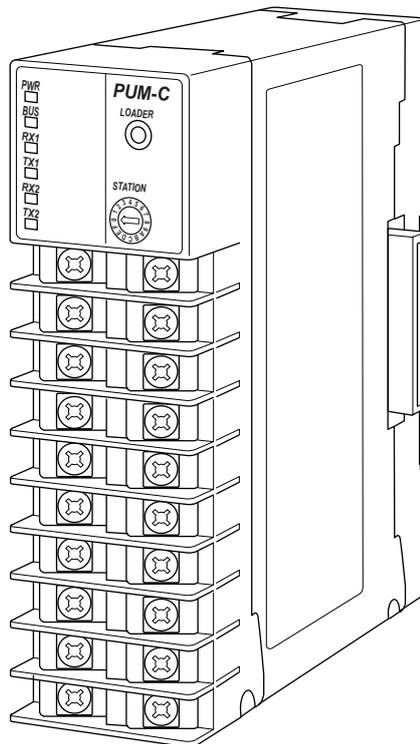


## User's Manual

# MULTI-LOOP MODULE TYPE TEMPERATURE CONTROLLER <Enhanced Communication Module (Mitsubishi's PLC programless communication)>

TYPE: PUMCM





## Please Read First (Safety Warnings)

Please read this section thoroughly before using and observe the mentioned safety warnings fully.

Safety warnings are categorized as "Warning", "Caution" or "Risk of Electrical Shock".

⚠ Warning	Improper use of the equipment may result in death or serious injuries.
⚠ Caution	Improper use of the equipment may cause injury or property damage.
Risk of ⚠ Electrical Shock	Indicates that a risk of electrical shock is present and the associated warning should be observed.

## ⚠ Warning

### Installation and Wiring

- This equipment is intended to be used under the following conditions.

Ambient temperature	-10 to 50 degree C
Ambient humidity	90% RH or below (with no condensation)
Vibration	10 to 70Hz less than 9.8m/s <sup>2</sup> (1G)
Warm-up time	30 min. or more
Installation category	IEC1010-1: class II
Pollution level	IEC1010-1: degree 2

- Between the temperature sensor and the location where the voltage reaches or generates the values described below, secure clearance space and creepage distance as shown in the table below.

If such space cannot be secured, the EN61010 safety compliance may become invalid.

Voltage used or generated by any assemblies	Clearance Space [mm]	Creepage Space [mm]
Up to 50 Vrms or Vdc	0.2	1.2
Up to 100 Vrms or Vdc	0.2	1.4
Up to 150 Vrms or Vdc	0.5	1.6
Up to 300 Vrms or Vdc	1.5	3.0
Above 300 Vrms or Vdc	Please consult our distributor	

- For the above, if voltage exceeds 50Vdc (called danger voltage), functional insulation is required between the earth and all terminals of the equipment.

Note that the insulation class for this equipment is as follows. Before installing, please confirm that the insulation class for equipment meets usage requirements.

Power supply	RS-232C communication
Loader communication	RS-422 communication RS-485 communication

- In cases where damage or problems with this equipment may lead to serious accidents, install appropriate external protective circuits.
- To prevent damage and failure of the equipment, provide the rated power voltage.
- To prevent electric shock and equipment failure, do not turn the power ON until all wiring is complete.
- Before turning the power ON, confirm that clearance space has been secured to prevent shock or fire.
- Do not touch the terminal while the machine is ON. Doing so risks shock or equipment errors.
- Never disassemble, convert, modify or repair this equipment. Doing so risks abnormal operation, shock or fire.
- All of the wiring should be class 1 type wiring or the low voltage wires are routed separately from the hazardous voltage wires to ensure separation of circuits.
- When using a AWG-16 cable, you should use the crimp terminal that material thickness is 0.9mm or less.

### Maintenance

- When installing or removing the equipment, turn the power OFF. Otherwise, shock, operational errors or failures may be caused.
- Periodic maintenance is recommended for continuous and safe use of this equipment.
- Some parts installed on this equipment have a limited life and/or may deteriorate with age.
- The warranty period for this unit (including accessories) is one year, if the product is used properly.

## ⚠ Caution

### Cautions when Installing

For install in UL listed enclosure only.

Please avoid installing in the following locations.

- Locations in which the ambient temperature falls outside the range of 0 to 50 degrees C when equipment is in use.
- Locations in which the ambient humidity falls outside the range of 45 to 85% RH when equipment is in use.
- Locations with rapid temperature changes, leading to dew condensation.
- Locations with corrosive gases (especially sulfide gas, ammonia, etc.) or flammable gases.
- Locations with vibration or shock directly.

- Locations in contact with water, oil, chemicals, steam or hot water.  
(If the equipment gets wet, there is a risk of electric shock or fire, so have it inspected by Fuji distributor.)
- Locations with high concentrations of atmospheric dust, salt or iron particles.
- Locations with large inductive interference, resulting in static electricity, magnetic fields or noise.
- Locations in direct sunlight.
- Locations that build up heat from radiant heat sources, etc.
- A switch or circuit breaker shall be included in the building installation. Please be it in close proximately to the equipment and within easy reach of the operator, and mark it as the disconnecting device for the equipment.

#### Cautions when Mounting to Cabinets/DIN Rails

- In case of mounting the temperature controllers to DIN rails, remember to push up the locking tabs to fasten the controllers onto DIN rail.
- To connect controllers, first release all locking tabs. Then, connect controllers and push up all locking tabs. Make sure that all locking tabs are fastened.
- Never fail to turn the power OFF, before detaching the terminal block or removing the main unit from the base part.
- In order to aid heat dissipation, do not block the top and the bottom of the equipment.
- When mounting/dismounting controllers to /from DIN rails, 30mm of clearance above and under the controllers should be provided.

#### Cautions for Wiring

- For wiring to the terminal block, apply crimp type terminals size M3.  
Use terminal screws in this product only.  
Screw size: M3×7 (with square washer)  
Screw tightening torque: 0.78 N • m (8kgf • cm)
- To avoid the influence of inductive noise, input signal wires should be separated from electric power lines or load lines.
- To use the RS-232C communication, attach noise filters to the AC power lines. (Not necessary, provided that the noise suppression of the power line is thoroughgoing)
- To comply with CE marking (EMC), we recommend to attach ferrite core to communication cable and power cable.

#### Error Operation

- The alarm function does not work properly when an error occurs unless the settings are made correctly. Always verify its setting before operation.

#### Others

- Please do not wipe the equipment with organic solvents such as alcohol or benzene, etc. If wiping is necessary, use a neutral cleaning agent.
- Do not use mobile phones near this equipment (within 50cm). Otherwise a malfunction may result.
- Malfunctions may occur if the equipment is used near a radio, TV, or wireless device.
- This equipment requires approx. 5 to 30 seconds before it starts to output.
- Before installing and wiring, take necessary measures for electrostatic discharge (ESD).
- The power supply for this product is 24V DC. Please use the power source of appropriate volume depending on the number of units you connect.

Recommended power supply:

Cosel Electronics Co., Ltd. PBA Series

Omron Corporation S8VM Series

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# 1

# Overview

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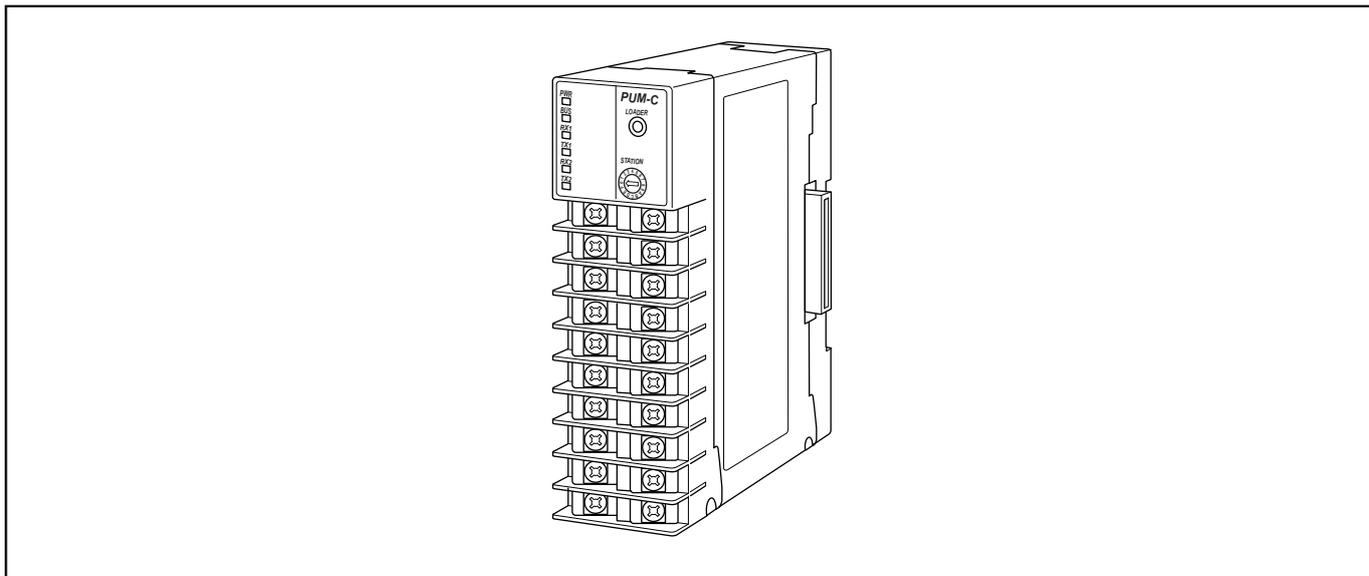
# 1.1 Overview

An Enhanced communication module, PUMCM is for enabling MELSEC-Q/A/AnS/FX series (hereinafter referred to as PLC) produced by Mitsubishi's Electric Corporation (hereinafter called PLC) and a multi-loop module type temperature controller, PUM series, to communicate each other using programless communications.

## Point

- Programless communication is the communication method that enables to read out /write the data inside the temperature controllers (PUM series) from the PLC without making ladder programs on PLC.
- There are 2 types of connection method with an enhanced communication module PUMC. One of them is 1:1(single) connection that connects a single unit of PUMCM to the communication port on PLC. The other is 1:N (multi-master) connection that connects up to 8 units of PUMCM to the communication port on PLC.

Using side connectors for the enhanced communication module, PUMCM, or the temperature control module(PUM series) are connected enables a wiring to only one power terminal and a labor saving wiring.



Hereinafter, PUMCM will be also referred as to “the equipment” or “programless communication module”.

## Confirming Accessories

Before using the product, please confirm that all of following accessories are included.

Description	Quantity
Temperature Controller Enhanced Communication Module (The equipment)	1 unit
Instruction Manual (Installation)	1 copy

# 1.2 Model Code

## Programless Communication Module

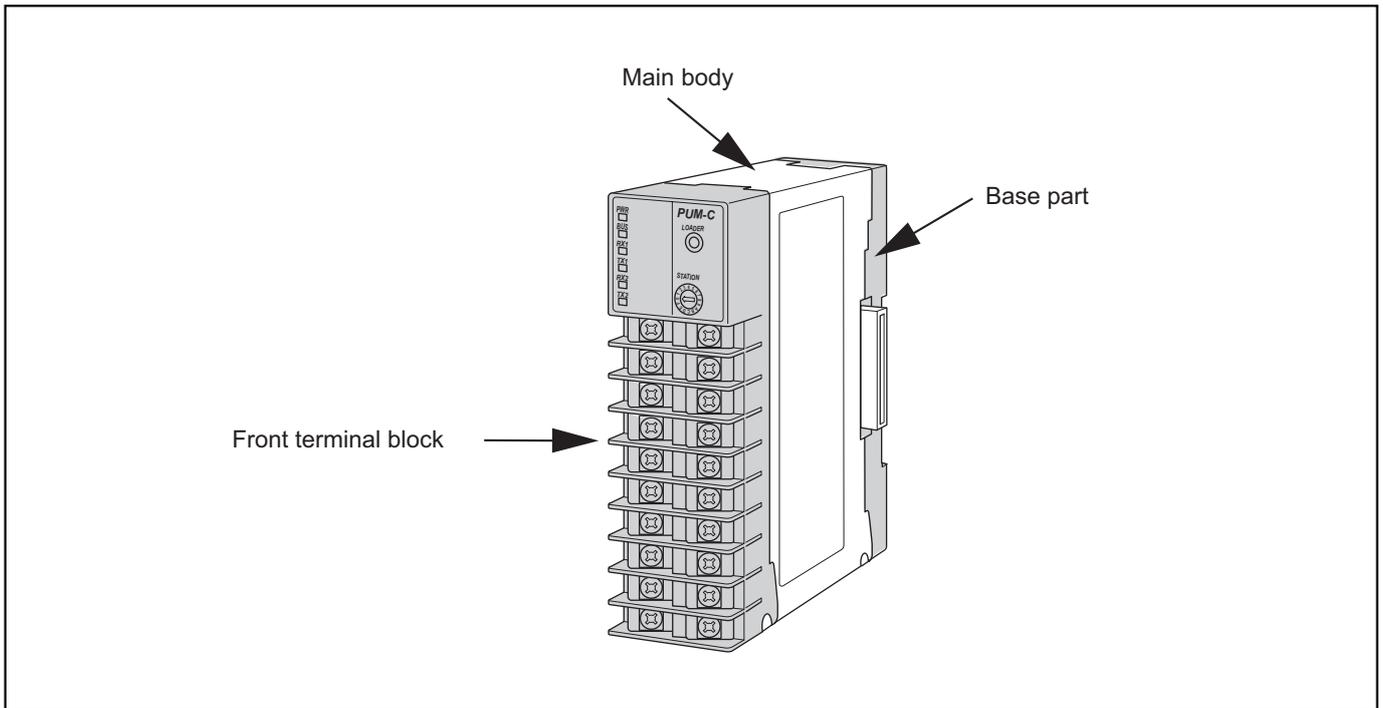
1	2	3	4	5	6	7	8	9	10	
P	U	M			Y	Y	1	-	0	
										Contents
										Module type
										Enhanced communication module
										Communication functions
										Mitsubishi's PLC programless communications
										Instruction manual
									A	Japanese
									B	English

## Accessories (Optional)

1	2	3	4	5	6	7	8		
P	U	M	Z	*					
									Contents
					A	0	2		DIN rail mounting endplate
					A	0	3		Side connecting terminal covers (right & left 1set)
					A	0	4		Front face screw terminal cover
					L	0	1		Loader connecting cable (RS-232C)

# 1.3 Part Names and Functions

## External View



### Front Terminal Block

The front terminal block consists of screw terminals, a loader communication port, a station No. configuration switch and LED indicator lamps.

- The front terminal block is removable from the main body through one-touch operation.

### Main Body

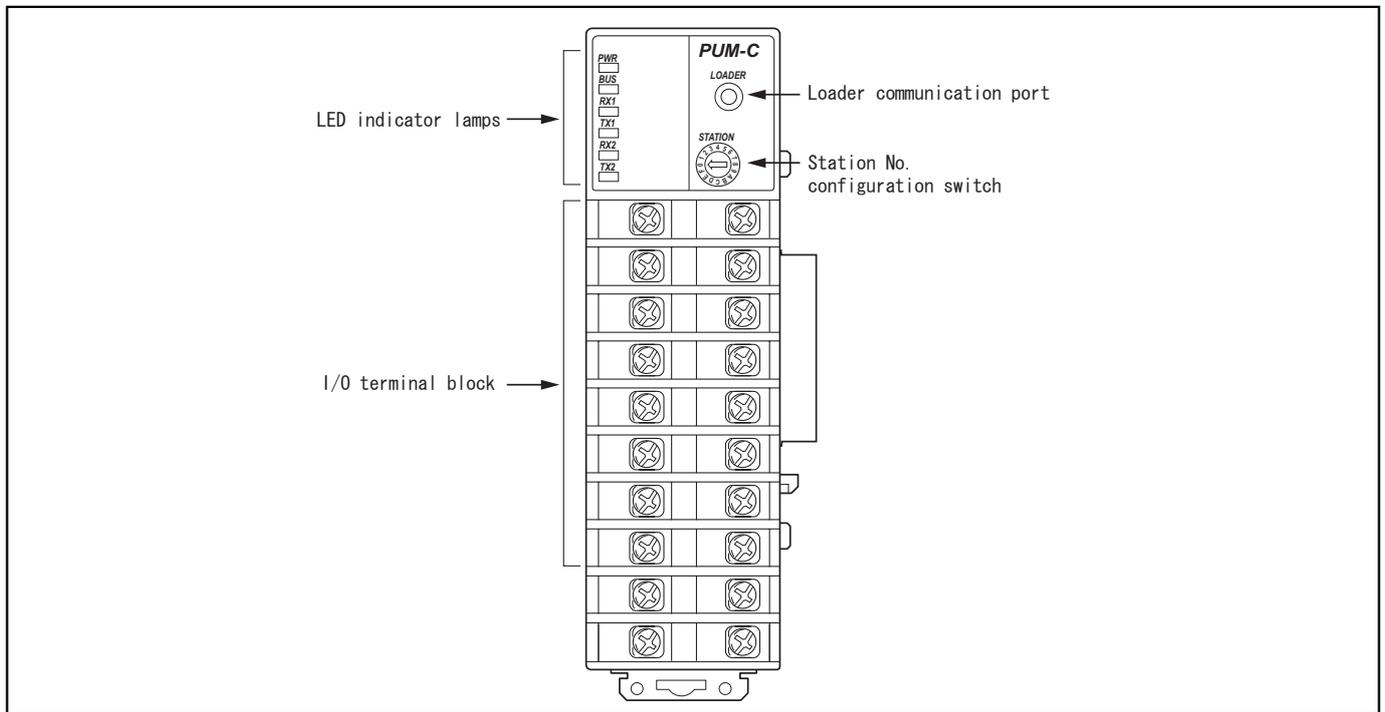
It is the main body of a module containing circuits for programless communications.

- The main body is removable from the base part through one-touch operation.
- Communication behavior configuration switches are on the back face (the base part).

### Base Part

The base part consists of power terminals, module connectors for connecting modules and the structure of fixing a module to DIN rails.

## Front Terminal Block



### LED Indicator Lamps

LED lamps indicate the following operational conditions.

LED	Green	Red	Orange
PWR	Blinking (0.4-sec. inter-cycle): No communications with any modules (inter-module communication FAULT) Blinking (0.1-sec. inter-cycle): Executing initial polling Waiting communication during 1:N connection ON: RUN	ON: No communication with PLC (inter-PLC communication FAULT) Blinking (0.4-sec inter-cycle): System FAULT (*Note 1)	—
BUS	ON: Inter-module communication being received	—	ON: Inter-module communication being sent
RX1	ON: RS-232C/RS-485 being received	—	—
TX1	—	—	ON: RS-232C/RS-422/RS-485 being sent
RX2	ON: RS-422 being received	—	—
TX2	—	—	—

\*Note 1: Sources of system faults: EEPROM FAULT, Station No. configuration SW FAULT, DIP SW FAULT

**Loader communication port**

Connecting the equipment to the PC that is installed PUM parameter loader software with a loader connecting cable (optional).

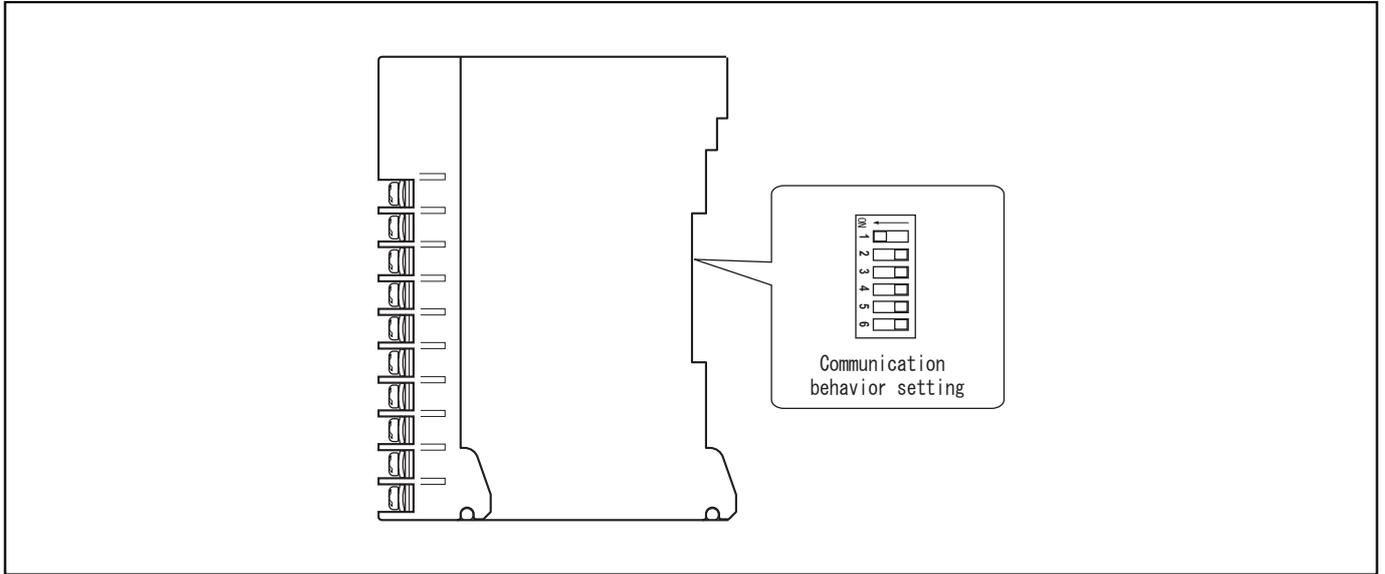
**Station No. configuration switch**

Set 0 to 7 according to the PLC connection method (1:1 connection or 1:N connection).

**Note**

- When performs programless communication with 1:1 connection, make sure to set "0" to the station number of this equipment. Otherwise, this equipment can not perform communication with PLC.
  - When performs programless communication with 1:N connection, make sure to set station numbers of this equipment in order, from "0". If there are missing numbers with the station numbers, this equipment can not perform communication normally with PLC.
-

## Main part (Back face)



### Communication behavior configuration Switch

Communication behavior is set by DIP switch (SW1 to SW6) on the back face of the module.

Communication behavior	SW setting					
	1(Note 1)	2(Note 1)	3	4	5	6
RS-232C	OFF	OFF	OFF	OFF	OFF	(Note 2)
RS-422	ON	OFF	OFF	OFF	OFF	
RS-485	OFF	ON	OFF	OFF	OFF	

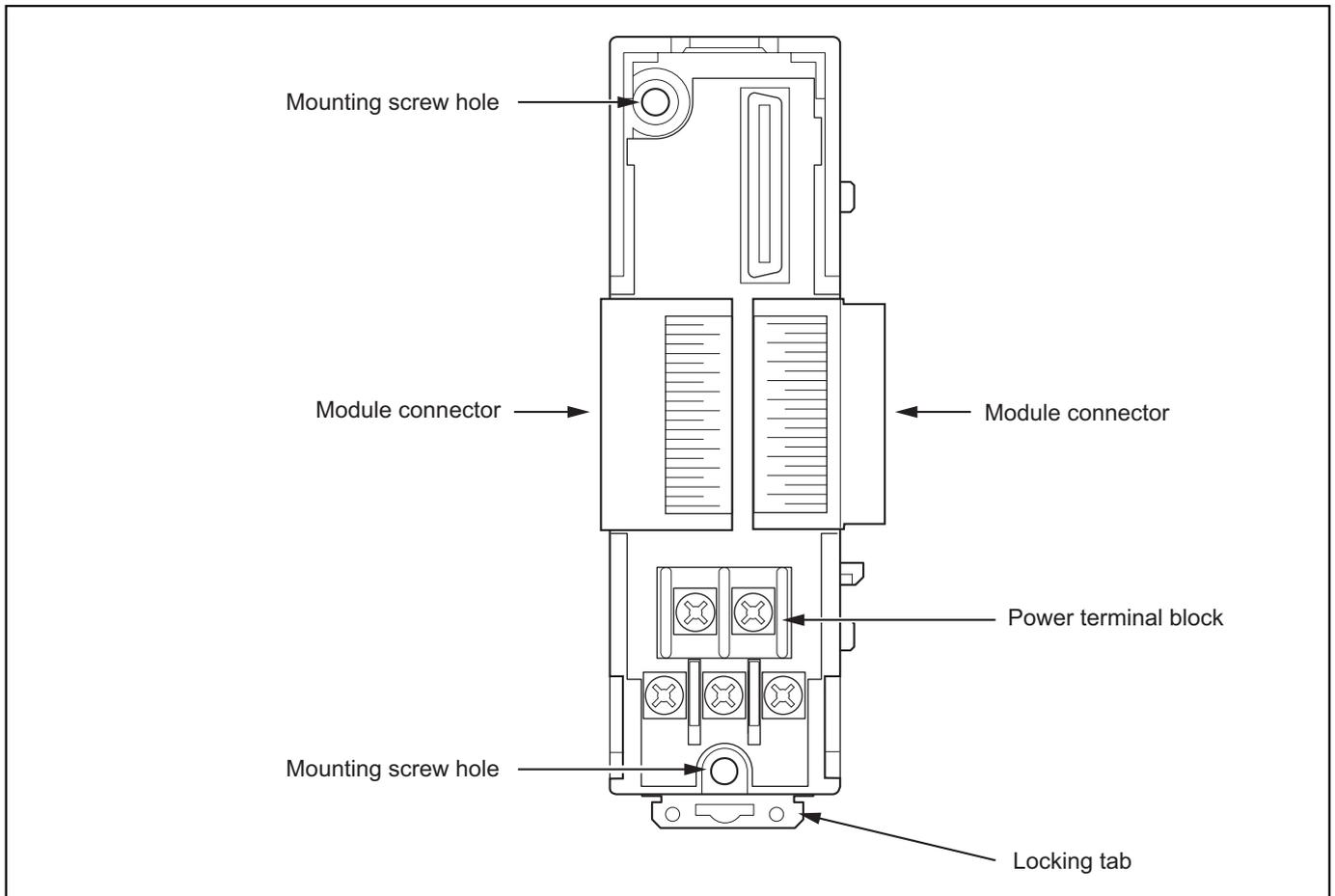
(Note 1): Turning SW1 and SW2 ON at the same time is not possible.

(Note 2): If turning the SW6 ON, communication setting operates with the factory-set value.

Factory-set value of the communication setting is as follows.

Parameter	Set value	Remarks column
Communication speed	115.2kbps	PLC communication speed setting  5-11
Data bit	8	PLC transmission setting  5-12
Parity	EVEN	
Stop bit	1	

## Base Part



### Module connector

These connectors are for connecting modules laterally.

### Power terminal block

The power terminal block is for connecting the equipment to a module's power supply.

Connection with the only one module enables all modules to be supplied power via module connectors.

### Locking tab

The locking tab is for fastening a module to DIN rails and fastening each module connected laterally when mounting a module to DIN rail.



# 2

## System Configuration Example

2.1	System Configuration Example .....	2-3
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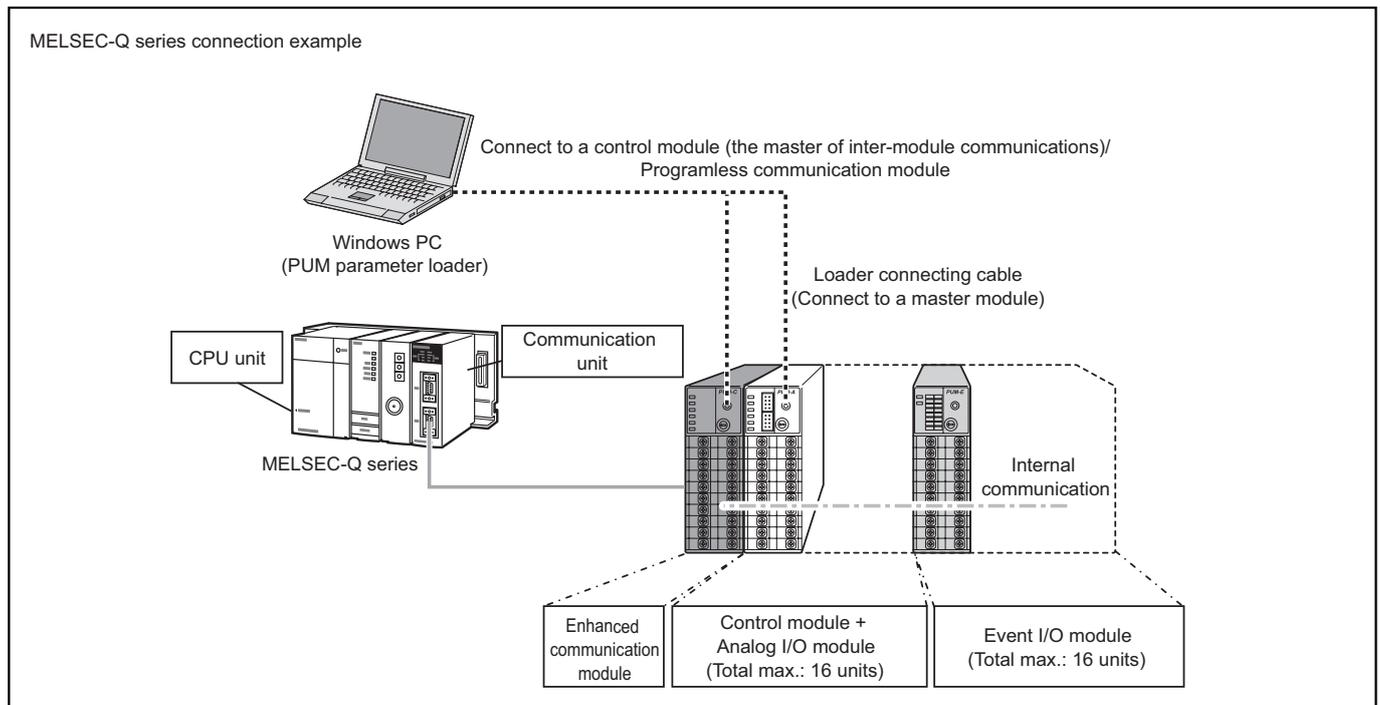
# 2.1 System Configuration Example

The figure below shows the example of system configuration connecting PLC and the multi-loop module type temperature controller.

- Data in a control module/an event module is possible to read out/write from/into PLC using a programless communication module.

## 1:1 Connection

- The minimum configuration by using 1 unit of programless communication module and a communication port on PLC.
- Connection of up to 16 units of control/analog module and 16 units of event module is configurable.
- Usable PLCs are MELSEC-Q/A/AnS/FX series, and usable interfaces are RS-232C/RS-422/RS-485.



## 2.1 System Configuration Example

---

### Point

- Distributed placement of module-type temperature controller system is possible by connecting several communication units to PLC and connecting programless communication modules to each of them.
- Control or Analog I/O module station number (“1” to “16”)

For proper communication, station number configuration is required. Set the leftmost module to “1” and set the rest of modules to “2” to “16” consecutively starting from the left. Make sure not to duplicate station numbers in the system.

- Event I/O module station number (“17” to “32”)

Event I/O module station number always starts from “17” and be set to the rest of unit consecutively from “18” to “32”. Make sure not to duplicate station numbers in the system.

- To use a programless communication module, “connection permission of enhanced communication module (PUMC)” parameter should be set to “1: PUMC connected (RS-485:disable)” with the PUM parameter loader.

### Note

Using PLC/MC protocol are different from the usable communication interface for MC protocol frame type. Refer to “MC protocol frame types” [▶▶ 5-17](#) for details.

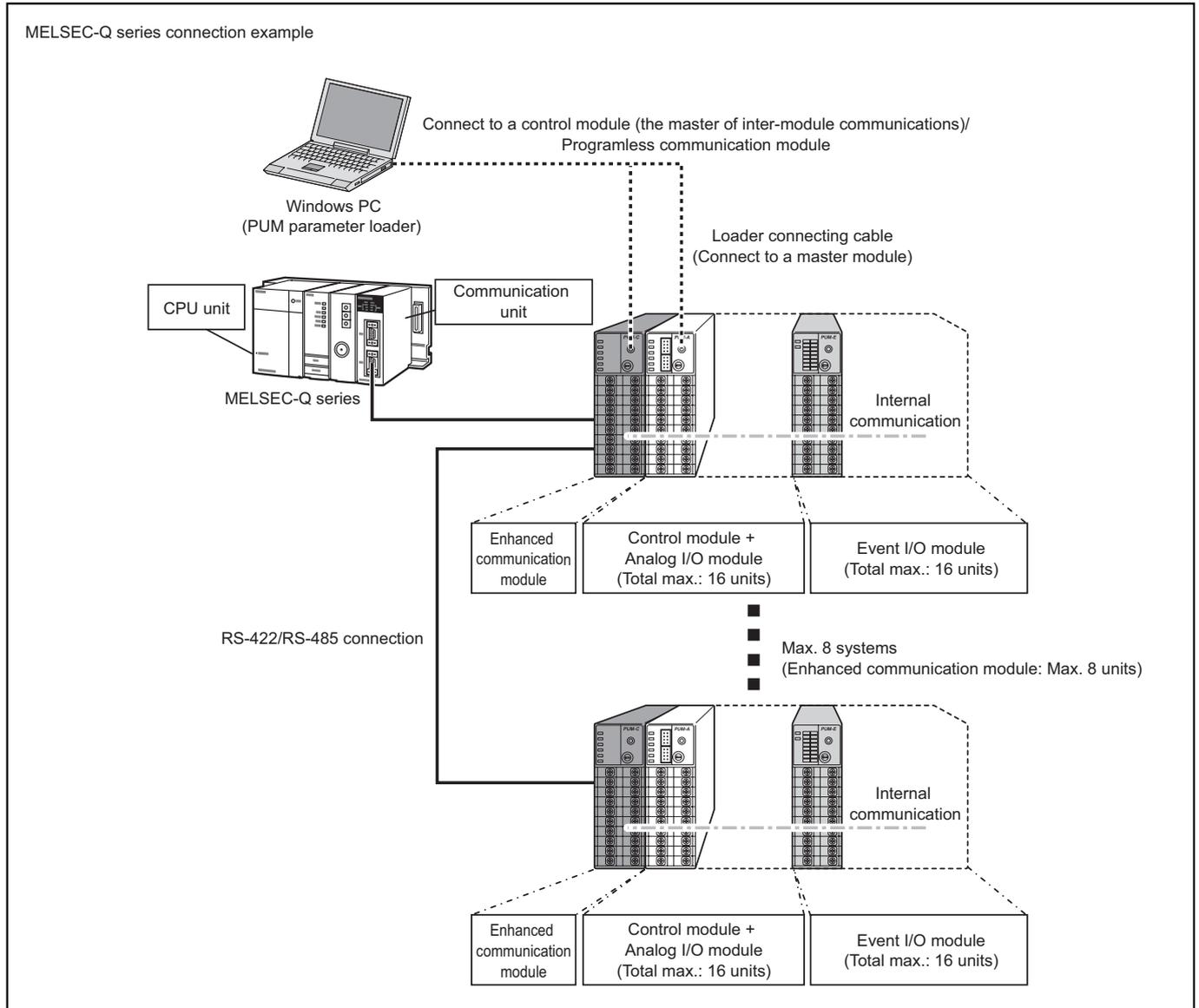
## Basic Setting Items

With this configuration, the following settings are required.

- Communication module station number setting [▶▶ 5-3](#)
- Memory setting [▶▶ 5-5](#)
- PLC communication setting [▶▶ 5-11](#)
- Connection method [▶▶ 5-16](#)
- Number of connected units [▶▶ 5-16](#)
- MC protocol setting [▶▶ 5-13](#)
- MC protocol frame types [▶▶ 5-17](#)
- RS-485 communication setting [▶▶ “Control module user’s manual”](#)

## 1:N Connection

- This is the configuration using 2 to 8 units of programless communication modules and a communication port of PLC. This configuration enables you to control more units of PUM series by 1 unit of PLC.
- Configuration with up to 128 units (512ch) of control/analog modules and 128 units of event modules by only 1 communication port is possible.
- Usable PLC is MELSEC-Q/A/AnS series. Configuration by using FX series is not possible.



## 2.1 System Configuration Example

---

### Point

- Distributed placement of module temperature control system is possible by 1:N connection.
- Control or Analog I/O module station number (“1” to “16”)

For proper communication, station number configuration is required. Set the leftmost module to “1” and set the rest of modules to “2” to “16” consecutively starting from the left. Make sure not to duplicate station numbers in the system.

- Event I/O module station number (“17” to “32”)

Event I/O module station number always starts from “17” and be set to the rest of unit consecutively from “18” to “32”. Make sure not to duplicate station numbers in the system.

- To use a programless communication module, “connection permission of enhanced communication module (PUMC)” parameter should be set to “1: PUMC connected (RS-485:disable)” with the PUM parameter loader.

### Note

- MELSEC-FX series can not perform communication with 1:N connection.
- 1:N connection of RS-232C can not be configured.
- When MC protocol is type 4, 1:N connection is not possible.
- When using 1:N connection, PLC communication setting should be matched to the settings of all programless communication modules.

## Basic Setting Items

With this configuration, the following settings are required.

- Communication module station number setting [▶▶ 5-3](#)
- Memory setting [▶▶ 5-5](#)
- PLC communication setting [▶▶ 5-11](#)
- Connection method [▶▶ 5-16](#)
- Number of connected units [▶▶ 5-16](#)
- MC protocol setting [▶▶ 5-13](#)
- MC protocol frame types [▶▶ 5-17](#)
- RS-485 communication setting [▶▶ "Control module user's manual"](#)

# 3

## Installation

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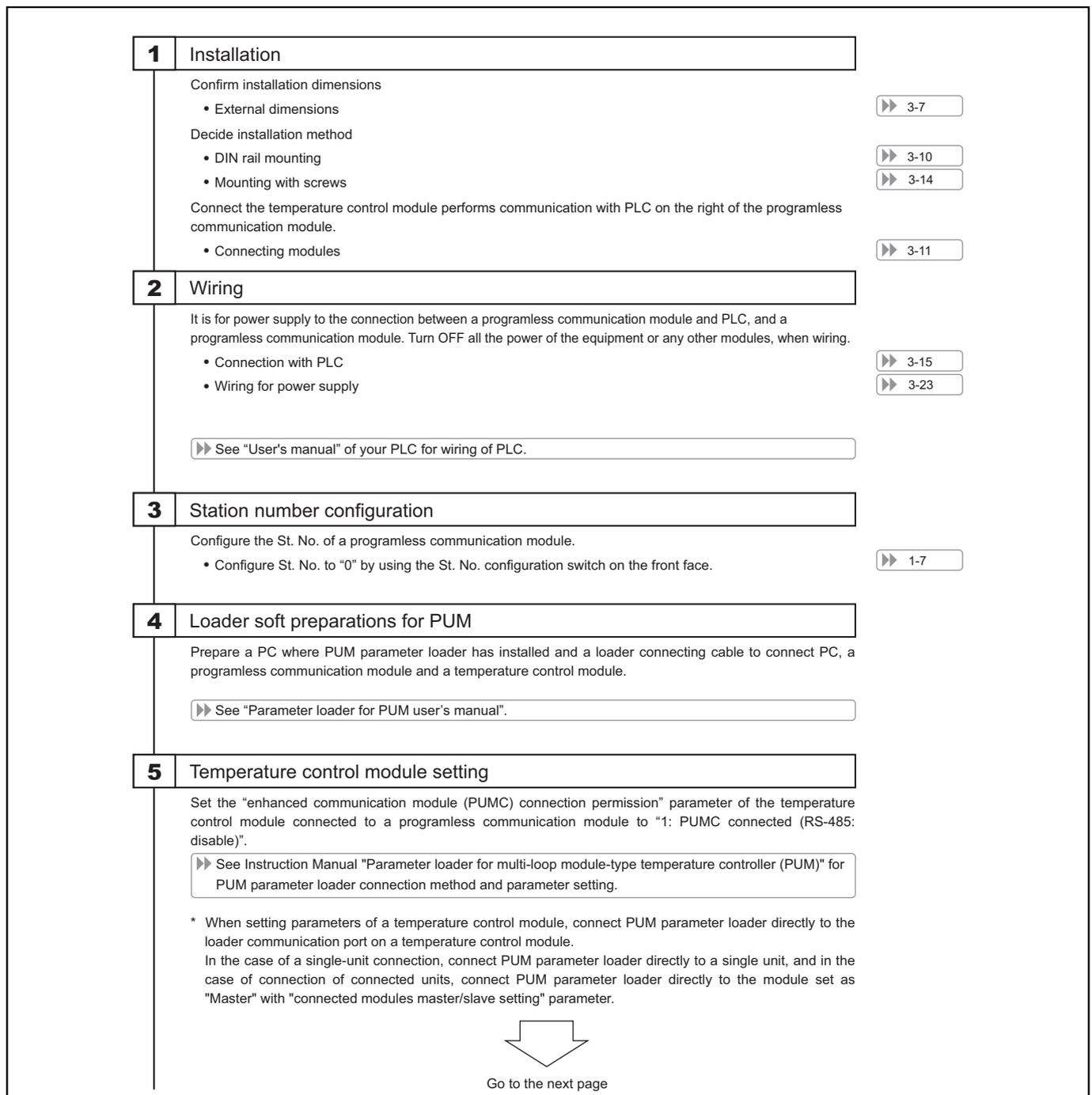


# 3.1 Installation Procedure

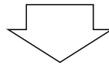
The flowchart below shows the setting procedure for startup via PUM parameter loader.

## 1:1 connection

- Connection permission for an enhanced communication module should be set to "1: PUMC connected (RS-485 disable)" with all temperature control modules of the system. (Control/Event/Analog module)
- When setting parameters for a programless communication module, connect PUM parameter loader to it directly.



Continued from the previous page



### **6** Programless communication module setting

This setting is for performing communication between a programless communication module and PLC.

- Communication setting
- Connection method  
Set "0 1:1 connection" for the connection method.
- Connected units  
Set "1" for the No. of connected units.

▶▶ 5-3

▶▶ 5-16

▶▶ 5-16

Register parameters of the temperature control module that reads/writes form PLC.

- Memory setting
- PLC communication setting

▶▶ 5-5 to 5-10

▶▶ 5-11 to 5-17

\* When setting the parameters of a programless communication module, connect a parameter loader for PUM directly to the loader communication port on the programless communication module.

### **7** PLC setting

This setting is for communication-related parameters for PLC or DIP SW setting.

▶▶ See "User's manual" of your PLC for details of setting

### **8** Operation command by a programless communication module

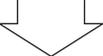
This command is for setting communication the communication behavior between a programless communication module and PLC.

- Programless communication behavior

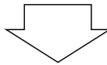
▶▶ 4-3 to 4-23

## 1:N connection

- Connection permission for an enhanced communication module should be set to "1: PUMC connected (RS-485 disable)" with all temperature control modules in the system (Control/Event/Analog module).
- When setting parameters for a programless communication module, connect PUM parameter loader to it directly.

<b>1</b>	<b>Installation</b>	
	<p>Confirm installation dimensions</p> <ul style="list-style-type: none"> <li>• External dimensions</li> </ul>	▶▶ 3-7
	<p>Decide installation method and install.</p> <ul style="list-style-type: none"> <li>• DIN rail mounting</li> <li>• Mounting with screws</li> </ul>	▶▶ 3-10 ▶▶ 3-14
	<p>Connect the temperature control module performs communication with PLC on the right of the programless communication module.</p> <ul style="list-style-type: none"> <li>• Connecting modules</li> </ul>	▶▶ 3-11
<b>2</b>	<b>Wiring</b>	
	<p>It is for power supply to the connection between a programless communication module and PLC, and a programless communication module. Turn OFF all the power of the equipment or any other modules, when wiring.</p> <ul style="list-style-type: none"> <li>• Connection with PLC</li> <li>• Wiring for power supply</li> </ul>	▶▶ 3-15 ▶▶ 3-23
	▶▶ See "User's manual" of your PLC for wiring of PLC.	
<b>3</b>	<b>Station number configuration</b>	
	<p>Configure the St. No. of a programless communication module.</p> <ul style="list-style-type: none"> <li>• Configure St. Nos. by using the St. No. configuration switch on the front face.</li> </ul>	▶▶ 1-7
<b>4</b>	<b>Loader soft preparations for PUM</b>	
	<p>Prepare a PC where PUM parameter loader has installed and a loader connecting cable to connect PC, a programless communication module and a temperature control module.</p>	
	▶▶ See "Parameter loader for PUM user's manual"	
<b>5</b>	<b>Temperature control module setting</b>	
	<p>Set the "enhanced communication module (PUMC) connection permission" parameter of the temperature control module connected to a programless communication module to "1: PUMC connected (RS-485: disable)".</p>	
	▶▶ See Instruction Manual "Parameter loader for multi-loop module-type temperature controller (PUM)" for PUM parameter loader connection method and parameter setting.	
	<p>* When setting parameters of a temperature control module, connect PUM parameter loader directly to the loader communication port on a temperature control module.</p> <p>In the case of a single-unit connection, connect PUM parameter loader directly to a single unit, and in the case of connection of connected units, connect PUM parameter loader directly to the module set as "Master" with "connected modules master/slave setting" parameter.</p>	
		
	Go to the next page	

Continued from the previous page



### 6 Programless communication module setting

This setting is for each programless communication module in order to perform communication between a programless communication module and PLC.

- Communication setting
- Connection method  
Set "1 1:N connection" for the connection method.
- Connected units

▶▶ 5-3

▶▶ 5-16

▶▶ 5-16

Set the No. of connected units of programless communication modules for the No. of connected units.

Register parameters of the temperature control module that reads/writes from PLC to each programless communication module.

- Memory setting
- PLC communication setting

▶▶ 5-5 to 5-10

▶▶ 5-11 to 5-17

\* Communication settings for all of programless communication modules should be same.

When setting the parameters of a programless communication module, connect a parameter loader for PUM directly to the loader communication port on the programless communication module.

### 7 PLC setting

This setting is for communication-related parameters for PLC or DIP SW setting.

▶▶ See "User's manual" of your PLC for details of setting

### 8 Operation command by a programless communication module

This command is for setting communication the communication behavior between a programless communication module and PLC.

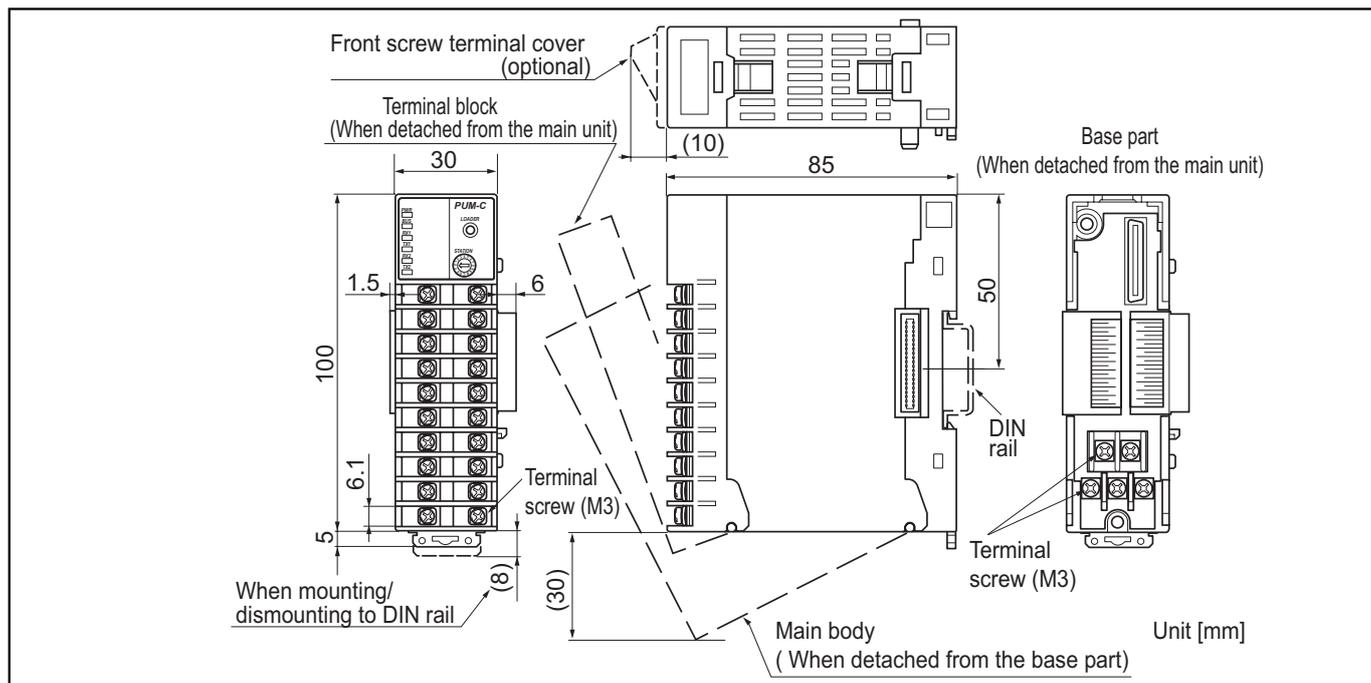
- Programless communication behavior

▶▶ 4-3 to 4-23

# 3.2 Dimensions

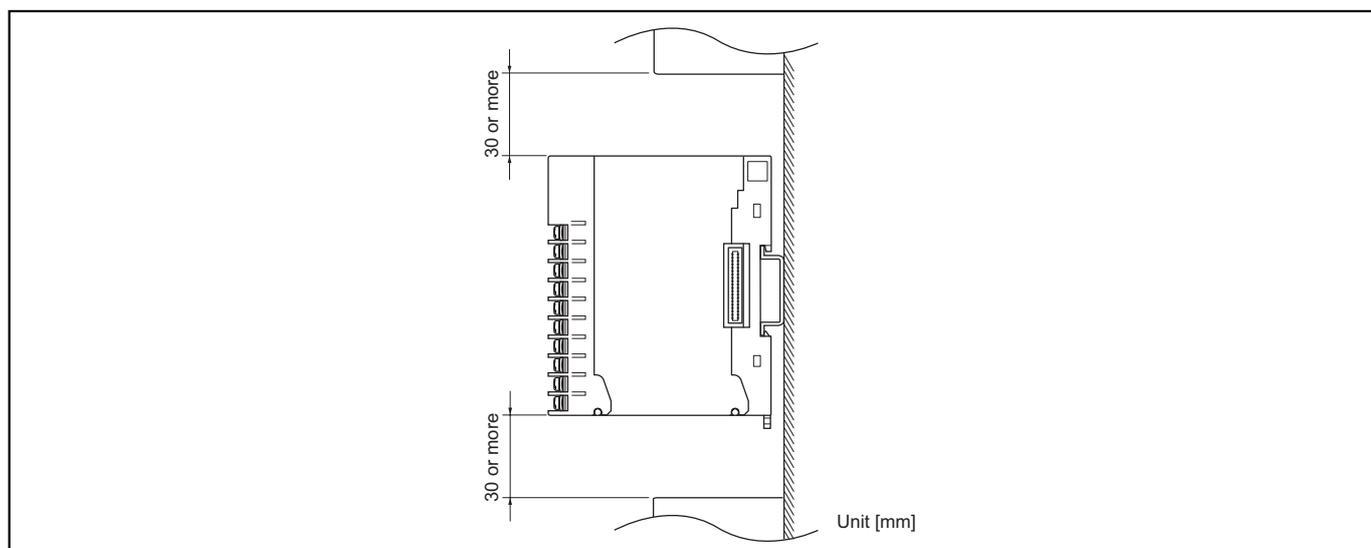
## External dimension

Provide enough clearance space for installation referring to the diagram below.



## Cautions when installing

In order to heat dissipation, provide clearance space of more than 30mm (50mm is recommended) above and under the equipment.



### Point

Clearance space more than 30mm above and under a module should be provided when mounting/dismounting it to/from DIN rails.

