag name 5	0 to 65535	0		0			
Other	OUT tag name	2	Tag name 6	0 to 65535	0		0			
Other	OUT tag name	2	Tag name 7	0 to 65535	0		0			
Other	OUT tag name	2	Tag name 8	0 to 65535	0		0			
Other	OUT tag name	3	Tag name 1	0 to 65535	0		0			
Other	OUT tag name	3	Tag name 2	0 to 65535	0		0			
Other	OUT tag name	3	Tag name 3	0 to 65535	0		0			
Other	OUT tag name	3	Tag name 4	0 to 65535	0		0			
Other	OUT tag name	3	Tag name 5	0 to 65535	0		0			
Other	OUT tag name	3	Tag name 6	0 to 65535	0		0			
Other	OUT tag name	3	Tag name 7	0 to 65535	0		0			
Other	OUT tag name	3	Tag name 8	0 to 65535	0		0			
Other	OUT tag name	4	Tag name 1	0 to 65535	0		0			
Other	OUT tag name	4	Tag name 2	0 to 65535	0		0			
Other	OUT tag name	4	Tag name 3	0 to 65535	0		0			
Other	OUT tag name	4	Tag name 4	0 to 65535	0		0			
Other	OUT tag name	4	Tag name 5	0 to 65535	0		0			
Other	OUT tag name	4	Tag name 6	0 to 65535	0		0			
Other	OUT tag name	4	Tag name 7	0 to 65535	0		0			
Other	OUT tag name	4	Tag name 8	0 to 65535	0		0			

Other/Option Tag Name

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Other	Option tag name	1	Tag name 1	0 to 65535	0		0			
Other	Option tag name	1	Tag name 2	0 to 65535	0		0			
Other	Option tag name	1	Tag name 3	0 to 65535	0		0			
Other	Option tag name	1	Tag name 4	0 to 65535	0		0			
Other	Option tag name	1	Tag name 5	0 to 65535	0		0			
Other	Option tag name	1	Tag name 6	0 to 65535	0		0			
Other	Option tag name	1	Tag name 7	0 to 65535	0		0			
Other	Option tag name	1	Tag name 8	0 to 65535	0		0			
Other	Option tag name	2	Tag name 1	0 to 65535	0		0			
Other	Option tag name	2	Tag name 2	0 to 65535	0		0			
Other	Option tag name	2	Tag name 3	0 to 65535	0		0			
Other	Option tag name	2	Tag name 4	0 to 65535	0		0			
Other	Option tag name	2	Tag name 5	0 to 65535	0		0			
Other	Option tag name	2	Tag name 6	0 to 65535	0		0			
Other	Option tag name	2	Tag name 7	0 to 65535	0		0			
Other	Option tag name	2	Tag name 8	0 to 65535	0		0			
Other	Option tag name	3	Tag name 1	0 to 65535	0		0			
Other	Option tag name	3	Tag name 2	0 to 65535	0		0			
Other	Option tag name	3	Tag name 3	0 to 65535	0		0			
Other	Option tag name	3	Tag name 4	0 to 65535	0		0			
Other	Option tag name	3	Tag name 5	0 to 65535	0		0			
Other	Option tag name	3	Tag name 6	0 to 65535	0		0			
Other	Option tag name	3	Tag name 7	0 to 65535	0		0			
Other	Option tag name	3	Tag name 8	0 to 65535	0		0			
Other	Option tag name	4	Tag name 1	0 to 65535	0		0			
Other	Option tag name	4	Tag name 2	0 to 65535	0		0			
Other	Option tag name	4	Tag name 3	0 to 65535	0		0			
Other	Option tag name	4	Tag name 4	0 to 65535	0		0			
Other	Option tag name	4	Tag name 5	0 to 65535	0		0			
Other	Option tag name	4	Tag name 6	0 to 65535	0		0			
Other	Option tag name	4	Tag name 7	0 to 65535	0		0			
Other	Option tag name	4	Tag name 8	0 to 65535	0		0			

Other/Tag for All Loops

Folder name	Bank name	No.	Item name	Setting range	Initial value	Unit	User level	Remarks	NX-D15	NX-D25
Other	Tag for all loops	1	Tag name 1	0 to 65535	0		0			
Other	Tag for all loops	1	Tag name 2	0 to 65535	0		0			
Other	Tag for all loops	1	Tag name 3	0 to 65535	0		0			
Other	Tag for all loops	1	Tag name 4	0 to 65535	0		0			
Other	Tag for all loops	1	Tag name 5	0 to 65535	0		0			
Other	Tag for all loops	1	Tag name 6	0 to 65535	0		0			
Other	Tag for all loops	1	Tag name 7	0 to 65535	0		0			
Other	Tag for all loops	1	Tag name 8	0 to 65535	0		0			
Other	Tag for all loops	2	Tag name 1	0 to 65535	0		0			
Other	Tag for all loops	2	Tag name 2	0 to 65535	0		0			
Other	Tag for all loops	2	Tag name 3	0 to 65535	0		0			
Other	Tag for all loops	2	Tag name 4	0 to 65535	0		0			
Other	Tag for all loops	2	Tag name 5	0 to 65535	0		0			
Other	Tag for all loops	2	Tag name 6	0 to 65535	0		0			
Other	Tag for all loops	2	Tag name 7	0 to 65535	0		0			
Other	Tag for all loops	2	Tag name 8	0 to 65535	0		0			
Other	Tag for all loops	3	Tag name 1	0 to 65535	0		0			
Other	Tag for all loops	3	Tag name 2	0 to 65535	0		0			
Other	Tag for all loops	3	Tag name 3	0 to 65535	0		0			
Other	Tag for all loops	3	Tag name 4	0 to 65535	0		0			
Other	Tag for all loops	3	Tag name 5	0 to 65535	0		0			
Other	Tag for all loops	3	Tag name 6	0 to 65535	0		0			
Other	Tag for all loops	3	Tag name 7	0 to 65535	0		0			
Other	Tag for all loops	3	Tag name 8	0 to 65535	0		0			
Other	Tag for all loops	4	Tag name 1	0 to 65535	0		0			
Other	Tag for all loops	4	Tag name 2	0 to 65535	0		0			
Other	Tag for all loops	4	Tag name 3	0 to 65535	0		0			
Other	Tag for all loops	4	Tag name 4	0 to 65535	0		0			
Other	Tag for all loops	4	Tag name 5	0 to 65535	0		0			
Other	Tag for all loops	4	Tag name 6	0 to 65535	0		0			
Other	Tag for all loops	4	Tag name 7	0 to 65535	0		0			
Other	Tag for all loops	4	Tag name 8	0 to 65535	0		0			

Chapter 13. TROUBLESHOOTING

■ Alarm code descriptions and corrective actions

Descriptions of the alarm codes and countermeasures in case the unit operates abnormally are shown below.

Alarm code	Error name	Cause	Corrective action
AL01	PV1 high limit error	Sensor burnout, incorrect wiring, input voltage, current, incorrect resistance setting, input outside the parameter settings for the alarm setting high limit/low limit	Check the PV wiring. Check the input voltage, current, resistance.
AL02	PV1 low limit error		
AL03	PV2 high limit error		
AL04	PV2 low limit error		
AL05	PV3 high limit error		
AL06	PV3 low limit error		
AL07	PV4 high limit error		
AL08	PV4 low limit error		
AL11	AD1 fault	AD fault	Turn the power off and back on again, or replace the main body.
AL12	AD2 fault		
AL13	AD3 fault		
AL14	AD4 fault		
AL25	CT1 input error	CT input over-range Incorrect CT input setting AD error	Check the CT input. Reset the CT input setting. Replace the main body when an AD error occurs.
AL26	CT2 input error		
AL27	CT3 input error		
AL28	CT4 input error		
AL31	Reception monitors 1-16	No data write communication access to the set address within the set time	Check the module status. Check the settings.
AL32	Transmission timeout between modules	No response from the destination modules	
AL71	CJ1 error	Abnormal terminal temperature AD error	Check the ambient temperature. Replace the main body when an AD error occurs.
AL72	CJ2 error		
AL73	CJ3 error		
AL74	CJ4 error		
AL83	EEPROM not initialized	EEPROM read error	Restart the power, or replace the main body.
AL85	RAM read write error	RAM read write error	
AL86	EEPROM read write error	EEPROM read write error	
AL87	Base EEPROM read write error	Base EEPROM read write error	
AL88	Base EEPROM error	Parameters of the main body and base do not match	Turn the power off and back on again, or press the push button
AL94	RAM error (parameter area)	RAM error	Turn the power off and back on again, or replace the main body.
AL95	RAM error (adjustment area)		
AL97	EEPROM error (parameter area)	EEPROM read error	
AL98	EEPROM error (adjustment area)		
AL99	ROM error	ROM (memory) fault	

Chapter 14. MAINTENANCE, INSPECTION, AND DISPOSAL

14 - 1 Maintenance and Inspection

Cleaning	:	When removing dirt from the instrument, wipe it off with a soft cloth rag.
Part replacement	:	Do not replace any parts of this unit.
Fuse replacement	:	When replacing the fuse connected to the electric wiring, always use the fuse that is recommended for your power unit.