# 3.3 Mounting Modules

## How to attach/detach the front terminal block/the base part from the main unit

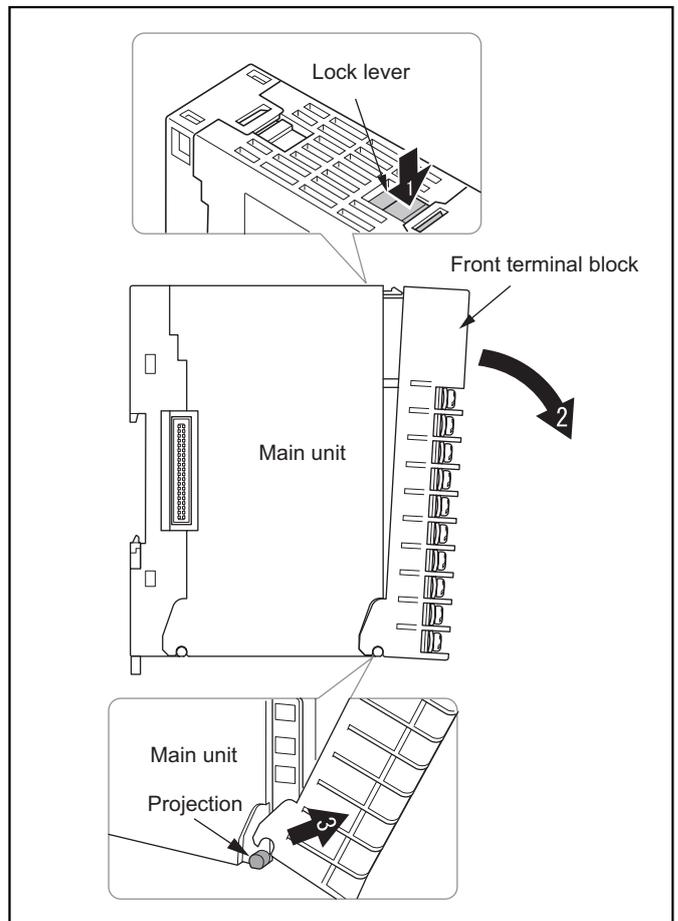
Each module of Multi-Loop Module Type Temperature Controller, PUM series, has the configuration that both the front terminal block and the base part are detachable through one-touch operation for easy installation and maintenance.

### How to detach the front terminal

1. Press the lock lever on the top of the main unit.
2. Pull down the front terminal block.
3. Detach the cutout at the lower end of the front terminal block from the projection on the main unit.

**Point**

- Attaching the main unit to the base part takes the reverse procedure to removing the main unit from the base part.
- Make sure the locking lever on the main unit is fitted into the base part when attaching is completed.

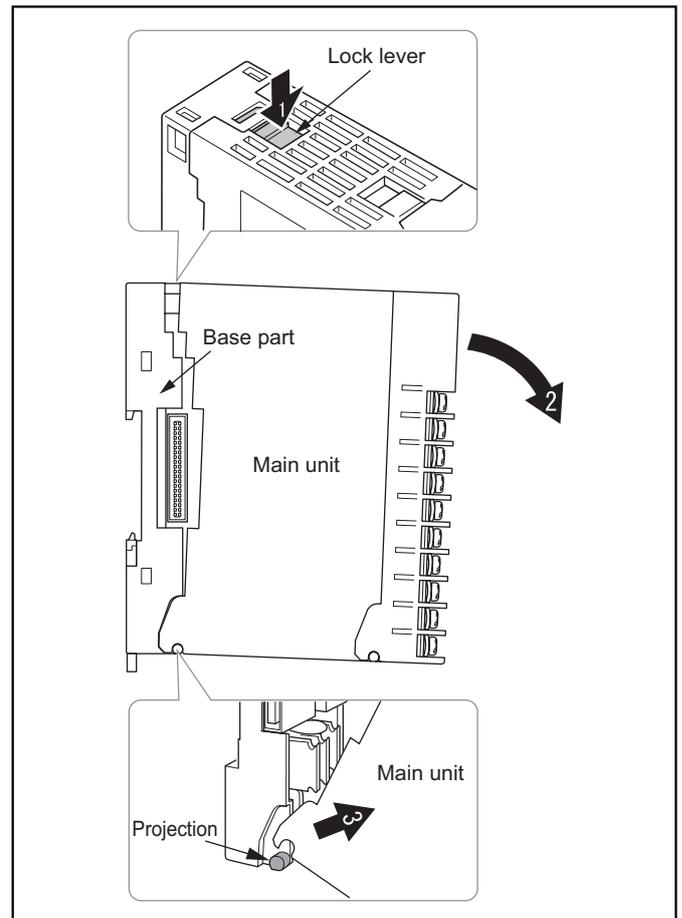


### How to detach the base part

1. Press the Lock lever on the top of the main unit.
2. Pull down the main unit.
3. Remove the cutout at the lower end of the main unit from the projection on the base part.

#### Point

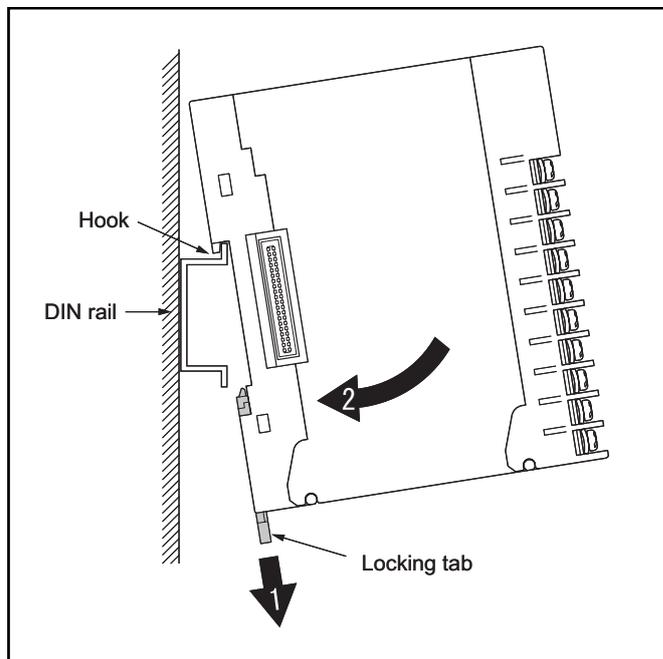
- Attaching the base part to the main unit takes a reverse procedure to detaching the base part from the main unit.
- Make sure the locking lever on the main unit is fitted into the base part when attaching is completed.



## Mounting to DIN Rails

### Mounting modules

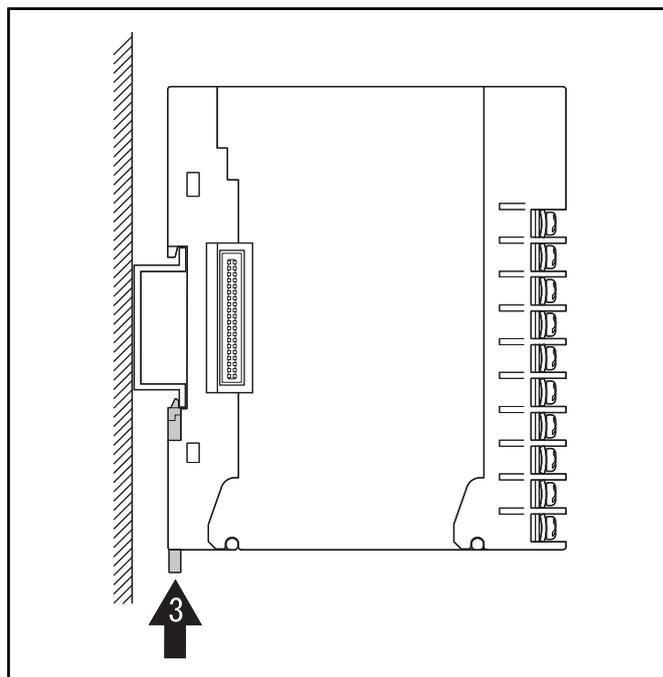
1. Pull down the locking tab of the base part. Hook the back part of the module onto the upper part of the DIN rails.
2. Push the module towards the direction of the arrow 2.



3. Pull up the locking tab of the base part to fasten the module onto the DIN rails.

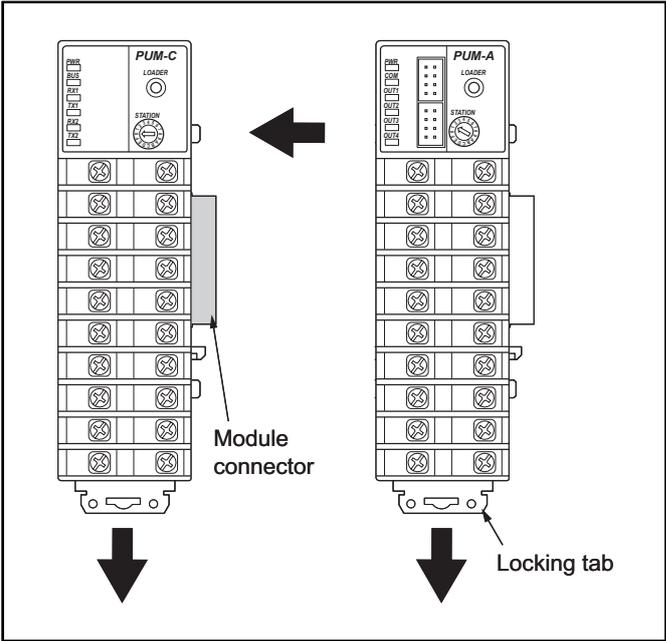
**Point**

When connecting the module after mounting it to the DIN rail, pull the locking tab up after connecting modules each other.

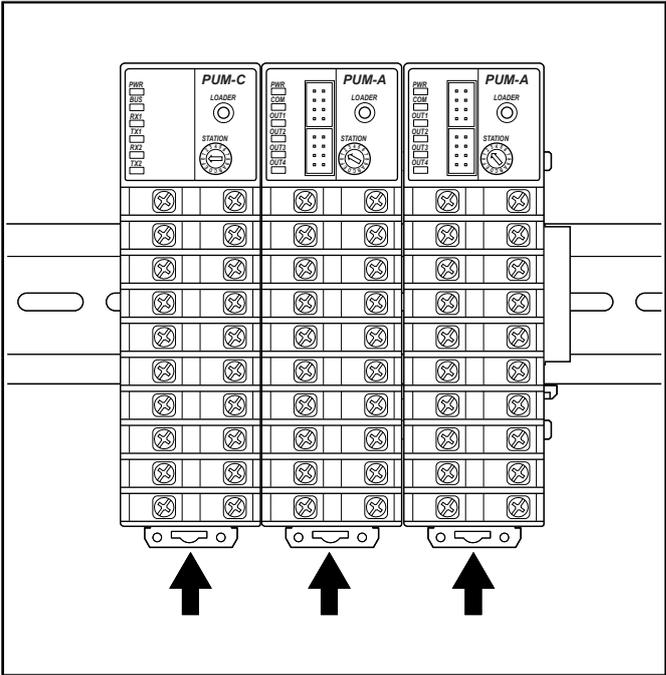


**Connecting modules**

- 1. Check the locking tab is pulled down.
- 2. Connect modules by connecting module connectors with each other.

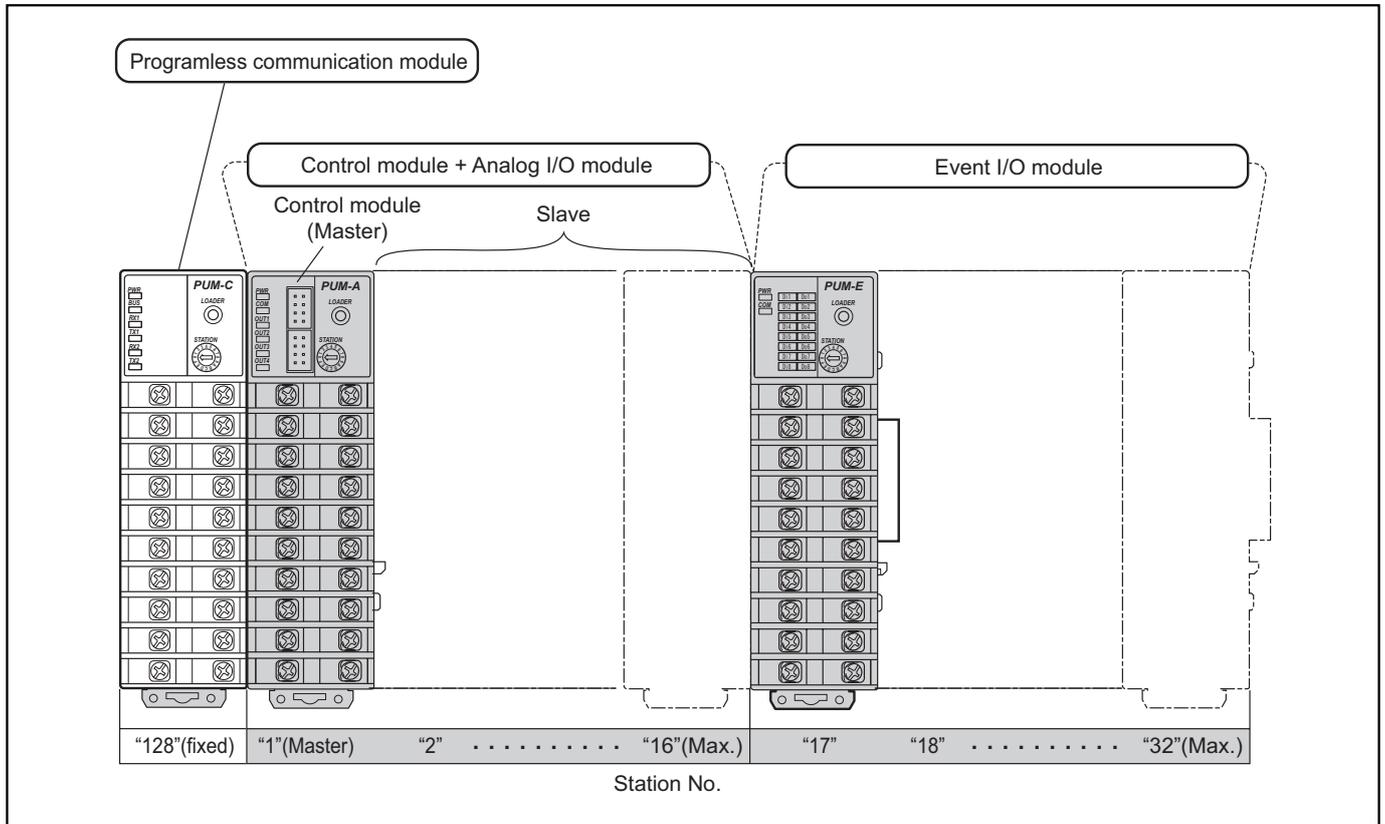


- 3. After mounting modules to the DIN rails, pull the all locking tabs up.  
Modules are fastened to the DIN rails and to each other on the same time.
- 4. The power supplies are connected each other inside connected modules.



## Order of modules

Connecting a multi-loop module type temperature controller, PUM series, is shown as below.



### Point

A programless communication module is always placed on the extreme left.

- An programless communication module should be on the left of the master control module: it is always placed on the left.

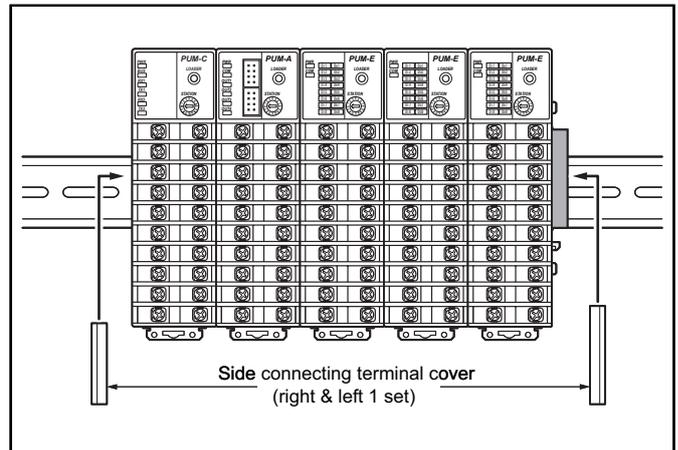
Modules are basically placed in the order of station numbers starting from the left.

- Set station number "1" to "16" to control modules and analog I/O modules. Max. 16 units are connectable. Make sure not to duplicate station numbers in the same system.
- When setting a master/a slave, the control module set to "1" should be a master. When not using a programless communication modules, a master module should be placed on the extreme left of the system.
- Set station numbers for event I/O modules to "17" to "32". Max. 16 units are connectable. Make sure not to duplicate station numbers in the same system.

# 3.4 Attaching accessories (optional)

## Attaching side connecting terminal covers

Side connectors on both ends of connected modules are exposed. To prevent accidents and protect connectors, attaching side connecting terminal covers (PUMZ \* A03) is recommended.

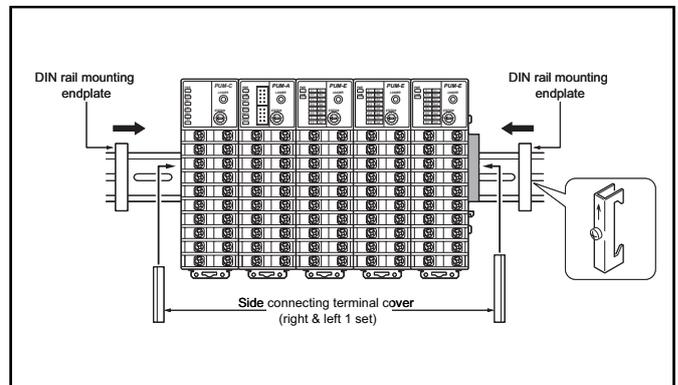


## Attaching endplates

In order to fix the equipment to a DIN rail more tightly, optional endplates (PUMZ \* A02) can be used.

### Note

When attaching endplates, make sure to attach side connecting terminal covers prior to them.



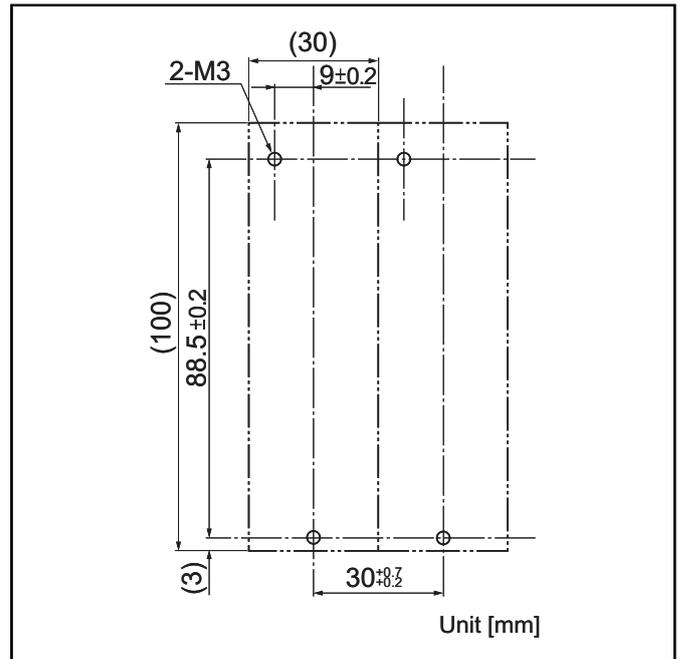
# 3.5 Mounting with screws

When mounting modules with screws on the wall, check for the base parts of it beforehand.

**Point**

Mounting screws are not included the product. If necessary, prepare two screws (M3) per unit.

1. Refer to the right figure for mounting screw hole size and the pitch, to decide the mounting position.



2. Remove the module main unit from the base part.

[3.3Mounting modules] [▶▶ 3-8](#)

3. Connect the base parts and push the all locking tabs up to fix.
4. Fixate the base parts onto the mounting position with screws.
5. Fixate the base parts onto the mounting position with screws.

# 3.6 Connection

## Connection with PLC

Connect a Multi-loop module-type temperature controller PUM series to a PLC via the programless communication module.

### Connectable MELSEC series

#### MELSEC-Q series

Device	Type	Communication port	
		CH1	CH2
Q-compatible serial communication unit	QJ71C24, QJ71C24N	RS-232C (D-sub 9P)	RS-422/485 (2 piece socket block)
	QJ71C24-R2, QJ71C24N-R2	RS-232C (D-sub 9P)	RS-232C (D-sub 9P)
	QJ71C24N-R4	RS-422/485 (2 piece plug-in connector socket block)	RS-422/485 (2 piece plug-in connector socket block)

#### MELSEC-A/AnS series

Device	Type	Communication port	
		CH1	CH2
A-compatible computer link module	AJ71UC24	RS-232C (D-sub 9P) RS-422/485 (terminal block)	—
AnS-compatible computer link module	A1SJ71UC24-R2	RS-232C (D-sub 9P)	—
	A1SJ71UC24-R4	RS-422/485 (terminal block)	—
	A1SJ71UC24-PRF	RS-232C (D-sub 9P)	—

### 3.6 Connection

#### MELSEC-FX series

Device	Type	Communication port	
		CH1	CH2
Communication special adapter	FX0N-232ADP	RS-232C (D-sub 25P)	—
	FX2NC-232ADP	RS-232C (D-sub 9P)	—
	FX3U-232ADP	RS-232C (D-sub 9P)	—
		—	RS-232C (D-sub 9P) *1
	FX-232ADP	RS-232C (D-sub 25P)	—
	FX0N-485ADP	RS-485 (terminal block)	—
	FX2NC-485ADP	RS-485 (European terminal block)	—
	FX3U-485ADP	RS-485 (European terminal block)	—
		—	RS-485 (European terminal block) *1
	FX-485ADP	RS-485 (terminal block)	—
Enhanced board	FX1N-232-BD	RS-232C (D-sub 9P)	—
	FX2N-232-BD	RS-232C (D-sub 9P)	—
	FX3U-232-BD	RS-232C (D-sub 9P)	—
	FX1N-485-BD	RS-485 (European terminal block)	—
	FX3U-485-BD	RS-485 (European terminal block)	—

\*1 When using it as CH2, FX3U- Δ -ADP should be connected to CH1 by using FX3U- □ -BD or two of FX3U- Δ -ADP should be connected to CH1 by using an enhanced board, FX3U-CNV-BD (one of 232, 422, 485 or USB goes into □, and 232 or 485 goes into Δ).

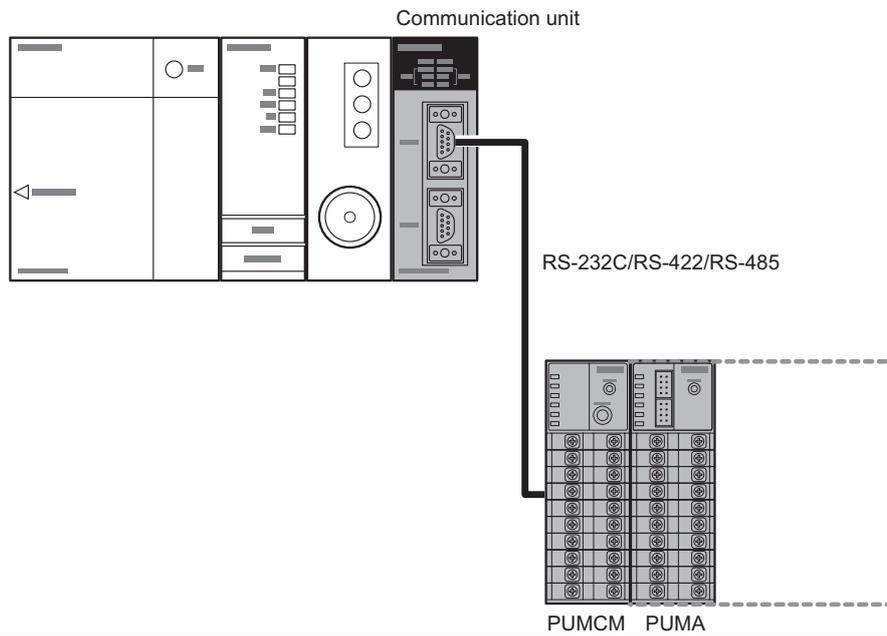
Refer to [Data Communication Edition] in the FX SERIES USER'S MANUAL for details.

Connectable model types on FX series sequencers are shown below.

Type	Connection
FX2(FX), FX2C, FX2N, FX1N, FX2NC, FX1NC, FX3U, FX3UC	Connectable
FX1S, FX0N	Not connectable

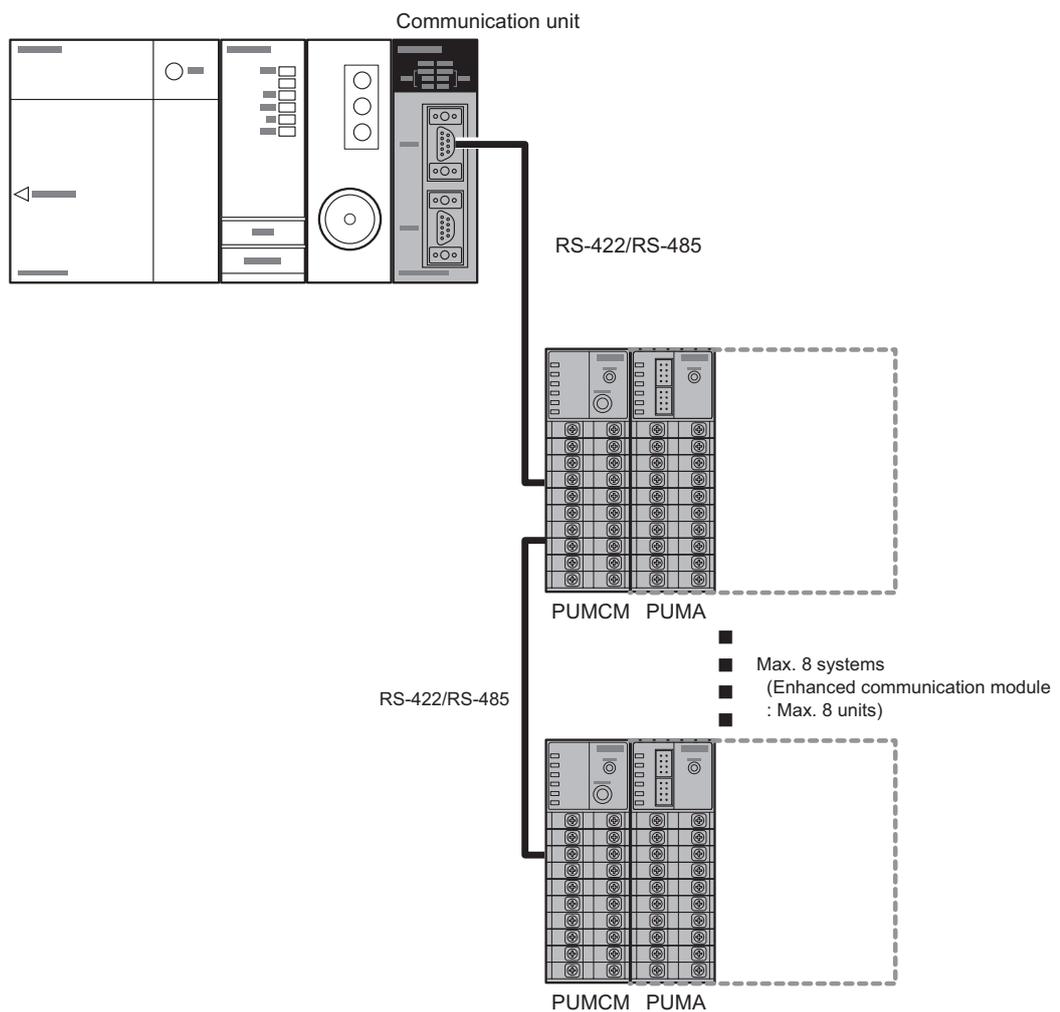
**1:1 connection (MELSEC-Q series connection example)**

MELSEC-Q/A/AnS/FX series



**1:N connection (MELSEC-Q series connection example)**

MELSEC-Q/A/AnS/FX series



**Warning**

Connect/separate PUM series, Temperature control system to/from PLC after turning OFF the power of the equipment or peripheral equipments to prevent electric shock and equipment failure.

**Point**

The communication speed and the maximum transmission distance are shown as below.

The communication speed and the maximum transmission distance

Communication speed setting		9.6kbps	19.2kbps	38.4kbps	57.6kbps	115.2kbps	230.4kbps
Communication distance	RS-422/RS-485	Max. 1km			Max. 500m	Max. 250m	
	RS-232C	Max. 15m					

\*Refer to “5.3 PLC communication setting” for details about communication speed . [▶▶ 5-11](#)

**Setting of MELSEC-Q series**

The communication setting below is necessary to connect a programless communication module and PLC.

Start GX-Developer, double click “parameter” – “PC parameter” in the project tree, and then select “I/O allocation setting”. Click “switch setting” and set the communication port of the MELSEC-Q series (serial communication unit) used as the table below.

CH	SW No.	Bit position	Contents	OFF	ON	Set value
CH1	SW1	b0	Behavior setting	Independence	Linkage	*1
		b1	Data bit	7	8	ON (fixed)
		b2	Parity bit	No	Yes	*1
		b3	Odd/Even parity	Odd	Even	*1
		b4	Stop bit	1	2	*1
		b5	Sum check code	No	Yes	ON (fixed)
		b6	Write during RUN	Forbidden	Permitted	ON (fixed)
		b7	Setting change	Forbidden	Permitted	ON (fixed)
	b8 – b15	Communication speed setting	—	—	*2	
	SW2	—	CH1 communication protocol setting	—	—	5 (fixed)
CH2	SW3	b0	Behavior setting	Independence	Linkage	*1
		b1	Data bit	7	8	ON (fixed)
		b2	Parity bit	No	Yes	*1
		b3	Odd/Even parity	Odd	Even	*1
		b4	Stop bit	1	2	*1
		b5	Sum check code	No	Yes	ON (fixed)
		b6	Write during RUN	Forbidden	Permitted	ON (fixed)
		b7	Setting change	Forbidden	Permitted	ON (fixed)
	b8 – b15	Communication speed setting	—	—	*2	
	SW4	—	CH2 communication protocol setting	—	—	5 (fixed)
Common CH	SW5	—	Station No. configuration	—	—	0 (fixed)

\*1...Set this as same as “PLC transmission setting” parameters [▶▶ 5-12](#) of a programless communication module.

\*2...Set this as same as “PLC communication speed setting” parameters [▶▶ 5-11](#) of a programless communication module.

## Setting of MELSEC-A series

Refer to the Instruction Manual of Computer link module for setting.

Ex.) A1SJ71UC24-R4

Transmission specification setting switch

SW	Setting items	State		Set value
		OFF	ON	
1	Not used	—	—	—
2	Select Computer/Multi-drop link	Not settable	Computer link	ON (fixed)
3	Not used	—	—	—
4	Write during RUN	No	Yes	ON (fixed)
5	Transmission speed	*3		*1
6				
7				
8	Data bit setting	7 bits	8 bits	ON (fixed)
9	Parity bit	No	Yes	*2
10	Odd/Even parity setting	Odd	Even	*2
11	Stop bit setting	1 bit	2 bits	*2
12	Sum check	No	Yes	ON (fixed)

\*1 Same setting should be made as "PLC communication speed setting" parameters  5-11 of a programless communication module.

\*2 Same setting should be made as "PLC transmission setting" parameters  5-12 of a programless communication module.

\*3 Transmission speed setting

Setting SW	9600	19200	Setting forbidden
5	ON	OFF	ON
6	OFF	ON	ON
7	ON	ON	ON

St. No. configuration SW

Name	Contents	Set value
×10	Set the tenths place digit	0 (fixed)
×1	Set the ones place digit	0 (fixed)

Mode setting SW

SW	Setting
0	Not available
1	Not available
2	Not available
3	Not available
4	Not available
5	Not available
6	Dedicated protocol Type2
7	Not available
8	Dedicated protocol Type4
9 to F	Not available

### Setting of MELSEC-FX series

Start up GX-Developer, double-click [parameter] - [PC parameter] in the project tree, and then double-click [PC system setting (2)] in the dialog box.

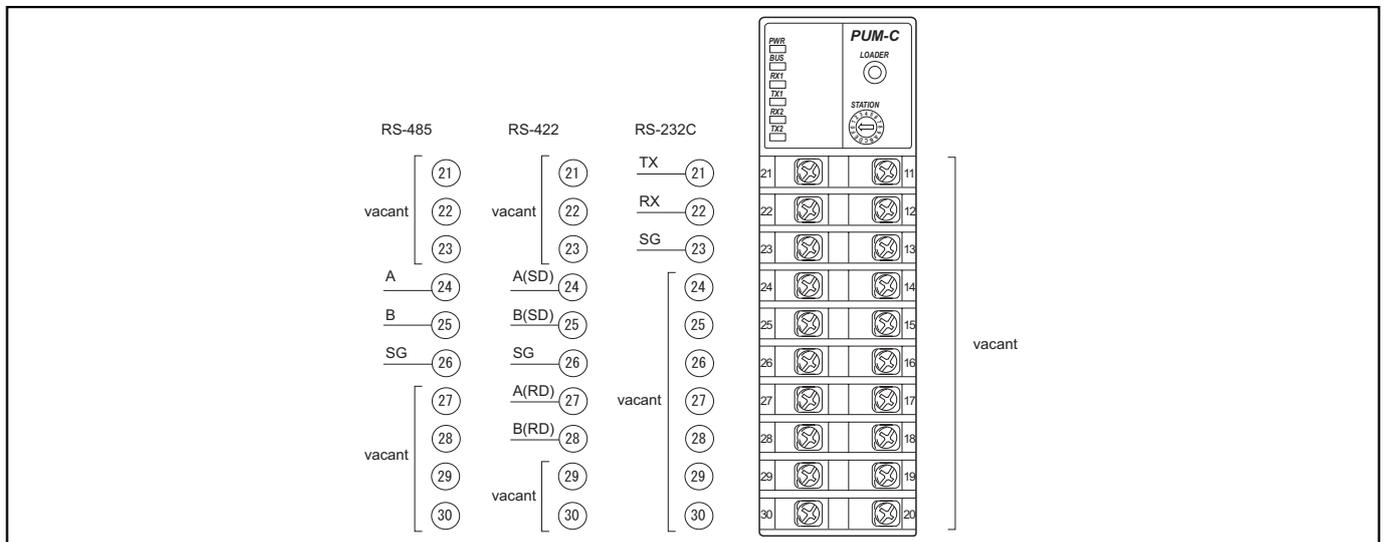
Select a desired channel, mark the "communication setting" check box, and then make a setting of the communication port of your MELSEC-FX series as the following table.

Setting items	Setting
Protocol	Dedicated protocol communication (fixed)
Data length	8 bits (fixed)
Parity	*1
Stop bit	*1
Transmission speed	*2
H/W type	With RS-232C: Normal/RS-232C With RS-485: RS-485
Sum check	Yes (fixed)
Transmission control procedure	Type 4 (CR, LF (fixed))
St. No. setting	0 (fixed)
Timeout determination time	1 (default setting)

\*1 Same setting should be made as "PLC transmission setting" parameters 5-12 of a programless communication module.

\*2 Same setting should be made as "PLC communication speed setting" parameters 5-11 of a programless communication module.

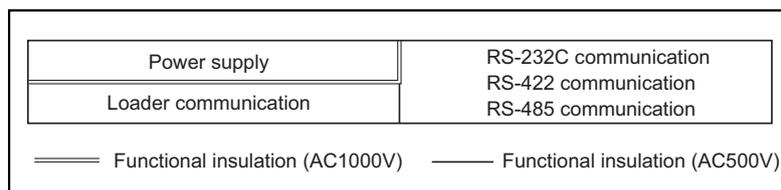
### Terminal



**Point**

Communication terminal numbers and signal contents

- The insulation between terminals is as follows. Before installing, confirm that the insulation for the equipment meets usage requirement.



### Connection with PLC

#### RS-232C connection

Communication unit

Pin No.	Signal
1	CD
2	RD(RXD)
3	SD(TXD)
4	ER(DTR)
5	SG
6	DR(DSR)
7	RS(RTS)
8	CS(CTS)
9	RI(CI)

This unit

Pin No.	Signal
21	TX
22	RX
23	SG
24	A
25	B
26	SG
27	A
28	B
29	-
30	-

#### RS-422 connection

1:1 connection

Communication unit

Signal
SDA
SDB
RDA
RDB
SG
FG

This unit

Pin No.	Signal
21	TX
22	RX
23	SG
24	A
25	B
26	SG
27	A
28	B
29	-

1:N connection

Communication unit

Signal
SDA
SDB
RDA
RDB
SG
FG

This unit 1

Pin No.	Signal
21	TX
22	RX
23	SG
24	A
25	B
26	SG
27	A
28	B
29	-
30	-

This unit 2

Pin No.	Signal
21	TX
22	RX
23	SG
24	A
25	B
26	SG
27	A
28	B
29	-
30	-

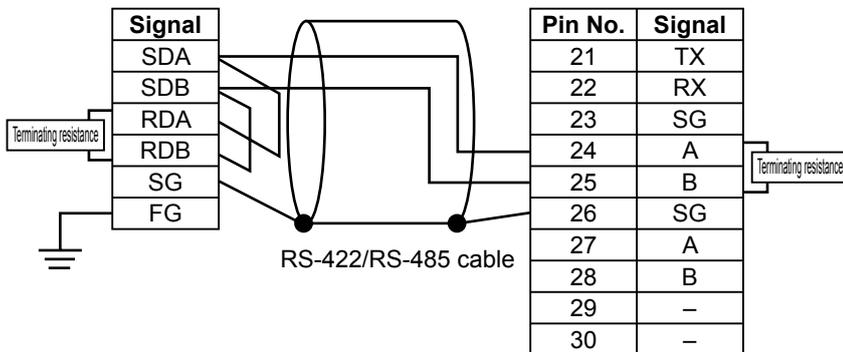
RS-422/RS-485 cable

**RS-485 connection**

1:1 connection

Communication unit

This unit

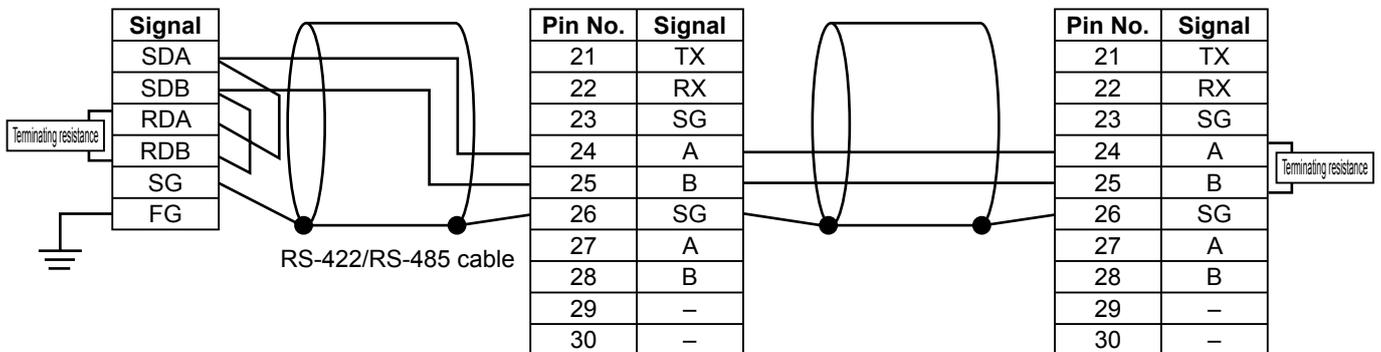


1:N connection

Communication unit

This unit 1

This unit 2



**Point**

- Use the terminal insulation shown as below.  
 RS-422 : 330Ω ±5% 1/2W  
 RS-485 : 110Ω ±5% 1/2W
- This unit can not make 2 or more different communication connections operate at the same time.

## Connecting modules

Connectable modules to the equipment are as follows.

- PUMA/B (Control module), PUMV/N/T (Analog I/O module), PUME (Event I/O module)

**Point**

- Max. 32 units are connectable to the equipment. The number of connectable modules varies according to module types. Refer to user's manual for each module for details.
- When connected modules, power supplies are connected to other modules by connecting power supply lines to the one of the modules.

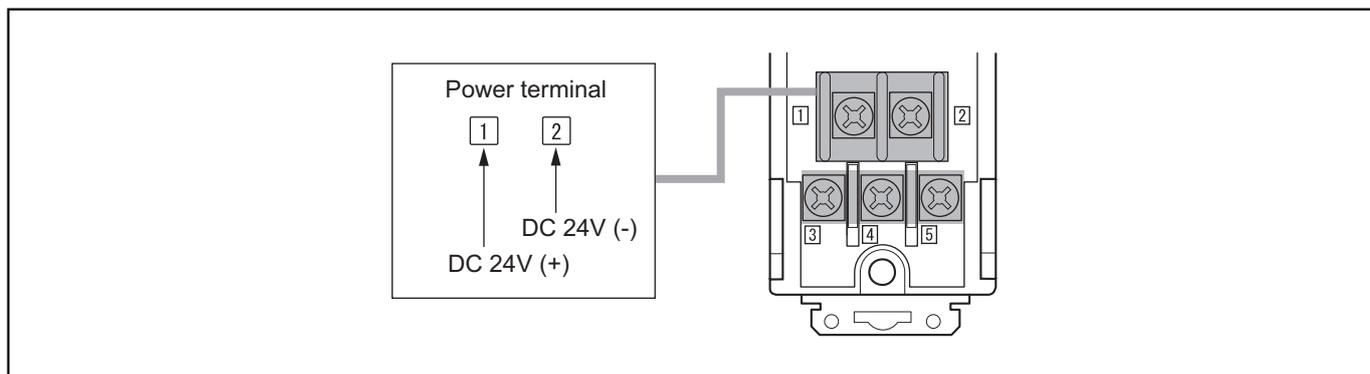
## Wiring for power supply

### Terminal layout

Power terminals are on the base part of each module.

Wiring is same for the all modules.

The power supplies to all connected modules by connecting this terminal to the only one of them.



### Note

- Wiring to a terminal block, use crimp terminal (screw size: M3).  
Use the screws in this product only.  
Screw size on the terminal block: M3×7 (with square washer)  
Clamp torque: 0.78N-m (8kgf-cm)
- Apply power cable with allowable current capacity larger than total consumption current of all connected modules.
- Power cable more than one should not be connected to power terminals.
- When using AWG 16 cable, you should use the crimp terminal that material thickness is 0.9mm or less.
- Use the power cables and crimp terminals indicated below for wiring.

Power cable size

Cable type	Size
Power cable, output, others	0.25 – 1.25mm <sup>2</sup> (AWG22 to 16)

Crimp terminal size

Cable size	Clamp torque
0.25 – 1.25mm <sup>2</sup> (AWG22 to 16)	0.8Nm





# 4

## Programless Communication Operation

4.1	Device Memory .....	4-3
4.2	Reading Demand/Response Flag .....	4-13
4.3	Parameter Setting Demand/Response Flag ...	4-18
4.4	Command Setting Demand/Response Flag ...	4-21
4.5	Command Execution Example .....	4-24

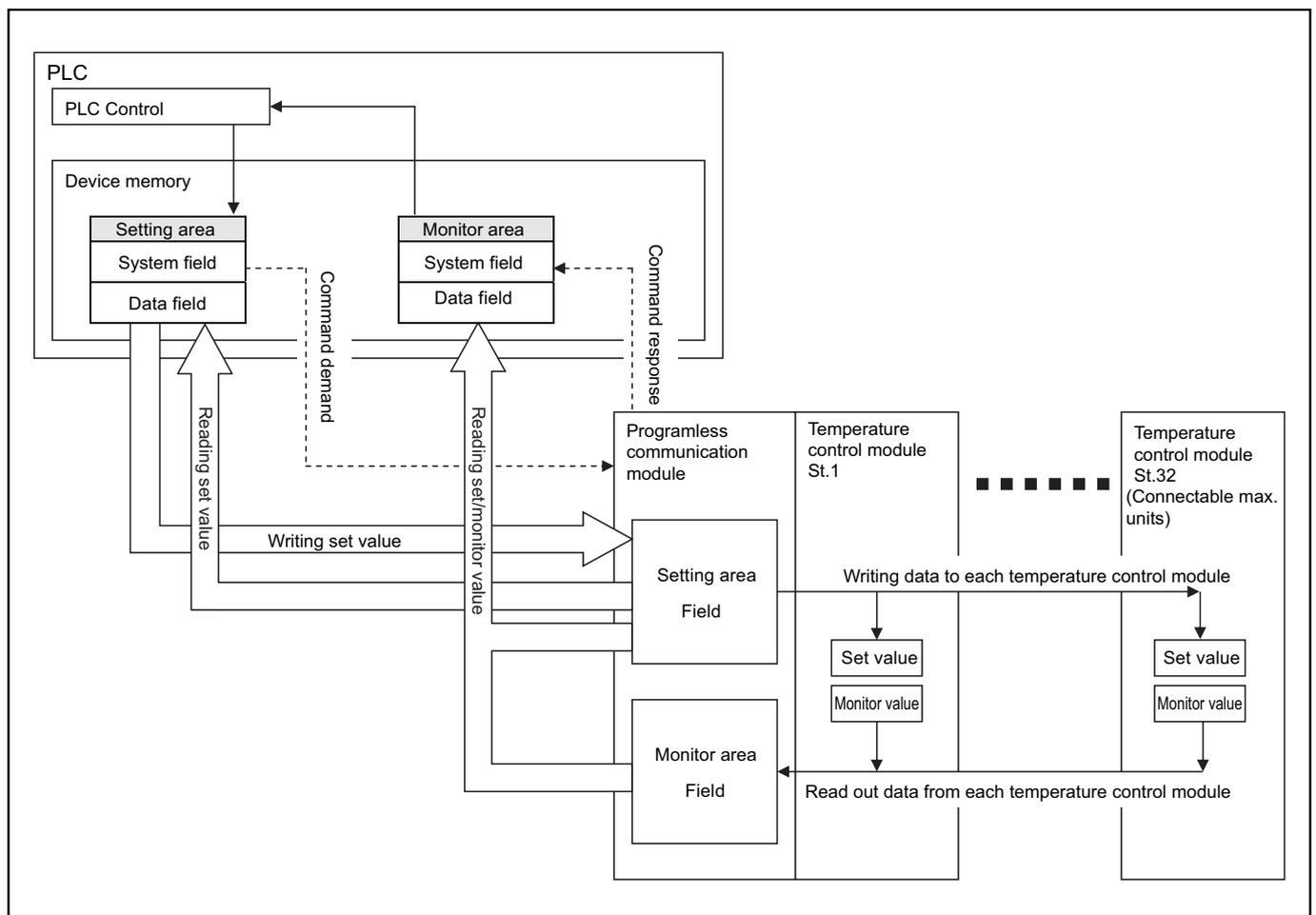


# 4.1 Device Memory

The programless communication module operates as the master of the communication between PLC and the module, and reads out/ writes PLC device memory according to the programless communication module parameters' setting.

Only accessing to this device memory enables PLC to monitor or set the data of the module type temperature controller connected to the programless communication module.

Hereinafter, the communication between a programless communication module and PLC-module will be also referred as to “the programless communication”.

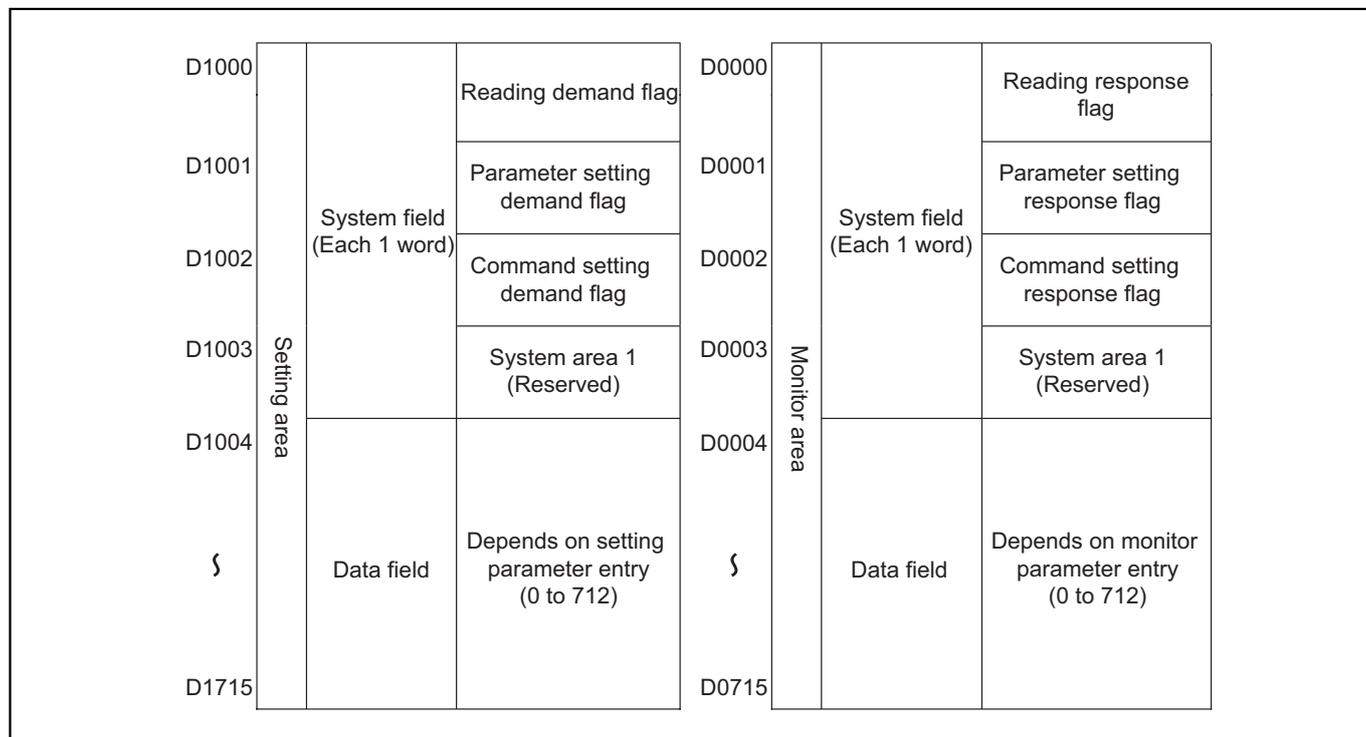


## Point

PLC does not need the ladder program for communications, since the programless communication module updates the device memory data automatically with the programless communication function.

## How to use the device memory

The setting area and the monitor area set on the PLC device memory have the system field and the data field.



The device names and the device No. on the table below is referring to the following set values.

Area	Device used	Initial address	Number of data
Setting area	Data register (D)	1000	712
Monitor area	Data register (D)	0000	712

The setting of the device used/the address used are changeable. [▶▶ 5-5](#)

### Note

The configuring the setting area and the number of setting area data, and the monitor area and the number of monitor area data used on the PLC memory is necessary prior to starting programless communications. [▶▶ 5-5](#)

- When using with 1:N connection, make a setting not to duplicate the setting area and the monitor area of each programless communication module.
- Make sure not to duplicate the device memory area used by PLC.

**Setting area**

- System field

Set the flag in the system field enables the PLC to read data out or to require the setting change to the temperature control module.

Item	Value	Command	Operation required
Reading demand flag	0000h	Stop operation	Stop the temperature control module data reading demand.
	0001h	Read out once	Execute the process once: reading out data from the temperature control module, and updating the monitor area data field.
	0002h	Continuous read out	Execute the process periodically: reading out data from the temperature control module, and updating the monitor area data field. Refer to “PLC communication inter-cycle setting”  5-14 about the fixed-cycle time.
	0003h	Set value reading out to the monitor area	Read out parameters' present values entered to the setting area from the temperature control module, and update the monitor area data field.
	0004h	Set value reading out to the setting area	Read out parameters' present values entered to the setting area from the temperature control module, and update the setting area data field.
Parameter setting demand flag	0000h	Stop operation	Stop the temperature control module data writing demand.
	0001h	Set once	Execute the process once: writing the set value set in the setting area data field to the temperature control module.
	0002h	Continuous setting	Execute the process periodically: writing the data set in the setting area data field to the temperature control module. Refer to “PLC communication inter-cycle setting”  5-14 about the fixed-cycle time.
Command setting demand flag	0000h	Stop operation	Stop the command execution demand to the programless communication module.
	FFFFh	Communication restoration demand	When the operation select is set to “Stop” with the programless communication module “Operation setting when a programless communication fault occurs”  5-4 demand to restart operation for the programless communication module stopped with some faults. In addition, set “0000h” to the command setting demand flag, the programless communication module starts communication.
System area 1 (Reserved)	0000h	None	

## 4.1 Device Memory

---

- Data field

Set the data for writing to the temperature control parameter entered as setting parameters.

Setting parameters are entered by "Communication parameter entry (Setting area)".  5-6

### Point

Before the parameter setting demand, set values to the data field used. If there are some parameters not required to be change, execute the reading demand flag=0004h (reading out set values to the setting area), and change only the parameters' setting that is necessary.

### Note

During 1:N connection, each programless communication module has a system field and a data field.

**Monitor area**

- System field

The response result from the PLC to the temperature control module that is required in the setting area system field or the temperature control module status can be confirmed.

Item	Value	Response	Explanation
Reading response flag	0000h	Stop data area update/Complying with demand status	Updating of the data field in the monitor area via the programless communication is in the stopped state, or the reading demand flag is in a complying with demand status.
	0001h to 0004h	Normal response	That the response value is the same as the reading demand flag means that response to each demand is the normal response.
	8001h to 8004h	Demand's abnormal response	Abnormal response to each demand. (The state that communication errors are occurring between temperature control modules. Such as, nonexistent units)
	Other than those above	Abnormal response	Abnormal status other than the programless communications. (Such as, device memory setting duplication, overwrite by PLC sequence program)
Parameter setting response flag	0000h	Stop data area update/Complying with demand status	Updating data field in the setting area via the programless communication is in the stopped state or the parameter setting demand flag is in the complying with demand status.
	0001h to 0002h	Normal response	That the response value is the same as the reading demand flag means that the response to each demand is the normal response.
	8001h to 8002h	Demand's abnormal response	Abnormal responses to each demand. (The state that communication errors are occurring between temperature control modules) The sources: such as, nonexistent units, the data out of range was written.
	Other than those above	Abnormal response	Abnormal status other than the programless communication. (Such as, device memory setting duplication, overwrite by PLC sequence program)
Command setting response flag	0000h	Stop data area update/Complying with demand status	In the status of complying with the command setting demand flag.
	EEEEh	Stopped state	The programless communication is in the "stopped state".  5-4
	FFFFh	Restoration state	The response to "communication restoration demand" is normal.
	Other than those above	Abnormal response	Abnormal status other than the programless communication. (Such as, device memory setting duplication, overwrite by PLC sequence program)
System area 1 (Reserved)	0000h	None	

## 4.1 Device Memory

---

- Data field

The present value of the temperature control module data entered as a monitor parameter is stored in this field. The monitor parameters are entered by "Communication parameter entry (Monitor area)".  5-9

**Note**

During 1:N connection, each programless communication module has a system field and a data field.

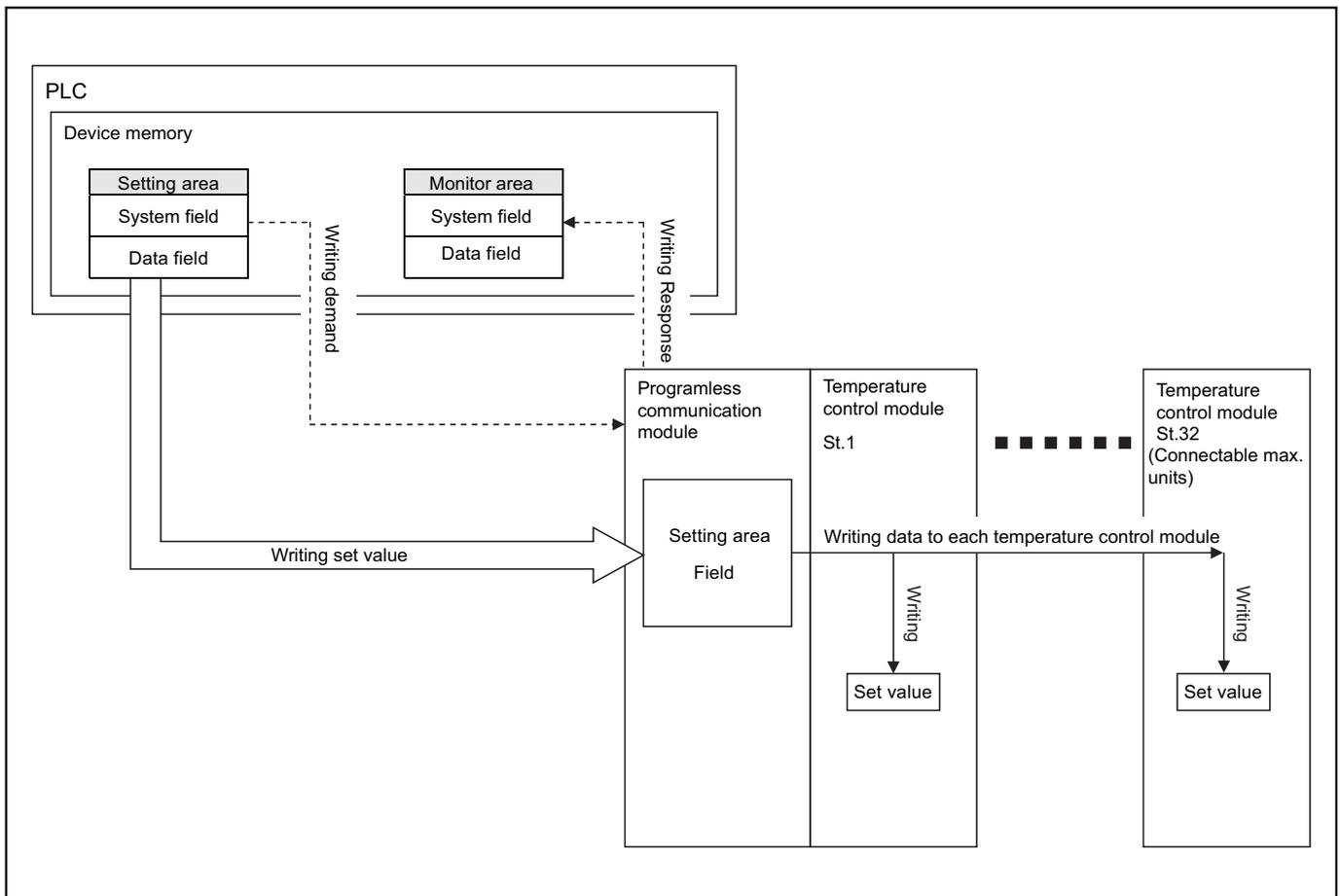
---

## Operation for the programless communications

After turning the power on and passed the waiting time set by "PLC communication starting time" parameter ▶▶ 5-14, execute the operation with the programless communication below.

### Write set values to the temperature control module

Write the data field's values in the setting area to the temperature control module parameters entered to that area.

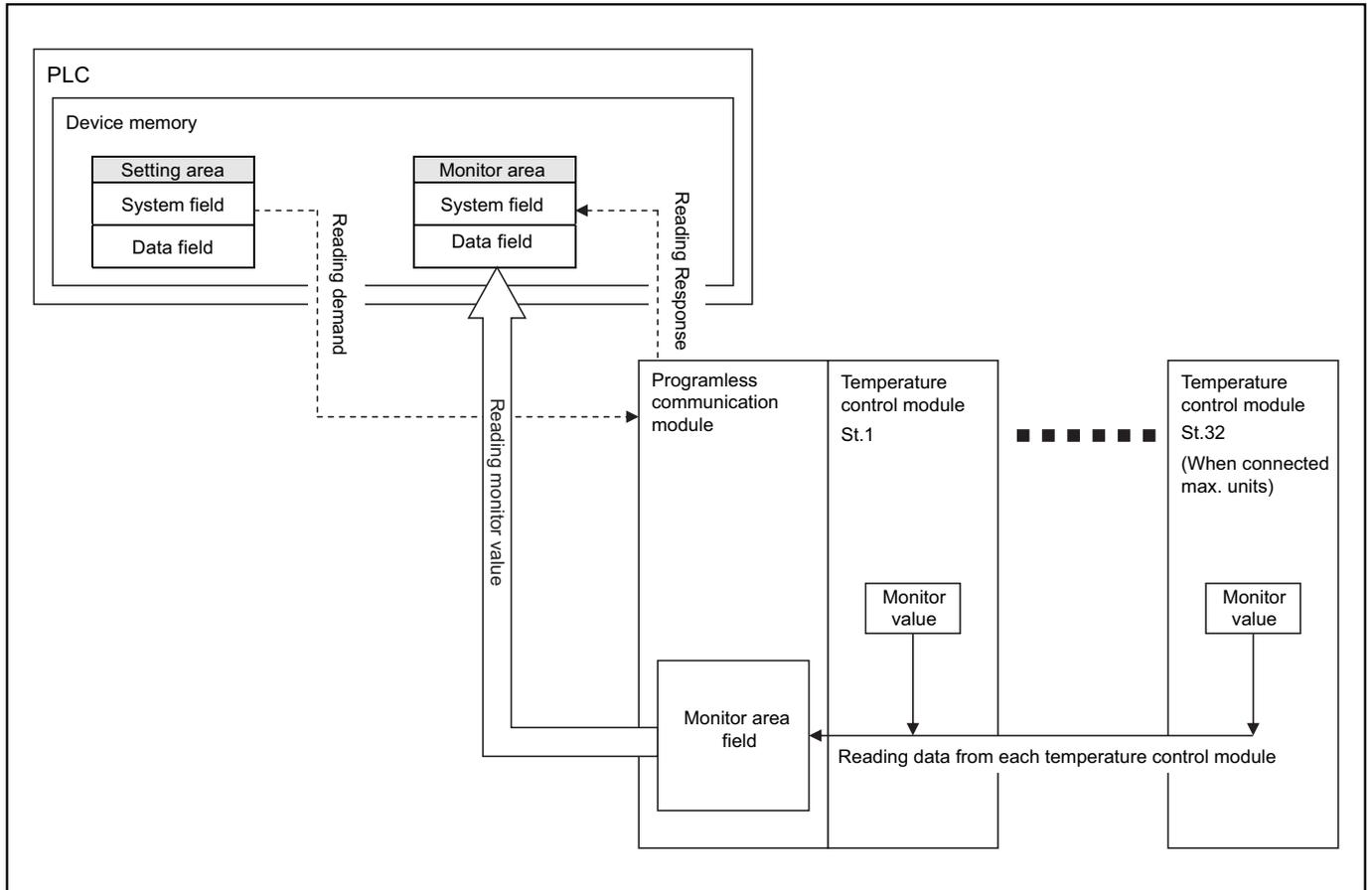


### Note

- Judge if the set value changed on the temperature control module, and modify the set value only when it changed.
- Do not modify the set value of the parameter entered as the setting parameter via the loader port communication. If changed it, the value written by the PLC comes to be invalid. To make the value by PLC valid, modify it to a different value from the present one once.
- During 1:N connection, until the module which St. No. is "0" starts a communication with PLC, other modules which St. Nos. are not "0" are in the standby state.

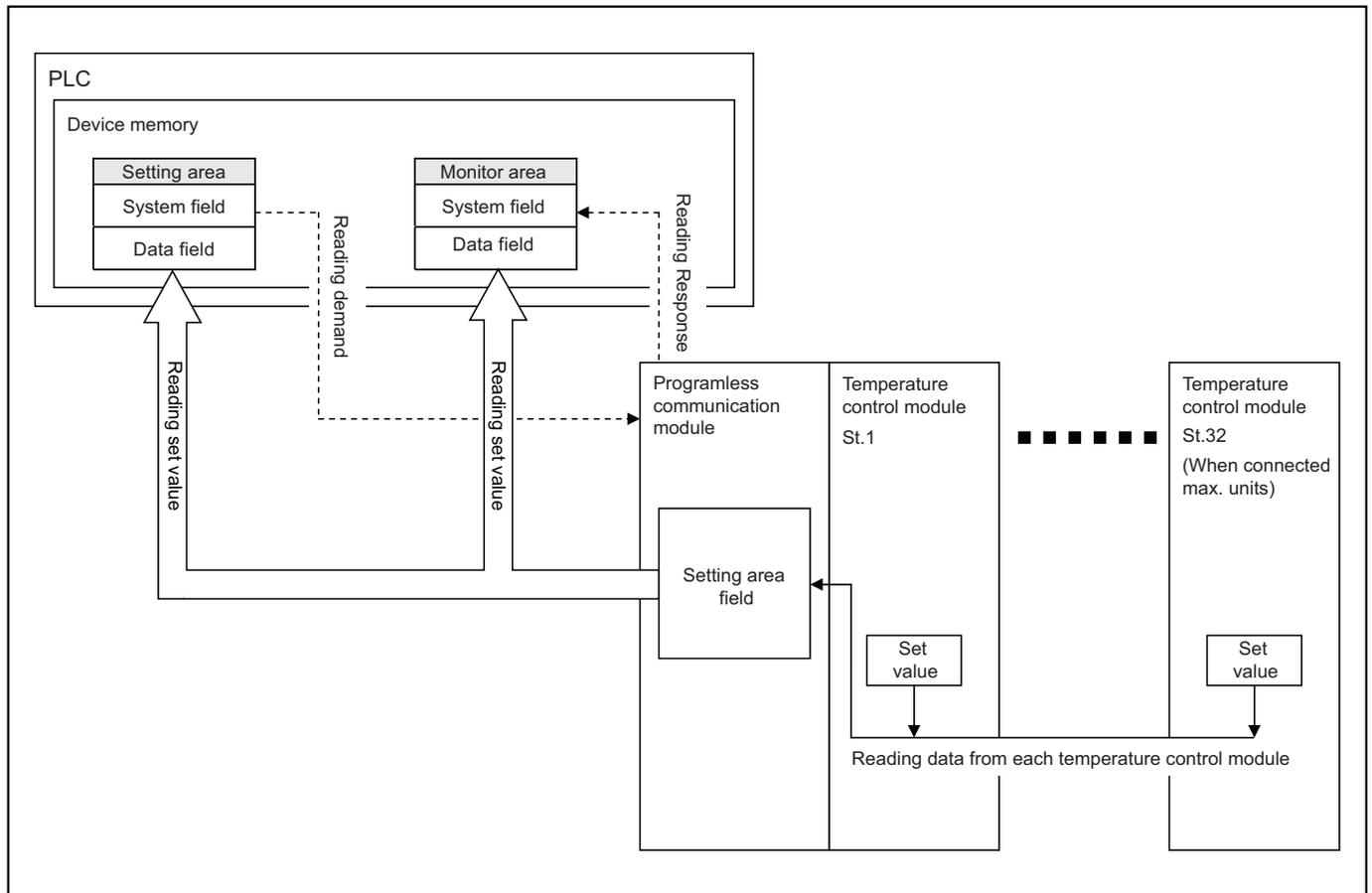
**Read out monitor values from the temperature control module**

Read out the data field's values in the monitor area to the temperature control module parameters entered to that area.



**Read out set values from the temperature control module**

Read out the temperature control module's set values entered onto the setting area to the setting area data field or the monitor area data field.



### **Programless communication operating suggestions**

---

Remind the suggestions below when executing the communication to the PLC.

- (1) Set the device memory exists in the PLC by using the setting tool.

When setting the nonexistent device memory, the PLC sequence scan diminishes in speed.

- (2) Set the PLC response monitoring time  to the value with enough margins in consideration for the PLC system configurations. If the programless response monitoring time is short, the programless communication does not operate properly.

- (3) Each demand flag in the setting area system field should be modified from the state that both of demand flag value and the response flag value are "0000h". Even if modifying from the state other than "0000h", the demand flag commands are not complied.

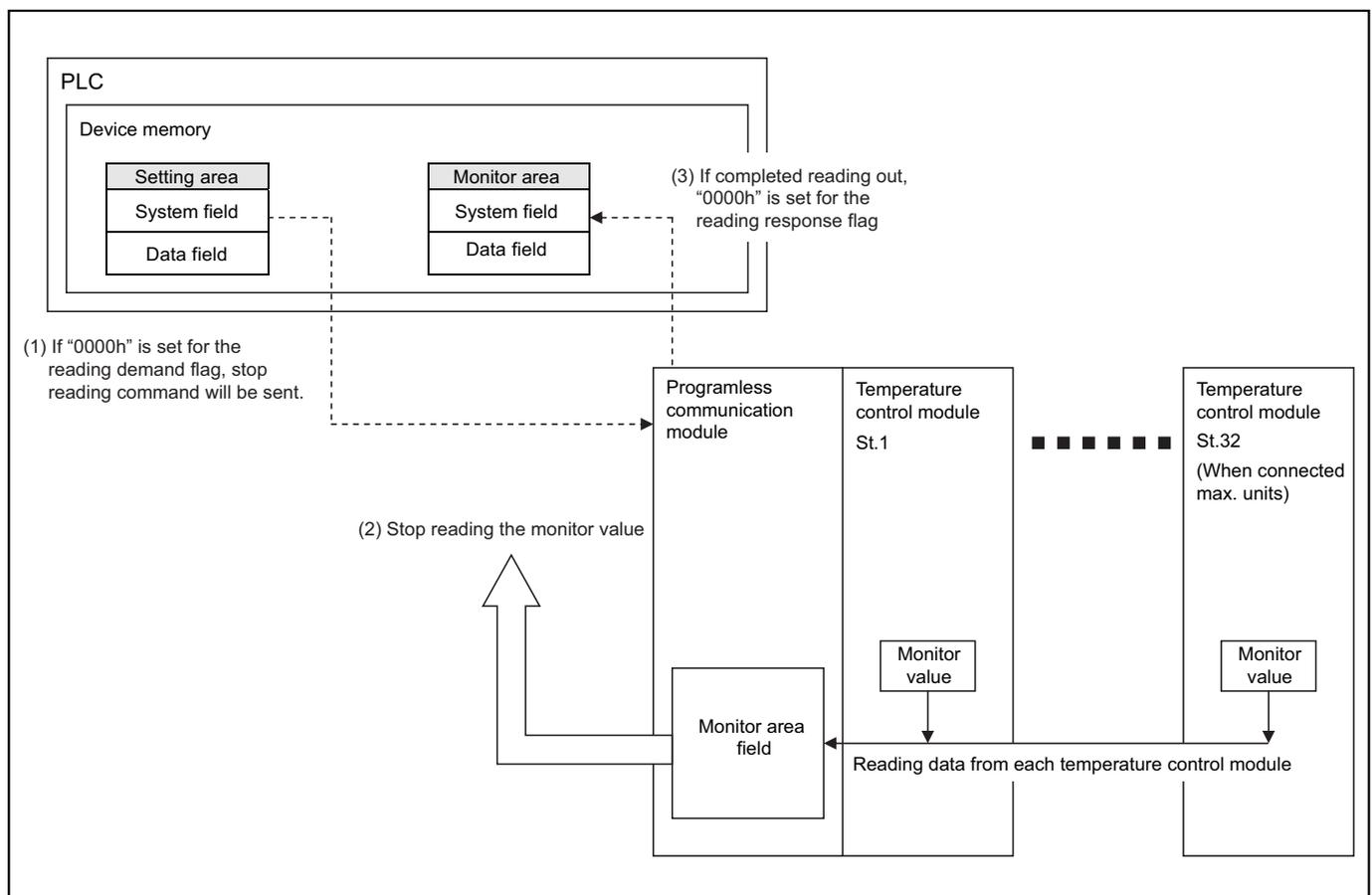
- (4) When using 1:N connection, PLC communication setting  of every programless communication modules should be the same. If not, a normal communication is not possible.

## 4.2 Reading Demand/Response Flag

Setting commands for the system field “reading demand flag” in the device memory setting area enables the temperature control module parameters and the memory values entered as the monitor parameters to be read out to the device memory area data field. The operation results are set for the “reading response flag” in the monitor area system field in the device memory.

### Stop operation (Command: 0000h)

If setting “0000h” for the system field “reading demand flag” in the device memory setting area, the operation that the temperature control module parameters and the memory values entered as the monitor parameters are read out to the device memory area data field in the device memory comes to a stop.

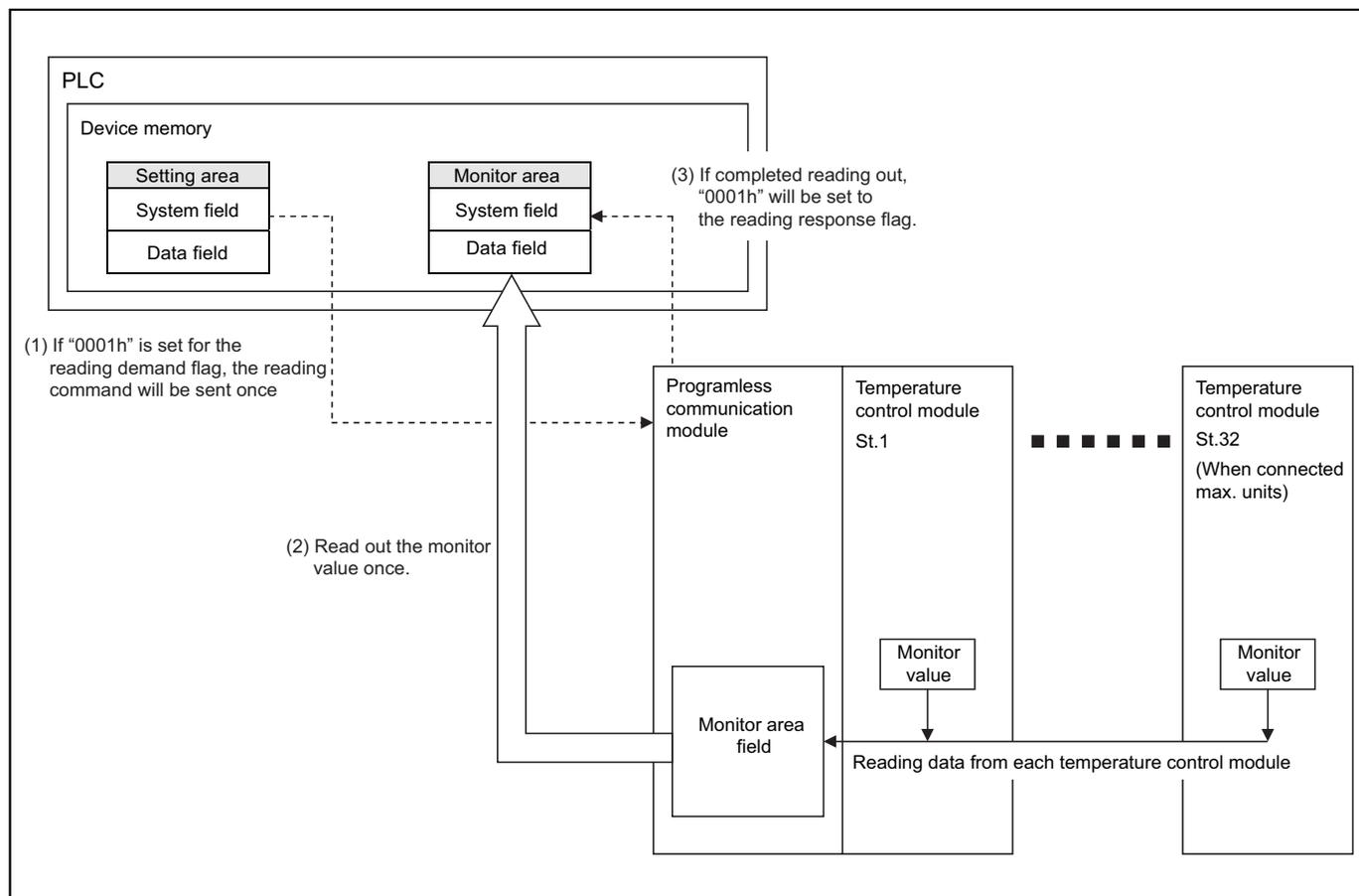


#### Note

- If the reading demand flag is not set to “0000h”, the command for the reading demand flag is not complied. When modify the reading demand flag value, reset the reading demand flag to “0000h”, and then set the value again.
- Each programless communication module has a system field and data field.

## Read out once (Command: 0001h)

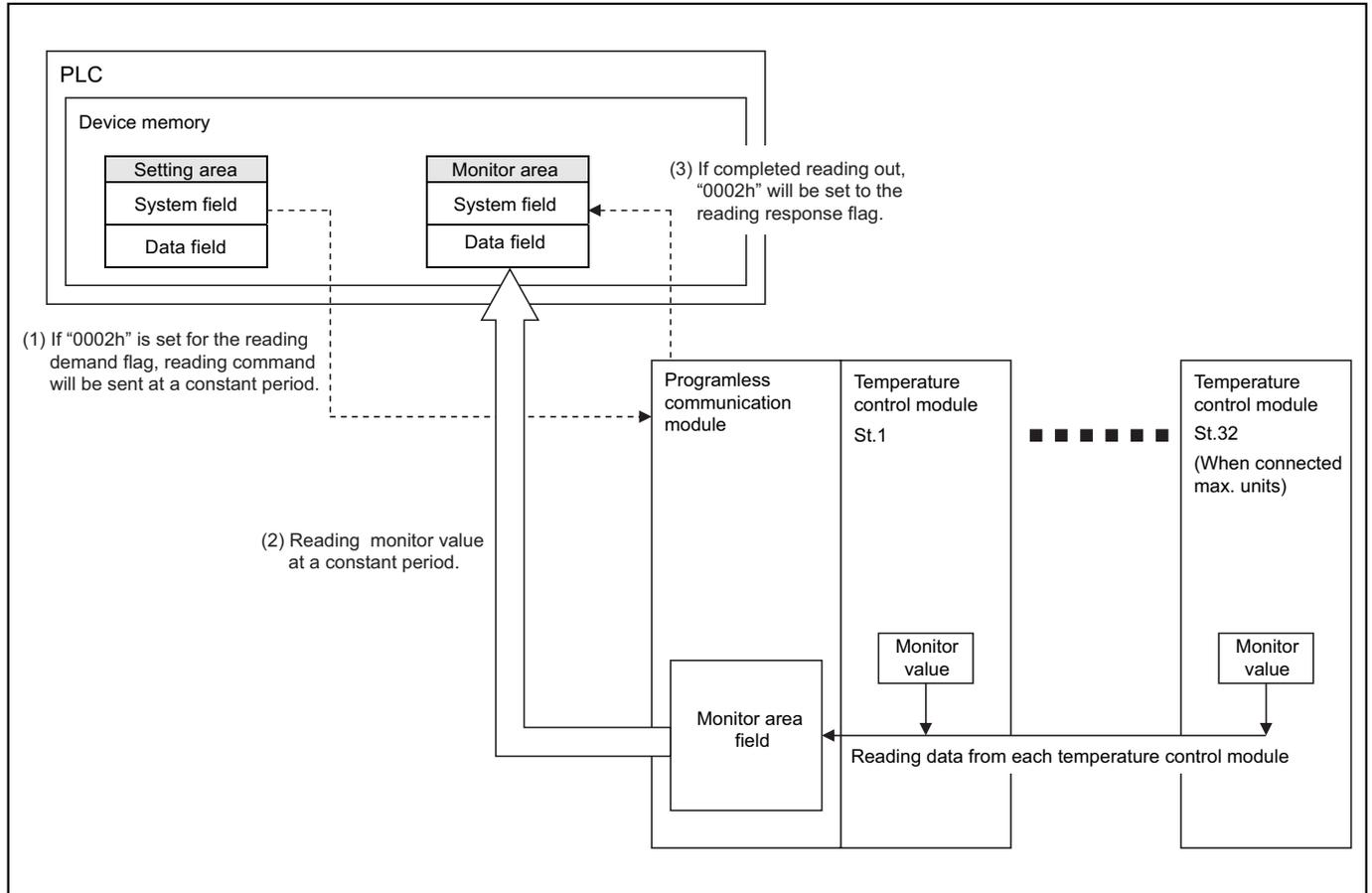
Setting “0001h” for the system field “reading demand flag” in the device memory setting area enables the temperature control module parameters and the memory values entered as the monitor parameters to be read out once to the device memory area data field in the device memory.



After finish reading out, put the programless communication module reading demand into the standby by the stop operation command. ▶▶ 4-13

## Continuous reading out (Command: 0002h)

Setting "0002h" for the system field "reading demand flag" in the device memory setting area enables the temperature control module parameters and the memory values entered as the monitor parameters to be read out periodically to the device memory area data field in the device memory. (Refer to "PLC communication inter-cycle time" [▶▶ 5-14](#) about the periodical time)



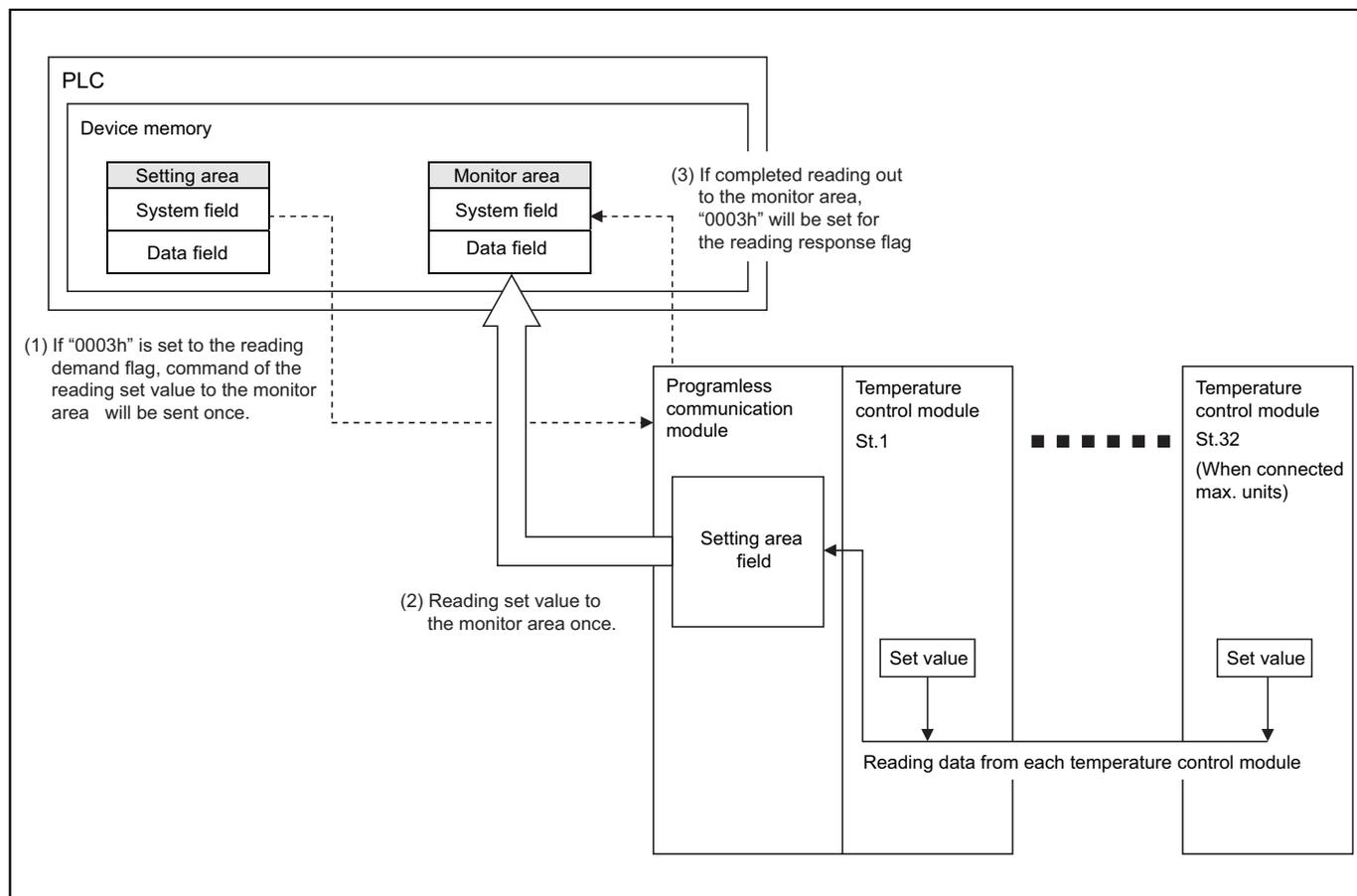
Execute stop operation command [▶▶ 4-13](#), put the programless communication module reading demand into the standby state in order to stop continuous reading out.

### Point

Internal monitor value for the programless communication module is also entered to the monitor area. The station number for the programless communication module is "128".

## Reading out set values to the monitor area (Command: 0003h)

Setting “0003h” for the system field “reading demand flag” in the device memory setting area enables the present parameter values entered to the setting area to be read out once from the temperature control module to the monitor area data field in the device memory.



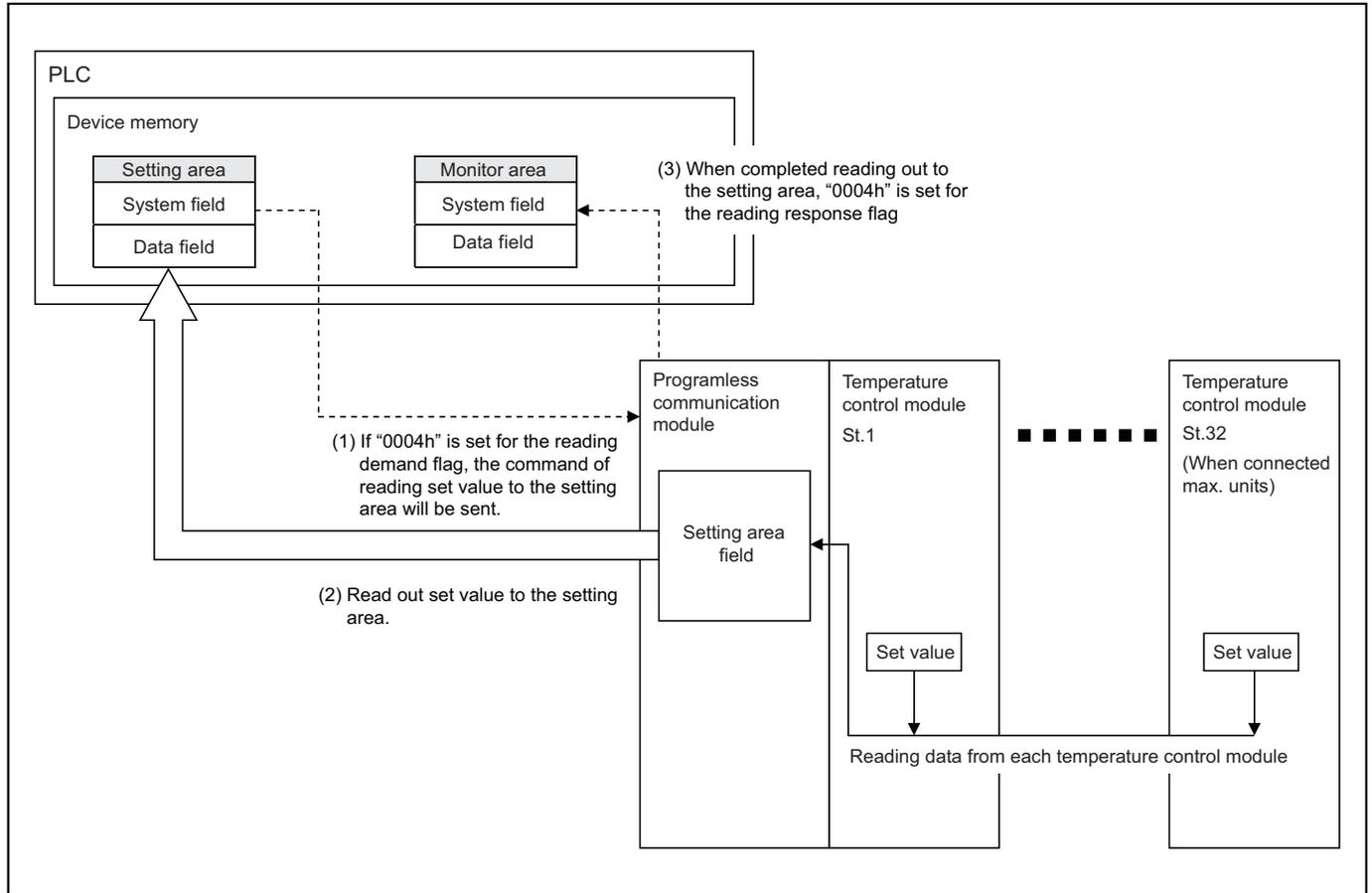
### Note

With execution of this command, contents of the data field in the monitor area are discarded in order to read out the set value in the format of the setting area data field to the monitor area data field. If the monitor value in the monitor area is necessary after executing command, try to read out the monitor value by the reading out command again.

After reading out, execute the stop operation command  4-13 to put the reading demand of the programless communication module into the standby status.

## Reading out set values to the setting area (Command: 0004h)

Setting “0004h” for the system field “reading demand flag” in the device memory setting area enables the present parameter values entered to the setting area to be read out once from the temperature control module to the setting area data field in the device memory.



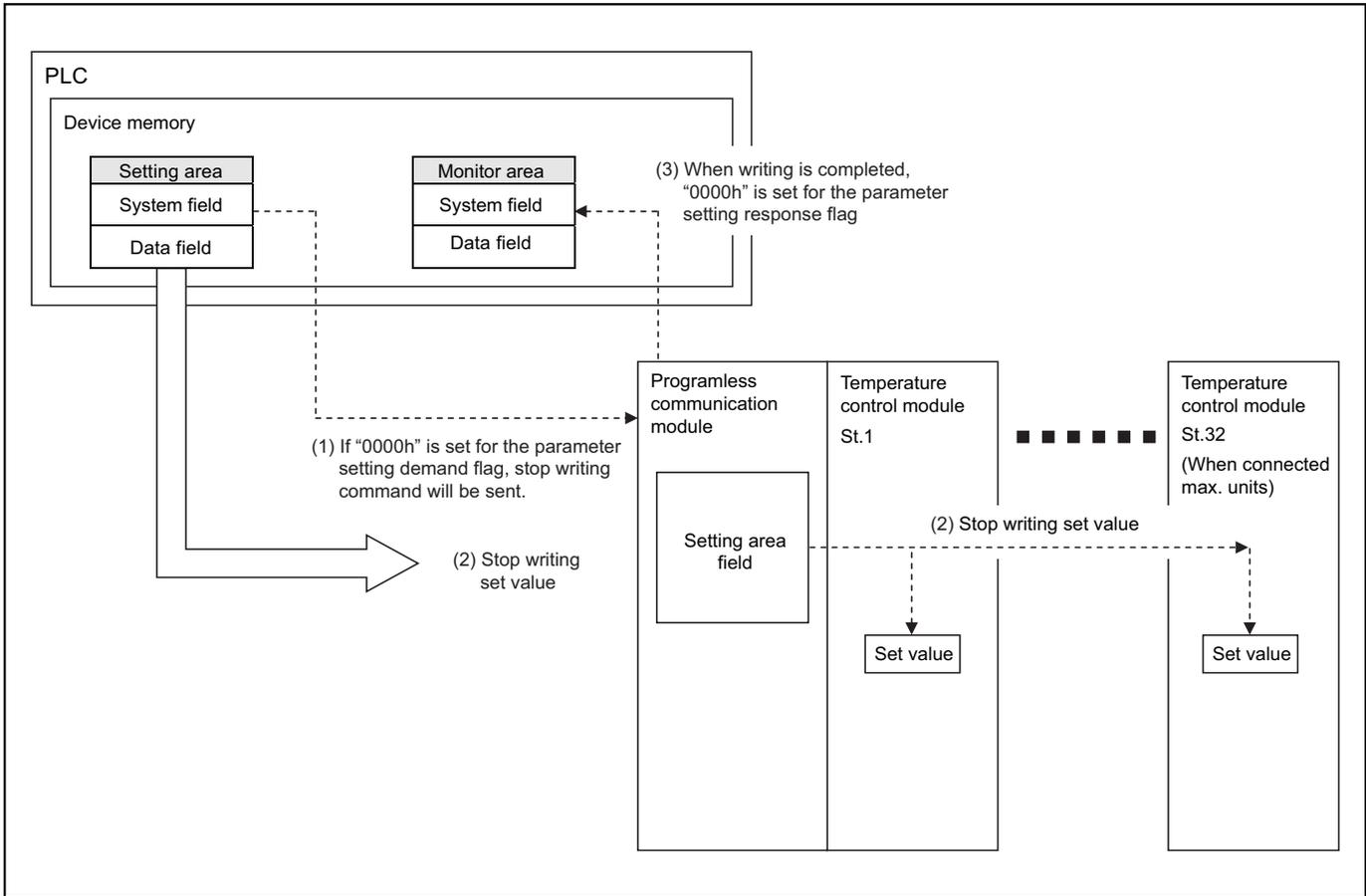
After reading out, execute the stop operation command **▶▶ 4-13** to put the programless communication module’s reading demand into the standby status.

# 4.3 Parameter Setting Demand/Response Flag

Setting command for the system field “parameter setting demand flag” in the setting area enables the value of the data field to be written to the temperature control module parameter entered as the set parameter. The operation results are set for the “parameter setting response flag” of the system field in the monitor area.

## Stop operation (Command: 0000h)

Setting "0000h" for the system field "parameter setting flag" in the device memory setting area enables the value of data field in the setting area to stop being written to the temperature control module parameter entered as the setting parameter.



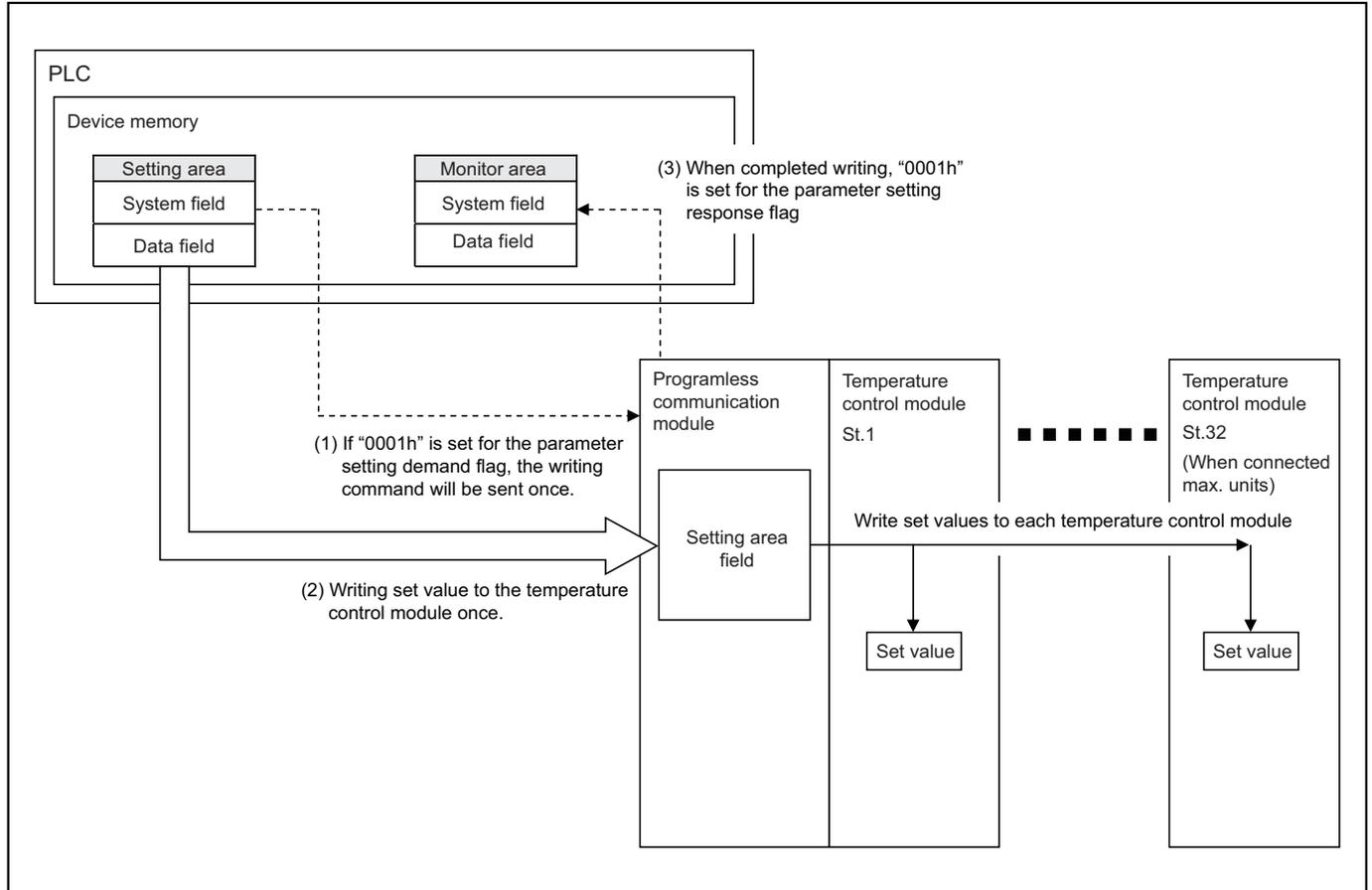
The programless communication module comes to be standby for the parameter setting demand with executing this command.

**Note**

- When the parameter setting demand flag is not “0000h” (Stopped state), command for the parameter setting demand flag is not complied. If modify the value of the parameter setting demand flag, set the value after reset the parameter setting demand flag to “0000h”.
- During 1:N connection, each programless communication has a system field and a data field.

## Write once (Command: 0001h)

Setting "0001h" for the system field "parameter setting flag" in the device memory setting area enables the value of data field in the setting area to be written once to the temperature control module parameter entered as the setting parameter.



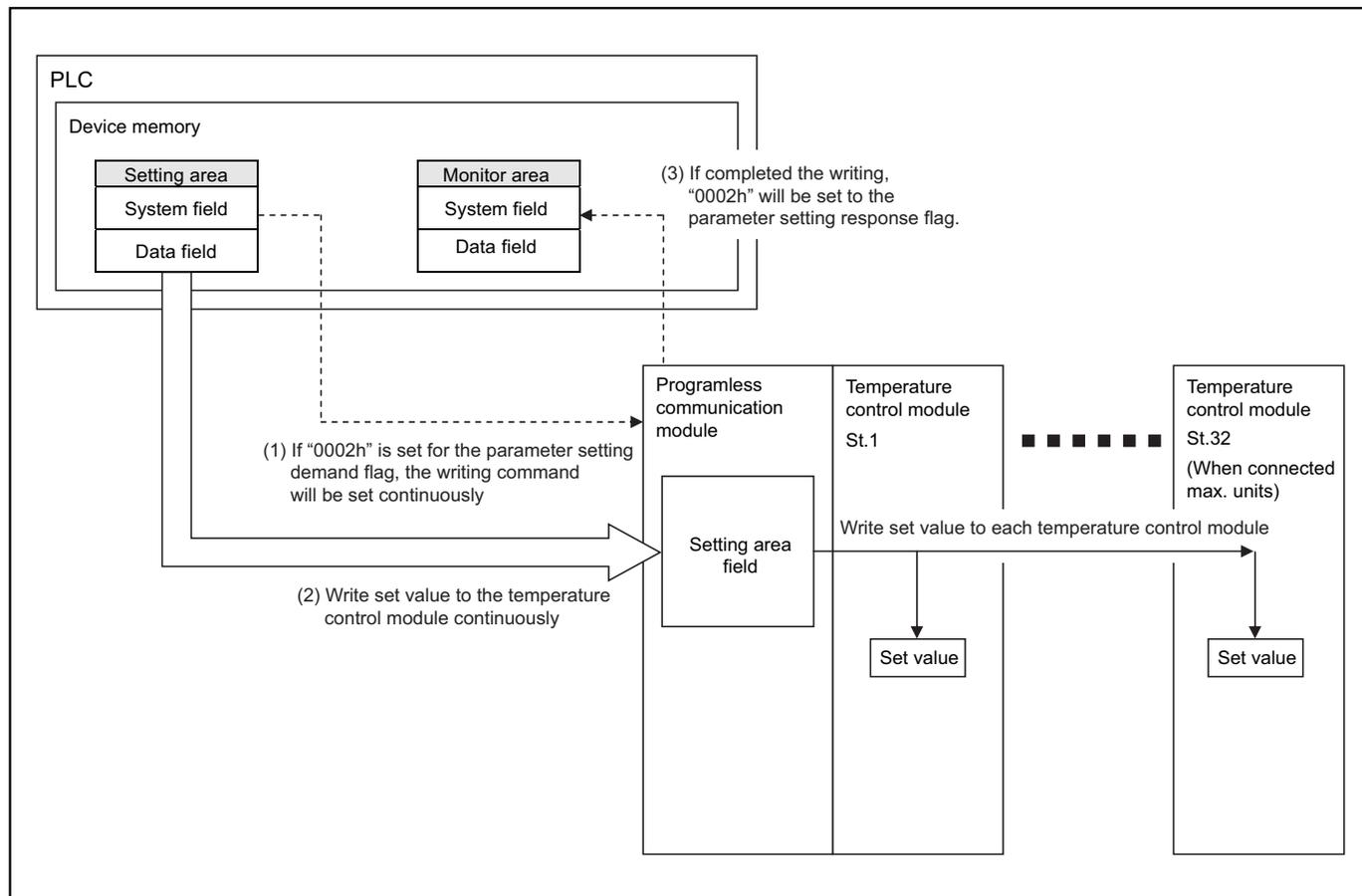
After writing, execute the stop operation command [▶▶ 4-18](#) to put the programless communication module's parameter setting demand into the standby status.

### Note

- The temperature control module judge whether the set value has changed, and only if has changed, the set value will be updated.
- The parameters of the temperature control module that be reset automatically after executing the command, such as the temperature control module's auto tuning parameters, are not reflected in the memory of PLC. Confirm by the reading demand command [▶▶ 4-14](#), if the command has be executed.

## Continuous writing (Command: 0002h)

Setting "0002h" for the system field "parameter setting flag" in the device memory setting area enables the value of data field in the setting area to be written periodically to the temperature control module parameter entered as the setting parameter. (Refer to "PLC communication inter-cycle time" [▶▶ 5-14](#) about the periodical time).



Execute the stop operation command [▶▶ 4-18](#) and put the programless communication module to the standby state in order to stop continuous reading out.