14 - 2 Disposal

When disposing of this unit, dispose of it appropriately as industrial waste in accordance with local laws and regulations.

Chapter 15. SPECIFICATIONS

15 - 1 Specifications

■ PV input

Inputs : 4

Thermocouple : K, E, J, T, B, R, S, N (JIS C 1602-1995),
WRe5-26 (ASTM E988-96 (Reapproved 2002)),
PR40-20 (ASTM E1751-00), Ni-Ni • Mo (ASTM E1751-00),
PL II (ASTM E1751-00), DIN U, DIN L (DIN 43710-1985)
Gold-iron/Chromel (ASTM E1751-00)

Resistance temperature detector (RTD)
: Pt100 (JIS C 1604-1997), JPt100 (JIS C 1604-1989)

DC voltage (mV) : 0 to 10 mV, -10 to +10 mV, 0 to 100 mV

DC voltage (V) : 0 to 1 V, -1 to +1 V, 1 to 5 V, 0 to 5 V, 0 to 10 V, 2 to 10 V

DC current : 4 to 20 mA, 0 to 20 mA

Sampling cycle : 500 ms (NX-D15), 200 ms (NX-D25)

- Thermocouple input

Indication accuracy (under standard conditions):

Range type	Sensor type	Range		Accuracy
1	K	–200 to +1200°C	–300 to +2200°F	±0.3% FS (load range ±0.6% FS) ±1 digit
2	K	0 to 1200°C	0 to 2200°F	±0.3% FS±1 digit
3	K	0.0 to 800.0°C	0 to 1500°F	±0.3% FS±1 digit
4	K	0.0 to 600.0°C	0 to 1100°F	±0.3% FS±1 digit
5	K	0.0 to 400.0°C	0 to 700°F	±0.3% FS±1 digit
6	K	–200.0 to +400.0°C	–300 to +700°F	±0.3% FS (load range ±0.6% FS) ±1 digit
7	K	–200.0 to +200.0°C	–300 to +400°F	±0.3% FS (load range ±0.6% FS) ±1 digit
8	J	0 to 1200°C	0 to 2200°F	±0.3% FS±1 digit
9	J	0.0 to 800.0°C	0 to 1500°F	±0.3% FS±1 digit
10	J	0.0 to 600.0°C	0 to 1100°F	±0.3% FS±1 digit
11	J	–200.0 to +400.0°C	–300 to +700°F	±0.3% FS (load range ±0.6% FS) ±1 digit
12	E	0.0 to 800.0°C	0 to 1500°F	±0.3% FS±1 digit
13	E	0.0 to 600.0°C	0 to 1100°F	±0.3% FS±1 digit
14	T	–200.0 to +400.0°C	–300 to +700°F	±0.3% FS (load range ±0.6% FS) ±1 digit
15	R	0 to 1600°C	0 to 3000°F	±0.4% FS (±6.4°C) ±1 digit
16	S	0 to 1600°C	0 to 3000°F	±0.4% FS (±6.4°C) ±1 digit
17	B	0 to 1800°C	0 to 3300°F	800°C to 1800°C: ±0.4% FS (±7.2°C)±1 digit 260°C to 800°C: ±0.8% FS (±14.4°C)±1 digit 0 to 260°C: ±4% FS (±72°C) ±1 digit Indicated value low limit: 20°C±1 digit
18	N	0 to 1300°C	0 to 2300°F	±0.3% FS±1 digit
19	PL II	0 to 1300°C	0 to 2200°F	±0.3% FS±1 digit
20	WRe5-26	0 to 1400°C	0 to 2400°F	±0.3% FS±1 digit
21	WRe5-26	0 to 2300°C	0 to 4200°F	±0.3% FS±1 digit
22	Ni-Ni•Mo	0 to 1300°C	0 to 2300°F	±0.3% FS±1 digit
23	PR40-20	0 to 1900°C	0 to 3400°F	800 to 1900°C: ±1.0% FS (±19.0°C) ±1 digit 300 to 800°C: ±2% FS (±38°C) ±1 digit 0 to 300°C: ±4% FS (±76°C) ±1 digit
24	DIN U	–200.0 to +400.0°C	–300 to +700°F	±0.3% FS (load range ±0.6% FS) ±1 digit
25	DIN L	–100.0 to +800.0°C	–150 to +1500°F	±0.3% FS (load range ±0.6% FS) ±1 digit
26	Gold-iron/ Chromel	0.1 to 360.1 K	–450 to +180°F	±3.0 K±1 digit

Cold junction compensation accuracy
: ±0.5°C (at ambient temperature of 23±2°C)
±1.5°C (at ambient temperature of 0 to 50°C)

Cold junction compensation method
: Internal/external (0°C only) compensation selectable

Maximum allowable input voltage
: ±1 V
Input bias current : 0.2 μA max. (under standard conditions)
Wiring resistance : 0.2 μV/Ω max. (total resistance of all wires)
Allowable parallel connection resistance
: 1 MΩ min.

- RTD input

Indication accuracy (under standard conditions): ±0.3% FS±1 digit
Measuring current : 1.0 mA TYP. (flowed out from terminals A and B)
Allowable wiring resistance : 85 Ω max. (per wire)
Effect of wiring resistance : 0.05% FS/Ω max.

- DC voltage (V-range) input

Indication accuracy (under standard conditions): ±0.3% FS±1 digit
Allowable input voltage : −2 to +12 V
Input bias current : 0 to 1 V range: +2 μA max. (under standard conditions)
1 to 5 V, 1 to 5 V range: +7 μA max. (under standard conditions)
0 to 10 V, 2 to 10 V range: +12 μA max. (under standard conditions)
Wiring resistance : 0 to 1 V range: +2 μV/Ω max. (under standard conditions)
1 to 5 V, 1 to 5 V range: +7 μV/Ω max. (under standard conditions)
0 to 10 V, 2 to 10 V range: +12 μV/Ω max. (under standard conditions)
Input impedance : 1 MΩ min.

- DC voltage (mV-range) input

Indication accuracy (under standard conditions)
: ±0.3% FS±1 digit
Allowable input voltage : ±1 V
Input bias current : 0.2 μA max. (under standard conditions)
Wiring resistance : +0.2 μV/Ω max. (under standard conditions)
Allowable parallel connection resistance
: 1 MΩ min. (range type 83: 2 MΩ min.)

- DC current input

Indication accuracy (under standard conditions)
: ±0.3% FS±1 digit
Allowable input current : 25 mA
Input impedance : 80 Ω max. (when input is 20 mA)

■ Transistor output (output type)

Outputs : 4
Output type : Transistor output (sink type)
External power source rating : DC 5 to 24 V
External power source allowable voltage
: DC 4.5 to 26.4 V
Allowable output current : DC 100 mA max.
OFF-state leakage current : 100 μA max.
ON residual voltage : 0.5 V max.

■ Analog current output (output type)

Outputs	: 4
Output current	: DC 4 to 20 mA (2.4 to 21.6 mA) DC 0 to 20 mA (0 to 22 mA)
Allowable load resistance	: 300 Ω max.
Output accuracy	: ±0.3% FS max. Note that 0 to 0.2 mA is 1% FS
Output resolution	: 1/10000 (4 to 20 mA range), 1/12500 (0 to 20 mA range)
Open voltage	: DC 10 V ±10%

■ Analog voltage output (output type)

Outputs	: 4
Output voltage	: DC 0 to 5 V (DC 0 to 5.5 V) DC 1 to 5 V (DC 0.6 to 5.4 V) DC 0 to 10 V (DC 0 to 11 V) DC 2 to 10 V (DC 1.2 to 10.8 V)
Allowable load resistance	: 4 kΩ min.
Output accuracy	: ±0.3% FS max. Note that 0 to 0.1 V is 1% FS
Output resolution	: 1/8000 (1 to 5 V range) 1/10000 (0 to 5 V range) 1/16000 (2 to 10 V range) 1/20000 (0 to 10 V range)

■ Current transformer input (optional function)

Outputs	: 4
Recommended current transformers	: QN206A (hole diameter: 5.8 mm, 800 turns), QN212A (hole diameter: 12 mm, 800 turns)
Current measurement range	: AC 0.4 to 50.0 A
Maximum allowable current	: 60 A (when no. of turn penetrations is 1)
Indication accuracy	: ±5% FS±1 digit
Indication resolution	: 0.1 A

■ Digital output (optional function)

Outputs	: 4
Output type	: Transistor output (sink type)
External power source rating	: DC 5 to 24 V
External power source allowable voltage	: DC 4.5 to 26.4 V
Allowable output current	: DC 100 mA max.
OFF-state leakage current	: 100 μA max.
ON residual voltage	: 0.5 V max.