# 4.4 Command Setting Demand/Response Flag

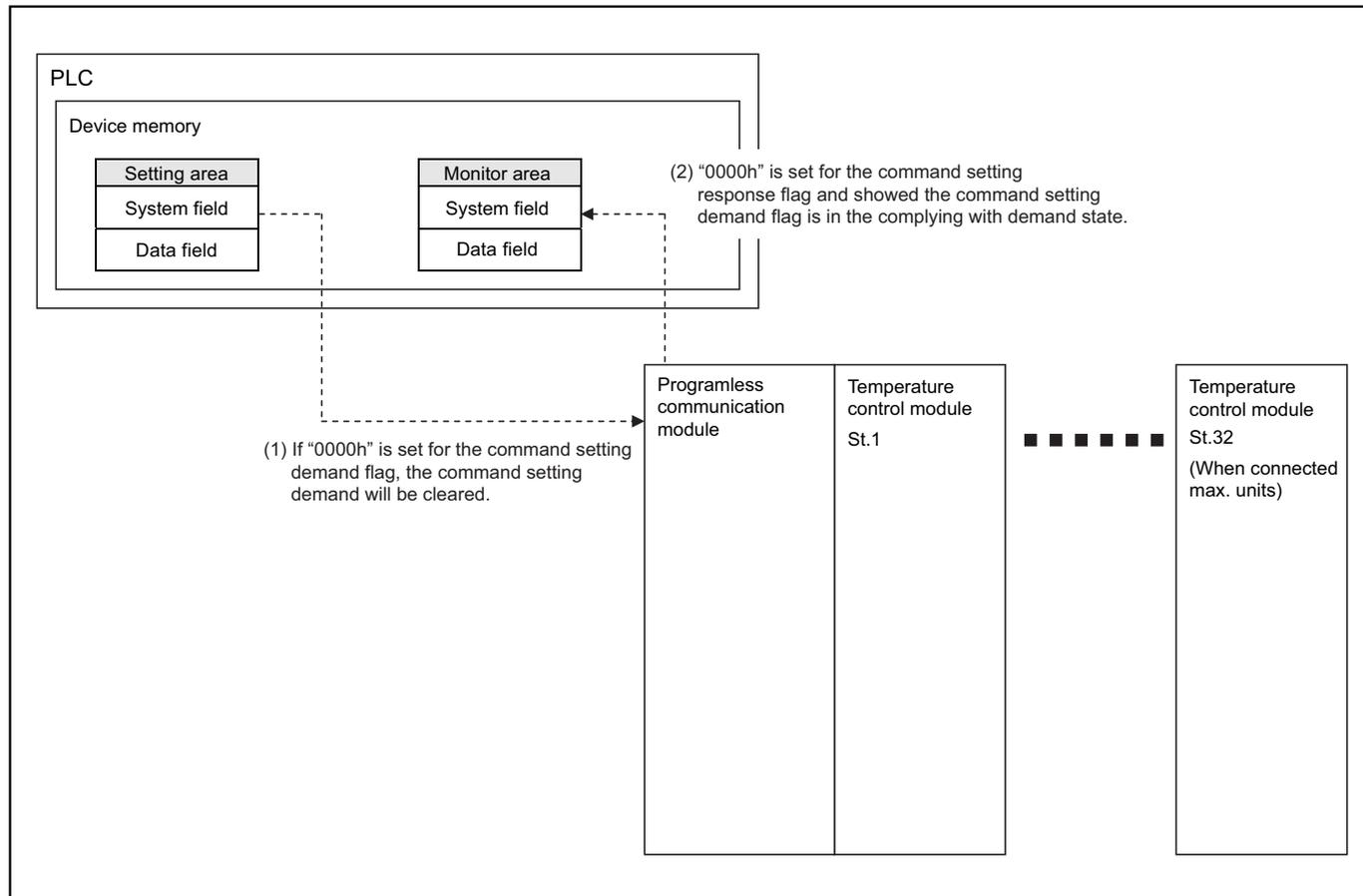
Setting command for the system field “command setting demand flag” in the setting area enables to indicate the operation for the programless communication module. The operation results are set in the system field “command setting response flag” of the monitor area.

## Programless communication module status showed by the command setting response flags

Command setting response flag	Programless communication module status
0000h	Standby status: Command can be complied with.
EEEEh	Standby status: In the standby status after restoration from the programless communication fault.  5-4
FFFFh	Restoring status: In the normal status after executing the restoring demand.
Other than those above	Abnormal status other than the programless communication: Device memory setting duplication, destroying the response value overwritten by the PLC sequence program.

## Stop operation (Command: 0000h)

Command setting demand status is cleared for the programless communication module by setting “0000h” for the “command setting demand flag”.



Executing this command puts the programless communication module into the standby status for the command setting demand.

### Note

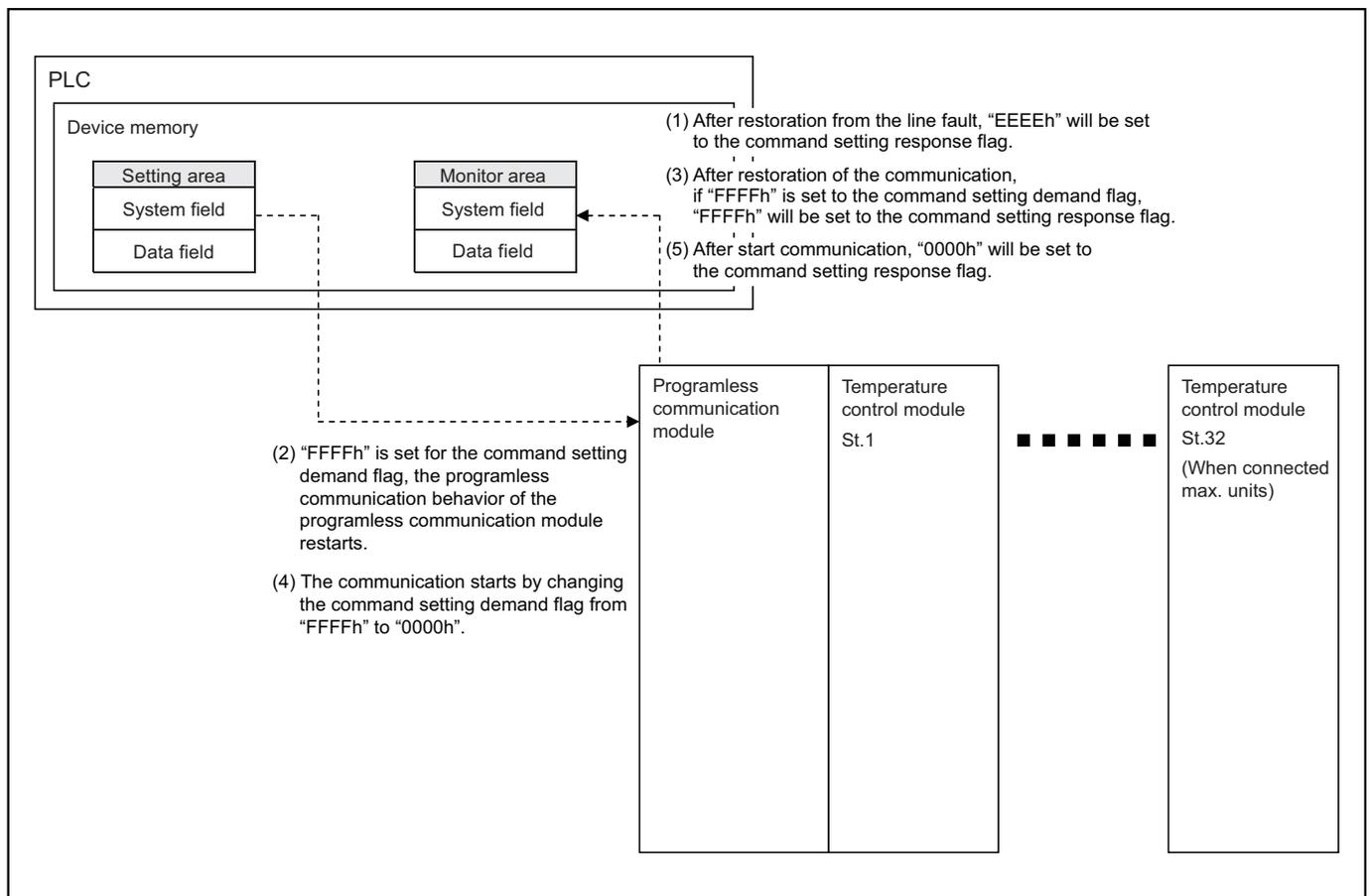
- When the command setting demand flag is not set to “0000h” (Stop operation), the command for the command setting demand flag is not complied with. Set the value after reset the command setting demand flag to “0000h” (Stop operation) to modify the value of the command setting demand flag.
- During 1:N connection, each programless communication has a system field and a data field.

## Communication restoration demand (Command: FFFFh)

When “Stop” is selected for the operation select with the “Operation setting when a programless communication fault occurs” [▶▶ 5-4](#) , this command requests the programless communication module that stops operation with some faults to restart operation.

### Note

To execute the restoration procedure, that "EEEEh"(Stopped status) has been set to the PLC setting area command setting response flag and the stop operation command of the reading demand flag [▶▶ 4-13](#) and the stop operation command of the parameter setting demand flag [▶▶ 4-18](#) has sent the normal response is required.



After communication restoration, execute the stop operation command [▶▶ 4-22](#) to put the programless communication module's command setting demand into the standby status.

# 4.5 Command Execution Example

The example of monitoring PV values of the control module (PUMA/B) connected to the programless communication module and manipulating SV values is shown below.

The PLC should use the data registers of No.1000 to 1004 for the setting area, and those of No.0000 to 0004 for the monitor area. In addition, the station number of the control module operated should be “1”, and the operating channel number should be “Ch.1”.

## Memory setting

Set parameters referring to the following table.

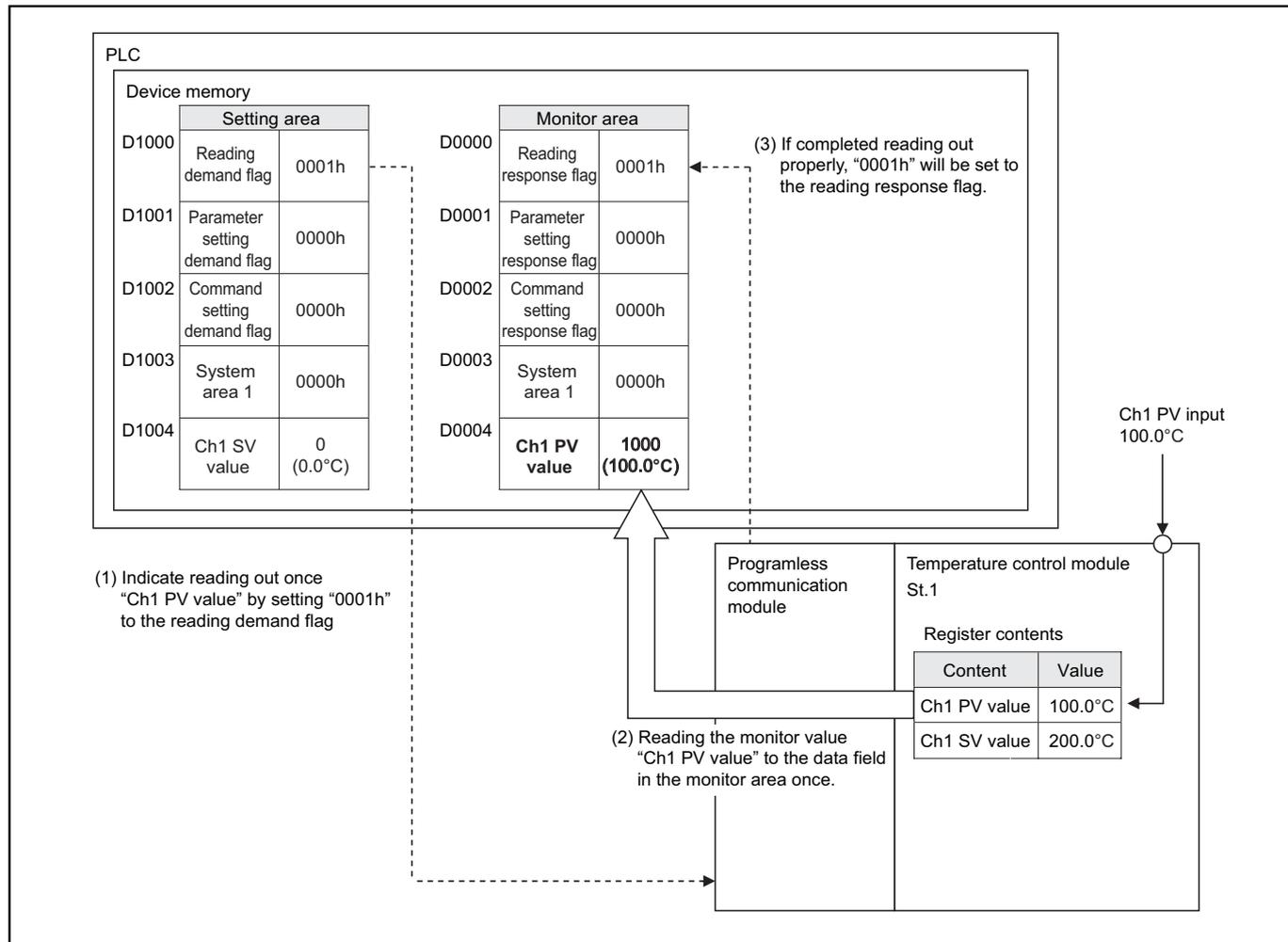
Parameter	MODBUS register No. (Relative address)	Set value
Setting area device type	40011 (000Ah)	00A8h (Data register)
Setting area start address (Lower)	40012 (000Bh)	1000
Setting area start address (Upper)	40013 (000Ch)	0
Setting area device size	40014 (000Dh)	1
Setting area entry St. No. (The 1st word)	41001 (03E8h)	1
Setting area entry register No.(The 1st word)	41002 (03E9h)	41100 (Ch.1 communication SV value)
Monitor area device type	40015 (000Eh)	00A8h (Data register)
Monitor area start address (Lower)	40016 (000Fh)	0
Monitor area start address (Upper)	40017 (0010h)	0
Monitor area device size	40018 (0011h)	1
Monitor area entry St. No. (The 1st word)	43001 (0BB8h)	1
Monitor area entry register No. (The 1st word)	43002 (0BB9h)	30002 (Ch.1 PV value)

PLC device memory is used as below.

D1000	Setting area	System field (Each 1 word)	Reading demand flag	D0000	Monitor area	System field (Each 1 word)	Reading response flag
D1001			Parameter setting demand flag	D0001			Parameter setting response flag
D1002			Command setting demand flag	D0002			Command setting response flag
D1003			System area 1 (Reserved)	D0003			System area 1 (Reserved)
D1004	Data field	Ch.1 SV value for St. No.1	D0004	Data field	Ch.1 PV value for St. No.1		

## Reading out parameters

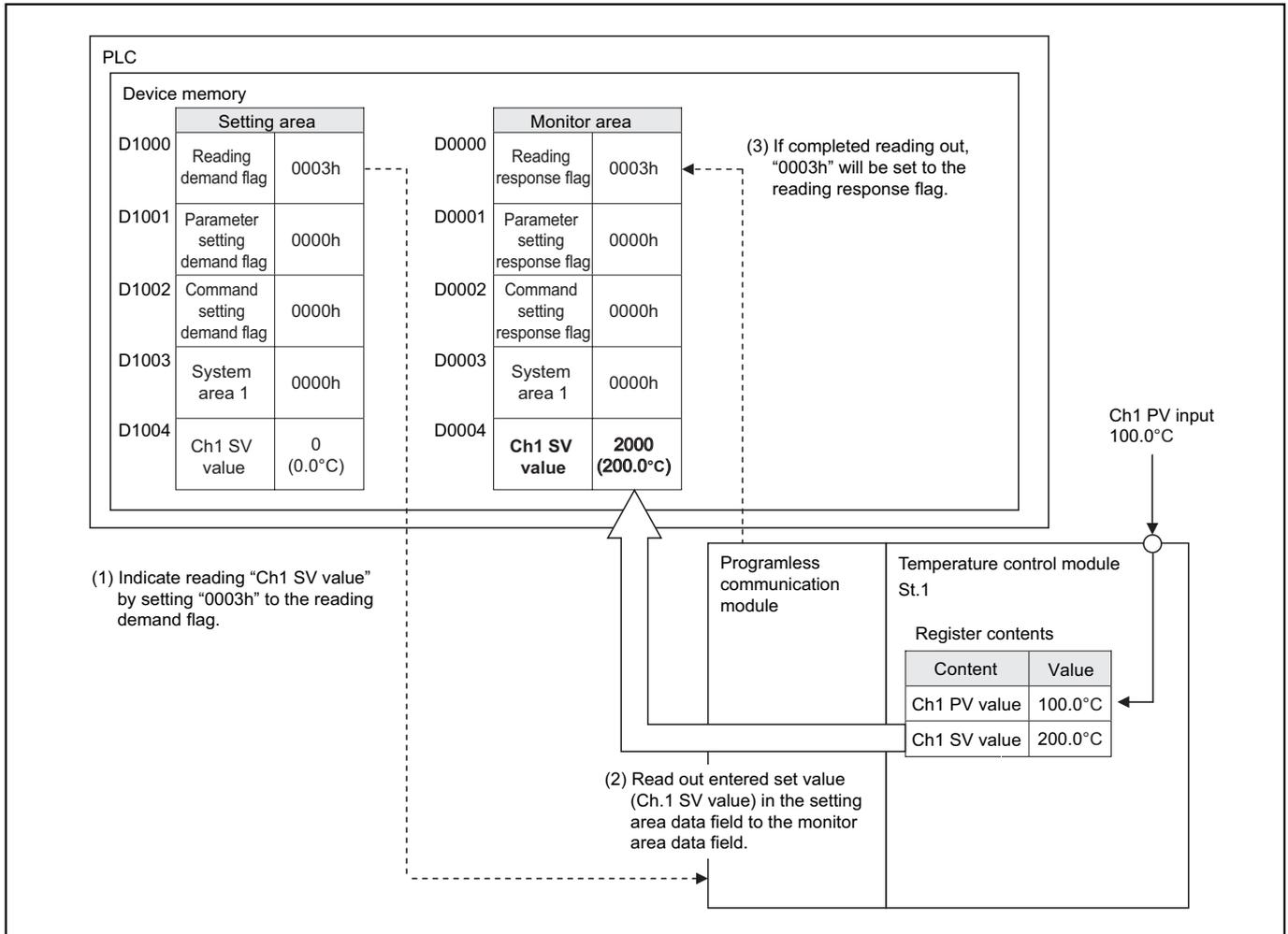
When “0001h” is set to the reading demand flag (No. D1000), “Control module (St. No.1)’s PV value” is read out to the data filed (No. D0004) in the monitor field, and “0001h” is set to the reading response flag “No. D0000”.



After reading out, set “0000h” (Stop operation)” to the reading demand flag (No. D1000) to put the programless communication module’s reading demand into the standby status. When the reading demand comes to be in the standby, “0000h” will be set to the reading response flag (No. D0000).

## Reading out set values to the monitor area

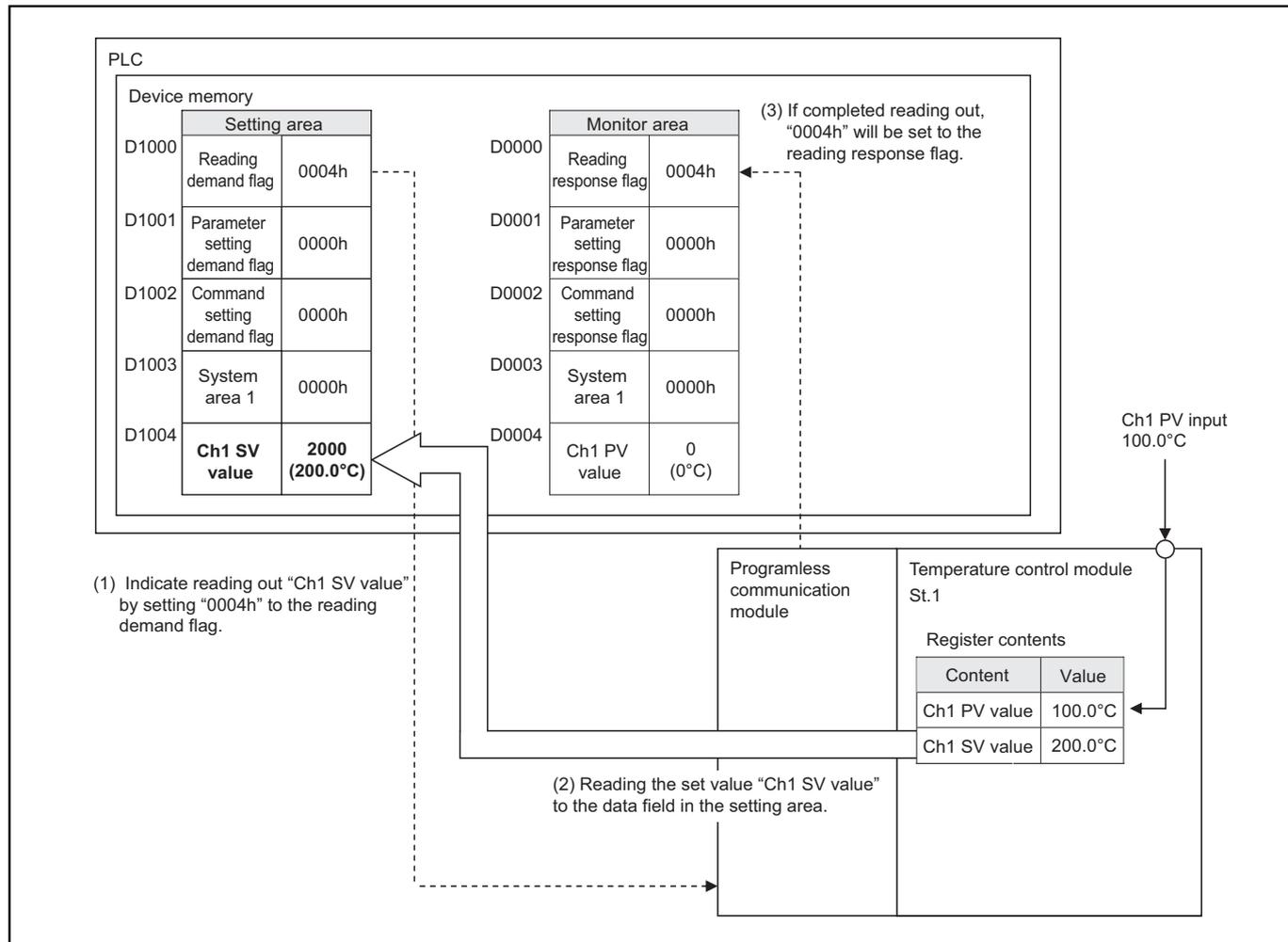
When “0003h” is set to the reading demand flag (No. D1000), “Control module (St. No. 1)’s Ch. 1 SV value” is read to the data field in the monitor area, and “0003h” is set to the reading response flag (No. D0000).



After reading out, set “0000h” (Stop operation) to the reading demand flag (No. D1000) to put the programless communication module’s reading demand into the standby status. When the reading demand comes to be in the standby, “0000h” is set to the reading response flag (No. D0000).

## Reading out set values to the setting area

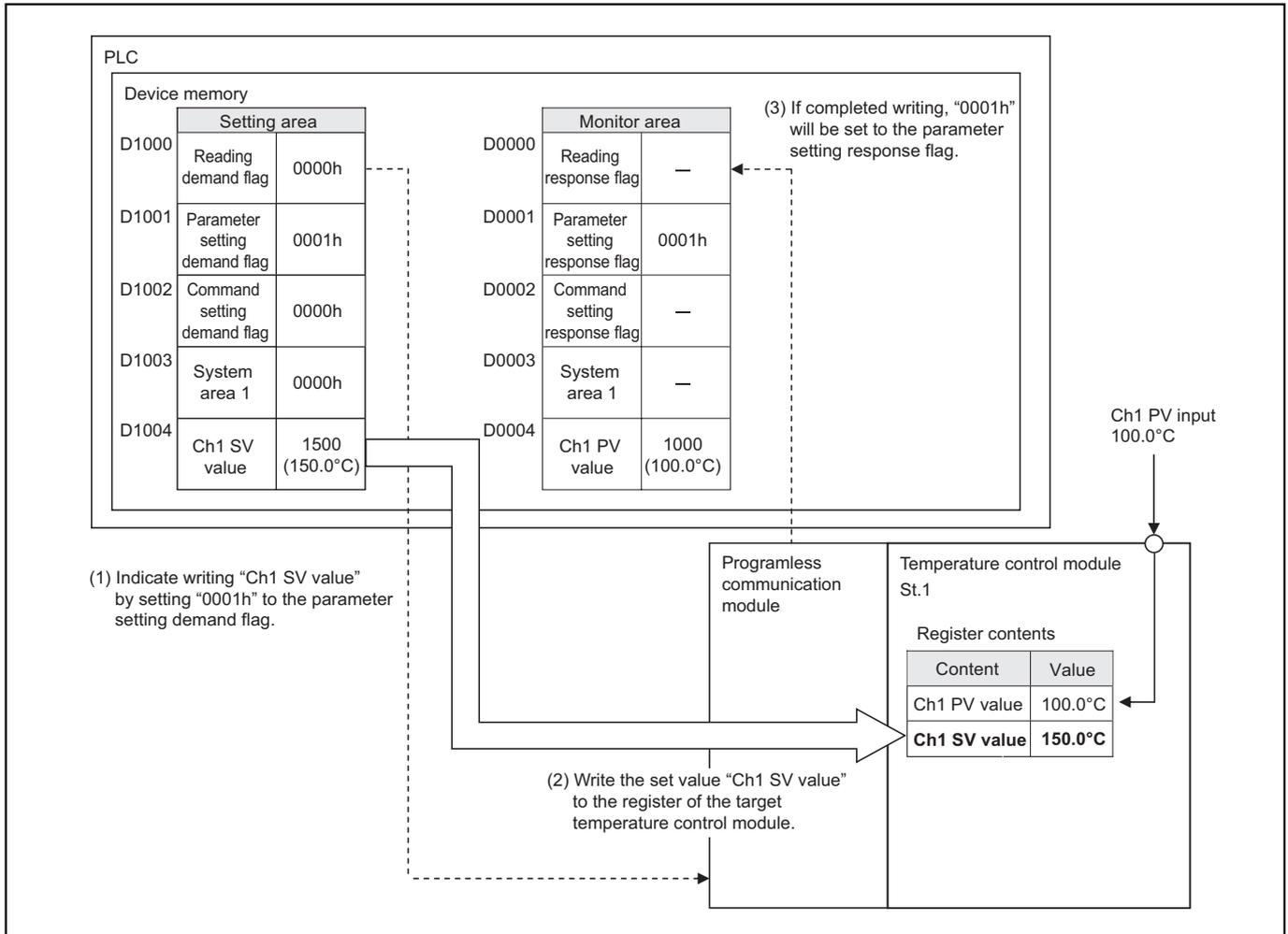
When "0004h" is set to the reading demand flag (No. D1000), "Control module (St. No. 1)'s Ch. 1 SV value" is read out to the data field in the setting area, and "0004h" is set to the reading response flag (No. D0000).



After reading out, set "0000h" (Stop operation) to the reading demand flag (No. D1000) to put the programless communication module's reading demand into the standby status. When the reading demand comes to be in the standby, "0000h" is set to the reading response flag (No. D0000).

## Writing set values

When “0001h” is set to the parameter setting demand flag (No. D1001), the value of the data field in the setting area (No.D1004) is written to “Control module (St. No. 1)’s Ch. 1 SV value”, and “0001h” is set to the parameter setting response flag (No. D0001).



After writing, set “0000h” (Stop operation) to the parameter setting demand flag (No. D1001) to put the programless communication module’s parameter setting demand into the standby status. When the parameter setting demand comes to be in the standby, “0000h” is set to the parameter setting response flag (No. D0001).



# 5

## System Configuration

<b>5.1</b>	<b>Programless Communication Module</b>	
	Operation Setting .....	5-3
<b>5.2</b>	<b>Memory Setting .....</b>	<b>5-5</b>
<b>5.3</b>	<b>PLC Communication Setting .....</b>	<b>5-11</b>
<b>5.4</b>	<b>Status Display.....</b>	<b>5-18</b>
<b>5.5</b>	<b>Address Map and Data Format .....</b>	<b>5-21</b>
<b>5.6</b>	<b>Setting/Monitor Area Entry Numbers</b>	
	(Control module) .....	5-51
<b>5.7</b>	<b>Setting/Monitor Area Entry Numbers</b>	
	(Event I/O module).....	5-64
<b>5.8</b>	<b>Setting/Monitor Area Entry Numbers</b>	
	(Analog module).....	5-71

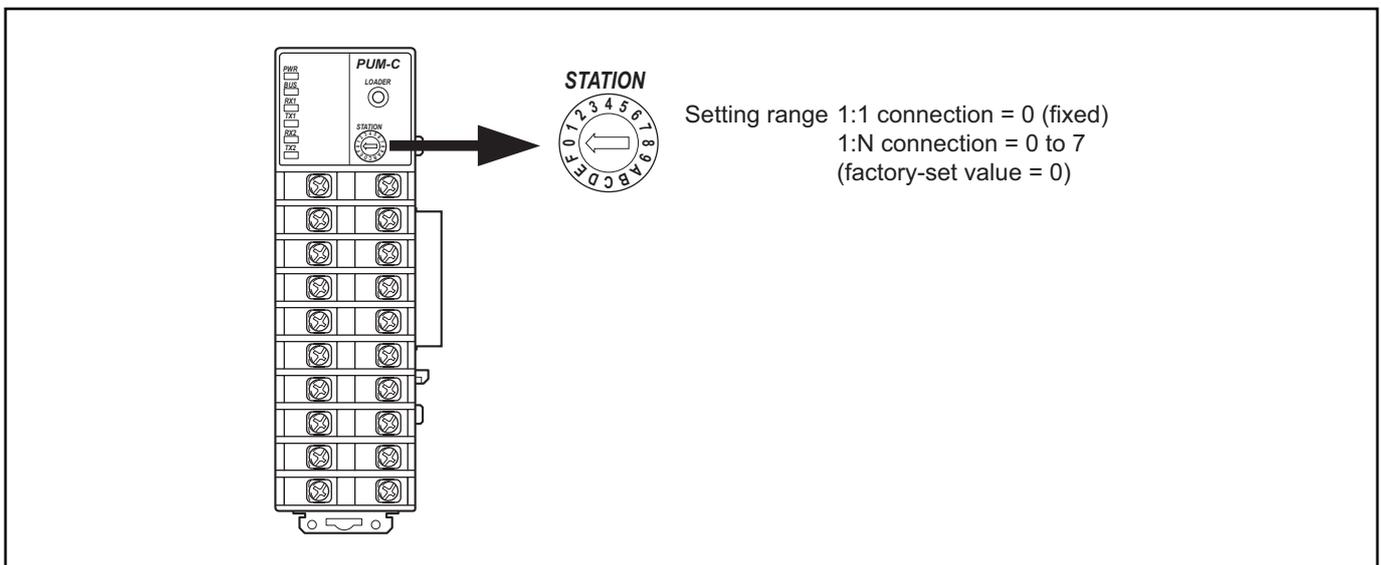


# 5.1 Programless Communication Module Operation Setting

Explanation here is for performing programless communications with a programless communication module.

## Programless communication module station number configuration switch

Setting a station number of a programless communication module. Apply a fine tip flat-head screwdriver to turn the station number configuration switch.



### Note

- When performs programless communication with 1:1 connection, make sure to set "0" to the station number of this equipment. Otherwise, this equipment can not perform communication with PLC.
- When performs programless communication with 1:N connection, make sure to set station numbers of this equipment in order, from "0". If there are missing numbers with the station numbers, this equipment can not perform communication normally with PLC.

## Operation setting when a programless communication fault occurs

The parameter below sets the operation when a programless communication fault occurs.

Refer to the parameters below.

Parameter	Setting Range	Unit	Factory-set value	Attribute	MODBUS Register No. (Relative Address)
Operation selection when a programless communication fault occurs	0000h: RUN 0001h: STOP	None	0001h	R/W	40010 (0009h)

When set "0000h (RUN)" to "Operation selection when a programless communication fault occurs", if the communication between PLC and a programless communication module is restored to be in a normal state, the programless communication will recover automatically and the same operation as it did is continued.

When set "0001h (STOP)" to "Operation selection when a programless communication fault occurs", even if the communication between a PLC and a programless communication module is restored to be in a normal state, the programless communication will be in a stopped state. In order to restart a programless communication, use Communication restoration demand.

▶▶ 4-23

# 5.2 Memory Setting

Providing a programless communication area in the PLC device memory for a programless communication is necessary.

## Memory area

The memory area for a programless communication consists of the “setting area” and the “monitor area”.

### Setting area

- Controlling a programless communication
- Setting the write value to a module type temperature controller

### Monitor area

- Displaying a programless communication status
- Storing the read value from a module type temperature controller

## Setting area definition

Define the PLC memory type and the area used as the “setting area”

Refer to the parameters below.

Parameter	Setting Range	Unit	Factory-set value	Attribute	MODBUS register No.(Relative Address)
Setting area device type	00A8h: Data register (D) 00B4h: Link register (W) 00AFh: File register (R) 00B0h: File register [for sequence number accessing] (ZR)	None	00A8h	R/W	40011 (000Ah)
Setting area start address (Lower)	According to PLC setting	None	1000	R/W	40012 (000Bh)
Setting area start address (Upper)	According to PLC setting	None	0	R/W	40013 (000Ch)
Setting area device size	0 to 712	Word	0	R/W	40014 (000Dh)

### Note

With 1:N connection, prevent setting area of each programless communication module from being duplication by setting the setting area start address. If setting areas are duplicate, it does not operate normally.

## Communication parameter entry (Setting area)

Register the module type temperature controller parameter writing from a PLC with a combination of “Setting area entry St. No.” parameter and the “Setting area entry register No.” parameter with a programless communication.

Refer to the parameters below.

Parameter	Setting Range	Unit	Factory-set value	Attribute	MODBUS register No.(Relative Address)
Setting area entry St. No. The 1 <sup>st</sup> word	0: Not used 1 to 16: Control/Analog module 17 to 32: Event module	None	0	R/W	41001 (03E8h)
Setting area entry register No. The 1 <sup>st</sup> word	0,40000 to 49999 (*)	None	0	R/W	41002 (03E9h)
.					
.					
.					
Setting area entry St. No. The 712 <sup>th</sup> word	0: Not used 1 to 16: Control/Analog module 17 to 32: Event module	None	0	R/W	42423 (0976h)
Setting area entry register No. The 712 <sup>th</sup> word	0,40000 to 49999 (*)	None	0	R/W	42424 (0977h)

\* Only the address written in “Setting/Monitor area register number” (Control module  , Event module  , Analog module  ) settable. However, the monitor parameters and parameter marked “\*” in the “Entry ban” column cannot be set.

**Note**

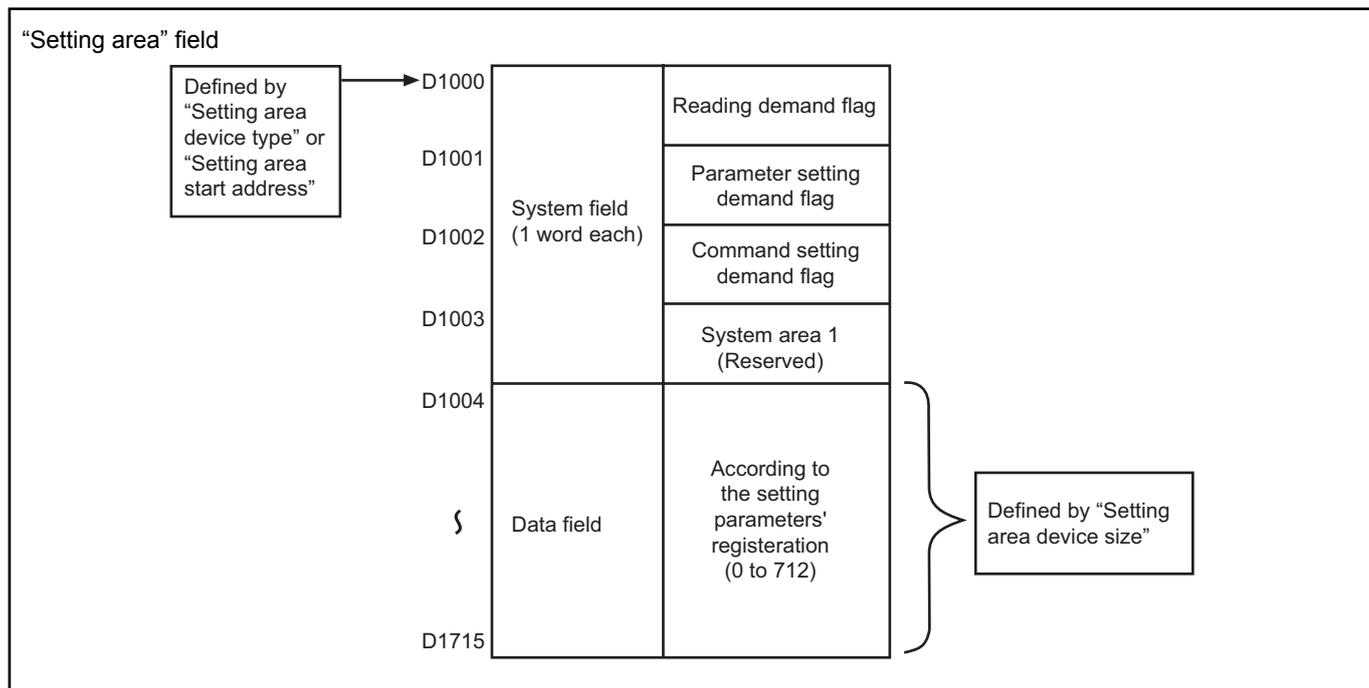
Number of registerable parameters per reference station is limited. Also, please note that maximum number of registerable parameters is depends on each module shown below.

Module Type	Maximum No.
Control module	32
Analog I/O module	32
Event I/O module	8

If register parameters more than the maximum number, the PWR indicator will blink red (0.4-sec inter-cycle), and then comes to be in the communication fault status.

### Setting area definition example

For example, when “Setting area device type” parameter is “00A8h (data register)”, “Setting area start address” parameter is “1000”, and “Setting area device size” parameter is “712”, setting area is as follows.



#### Note

- Check the specifications of the PLC used, when setting each parameter of the “Setting area device type”, the “Setting area start address” and the “Setting area device size”.
- If the reserved area is needed, set “0” to the “Setting area entry St. No.” parameter, and “0” to the “Setting area entry register No.” parameter.
- Even if setting each parameter of the “Setting area entry St. No.” parameter and “Setting area entry register No.” parameter beyond the size set by “Setting area device size”.

### Non-registerable parameter to the Setting area

Even if the parameter is within the entry setting range of the “Setting area entry St. No.” or the “Setting area entry register No.”, the monitor parameters and parameter marked “\*” in the “Entry ban” column of the “Setting/Monitor area register No.” (Control module [▶▶ 5-51](#)), Event module [▶▶ 5-64](#), Analog module [▶▶ 5-71](#) cannot be set. Do not set such parameters, since they cannot be modify via programless communications.

## Monitor area definition

Define the PLC memory type and the field used as the "monitor area".

Refer to the parameters below.

Parameter	Setting Range	Unit	Factory-set value	Attribute	MODBUS register No. (Relative Address)
Monitor area device type	00A8h: Data register (D) 00B4h: Link register (W) 00AFh: File register (R) 00B0h: File register [for sequence number accessing] (ZR)	None	00A8h	R/W	40015 (000Eh)
Monitor area start address (Lower)	According to PLC setting	None	0	R/W	40016 (000Fh)
Monitor area start address (Upper)	According to PLC setting	None	0	R/W	40017 (0010h)
Monitor area device size	0 to 712	Word	0	R/W	40018 (0011h)

### Note

With 1:N connection, prevent monitor area of each programless communication module from being duplication by setting the monitor area start address. If monitor areas are duplicate, it does not operate normally.

## Communication parameter entry (Monitor area)

Register a module type temperature controller parameter reading out from PLC with a programless communication as the combination of the “Monitor area entry St. No.” parameter and the “Monitor area entry register No.” parameter.

Refer to the parameters below.

Parameter	Setting Range	Unit	Factory-set value	Attribute	MODBUS register No. (Relative Address)
Monitor area entry St. No. The 1 <sup>st</sup> word	0 : Not used 1 to 16 : Control/Analog module 17 to 32 : Event module 128 : Programless communication module	None	0	R/W	43001 (0BB8h)
Monitor area entry register No. The 1 <sup>st</sup> word	0,30000 to 49999 (*)	None	0	R/W	43002 (0BB9h)
	⋮				
Monitor area entry St. No. The 712 <sup>th</sup> word	0 : Not used 1 to 16 : Control/Analog module 17 to 32 : Event module 128 : Programless communication module	None	0	R/W	44423 (1146h)
Monitor area entry register No. The 712 <sup>th</sup> word	0,30000 to 49999 (*)	None	0	R/W	44424 (1147h)

\* Only the address written in the “Setting/Monitor area register No.” (Control module [▶▶ 5-51](#) , Event module [▶▶ 5-64](#) , Analog module [▶▶ 5-71](#) ) is settable. However, the parameter marked “\*” in the “Entry bar” column cannot be set.

### Note

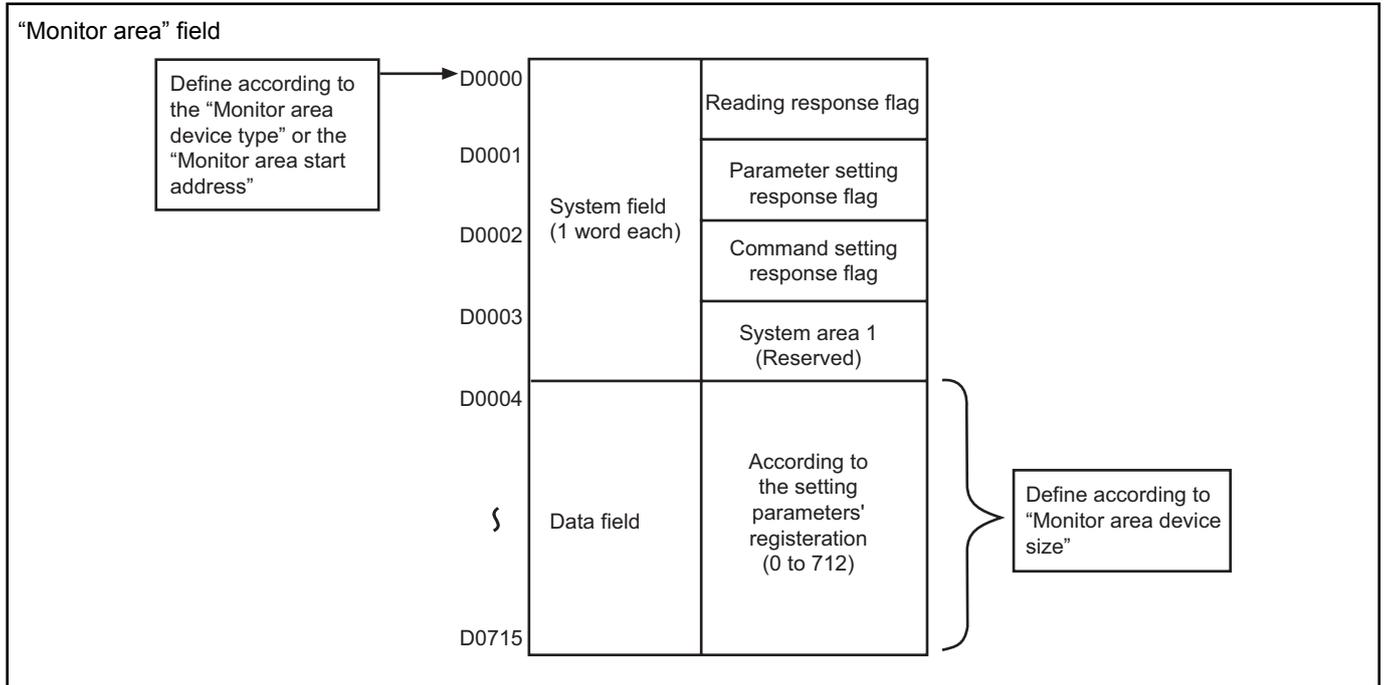
Number of registerable parameters per reference station is limited. Also, please note that maximum number of registerable parameters is depends on each module shown below.

Module Type	Maximum No.
Control module	32
Analog I/O module	32
Event I/O module	8
Programless communication module	No limit

If register parameters more than the maximum number, the PWR indicator will blink red (0.4-sec inter-cycle), and then comes to be in the communication fault status.

**Monitor area definition example**

For example, if the “Monitor area device type” parameter is “00A8h (data register)”, the “Monitor area start address” parameter is “0”, or the “Monitor area device size” parameter is “712”, the monitor area is as follows.



**Note**

- Check specifications of the PLC used, when setting each parameter of the “Monitor area device type”, “Monitor area start address”, or “Monitor area device size”.
- When the reserved area is necessary, set “0” to the “Monitor area entry St. No.” parameter or “0” to the “Monitor area entry register No.”
- If each parameter of the “Monitor area entry St. No.” or the “Monitor area entry register No.” is set beyond the size set by the “Monitor area device size” parameter.

**Non-registerable parameter to the Monitor area**

Even if the parameter is within the entry setting range of the “Monitor area entry St. No.” or the “Monitor area entry register No.”, the parameter marked “\*” in the “Entry ban” column of the “Setting/Monitor area register No.” (Control module  , Event module  , Analog module  cannot be set. Do not set such parameters, since they cannot be modify via programless communications.

# 5.3 PLC Communication Setting

Setting for a communication between a programless communication module and the PLC.

## PLC communication speed setting

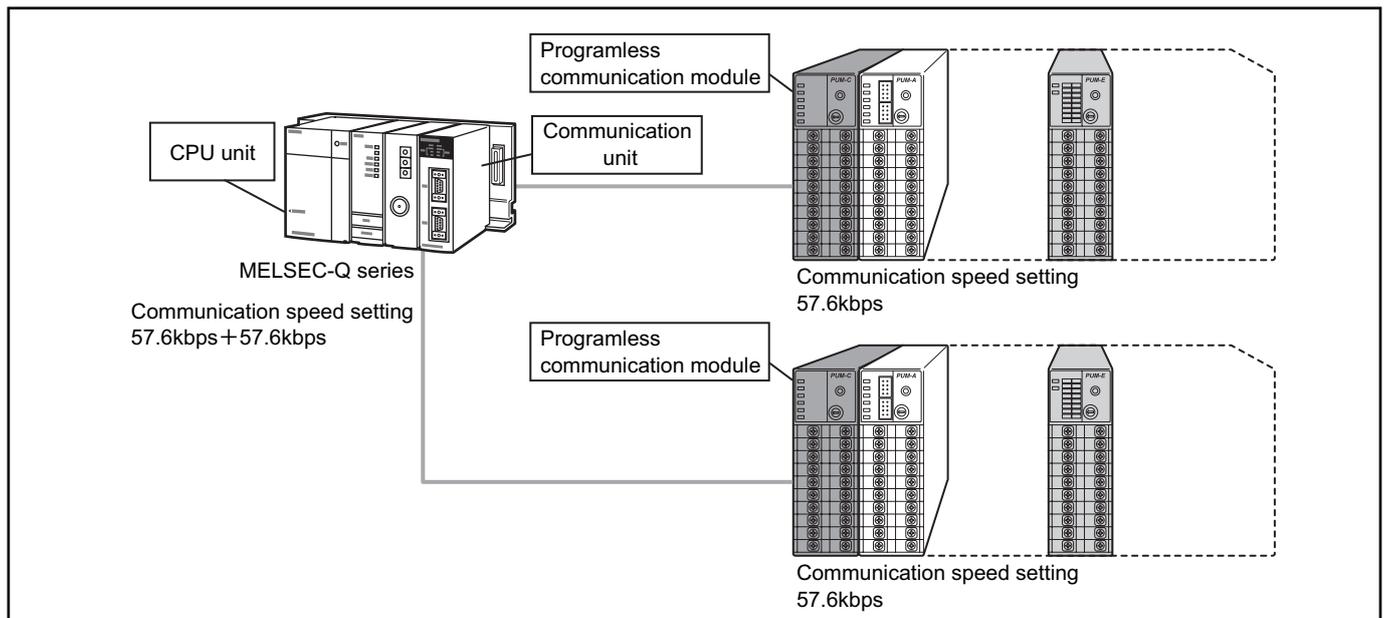
Setting for the communication speed for a communication between a programless communication module and the PLC.

Refer to the parameters below.

Parameter	Setting Range	Unit	Factory-set value	Attribute	MODBUS register No. (Relative address)
PLC communication speed	0005h : 9.6kbps 0007h : 19.2kbps 0009h : 38.4kbps 000Ah : 57.6kbps 000Bh : 115.2kbps 000Ch : 230.4kbps	None	000Bh	R/W	40001 (0000h)

### Note

- Do not set the set value other than the above
- With MELSEC-Q series, when using a several-unit configuration by 2 or more input points of a communication unit, set a total communication speed set value of each unit's configuration to be within the maximum limit of communication speed of your communication unit.



- Refer to your PLC's instruction manual for the settable communication speed.
- When using 1:N connection, PLC communication setting of every connected programless communication modules should be the same.

## PLC transmission setting

Setting for a communication data bit composition between a programless communication module and a PLC.

Refer to the parameter below.

Parameter	Setting Range	Unit	Factory-set value	Attribute	MODBUS register No. (Relative Address)
PLC transmission setting	0000h to 001Eh	None	000Eh	R/W	40002 (0001h)

Specify the data bit composition of the communication data referring to the table below.

Bit position	Contents	Bit OFF	Bit ON
0	OFF (Fixed)		
1	Data bit	ON: 8 bits (Fixed)	
2	Parity bit	None	Have
3	Odd/Even parity	Odd	Even
4	Stop bit	1	2
5 to 15	OFF (Fixed)		

For example, when desired content is “the data bit is 8 bits, with a parity bit, a even parity use, and the stop bit is “1””, the bit information should be set to “0000 0000 0000 1110b”, and the set value should be set to “000Eh”.

### Note

When using 1:N connection, PLC communication setting of every connected programless communication modules should be the same.

## MC protocol setting

Setting for the protocol type between a programless communication module and a PLC.

Refer to the parameter below.

Parameter	Setting Range	Unit	Factory-set value	Attribute	MODBUS register No. (Relative Address)
MC protocol	2: Type 2 4: Type 4 5: Type 5	None	5	R/W	40003 (0002h)

### Note

- Do not set other than "2, 4, 5".
- When using 1:N connection, the settings of every connected programless communication modules should be the same.
- Usable MC protocol is depends on your PLC. Confirm it by your PLC's instruction manual. MC protocol frame types are also different depending on selected MC protocol. Refer to "MC protocol frame types" parameter [▶▶ 5-17](#) for details.

## Setting for PLC communication starting time

Setting for the waiting time until starting programless communications to the PLC after turning the programless communication module's power on.

Refer to the parameters below.

Parameter	Setting Range	Unit	Factory-set value	Attribute	MODBUS register No. (Relative Address)
PLC communication starting time	1 to 255	Sec.	1	R/W	40005 (0004h)

### Note

- After turning the programless communication module's power on, it takes about 5 to 30 seconds to start communications. If setting the time less than that the programless communication module needs to start communication to the "PLC communication starting time" parameter, the communication with the PLC does not be started within the starting communication time. (Required time to start communication after turning the power on is according to number of the module type temperature controllers connected to the programless communication module.)
- When connecting a module temperature control system with the maximum configuration, it takes about 30 seconds until PLC starts a communication.
- During 1:N connection, until the module which St. No. is "0" starts a communication with PLC, other modules which St. Nos. are not "0" are in the standby state.

## PLC communication inter-cycle setting

Setting the communication inter-cycle between the programless communication module and the PLC

Refer to the parameters below.

Parameter	Setting Range	Unit	Factory-set value	Attribute	MODBUS register No. (Relative Address)
PLC communication inter-cycle time	0 to 5000	ms	100	R/W	40004 (0003h)

Reading out from the PLC setting area and updating of the monitor area is executed at the inter-cycle set here.

### Point

- Actual time taken for a communication can be confirmed by the "Inter-PLC communication execution time monitor" parameter.   
▶▶ 5-19 If the communication has not been performing within the value of the "PLC communication inter-cycle time" parameter, number of the over times is stored in the "PLC communication inter-cycle time overtime counter" parameter.
- When using 1:N connection, the settings of every connected programless communication modules should be the same.

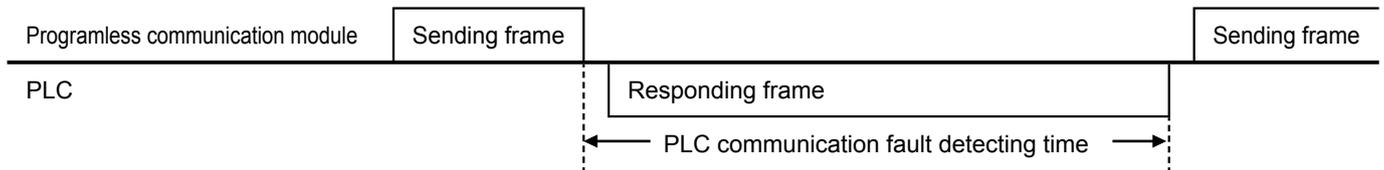
## PLC communication fault detection setting

Setting the retry operation when no programless communication module response from the PLC.

Refer to the parameters below.

Parameter	Setting Range	Unit	Factory-set value	Attribute	MODBUS register No. (Relative Address)
PLC response monitoring time	10 to 10000 (Unit: 10msec.)	ms	200	R/W	40006 (0005h)
Number of retry times	0 to 10	times	0	R/W	40007 (0006h)

In the case the response from the PLC does not end even the time set by the “PLC response monitoring time” parameter has passed, it retries the times set for the “Number of retry times” parameter.



Even if no response after retry set for the “The number of retry times” parameter, the operation set for the “Operation setting when a programless communication fault occurs” parameter [▶▶ 5-4](#) is executed.

### Note

- “PLC response monitoring time” is judged in units of 10ms. (The fraction less than units of 1ms are rounded off)
- When using 1:N connection, the settings of every connected programless communication modules should be the same

## Connection method

Setting the connection method between a PLC and a programless communication module.

Refer to the parameters below.

Parameter	Setting Range	Unit	Factory-set value	Attribute	MODBUS register No. (Relative Address)
Connection method	0 = 1:1 connection 1 = 1:N connection	None	0	R/W	40008 (0007h)

### Note

When using 1:N connection, the settings of every connected programless communication modules should be the same.

## Number of connected units

Setting the number of connected units of PLC and programless communication modules.

Refer to the parameters below.

Parameter	Setting Range	Unit	Factory-set value	Attribute	MODBUS register No. (Relative Address)
No. of connected units	1 to 8	Unit	1	R/W	40009 (0008h)

When selected "1:N connection", set the No. of units for "N".

When selected "1:1 connection", set "1".

### Note

- When using 1:1 connection, ensure to set "1". If the number other than "1" is set, it does not operate normally.
- When using 1:N connection, the settings of every connected programless communication modules should be the same.

## MC protocol frame types

Setting the frame depending on the type selected by MC protocol.

Refer to the parameters below.

Parameter	Setting Range	Unit	Factory-set value	Attribute	MODBUS register No. (Relative Address)
MC protocol frame types	0: QnA compatible 4C frame 1: A compatible 1C frame	None	0	R/W	40019 (0012h)

Communicatable combination of MC protocol and MC protocol frame type is as below.

Communication object	I/F	QnA compatible 4C fram	A compatible 1C frame	
		Type 5	Type 2	Type 4
Q series	RS-232C	○	○	○
	RS-422	◎	◎	×
	RS-485	×	◎	○
A series	RS-232C	×	○	○
	RS-422	×	◎	×
	RS-485	×	◎	○
FX series	RS-232C	×	×	○
	RS-485	×	×	○

◎ : 1:1 connection + 1:N connection is available ○ : 1:1 connection is available × : Any connections are not available

### Note

When using 1:N connection, the settings of every connected programless communication modules should be the same.

# 5.4 Status Display

The status display is the parameter in order to monitor the programless communication module operation.

The status display is confirmed by reading out from the front face loader port or registering to the PLC monitor area. (Set the "Monitor area entry St. No." parameter to "128" when entry for the monitor area.)

## Communication module status

The programless communication module operation status can be referred.

Refer to the parameters below.

Parameter	Unit	Attribute	MODBUS register No. (Relative Address)
Setting error	None	R	30232 (00E7h)

### Parameters' explanation

– Parameter setting error

When the parameter read out from the EEPROM is the invalid value, the error code is stored.

Error code	Explanation
0101h	St. No. configuration SW is invalid value
0102h	DIP SW is invalid value
0201h	PLC communication speed is invalid value
0202h	PLC transmission setting is invalid value
0203h	MC protocol is invalid value
0204h	PLC communication inter-cycle is invalid value
0205h	PLC communication starting time is invalid value
0206h	PLC response monitoring time is invalid value
0207h	Number of PLC communication retry is invalid value
0208h	Connection method is invalid value (Not used)
0209h	Number of connected units is invalid value (Not used)
020Ah	Operation at PLC communication fault is invalid value
020Ch	MC protocol frame type is invalid value
0210h	Setting area device type is invalid value
0211h	Setting area device size is invalid value
0212h	Monitor area device type is invalid value

Error code	Explanation
0213h	Monitor area device size is invalid value
0214h	Setting area detail (The 1 <sup>st</sup> word) is invalid value
0215h	Monitor area detail (The 1 <sup>st</sup> word) is invalid value

## Programless communication status

The communication status between the programless communication module and the PLC can be confirmed.

Refer to the parameters below.

Parameter	Unit	Attribute	MODBUS register No. (Relative Address)
PLC error counter	time	R	31001 (03E8h)
PLC error code	None	R	31002 (03E9h)
PLC sending counter	time	R	31003 (03EAh)
PLC receiving counter	time	R	31004 (03EBh)
Inter-PLC communication execution time monitor	msec.	R	31007 (03EEh)
PLC inter-cycle time over counter	time	R	31008 (03EFh)

### Each parameter explanation

– PLC error counter

This is the programless communication error counter. It is added "1"-by-"1" on "0" till "65535", and then back to "0".

– PLC error code

The error codes below are stored.

Error code	Explanation
0000h to 0042h	Error code of A compatible 1C frame
0100h	Command message timeout
0101h	Response message timeout
0102h	Sum check code error
0103h	Header format error
0104h	ASCII code error
0110h	Hardware failure 1
0111h	Hardware failure 2
0120h	Continuous reception error
7000h to 7FFFh	QJ71C24N error code

## 5.4 Status Display

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- PLC sending counter

This is the programless communication sending counter. It is added “1”-by-“1” on “0” till 65535, and then back to “0”.

- PLC receiving counter

This is the programless communication receiving counter. It is added “1”-by-“1” on “0” till 65535, and then back to “0”.

- Inter-PLC communication execution time monitor

The present value of the inter-PLC communication execution time. It is stored per 1ms.

The value of inter-PLC communication execution time monitor changes depending on the state of a reading demand flag, a parameter setting demand flag, or a command setting demand flag.

- PLC inter-cycle time over counter

The number of times that the 1-cycle programless communication within the time set to “PLC communication inter-cycle setting” did not end is displayed.

# 5.5 Address Map and Data Format

## Programless communication module status

Contents	Reading out/Writing data setting range	Factory-set value	Register No.
Setting fault	0101h: St. No. configuration SW is invalid value 0102h: DIP SW is invalid value 0201h: PLC communication speed is invalid value 0202h: PLC communication data length is invalid value 0203h: MC protocol is invalid value 0204h: PLC communication inter-cycle is invalid value 0205h: PLC communication starting time is invalid value 0206h: PLC response monitoring time is invalid value 0207h: Number of PLC communication retry is invalid value 0208h: Connection method is invalid value 0209h: Number of connected units is invalid value 020Ah: Operation at PLC communication fault is invalid value 020Ch: MC protocol frame type is invalid value 0210h: Setting area device type is invalid value 0211h: Setting area device size is invalid value 0212h: Monitor area device type is invalid value 0213h: Monitor area device size is invalid value 0214h: Setting area detail (The 1 <sup>st</sup> word) is invalid value 0215h: Monitor area detail (The 1 <sup>st</sup> word) is invalid value	-	30232

## Communication status with PLC

Contents	Reading out/Writing data setting range	Factory-set value	Register No.
PLC error counter	0→1→...→65535→0→1→...times	-	31001
PLC error code	0000h to 0042h: Error code of A compatible 1C frame 0100h: Command message timeout 0101h: Response message timeout 0102h: Sum check code error 0103h: Header format error 0104h: ASCII code error 0110h: Hardware failure 1 0111h: Hardware failure 2 0120h: Continuous reception error 7000h to 7FFFh: QJ71C24N error code	-	31002
PLC sending counter	0→1→...→65535→0→1→...times	-	31003
PLC receiving counter	0→1→...→65535→0→1→...times	-	31004
Inter-PLC communication execution time monitor	0 to 65535 ms	-	31007
PLC inter-cycle time over counter	0→1→...→65535→0→1→...times	-	31008

## PLC communication setting

Contents	Reading out/Writing data setting range	Factory-set value	Register No.
PLC communication speed	0005h: 9600bps 0007h: 19200bps 0009h: 38400bps 000Ah: 57600bps 000Bh: 115200bps 000Ch: 230400bps	000Bh	40001
PLC transmission setting	b0: OFF (fixed) b1: Data bit (ON: 8bits (fixed)) b2: Parity bit (OFF: No, ON: Yes) b3: Odd/Even parity (OFF: Odd ON: Even) b4: Stop bit (OFF: 1, ON: 2) b5 to b15: OFF (fixed)	000Eh	40002
MC protocol	2: Type 2 4: Type 4 5: Type 5	5	40003
PLC communication inter-cycle time	0 to 5000ms	100	40004
PLC communication starting time	1 to 255sec	1	40005
PLC response monitoring time	10 to 10000ms	200	40006
Number of retry times	0 to 10 times	0	40007

## Programless communication module operation setting

Contents	Reading out/Writing data setting range	Factory-set value	Register No.
Operation selection at programless communication fault	0000h: RUN 0001h: STOP	0001h	40010

## Memory configuration (Setting area)

Contents	Reading out/Writing data setting range	Factory-set value	Register No.
Setting area device type	00A8h: Data register (D) 00B4h: Link register (W) 00AFn: File register (R) 00B0h: File register [for sequence No. access](ZR)	00A8h	40011
Setting area start address (lower)	Addressable range: according to PLC setting	1000	40012
Setting area start address (upper)	Addressable range: according to PLC setting	0	40013
Setting area device size	0 to 712	0	40014
Setting area entry St. No. (The 1 <sup>st</sup> word)	0 : Not used 1 to 16 : Control/Analog module 17 to 32 : Event module	0	41001
Setting area entry register No. (The 1 <sup>st</sup> word)	0,40000 to 49999 (Note1)	0	41002
Setting area entry St. No. (The 2 <sup>nd</sup> word)	0 : Not used 1 to 16 : Control/Analog module 17 to 32 : Event module	0	41003
Setting area entry register No. (The 2 <sup>nd</sup> word)	0,40000 to 49999 (Note1)	0	41004
	.		
	.		
	.		
Setting area entry St. No. (The 711 <sup>th</sup> word)	0 : Not used 1 to 16 : Control/Analog module 17 to 32 : Event module	0	42421
Setting area entry register No. (The 711 <sup>th</sup> word)	0,40000 to 49999 (Note1)	0	42422
Setting area entry St. No. (The 712 <sup>th</sup> word)	0 : Not used 1 to 16 : Control/Analog module 17 to 32 : Event module	0	42423
Setting area entry register No. (The 712 <sup>th</sup> word)	0,40000 to 49999 (Note1)	0	42424

Note 1: Only the address written in "Setting/Monitor area register number" (Control module  5-51), Event module  5-64, Analog module  5-71) settable. However, the monitor parameters and parameter marked "\*" in the "Entry ban" column cannot be set.

## Memory configuration (Monitor area)

Contents	Reading out/Writing data setting range	Factory-set value	Register No.
Monitor area device type	00A8h: Data register (D) 00B4h: Link register (W) 00AFn: File register (R) 00B0h: File register [for sequence No. access] (ZR)	00A8h	40015
Monitor area start address (lower)	Addressable range: according to PLC setting	0	40016
Monitor area start address (upper)	Addressable range: according to PLC setting	0	40017
Monitor area device size	0 to 712	0	40018
Monitor area entry St. No. (The 1 <sup>st</sup> word)	0 : Not used 1 to 16 : Control/Analog module 17 to 32 : Event module 128 : Programless communication module	0	43001
Monitor area entry register No. (The 1 <sup>st</sup> word)	0,30000 to 49999 (Note2)	0	43002
Monitor area entry St. No. (The 2 <sup>nd</sup> word)	0 : Not used 1 to 16 : Control/Analog module 17 to 32 : Event module 128 : Programless communication module	0	43003
Monitor area entry register No. (The 2 <sup>nd</sup> word)	0,30000 to 49999 (Note2)	0	43004
	.		
	.		
	.		
Monitor area entry St. No. (The 711 <sup>th</sup> word)	0 : Not used 1 to 16 : Control/Analog module 17 to 32 : Event module 128 : Programless communication module	0	44421
Monitor area entry register No. (The 711 <sup>th</sup> word)	0,30000 to 49999 (Note2)	0	44422
Monitor area entry St. No. (The 712 <sup>th</sup> word)	0 : Not used 1 to 16 : Control/Analog module 17 to 32 : Event module 128 : Programless communication module	0	44423
Monitor area entry register No. (The 712 <sup>th</sup> word)	0,30000 to 49999 (Note2)	0	44424

Note 2: Only the address written in the "Setting/Monitor area register No." (Control module  5-51 , Event module  5-64 , Analog module  5-71 ) is settable. However, the parameter marked "\*" in the "Entry bar" column cannot be set.

## Register number order

Contents	Register No.	Relative address
PLC communication speed	40001	0000h
PLC transmission setting	40002	0001h
MC protocol	40003	0002h
PLC communication inter-cycle time	40004	0003h
PLC communication starting time	40005	0004h
PLC response monitoring time	40006	0005h
Number of retry times	40007	0006h
Connection method	40008	0007h
No. of connecting units	40009	0008h
Operation selection at programless communication fault	40010	0009h
Setting area device type	40011	000Ah
Setting area start address (lower)	40012	000Bh
Setting area start address (upper)	40013	000Ch
Setting area device size	40014	000Dh
Monitor area device type	40015	000Eh
Monitor area start address (lower)	40016	000Fh
Monitor area start address (upper)	40017	0010h
Monitor area device size	40018	0011h
MC protocol frame types	40019	0012h
Setting area entry St. No. The 1st word	41001	03E8h
Setting area entry register No. The 1st word	41002	03E9h
Setting area entry St. No. The 2nd word	41003	03EAh
Setting area entry register No. The 2nd word	41004	03EBh
Setting area entry St. No. The 3rd word	41005	03ECh
Setting area entry register No. The 3rd word	41006	03EDh
Setting area entry St. No. The 4th word	41007	03EEh
Setting area entry register No. The 4th word	41008	03EFh
Setting area entry St. No. The 5th word	41009	03F0h
Setting area entry register No. The 5th word	41010	03F1h
Setting area entry St. No. The 6th word	41011	03F2h
Setting area entry register No. The 6th word	41012	03F3h
Setting area entry St. No. The 7th word	41013	03F4h
Setting area entry register No. The 7th word	41014	03F5h
Setting area entry St. No. The 8th word	41015	03F6h
Setting area entry register No. The 8th word	41016	03F7h
Setting area entry St. No. The 9th word	41017	03F8h
Setting area entry register No. The 9th word	41018	03F9h
Setting area entry St. No. The 10th word	41019	03FAh
Setting area entry register No. The 10th word	41020	03FBh
Setting area entry St. No. The 11th word	41021	03FCh
Setting area entry register No. The 11th word	41022	03FDh
Setting area entry St. No. The 12th word	41023	03FEh
Setting area entry register No. The 12th word	41024	03FFh
Setting area entry St. No. The 13th word	41025	0400h
Setting area entry register No. The 13th word	41026	0401h
Setting area entry St. No. The 14th word	41027	0402h
Setting area entry register No. The 14th word	41028	0403h
Setting area entry St. No. The 15th word	41029	0404h
Setting area entry register No. The 15th word	41030	0405h
Setting area entry St. No. The 16th word	41031	0406h
Setting area entry register No. The 16th word	41032	0407h
Setting area entry St. No. The 17th word	41033	0408h
Setting area entry register No. The 17th word	41034	0409h

Contents	Register No.	Relative address
Setting area entry St. No. The 18th word	41035	040Ah
Setting area entry register No. The 18th word	41036	040Bh
Setting area entry St. No. The 19th word	41037	040Ch
Setting area entry register No. The 19th word	41038	040Dh
Setting area entry St. No. The 20th word	41039	040Eh
Setting area entry register No. The 20th word	41040	040Fh
Setting area entry St. No. The 21st word	41041	0410h
Setting area entry register No. The 21st word	41042	0411h
Setting area entry St. No. The 22nd word	41043	0412h
Setting area entry register No. The 22nd word	41044	0413h
Setting area entry St. No. The 23rd word	41045	0414h
Setting area entry register No. The 23rd word	41046	0415h
Setting area entry St. No. The 24th word	41047	0416h
Setting area entry register No. The 24th word	41048	0417h
Setting area entry St. No. The 25th word	41049	0418h
Setting area entry register No. The 25th word	41050	0419h
Setting area entry St. No. The 26th word	41051	041Ah
Setting area entry register No. The 26th word	41052	041Bh
Setting area entry St. No. The 27th word	41053	041Ch
Setting area entry register No. The 27th word	41054	041Dh
Setting area entry St. No. The 28th word	41055	041Eh
Setting area entry register No. The 28th word	41056	041Fh
Setting area entry St. No. The 29th word	41057	0420h
Setting area entry register No. The 29th word	41058	0421h
Setting area entry St. No. The 30th word	41059	0422h
Setting area entry register No. The 30th word	41060	0423h
Setting area entry St. No. The 31st word	41061	0424h
Setting area entry register No. The 31st word	41062	0425h
Setting area entry St. No. The 32nd word	41063	0426h
Setting area entry register No. The 32nd word	41064	0427h
Setting area entry St. No. The 33rd word	41065	0428h
Setting area entry register No. The 33rd word	41066	0429h
Setting area entry St. No. The 34th word	41067	042Ah
Setting area entry register No. The 34th word	41068	042Bh
Setting area entry St. No. The 35th word	41069	042Ch
Setting area entry register No. The 35th word	41070	042Dh
Setting area entry St. No. The 36th word	41071	042Eh
Setting area entry register No. The 36th word	41072	042Fh
Setting area entry St. No. The 37th word	41073	0430h
Setting area entry register No. The 37th word	41074	0431h
Setting area entry St. No. The 38th word	41075	0432h
Setting area entry register No. The 38th word	41076	0433h
Setting area entry St. No. The 39th word	41077	0434h
Setting area entry register No. The 39th word	41078	0435h
Setting area entry St. No. The 40th word	41079	0436h
Setting area entry register No. The 40th word	41080	0437h
Setting area entry St. No. The 41st word	41081	0438h
Setting area entry register No. The 41st word	41082	0439h
Setting area entry St. No. The 42nd word	41083	043Ah
Setting area entry register No. The 42nd word	41084	043Bh
Setting area entry St. No. The 43rd word	41085	043Ch
Setting area entry register No. The 43rd word	41086	043Dh

## 5.5 Address Map and Data Format

Contents	Register No.	Relative address
Setting area entry St. No. The 44th word	41087	043Eh
Setting area entry register No. The 44th word	41088	043Fh
Setting area entry St. No. The 45th word	41089	0440h
Setting area entry register No. The 45th word	41090	0441h
Setting area entry St. No. The 46th word	41091	0442h
Setting area entry register No. The 46th word	41092	0443h
Setting area entry St. No. The 47th word	41093	0444h
Setting area entry register No. The 47th word	41094	0445h
Setting area entry St. No. The 48th word	41095	0446h
Setting area entry register No. The 48th word	41096	0447h
Setting area entry St. No. The 49th word	41097	0448h
Setting area entry register No. The 49th word	41098	0449h
Setting area entry St. No. The 50th word	41099	044Ah
Setting area entry register No. The 50th word	41100	044Bh
Setting area entry St. No. The 51st word	41101	044Ch
Setting area entry register No. The 51st word	41102	044Dh
Setting area entry St. No. The 52nd word	41103	044Eh
Setting area entry register No. The 52nd word	41104	044Fh
Setting area entry St. No. The 53rd word	41105	0450h
Setting area entry register No. The 53rd word	41106	0451h
Setting area entry St. No. The 54th word	41107	0452h
Setting area entry register No. The 54th word	41108	0453h
Setting area entry St. No. The 55th word	41109	0454h
Setting area entry register No. The 55th word	41110	0455h
Setting area entry St. No. The 56th word	41111	0456h
Setting area entry register No. The 56th word	41112	0457h
Setting area entry St. No. The 57th word	41113	0458h
Setting area entry register No. The 57th word	41114	0459h
Setting area entry St. No. The 58th word	41115	045Ah
Setting area entry register No. The 58th word	41116	045Bh
Setting area entry St. No. The 59th word	41117	045Ch
Setting area entry register No. The 59th word	41118	045Dh
Setting area entry St. No. The 60th word	41119	045Eh
Setting area entry register No. The 60th word	41120	045Fh
Setting area entry St. No. The 61st word	41121	0460h
Setting area entry register No. The 61st word	41122	0461h
Setting area entry St. No. The 62nd word	41123	0462h
Setting area entry register No. The 62nd word	41124	0463h
Setting area entry St. No. The 63rd word	41125	0464h
Setting area entry register No. The 63rd word	41126	0465h
Setting area entry St. No. The 64th word	41127	0466h
Setting area entry register No. The 64th word	41128	0467h
Setting area entry St. No. The 65th word	41129	0468h
Setting area entry register No. The 65th word	41130	0469h
Setting area entry St. No. The 66th word	41131	046Ah
Setting area entry register No. The 66th word	41132	046Bh
Setting area entry St. No. The 67th word	41133	046Ch
Setting area entry register No. The 67th word	41134	046Dh
Setting area entry St. No. The 68th word	41135	046Eh
Setting area entry register No. The 68th word	41136	046Fh
Setting area entry St. No. The 69th word	41137	0470h
Setting area entry register No. The 69th word	41138	0471h
Setting area entry St. No. The 70th word	41139	0472h
Setting area entry register No. The 70th word	41140	0473h
Setting area entry St. No. The 71st word	41141	0474h
Setting area entry register No. The 71st word	41142	0475h

Contents	Register No.	Relative address
Setting area entry St. No. The 72nd word	41143	0476h
Setting area entry register No. The 72nd word	41144	0477h
Setting area entry St. No. The 73rd word	41145	0478h
Setting area entry register No. The 73rd word	41146	0479h
Setting area entry St. No. The 74th word	41147	047Ah
Setting area entry register No. The 74th word	41148	047Bh
Setting area entry St. No. The 75th word	41149	047Ch
Setting area entry register No. The 75th word	41150	047Dh
Setting area entry St. No. The 76th word	41151	047Eh
Setting area entry register No. The 76th word	41152	047Fh
Setting area entry St. No. The 77th word	41153	0480h
Setting area entry register No. The 77th word	41154	0481h
Setting area entry St. No. The 78th word	41155	0482h
Setting area entry register No. The 78th word	41156	0483h
Setting area entry St. No. The 79th word	41157	0484h
Setting area entry register No. The 79th word	41158	0485h
Setting area entry St. No. The 80th word	41159	0486h
Setting area entry register No. The 80th word	41160	0487h
Setting area entry St. No. The 81st word	41161	0488h
Setting area entry register No. The 81st word	41162	0489h
Setting area entry St. No. The 82nd word	41163	048Ah
Setting area entry register No. The 82nd word	41164	048Bh
Setting area entry St. No. The 83rd word	41165	048Ch
Setting area entry register No. The 83rd word	41166	048Dh
Setting area entry St. No. The 84th word	41167	048Eh
Setting area entry register No. The 84th word	41168	048Fh
Setting area entry St. No. The 85th word	41169	0490h
Setting area entry register No. The 85th word	41170	0491h
Setting area entry St. No. The 86th word	41171	0492h
Setting area entry register No. The 86th word	41172	0493h
Setting area entry St. No. The 87th word	41173	0494h
Setting area entry register No. The 87th word	41174	0495h
Setting area entry St. No. The 88th word	41175	0496h
Setting area entry register No. The 88th word	41176	0497h
Setting area entry St. No. The 89th word	41177	0498h
Setting area entry register No. The 89th word	41178	0499h
Setting area entry St. No. The 90th word	41179	049Ah
Setting area entry register No. The 90th word	41180	049Bh
Setting area entry St. No. The 91st word	41181	049Ch
Setting area entry register No. The 91st word	41182	049Dh
Setting area entry St. No. The 92nd word	41183	049Eh
Setting area entry register No. The 92nd word	41184	049Fh
Setting area entry St. No. The 93rd word	41185	04A0h
Setting area entry register No. The 93rd word	41186	04A1h
Setting area entry St. No. The 94th word	41187	04A2h
Setting area entry register No. The 94th word	41188	04A3h
Setting area entry St. No. The 95th word	41189	04A4h
Setting area entry register No. The 95th word	41190	04A5h
Setting area entry St. No. The 96th word	41191	04A6h
Setting area entry register No. The 96th word	41192	04A7h
Setting area entry St. No. The 97th word	41193	04A8h
Setting area entry register No. The 97th word	41194	04A9h
Setting area entry St. No. The 98th word	41195	04AAh
Setting area entry register No. The 98th word	41196	04ABh
Setting area entry St. No. The 99th word	41197	04ACh
Setting area entry register No. The 99th word	41198	04ADh

Contents	Register No.	Relative address
Setting area entry St. No. The 100th word	41199	04AEh
Setting area entry register No. The 100th word	41200	04AFh
Setting area entry St. No. The 101st word	41201	04B0h
Setting area entry register No. The 101st word	41202	04B1h
Setting area entry St. No. The 102nd word	41203	04B2h
Setting area entry register No. The 102nd word	41204	04B3h
Setting area entry St. No. The 103rd word	41205	04B4h
Setting area entry register No. The 103rd word	41206	04B5h
Setting area entry St. No. The 104th word	41207	04B6h
Setting area entry register No. The 104th word	41208	04B7h
Setting area entry St. No. The 105th word	41209	04B8h
Setting area entry register No. The 105th word	41210	04B9h
Setting area entry St. No. The 106th word	41211	04BAh
Setting area entry register No. The 106th word	41212	04BBh
Setting area entry St. No. The 107th word	41213	04BCh
Setting area entry register No. The 107th word	41214	04BDh
Setting area entry St. No. The 108th word	41215	04BEh
Setting area entry register No. The 108th word	41216	04BFh
Setting area entry St. No. The 109th word	41217	04C0h
Setting area entry register No. The 109th word	41218	04C1h
Setting area entry St. No. The 110th word	41219	04C2h
Setting area entry register No. The 110th word	41220	04C3h
Setting area entry St. No. The 111th word	41221	04C4h
Setting area entry register No. The 111th word	41222	04C5h
Setting area entry St. No. The 112th word	41223	04C6h
Setting area entry register No. The 112th word	41224	04C7h
Setting area entry St. No. The 113th word	41225	04C8h
Setting area entry register No. The 113th word	41226	04C9h
Setting area entry St. No. The 114th word	41227	04CAh
Setting area entry register No. The 114th word	41228	04CBh
Setting area entry St. No. The 115th word	41229	04CCh
Setting area entry register No. The 115th word	41230	04CDh
Setting area entry St. No. The 116th word	41231	04CEh
Setting area entry register No. The 116th word	41232	04CFh
Setting area entry St. No. The 117th word	41233	04D0h
Setting area entry register No. The 117th word	41234	04D1h
Setting area entry St. No. The 118th word	41235	04D2h
Setting area entry register No. The 118th word	41236	04D3h
Setting area entry St. No. The 119th word	41237	04D4h
Setting area entry register No. The 119th word	41238	04D5h
Setting area entry St. No. The 120th word	41239	04D6h
Setting area entry register No. The 120th word	41240	04D7h
Setting area entry St. No. The 121st word	41241	04D8h
Setting area entry register No. The 121st word	41242	04D9h
Setting area entry St. No. The 122nd word	41243	04DAh
Setting area entry register No. The 122nd word	41244	04DBh
Setting area entry St. No. The 123rd word	41245	04DCh
Setting area entry register No. The 123rd word	41246	04DDh
Setting area entry St. No. The 124th word	41247	04DEh
Setting area entry register No. The 124th word	41248	04DFh
Setting area entry St. No. The 125th word	41249	04E0h
Setting area entry register No. The 125th word	41250	04E1h
Setting area entry St. No. The 126th word	41251	04E2h
Setting area entry register No. The 126th word	41252	04E3h
Setting area entry St. No. The 127th word	41253	04E4h
Setting area entry register No. The 127th word	41254	04E5h

Contents	Register No.	Relative address
Setting area entry St. No. The 128th word	41255	04E6h
Setting area entry register No. The 128th word	41256	04E7h
Setting area entry St. No. The 129th word	41257	04E8h
Setting area entry register No. The 129th word	41258	04E9h
Setting area entry St. No. The 130th word	41259	04EAh
Setting area entry register No. The 130th word	41260	04EBh
Setting area entry St. No. The 131st word	41261	04ECh
Setting area entry register No. The 131st word	41262	04EDh
Setting area entry St. No. The 132nd word	41263	04EEh
Setting area entry register No. The 132nd word	41264	04EFh
Setting area entry St. No. The 133rd word	41265	04F0h
Setting area entry register No. The 133rd word	41266	04F1h
Setting area entry St. No. The 134th word	41267	04F2h
Setting area entry register No. The 134th word	41268	04F3h
Setting area entry St. No. The 135th word	41269	04F4h
Setting area entry register No. The 135th word	41270	04F5h
Setting area entry St. No. The 136th word	41271	04F6h
Setting area entry register No. The 136th word	41272	04F7h
Setting area entry St. No. The 137th word	41273	04F8h
Setting area entry register No. The 137th word	41274	04F9h
Setting area entry St. No. The 138th word	41275	04FAh
Setting area entry register No. The 138th word	41276	04FBh
Setting area entry St. No. The 139th word	41277	04FCh
Setting area entry register No. The 139th word	41278	04FDh
Setting area entry St. No. The 140th word	41279	04FEh
Setting area entry register No. The 140th word	41280	04FFh
Setting area entry St. No. The 141st word	41281	0500h
Setting area entry register No. The 141st word	41282	0501h
Setting area entry St. No. The 142nd word	41283	0502h
Setting area entry register No. The 142nd word	41284	0503h
Setting area entry St. No. The 143rd word	41285	0504h
Setting area entry register No. The 143rd word	41286	0505h
Setting area entry St. No. The 144th word	41287	0506h
Setting area entry register No. The 144th word	41288	0507h
Setting area entry St. No. The 145th word	41289	0508h
Setting area entry register No. The 145th word	41290	0509h
Setting area entry St. No. The 146th word	41291	050Ah
Setting area entry register No. The 146th word	41292	050Bh
Setting area entry St. No. The 147th word	41293	050Ch
Setting area entry register No. The 147th word	41294	050Dh
Setting area entry St. No. The 148th word	41295	050Eh
Setting area entry register No. The 148th word	41296	050Fh
Setting area entry St. No. The 149th word	41297	0510h
Setting area entry register No. The 149th word	41298	0511h
Setting area entry St. No. The 150th word	41299	0512h
Setting area entry register No. The 150th word	41300	0513h
Setting area entry St. No. The 151st word	41301	0514h
Setting area entry register No. The 151st word	41302	0515h
Setting area entry St. No. The 152nd word	41303	0516h
Setting area entry register No. The 152nd word	41304	0517h
Setting area entry St. No. The 153rd word	41305	0518h
Setting area entry register No. The 153rd word	41306	0519h
Setting area entry St. No. The 154th word	41307	051Ah
Setting area entry register No. The 154th word	41308	051Bh
Setting area entry St. No. The 155th word	41309	051Ch
Setting area entry register No. The 155th word	41310	051Dh

## 5.5 Address Map and Data Format

Contents	Register No.	Relative address
Setting area entry St. No. The 156th word	41311	051Eh
Setting area entry register No. The 156th word	41312	051Fh
Setting area entry St. No. The 157th word	41313	0520h
Setting area entry register No. The 157th word	41314	0521h
Setting area entry St. No. The 158th word	41315	0522h
Setting area entry register No. The 158th word	41316	0523h
Setting area entry St. No. The 159th word	41317	0524h
Setting area entry register No. The 159th word	41318	0525h
Setting area entry St. No. The 160th word	41319	0526h
Setting area entry register No. The 160th word	41320	0527h
Setting area entry St. No. The 161st word	41321	0528h
Setting area entry register No. The 161st word	41322	0529h
Setting area entry St. No. The 162nd word	41323	052Ah
Setting area entry register No. The 162nd word	41324	052Bh
Setting area entry St. No. The 163rd word	41325	052Ch
Setting area entry register No. The 163rd word	41326	052Dh
Setting area entry St. No. The 164th word	41327	052Eh
Setting area entry register No. The 164th word	41328	052Fh
Setting area entry St. No. The 165th word	41329	0530h
Setting area entry register No. The 165th word	41330	0531h
Setting area entry St. No. The 166th word	41331	0532h
Setting area entry register No. The 166th word	41332	0533h
Setting area entry St. No. The 167th word	41333	0534h
Setting area entry register No. The 167th word	41334	0535h
Setting area entry St. No. The 168th word	41335	0536h
Setting area entry register No. The 168th word	41336	0537h
Setting area entry St. No. The 169th word	41337	0538h
Setting area entry register No. The 169th word	41338	0539h
Setting area entry St. No. The 170th word	41339	053Ah
Setting area entry register No. The 170th word	41340	053Bh
Setting area entry St. No. The 171st word	41341	053Ch
Setting area entry register No. The 171st word	41342	053Dh
Setting area entry St. No. The 172nd word	41343	053Eh
Setting area entry register No. The 172nd word	41344	053Fh
Setting area entry St. No. The 173rd word	41345	0540h
Setting area entry register No. The 173rd word	41346	0541h
Setting area entry St. No. The 174th word	41347	0542h
Setting area entry register No. The 174th word	41348	0543h
Setting area entry St. No. The 175th word	41349	0544h
Setting area entry register No. The 175th word	41350	0545h
Setting area entry St. No. The 176th word	41351	0546h
Setting area entry register No. The 176th word	41352	0547h
Setting area entry St. No. The 177th word	41353	0548h
Setting area entry register No. The 177th word	41354	0549h
Setting area entry St. No. The 178th word	41355	054Ah
Setting area entry register No. The 178th word	41356	054Bh
Setting area entry St. No. The 179th word	41357	054Ch
Setting area entry register No. The 179th word	41358	054Dh
Setting area entry St. No. The 180th word	41359	054Eh
Setting area entry register No. The 180th word	41360	054Fh
Setting area entry St. No. The 181st word	41361	0550h
Setting area entry register No. The 181st word	41362	0551h
Setting area entry St. No. The 182nd word	41363	0552h
Setting area entry register No. The 182nd word	41364	0553h
Setting area entry St. No. The 183rd word	41365	0554h
Setting area entry register No. The 183rd word	41366	0555h

Contents	Register No.	Relative address
Setting area entry St. No. The 184th word	41367	0556h
Setting area entry register No. The 184th word	41368	0557h
Setting area entry St. No. The 185th word	41369	0558h
Setting area entry register No. The 185th word	41370	0559h
Setting area entry St. No. The 186th word	41371	055Ah
Setting area entry register No. The 186th word	41372	055Bh
Setting area entry St. No. The 187th word	41373	055Ch
Setting area entry register No. The 187th word	41374	055Dh
Setting area entry St. No. The 188th word	41375	055Eh
Setting area entry register No. The 188th word	41376	055Fh
Setting area entry St. No. The 189th word	41377	0560h
Setting area entry register No. The 189th word	41378	0561h
Setting area entry St. No. The 190th word	41379	0562h
Setting area entry register No. The 190th word	41380	0563h
Setting area entry St. No. The 191st word	41381	0564h
Setting area entry register No. The 191st word	41382	0565h
Setting area entry St. No. The 192nd word	41383	0566h
Setting area entry register No. The 192nd word	41384	0567h
Setting area entry St. No. The 193rd word	41385	0568h
Setting area entry register No. The 193rd word	41386	0569h
Setting area entry St. No. The 194th word	41387	056Ah
Setting area entry register No. The 194th word	41388	056Bh
Setting area entry St. No. The 195th word	41389	056Ch
Setting area entry register No. The 195th word	41390	056Dh
Setting area entry St. No. The 196th word	41391	056Eh
Setting area entry register No. The 196th word	41392	056Fh
Setting area entry St. No. The 197th word	41393	0570h
Setting area entry register No. The 197th word	41394	0571h
Setting area entry St. No. The 198th word	41395	0572h
Setting area entry register No. The 198th word	41396	0573h
Setting area entry St. No. The 199th word	41397	0574h
Setting area entry register No. The 199th word	41398	0575h
Setting area entry St. No. The 200th word	41399	0576h
Setting area entry register No. The 200th word	41400	0577h
Setting area entry St. No. The 201st word	41401	0578h
Setting area entry register No. The 201st word	41402	0579h
Setting area entry St. No. The 202nd word	41403	057Ah
Setting area entry register No. The 202nd word	41404	057Bh
Setting area entry St. No. The 203rd word	41405	057Ch
Setting area entry register No. The 203rd word	41406	057Dh
Setting area entry St. No. The 204th word	41407	057Eh
Setting area entry register No. The 204th word	41408	057Fh
Setting area entry St. No. The 205th word	41409	0580h
Setting area entry register No. The 205th word	41410	0581h
Setting area entry St. No. The 206th word	41411	0582h
Setting area entry register No. The 206th word	41412	0583h
Setting area entry St. No. The 207th word	41413	0584h
Setting area entry register No. The 207th word	41414	0585h
Setting area entry St. No. The 208th word	41415	0586h
Setting area entry register No. The 208th word	41416	0587h
Setting area entry St. No. The 209th word	41417	0588h
Setting area entry register No. The 209th word	41418	0589h
Setting area entry St. No. The 210th word	41419	058Ah
Setting area entry register No. The 210th word	41420	058Bh
Setting area entry St. No. The 211th word	41421	058Ch
Setting area entry register No. The 211th word	41422	058Dh

Contents	Register No.	Relative address
Setting area entry St. No. The 212th word	41423	058Eh
Setting area entry register No. The 212th word	41424	058Fh
Setting area entry St. No. The 213th word	41425	0590h
Setting area entry register No. The 213th word	41426	0591h
Setting area entry St. No. The 214th word	41427	0592h
Setting area entry register No. The 214th word	41428	0593h
Setting area entry St. No. The 215th word	41429	0594h
Setting area entry register No. The 215th word	41430	0595h
Setting area entry St. No. The 216th word	41431	0596h
Setting area entry register No. The 216th word	41432	0597h
Setting area entry St. No. The 217th word	41433	0598h
Setting area entry register No. The 217th word	41434	0599h
Setting area entry St. No. The 218th word	41435	059Ah
Setting area entry register No. The 218th word	41436	059Bh
Setting area entry St. No. The 219th word	41437	059Ch
Setting area entry register No. The 219th word	41438	059Dh
Setting area entry St. No. The 220th word	41439	059Eh
Setting area entry register No. The 220th word	41440	059Fh
Setting area entry St. No. The 221st word	41441	05A0h
Setting area entry register No. The 221st word	41442	05A1h
Setting area entry St. No. The 222nd word	41443	05A2h
Setting area entry register No. The 222nd word	41444	05A3h
Setting area entry St. No. The 223rd word	41445	05A4h
Setting area entry register No. The 223rd word	41446	05A5h
Setting area entry St. No. The 224th word	41447	05A6h
Setting area entry register No. The 224th word	41448	05A7h
Setting area entry St. No. The 225th word	41449	05A8h
Setting area entry register No. The 225th word	41450	05A9h
Setting area entry St. No. The 226th word	41451	05AAh
Setting area entry register No. The 226th word	41452	05ABh
Setting area entry St. No. The 227th word	41453	05ACh
Setting area entry register No. The 227th word	41454	05ADh
Setting area entry St. No. The 228th word	41455	05AEh
Setting area entry register No. The 228th word	41456	05AFh
Setting area entry St. No. The 229th word	41457	05B0h
Setting area entry register No. The 229th word	41458	05B1h
Setting area entry St. No. The 230th word	41459	05B2h
Setting area entry register No. The 230th word	41460	05B3h
Setting area entry St. No. The 231st word	41461	05B4h
Setting area entry register No. The 231st word	41462	05B5h
Setting area entry St. No. The 232nd word	41463	05B6h
Setting area entry register No. The 232nd word	41464	05B7h
Setting area entry St. No. The 233rd word	41465	05B8h
Setting area entry register No. The 233rd word	41466	05B9h
Setting area entry St. No. The 234th word	41467	05BAh
Setting area entry register No. The 234th word	41468	05BBh
Setting area entry St. No. The 235th word	41469	05BCh
Setting area entry register No. The 235th word	41470	05BDh
Setting area entry St. No. The 236th word	41471	05BEh
Setting area entry register No. The 236th word	41472	05BFh
Setting area entry St. No. The 237th word	41473	05C0h
Setting area entry register No. The 237th word	41474	05C1h
Setting area entry St. No. The 238th word	41475	05C2h
Setting area entry register No. The 238th word	41476	05C3h
Setting area entry St. No. The 239th word	41477	05C4h
Setting area entry register No. The 239th word	41478	05C5h

Contents	Register No.	Relative address
Setting area entry St. No. The 240th word	41479	05C6h
Setting area entry register No. The 240th word	41480	05C7h
Setting area entry St. No. The 241st word	41481	05C8h
Setting area entry register No. The 241st word	41482	05C9h
Setting area entry St. No. The 242nd word	41483	05CAh
Setting area entry register No. The 242nd word	41484	05CBh
Setting area entry St. No. The 243rd word	41485	05CCh
Setting area entry register No. The 243rd word	41486	05CDh
Setting area entry St. No. The 244th word	41487	05CEh
Setting area entry register No. The 244th word	41488	05CFh
Setting area entry St. No. The 245th word	41489	05D0h
Setting area entry register No. The 245th word	41490	05D1h
Setting area entry St. No. The 246th word	41491	05D2h
Setting area entry register No. The 246th word	41492	05D3h
Setting area entry St. No. The 247th word	41493	05D4h
Setting area entry register No. The 247th word	41494	05D5h
Setting area entry St. No. The 248th word	41495	05D6h
Setting area entry register No. The 248th word	41496	05D7h
Setting area entry St. No. The 249th word	41497	05D8h
Setting area entry register No. The 249th word	41498	05D9h
Setting area entry St. No. The 250th word	41499	05DAh
Setting area entry register No. The 250th word	41500	05DBh
Setting area entry St. No. The 251st word	41501	05DCh
Setting area entry register No. The 251st word	41502	05DDh
Setting area entry St. No. The 252nd word	41503	05DEh
Setting area entry register No. The 252nd word	41504	05DFh
Setting area entry St. No. The 253rd word	41505	05E0h
Setting area entry register No. The 253rd word	41506	05E1h
Setting area entry St. No. The 254th word	41507	05E2h
Setting area entry register No. The 254th word	41508	05E3h
Setting area entry St. No. The 255th word	41509	05E4h
Setting area entry register No. The 255th word	41510	05E5h
Setting area entry St. No. The 256th word	41511	05E6h
Setting area entry register No. The 256th word	41512	05E7h
Setting area entry St. No. The 257th word	41513	05E8h
Setting area entry register No. The 257th word	41514	05E9h
Setting area entry St. No. The 258th word	41515	05EAh
Setting area entry register No. The 258th word	41516	05EBh
Setting area entry St. No. The 259th word	41517	05ECh
Setting area entry register No. The 259th word	41518	05EDh
Setting area entry St. No. The 260th word	41519	05EEh
Setting area entry register No. The 260th word	41520	05EFh
Setting area entry St. No. The 261st word	41521	05F0h
Setting area entry register No. The 261st word	41522	05F1h
Setting area entry St. No. The 262nd word	41523	05F2h
Setting area entry register No. The 262nd word	41524	05F3h
Setting area entry St. No. The 263rd word	41525	05F4h
Setting area entry register No. The 263rd word	41526	05F5h
Setting area entry St. No. The 264th word	41527	05F6h
Setting area entry register No. The 264th word	41528	05F7h
Setting area entry St. No. The 265th word	41529	05F8h
Setting area entry register No. The 265th word	41530	05F9h
Setting area entry St. No. The 266th word	41531	05FAh
Setting area entry register No. The 266th word	41532	05FBh
Setting area entry St. No. The 267th word	41533	05FCh
Setting area entry register No. The 267th word	41534	05FDh

## 5.5 Address Map and Data Format

Contents	Register No.	Relative address
Setting area entry St. No. The 268th word	41535	05FEh
Setting area entry register No. The 268th word	41536	05FFh
Setting area entry St. No. The 269th word	41537	0600h
Setting area entry register No. The 269th word	41538	0601h
Setting area entry St. No. The 270th word	41539	0602h
Setting area entry register No. The 270th word	41540	0603h
Setting area entry St. No. The 271st word	41541	0604h
Setting area entry register No. The 271st word	41542	0605h
Setting area entry St. No. The 272nd word	41543	0606h
Setting area entry register No. The 272nd word	41544	0607h
Setting area entry St. No. The 273rd word	41545	0608h
Setting area entry register No. The 273rd word	41546	0609h
Setting area entry St. No. The 274th word	41547	060Ah
Setting area entry register No. The 274th word	41548	060Bh
Setting area entry St. No. The 275th word	41549	060Ch
Setting area entry register No. The 275th word	41550	060Dh
Setting area entry St. No. The 276th word	41551	060Eh
Setting area entry register No. The 276th word	41552	060Fh
Setting area entry St. No. The 277th word	41553	0610h
Setting area entry register No. The 277th word	41554	0611h
Setting area entry St. No. The 278th word	41555	0612h
Setting area entry register No. The 278th word	41556	0613h
Setting area entry St. No. The 279th word	41557	0614h
Setting area entry register No. The 279th word	41558	0615h
Setting area entry St. No. The 280th word	41559	0616h
Setting area entry register No. The 280th word	41560	0617h
Setting area entry St. No. The 281st word	41561	0618h
Setting area entry register No. The 281st word	41562	0619h
Setting area entry St. No. The 282nd word	41563	061Ah
Setting area entry register No. The 282nd word	41564	061Bh
Setting area entry St. No. The 283rd word	41565	061Ch
Setting area entry register No. The 283rd word	41566	061Dh
Setting area entry St. No. The 284th word	41567	061Eh
Setting area entry register No. The 284th word	41568	061Fh
Setting area entry St. No. The 285th word	41569	0620h
Setting area entry register No. The 285th word	41570	0621h
Setting area entry St. No. The 286th word	41571	0622h
Setting area entry register No. The 286th word	41572	0623h
Setting area entry St. No. The 287th word	41573	0624h
Setting area entry register No. The 287th word	41574	0625h
Setting area entry St. No. The 288th word	41575	0626h
Setting area entry register No. The 288th word	41576	0627h
Setting area entry St. No. The 289th word	41577	0628h
Setting area entry register No. The 289th word	41578	0629h
Setting area entry St. No. The 290th word	41579	062Ah
Setting area entry register No. The 290th word	41580	062Bh
Setting area entry St. No. The 291st word	41581	062Ch
Setting area entry register No. The 291st word	41582	062Dh
Setting area entry St. No. The 292nd word	41583	062Eh
Setting area entry register No. The 292nd word	41584	062Fh
Setting area entry St. No. The 293rd word	41585	0630h
Setting area entry register No. The 293rd word	41586	0631h
Setting area entry St. No. The 294th word	41587	0632h
Setting area entry register No. The 294th word	41588	0633h
Setting area entry St. No. The 295th word	41589	0634h
Setting area entry register No. The 295th word	41590	0635h

Contents	Register No.	Relative address
Setting area entry St. No. The 296th word	41591	0636h
Setting area entry register No. The 296th word	41592	0637h
Setting area entry St. No. The 297th word	41593	0638h
Setting area entry register No. The 297th word	41594	0639h
Setting area entry St. No. The 298th word	41595	063Ah
Setting area entry register No. The 298th word	41596	063Bh
Setting area entry St. No. The 299th word	41597	063Ch
Setting area entry register No. The 299th word	41598	063Dh
Setting area entry St. No. The 300th word	41599	063Eh
Setting area entry register No. The 300th word	41600	063Fh
Setting area entry St. No. The 301st word	41601	0640h
Setting area entry register No. The 301st word	41602	0641h
Setting area entry St. No. The 302nd word	41603	0642h
Setting area entry register No. The 302nd word	41604	0643h
Setting area entry St. No. The 303rd word	41605	0644h
Setting area entry register No. The 303rd word	41606	0645h
Setting area entry St. No. The 304th word	41607	0646h
Setting area entry register No. The 304th word	41608	0647h
Setting area entry St. No. The 305th word	41609	0648h
Setting area entry register No. The 305th word	41610	0649h
Setting area entry St. No. The 306th word	41611	064Ah
Setting area entry register No. The 306th word	41612	064Bh
Setting area entry St. No. The 307th word	41613	064Ch
Setting area entry register No. The 307th word	41614	064Dh
Setting area entry St. No. The 308th word	41615	064Eh
Setting area entry register No. The 308th word	41616	064Fh
Setting area entry St. No. The 309th word	41617	0650h
Setting area entry register No. The 309th word	41618	0651h
Setting area entry St. No. The 310th word	41619	0652h
Setting area entry register No. The 310th word	41620	0653h
Setting area entry St. No. The 311th word	41621	0654h
Setting area entry register No. The 311th word	41622	0655h
Setting area entry St. No. The 312th word	41623	0656h
Setting area entry register No. The 312th word	41624	0657h
Setting area entry St. No. The 313th word	41625	0658h
Setting area entry register No. The 313th word	41626	0659h
Setting area entry St. No. The 314th word	41627	065Ah
Setting area entry register No. The 314th word	41628	065Bh
Setting area entry St. No. The 315th word	41629	065Ch
Setting area entry register No. The 315th word	41630	065Dh
Setting area entry St. No. The 316th word	41631	065Eh
Setting area entry register No. The 316th word	41632	065Fh
Setting area entry St. No. The 317th word	41633	0660h
Setting area entry register No. The 317th word	41634	0661h
Setting area entry St. No. The 318th word	41635	0662h
Setting area entry register No. The 318th word	41636	0663h
Setting area entry St. No. The 319th word	41637	0664h
Setting area entry register No. The 319th word	41638	0665h
Setting area entry St. No. The 320th word	41639	0666h
Setting area entry register No. The 320th word	41640	0667h
Setting area entry St. No. The 321st word	41641	0668h
Setting area entry register No. The 321st word	41642	0669h
Setting area entry St. No. The 322nd word	41643	066Ah
Setting area entry register No. The 322nd word	41644	066Bh
Setting area entry St. No. The 323rd word	41645	066Ch
Setting area entry register No. The 323rd word	41646	066Dh