■ Digital input (optional function)

Inputs	: 4
Compatible output type	: Dry contact or transistor (sink type)
Open terminal voltage	: DC 5 V ±10%
Terminal current (when shorted)	: 5.6 mA (typical)
Allowable ON resistance	: 250 Ω max.
Allowable OFF resistance	: 100 kΩ min.
Allowable ON residual voltage	: 1 V max.
OFF leak current	: 0.1 mA max.

■ Standard conditions

Ambient temperature	: 23±2°C
Ambient humidity	: 60±5% RH (without condensation)
Rated voltage	: DC 24 V
Vibration	: 0 m/s^2
Shock	: 0 m/s^2
Installation angle	: (Reference plane) ±3°

■ Operating conditions

Ambient temperature	: 0 to 50°C (at unit underside when installed)
Ambient humidity	: 10 to 90% RH (without condensation)
Allowable operating voltage	: DC 21.6 to 26.4 V
Vibration	: 0 to 3.2 m/s^2 (10 to 150 Hz for 2 h each in X, Y, and Z directions)
Shock	: 0 to 9.8 m/s^2
Installation angle	: (Reference plane) ±3°
Dust	: 0.3 mg/m^3 max.
Corrosive gas	: None
Altitude	: 2000 m max.

■ Transport and storage conditions

Ambient temperature	: −20 to 70°C
Ambient humidity	: 5 to 95% RH (without condensation)
Vibration	: 0 to 9.8 m/s^2 (10 to 150 Hz for 2 h each in X, Y, and Z directions)
Shock	: 0 to 300 m/s^2 (when installed to the DIN rail, 3 times in the up-down direction)
Package drop test	: 60 cm drop height (using the free drop method for 1 corner, 3 ridges and 6 faces)

■ Other

Storage method : Nonvolatile memory
Insulation resistance : 20 MΩ min.
Voltage resistance : AC 500 V, 1 min
(Power terminal, and between the power terminal and insulated I/O terminals)
Power consumption : 4 W max. (under operating conditions)
Inrush current : Max. 20 A (under operating conditions)
Case material, color : Modified PPO resin, black
Installation method : DIN rail installation
Correct tightening torque : 0.6±0.1 N•m

■ Communication specifications

- Ethernet communication
  protocol : MODBUS TCP
- RS-485 communication
  protocol : MODBUS (RTU/ASCII), CPL
  Signal level : RS-485 compliant
  Communication/synchronization method
  : Half-duplex, start/stop synchronization
  Max. line length : 500 m
  Terminating resistor : External (150 Ω 1/2 W min.)
  Transmission speed : Max. 115200 bps

■ Communication box (sold separately, model no.: NX-CB1_ _ _ _)

Transmission path type : • Ports 1, 2
IEEE802.3/IEEE802.3u 10BASE-T/100BASE-TX
(With auto-negotiation, Auto MDI/MDI-X functions)
• Ports 3, 4
IEEE802.3u 100BASE-TX
(With Full Duplex, Auto MDI/MDI-X functions. Unless there is a connection between communication boxes, the auto-negotiation should be enabled for the connected devices.
Connector : RJ-45
Cable : UTP cable (4P), category 5e or higher (straight)
(EIA/TIA568)

■ Communication adapter (sold separately, model nos.: NX-CL1_ _ _ _ , NX-CR1_ _ _ _)

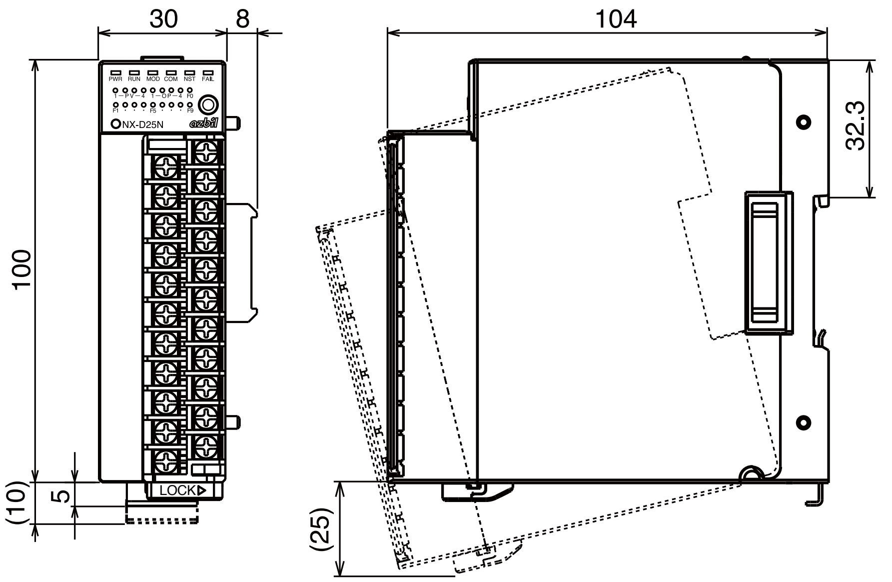
Transmission path type : IEEE802.3u 100BASE-TX
(With Full Duplex, Auto MDI/MDI-X functions. The auto-negotiation should be enabled for the connected devices)
Connector : RJ-45
Cable : UTP cable (4P), category 5e or higher (straight)
(EIA/TIA568)

15 - 2 External Dimensions

■ Controller module

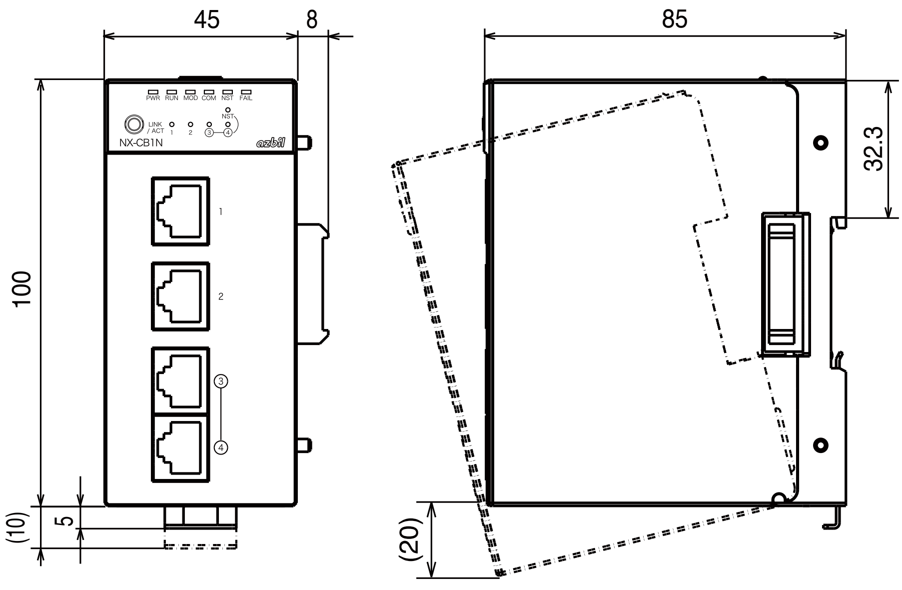
Although the NX-D25 is used in the following diagrams, the dimensions for the NX-D15 and NX-D25 are all the same.

Unit: mm



■ Communication box

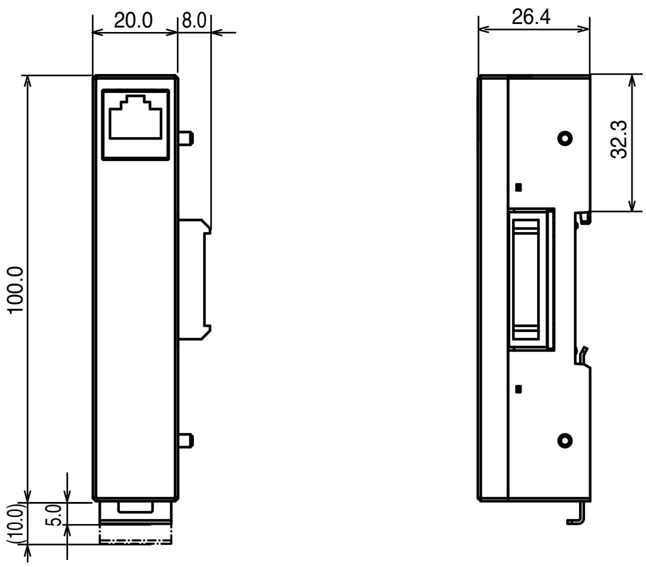
Unit: mm



■ Communication adapter

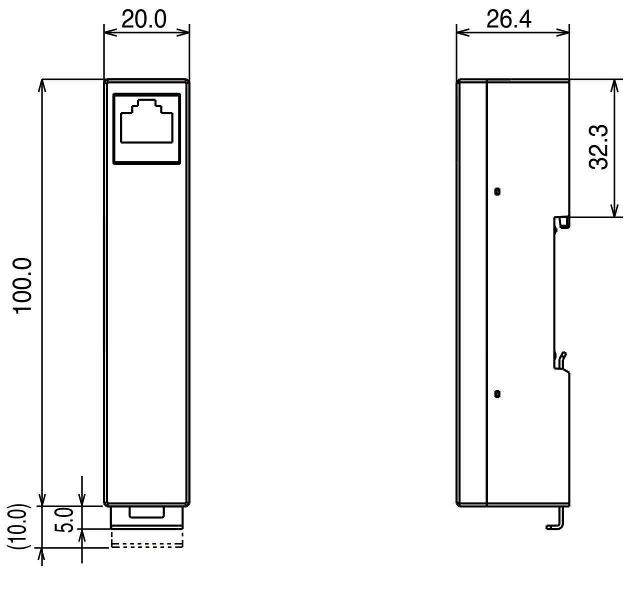
● For left connection

Unit: mm



● For right connection

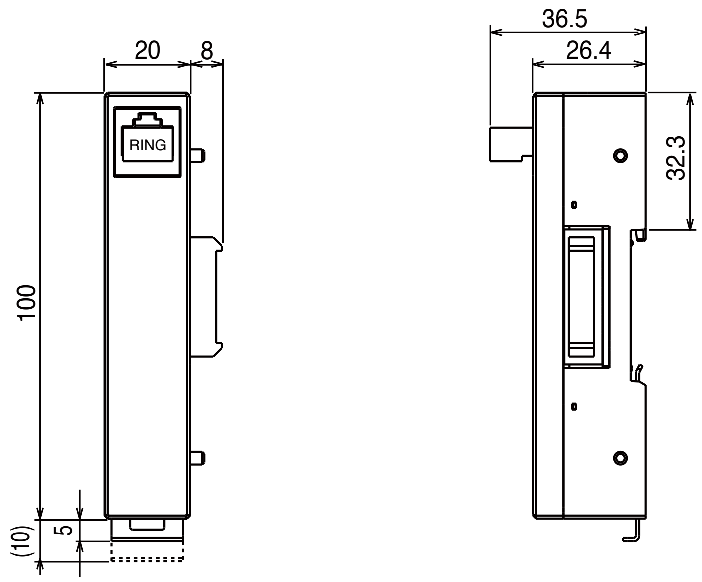
Unit: mm



■ Terminal adapter

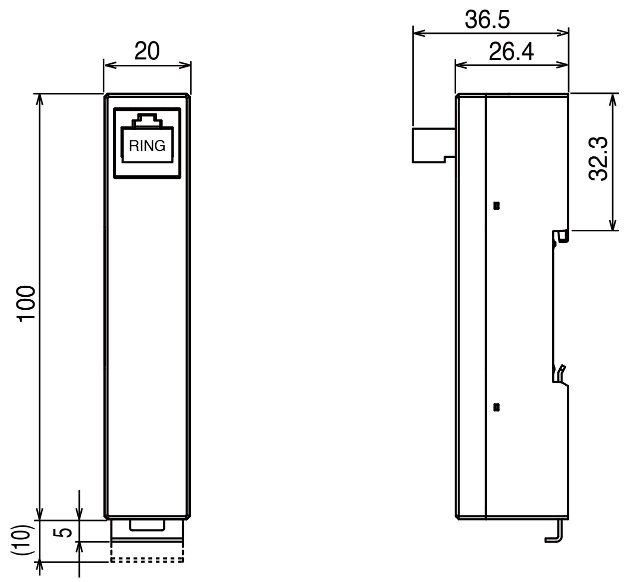
● For left connection

Unit: mm



● For right connection

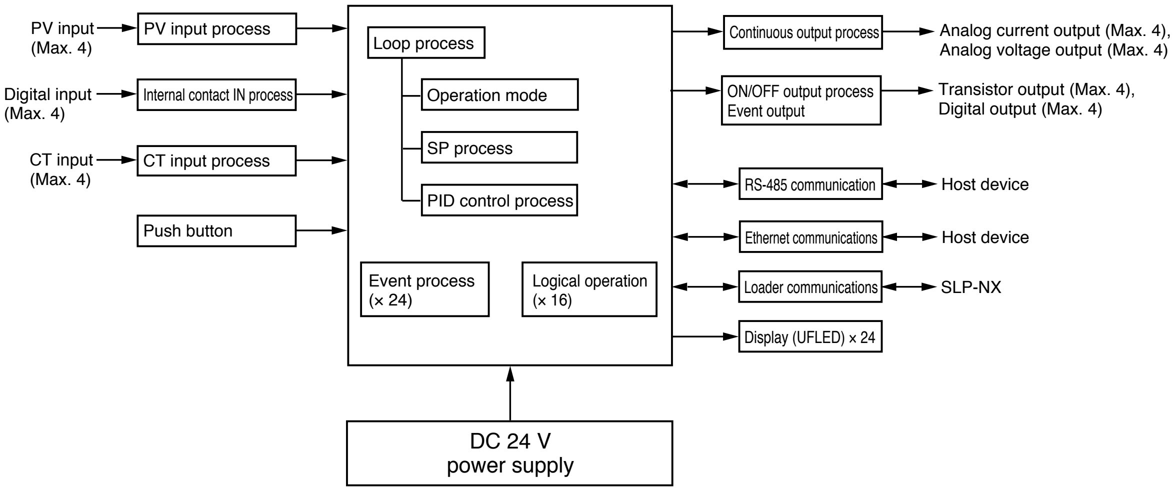
Unit: mm



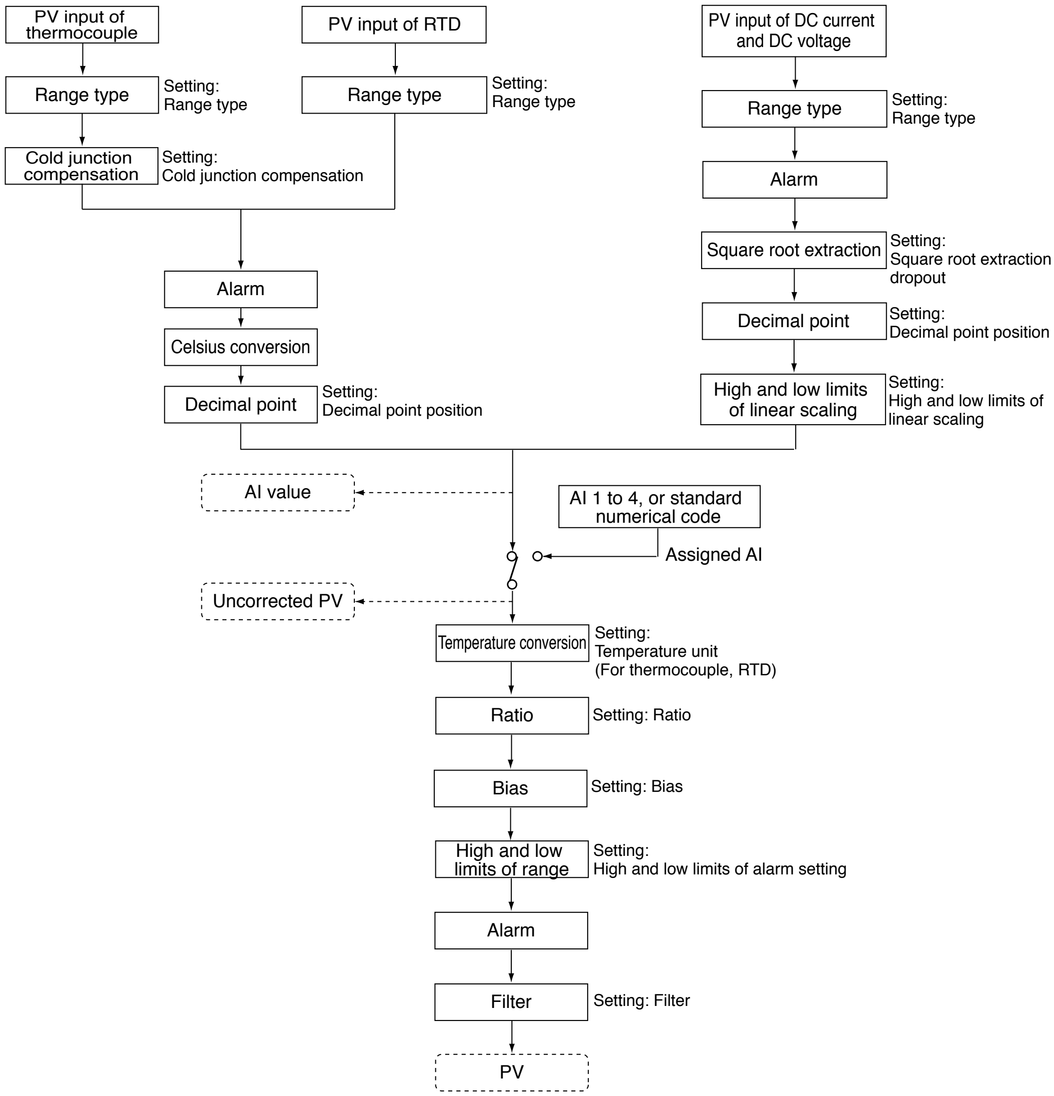