Contents	Register No.	Relative address
Setting area entry St. No. The 324th word	41647	066Eh
Setting area entry register No. The 324th word	41648	066Fh
Setting area entry St. No. The 325th word	41649	0670h
Setting area entry register No. The 325th word	41650	0671h
Setting area entry St. No. The 326th word	41651	0672h
Setting area entry register No. The 326th word	41652	0673h
Setting area entry St. No. The 327th word	41653	0674h
Setting area entry register No. The 327th word	41654	0675h
Setting area entry St. No. The 328th word	41655	0676h
Setting area entry register No. The 328th word	41656	0677h
Setting area entry St. No. The 329th word	41657	0678h
Setting area entry register No. The 329th word	41658	0679h
Setting area entry St. No. The 330th word	41659	067Ah
Setting area entry register No. The 330th word	41660	067Bh
Setting area entry St. No. The 331st word	41661	067Ch
Setting area entry register No. The 331st word	41662	067Dh
Setting area entry St. No. The 332nd word	41663	067Eh
Setting area entry register No. The 332nd word	41664	067Fh
Setting area entry St. No. The 333rd word	41665	0680h
Setting area entry register No. The 333rd word	41666	0681h
Setting area entry St. No. The 334th word	41667	0682h
Setting area entry register No. The 334th word	41668	0683h
Setting area entry St. No. The 335th word	41669	0684h
Setting area entry register No. The 335th word	41670	0685h
Setting area entry St. No. The 336th word	41671	0686h
Setting area entry register No. The 336th word	41672	0687h
Setting area entry St. No. The 337th word	41673	0688h
Setting area entry register No. The 337th word	41674	0689h
Setting area entry St. No. The 338th word	41675	068Ah
Setting area entry register No. The 338th word	41676	068Bh
Setting area entry St. No. The 339th word	41677	068Ch
Setting area entry register No. The 339th word	41678	068Dh
Setting area entry St. No. The 340th word	41679	068Eh
Setting area entry register No. The 340th word	41680	068Fh
Setting area entry St. No. The 341st word	41681	0690h
Setting area entry register No. The 341st word	41682	0691h
Setting area entry St. No. The 342nd word	41683	0692h
Setting area entry register No. The 342nd word	41684	0693h
Setting area entry St. No. The 343rd word	41685	0694h
Setting area entry register No. The 343rd word	41686	0695h
Setting area entry St. No. The 344th word	41687	0696h
Setting area entry register No. The 344th word	41688	0697h
Setting area entry St. No. The 345th word	41689	0698h
Setting area entry register No. The 345th word	41690	0699h
Setting area entry St. No. The 346th word	41691	069Ah
Setting area entry register No. The 346th word	41692	069Bh
Setting area entry St. No. The 347th word	41693	069Ch
Setting area entry register No. The 347th word	41694	069Dh
Setting area entry St. No. The 348th word	41695	069Eh
Setting area entry register No. The 348th word	41696	069Fh
Setting area entry St. No. The 349th word	41697	06A0h
Setting area entry register No. The 349th word	41698	06A1h
Setting area entry St. No. The 350th word	41699	06A2h
Setting area entry register No. The 350th word	41700	06A3h
Setting area entry St. No. The 351st word	41701	06A4h
Setting area entry register No. The 351st word	41702	06A5h

Contents	Register No.	Relative address
Setting area entry St. No. The 352nd word	41703	06A6h
Setting area entry register No. The 352nd word	41704	06A7h
Setting area entry St. No. The 353rd word	41705	06A8h
Setting area entry register No. The 353rd word	41706	06A9h
Setting area entry St. No. The 354th word	41707	06AAh
Setting area entry register No. The 354th word	41708	06ABh
Setting area entry St. No. The 355th word	41709	06ACh
Setting area entry register No. The 355th word	41710	06ADh
Setting area entry St. No. The 356th word	41711	06AEh
Setting area entry register No. The 356th word	41712	06AFh
Setting area entry St. No. The 357th word	41713	06B0h
Setting area entry register No. The 357th word	41714	06B1h
Setting area entry St. No. The 358th word	41715	06B2h
Setting area entry register No. The 358th word	41716	06B3h
Setting area entry St. No. The 359th word	41717	06B4h
Setting area entry register No. The 359th word	41718	06B5h
Setting area entry St. No. The 360th word	41719	06B6h
Setting area entry register No. The 360th word	41720	06B7h
Setting area entry St. No. The 361st word	41721	06B8h
Setting area entry register No. The 361st word	41722	06B9h
Setting area entry St. No. The 362nd word	41723	06BAh
Setting area entry register No. The 362nd word	41724	06BBh
Setting area entry St. No. The 363rd word	41725	06BCh
Setting area entry register No. The 363rd word	41726	06BDh
Setting area entry St. No. The 364th word	41727	06BEh
Setting area entry register No. The 364th word	41728	06BFh
Setting area entry St. No. The 365th word	41729	06C0h
Setting area entry register No. The 365th word	41730	06C1h
Setting area entry St. No. The 366th word	41731	06C2h
Setting area entry register No. The 366th word	41732	06C3h
Setting area entry St. No. The 367th word	41733	06C4h
Setting area entry register No. The 367th word	41734	06C5h
Setting area entry St. No. The 368th word	41735	06C6h
Setting area entry register No. The 368th word	41736	06C7h
Setting area entry St. No. The 369th word	41737	06C8h
Setting area entry register No. The 369th word	41738	06C9h
Setting area entry St. No. The 370th word	41739	06CAh
Setting area entry register No. The 370th word	41740	06CBh
Setting area entry St. No. The 371st word	41741	06CCh
Setting area entry register No. The 371st word	41742	06CDh
Setting area entry St. No. The 372nd word	41743	06CEh
Setting area entry register No. The 372nd word	41744	06CFh
Setting area entry St. No. The 373rd word	41745	06D0h
Setting area entry register No. The 373rd word	41746	06D1h
Setting area entry St. No. The 374th word	41747	06D2h
Setting area entry register No. The 374th word	41748	06D3h
Setting area entry St. No. The 375th word	41749	06D4h
Setting area entry register No. The 375th word	41750	06D5h
Setting area entry St. No. The 376th word	41751	06D6h
Setting area entry register No. The 376th word	41752	06D7h
Setting area entry St. No. The 377th word	41753	06D8h
Setting area entry register No. The 377th word	41754	06D9h
Setting area entry St. No. The 378th word	41755	06DAh
Setting area entry register No. The 378th word	41756	06DBh
Setting area entry St. No. The 379th word	41757	06DCh
Setting area entry register No. The 379th word	41758	06DDh

## 5.5 Address Map and Data Format

Contents	Register No.	Relative address
Setting area entry St. No. The 380th word	41759	06DEh
Setting area entry register No. The 380th word	41760	06DFh
Setting area entry St. No. The 381st word	41761	06E0h
Setting area entry register No. The 381st word	41762	06E1h
Setting area entry St. No. The 382nd word	41763	06E2h
Setting area entry register No. The 382nd word	41764	06E3h
Setting area entry St. No. The 383rd word	41765	06E4h
Setting area entry register No. The 383rd word	41766	06E5h
Setting area entry St. No. The 384th word	41767	06E6h
Setting area entry register No. The 384th word	41768	06E7h
Setting area entry St. No. The 385th word	41769	06E8h
Setting area entry register No. The 385th word	41770	06E9h
Setting area entry St. No. The 386th word	41771	06EAh
Setting area entry register No. The 386th word	41772	06EBh
Setting area entry St. No. The 387th word	41773	06ECh
Setting area entry register No. The 387th word	41774	06EDh
Setting area entry St. No. The 388th word	41775	06EEh
Setting area entry register No. The 388th word	41776	06EFh
Setting area entry St. No. The 389th word	41777	06F0h
Setting area entry register No. The 389th word	41778	06F1h
Setting area entry St. No. The 390th word	41779	06F2h
Setting area entry register No. The 390th word	41780	06F3h
Setting area entry St. No. The 391st word	41781	06F4h
Setting area entry register No. The 391st word	41782	06F5h
Setting area entry St. No. The 392nd word	41783	06F6h
Setting area entry register No. The 392nd word	41784	06F7h
Setting area entry St. No. The 393rd word	41785	06F8h
Setting area entry register No. The 393rd word	41786	06F9h
Setting area entry St. No. The 394th word	41787	06FAh
Setting area entry register No. The 394th word	41788	06FBh
Setting area entry St. No. The 395th word	41789	06FCh
Setting area entry register No. The 395th word	41790	06FDh
Setting area entry St. No. The 396th word	41791	06FEh
Setting area entry register No. The 396th word	41792	06FFh
Setting area entry St. No. The 397th word	41793	0700h
Setting area entry register No. The 397th word	41794	0701h
Setting area entry St. No. The 398th word	41795	0702h
Setting area entry register No. The 398th word	41796	0703h
Setting area entry St. No. The 399th word	41797	0704h
Setting area entry register No. The 399th word	41798	0705h
Setting area entry St. No. The 400th word	41799	0706h
Setting area entry register No. The 400th word	41800	0707h
Setting area entry St. No. The 401st word	41801	0708h
Setting area entry register No. The 401st word	41802	0709h
Setting area entry St. No. The 402nd word	41803	070Ah
Setting area entry register No. The 402nd word	41804	070Bh
Setting area entry St. No. The 403rd word	41805	070Ch
Setting area entry register No. The 403rd word	41806	070Dh
Setting area entry St. No. The 404th word	41807	070Eh
Setting area entry register No. The 404th word	41808	070Fh
Setting area entry St. No. The 405th word	41809	0710h
Setting area entry register No. The 405th word	41810	0711h
Setting area entry St. No. The 406th word	41811	0712h
Setting area entry register No. The 406th word	41812	0713h
Setting area entry St. No. The 407th word	41813	0714h
Setting area entry register No. The 407th word	41814	0715h

Contents	Register No.	Relative address
Setting area entry St. No. The 408th word	41815	0716h
Setting area entry register No. The 408th word	41816	0717h
Setting area entry St. No. The 409th word	41817	0718h
Setting area entry register No. The 409th word	41818	0719h
Setting area entry St. No. The 410th word	41819	071Ah
Setting area entry register No. The 410th word	41820	071Bh
Setting area entry St. No. The 411th word	41821	071Ch
Setting area entry register No. The 411th word	41822	071Dh
Setting area entry St. No. The 412th word	41823	071Eh
Setting area entry register No. The 412th word	41824	071Fh
Setting area entry St. No. The 413th word	41825	0720h
Setting area entry register No. The 413th word	41826	0721h
Setting area entry St. No. The 414th word	41827	0722h
Setting area entry register No. The 414th word	41828	0723h
Setting area entry St. No. The 415th word	41829	0724h
Setting area entry register No. The 415th word	41830	0725h
Setting area entry St. No. The 416th word	41831	0726h
Setting area entry register No. The 416th word	41832	0727h
Setting area entry St. No. The 417th word	41833	0728h
Setting area entry register No. The 417th word	41834	0729h
Setting area entry St. No. The 418th word	41835	072Ah
Setting area entry register No. The 418th word	41836	072Bh
Setting area entry St. No. The 419th word	41837	072Ch
Setting area entry register No. The 419th word	41838	072Dh
Setting area entry St. No. The 420th word	41839	072Eh
Setting area entry register No. The 420th word	41840	072Fh
Setting area entry St. No. The 421st word	41841	0730h
Setting area entry register No. The 421st word	41842	0731h
Setting area entry St. No. The 422nd word	41843	0732h
Setting area entry register No. The 422nd word	41844	0733h
Setting area entry St. No. The 423rd word	41845	0734h
Setting area entry register No. The 423rd word	41846	0735h
Setting area entry St. No. The 424th word	41847	0736h
Setting area entry register No. The 424th word	41848	0737h
Setting area entry St. No. The 425th word	41849	0738h
Setting area entry register No. The 425th word	41850	0739h
Setting area entry St. No. The 426th word	41851	073Ah
Setting area entry register No. The 426th word	41852	073Bh
Setting area entry St. No. The 427th word	41853	073Ch
Setting area entry register No. The 427th word	41854	073Dh
Setting area entry St. No. The 428th word	41855	073Eh
Setting area entry register No. The 428th word	41856	073Fh
Setting area entry St. No. The 429th word	41857	0740h
Setting area entry register No. The 429th word	41858	0741h
Setting area entry St. No. The 430th word	41859	0742h
Setting area entry register No. The 430th word	41860	0743h
Setting area entry St. No. The 431st word	41861	0744h
Setting area entry register No. The 431st word	41862	0745h
Setting area entry St. No. The 432nd word	41863	0746h
Setting area entry register No. The 432nd word	41864	0747h
Setting area entry St. No. The 433rd word	41865	0748h
Setting area entry register No. The 433rd word	41866	0749h
Setting area entry St. No. The 434th word	41867	074Ah
Setting area entry register No. The 434th word	41868	074Bh
Setting area entry St. No. The 435th word	41869	074Ch
Setting area entry register No. The 435th word	41870	074Dh

Contents	Register No.	Relative address
Setting area entry St. No. The 436th word	41871	074Eh
Setting area entry register No. The 436th word	41872	074Fh
Setting area entry St. No. The 437th word	41873	0750h
Setting area entry register No. The 437th word	41874	0751h
Setting area entry St. No. The 438th word	41875	0752h
Setting area entry register No. The 438th word	41876	0753h
Setting area entry St. No. The 439th word	41877	0754h
Setting area entry register No. The 439th word	41878	0755h
Setting area entry St. No. The 440th word	41879	0756h
Setting area entry register No. The 440th word	41880	0757h
Setting area entry St. No. The 441st word	41881	0758h
Setting area entry register No. The 441st word	41882	0759h
Setting area entry St. No. The 442nd word	41883	075Ah
Setting area entry register No. The 442nd word	41884	075Bh
Setting area entry St. No. The 443rd word	41885	075Ch
Setting area entry register No. The 443rd word	41886	075Dh
Setting area entry St. No. The 444th word	41887	075Eh
Setting area entry register No. The 444th word	41888	075Fh
Setting area entry St. No. The 445th word	41889	0760h
Setting area entry register No. The 445th word	41890	0761h
Setting area entry St. No. The 446th word	41891	0762h
Setting area entry register No. The 446th word	41892	0763h
Setting area entry St. No. The 447th word	41893	0764h
Setting area entry register No. The 447th word	41894	0765h
Setting area entry St. No. The 448th word	41895	0766h
Setting area entry register No. The 448th word	41896	0767h
Setting area entry St. No. The 449th word	41897	0768h
Setting area entry register No. The 449th word	41898	0769h
Setting area entry St. No. The 450th word	41899	076Ah
Setting area entry register No. The 450th word	41900	076Bh
Setting area entry St. No. The 451st word	41901	076Ch
Setting area entry register No. The 451st word	41902	076Dh
Setting area entry St. No. The 452nd word	41903	076Eh
Setting area entry register No. The 452nd word	41904	076Fh
Setting area entry St. No. The 453rd word	41905	0770h
Setting area entry register No. The 453rd word	41906	0771h
Setting area entry St. No. The 454th word	41907	0772h
Setting area entry register No. The 454th word	41908	0773h
Setting area entry St. No. The 455th word	41909	0774h
Setting area entry register No. The 455th word	41910	0775h
Setting area entry St. No. The 456th word	41911	0776h
Setting area entry register No. The 456th word	41912	0777h
Setting area entry St. No. The 457th word	41913	0778h
Setting area entry register No. The 457th word	41914	0779h
Setting area entry St. No. The 458th word	41915	077Ah
Setting area entry register No. The 458th word	41916	077Bh
Setting area entry St. No. The 459th word	41917	077Ch
Setting area entry register No. The 459th word	41918	077Dh
Setting area entry St. No. The 460th word	41919	077Eh
Setting area entry register No. The 460th word	41920	077Fh
Setting area entry St. No. The 461st word	41921	0780h
Setting area entry register No. The 461st word	41922	0781h
Setting area entry St. No. The 462nd word	41923	0782h
Setting area entry register No. The 462nd word	41924	0783h
Setting area entry St. No. The 463rd word	41925	0784h
Setting area entry register No. The 463rd word	41926	0785h

Contents	Register No.	Relative address
Setting area entry St. No. The 464th word	41927	0786h
Setting area entry register No. The 464th word	41928	0787h
Setting area entry St. No. The 465th word	41929	0788h
Setting area entry register No. The 465th word	41930	0789h
Setting area entry St. No. The 466th word	41931	078Ah
Setting area entry register No. The 466th word	41932	078Bh
Setting area entry St. No. The 467th word	41933	078Ch
Setting area entry register No. The 467th word	41934	078Dh
Setting area entry St. No. The 468th word	41935	078Eh
Setting area entry register No. The 468th word	41936	078Fh
Setting area entry St. No. The 469th word	41937	0790h
Setting area entry register No. The 469th word	41938	0791h
Setting area entry St. No. The 470th word	41939	0792h
Setting area entry register No. The 470th word	41940	0793h
Setting area entry St. No. The 471st word	41941	0794h
Setting area entry register No. The 471st word	41942	0795h
Setting area entry St. No. The 472nd word	41943	0796h
Setting area entry register No. The 472nd word	41944	0797h
Setting area entry St. No. The 473rd word	41945	0798h
Setting area entry register No. The 473rd word	41946	0799h
Setting area entry St. No. The 474th word	41947	079Ah
Setting area entry register No. The 474th word	41948	079Bh
Setting area entry St. No. The 475th word	41949	079Ch
Setting area entry register No. The 475th word	41950	079Dh
Setting area entry St. No. The 476th word	41951	079Eh
Setting area entry register No. The 476th word	41952	079Fh
Setting area entry St. No. The 477th word	41953	07A0h
Setting area entry register No. The 477th word	41954	07A1h
Setting area entry St. No. The 478th word	41955	07A2h
Setting area entry register No. The 478th word	41956	07A3h
Setting area entry St. No. The 479th word	41957	07A4h
Setting area entry register No. The 479th word	41958	07A5h
Setting area entry St. No. The 480th word	41959	07A6h
Setting area entry register No. The 480th word	41960	07A7h
Setting area entry St. No. The 481st word	41961	07A8h
Setting area entry register No. The 481st word	41962	07A9h
Setting area entry St. No. The 482nd word	41963	07AAh
Setting area entry register No. The 482nd word	41964	07ABh
Setting area entry St. No. The 483rd word	41965	07ACh
Setting area entry register No. The 483rd word	41966	07ADh
Setting area entry St. No. The 484th word	41967	07AEh
Setting area entry register No. The 484th word	41968	07AFh
Setting area entry St. No. The 485th word	41969	07B0h
Setting area entry register No. The 485th word	41970	07B1h
Setting area entry St. No. The 486th word	41971	07B2h
Setting area entry register No. The 486th word	41972	07B3h
Setting area entry St. No. The 487th word	41973	07B4h
Setting area entry register No. The 487th word	41974	07B5h
Setting area entry St. No. The 488th word	41975	07B6h
Setting area entry register No. The 488th word	41976	07B7h
Setting area entry St. No. The 489th word	41977	07B8h
Setting area entry register No. The 489th word	41978	07B9h
Setting area entry St. No. The 490th word	41979	07BAh
Setting area entry register No. The 490th word	41980	07BBh
Setting area entry St. No. The 491st word	41981	07BCh
Setting area entry register No. The 491st word	41982	07BDh

## 5.5 Address Map and Data Format

Contents	Register No.	Relative address
Setting area entry St. No. The 492nd word	41983	07BEh
Setting area entry register No. The 492nd word	41984	07BFh
Setting area entry St. No. The 493rd word	41985	07C0h
Setting area entry register No. The 493rd word	41986	07C1h
Setting area entry St. No. The 494th word	41987	07C2h
Setting area entry register No. The 494th word	41988	07C3h
Setting area entry St. No. The 495th word	41989	07C4h
Setting area entry register No. The 495th word	41990	07C5h
Setting area entry St. No. The 496th word	41991	07C6h
Setting area entry register No. The 496th word	41992	07C7h
Setting area entry St. No. The 497th word	41993	07C8h
Setting area entry register No. The 497th word	41994	07C9h
Setting area entry St. No. The 498th word	41995	07CAh
Setting area entry register No. The 498th word	41996	07CBh
Setting area entry St. No. The 499th word	41997	07CCh
Setting area entry register No. The 499th word	41998	07CDh
Setting area entry St. No. The 500th word	41999	07CEh
Setting area entry register No. The 500th word	42000	07CFh
Setting area entry St. No. The 501st word	42001	07D0h
Setting area entry register No. The 501st word	42002	07D1h
Setting area entry St. No. The 502nd word	42003	07D2h
Setting area entry register No. The 502nd word	42004	07D3h
Setting area entry St. No. The 503rd word	42005	07D4h
Setting area entry register No. The 503rd word	42006	07D5h
Setting area entry St. No. The 504th word	42007	07D6h
Setting area entry register No. The 504th word	42008	07D7h
Setting area entry St. No. The 505th word	42009	07D8h
Setting area entry register No. The 505th word	42010	07D9h
Setting area entry St. No. The 506th word	42011	07DAh
Setting area entry register No. The 506th word	42012	07DBh
Setting area entry St. No. The 507th word	42013	07DCh
Setting area entry register No. The 507th word	42014	07DDh
Setting area entry St. No. The 508th word	42015	07DEh
Setting area entry register No. The 508th word	42016	07DFh
Setting area entry St. No. The 509th word	42017	07E0h
Setting area entry register No. The 509th word	42018	07E1h
Setting area entry St. No. The 510th word	42019	07E2h
Setting area entry register No. The 510th word	42020	07E3h
Setting area entry St. No. The 511th word	42021	07E4h
Setting area entry register No. The 511th word	42022	07E5h
Setting area entry St. No. The 512th word	42023	07E6h
Setting area entry register No. The 512th word	42024	07E7h
Setting area entry St. No. The 513th word	42025	07E8h
Setting area entry register No. The 513th word	42026	07E9h
Setting area entry St. No. The 514th word	42027	07EAh
Setting area entry register No. The 514th word	42028	07EBh
Setting area entry St. No. The 515th word	42029	07ECh
Setting area entry register No. The 515th word	42030	07EDh
Setting area entry St. No. The 516th word	42031	07EEh
Setting area entry register No. The 516th word	42032	07EFh
Setting area entry St. No. The 517th word	42033	07F0h
Setting area entry register No. The 517th word	42034	07F1h
Setting area entry St. No. The 518th word	42035	07F2h
Setting area entry register No. The 518th word	42036	07F3h
Setting area entry St. No. The 519th word	42037	07F4h
Setting area entry register No. The 519th word	42038	07F5h

Contents	Register No.	Relative address
Setting area entry St. No. The 520th word	42039	07F6h
Setting area entry register No. The 520th word	42040	07F7h
Setting area entry St. No. The 521st word	42041	07F8h
Setting area entry register No. The 521st word	42042	07F9h
Setting area entry St. No. The 522nd word	42043	07FAh
Setting area entry register No. The 522nd word	42044	07FBh
Setting area entry St. No. The 523rd word	42045	07FCh
Setting area entry register No. The 523rd word	42046	07FDh
Setting area entry St. No. The 524th word	42047	07FEh
Setting area entry register No. The 524th word	42048	07FFh
Setting area entry St. No. The 525th word	42049	0800h
Setting area entry register No. The 525th word	42050	0801h
Setting area entry St. No. The 526th word	42051	0802h
Setting area entry register No. The 526th word	42052	0803h
Setting area entry St. No. The 527th word	42053	0804h
Setting area entry register No. The 527th word	42054	0805h
Setting area entry St. No. The 528th word	42055	0806h
Setting area entry register No. The 528th word	42056	0807h
Setting area entry St. No. The 529th word	42057	0808h
Setting area entry register No. The 529th word	42058	0809h
Setting area entry St. No. The 530th word	42059	080Ah
Setting area entry register No. The 530th word	42060	080Bh
Setting area entry St. No. The 531st word	42061	080Ch
Setting area entry register No. The 531st word	42062	080Dh
Setting area entry St. No. The 532nd word	42063	080Eh
Setting area entry register No. The 532nd word	42064	080Fh
Setting area entry St. No. The 533rd word	42065	0810h
Setting area entry register No. The 533rd word	42066	0811h
Setting area entry St. No. The 534th word	42067	0812h
Setting area entry register No. The 534th word	42068	0813h
Setting area entry St. No. The 535th word	42069	0814h
Setting area entry register No. The 535th word	42070	0815h
Setting area entry St. No. The 536th word	42071	0816h
Setting area entry register No. The 536th word	42072	0817h
Setting area entry St. No. The 537th word	42073	0818h
Setting area entry register No. The 537th word	42074	0819h
Setting area entry St. No. The 538th word	42075	081Ah
Setting area entry register No. The 538th word	42076	081Bh
Setting area entry St. No. The 539th word	42077	081Ch
Setting area entry register No. The 539th word	42078	081Dh
Setting area entry St. No. The 540th word	42079	081Eh
Setting area entry register No. The 540th word	42080	081Fh
Setting area entry St. No. The 541st word	42081	0820h
Setting area entry register No. The 541st word	42082	0821h
Setting area entry St. No. The 542nd word	42083	0822h
Setting area entry register No. The 542nd word	42084	0823h
Setting area entry St. No. The 543rd word	42085	0824h
Setting area entry register No. The 543rd word	42086	0825h
Setting area entry St. No. The 544th word	42087	0826h
Setting area entry register No. The 544th word	42088	0827h
Setting area entry St. No. The 545th word	42089	0828h
Setting area entry register No. The 545th word	42090	0829h
Setting area entry St. No. The 546th word	42091	082Ah
Setting area entry register No. The 546th word	42092	082Bh
Setting area entry St. No. The 547th word	42093	082Ch
Setting area entry register No. The 547th word	42094	082Dh

Contents	Register No.	Relative address
Setting area entry St. No. The 548th word	42095	082Eh
Setting area entry register No. The 548th word	42096	082Fh
Setting area entry St. No. The 549th word	42097	0830h
Setting area entry register No. The 549th word	42098	0831h
Setting area entry St. No. The 550th word	42099	0832h
Setting area entry register No. The 550th word	42100	0833h
Setting area entry St. No. The 551st word	42101	0834h
Setting area entry register No. The 551st word	42102	0835h
Setting area entry St. No. The 552nd word	42103	0836h
Setting area entry register No. The 552nd word	42104	0837h
Setting area entry St. No. The 553rd word	42105	0838h
Setting area entry register No. The 553rd word	42106	0839h
Setting area entry St. No. The 554th word	42107	083Ah
Setting area entry register No. The 554th word	42108	083Bh
Setting area entry St. No. The 555th word	42109	083Ch
Setting area entry register No. The 555th word	42110	083Dh
Setting area entry St. No. The 556th word	42111	083Eh
Setting area entry register No. The 556th word	42112	083Fh
Setting area entry St. No. The 557th word	42113	0840h
Setting area entry register No. The 557th word	42114	0841h
Setting area entry St. No. The 558th word	42115	0842h
Setting area entry register No. The 558th word	42116	0843h
Setting area entry St. No. The 559th word	42117	0844h
Setting area entry register No. The 559th word	42118	0845h
Setting area entry St. No. The 560th word	42119	0846h
Setting area entry register No. The 560th word	42120	0847h
Setting area entry St. No. The 561st word	42121	0848h
Setting area entry register No. The 561st word	42122	0849h
Setting area entry St. No. The 562nd word	42123	084Ah
Setting area entry register No. The 562nd word	42124	084Bh
Setting area entry St. No. The 563rd word	42125	084Ch
Setting area entry register No. The 563rd word	42126	084Dh
Setting area entry St. No. The 564th word	42127	084Eh
Setting area entry register No. The 564th word	42128	084Fh
Setting area entry St. No. The 565th word	42129	0850h
Setting area entry register No. The 565th word	42130	0851h
Setting area entry St. No. The 566th word	42131	0852h
Setting area entry register No. The 566th word	42132	0853h
Setting area entry St. No. The 567th word	42133	0854h
Setting area entry register No. The 567th word	42134	0855h
Setting area entry St. No. The 568th word	42135	0856h
Setting area entry register No. The 568th word	42136	0857h
Setting area entry St. No. The 569th word	42137	0858h
Setting area entry register No. The 569th word	42138	0859h
Setting area entry St. No. The 570th word	42139	085Ah
Setting area entry register No. The 570th word	42140	085Bh
Setting area entry St. No. The 571st word	42141	085Ch
Setting area entry register No. The 571st word	42142	085Dh
Setting area entry St. No. The 572nd word	42143	085Eh
Setting area entry register No. The 572nd word	42144	085Fh
Setting area entry St. No. The 573rd word	42145	0860h
Setting area entry register No. The 573rd word	42146	0861h
Setting area entry St. No. The 574th word	42147	0862h
Setting area entry register No. The 574th word	42148	0863h
Setting area entry St. No. The 575th word	42149	0864h
Setting area entry register No. The 575th word	42150	0865h

Contents	Register No.	Relative address
Setting area entry St. No. The 576th word	42151	0866h
Setting area entry register No. The 576th word	42152	0867h
Setting area entry St. No. The 577th word	42153	0868h
Setting area entry register No. The 577th word	42154	0869h
Setting area entry St. No. The 578th word	42155	086Ah
Setting area entry register No. The 578th word	42156	086Bh
Setting area entry St. No. The 579th word	42157	086Ch
Setting area entry register No. The 579th word	42158	086Dh
Setting area entry St. No. The 580th word	42159	086Eh
Setting area entry register No. The 580th word	42160	086Fh
Setting area entry St. No. The 581st word	42161	0870h
Setting area entry register No. The 581st word	42162	0871h
Setting area entry St. No. The 582nd word	42163	0872h
Setting area entry register No. The 582nd word	42164	0873h
Setting area entry St. No. The 583rd word	42165	0874h
Setting area entry register No. The 583rd word	42166	0875h
Setting area entry St. No. The 584th word	42167	0876h
Setting area entry register No. The 584th word	42168	0877h
Setting area entry St. No. The 585th word	42169	0878h
Setting area entry register No. The 585th word	42170	0879h
Setting area entry St. No. The 586th word	42171	087Ah
Setting area entry register No. The 586th word	42172	087Bh
Setting area entry St. No. The 587th word	42173	087Ch
Setting area entry register No. The 587th word	42174	087Dh
Setting area entry St. No. The 588th word	42175	087Eh
Setting area entry register No. The 588th word	42176	087Fh
Setting area entry St. No. The 589th word	42177	0880h
Setting area entry register No. The 589th word	42178	0881h
Setting area entry St. No. The 590th word	42179	0882h
Setting area entry register No. The 590th word	42180	0883h
Setting area entry St. No. The 591st word	42181	0884h
Setting area entry register No. The 591st word	42182	0885h
Setting area entry St. No. The 592nd word	42183	0886h
Setting area entry register No. The 592nd word	42184	0887h
Setting area entry St. No. The 593rd word	42185	0888h
Setting area entry register No. The 593rd word	42186	0889h
Setting area entry St. No. The 594th word	42187	088Ah
Setting area entry register No. The 594th word	42188	088Bh
Setting area entry St. No. The 595th word	42189	088Ch
Setting area entry register No. The 595th word	42190	088Dh
Setting area entry St. No. The 596th word	42191	088Eh
Setting area entry register No. The 596th word	42192	088Fh
Setting area entry St. No. The 597th word	42193	0890h
Setting area entry register No. The 597th word	42194	0891h
Setting area entry St. No. The 598th word	42195	0892h
Setting area entry register No. The 598th word	42196	0893h
Setting area entry St. No. The 599th word	42197	0894h
Setting area entry register No. The 599th word	42198	0895h
Setting area entry St. No. The 600th word	42199	0896h
Setting area entry register No. The 600th word	42200	0897h
Setting area entry St. No. The 601st word	42201	0898h
Setting area entry register No. The 601st word	42202	0899h
Setting area entry St. No. The 602nd word	42203	089Ah
Setting area entry register No. The 602nd word	42204	089Bh
Setting area entry St. No. The 603rd word	42205	089Ch
Setting area entry register No. The 603rd word	42206	089Dh

## 5.5 Address Map and Data Format

Contents	Register No.	Relative address
Setting area entry St. No. The 604th word	42207	089Eh
Setting area entry register No. The 604th word	42208	089Fh
Setting area entry St. No. The 605th word	42209	08A0h
Setting area entry register No. The 605th word	42210	08A1h
Setting area entry St. No. The 606th word	42211	08A2h
Setting area entry register No. The 606th word	42212	08A3h
Setting area entry St. No. The 607th word	42213	08A4h
Setting area entry register No. The 607th word	42214	08A5h
Setting area entry St. No. The 608th word	42215	08A6h
Setting area entry register No. The 608th word	42216	08A7h
Setting area entry St. No. The 609th word	42217	08A8h
Setting area entry register No. The 609th word	42218	08A9h
Setting area entry St. No. The 610th word	42219	08AAh
Setting area entry register No. The 610th word	42220	08ABh
Setting area entry St. No. The 611th word	42221	08ACh
Setting area entry register No. The 611th word	42222	08ADh
Setting area entry St. No. The 612th word	42223	08AEh
Setting area entry register No. The 612th word	42224	08AFh
Setting area entry St. No. The 613th word	42225	08B0h
Setting area entry register No. The 613th word	42226	08B1h
Setting area entry St. No. The 614th word	42227	08B2h
Setting area entry register No. The 614th word	42228	08B3h
Setting area entry St. No. The 615th word	42229	08B4h
Setting area entry register No. The 615th word	42230	08B5h
Setting area entry St. No. The 616th word	42231	08B6h
Setting area entry register No. The 616th word	42232	08B7h
Setting area entry St. No. The 617th word	42233	08B8h
Setting area entry register No. The 617th word	42234	08B9h
Setting area entry St. No. The 618th word	42235	08BAh
Setting area entry register No. The 618th word	42236	08BBh
Setting area entry St. No. The 619th word	42237	08BCh
Setting area entry register No. The 619th word	42238	08BDh
Setting area entry St. No. The 620th word	42239	08BEh
Setting area entry register No. The 620th word	42240	08BFh
Setting area entry St. No. The 621st word	42241	08C0h
Setting area entry register No. The 621st word	42242	08C1h
Setting area entry St. No. The 622nd word	42243	08C2h
Setting area entry register No. The 622nd word	42244	08C3h
Setting area entry St. No. The 623rd word	42245	08C4h
Setting area entry register No. The 623rd word	42246	08C5h
Setting area entry St. No. The 624th word	42247	08C6h
Setting area entry register No. The 624th word	42248	08C7h
Setting area entry St. No. The 625th word	42249	08C8h
Setting area entry register No. The 625th word	42250	08C9h
Setting area entry St. No. The 626th word	42251	08CAh
Setting area entry register No. The 626th word	42252	08CBh
Setting area entry St. No. The 627th word	42253	08CCh
Setting area entry register No. The 627th word	42254	08CDh
Setting area entry St. No. The 628th word	42255	08CEh
Setting area entry register No. The 628th word	42256	08CFh
Setting area entry St. No. The 629th word	42257	08D0h
Setting area entry register No. The 629th word	42258	08D1h
Setting area entry St. No. The 630th word	42259	08D2h
Setting area entry register No. The 630th word	42260	08D3h
Setting area entry St. No. The 631st word	42261	08D4h
Setting area entry register No. The 631st word	42262	08D5h

Contents	Register No.	Relative address
Setting area entry St. No. The 632nd word	42263	08D6h
Setting area entry register No. The 632nd word	42264	08D7h
Setting area entry St. No. The 633rd word	42265	08D8h
Setting area entry register No. The 633rd word	42266	08D9h
Setting area entry St. No. The 634th word	42267	08DAh
Setting area entry register No. The 634th word	42268	08DBh
Setting area entry St. No. The 635th word	42269	08DCh
Setting area entry register No. The 635th word	42270	08DDh
Setting area entry St. No. The 636th word	42271	08DEh
Setting area entry register No. The 636th word	42272	08DFh
Setting area entry St. No. The 637th word	42273	08E0h
Setting area entry register No. The 637th word	42274	08E1h
Setting area entry St. No. The 638th word	42275	08E2h
Setting area entry register No. The 638th word	42276	08E3h
Setting area entry St. No. The 639th word	42277	08E4h
Setting area entry register No. The 639th word	42278	08E5h
Setting area entry St. No. The 640th word	42279	08E6h
Setting area entry register No. The 640th word	42280	08E7h
Setting area entry St. No. The 641st word	42281	08E8h
Setting area entry register No. The 641st word	42282	08E9h
Setting area entry St. No. The 642nd word	42283	08EAh
Setting area entry register No. The 642nd word	42284	08EBh
Setting area entry St. No. The 643rd word	42285	08ECh
Setting area entry register No. The 643rd word	42286	08EDh
Setting area entry St. No. The 644th word	42287	08EEh
Setting area entry register No. The 644th word	42288	08EFh
Setting area entry St. No. The 645th word	42289	08F0h
Setting area entry register No. The 645th word	42290	08F1h
Setting area entry St. No. The 646th word	42291	08F2h
Setting area entry register No. The 646th word	42292	08F3h
Setting area entry St. No. The 647th word	42293	08F4h
Setting area entry register No. The 647th word	42294	08F5h
Setting area entry St. No. The 648th word	42295	08F6h
Setting area entry register No. The 648th word	42296	08F7h
Setting area entry St. No. The 649th word	42297	08F8h
Setting area entry register No. The 649th word	42298	08F9h
Setting area entry St. No. The 650th word	42299	08FAh
Setting area entry register No. The 650th word	42300	08FBh
Setting area entry St. No. The 651st word	42301	08FCh
Setting area entry register No. The 651st word	42302	08FDh
Setting area entry St. No. The 652nd word	42303	08FEh
Setting area entry register No. The 652nd word	42304	08FFh
Setting area entry St. No. The 653rd word	42305	0900h
Setting area entry register No. The 653rd word	42306	0901h
Setting area entry St. No. The 654th word	42307	0902h
Setting area entry register No. The 654th word	42308	0903h
Setting area entry St. No. The 655th word	42309	0904h
Setting area entry register No. The 655th word	42310	0905h
Setting area entry St. No. The 656th word	42311	0906h
Setting area entry register No. The 656th word	42312	0907h
Setting area entry St. No. The 657th word	42313	0908h
Setting area entry register No. The 657th word	42314	0909h
Setting area entry St. No. The 658th word	42315	090Ah
Setting area entry register No. The 658th word	42316	090Bh
Setting area entry St. No. The 659th word	42317	090Ch
Setting area entry register No. The 659th word	42318	090Dh

Contents	Register No.	Relative address
Setting area entry St. No. The 660th word	42319	090Eh
Setting area entry register No. The 660th word	42320	090Fh
Setting area entry St. No. The 661st word	42321	0910h
Setting area entry register No. The 661st word	42322	0911h
Setting area entry St. No. The 662nd word	42323	0912h
Setting area entry register No. The 662nd word	42324	0913h
Setting area entry St. No. The 663rd word	42325	0914h
Setting area entry register No. The 663rd word	42326	0915h
Setting area entry St. No. The 664th word	42327	0916h
Setting area entry register No. The 664th word	42328	0917h
Setting area entry St. No. The 665th word	42329	0918h
Setting area entry register No. The 665th word	42330	0919h
Setting area entry St. No. The 666th word	42331	091Ah
Setting area entry register No. The 666th word	42332	091Bh
Setting area entry St. No. The 667th word	42333	091Ch
Setting area entry register No. The 667th word	42334	091Dh
Setting area entry St. No. The 668th word	42335	091Eh
Setting area entry register No. The 668th word	42336	091Fh
Setting area entry St. No. The 669th word	42337	0920h
Setting area entry register No. The 669th word	42338	0921h
Setting area entry St. No. The 670th word	42339	0922h
Setting area entry register No. The 670th word	42340	0923h
Setting area entry St. No. The 671st word	42341	0924h
Setting area entry register No. The 671st word	42342	0925h
Setting area entry St. No. The 672nd word	42343	0926h
Setting area entry register No. The 672nd word	42344	0927h
Setting area entry St. No. The 673rd word	42345	0928h
Setting area entry register No. The 673rd word	42346	0929h
Setting area entry St. No. The 674th word	42347	092Ah
Setting area entry register No. The 674th word	42348	092Bh
Setting area entry St. No. The 675th word	42349	092Ch
Setting area entry register No. The 675th word	42350	092Dh
Setting area entry St. No. The 676th word	42351	092Eh
Setting area entry register No. The 676th word	42352	092Fh
Setting area entry St. No. The 677th word	42353	0930h
Setting area entry register No. The 677th word	42354	0931h
Setting area entry St. No. The 678th word	42355	0932h
Setting area entry register No. The 678th word	42356	0933h
Setting area entry St. No. The 679th word	42357	0934h
Setting area entry register No. The 679th word	42358	0935h
Setting area entry St. No. The 680th word	42359	0936h
Setting area entry register No. The 680th word	42360	0937h
Setting area entry St. No. The 681st word	42361	0938h
Setting area entry register No. The 681st word	42362	0939h
Setting area entry St. No. The 682nd word	42363	093Ah
Setting area entry register No. The 682nd word	42364	093Bh
Setting area entry St. No. The 683rd word	42365	093Ch
Setting area entry register No. The 683rd word	42366	093Dh
Setting area entry St. No. The 684th word	42367	093Eh
Setting area entry register No. The 684th word	42368	093Fh
Setting area entry St. No. The 685th word	42369	0940h
Setting area entry register No. The 685th word	42370	0941h
Setting area entry St. No. The 686th word	42371	0942h
Setting area entry register No. The 686th word	42372	0943h
Setting area entry St. No. The 687th word	42373	0944h
Setting area entry register No. The 687th word	42374	0945h

Contents	Register No.	Relative address
Setting area entry St. No. The 688th word	42375	0946h
Setting area entry register No. The 688th word	42376	0947h
Setting area entry St. No. The 689th word	42377	0948h
Setting area entry register No. The 689th word	42378	0949h
Setting area entry St. No. The 690th word	42379	094Ah
Setting area entry register No. The 690th word	42380	094Bh
Setting area entry St. No. The 691st word	42381	094Ch
Setting area entry register No. The 691st word	42382	094Dh
Setting area entry St. No. The 692nd word	42383	094Eh
Setting area entry register No. The 692nd word	42384	094Fh
Setting area entry St. No. The 693rd word	42385	0950h
Setting area entry register No. The 693rd word	42386	0951h
Setting area entry St. No. The 694th word	42387	0952h
Setting area entry register No. The 694th word	42388	0953h
Setting area entry St. No. The 695th word	42389	0954h
Setting area entry register No. The 695th word	42390	0955h
Setting area entry St. No. The 696th word	42391	0956h
Setting area entry register No. The 696th word	42392	0957h
Setting area entry St. No. The 697th word	42393	0958h
Setting area entry register No. The 697th word	42394	0959h
Setting area entry St. No. The 698th word	42395	095Ah
Setting area entry register No. The 698th word	42396	095Bh
Setting area entry St. No. The 699th word	42397	095Ch
Setting area entry register No. The 699th word	42398	095Dh
Setting area entry St. No. The 700th word	42399	095Eh
Setting area entry register No. The 700th word	42400	095Fh
Setting area entry St. No. The 701st word	42401	0960h
Setting area entry register No. The 701st word	42402	0961h
Setting area entry St. No. The 702nd word	42403	0962h
Setting area entry register No. The 702nd word	42404	0963h
Setting area entry St. No. The 703rd word	42405	0964h
Setting area entry register No. The 703rd word	42406	0965h
Setting area entry St. No. The 704th word	42407	0966h
Setting area entry register No. The 704th word	42408	0967h
Setting area entry St. No. The 705th word	42409	0968h
Setting area entry register No. The 705th word	42410	0969h
Setting area entry St. No. The 706th word	42411	096Ah
Setting area entry register No. The 706th word	42412	096Bh
Setting area entry St. No. The 707th word	42413	096Ch
Setting area entry register No. The 707th word	42414	096Dh
Setting area entry St. No. The 708th word	42415	096Eh
Setting area entry register No. The 708th word	42416	096Fh
Setting area entry St. No. The 709th word	42417	0970h
Setting area entry register No. The 709th word	42418	0971h
Setting area entry St. No. The 710th word	42419	0972h
Setting area entry register No. The 710th word	42420	0973h
Setting area entry St. No. The 711th word	42421	0974h
Setting area entry register No. The 711th word	42422	0975h
Setting area entry St. No. The 712th word	42423	0976h
Setting area entry register No. The 712th word	42424	0977h
Monitor area entry St. No. The 1st word	43001	0BB8h
Monitor area entry register No. The 1st word	43002	0BB9h
Monitor area entry St. No. The 2nd word	43003	0BBAh
Monitor area entry register No. The 2nd word	43004	0BBBh
Monitor area entry St. No. The 3rd word	43005	0BBCh
Monitor area entry register No. The 3rd word	43006	0BBDh

## 5.5 Address Map and Data Format

Contents	Register No.	Relative address
Monitor area entry St. No. The 4th word	43007	0BBEh
Monitor area entry register No. The 4th word	43008	0BBFh
Monitor area entry St. No. The 5th word	43009	0BC0h
Monitor area entry register No. The 5th word	43010	0BC1h
Monitor area entry St. No. The 6th word	43011	0BC2h
Monitor area entry register No. The 6th word	43012	0BC3h
Monitor area entry St. No. The 7th word	43013	0BC4h
Monitor area entry register No. The 7th word	43014	0BC5h
Monitor area entry St. No. The 8th word	43015	0BC6h
Monitor area entry register No. The 8th word	43016	0BC7h
Monitor area entry St. No. The 9th word	43017	0BC8h
Monitor area entry register No. The 9th word	43018	0BC9h
Monitor area entry St. No. The 10th word	43019	0BCAh
Monitor area entry register No. The 10th word	43020	0BCBh
Monitor area entry St. No. The 11th word	43021	0BCCh
Monitor area entry register No. The 11th word	43022	0BCDh
Monitor area entry St. No. The 12th word	43023	0BCEh
Monitor area entry register No. The 12th word	43024	0BCFh
Monitor area entry St. No. The 13th word	43025	0BD0h
Monitor area entry register No. The 13th word	43026	0BD1h
Monitor area entry St. No. The 14th word	43027	0BD2h
Monitor area entry register No. The 14th word	43028	0BD3h
Monitor area entry St. No. The 15th word	43029	0BD4h
Monitor area entry register No. The 15th word	43030	0BD5h
Monitor area entry St. No. The 16th word	43031	0BD6h
Monitor area entry register No. The 16th word	43032	0BD7h
Monitor area entry St. No. The 17th word	43033	0BD8h
Monitor area entry register No. The 17th word	43034	0BD9h
Monitor area entry St. No. The 18th word	43035	0BDAh
Monitor area entry register No. The 18th word	43036	0BDBh
Monitor area entry St. No. The 19th word	43037	0BDC
Monitor area entry register No. The 19th word	43038	0BDDh
Monitor area entry St. No. The 20th word	43039	0BDEh
Monitor area entry register No. The 20th word	43040	0BDFh
Monitor area entry St. No. The 21st word	43041	0BE0h
Monitor area entry register No. The 21st word	43042	0BE1h
Monitor area entry St. No. The 22nd word	43043	0BE2h
Monitor area entry register No. The 22nd word	43044	0BE3h
Monitor area entry St. No. The 23rd word	43045	0BE4h
Monitor area entry register No. The 23rd word	43046	0BE5h
Monitor area entry St. No. The 24th word	43047	0BE6h
Monitor area entry register No. The 24th word	43048	0BE7h
Monitor area entry St. No. The 25th word	43049	0BE8h
Monitor area entry register No. The 25th word	43050	0BE9h
Monitor area entry St. No. The 26th word	43051	0BEAh
Monitor area entry register No. The 26th word	43052	0BEBh
Monitor area entry St. No. The 27th word	43053	0BEC
Monitor area entry register No. The 27th word	43054	0BEDh
Monitor area entry St. No. The 28th word	43055	0BEEh
Monitor area entry register No. The 28th word	43056	0BEFh
Monitor area entry St. No. The 29th word	43057	0BF0h
Monitor area entry register No. The 29th word	43058	0BF1h
Monitor area entry St. No. The 30th word	43059	0BF2h
Monitor area entry register No. The 30th word	43060	0BF3h
Monitor area entry St. No. The 31st word	43061	0BF4h
Monitor area entry register No. The 31st word	43062	0BF5h

Contents	Register No.	Relative address
Monitor area entry St. No. The 32nd word	43063	0BF6h
Monitor area entry register No. The 32nd word	43064	0BF7h
Monitor area entry St. No. The 33rd word	43065	0BF8h
Monitor area entry register No. The 33rd word	43066	0BF9h
Monitor area entry St. No. The 34th word	43067	0BFAh
Monitor area entry register No. The 34th word	43068	0BFBh
Monitor area entry St. No. The 35th word	43069	0BFCh
Monitor area entry register No. The 35th word	43070	0BFDh
Monitor area entry St. No. The 36th word	43071	0BFEh
Monitor area entry register No. The 36th word	43072	0BFFh
Monitor area entry St. No. The 37th word	43073	0C00h
Monitor area entry register No. The 37th word	43074	0C01h
Monitor area entry St. No. The 38th word	43075	0C02h
Monitor area entry register No. The 38th word	43076	0C03h
Monitor area entry St. No. The 39th word	43077	0C04h
Monitor area entry register No. The 39th word	43078	0C05h
Monitor area entry St. No. The 40th word	43079	0C06h
Monitor area entry register No. The 40th word	43080	0C07h
Monitor area entry St. No. The 41st word	43081	0C08h
Monitor area entry register No. The 41st word	43082	0C09h
Monitor area entry St. No. The 42nd word	43083	0C0Ah
Monitor area entry register No. The 42nd word	43084	0C0Bh
Monitor area entry St. No. The 43rd word	43085	0C0Ch
Monitor area entry register No. The 43rd word	43086	0C0Dh
Monitor area entry St. No. The 44th word	43087	0C0Eh
Monitor area entry register No. The 44th word	43088	0C0Fh
Monitor area entry St. No. The 45th word	43089	0C10h
Monitor area entry register No. The 45th word	43090	0C11h
Monitor area entry St. No. The 46th word	43091	0C12h
Monitor area entry register No. The 46th word	43092	0C13h
Monitor area entry St. No. The 47th word	43093	0C14h
Monitor area entry register No. The 47th word	43094	0C15h
Monitor area entry St. No. The 48th word	43095	0C16h
Monitor area entry register No. The 48th word	43096	0C17h
Monitor area entry St. No. The 49th word	43097	0C18h
Monitor area entry register No. The 49th word	43098	0C19h
Monitor area entry St. No. The 50th word	43099	0C1Ah
Monitor area entry register No. The 50th word	43100	0C1Bh
Monitor area entry St. No. The 51st word	43101	0C1Ch
Monitor area entry register No. The 51st word	43102	0C1Dh
Monitor area entry St. No. The 52nd word	43103	0C1Eh
Monitor area entry register No. The 52nd word	43104	0C1Fh
Monitor area entry St. No. The 53rd word	43105	0C20h
Monitor area entry register No. The 53rd word	43106	0C21h
Monitor area entry St. No. The 54th word	43107	0C22h
Monitor area entry register No. The 54th word	43108	0C23h
Monitor area entry St. No. The 55th word	43109	0C24h
Monitor area entry register No. The 55th word	43110	0C25h
Monitor area entry St. No. The 56th word	43111	0C26h
Monitor area entry register No. The 56th word	43112	0C27h
Monitor area entry St. No. The 57th word	43113	0C28h
Monitor area entry register No. The 57th word	43114	0C29h
Monitor area entry St. No. The 58th word	43115	0C2Ah
Monitor area entry register No. The 58th word	43116	0C2Bh
Monitor area entry St. No. The 59th word	43117	0C2Ch
Monitor area entry register No. The 59th word	43118	0C2Dh