Appendices

Appendix - 1 Function Block Diagrams

■ Basic function block diagram

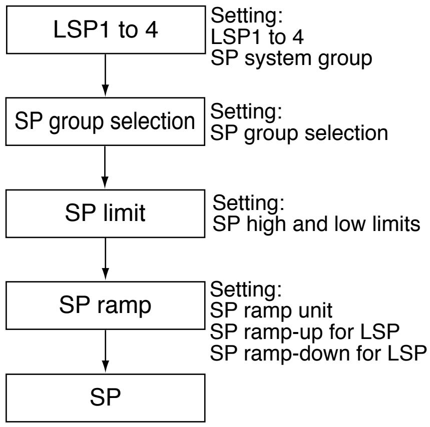


■ PV input process block diagram



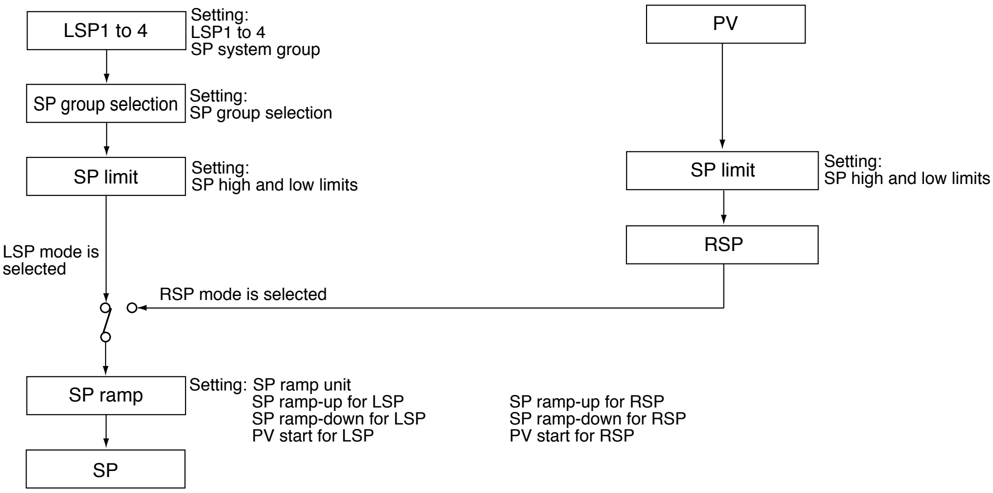
■ SP process block diagram

The following describes an SP process without using RSP.

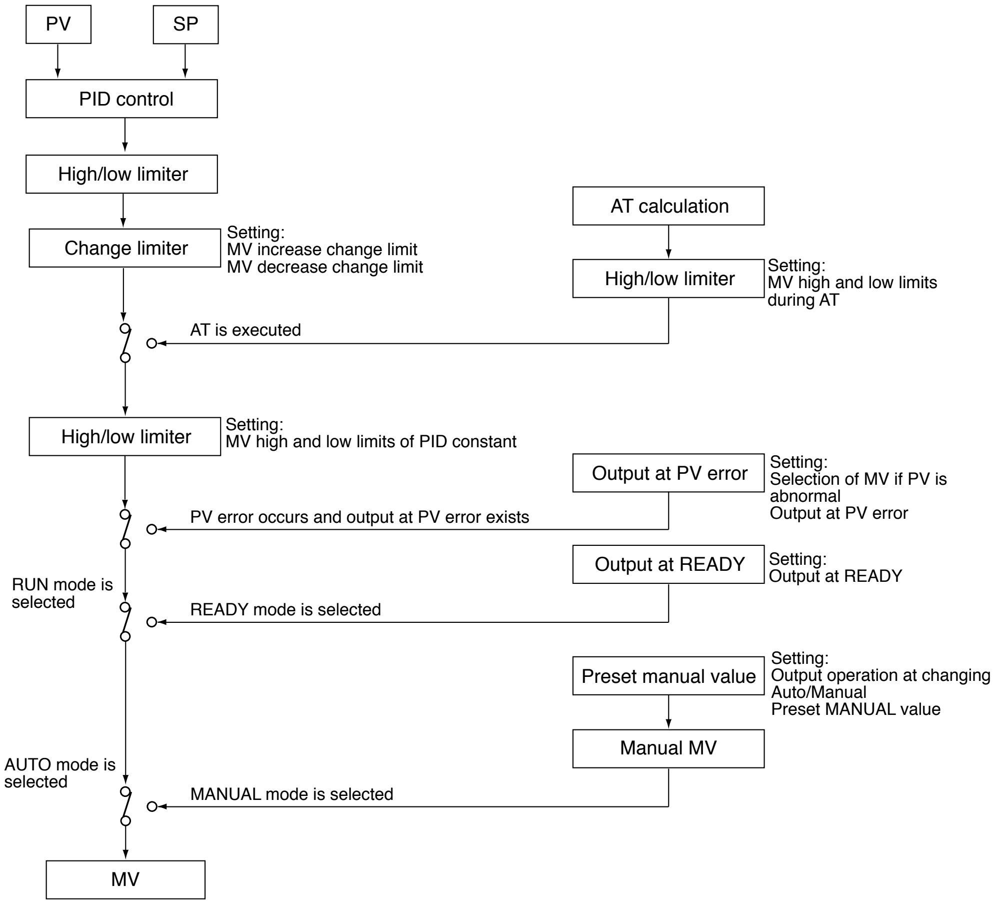


■ SP process block diagram (with RSP)

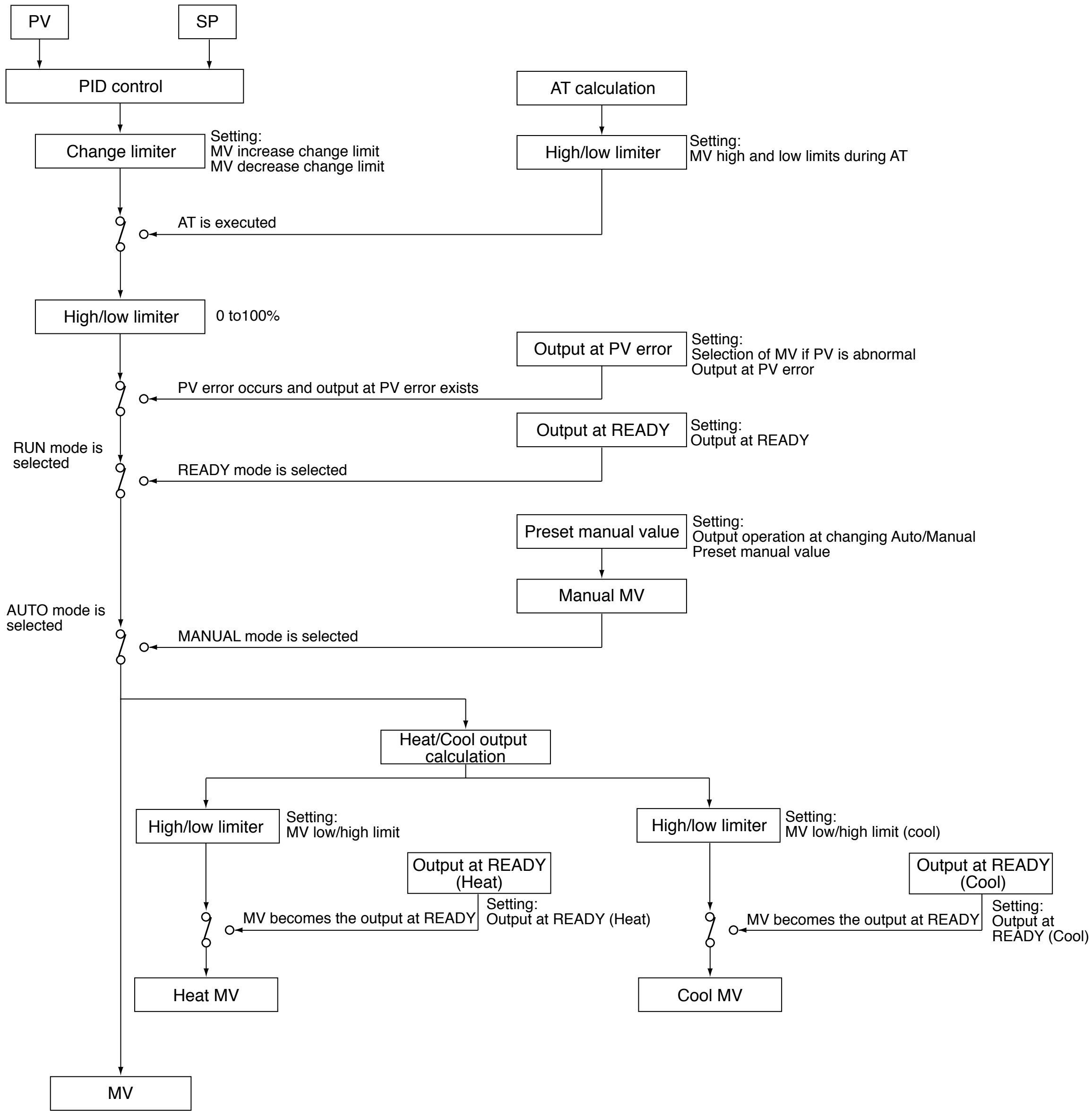
The following describes an SP process with RSP.