Contents	Register No.	Relative address
Monitor area entry St. No. The 60th word	43119	0C2Eh
Monitor area entry register No. The 60th word	43120	0C2Fh
Monitor area entry St. No. The 61st word	43121	0C30h
Monitor area entry register No. The 61st word	43122	0C31h
Monitor area entry St. No. The 62nd word	43123	0C32h
Monitor area entry register No. The 62nd word	43124	0C33h
Monitor area entry St. No. The 63rd word	43125	0C34h
Monitor area entry register No. The 63rd word	43126	0C35h
Monitor area entry St. No. The 64th word	43127	0C36h
Monitor area entry register No. The 64th word	43128	0C37h
Monitor area entry St. No. The 65th word	43129	0C38h
Monitor area entry register No. The 65th word	43130	0C39h
Monitor area entry St. No. The 66th word	43131	0C3Ah
Monitor area entry register No. The 66th word	43132	0C3Bh
Monitor area entry St. No. The 67th word	43133	0C3Ch
Monitor area entry register No. The 67th word	43134	0C3Dh
Monitor area entry St. No. The 68th word	43135	0C3Eh
Monitor area entry register No. The 68th word	43136	0C3Fh
Monitor area entry St. No. The 69th word	43137	0C40h
Monitor area entry register No. The 69th word	43138	0C41h
Monitor area entry St. No. The 70th word	43139	0C42h
Monitor area entry register No. The 70th word	43140	0C43h
Monitor area entry St. No. The 71st word	43141	0C44h
Monitor area entry register No. The 71st word	43142	0C45h
Monitor area entry St. No. The 72nd word	43143	0C46h
Monitor area entry register No. The 72nd word	43144	0C47h
Monitor area entry St. No. The 73rd word	43145	0C48h
Monitor area entry register No. The 73rd word	43146	0C49h
Monitor area entry St. No. The 74th word	43147	0C4Ah
Monitor area entry register No. The 74th word	43148	0C4Bh
Monitor area entry St. No. The 75th word	43149	0C4Ch
Monitor area entry register No. The 75th word	43150	0C4Dh
Monitor area entry St. No. The 76th word	43151	0C4Eh
Monitor area entry register No. The 76th word	43152	0C4Fh
Monitor area entry St. No. The 77th word	43153	0C50h
Monitor area entry register No. The 77th word	43154	0C51h
Monitor area entry St. No. The 78th word	43155	0C52h
Monitor area entry register No. The 78th word	43156	0C53h
Monitor area entry St. No. The 79th word	43157	0C54h
Monitor area entry register No. The 79th word	43158	0C55h
Monitor area entry St. No. The 80th word	43159	0C56h
Monitor area entry register No. The 80th word	43160	0C57h
Monitor area entry St. No. The 81st word	43161	0C58h
Monitor area entry register No. The 81st word	43162	0C59h
Monitor area entry St. No. The 82nd word	43163	0C5Ah
Monitor area entry register No. The 82nd word	43164	0C5Bh
Monitor area entry St. No. The 83rd word	43165	0C5Ch
Monitor area entry register No. The 83rd word	43166	0C5Dh
Monitor area entry St. No. The 84th word	43167	0C5Eh
Monitor area entry register No. The 84th word	43168	0C5Fh
Monitor area entry St. No. The 85th word	43169	0C60h
Monitor area entry register No. The 85th word	43170	0C61h
Monitor area entry St. No. The 86th word	43171	0C62h
Monitor area entry register No. The 86th word	43172	0C63h
Monitor area entry St. No. The 87th word	43173	0C64h
Monitor area entry register No. The 87th word	43174	0C65h

Contents	Register No.	Relative address
Monitor area entry St. No. The 88th word	43175	0C66h
Monitor area entry register No. The 88th word	43176	0C67h
Monitor area entry St. No. The 89th word	43177	0C68h
Monitor area entry register No. The 89th word	43178	0C69h
Monitor area entry St. No. The 90th word	43179	0C6Ah
Monitor area entry register No. The 90th word	43180	0C6Bh
Monitor area entry St. No. The 91st word	43181	0C6Ch
Monitor area entry register No. The 91st word	43182	0C6Dh
Monitor area entry St. No. The 92nd word	43183	0C6Eh
Monitor area entry register No. The 92nd word	43184	0C6Fh
Monitor area entry St. No. The 93rd word	43185	0C70h
Monitor area entry register No. The 93rd word	43186	0C71h
Monitor area entry St. No. The 94th word	43187	0C72h
Monitor area entry register No. The 94th word	43188	0C73h
Monitor area entry St. No. The 95th word	43189	0C74h
Monitor area entry register No. The 95th word	43190	0C75h
Monitor area entry St. No. The 96th word	43191	0C76h
Monitor area entry register No. The 96th word	43192	0C77h
Monitor area entry St. No. The 97th word	43193	0C78h
Monitor area entry register No. The 97th word	43194	0C79h
Monitor area entry St. No. The 98th word	43195	0C7Ah
Monitor area entry register No. The 98th word	43196	0C7Bh
Monitor area entry St. No. The 99th word	43197	0C7Ch
Monitor area entry register No. The 99th word	43198	0C7Dh
Monitor area entry St. No. The 100th word	43199	0C7Eh
Monitor area entry register No. The 100th word	43200	0C7Fh
Monitor area entry St. No. The 101st word	43201	0C80h
Monitor area entry register No. The 101st word	43202	0C81h
Monitor area entry St. No. The 102nd word	43203	0C82h
Monitor area entry register No. The 102nd word	43204	0C83h
Monitor area entry St. No. The 103rd word	43205	0C84h
Monitor area entry register No. The 103rd word	43206	0C85h
Monitor area entry St. No. The 104th word	43207	0C86h
Monitor area entry register No. The 104th word	43208	0C87h
Monitor area entry St. No. The 105th word	43209	0C88h
Monitor area entry register No. The 105th word	43210	0C89h
Monitor area entry St. No. The 106th word	43211	0C8Ah
Monitor area entry register No. The 106th word	43212	0C8Bh
Monitor area entry St. No. The 107th word	43213	0C8Ch
Monitor area entry register No. The 107th word	43214	0C8Dh
Monitor area entry St. No. The 108th word	43215	0C8Eh
Monitor area entry register No. The 108th word	43216	0C8Fh
Monitor area entry St. No. The 109th word	43217	0C90h
Monitor area entry register No. The 109th word	43218	0C91h
Monitor area entry St. No. The 110th word	43219	0C92h
Monitor area entry register No. The 110th word	43220	0C93h
Monitor area entry St. No. The 111th word	43221	0C94h
Monitor area entry register No. The 111th word	43222	0C95h
Monitor area entry St. No. The 112th word	43223	0C96h
Monitor area entry register No. The 112th word	43224	0C97h
Monitor area entry St. No. The 113th word	43225	0C98h
Monitor area entry register No. The 113th word	43226	0C99h
Monitor area entry St. No. The 114th word	43227	0C9Ah
Monitor area entry register No. The 114th word	43228	0C9Bh
Monitor area entry St. No. The 115th word	43229	0C9Ch
Monitor area entry register No. The 115th word	43230	0C9Dh

## 5.5 Address Map and Data Format

Contents	Register No.	Relative address
Monitor area entry St. No. The 116th word	43231	0C9Eh
Monitor area entry register No. The 116th word	43232	0C9Fh
Monitor area entry St. No. The 117th word	43233	0CA0h
Monitor area entry register No. The 117th word	43234	0CA1h
Monitor area entry St. No. The 118th word	43235	0CA2h
Monitor area entry register No. The 118th word	43236	0CA3h
Monitor area entry St. No. The 119th word	43237	0CA4h
Monitor area entry register No. The 119th word	43238	0CA5h
Monitor area entry St. No. The 120th word	43239	0CA6h
Monitor area entry register No. The 120th word	43240	0CA7h
Monitor area entry St. No. The 121st word	43241	0CA8h
Monitor area entry register No. The 121st word	43242	0CA9h
Monitor area entry St. No. The 122nd word	43243	0CAAh
Monitor area entry register No. The 122nd word	43244	0CABh
Monitor area entry St. No. The 123rd word	43245	0CACh
Monitor area entry register No. The 123rd word	43246	0CADh
Monitor area entry St. No. The 124th word	43247	0CAEh
Monitor area entry register No. The 124th word	43248	0CAFh
Monitor area entry St. No. The 125th word	43249	0CB0h
Monitor area entry register No. The 125th word	43250	0CB1h
Monitor area entry St. No. The 126th word	43251	0CB2h
Monitor area entry register No. The 126th word	43252	0CB3h
Monitor area entry St. No. The 127th word	43253	0CB4h
Monitor area entry register No. The 127th word	43254	0CB5h
Monitor area entry St. No. The 128th word	43255	0CB6h
Monitor area entry register No. The 128th word	43256	0CB7h
Monitor area entry St. No. The 129th word	43257	0CB8h
Monitor area entry register No. The 129th word	43258	0CB9h
Monitor area entry St. No. The 130th word	43259	0CBAh
Monitor area entry register No. The 130th word	43260	0CBBh
Monitor area entry St. No. The 131st word	43261	0CBCh
Monitor area entry register No. The 131st word	43262	0CBDh
Monitor area entry St. No. The 132nd word	43263	0CBEh
Monitor area entry register No. The 132nd word	43264	0CBFh
Monitor area entry St. No. The 133rd word	43265	0CC0h
Monitor area entry register No. The 133rd word	43266	0CC1h
Monitor area entry St. No. The 134th word	43267	0CC2h
Monitor area entry register No. The 134th word	43268	0CC3h
Monitor area entry St. No. The 135th word	43269	0CC4h
Monitor area entry register No. The 135th word	43270	0CC5h
Monitor area entry St. No. The 136th word	43271	0CC6h
Monitor area entry register No. The 136th word	43272	0CC7h
Monitor area entry St. No. The 137th word	43273	0CC8h
Monitor area entry register No. The 137th word	43274	0CC9h
Monitor area entry St. No. The 138th word	43275	0CCAh
Monitor area entry register No. The 138th word	43276	0CCBh
Monitor area entry St. No. The 139th word	43277	0CCCCh
Monitor area entry register No. The 139th word	43278	0CCDh
Monitor area entry St. No. The 140th word	43279	0CCEh
Monitor area entry register No. The 140th word	43280	0CCFh
Monitor area entry St. No. The 141st word	43281	0CD0h
Monitor area entry register No. The 141st word	43282	0CD1h
Monitor area entry St. No. The 142nd word	43283	0CD2h
Monitor area entry register No. The 142nd word	43284	0CD3h
Monitor area entry St. No. The 143rd word	43285	0CD4h
Monitor area entry register No. The 143rd word	43286	0CD5h

Contents	Register No.	Relative address
Monitor area entry St. No. The 144th word	43287	0CD6h
Monitor area entry register No. The 144th word	43288	0CD7h
Monitor area entry St. No. The 145th word	43289	0CD8h
Monitor area entry register No. The 145th word	43290	0CD9h
Monitor area entry St. No. The 146th word	43291	0CDAh
Monitor area entry register No. The 146th word	43292	0CDBh
Monitor area entry St. No. The 147th word	43293	0CDCCh
Monitor area entry register No. The 147th word	43294	0CDDh
Monitor area entry St. No. The 148th word	43295	0CDEh
Monitor area entry register No. The 148th word	43296	0CDFh
Monitor area entry St. No. The 149th word	43297	0CE0h
Monitor area entry register No. The 149th word	43298	0CE1h
Monitor area entry St. No. The 150th word	43299	0CE2h
Monitor area entry register No. The 150th word	43300	0CE3h
Monitor area entry St. No. The 151st word	43301	0CE4h
Monitor area entry register No. The 151st word	43302	0CE5h
Monitor area entry St. No. The 152nd word	43303	0CE6h
Monitor area entry register No. The 152nd word	43304	0CE7h
Monitor area entry St. No. The 153rd word	43305	0CE8h
Monitor area entry register No. The 153rd word	43306	0CE9h
Monitor area entry St. No. The 154th word	43307	0CEAh
Monitor area entry register No. The 154th word	43308	0CEBh
Monitor area entry St. No. The 155th word	43309	0CECh
Monitor area entry register No. The 155th word	43310	0CEDh
Monitor area entry St. No. The 156th word	43311	0CEEh
Monitor area entry register No. The 156th word	43312	0CEFh
Monitor area entry St. No. The 157th word	43313	0CF0h
Monitor area entry register No. The 157th word	43314	0CF1h
Monitor area entry St. No. The 158th word	43315	0CF2h
Monitor area entry register No. The 158th word	43316	0CF3h
Monitor area entry St. No. The 159th word	43317	0CF4h
Monitor area entry register No. The 159th word	43318	0CF5h
Monitor area entry St. No. The 160th word	43319	0CF6h
Monitor area entry register No. The 160th word	43320	0CF7h
Monitor area entry St. No. The 161st word	43321	0CF8h
Monitor area entry register No. The 161st word	43322	0CF9h
Monitor area entry St. No. The 162nd word	43323	0CFAh
Monitor area entry register No. The 162nd word	43324	0CFBh
Monitor area entry St. No. The 163rd word	43325	0CFCh
Monitor area entry register No. The 163rd word	43326	0CFDh
Monitor area entry St. No. The 164th word	43327	0CFEh
Monitor area entry register No. The 164th word	43328	0CFFh
Monitor area entry St. No. The 165th word	43329	0D00h
Monitor area entry register No. The 165th word	43330	0D01h
Monitor area entry St. No. The 166th word	43331	0D02h
Monitor area entry register No. The 166th word	43332	0D03h
Monitor area entry St. No. The 167th word	43333	0D04h
Monitor area entry register No. The 167th word	43334	0D05h
Monitor area entry St. No. The 168th word	43335	0D06h
Monitor area entry register No. The 168th word	43336	0D07h
Monitor area entry St. No. The 169th word	43337	0D08h
Monitor area entry register No. The 169th word	43338	0D09h
Monitor area entry St. No. The 170th word	43339	0D0Ah
Monitor area entry register No. The 170th word	43340	0D0Bh
Monitor area entry St. No. The 171st word	43341	0D0Ch
Monitor area entry register No. The 171st word	43342	0D0Dh

Contents	Register No.	Relative address
Monitor area entry St. No. The 172nd word	43343	0D0Eh
Monitor area entry register No. The 172nd word	43344	0D0Fh
Monitor area entry St. No. The 173rd word	43345	0D10h
Monitor area entry register No. The 173rd word	43346	0D11h
Monitor area entry St. No. The 174th word	43347	0D12h
Monitor area entry register No. The 174th word	43348	0D13h
Monitor area entry St. No. The 175th word	43349	0D14h
Monitor area entry register No. The 175th word	43350	0D15h
Monitor area entry St. No. The 176th word	43351	0D16h
Monitor area entry register No. The 176th word	43352	0D17h
Monitor area entry St. No. The 177th word	43353	0D18h
Monitor area entry register No. The 177th word	43354	0D19h
Monitor area entry St. No. The 178th word	43355	0D1Ah
Monitor area entry register No. The 178th word	43356	0D1Bh
Monitor area entry St. No. The 179th word	43357	0D1Ch
Monitor area entry register No. The 179th word	43358	0D1Dh
Monitor area entry St. No. The 180th word	43359	0D1Eh
Monitor area entry register No. The 180th word	43360	0D1Fh
Monitor area entry St. No. The 181st word	43361	0D20h
Monitor area entry register No. The 181st word	43362	0D21h
Monitor area entry St. No. The 182nd word	43363	0D22h
Monitor area entry register No. The 182nd word	43364	0D23h
Monitor area entry St. No. The 183rd word	43365	0D24h
Monitor area entry register No. The 183rd word	43366	0D25h
Monitor area entry St. No. The 184th word	43367	0D26h
Monitor area entry register No. The 184th word	43368	0D27h
Monitor area entry St. No. The 185th word	43369	0D28h
Monitor area entry register No. The 185th word	43370	0D29h
Monitor area entry St. No. The 186th word	43371	0D2Ah
Monitor area entry register No. The 186th word	43372	0D2Bh
Monitor area entry St. No. The 187th word	43373	0D2Ch
Monitor area entry register No. The 187th word	43374	0D2Dh
Monitor area entry St. No. The 188th word	43375	0D2Eh
Monitor area entry register No. The 188th word	43376	0D2Fh
Monitor area entry St. No. The 189th word	43377	0D30h
Monitor area entry register No. The 189th word	43378	0D31h
Monitor area entry St. No. The 190th word	43379	0D32h
Monitor area entry register No. The 190th word	43380	0D33h
Monitor area entry St. No. The 191st word	43381	0D34h
Monitor area entry register No. The 191st word	43382	0D35h
Monitor area entry St. No. The 192nd word	43383	0D36h
Monitor area entry register No. The 192nd word	43384	0D37h
Monitor area entry St. No. The 193rd word	43385	0D38h
Monitor area entry register No. The 193rd word	43386	0D39h
Monitor area entry St. No. The 194th word	43387	0D3Ah
Monitor area entry register No. The 194th word	43388	0D3Bh
Monitor area entry St. No. The 195th word	43389	0D3Ch
Monitor area entry register No. The 195th word	43390	0D3Dh
Monitor area entry St. No. The 196th word	43391	0D3Eh
Monitor area entry register No. The 196th word	43392	0D3Fh
Monitor area entry St. No. The 197th word	43393	0D40h
Monitor area entry register No. The 197th word	43394	0D41h
Monitor area entry St. No. The 198th word	43395	0D42h
Monitor area entry register No. The 198th word	43396	0D43h
Monitor area entry St. No. The 199th word	43397	0D44h
Monitor area entry register No. The 199th word	43398	0D45h

Contents	Register No.	Relative address
Monitor area entry St. No. The 200th word	43399	0D46h
Monitor area entry register No. The 200th word	43400	0D47h
Monitor area entry St. No. The 201st word	43401	0D48h
Monitor area entry register No. The 201st word	43402	0D49h
Monitor area entry St. No. The 202nd word	43403	0D4Ah
Monitor area entry register No. The 202nd word	43404	0D4Bh
Monitor area entry St. No. The 203rd word	43405	0D4Ch
Monitor area entry register No. The 203rd word	43406	0D4Dh
Monitor area entry St. No. The 204th word	43407	0D4Eh
Monitor area entry register No. The 204th word	43408	0D4Fh
Monitor area entry St. No. The 205th word	43409	0D50h
Monitor area entry register No. The 205th word	43410	0D51h
Monitor area entry St. No. The 206th word	43411	0D52h
Monitor area entry register No. The 206th word	43412	0D53h
Monitor area entry St. No. The 207th word	43413	0D54h
Monitor area entry register No. The 207th word	43414	0D55h
Monitor area entry St. No. The 208th word	43415	0D56h
Monitor area entry register No. The 208th word	43416	0D57h
Monitor area entry St. No. The 209th word	43417	0D58h
Monitor area entry register No. The 209th word	43418	0D59h
Monitor area entry St. No. The 210th word	43419	0D5Ah
Monitor area entry register No. The 210th word	43420	0D5Bh
Monitor area entry St. No. The 211th word	43421	0D5Ch
Monitor area entry register No. The 211th word	43422	0D5Dh
Monitor area entry St. No. The 212th word	43423	0D5Eh
Monitor area entry register No. The 212th word	43424	0D5Fh
Monitor area entry St. No. The 213th word	43425	0D60h
Monitor area entry register No. The 213th word	43426	0D61h
Monitor area entry St. No. The 214th word	43427	0D62h
Monitor area entry register No. The 214th word	43428	0D63h
Monitor area entry St. No. The 215th word	43429	0D64h
Monitor area entry register No. The 215th word	43430	0D65h
Monitor area entry St. No. The 216th word	43431	0D66h
Monitor area entry register No. The 216th word	43432	0D67h
Monitor area entry St. No. The 217th word	43433	0D68h
Monitor area entry register No. The 217th word	43434	0D69h
Monitor area entry St. No. The 218th word	43435	0D6Ah
Monitor area entry register No. The 218th word	43436	0D6Bh
Monitor area entry St. No. The 219th word	43437	0D6Ch
Monitor area entry register No. The 219th word	43438	0D6Dh
Monitor area entry St. No. The 220th word	43439	0D6Eh
Monitor area entry register No. The 220th word	43440	0D6Fh
Monitor area entry St. No. The 221st word	43441	0D70h
Monitor area entry register No. The 221st word	43442	0D71h
Monitor area entry St. No. The 222nd word	43443	0D72h
Monitor area entry register No. The 222nd word	43444	0D73h
Monitor area entry St. No. The 223rd word	43445	0D74h
Monitor area entry register No. The 223rd word	43446	0D75h
Monitor area entry St. No. The 224th word	43447	0D76h
Monitor area entry register No. The 224th word	43448	0D77h
Monitor area entry St. No. The 225th word	43449	0D78h
Monitor area entry register No. The 225th word	43450	0D79h
Monitor area entry St. No. The 226th word	43451	0D7Ah
Monitor area entry register No. The 226th word	43452	0D7Bh
Monitor area entry St. No. The 227th word	43453	0D7Ch
Monitor area entry register No. The 227th word	43454	0D7Dh

## 5.5 Address Map and Data Format

Contents	Register No.	Relative address
Monitor area entry St. No. The 228th word	43455	0D7Eh
Monitor area entry register No. The 228th word	43456	0D7Fh
Monitor area entry St. No. The 229th word	43457	0D80h
Monitor area entry register No. The 229th word	43458	0D81h
Monitor area entry St. No. The 230th word	43459	0D82h
Monitor area entry register No. The 230th word	43460	0D83h
Monitor area entry St. No. The 231st word	43461	0D84h
Monitor area entry register No. The 231st word	43462	0D85h
Monitor area entry St. No. The 232nd word	43463	0D86h
Monitor area entry register No. The 232nd word	43464	0D87h
Monitor area entry St. No. The 233rd word	43465	0D88h
Monitor area entry register No. The 233rd word	43466	0D89h
Monitor area entry St. No. The 234th word	43467	0D8Ah
Monitor area entry register No. The 234th word	43468	0D8Bh
Monitor area entry St. No. The 235th word	43469	0D8Ch
Monitor area entry register No. The 235th word	43470	0D8Dh
Monitor area entry St. No. The 236th word	43471	0D8Eh
Monitor area entry register No. The 236th word	43472	0D8Fh
Monitor area entry St. No. The 237th word	43473	0D90h
Monitor area entry register No. The 237th word	43474	0D91h
Monitor area entry St. No. The 238th word	43475	0D92h
Monitor area entry register No. The 238th word	43476	0D93h
Monitor area entry St. No. The 239th word	43477	0D94h
Monitor area entry register No. The 239th word	43478	0D95h
Monitor area entry St. No. The 240th word	43479	0D96h
Monitor area entry register No. The 240th word	43480	0D97h
Monitor area entry St. No. The 241st word	43481	0D98h
Monitor area entry register No. The 241st word	43482	0D99h
Monitor area entry St. No. The 242nd word	43483	0D9Ah
Monitor area entry register No. The 242nd word	43484	0D9Bh
Monitor area entry St. No. The 243rd word	43485	0D9Ch
Monitor area entry register No. The 243rd word	43486	0D9Dh
Monitor area entry St. No. The 244th word	43487	0D9Eh
Monitor area entry register No. The 244th word	43488	0D9Fh
Monitor area entry St. No. The 245th word	43489	0DA0h
Monitor area entry register No. The 245th word	43490	0DA1h
Monitor area entry St. No. The 246th word	43491	0DA2h
Monitor area entry register No. The 246th word	43492	0DA3h
Monitor area entry St. No. The 247th word	43493	0DA4h
Monitor area entry register No. The 247th word	43494	0DA5h
Monitor area entry St. No. The 248th word	43495	0DA6h
Monitor area entry register No. The 248th word	43496	0DA7h
Monitor area entry St. No. The 249th word	43497	0DA8h
Monitor area entry register No. The 249th word	43498	0DA9h
Monitor area entry St. No. The 250th word	43499	0DAAh
Monitor area entry register No. The 250th word	43500	0DABh
Monitor area entry St. No. The 251st word	43501	0DACh
Monitor area entry register No. The 251st word	43502	0DADh
Monitor area entry St. No. The 252nd word	43503	0DAEh
Monitor area entry register No. The 252nd word	43504	0DAFh
Monitor area entry St. No. The 253rd word	43505	0DB0h
Monitor area entry register No. The 253rd word	43506	0DB1h
Monitor area entry St. No. The 254th word	43507	0DB2h
Monitor area entry register No. The 254th word	43508	0DB3h
Monitor area entry St. No. The 255th word	43509	0DB4h
Monitor area entry register No. The 255th word	43510	0DB5h

Contents	Register No.	Relative address
Monitor area entry St. No. The 256th word	43511	0DB6h
Monitor area entry register No. The 256th word	43512	0DB7h
Monitor area entry St. No. The 257th word	43513	0DB8h
Monitor area entry register No. The 257th word	43514	0DB9h
Monitor area entry St. No. The 258th word	43515	0DBAh
Monitor area entry register No. The 258th word	43516	0DBBh
Monitor area entry St. No. The 259th word	43517	0DBCCh
Monitor area entry register No. The 259th word	43518	0DBDh
Monitor area entry St. No. The 260th word	43519	0DBEh
Monitor area entry register No. The 260th word	43520	0DBFh
Monitor area entry St. No. The 261st word	43521	0DC0h
Monitor area entry register No. The 261st word	43522	0DC1h
Monitor area entry St. No. The 262nd word	43523	0DC2h
Monitor area entry register No. The 262nd word	43524	0DC3h
Monitor area entry St. No. The 263rd word	43525	0DC4h
Monitor area entry register No. The 263rd word	43526	0DC5h
Monitor area entry St. No. The 264th word	43527	0DC6h
Monitor area entry register No. The 264th word	43528	0DC7h
Monitor area entry St. No. The 265th word	43529	0DC8h
Monitor area entry register No. The 265th word	43530	0DC9h
Monitor area entry St. No. The 266th word	43531	0DCAh
Monitor area entry register No. The 266th word	43532	0DCBh
Monitor area entry St. No. The 267th word	43533	0DCCCh
Monitor area entry register No. The 267th word	43534	0DCDh
Monitor area entry St. No. The 268th word	43535	0DCEh
Monitor area entry register No. The 268th word	43536	0DCFh
Monitor area entry St. No. The 269th word	43537	0DD0h
Monitor area entry register No. The 269th word	43538	0DD1h
Monitor area entry St. No. The 270th word	43539	0DD2h
Monitor area entry register No. The 270th word	43540	0DD3h
Monitor area entry St. No. The 271st word	43541	0DD4h
Monitor area entry register No. The 271st word	43542	0DD5h
Monitor area entry St. No. The 272nd word	43543	0DD6h
Monitor area entry register No. The 272nd word	43544	0DD7h
Monitor area entry St. No. The 273rd word	43545	0DD8h
Monitor area entry register No. The 273rd word	43546	0DD9h
Monitor area entry St. No. The 274th word	43547	0DDAh
Monitor area entry register No. The 274th word	43548	0DDBh
Monitor area entry St. No. The 275th word	43549	0DDCh
Monitor area entry register No. The 275th word	43550	0DDDh
Monitor area entry St. No. The 276th word	43551	0DDEh
Monitor area entry register No. The 276th word	43552	0DDFh
Monitor area entry St. No. The 277th word	43553	0DE0h
Monitor area entry register No. The 277th word	43554	0DE1h
Monitor area entry St. No. The 278th word	43555	0DE2h
Monitor area entry register No. The 278th word	43556	0DE3h
Monitor area entry St. No. The 279th word	43557	0DE4h
Monitor area entry register No. The 279th word	43558	0DE5h
Monitor area entry St. No. The 280th word	43559	0DE6h
Monitor area entry register No. The 280th word	43560	0DE7h
Monitor area entry St. No. The 281st word	43561	0DE8h
Monitor area entry register No. The 281st word	43562	0DE9h
Monitor area entry St. No. The 282nd word	43563	0DEAh
Monitor area entry register No. The 282nd word	43564	0DEBh
Monitor area entry St. No. The 283rd word	43565	0DECCh
Monitor area entry register No. The 283rd word	43566	0DEDh

Contents	Register No.	Relative address
Monitor area entry St. No. The 284th word	43567	0DEEh
Monitor area entry register No. The 284th word	43568	0DEFh
Monitor area entry St. No. The 285th word	43569	0DF0h
Monitor area entry register No. The 285th word	43570	0DF1h
Monitor area entry St. No. The 286th word	43571	0DF2h
Monitor area entry register No. The 286th word	43572	0DF3h
Monitor area entry St. No. The 287th word	43573	0DF4h
Monitor area entry register No. The 287th word	43574	0DF5h
Monitor area entry St. No. The 288th word	43575	0DF6h
Monitor area entry register No. The 288th word	43576	0DF7h
Monitor area entry St. No. The 289th word	43577	0DF8h
Monitor area entry register No. The 289th word	43578	0DF9h
Monitor area entry St. No. The 290th word	43579	0DFAh
Monitor area entry register No. The 290th word	43580	0DFBh
Monitor area entry St. No. The 291st word	43581	0DFCh
Monitor area entry register No. The 291st word	43582	0DFDh
Monitor area entry St. No. The 292nd word	43583	0DFEh
Monitor area entry register No. The 292nd word	43584	0DFFh
Monitor area entry St. No. The 293rd word	43585	0E00h
Monitor area entry register No. The 293rd word	43586	0E01h
Monitor area entry St. No. The 294th word	43587	0E02h
Monitor area entry register No. The 294th word	43588	0E03h
Monitor area entry St. No. The 295th word	43589	0E04h
Monitor area entry register No. The 295th word	43590	0E05h
Monitor area entry St. No. The 296th word	43591	0E06h
Monitor area entry register No. The 296th word	43592	0E07h
Monitor area entry St. No. The 297th word	43593	0E08h
Monitor area entry register No. The 297th word	43594	0E09h
Monitor area entry St. No. The 298th word	43595	0E0Ah
Monitor area entry register No. The 298th word	43596	0E0Bh
Monitor area entry St. No. The 299th word	43597	0E0Ch
Monitor area entry register No. The 299th word	43598	0E0Dh
Monitor area entry St. No. The 300th word	43599	0E0Eh
Monitor area entry register No. The 300th word	43600	0E0Fh
Monitor area entry St. No. The 301st word	43601	0E10h
Monitor area entry register No. The 301st word	43602	0E11h
Monitor area entry St. No. The 302nd word	43603	0E12h
Monitor area entry register No. The 302nd word	43604	0E13h
Monitor area entry St. No. The 303rd word	43605	0E14h
Monitor area entry register No. The 303rd word	43606	0E15h
Monitor area entry St. No. The 304th word	43607	0E16h
Monitor area entry register No. The 304th word	43608	0E17h
Monitor area entry St. No. The 305th word	43609	0E18h
Monitor area entry register No. The 305th word	43610	0E19h
Monitor area entry St. No. The 306th word	43611	0E1Ah
Monitor area entry register No. The 306th word	43612	0E1Bh
Monitor area entry St. No. The 307th word	43613	0E1Ch
Monitor area entry register No. The 307th word	43614	0E1Dh
Monitor area entry St. No. The 308th word	43615	0E1Eh
Monitor area entry register No. The 308th word	43616	0E1Fh
Monitor area entry St. No. The 309th word	43617	0E20h
Monitor area entry register No. The 309th word	43618	0E21h
Monitor area entry St. No. The 310th word	43619	0E22h
Monitor area entry register No. The 310th word	43620	0E23h
Monitor area entry St. No. The 311th word	43621	0E24h
Monitor area entry register No. The 311th word	43622	0E25h

Contents	Register No.	Relative address
Monitor area entry St. No. The 312th word	43623	0E26h
Monitor area entry register No. The 312th word	43624	0E27h
Monitor area entry St. No. The 313th word	43625	0E28h
Monitor area entry register No. The 313th word	43626	0E29h
Monitor area entry St. No. The 314th word	43627	0E2Ah
Monitor area entry register No. The 314th word	43628	0E2Bh
Monitor area entry St. No. The 315th word	43629	0E2Ch
Monitor area entry register No. The 315th word	43630	0E2Dh
Monitor area entry St. No. The 316th word	43631	0E2Eh
Monitor area entry register No. The 316th word	43632	0E2Fh
Monitor area entry St. No. The 317th word	43633	0E30h
Monitor area entry register No. The 317th word	43634	0E31h
Monitor area entry St. No. The 318th word	43635	0E32h
Monitor area entry register No. The 318th word	43636	0E33h
Monitor area entry St. No. The 319th word	43637	0E34h
Monitor area entry register No. The 319th word	43638	0E35h
Monitor area entry St. No. The 320th word	43639	0E36h
Monitor area entry register No. The 320th word	43640	0E37h
Monitor area entry St. No. The 321st word	43641	0E38h
Monitor area entry register No. The 321st word	43642	0E39h
Monitor area entry St. No. The 322nd word	43643	0E3Ah
Monitor area entry register No. The 322nd word	43644	0E3Bh
Monitor area entry St. No. The 323rd word	43645	0E3Ch
Monitor area entry register No. The 323rd word	43646	0E3Dh
Monitor area entry St. No. The 324th word	43647	0E3Eh
Monitor area entry register No. The 324th word	43648	0E3Fh
Monitor area entry St. No. The 325th word	43649	0E40h
Monitor area entry register No. The 325th word	43650	0E41h
Monitor area entry St. No. The 326th word	43651	0E42h
Monitor area entry register No. The 326th word	43652	0E43h
Monitor area entry St. No. The 327th word	43653	0E44h
Monitor area entry register No. The 327th word	43654	0E45h
Monitor area entry St. No. The 328th word	43655	0E46h
Monitor area entry register No. The 328th word	43656	0E47h
Monitor area entry St. No. The 329th word	43657	0E48h
Monitor area entry register No. The 329th word	43658	0E49h
Monitor area entry St. No. The 330th word	43659	0E4Ah
Monitor area entry register No. The 330th word	43660	0E4Bh
Monitor area entry St. No. The 331st word	43661	0E4Ch
Monitor area entry register No. The 331st word	43662	0E4Dh
Monitor area entry St. No. The 332nd word	43663	0E4Eh
Monitor area entry register No. The 332nd word	43664	0E4Fh
Monitor area entry St. No. The 333rd word	43665	0E50h
Monitor area entry register No. The 333rd word	43666	0E51h
Monitor area entry St. No. The 334th word	43667	0E52h
Monitor area entry register No. The 334th word	43668	0E53h
Monitor area entry St. No. The 335th word	43669	0E54h
Monitor area entry register No. The 335th word	43670	0E55h
Monitor area entry St. No. The 336th word	43671	0E56h
Monitor area entry register No. The 336th word	43672	0E57h
Monitor area entry St. No. The 337th word	43673	0E58h
Monitor area entry register No. The 337th word	43674	0E59h
Monitor area entry St. No. The 338th word	43675	0E5Ah
Monitor area entry register No. The 338th word	43676	0E5Bh
Monitor area entry St. No. The 339th word	43677	0E5Ch
Monitor area entry register No. The 339th word	43678	0E5Dh

## 5.5 Address Map and Data Format

Contents	Register No.	Relative address
Monitor area entry St. No. The 340th word	43679	0E5Eh
Monitor area entry register No. The 340th word	43680	0E5Fh
Monitor area entry St. No. The 341st word	43681	0E60h
Monitor area entry register No. The 341st word	43682	0E61h
Monitor area entry St. No. The 342nd word	43683	0E62h
Monitor area entry register No. The 342nd word	43684	0E63h
Monitor area entry St. No. The 343rd word	43685	0E64h
Monitor area entry register No. The 343rd word	43686	0E65h
Monitor area entry St. No. The 344th word	43687	0E66h
Monitor area entry register No. The 344th word	43688	0E67h
Monitor area entry St. No. The 345th word	43689	0E68h
Monitor area entry register No. The 345th word	43690	0E69h
Monitor area entry St. No. The 346th word	43691	0E6Ah
Monitor area entry register No. The 346th word	43692	0E6Bh
Monitor area entry St. No. The 347th word	43693	0E6Ch
Monitor area entry register No. The 347th word	43694	0E6Dh
Monitor area entry St. No. The 348th word	43695	0E6Eh
Monitor area entry register No. The 348th word	43696	0E6Fh
Monitor area entry St. No. The 349th word	43697	0E70h
Monitor area entry register No. The 349th word	43698	0E71h
Monitor area entry St. No. The 350th word	43699	0E72h
Monitor area entry register No. The 350th word	43700	0E73h
Monitor area entry St. No. The 351st word	43701	0E74h
Monitor area entry register No. The 351st word	43702	0E75h
Monitor area entry St. No. The 352nd word	43703	0E76h
Monitor area entry register No. The 352nd word	43704	0E77h
Monitor area entry St. No. The 353rd word	43705	0E78h
Monitor area entry register No. The 353rd word	43706	0E79h
Monitor area entry St. No. The 354th word	43707	0E7Ah
Monitor area entry register No. The 354th word	43708	0E7Bh
Monitor area entry St. No. The 355th word	43709	0E7Ch
Monitor area entry register No. The 355th word	43710	0E7Dh
Monitor area entry St. No. The 356th word	43711	0E7Eh
Monitor area entry register No. The 356th word	43712	0E7Fh
Monitor area entry St. No. The 357th word	43713	0E80h
Monitor area entry register No. The 357th word	43714	0E81h
Monitor area entry St. No. The 358th word	43715	0E82h
Monitor area entry register No. The 358th word	43716	0E83h
Monitor area entry St. No. The 359th word	43717	0E84h
Monitor area entry register No. The 359th word	43718	0E85h
Monitor area entry St. No. The 360th word	43719	0E86h
Monitor area entry register No. The 360th word	43720	0E87h
Monitor area entry St. No. The 361st word	43721	0E88h
Monitor area entry register No. The 361st word	43722	0E89h
Monitor area entry St. No. The 362nd word	43723	0E8Ah
Monitor area entry register No. The 362nd word	43724	0E8Bh
Monitor area entry St. No. The 363rd word	43725	0E8Ch
Monitor area entry register No. The 363rd word	43726	0E8Dh
Monitor area entry St. No. The 364th word	43727	0E8Eh
Monitor area entry register No. The 364th word	43728	0E8Fh
Monitor area entry St. No. The 365th word	43729	0E90h
Monitor area entry register No. The 365th word	43730	0E91h
Monitor area entry St. No. The 366th word	43731	0E92h
Monitor area entry register No. The 366th word	43732	0E93h
Monitor area entry St. No. The 367th word	43733	0E94h
Monitor area entry register No. The 367th word	43734	0E95h

Contents	Register No.	Relative address
Monitor area entry St. No. The 368th word	43735	0E96h
Monitor area entry register No. The 368th word	43736	0E97h
Monitor area entry St. No. The 369th word	43737	0E98h
Monitor area entry register No. The 369th word	43738	0E99h
Monitor area entry St. No. The 370th word	43739	0E9Ah
Monitor area entry register No. The 370th word	43740	0E9Bh
Monitor area entry St. No. The 371st word	43741	0E9Ch
Monitor area entry register No. The 371st word	43742	0E9Dh
Monitor area entry St. No. The 372nd word	43743	0E9Eh
Monitor area entry register No. The 372nd word	43744	0E9Fh
Monitor area entry St. No. The 373rd word	43745	0EA0h
Monitor area entry register No. The 373rd word	43746	0EA1h
Monitor area entry St. No. The 374th word	43747	0EA2h
Monitor area entry register No. The 374th word	43748	0EA3h
Monitor area entry St. No. The 375th word	43749	0EA4h
Monitor area entry register No. The 375th word	43750	0EA5h
Monitor area entry St. No. The 376th word	43751	0EA6h
Monitor area entry register No. The 376th word	43752	0EA7h
Monitor area entry St. No. The 377th word	43753	0EA8h
Monitor area entry register No. The 377th word	43754	0EA9h
Monitor area entry St. No. The 378th word	43755	0EAAh
Monitor area entry register No. The 378th word	43756	0EABh
Monitor area entry St. No. The 379th word	43757	0EACH
Monitor area entry register No. The 379th word	43758	0EADh
Monitor area entry St. No. The 380th word	43759	0EAEh
Monitor area entry register No. The 380th word	43760	0EAFh
Monitor area entry St. No. The 381st word	43761	0EB0h
Monitor area entry register No. The 381st word	43762	0EB1h
Monitor area entry St. No. The 382nd word	43763	0EB2h
Monitor area entry register No. The 382nd word	43764	0EB3h
Monitor area entry St. No. The 383rd word	43765	0EB4h
Monitor area entry register No. The 383rd word	43766	0EB5h
Monitor area entry St. No. The 384th word	43767	0EB6h
Monitor area entry register No. The 384th word	43768	0EB7h
Monitor area entry St. No. The 385th word	43769	0EB8h
Monitor area entry register No. The 385th word	43770	0EB9h
Monitor area entry St. No. The 386th word	43771	0EBAh
Monitor area entry register No. The 386th word	43772	0EBBh
Monitor area entry St. No. The 387th word	43773	0EBCh
Monitor area entry register No. The 387th word	43774	0EBDh
Monitor area entry St. No. The 388th word	43775	0EBEh
Monitor area entry register No. The 388th word	43776	0EBFh
Monitor area entry St. No. The 389th word	43777	0EC0h
Monitor area entry register No. The 389th word	43778	0EC1h
Monitor area entry St. No. The 390th word	43779	0EC2h
Monitor area entry register No. The 390th word	43780	0EC3h
Monitor area entry St. No. The 391st word	43781	0EC4h
Monitor area entry register No. The 391st word	43782	0EC5h
Monitor area entry St. No. The 392nd word	43783	0EC6h
Monitor area entry register No. The 392nd word	43784	0EC7h
Monitor area entry St. No. The 393rd word	43785	0EC8h
Monitor area entry register No. The 393rd word	43786	0EC9h
Monitor area entry St. No. The 394th word	43787	0ECAh
Monitor area entry register No. The 394th word	43788	0ECBh
Monitor area entry St. No. The 395th word	43789	0ECCCh
Monitor area entry register No. The 395th word	43790	0ECDh

Contents	Register No.	Relative address
Monitor area entry St. No. The 396th word	43791	0ECEh
Monitor area entry register No. The 396th word	43792	0ECFh
Monitor area entry St. No. The 397th word	43793	0ED0h
Monitor area entry register No. The 397th word	43794	0ED1h
Monitor area entry St. No. The 398th word	43795	0ED2h
Monitor area entry register No. The 398th word	43796	0ED3h
Monitor area entry St. No. The 399th word	43797	0ED4h
Monitor area entry register No. The 399th word	43798	0ED5h
Monitor area entry St. No. The 400th word	43799	0ED6h
Monitor area entry register No. The 400th word	43800	0ED7h
Monitor area entry St. No. The 401st word	43801	0ED8h
Monitor area entry register No. The 401st word	43802	0ED9h
Monitor area entry St. No. The 402nd word	43803	0EDAh
Monitor area entry register No. The 402nd word	43804	0EDBh
Monitor area entry St. No. The 403rd word	43805	0EDCh
Monitor area entry register No. The 403rd word	43806	0EDDh
Monitor area entry St. No. The 404th word	43807	0EDEh
Monitor area entry register No. The 404th word	43808	0EDFh
Monitor area entry St. No. The 405th word	43809	0EE0h
Monitor area entry register No. The 405th word	43810	0EE1h
Monitor area entry St. No. The 406th word	43811	0EE2h
Monitor area entry register No. The 406th word	43812	0EE3h
Monitor area entry St. No. The 407th word	43813	0EE4h
Monitor area entry register No. The 407th word	43814	0EE5h
Monitor area entry St. No. The 408th word	43815	0EE6h
Monitor area entry register No. The 408th word	43816	0EE7h
Monitor area entry St. No. The 409th word	43817	0EE8h
Monitor area entry register No. The 409th word	43818	0EE9h
Monitor area entry St. No. The 410th word	43819	0EEAh
Monitor area entry register No. The 410th word	43820	0EEBh
Monitor area entry St. No. The 411th word	43821	0EECh
Monitor area entry register No. The 411th word	43822	0EEDh
Monitor area entry St. No. The 412th word	43823	0EEEh
Monitor area entry register No. The 412th word	43824	0EEFh
Monitor area entry St. No. The 413th word	43825	0EF0h
Monitor area entry register No. The 413th word	43826	0EF1h
Monitor area entry St. No. The 414th word	43827	0EF2h
Monitor area entry register No. The 414th word	43828	0EF3h
Monitor area entry St. No. The 415th word	43829	0EF4h
Monitor area entry register No. The 415th word	43830	0EF5h
Monitor area entry St. No. The 416th word	43831	0EF6h
Monitor area entry register No. The 416th word	43832	0EF7h
Monitor area entry St. No. The 417th word	43833	0EF8h
Monitor area entry register No. The 417th word	43834	0EF9h
Monitor area entry St. No. The 418th word	43835	0EFAh
Monitor area entry register No. The 418th word	43836	0EFBh
Monitor area entry St. No. The 419th word	43837	0EFCCh
Monitor area entry register No. The 419th word	43838	0EFDh
Monitor area entry St. No. The 420th word	43839	0EFEh
Monitor area entry register No. The 420th word	43840	0EFFh
Monitor area entry St. No. The 421st word	43841	0F00h
Monitor area entry register No. The 421st word	43842	0F01h
Monitor area entry St. No. The 422nd word	43843	0F02h
Monitor area entry register No. The 422nd word	43844	0F03h
Monitor area entry St. No. The 423rd word	43845	0F04h
Monitor area entry register No. The 423rd word	43846	0F05h

Contents	Register No.	Relative address
Monitor area entry St. No. The 424th word	43847	0F06h
Monitor area entry register No. The 424th word	43848	0F07h
Monitor area entry St. No. The 425th word	43849	0F08h
Monitor area entry register No. The 425th word	43850	0F09h
Monitor area entry St. No. The 426th word	43851	0F0Ah
Monitor area entry register No. The 426th word	43852	0F0Bh
Monitor area entry St. No. The 427th word	43853	0F0Ch
Monitor area entry register No. The 427th word	43854	0F0Dh
Monitor area entry St. No. The 428th word	43855	0F0Eh
Monitor area entry register No. The 428th word	43856	0F0Fh
Monitor area entry St. No. The 429th word	43857	0F10h
Monitor area entry register No. The 429th word	43858	0F11h
Monitor area entry St. No. The 430th word	43859	0F12h
Monitor area entry register No. The 430th word	43860	0F13h
Monitor area entry St. No. The 431st word	43861	0F14h
Monitor area entry register No. The 431st word	43862	0F15h
Monitor area entry St. No. The 432nd word	43863	0F16h
Monitor area entry register No. The 432nd word	43864	0F17h
Monitor area entry St. No. The 433rd word	43865	0F18h
Monitor area entry register No. The 433rd word	43866	0F19h
Monitor area entry St. No. The 434th word	43867	0F1Ah
Monitor area entry register No. The 434th word	43868	0F1Bh
Monitor area entry St. No. The 435th word	43869	0F1Ch
Monitor area entry register No. The 435th word	43870	0F1Dh
Monitor area entry St. No. The 436th word	43871	0F1Eh
Monitor area entry register No. The 436th word	43872	0F1Fh
Monitor area entry St. No. The 437th word	43873	0F20h
Monitor area entry register No. The 437th word	43874	0F21h
Monitor area entry St. No. The 438th word	43875	0F22h
Monitor area entry register No. The 438th word	43876	0F23h
Monitor area entry St. No. The 439th word	43877	0F24h
Monitor area entry register No. The 439th word	43878	0F25h
Monitor area entry St. No. The 440th word	43879	0F26h
Monitor area entry register No. The 440th word	43880	0F27h
Monitor area entry St. No. The 441st word	43881	0F28h
Monitor area entry register No. The 441st word	43882	0F29h
Monitor area entry St. No. The 442nd word	43883	0F2Ah
Monitor area entry register No. The 442nd word	43884	0F2Bh
Monitor area entry St. No. The 443rd word	43885	0F2Ch
Monitor area entry register No. The 443rd word	43886	0F2Dh
Monitor area entry St. No. The 444th word	43887	0F2Eh
Monitor area entry register No. The 444th word	43888	0F2Fh
Monitor area entry St. No. The 445th word	43889	0F30h
Monitor area entry register No. The 445th word	43890	0F31h
Monitor area entry St. No. The 446th word	43891	0F32h
Monitor area entry register No. The 446th word	43892	0F33h
Monitor area entry St. No. The 447th word	43893	0F34h
Monitor area entry register No. The 447th word	43894	0F35h
Monitor area entry St. No. The 448th word	43895	0F36h
Monitor area entry register No. The 448th word	43896	0F37h
Monitor area entry St. No. The 449th word	43897	0F38h
Monitor area entry register No. The 449th word	43898	0F39h
Monitor area entry St. No. The 450th word	43899	0F3Ah
Monitor area entry register No. The 450th word	43900	0F3Bh
Monitor area entry St. No. The 451st word	43901	0F3Ch
Monitor area entry register No. The 451st word	43902	0F3Dh

## 5.5 Address Map and Data Format

Contents	Register No.	Relative address
Monitor area entry St. No. The 452nd word	43903	0F3Eh
Monitor area entry register No. The 452nd word	43904	0F3Fh
Monitor area entry St. No. The 453rd word	43905	0F40h
Monitor area entry register No. The 453rd word	43906	0F41h
Monitor area entry St. No. The 454th word	43907	0F42h
Monitor area entry register No. The 454th word	43908	0F43h
Monitor area entry St. No. The 455th word	43909	0F44h
Monitor area entry register No. The 455th word	43910	0F45h
Monitor area entry St. No. The 456th word	43911	0F46h
Monitor area entry register No. The 456th word	43912	0F47h
Monitor area entry St. No. The 457th word	43913	0F48h
Monitor area entry register No. The 457th word	43914	0F49h
Monitor area entry St. No. The 458th word	43915	0F4Ah
Monitor area entry register No. The 458th word	43916	0F4Bh
Monitor area entry St. No. The 459th word	43917	0F4Ch
Monitor area entry register No. The 459th word	43918	0F4Dh
Monitor area entry St. No. The 460th word	43919	0F4Eh
Monitor area entry register No. The 460th word	43920	0F4Fh
Monitor area entry St. No. The 461st word	43921	0F50h
Monitor area entry register No. The 461st word	43922	0F51h
Monitor area entry St. No. The 462nd word	43923	0F52h
Monitor area entry register No. The 462nd word	43924	0F53h
Monitor area entry St. No. The 463rd word	43925	0F54h
Monitor area entry register No. The 463rd word	43926	0F55h
Monitor area entry St. No. The 464th word	43927	0F56h
Monitor area entry register No. The 464th word	43928	0F57h
Monitor area entry St. No. The 465th word	43929	0F58h
Monitor area entry register No. The 465th word	43930	0F59h
Monitor area entry St. No. The 466th word	43931	0F5Ah
Monitor area entry register No. The 466th word	43932	0F5Bh
Monitor area entry St. No. The 467th word	43933	0F5Ch
Monitor area entry register No. The 467th word	43934	0F5Dh
Monitor area entry St. No. The 468th word	43935	0F5Eh
Monitor area entry register No. The 468th word	43936	0F5Fh
Monitor area entry St. No. The 469th word	43937	0F60h
Monitor area entry register No. The 469th word	43938	0F61h
Monitor area entry St. No. The 470th word	43939	0F62h
Monitor area entry register No. The 470th word	43940	0F63h
Monitor area entry St. No. The 471st word	43941	0F64h
Monitor area entry register No. The 471st word	43942	0F65h
Monitor area entry St. No. The 472nd word	43943	0F66h
Monitor area entry register No. The 472nd word	43944	0F67h
Monitor area entry St. No. The 473rd word	43945	0F68h
Monitor area entry register No. The 473rd word	43946	0F69h
Monitor area entry St. No. The 474th word	43947	0F6Ah
Monitor area entry register No. The 474th word	43948	0F6Bh
Monitor area entry St. No. The 475th word	43949	0F6Ch
Monitor area entry register No. The 475th word	43950	0F6Dh
Monitor area entry St. No. The 476th word	43951	0F6Eh
Monitor area entry register No. The 476th word	43952	0F6Fh
Monitor area entry St. No. The 477th word	43953	0F70h
Monitor area entry register No. The 477th word	43954	0F71h
Monitor area entry St. No. The 478th word	43955	0F72h
Monitor area entry register No. The 478th word	43956	0F73h
Monitor area entry St. No. The 479th word	43957	0F74h
Monitor area entry register No. The 479th word	43958	0F75h