■ PID control process block diagram (direct or reverse action)

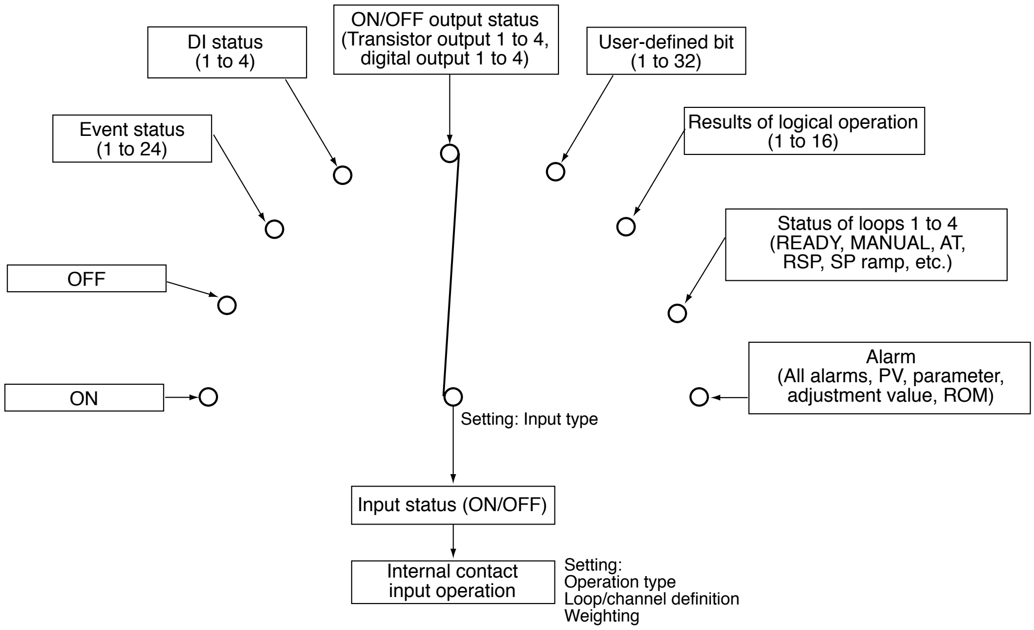


■ PID control process block diagram (heat/cool control)



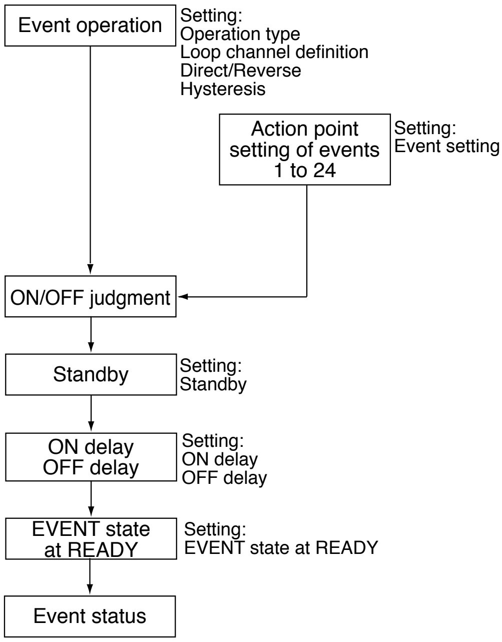
■ Internal contact input process block diagram

There are 16 groups of internal contact input processes. All groups use the same process. Settings are provided for each group.



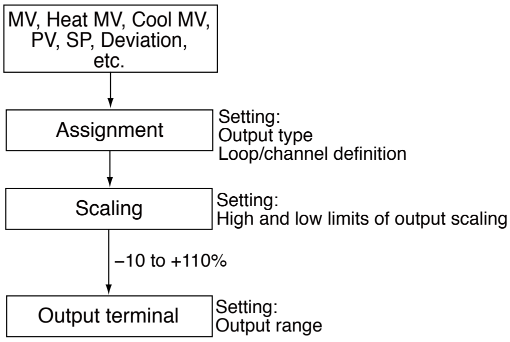
■ Event process block diagram

There are 24 groups of event processes. All groups use the same process. Settings are provided for each group.



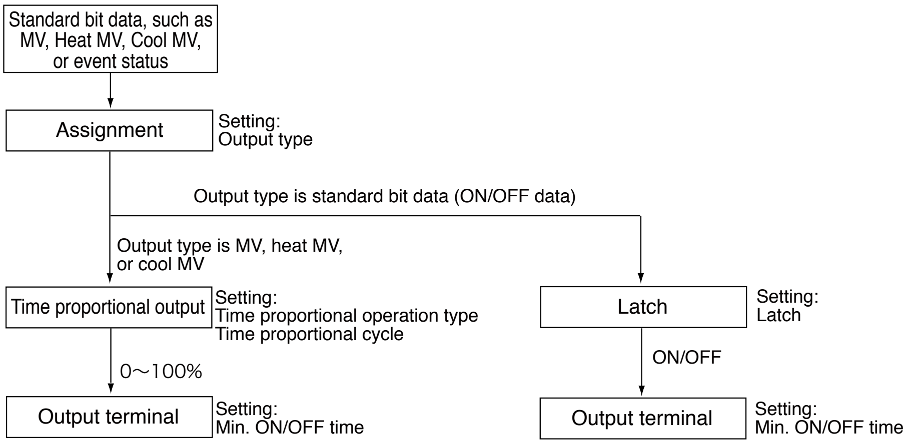
■ Continuous output process block diagram

The following shows the analog current output and analog voltage output processes:

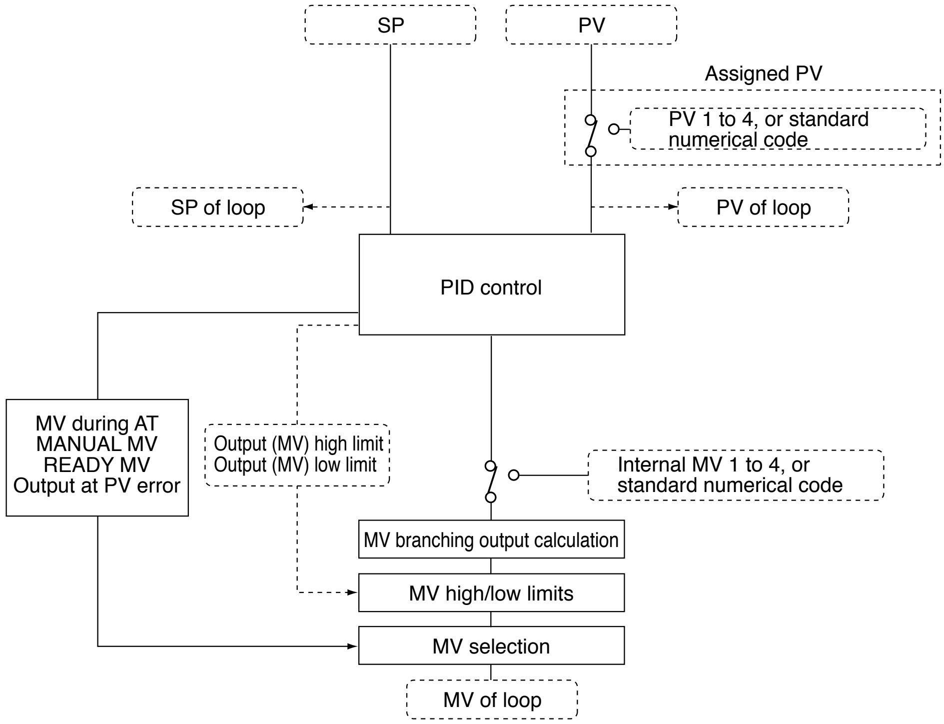


■ ON/OFF output process block diagram

The following shows the transistor output and digital output processes:



■ MV branching output process block diagram



Appendix - 2 Standard Bit Codes and Standard Numerical Codes

■ Standard bit codes

The range of the standard bit codes is 1024 to 2047.

Codes that do not appear in this table are undefined. Do not use such codes.

Standard bit code	Meaning of standard bit code
1024	Always 0 (Off)
1025	Always 1 (On)
1088	Event 1
1089	Event 2
1090	Event 3
1091	Event 4
1092	Event 5
1093	Event 6
1094	Event 7
1095	Event 8
1096	Event 9
1097	Event 10
1098	Event 11
1099	Event 12
1100	Event 13
1101	Event 14
1102	Event 15
1103	Event 16
1104	Event 17
1105	Event 18
1106	Event 19
1107	Event 20
1108	Event 21
1109	Event 22
1110	Event 23
1111	Event 24
1120	CT1 heater line break detection
1121	CT2 heater line break detection
1122	CT3 heater line break detection
1123	CT4 heater line break detection
1124	CT1 overcurrent detection
1125	CT2 overcurrent detection
1126	CT3 overcurrent detection
1127	CT4 overcurrent detection
1128	CT1 short-circuit detection
1129	CT2 short-circuit detection
1130	CT3 short-circuit detection
1131	CT4 short-circuit detection
1152	DI1 terminal status
1153	DI2 terminal status
1154	DI3 terminal status
1155	DI4 terminal status
1280	OUT1 terminal status
1281	OUT2 terminal status
1282	OUT3 terminal status
1283	OUT4 terminal status
1284	DO1 terminal status
1285	DO2 terminal status
1286	DO3 terminal status
1287	DO4 terminal status
1408	User-defined bit 1
1409	User-defined bit 2
1410	User-defined bit 3
1411	User-defined bit 4
1412	User-defined bit 5
1413	User-defined bit 6

Standard bit code	Meaning of standard bit code
1414	User-defined bit 7
1415	User-defined bit 8
1416	User-defined bit 9
1417	User-defined bit 10
1418	User-defined bit 11
1419	User-defined bit 12
1420	User-defined bit 13
1421	User-defined bit 14
1422	User-defined bit 15
1423	User-defined bit 16
1424	User-defined bit 17
1425	User-defined bit 18
1426	User-defined bit 19
1427	User-defined bit 20
1428	User-defined bit 21
1429	User-defined bit 22
1430	User-defined bit 23
1431	User-defined bit 24
1432	User-defined bit 25
1433	User-defined bit 26
1434	User-defined bit 27
1435	User-defined bit 28
1436	User-defined bit 29
1437	User-defined bit 30
1438	User-defined bit 31
1439	User-defined bit 32
1440	Results of logical operation 1
1441	Results of logical operation 2
1442	Results of logical operation 3
1443	Results of logical operation 4
1444	Results of logical operation 5
1445	Results of logical operation 6
1446	Results of logical operation 7
1447	Results of logical operation 8
1448	Results of logical operation 9
1449	Results of logical operation 10
1450	Results of logical operation 11
1451	Results of logical operation 12
1452	Results of logical operation 13
1453	Results of logical operation 14
1454	Results of logical operation 15
1455	Results of logical operation 16
1545	RS-485 status (normal reception of 1 frame)
1568	Loop 1 RUN/READY status
1569	Loop 2 RUN/READY status
1570	Loop 3 RUN/READY status
1571	Loop 4 RUN/READY status
1584	Loop 1 Auto/Manual status
1585	Loop 2 Auto/Manual status
1586	Loop 3 Auto/Manual status
1587	Loop 4 Auto/Manual status
1600	Loop 1 AT pause/AT status
1601	Loop 2 AT pause/AT status
1602	Loop 3 AT pause/AT status
1603	Loop 4 AT pause/AT status

Standard bit code	Meaning of standard bit code
1616	Loop 1 LSP/RSP status
1617	Loop 2 LSP/RSP status
1648	Loop 1 SP ramp-up in progress
1649	Loop 2 SP ramp-up in progress
1650	Loop 3 SP ramp-up in progress
1651	Loop 4 SP ramp-up in progress
1664	Loop 1 SP ramp-down in progress
1665	Loop 2 SP ramp-down in progress
1666	Loop 3 SP ramp-down in progress
1667	Loop 4 SP ramp-down in progress
1792	Representative of all alarms
1808	AD1 fault (AL11)
1809	AD2 fault (AL12)
1810	AD3 fault (AL13)
1811	AD4 fault (AL14)
1824	PV1 high limit error (AL01)
1825	PV2 high limit error (AL03)
1826	PV3 high limit error (AL05)
1827	PV4 high limit error (AL07)
1840	PV1 low limit error (AL02)
1841	PV2 low limit error (AL04)
1842	PV3 low limit error (AL06)
1843	PV4 low limit error (AL08)
1856	CJ1 error (AL71)
1857	CJ2 error (AL72)
1858	CJ3 error (AL73)
1859	CJ4 error (AL74)
1920	Reception monitoring 1
1921	Reception monitoring 2
1922	Reception monitoring 3
1923	Reception monitoring 4
1924	Reception monitoring 5
1925	Reception monitoring 6
1926	Reception monitoring 7
1927	Reception monitoring 8
1928	Reception monitoring 9
1929	Reception monitoring 10
1930	Reception monitoring 11
1931	Reception monitoring 12
1932	Reception monitoring 13
1933	Reception monitoring 14
1934	Reception monitoring 15
1935	Reception monitoring 16
1952	CT1 input error (AL25)
1953	CT2 input error (AL26)
1954	CT3 input error (AL27)
1955	CT4 input error (AL28)
1968	Parameter error (AL94/AL97)
1969	Adjustment data error (AL95/AL98)
1970	EEPROM not initialized (AL83)
1972	ROM error (AL99)
1974	EEPROM R error (AL86)
1980	Transmission time-out between modules (AL32)
1981	Writing to EEPROM

■ Standard numerical codes

The range of the standard numerical codes is 2048 to 3071.

Codes that do not appear in this table are undefined. Do not use such codes.

Standard numerical code	Meaning of standard numerical code
2111	User defined number 1
2112	User defined number 2
2113	User defined number 3
2114	User defined number 4
2115	User defined number 5
2116	User defined number 6
2117	User defined number 7
2118	User defined number 8
2119	User defined number 9
2120	User defined number 10
2121	User defined number 11
2122	User defined number 12
2123	User defined number 13
2124	User defined number 14
2125	User defined number 15
2126	User defined number 16
2304	PV1
2305	PV2
2306	PV3
2307	PV4
2312	AI1
2313	AI2
2314	AI3
2315	AI4
2320	Loop 1 PV
2321	Loop 2 PV
2322	Loop 3 PV
2323	Loop 4 PV
2336	Loop 1 SP (in use)
2337	Loop 2 SP (in use)
2338	Loop 3 SP (in use)
2339	Loop 4 SP (in use)
2352	Loop 1 SP (final value)
2353	Loop 2 SP (final value)
2354	Loop 3 SP (final value)
2355	Loop 4 SP (final value)
2416	Loop 1 MV
2417	Loop 2 MV
2418	Loop 3 MV
2419	Loop 4 MV

Standard numerical code	Meaning of standard numerical code
2432	Loop 1 MV for heating
2433	Loop 2 MV for heating
2448	Loop 1 MV for cooling
2449	Loop 2 MV for cooling
2496	CT1 measured current when output ON
2497	CT2 measured current when output ON
2498	CT3 measured current when output ON
2499	CT4 measured current when output ON
2512	CT1 measured current when output OFF
2513	CT2 measured current when output OFF
2514	CT3 measured current when output OFF
2515	CT4 measured current when output OFF
2528	Loop 1 deviation (PV - SP)
2529	Loop 2 deviation (PV - SP)
2530	Loop 3 deviation (PV - SP)
2531	Loop 4 deviation (PV - SP)
2656	Event 1 timer remaining time
2657	Event 2 timer remaining time
2658	Event 3 timer remaining time
2659	Event 4 timer remaining time
2660	Event 5 timer remaining time
2661	Event 6 timer remaining time
2662	Event 7 timer remaining time
2663	Event 8 timer remaining time
2664	Event 9 timer remaining time
2665	Event 10 timer remaining time
2666	Event 11 timer remaining time
2667	Event 12 timer remaining time
2668	Event 13 timer remaining time
2669	Event 14 timer remaining time
2670	Event 15 timer remaining time
2671	Event 16 timer remaining time
2672	Event 17 timer remaining time
2673	Event 18 timer remaining time
2674	Event 19 timer remaining time
2675	Event 20 timer remaining time
2676	Event 21 timer remaining time
2677	Event 22 timer remaining time
2678	Event 23 timer remaining time
2679	Event 24 timer remaining time

Appendix - 3 Abbreviations and Terms

Abbreviations are used in the descriptions, tables, and illustrations of this manual. The main abbreviations are described below.

AT	:	Auto Tuning. The PID is automatically adjusted to the optimal numeric value.
DI	:	Digital input
DO	:	Digital output (control output of relay and voltage pulse, and event output)
OL	:	Output Low. Output low limit, a minimum limit level for the output, is set.
OH	:	Output High. Output high limit, a maximum limit level for the output, is set.
PID	:	PID has the following meanings. P (Proportioning). Proportional operation. I (Integral). Integral operation or reset operation. D (Derivative). Derivative operation or rate operation.
PV	:	Process Variable. Measured values of the thermocouple, RTD, and linear input.
SP	:	Set value of Set Point. For example, a set point for controlling the temperature.
LSP	:	Local Set Point. A set value stored in the controller.
RSP	:	Remote Set Point. A set value given from the outside by an analog signal.
MV	:	Manipulated Variable. The output of the instrument to be controlled. This output shows the PID control results.
Setup	:	The selection of settings to suit the operations of a device that incorporates operating conditions, such as control action.
Hysteresis	:	An operation gap during event operation. The difference between the value at which the event OFF is changed to ON and the value at which the event ON is changed to OFF. Hysteresis is shown as “HYS” in the Figs. in this manual.
EV	:	Event. EV shows the set value of the event function. The event function is the ON/OFF signal function, which is output depending on the control status. EV with numeric values added, like EV1 or EV2, expresses an event function. The numeric value indicates the corresponding event number.
U	:	An abbreviation of “Unit”. This shows the minimum unit of the setting. When the number of digits below the decimal point of the set value is “0”, “1”, “2”, “3”, and “4”, 1 U = 1, 1 U = 0.1, 1 U = 0.01, 1 U = 0.001, and 1 U = 0.0001, respectively.
Heat/cool output	:	Control output, which is output when the heat output is related to the cool output within one controller.
AUTO	:	An auto operation status where the PID control result is used as MV.
MANUAL	:	A manual operation status where a value manually set by the operator is used as MV.
READY	:	A standby status, in which the control calculation is stopped.
RUN	:	A status in which the control calculation is executed.

Revision History

Printed date	Manual Number	Edition	Revised pages	Description
Mar. 2010	**CP-UM-1308E**	**1st Edition**		
Oct. 2010		**2nd Edition**		**Overall revision**

Terms and Conditions

We would like to express our appreciation for your purchase and use of Yamatake products.
You are required to acknowledge and agree upon the following terms and conditions for your purchase of Yamatake products (field instruments, control valves, and control products), unless otherwise stated in any separate document, including, without limitation, estimation sheets, written agreements, catalogs, specifications and instruction manuals.

1. Warranty period and warranty scope

1.1 Warranty period

Yamatake products shall be warranted for one (1) year from the date of your purchase of the said products or the delivery of the said products to a place designated by you.

1.2 Warranty scope

In the event that Yamatake product has any failure attributable to Yamatake during the aforementioned warranty period, Yamatake shall, without charge, deliver a replacement for the said product to the place where you purchased, or repair the said product and deliver it to the aforementioned place.
Notwithstanding the foregoing, any failure falling under one of the following shall not be covered under this warranty:

(1) Failure caused by your improper use of Yamatake product
(noncompliance with conditions, environment of use, precautions, etc. set forth in catalogs, specifications, instruction manuals, etc.);
(2) Failure caused for other reasons than Yamatake product;
(3) Failure caused by any modification or repair made by any person other than Yamatake or Yamatake's subcontractors;
(4) Failure caused by your use of Yamatake product in a manner not conforming to the intended usage of that product;
(5) Failure that the state-of-the-art at the time of Yamatake's shipment did not allow Yamatake to predict; or
(6) Failure that arose from any reason not attributable to Yamatake, including, without limitation, acts of God, disasters, and actions taken by a third party.

Please note that the term "warranty" as used herein refers to equipment-only-warranty, and Yamatake shall not be liable for any damages, including direct, indirect, special, incidental or consequential damages in connection with or arising out of Yamatake products.

2. Ascertainment of suitability

You are required to ascertain the suitability of Yamatake product in case of your use of the same with your machinery, equipment, etc. (hereinafter referred to as "Equipment") on your own responsibility, taking the following matters into consideration:

(1) Regulations and standards or laws that your Equipment is to comply with.
(2) Examples of application described in any documents provided by Yamatake are for your reference purpose only, and you are required to check the functions and safety of your Equipment prior to your use.
(3) Measures to be taken to secure the required level of the reliability and safety of your Equipment in your use
Although Yamatake is constantly making efforts to improve the quality and reliability of Yamatake products, there exists a possibility that parts and machinery may break down.
You are required to provide your Equipment with fool-proof design, fail-safe design, anti-flame propagation design, safety design, or the like so that the said Equipment may satisfy the level of the reliability and safety required in your use, whereby preventing any occurrence of physical injuries, fires, significant damage, and so forth.

3. Precautions and restrictions on application

Yamatake products other than those explicitly specified as applicable (e.g. Yamatake Limit Switch For Nuclear Energy) shall not be used in a nuclear energy controlled area (radiation controlled area).
Any Yamatake products shall not be used for/with medical equipment.
In addition,
you are required to conduct a consultation with our sales representative and understand detail specifications, cautions for operation, and so forth by reference to catalogs, specifications, instruction manual, etc. in case that you intend to use Yamatake product for any purposes specified in (1) through (6) below.
Moreover, you are required to provide your Equipment with fool-proof design, fail-safe design, anti-flame propagation design and other designs of protection/safety circuit on your own responsibility to ensure the reliability and safety, whereby preventing problems caused by failure or nonconformity.

(1) For use under such conditions or in such environments as not stated in technical documents, including catalogs, specification, and instruction manuals
(2) For use of specific purposes, such as:
 * Nuclear energy/radiation related facilities
 [For use outside nuclear energy controlled areas] [For use of Yamatake Limit Switch For Nuclear Energy]
 * Machinery or equipment for space/sea bottom
 * Transportation equipment
 [Railway, aircraft, vessels, vehicle equipment, etc.]
 * Antidisaster/crime-prevention equipment
 * Burning appliances
 * Electrothermal equipment
 * Amusement facilities
(3) Supply systems such as electricity/gas/water supply systems, large-scale communication systems, and traffic/air traffic control systems requiring high reliability
(4) Facilities that are to comply with regulations of governmental/public agencies or specific industries
(5) Machinery or equipment that may affect human lives, human bodies or properties
(6) Other machinery or equipment equivalent to those set forth in items (1) to (5) above which require high reliability and safety

4. Precautions against long-term use

   Use of Yamatake products, including switches, which contain electronic components, over a prolonged period may degrade insulation or increase contact-resistance and may result in heat generation or any other similar problem causing such product or switch to develop safety hazards such as smoking, ignition, and electrification. Although acceleration of the above situation varies depending on the conditions or environment of use of the products, you are required not to use any Yamatake products for a period exceeding ten (10) years unless otherwise stated in specifications or instruction manuals.

5. Recommendation for renewal

   Mechanical components, such as relays and switches, used for Yamatake products will reach the end of their life due to wear by repetitious open/close operations.
   In addition, electronic components such as electrolytic capacitors will reach the end of their life due to aged deterioration based on the conditions or environment in which such electronic components are used.
   Although acceleration of the above situation varies depending on the conditions or environment of use, the number of open/close operations of relays, etc. as prescribed in specifications or instruction manuals, or depending on the design margin of your machine or equipment, you are required to renew any Yamatake products every 5 to 10 years unless otherwise specified in specifications or instruction manuals.
   Field instruments (sensors such as pressure/flow/level sensors, regulating valves, etc.) will reach the end of their life due to aged deterioration of parts.
   For those parts that will reach the end of their life due to aged deterioration, recommended replacement cycles are prescribed. You are required to replace parts based on such recommended replacement cycles.

6. Other precautions

   Prior to your use of Yamatake products, you are required to understand and comply with specifications (e.g., conditions and environment of use), precautions, warnings/cautions/notices as set forth in the technical documents prepared for individual Yamatake products, such as catalogs, specifications, and instruction manuals to ensure the quality, reliability, and safety of those products.

7. Changes to specifications

   Please note that the descriptions contained in any documents provided by Yamatake are subject to change without notice for improvement or for any other reason.
   For inquires or information on specifications as you may need to check, please contact our branch offices or sales offices, or your local sales agents.

8. Discontinuance of the supply of products/parts

   Please note that the production of any Yamatake product may be discontinued without notice.
   For repairable products, we will, in principle, undertake repairs for five (5) years after the discontinuance of those products. In some cases, however, we cannot undertake such repairs for reasons, such as the absence of repair parts.
   For field instruments, we may not be able to undertake parts replacement for similar reasons.

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Specifications are subject to change without notice. (08)

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