Contents	Register No.	Relative address
Monitor area entry St. No. The 480th word	43959	0F76h
Monitor area entry register No. The 480th word	43960	0F77h
Monitor area entry St. No. The 481st word	43961	0F78h
Monitor area entry register No. The 481st word	43962	0F79h
Monitor area entry St. No. The 482nd word	43963	0F7Ah
Monitor area entry register No. The 482nd word	43964	0F7Bh
Monitor area entry St. No. The 483rd word	43965	0F7Ch
Monitor area entry register No. The 483rd word	43966	0F7Dh
Monitor area entry St. No. The 484th word	43967	0F7Eh
Monitor area entry register No. The 484th word	43968	0F7Fh
Monitor area entry St. No. The 485th word	43969	0F80h
Monitor area entry register No. The 485th word	43970	0F81h
Monitor area entry St. No. The 486th word	43971	0F82h
Monitor area entry register No. The 486th word	43972	0F83h
Monitor area entry St. No. The 487th word	43973	0F84h
Monitor area entry register No. The 487th word	43974	0F85h
Monitor area entry St. No. The 488th word	43975	0F86h
Monitor area entry register No. The 488th word	43976	0F87h
Monitor area entry St. No. The 489th word	43977	0F88h
Monitor area entry register No. The 489th word	43978	0F89h
Monitor area entry St. No. The 490th word	43979	0F8Ah
Monitor area entry register No. The 490th word	43980	0F8Bh
Monitor area entry St. No. The 491st word	43981	0F8Ch
Monitor area entry register No. The 491st word	43982	0F8Dh
Monitor area entry St. No. The 492nd word	43983	0F8Eh
Monitor area entry register No. The 492nd word	43984	0F8Fh
Monitor area entry St. No. The 493rd word	43985	0F90h
Monitor area entry register No. The 493rd word	43986	0F91h
Monitor area entry St. No. The 494th word	43987	0F92h
Monitor area entry register No. The 494th word	43988	0F93h
Monitor area entry St. No. The 495th word	43989	0F94h
Monitor area entry register No. The 495th word	43990	0F95h
Monitor area entry St. No. The 496th word	43991	0F96h
Monitor area entry register No. The 496th word	43992	0F97h
Monitor area entry St. No. The 497th word	43993	0F98h
Monitor area entry register No. The 497th word	43994	0F99h
Monitor area entry St. No. The 498th word	43995	0F9Ah
Monitor area entry register No. The 498th word	43996	0F9Bh
Monitor area entry St. No. The 499th word	43997	0F9Ch
Monitor area entry register No. The 499th word	43998	0F9Dh
Monitor area entry St. No. The 500th word	43999	0F9Eh
Monitor area entry register No. The 500th word	44000	0F9Fh
Monitor area entry St. No. The 501st word	44001	0FA0h
Monitor area entry register No. The 501st word	44002	0FA1h
Monitor area entry St. No. The 502nd word	44003	0FA2h
Monitor area entry register No. The 502nd word	44004	0FA3h
Monitor area entry St. No. The 503rd word	44005	0FA4h
Monitor area entry register No. The 503rd word	44006	0FA5h
Monitor area entry St. No. The 504th word	44007	0FA6h
Monitor area entry register No. The 504th word	44008	0FA7h
Monitor area entry St. No. The 505th word	44009	0FA8h
Monitor area entry register No. The 505th word	44010	0FA9h
Monitor area entry St. No. The 506th word	44011	0FAAh
Monitor area entry register No. The 506th word	44012	0FABh
Monitor area entry St. No. The 507th word	44013	0FACh
Monitor area entry register No. The 507th word	44014	0FADh

Contents	Register No.	Relative address
Monitor area entry St. No. The 508th word	44015	0FAEh
Monitor area entry register No. The 508th word	44016	0FAFh
Monitor area entry St. No. The 509th word	44017	0FB0h
Monitor area entry register No. The 509th word	44018	0FB1h
Monitor area entry St. No. The 510th word	44019	0FB2h
Monitor area entry register No. The 510th word	44020	0FB3h
Monitor area entry St. No. The 511th word	44021	0FB4h
Monitor area entry register No. The 511th word	44022	0FB5h
Monitor area entry St. No. The 512th word	44023	0FB6h
Monitor area entry register No. The 512th word	44024	0FB7h
Monitor area entry St. No. The 513th word	44025	0FB8h
Monitor area entry register No. The 513th word	44026	0FB9h
Monitor area entry St. No. The 514th word	44027	0FBAh
Monitor area entry register No. The 514th word	44028	0FBBh
Monitor area entry St. No. The 515th word	44029	0FBCh
Monitor area entry register No. The 515th word	44030	0FBDh
Monitor area entry St. No. The 516th word	44031	0FBEh
Monitor area entry register No. The 516th word	44032	0FBFh
Monitor area entry St. No. The 517th word	44033	0FC0h
Monitor area entry register No. The 517th word	44034	0FC1h
Monitor area entry St. No. The 518th word	44035	0FC2h
Monitor area entry register No. The 518th word	44036	0FC3h
Monitor area entry St. No. The 519th word	44037	0FC4h
Monitor area entry register No. The 519th word	44038	0FC5h
Monitor area entry St. No. The 520th word	44039	0FC6h
Monitor area entry register No. The 520th word	44040	0FC7h
Monitor area entry St. No. The 521st word	44041	0FC8h
Monitor area entry register No. The 521st word	44042	0FC9h
Monitor area entry St. No. The 522nd word	44043	0FCAh
Monitor area entry register No. The 522nd word	44044	0FCBh
Monitor area entry St. No. The 523rd word	44045	0FCCh
Monitor area entry register No. The 523rd word	44046	0FCDh
Monitor area entry St. No. The 524th word	44047	0FCEh
Monitor area entry register No. The 524th word	44048	0FCFh
Monitor area entry St. No. The 525th word	44049	0FD0h
Monitor area entry register No. The 525th word	44050	0FD1h
Monitor area entry St. No. The 526th word	44051	0FD2h
Monitor area entry register No. The 526th word	44052	0FD3h
Monitor area entry St. No. The 527th word	44053	0FD4h
Monitor area entry register No. The 527th word	44054	0FD5h
Monitor area entry St. No. The 528th word	44055	0FD6h
Monitor area entry register No. The 528th word	44056	0FD7h
Monitor area entry St. No. The 529th word	44057	0FD8h
Monitor area entry register No. The 529th word	44058	0FD9h
Monitor area entry St. No. The 530th word	44059	0FDAh
Monitor area entry register No. The 530th word	44060	0FDBh
Monitor area entry St. No. The 531st word	44061	0FDCCh
Monitor area entry register No. The 531st word	44062	0FDDh
Monitor area entry St. No. The 532nd word	44063	0FDEh
Monitor area entry register No. The 532nd word	44064	0FDFh
Monitor area entry St. No. The 533rd word	44065	0FE0h
Monitor area entry register No. The 533rd word	44066	0FE1h
Monitor area entry St. No. The 534th word	44067	0FE2h
Monitor area entry register No. The 534th word	44068	0FE3h
Monitor area entry St. No. The 535th word	44069	0FE4h
Monitor area entry register No. The 535th word	44070	0FE5h

Contents	Register No.	Relative address
Monitor area entry St. No. The 536th word	44071	0FE6h
Monitor area entry register No. The 536th word	44072	0FE7h
Monitor area entry St. No. The 537th word	44073	0FE8h
Monitor area entry register No. The 537th word	44074	0FE9h
Monitor area entry St. No. The 538th word	44075	0FEAh
Monitor area entry register No. The 538th word	44076	0FEBh
Monitor area entry St. No. The 539th word	44077	0FECCh
Monitor area entry register No. The 539th word	44078	0FEDh
Monitor area entry St. No. The 540th word	44079	0FEEh
Monitor area entry register No. The 540th word	44080	0FEFh
Monitor area entry St. No. The 541st word	44081	0FF0h
Monitor area entry register No. The 541st word	44082	0FF1h
Monitor area entry St. No. The 542nd word	44083	0FF2h
Monitor area entry register No. The 542nd word	44084	0FF3h
Monitor area entry St. No. The 543rd word	44085	0FF4h
Monitor area entry register No. The 543rd word	44086	0FF5h
Monitor area entry St. No. The 544th word	44087	0FF6h
Monitor area entry register No. The 544th word	44088	0FF7h
Monitor area entry St. No. The 545th word	44089	0FF8h
Monitor area entry register No. The 545th word	44090	0FF9h
Monitor area entry St. No. The 546th word	44091	0FFAh
Monitor area entry register No. The 546th word	44092	0FFBh
Monitor area entry St. No. The 547th word	44093	0FFCh
Monitor area entry register No. The 547th word	44094	0FFDh
Monitor area entry St. No. The 548th word	44095	0FFEh
Monitor area entry register No. The 548th word	44096	0FFFh
Monitor area entry St. No. The 549th word	44097	1000h
Monitor area entry register No. The 549th word	44098	1001h
Monitor area entry St. No. The 550th word	44099	1002h
Monitor area entry register No. The 550th word	44100	1003h
Monitor area entry St. No. The 551st word	44101	1004h
Monitor area entry register No. The 551st word	44102	1005h
Monitor area entry St. No. The 552nd word	44103	1006h
Monitor area entry register No. The 552nd word	44104	1007h
Monitor area entry St. No. The 553rd word	44105	1008h
Monitor area entry register No. The 553rd word	44106	1009h
Monitor area entry St. No. The 554th word	44107	100Ah
Monitor area entry register No. The 554th word	44108	100Bh
Monitor area entry St. No. The 555th word	44109	100Ch
Monitor area entry register No. The 555th word	44110	100Dh
Monitor area entry St. No. The 556th word	44111	100Eh
Monitor area entry register No. The 556th word	44112	100Fh
Monitor area entry St. No. The 557th word	44113	1010h
Monitor area entry register No. The 557th word	44114	1011h
Monitor area entry St. No. The 558th word	44115	1012h
Monitor area entry register No. The 558th word	44116	1013h
Monitor area entry St. No. The 559th word	44117	1014h
Monitor area entry register No. The 559th word	44118	1015h
Monitor area entry St. No. The 560th word	44119	1016h
Monitor area entry register No. The 560th word	44120	1017h
Monitor area entry St. No. The 561st word	44121	1018h
Monitor area entry register No. The 561st word	44122	1019h
Monitor area entry St. No. The 562nd word	44123	101Ah
Monitor area entry register No. The 562nd word	44124	101Bh
Monitor area entry St. No. The 563rd word	44125	101Ch
Monitor area entry register No. The 563rd word	44126	101Dh

## 5.5 Address Map and Data Format

Contents	Register No.	Relative address
Monitor area entry St. No. The 564th word	44127	101Eh
Monitor area entry register No. The 564th word	44128	101Fh
Monitor area entry St. No. The 565th word	44129	1020h
Monitor area entry register No. The 565th word	44130	1021h
Monitor area entry St. No. The 566th word	44131	1022h
Monitor area entry register No. The 566th word	44132	1023h
Monitor area entry St. No. The 567th word	44133	1024h
Monitor area entry register No. The 567th word	44134	1025h
Monitor area entry St. No. The 568th word	44135	1026h
Monitor area entry register No. The 568th word	44136	1027h
Monitor area entry St. No. The 569th word	44137	1028h
Monitor area entry register No. The 569th word	44138	1029h
Monitor area entry St. No. The 570th word	44139	102Ah
Monitor area entry register No. The 570th word	44140	102Bh
Monitor area entry St. No. The 571st word	44141	102Ch
Monitor area entry register No. The 571st word	44142	102Dh
Monitor area entry St. No. The 572nd word	44143	102Eh
Monitor area entry register No. The 572nd word	44144	102Fh
Monitor area entry St. No. The 573rd word	44145	1030h
Monitor area entry register No. The 573rd word	44146	1031h
Monitor area entry St. No. The 574th word	44147	1032h
Monitor area entry register No. The 574th word	44148	1033h
Monitor area entry St. No. The 575th word	44149	1034h
Monitor area entry register No. The 575th word	44150	1035h
Monitor area entry St. No. The 576th word	44151	1036h
Monitor area entry register No. The 576th word	44152	1037h
Monitor area entry St. No. The 577th word	44153	1038h
Monitor area entry register No. The 577th word	44154	1039h
Monitor area entry St. No. The 578th word	44155	103Ah
Monitor area entry register No. The 578th word	44156	103Bh
Monitor area entry St. No. The 579th word	44157	103Ch
Monitor area entry register No. The 579th word	44158	103Dh
Monitor area entry St. No. The 580th word	44159	103Eh
Monitor area entry register No. The 580th word	44160	103Fh
Monitor area entry St. No. The 581st word	44161	1040h
Monitor area entry register No. The 581st word	44162	1041h
Monitor area entry St. No. The 582nd word	44163	1042h
Monitor area entry register No. The 582nd word	44164	1043h
Monitor area entry St. No. The 583rd word	44165	1044h
Monitor area entry register No. The 583rd word	44166	1045h
Monitor area entry St. No. The 584th word	44167	1046h
Monitor area entry register No. The 584th word	44168	1047h
Monitor area entry St. No. The 585th word	44169	1048h
Monitor area entry register No. The 585th word	44170	1049h
Monitor area entry St. No. The 586th word	44171	104Ah
Monitor area entry register No. The 586th word	44172	104Bh
Monitor area entry St. No. The 587th word	44173	104Ch
Monitor area entry register No. The 587th word	44174	104Dh
Monitor area entry St. No. The 588th word	44175	104Eh
Monitor area entry register No. The 588th word	44176	104Fh
Monitor area entry St. No. The 589th word	44177	1050h
Monitor area entry register No. The 589th word	44178	1051h
Monitor area entry St. No. The 590th word	44179	1052h
Monitor area entry register No. The 590th word	44180	1053h
Monitor area entry St. No. The 591st word	44181	1054h
Monitor area entry register No. The 591st word	44182	1055h

Contents	Register No.	Relative address
Monitor area entry St. No. The 592nd word	44183	1056h
Monitor area entry register No. The 592nd word	44184	1057h
Monitor area entry St. No. The 593rd word	44185	1058h
Monitor area entry register No. The 593rd word	44186	1059h
Monitor area entry St. No. The 594th word	44187	105Ah
Monitor area entry register No. The 594th word	44188	105Bh
Monitor area entry St. No. The 595th word	44189	105Ch
Monitor area entry register No. The 595th word	44190	105Dh
Monitor area entry St. No. The 596th word	44191	105Eh
Monitor area entry register No. The 596th word	44192	105Fh
Monitor area entry St. No. The 597th word	44193	1060h
Monitor area entry register No. The 597th word	44194	1061h
Monitor area entry St. No. The 598th word	44195	1062h
Monitor area entry register No. The 598th word	44196	1063h
Monitor area entry St. No. The 599th word	44197	1064h
Monitor area entry register No. The 599th word	44198	1065h
Monitor area entry St. No. The 600th word	44199	1066h
Monitor area entry register No. The 600th word	44200	1067h
Monitor area entry St. No. The 601st word	44201	1068h
Monitor area entry register No. The 601st word	44202	1069h
Monitor area entry St. No. The 602nd word	44203	106Ah
Monitor area entry register No. The 602nd word	44204	106Bh
Monitor area entry St. No. The 603rd word	44205	106Ch
Monitor area entry register No. The 603rd word	44206	106Dh
Monitor area entry St. No. The 604th word	44207	106Eh
Monitor area entry register No. The 604th word	44208	106Fh
Monitor area entry St. No. The 605th word	44209	1070h
Monitor area entry register No. The 605th word	44210	1071h
Monitor area entry St. No. The 606th word	44211	1072h
Monitor area entry register No. The 606th word	44212	1073h
Monitor area entry St. No. The 607th word	44213	1074h
Monitor area entry register No. The 607th word	44214	1075h
Monitor area entry St. No. The 608th word	44215	1076h
Monitor area entry register No. The 608th word	44216	1077h
Monitor area entry St. No. The 609th word	44217	1078h
Monitor area entry register No. The 609th word	44218	1079h
Monitor area entry St. No. The 610th word	44219	107Ah
Monitor area entry register No. The 610th word	44220	107Bh
Monitor area entry St. No. The 611th word	44221	107Ch
Monitor area entry register No. The 611th word	44222	107Dh
Monitor area entry St. No. The 612th word	44223	107Eh
Monitor area entry register No. The 612th word	44224	107Fh
Monitor area entry St. No. The 613th word	44225	1080h
Monitor area entry register No. The 613th word	44226	1081h
Monitor area entry St. No. The 614th word	44227	1082h
Monitor area entry register No. The 614th word	44228	1083h
Monitor area entry St. No. The 615th word	44229	1084h
Monitor area entry register No. The 615th word	44230	1085h
Monitor area entry St. No. The 616th word	44231	1086h
Monitor area entry register No. The 616th word	44232	1087h
Monitor area entry St. No. The 617th word	44233	1088h
Monitor area entry register No. The 617th word	44234	1089h
Monitor area entry St. No. The 618th word	44235	108Ah
Monitor area entry register No. The 618th word	44236	108Bh
Monitor area entry St. No. The 619th word	44237	108Ch
Monitor area entry register No. The 619th word	44238	108Dh

Contents	Register No.	Relative address
Monitor area entry St. No. The 620th word	44239	108Eh
Monitor area entry register No. The 620th word	44240	108Fh
Monitor area entry St. No. The 621st word	44241	1090h
Monitor area entry register No. The 621st word	44242	1091h
Monitor area entry St. No. The 622nd word	44243	1092h
Monitor area entry register No. The 622nd word	44244	1093h
Monitor area entry St. No. The 623rd word	44245	1094h
Monitor area entry register No. The 623rd word	44246	1095h
Monitor area entry St. No. The 624th word	44247	1096h
Monitor area entry register No. The 624th word	44248	1097h
Monitor area entry St. No. The 625th word	44249	1098h
Monitor area entry register No. The 625th word	44250	1099h
Monitor area entry St. No. The 626th word	44251	109Ah
Monitor area entry register No. The 626th word	44252	109Bh
Monitor area entry St. No. The 627th word	44253	109Ch
Monitor area entry register No. The 627th word	44254	109Dh
Monitor area entry St. No. The 628th word	44255	109Eh
Monitor area entry register No. The 628th word	44256	109Fh
Monitor area entry St. No. The 629th word	44257	10A0h
Monitor area entry register No. The 629th word	44258	10A1h
Monitor area entry St. No. The 630th word	44259	10A2h
Monitor area entry register No. The 630th word	44260	10A3h
Monitor area entry St. No. The 631st word	44261	10A4h
Monitor area entry register No. The 631st word	44262	10A5h
Monitor area entry St. No. The 632nd word	44263	10A6h
Monitor area entry register No. The 632nd word	44264	10A7h
Monitor area entry St. No. The 633rd word	44265	10A8h
Monitor area entry register No. The 633rd word	44266	10A9h
Monitor area entry St. No. The 634th word	44267	10AAh
Monitor area entry register No. The 634th word	44268	10ABh
Monitor area entry St. No. The 635th word	44269	10ACh
Monitor area entry register No. The 635th word	44270	10ADh
Monitor area entry St. No. The 636th word	44271	10AEh
Monitor area entry register No. The 636th word	44272	10AFh
Monitor area entry St. No. The 637th word	44273	10B0h
Monitor area entry register No. The 637th word	44274	10B1h
Monitor area entry St. No. The 638th word	44275	10B2h
Monitor area entry register No. The 638th word	44276	10B3h
Monitor area entry St. No. The 639th word	44277	10B4h
Monitor area entry register No. The 639th word	44278	10B5h
Monitor area entry St. No. The 640th word	44279	10B6h
Monitor area entry register No. The 640th word	44280	10B7h
Monitor area entry St. No. The 641st word	44281	10B8h
Monitor area entry register No. The 641st word	44282	10B9h
Monitor area entry St. No. The 642nd word	44283	10BAh
Monitor area entry register No. The 642nd word	44284	10BBh
Monitor area entry St. No. The 643rd word	44285	10BCh
Monitor area entry register No. The 643rd word	44286	10BDh
Monitor area entry St. No. The 644th word	44287	10BEh
Monitor area entry register No. The 644th word	44288	10BFh
Monitor area entry St. No. The 645th word	44289	10C0h
Monitor area entry register No. The 645th word	44290	10C1h
Monitor area entry St. No. The 646th word	44291	10C2h
Monitor area entry register No. The 646th word	44292	10C3h
Monitor area entry St. No. The 647th word	44293	10C4h
Monitor area entry register No. The 647th word	44294	10C5h

Contents	Register No.	Relative address
Monitor area entry St. No. The 648th word	44295	10C6h
Monitor area entry register No. The 648th word	44296	10C7h
Monitor area entry St. No. The 649th word	44297	10C8h
Monitor area entry register No. The 649th word	44298	10C9h
Monitor area entry St. No. The 650th word	44299	10CAh
Monitor area entry register No. The 650th word	44300	10CBh
Monitor area entry St. No. The 651st word	44301	10CCh
Monitor area entry register No. The 651st word	44302	10CDh
Monitor area entry St. No. The 652nd word	44303	10CEh
Monitor area entry register No. The 652nd word	44304	10CFh
Monitor area entry St. No. The 653rd word	44305	10D0h
Monitor area entry register No. The 653rd word	44306	10D1h
Monitor area entry St. No. The 654th word	44307	10D2h
Monitor area entry register No. The 654th word	44308	10D3h
Monitor area entry St. No. The 655th word	44309	10D4h
Monitor area entry register No. The 655th word	44310	10D5h
Monitor area entry St. No. The 656th word	44311	10D6h
Monitor area entry register No. The 656th word	44312	10D7h
Monitor area entry St. No. The 657th word	44313	10D8h
Monitor area entry register No. The 657th word	44314	10D9h
Monitor area entry St. No. The 658th word	44315	10DAh
Monitor area entry register No. The 658th word	44316	10DBh
Monitor area entry St. No. The 659th word	44317	10DCh
Monitor area entry register No. The 659th word	44318	10DDh
Monitor area entry St. No. The 660th word	44319	10DEh
Monitor area entry register No. The 660th word	44320	10DFh
Monitor area entry St. No. The 661st word	44321	10E0h
Monitor area entry register No. The 661st word	44322	10E1h
Monitor area entry St. No. The 662nd word	44323	10E2h
Monitor area entry register No. The 662nd word	44324	10E3h
Monitor area entry St. No. The 663rd word	44325	10E4h
Monitor area entry register No. The 663rd word	44326	10E5h
Monitor area entry St. No. The 664th word	44327	10E6h
Monitor area entry register No. The 664th word	44328	10E7h
Monitor area entry St. No. The 665th word	44329	10E8h
Monitor area entry register No. The 665th word	44330	10E9h
Monitor area entry St. No. The 666th word	44331	10EAh
Monitor area entry register No. The 666th word	44332	10EBh
Monitor area entry St. No. The 667th word	44333	10ECh
Monitor area entry register No. The 667th word	44334	10EDh
Monitor area entry St. No. The 668th word	44335	10EEh
Monitor area entry register No. The 668th word	44336	10EFh
Monitor area entry St. No. The 669th word	44337	10F0h
Monitor area entry register No. The 669th word	44338	10F1h
Monitor area entry St. No. The 670th word	44339	10F2h
Monitor area entry register No. The 670th word	44340	10F3h
Monitor area entry St. No. The 671st word	44341	10F4h
Monitor area entry register No. The 671st word	44342	10F5h
Monitor area entry St. No. The 672nd word	44343	10F6h
Monitor area entry register No. The 672nd word	44344	10F7h
Monitor area entry St. No. The 673rd word	44345	10F8h
Monitor area entry register No. The 673rd word	44346	10F9h
Monitor area entry St. No. The 674th word	44347	10FAh
Monitor area entry register No. The 674th word	44348	10FBh
Monitor area entry St. No. The 675th word	44349	10FCh
Monitor area entry register No. The 675th word	44350	10FDh

## 5.5 Address Map and Data Format

Contents	Register No.	Relative address
Monitor area entry St. No. The 676th word	44351	10FEh
Monitor area entry register No. The 676th word	44352	10FFh
Monitor area entry St. No. The 677th word	44353	1100h
Monitor area entry register No. The 677th word	44354	1101h
Monitor area entry St. No. The 678th word	44355	1102h
Monitor area entry register No. The 678th word	44356	1103h
Monitor area entry St. No. The 679th word	44357	1104h
Monitor area entry register No. The 679th word	44358	1105h
Monitor area entry St. No. The 680th word	44359	1106h
Monitor area entry register No. The 680th word	44360	1107h
Monitor area entry St. No. The 681st word	44361	1108h
Monitor area entry register No. The 681st word	44362	1109h
Monitor area entry St. No. The 682nd word	44363	110Ah
Monitor area entry register No. The 682nd word	44364	110Bh
Monitor area entry St. No. The 683rd word	44365	110Ch
Monitor area entry register No. The 683rd word	44366	110Dh
Monitor area entry St. No. The 684th word	44367	110Eh
Monitor area entry register No. The 684th word	44368	110Fh
Monitor area entry St. No. The 685th word	44369	1110h
Monitor area entry register No. The 685th word	44370	1111h
Monitor area entry St. No. The 686th word	44371	1112h
Monitor area entry register No. The 686th word	44372	1113h
Monitor area entry St. No. The 687th word	44373	1114h
Monitor area entry register No. The 687th word	44374	1115h
Monitor area entry St. No. The 688th word	44375	1116h
Monitor area entry register No. The 688th word	44376	1117h
Monitor area entry St. No. The 689th word	44377	1118h
Monitor area entry register No. The 689th word	44378	1119h
Monitor area entry St. No. The 690th word	44379	111Ah
Monitor area entry register No. The 690th word	44380	111Bh
Monitor area entry St. No. The 691st word	44381	111Ch
Monitor area entry register No. The 691st word	44382	111Dh
Monitor area entry St. No. The 692nd word	44383	111Eh
Monitor area entry register No. The 692nd word	44384	111Fh
Monitor area entry St. No. The 693rd word	44385	1120h
Monitor area entry register No. The 693rd word	44386	1121h
Monitor area entry St. No. The 694th word	44387	1122h
Monitor area entry register No. The 694th word	44388	1123h
Monitor area entry St. No. The 695th word	44389	1124h
Monitor area entry register No. The 695th word	44390	1125h
Monitor area entry St. No. The 696th word	44391	1126h
Monitor area entry register No. The 696th word	44392	1127h
Monitor area entry St. No. The 697th word	44393	1128h
Monitor area entry register No. The 697th word	44394	1129h
Monitor area entry St. No. The 698th word	44395	112Ah
Monitor area entry register No. The 698th word	44396	112Bh
Monitor area entry St. No. The 699th word	44397	112Ch
Monitor area entry register No. The 699th word	44398	112Dh
Monitor area entry St. No. The 700th word	44399	112Eh
Monitor area entry register No. The 700th word	44400	112Fh
Monitor area entry St. No. The 701st word	44401	1130h
Monitor area entry register No. The 701st word	44402	1131h
Monitor area entry St. No. The 702nd word	44403	1132h
Monitor area entry register No. The 702nd word	44404	1133h
Monitor area entry St. No. The 703rd word	44405	1134h
Monitor area entry register No. The 703rd word	44406	1135h

Contents	Register No.	Relative address
Monitor area entry St. No. The 704th word	44407	1136h
Monitor area entry register No. The 704th word	44408	1137h
Monitor area entry St. No. The 705th word	44409	1138h
Monitor area entry register No. The 705th word	44410	1139h
Monitor area entry St. No. The 706th word	44411	113Ah
Monitor area entry register No. The 706th word	44412	113Bh
Monitor area entry St. No. The 707th word	44413	113Ch
Monitor area entry register No. The 707th word	44414	113Dh
Monitor area entry St. No. The 708th word	44415	113Eh
Monitor area entry register No. The 708th word	44416	113Fh
Monitor area entry St. No. The 709th word	44417	1140h
Monitor area entry register No. The 709th word	44418	1141h
Monitor area entry St. No. The 710th word	44419	1142h
Monitor area entry register No. The 710th word	44420	1143h
Monitor area entry St. No. The 711th word	44421	1144h
Monitor area entry register No. The 711th word	44422	1145h
Monitor area entry St. No. The 712th word	44423	1146h
Monitor area entry register No. The 712th word	44424	1147h
Setting fault	30232	00E7h
PLC error counter	31001	03E8h
PLC error code	31002	03E9h
PLC sending counter	31003	03EAh
PLC receiving counter	31004	03EBh
Inter-PLC communication execution time monitor	31007	03EEh
PLC inter-cycle time over counter	31008	03EFh

# 5.6 Setting/Monitor Area Entry Numbers (Control module)

The table below shows the register numbers of a control module, which are settable to each parameter of "Setting/Monitor area entry St. No." and "Setting/Monitor area entry register No." of a programless communication module.

## Note

Parameters marked "\*" in the "Entry ban" column in the table can not be changed via programless communication modules. Do not set them to each parameter of "Setting/Monitor area entry St. No." and "Setting/Monitor area entry register No."

## Operation parameter

Contents	Reading out/Writing data setting range	Depends on Input range	Factory-set value	Register No.1 (Ch1)	Register No.2 (Ch2)	Register No.3 (Ch3)	Register No.4 (Ch4)	Entry ban
Local SV value	0 to 100% FS	○	0	40001 41001	40002 42001	40003 43001	40004 44001	*
Communication SV value	0 to 100% FS	○	0	40023 41100	40024 42100	40025 43100	40026 44100	
MV value	-3.0 to 103.0%		-	40005 41002	40006 42002	40007 43002	40008 44002	
Manual mode switch	0: Auto 1: Manual		0 (Auto)	40013 41003	40014 42003	40015 43003	40016 44003	
RUN/Standby switch	0: RUN 1: Standby		0 (RUN)	40017 41004	40018 42004	40019 43004	40020 44004	
Remote mode switch	0: Local 1: Remote		0 (Local)	40009 41007	40010 42007	40011 43007	40012 44007	
Auto-tuning RUN command	0: Stop/End 1: Normal type 2: Low PV type		0	41005	42005	43005	44005	
DO output unlatch command	0: OFF 1: Unlatch		0	41031	42031	43031	44031	
ALM1 set value 1	-100 to 100% FS	○	2.5% FS	41033	42033	43033	44033	
ALM1 set value 2	-100 to 100% FS	○	2.5% FS	41034	42034	43034	44034	
ALM2 set value 1	-100 to 100% FS	○	2.5% FS	41041	42041	43041	44041	
ALM2 set value 2	-100 to 100% FS	○	2.5% FS	41042	42042	43042	44042	
ALM3 set value 1	-100 to 100% FS	○	2.5% FS	41049	42049	43049	44049	
ALM3 set value 2	-100 to 100% FS	○	2.5% FS	41050	42050	43050	44050	
ALM4 set value 1	-100 to 100% FS	○	2.5% FS	41057	42057	43057	44057	
ALM4 set value 2	-100 to 100% FS	○	2.5% FS	41058	42058	43058	44058	
ALM5 set value 1	-100 to 100% FS	○	2.5% FS	41065	42065	43065	44065	
ALM5 set value 2	-100 to 100% FS	○	2.5% FS	41066	42066	43066	44066	

## Control (PID) Parameters

Contents	Reading out/Writing data setting range	Depends on Input range	Factory-set value	Register No.1 (Ch1)	Register No.2 (Ch2)	Register No.3 (Ch3)	Register No.4 (Ch4)	Entry ban
Proportional band [P]	0.0 to 999.9%		5.0	41102	42102	43102	44102	
Integration time [I]	0 to 3200sec		240	41103	42103	43103	44103	
Derivation time [D]	0.0 to 999.9sec		60.0	41104	42104	43104	44104	
ON/OFF control hysteresis	0 to 50% FS	○	0.25% FS	41105	42105	43105	44105	
Cooling proportional band coefficient [cool]	0.0 to 100.0		1.0	41106	42106	43106	44106	
Dead band	-50.0 to 50.0%		0	41107	42107	43107	44107	
Output convergence value	-100.0 to 100.0%		0	41108	42108	43108	44108	
Anti-reset windup [ARW]	0 to 100% FS	○	100% FS	41109	42109	43109	44109	
Direct/Reverse action setting [MV1/MV2]	0: Reverse/None 1: Direct/None 2: Reverse/Direct 3: Direct/Reverse 4: Reverse/Reverse 5: Direct/Direct		0	41110	42110	43110	44110	
SV Lower Limit	0 to 100% FS	○	0% FS	41218	42218	43218	44218	
SV Upper Limit	0 to 100% FS	○	100% FS	41219	42219	43219	44219	
MV1 Lower Limit	-3.0 to 103.0%		-3.0	41255	42255	43255	44255	
MV1 Upper Limit	-3.0 to 103.0%		103.0	41256	42256	43256	44256	
MV2 Lower Limit	-3.0 to 103.0%		-3.0	41257	42257	43257	44257	
MV2 Upper Limit	-3.0 to 103.0%		103.0	41258	42258	43258	44258	
Output limiter type setting	0: MV1 -3.0%/103.0% MV2 -3.0%/103.0% 1: MV1 Limit/103.0% MV2 -3.0%/103.0% 2: MV1 -3.0%/Limit MV2 -3.0%/103.0% 3: MV1 Limit/ Limit MV2 -3.0%/103.0% 4: MV1 -3.0%/103.0% MV2 Limit/103.0% 5: MV1 Limit/103.0% MV2 Limit/103.0% 6: MV1 -3.0%/Limit MV2 Limit/103.0% 7: MV1 Limit/Limit MV2 Limit/103.0% 8: MV1 -3.0%/103.0% MV2 -3.0%/Limit 9: MV1 Limit/103.0% MV2 -3.0%/Limit 10: MV1 -3.0%/Limit MV2 -3.0%/Limit 11: MV1 Limit/Limit MV2 -3.0%/Limit 12: MV1 -3.0%/103.0% MV2 Limit/Limit 13: MV1 Limit/103.0% MV2 Limit/Limit 14: MV1 -3.0%/Limit MV2 Limit/Limit 15: MV1 Limit/Limit MV2 Limit/Limit		0	41259	42259	43259	44259	

## Setup Parameters

Contents	Reading out/Writing data setting range	Depends on Input range	Factory-set value	Register No.1 (Ch1)	Register No.2 (Ch2)	Register No.3 (Ch3)	Register No.4 (Ch4)	Entry ban
PV input type	0: JPt100 (0 to 150°C) 1: JPt100 (-150 to 600°C) 2: Pt100 (0 to 150°C) 3: Pt100 (-150 to 300°C) 4: Pt100 (-150 to 850°C) 5: J (0 to 400°C) 6: J (0 to 800°C) 7: K (0 to 400°C) 8: K (0 to 800°C) 9: K (0 to 1200°C) 10: R (0 to 1600°C) 11: B (0 to 1800°C) 12: S (0 to 1600°C) 13: T (-199 to 400°C) 14: E (-199 to 800°C) 18: N (0 to 1300°C) 19: PL-2 (0 to 1300°C) 21: Voltage (0 to 5V) 22: Voltage (1 to 5V) 23: Voltage (0 to 10V) 24: Voltage (2 to 10V)		7(TC/Pt) 22(VI)	40151 41029	40152 42029	40153 43029	40154 44029	*
PV input scale lower	-1999 to 9999		0% FS	41212	42212	43212	44212	*
PV input scale upper	-1999 to 9999		100% FS	41213	42213	43213	44213	*
Decimal place	0: No decimal point 1: One decimal place 2: Two decimal places		0	41214	42214	43214	44214	*
Temperature unit	0: °C 1: Not selectable		°C	41215	42215	43215	44215	*
PV input shift	-10 to 10% FS	○	0	41216	42216	43216	44216	
SV set value shift	-50 to 50% FS	○	0	41217	42217	43217	44217	
PV input filter	0.0 to 120.0sec		2.0	41220	42220	43220	44220	
PV display zero adjustment	-50 to 50% FS	○	0	41221	42221	43221	44221	
PV display span adjustment	-50 to 50% FS	○	0	41222	42222	43222	44222	
Cold junction compensation	0: OFF 1: ON		1 (ON)	41223	42223	43223	44223	
RSV zero adjustment	-50 to 50% FS	○	0	41225	42225	43225	44225	
RSV span adjustment	-50 to 50% FS	○	0	41226	42226	43226	44226	
Remote input master St. No.	0 to 255		0	41532	42532	43532	44532	*

## 5.6 Setting/Monitor Area Entry Numbers (Control module)

Contents	Reading out/Writing data setting range	Depends on Input range	Factory-set value	Register No.1 (Ch1)	Register No.2 (Ch2)	Register No.3 (Ch3)	Register No.4 (Ch4)	Entry ban
Remote input master Ch. No.	0/1 to 4		Each Ch.	41533	42533	43533	44533	*
FAULT MV1 set value	-3.0 to 103.0%		-3.0	41260	42260	43260	44260	
FAULT MV2 set value	-3.0 to 103.0%		-3.0	41261	42261	43261	44261	
SoftStart MV1 value	-3.0 to 103.0%		103.0	41262	42262	43262	44262	*
SoftStart MV2 value	-3.0 to 103.0%		103.0	41263	42263	43263	44263	*
SoftStart time	0 to 99min. 59sec.		0	41264	42264	43264	44264	*
Standby MV1 value	-3.0 to 103.0%		-3.0	41268	42268	43268	44268	
Standby MV2 value	-3.0 to 103.0%		-3.0	41269	42269	43269	44269	
Standby mode setting	0: ALM=OFF 1: ALM=ON		0	41270	42270	43270	44270	
Linkage operation master St. No. setting	0 to 255		0	41536	42536	43536	44536	*
Linkage operation master Ch. No. setting	1 to 4		Each Ch.	41537	42537	43537	44537	*

## System Parameters

Contents	Reading out/Writing data setting range	Depends on Input range	Factory-set value	Register No.1 (Ch1)	Register No.2 (Ch2)	Register No.3 (Ch3)	Register No.4 (Ch4)	Entry ban
Current output range	4: 0 to 20mA 5: 4 to 20mA		5 (4-20mA)	40166 41801	40167 42801	40168 43801	40169 44801	
Output type	0: Own St. PV 1: Own St. SV 2: Own St. DV 3: Own St. MV 1 4: Own St. MV 2 5: Other St. PV 6: Other St. SV 7: Other St. MV		3 (Own St. MV1)	40171 41803	40177 42803	40183 43803	40189 44803	
Proportional cycle	1 to 120sec.		2 (SSR drive) /30 (relay)	40176	40182	40188	40194	
Output master St.	0 to 255 St.		0	40172 41804	40178 42804	40184 43804	40190 44804	*
Output master Ch.	1 to 4Ch		Each Ch.	40173 41805	40179 42805	40185 43805	40191 44805	*
Output scaling base	-100.0 to 100.0%		0.0	40175 41807	40181 42807	40187 43807	40193 44807	
Output scaling span	-100.0 to 100.0%		100.0	40174 41806	40180 42806	40186 43806	40192 44806	
Output shutdown	0000 to 1111 bit0: Output 1 shutdown bit1: Output 2 shutdown bit2: Output 3 shutdown bit3: Output 4 shutdown		0000	40201				

5.6 Setting/Monitor Area Entry Numbers (Control module)

Contents	Reading out/Writing data setting range	Depends on Input range	Factory-set value	Register No.1 (Ch1)	Register No.2 (Ch2)	Register No.3 (Ch3)	Register No.4 (Ch4)	Entry ban
DI-1 function select	0: No function 1: RUN /Standby switch 2: Auto/Manual switch 3: Local /Remote switch 4: No function 5: No function 6: Start AT (Normal type) 7: Start AT (Low voltage PV) 8: No function 9: No function 10: Ramp SV ON/OFF 11: Ramp SV Hold 12: No function 13: No function 14: No function 15: No function 16: No function 17: Unlatch (All) 18: Unlatch (DO1) 19: Unlatch (DO2) 20: Unlatch (DO3) 21: Unlatch (DO4) 22: Unlatch (DO5) 23: No function 24: No function 25: No function 26: Start timer (DO1) 27: Start timer (DO2) 28: Start timer (DO3) 29: Start timer (DO4) 30: Start timer (DO5) 31: No function 32: No function 33: No function 34: No function 35: No function		0	41013	42013	43013	44013	

## 5.6 Setting/Monitor Area Entry Numbers (Control module)

Contents	Reading out/Writing data setting range	Depends on Input range	Factory-set value	Register No.1 (Ch1)	Register No.2 (Ch2)	Register No.3 (Ch3)	Register No.4 (Ch4)	Entry ban
DI-1 function select	36: No function 37: No function 38: No function 39: No function 40: No function 41: No function 42: No function 43: No function 44: No function 45: No function 46: No function 47: No function 48: No function 49: Output1 shutdown 50: Output2 shutdown 51: Output3 shutdown 52: Output4 shutdown							
DI-2 function select	0 to 52		0	41014	42014	43014	44014	
DI-3 function select	0 to 52		0	41015	42015	43015	44015	
DI-4 function select	0 to 52		0	41016	42016	43016	44016	
DI-5 function select	0 to 52		0	41017	42017	43017	44017	
DI-6 function select	0 to 52		0	41018	42018	43018	44018	
DI-7 function select	0 to 52		0	41019	42019	43019	44019	
DI-8 function select	0 to 52		0	41020	42020	43020	44020	
DI-9 function select	0 to 52		0	41021	42021	43021	44021	
DI-10 function select	0 to 52		0	41022	42022	43022	44022	
DI-11 function select	0 to 52		0	41023	42023	43023	44023	
DI-12 function select	0 to 52		0	41024	42024	43024	44024	
DI-13 function select	0 to 52		0	41025	42025	43025	44025	
DI-14 function select	0 to 52		0	41026	42026	43026	44026	
DI-15 function select	0 to 52		0	41027	42027	43027	44027	
DI-16 function select	0 to 52		0	41028	42028	43028	44028	
DI master St. setting	0 to 255		0	41011	42011	43011	44011	*
DO1 output event type setting	0 to 102		0	41032	42032	43032	44032	*
DO1 option function setting	0000 to 1111 bit0: Alarm latch function bit1: Error input alarm function bit2: Non-excitation output function bit3: Hold reset function		0000	41036	42036	43036	44036	
DO2 output event type setting	0 to 102		0	41040	42040	43040	44040	*
DO2 option function setting	0000 to 1111 bit0: Alarm latch function bit1: Error input alarm function bit2: Non-excitation output function bit3: Hold reset function		0000	41044	42044	43044	44044	
DO3 output event type setting	0 to 102		0	41048	42048	43048	44048	*

## 5.6 Setting/Monitor Area Entry Numbers (Control module)

Contents	Reading out/Writing data setting range	Depends on Input range	Factory-set value	Register No.1 (Ch1)	Register No.2 (Ch2)	Register No.3 (Ch3)	Register No.4 (Ch4)	Entry ban
DO3 option function setting	0000 to 1111 bit0: Alarm latch function bit1: Error input alarm function bit2: Non-excitation output function bit3: Hold reset function		0000	41052	42052	43052	44052	
DO4 output event type setting	0 to 102		0	41056	42056	43056	44056	*
DO4 option function setting	0000 to 1111 bit0: Alarm latch function bit1: Error input alarm function bit2: Non-excitation output function bit3: Hold reset function		0000	41060	42060	43060	44060	
DO5 output event type setting	0 to 102		0	41064	42064	43064	44064	*
DO5 option function setting	0000 to 1111 bit0: Alarm latch function bit1: Error input alarm function bit2: Non-excitation output function bit3: Hold reset function		0000	41068	42068	43068	44068	
Ramp SV ON/OFF	0: OFF 1: ON		1 (ON)	41299	42299	43299	44299	
Ramp SV-decline	0 to 100% FS	○	0	41300	42300	43300	44300	
Ramp SV-incline	0 to 100% FS	○	0	41301	42301	43301	44301	
Ramp SV slope time units	0: Slope deg/hr. 1: Slope deg/min.		0 (Slope deg/hr.)	41302	42302	43302	44302	
Control method	0: PID 1: FUSSY PID 2: PID against open-loop		0 (PID)	41291	42291	43291	44291	
ON/OFF hysteresis setting	0: OFF 1: ON		1 (ON)	41292	42292	43292	44292	
Mode at startup	0: Auto 1: Manual 2: Remote 3: Standby		0 (Auto)	41304	42304	43304	44304	*

## Alarm Parameters

Contents	Reading out/Writing data setting range	Depends on Input range	Factory-set value	Register No.1 (Ch1)	Register No.2 (Ch2)	Register No.3 (Ch3)	Register No.4 (Ch4)	Entry ban
ALM1 hysteresis	0 to 50% FS	○	1°C	41035	42035	43035	44035	
ALM1 delay time	0 to 99min.59sec. / 0 to 99hr.59min.		0	41037	42037	43037	44037	
ALM1 delay time units	0: sec. 1: min.		0 (sec.)	41038	42038	43038	44038	
ALM2 hysteresis	0 to 50% FS	○	1°C	41043	42043	43043	44043	
ALM2 delay time	0 to 99min.59sec. / 0 to 99hr.59min.		0	41045	42045	43045	44045	
ALM2 delay time units	0: sec. 1: min.		0 (sec.)	41046	42046	43046	44046	
ALM3 hysteresis	0 to 50% FS	○	1°C	41051	42051	43051	44051	
ALM3 delay time	0 to 99min.59sec. / 0 to 99hr.59min.		0	41053	42053	43053	44053	
ALM3 delay time units	0: sec. 1: min.		0 (sec.)	41054	42054	43054	44054	
ALM4 hysteresis	0 to 50% FS	○	1°C	41059	42059	43059	44059	
ALM4 delay time	0 to 99min.59sec. / 0 to 99hr.59min.		0	41061	42061	43061	44061	
ALM4 delay time units	0: sec. 1: min.		0 (sec.)	41062	42062	43062	44062	
ALM5 hysteresis	0 to 50% FS	○	1°C	41067	42067	43067	44067	
ALM5 delay time	0 to 99min.59sec. / 0 to 99hr.59min.		0	41069	42069	43069	44069	
ALM5 delay time units	0: sec. 1: min.		0 (sec.)	41070	42070	43070	44070	
Object Ch. No. for interchannel ALM1	1 to 4		1	41039	42039	43039	44039	
Object Ch. No. for interchannel ALM2	1 to 4		1	41047	42047	43047	44047	
Object Ch. No. for interchannel ALM3	1 to 4		1	41055	42055	43055	44055	
Object Ch. No. for interchannel ALM4	1 to 4		1	41063	42063	43063	44063	
Object Ch. No. for interchannel ALM5	1 to 4		1	41071	42071	43071	44071	
CT[A]HB alarm set value	0.0 to 50.0(A)		0	41072	42072	43072	44072	
CT[A]HB alarm hysteresis	0.0 to 50.0(A)		0.5	41073	42073	43073	44073	
CT[A]HB load short-circuit alarm set value	0.0 to 50.0(A)		0	41074	42074	43074	44074	
CT[A]HB load short-circuit alarm hysteresis	0.0 to 50.0(A)		0.5	41075	42075	43075	44075	
CT[B]HB alarm set value	0.0 to 50.0(A)		0	41076	42076	43076	44076	
CT[B]HB alarm hysteresis	0.0 to 50.0(A)		0.5	41077	42077	43077	44077	
CT[B]HB load short-circuit alarm set value	0.0 to 50.0(A)		0	41078	42078	43078	44078	
CT[B]HB load short-circuit alarm hysteresis	0.0 to 50.0(A)		0.5	41079	42079	43079	44079	
Loop break detection time	0 to 9999sec		0 (Off)	41080	42080	43080	44080	
Loop break detection band	0 to 100% FS	○	2.5% FS	41081	42081	43081	44081	

## Communication Parameters

Contents	Reading out/Writing data setting range	Depends on Input range	Factory-set value	Register No.1 (Ch1)	Register No.2 (Ch2)	Register No.3 (Ch3)	Register No.4 (Ch4)	Entry ban
RS-485 Parity setting	0: None 1: Odd 2: Even		0		40111			*
RS-485 Communication speed	0: 9.6kbps 1: 19.2kbps 2: 38.4kbps 3: Forbidden 4: 115.2kbps		1		40115			*
RS-485 Communication permission	0: Ready only 1: Read/Write		1 (R/W)		40114			*
RS-485 Response interval time	0 to 25 (20ms/1digit)		0		40113			*
Enhanced communication module (PUMC) connection permission	0: PUMC not connected (RS-485 Enable) 1: PUMC connected (RS-485 Disable)		0 (RS-485 Enable)		40116			*
Master/slave setting in connected modules	0: Master 1: Slave		1 (Slave)		40117			*
User address 01 : Register No. specification	30000 to 49999		30002(PV1)		40301			*
User address 02 : Register No. specification	30000 to 49999		30002(PV1)		40302			*
User address 03 : Register No. specification	30000 to 49999		30002(PV1)		40303			*
User address 04 : Register No. specification	30000 to 49999		30002(PV1)		40304			*
User address 05 : Register No. specification	30000 to 49999		30002(PV1)		40305			*
User address 06 : Register No. specification	30000 to 49999		30002(PV1)		40306			*
User address 07 : Register No. specification	30000 to 49999		30002(PV1)		40307			*
User address 08 : Register No. specification	30000 to 49999		30002(PV1)		40308			*
User address 09 : Register No. specification	30000 to 49999		30002(PV1)		40309			*
User address 10 : Register No. specification	30000 to 49999		30002(PV1)		40310			*
User address 11 : Register No. specification	30000 to 49999		30002(PV1)		40311			*
User address 12 : Register No. specification	30000 to 49999		30002(PV1)		40312			*
User address 13 : Register No. specification	30000 to 49999		30002(PV1)		40313			*
User address 14 : Register No. specification	30000 to 49999		30002(PV1)		40314			*
User address 15 : Register No. specification	30000 to 49999		30002(PV1)		40315			*
User address 16 : Register No. specification	30000 to 49999		30002(PV1)		40316			*
User address 17 : Register No. specification	30000 to 49999		30002(PV1)		40317			*

## 5.6 Setting/Monitor Area Entry Numbers (Control module)

Contents	Reading out/Writing data setting range	Depends on Input range	Factory-set value	Register No.1 (Ch1)	Register No.2 (Ch2)	Register No.3 (Ch3)	Register No.4 (Ch4)	Entry ban
User address 18 : Register No. specification	30000 to 49999		30002(PV1)		40318			*
User address 19 : Register No. specification	30000 to 49999		30002(PV1)		40319			*
User address 20 : Register No. specification	30000 to 49999		30002(PV1)		40320			*
User address 21 : Register No. specification	30000 to 49999		30002(PV1)		40321			*
User address 22 : Register No. specification	30000 to 49999		30002(PV1)		40322			*
User address 23 : Register No. specification	30000 to 49999		30002(PV1)		40323			*
User address 24 : Register No. specification	30000 to 49999		30002(PV1)		40324			*
User address 25 : Register No. specification	30000 to 49999		30002(PV1)		40325			*
User address 26 : Register No. specification	30000 to 49999		30002(PV1)		40326			*
User address 27 : Register No. specification	30000 to 49999		30002(PV1)		40327			*
User address 28 : Register No. specification	30000 to 49999		30002(PV1)		40328			*
User address 29 : Register No. specification	30000 to 49999		30002(PV1)		40329			*
User address 30 : Register No. specification	30000 to 49999		30002(PV1)		40330			*
User address 31 : Register No. specification	30000 to 49999		30002(PV1)		40331			*
User address 32 : Register No. specification	30000 to 49999		30002(PV1)		40332			*
User address 01 : R/W field	Depends on "User address 01"		-		45001			*
User address 02 : R/W field	Depends on "User address 02"		-		45002			*
User address 03 : R/W field	Depends on "User address 03"		-		45003			*
User address 04 : R/W field	Depends on "User address 04"		-		45004			*
User address 05 : R/W field	Depends on "User address 05"		-		45005			*
User address 06 : R/W field	Depends on "User address 06"		-		45006			*
User address 07 : R/W field	Depends on "User address 07"		-		45007			*
User address 08 : R/W field	Depends on "User address 08"		-		45008			*
User address 09 : R/W field	Depends on "User address 09"		-		45009			*
User address 10 : R/W field	Depends on "User address 10"		-		45010			*
User address 11 : R/W field	Depends on "User address 11"		-		45011			*
User address 12 : R/W field	Depends on "User address 12"		-		45012			*

## 5.6 Setting/Monitor Area Entry Numbers (Control module)

Contents	Reading out/Writing data setting range	Depends on Input range	Factory-set value	Register No.1 (Ch1)	Register No.2 (Ch2)	Register No.3 (Ch3)	Register No.4 (Ch4)	Entry ban
User address 13 : R/W field	Depends on "User address 13"		-		45013			*
User address 14 : R/W field	Depends on "User address 14"		-		45014			*
User address 15 : R/W field	Depends on "User address 15"		-		45015			*
User address 16 : R/W field	Depends on "User address 16"		-		45016			*
User address 17 : R/W field	Depends on "User address 17"		-		45017			*
User address 18 : R/W field	Depends on "User address 18"		-		45018			*
User address 19 : R/W field	Depends on "User address 19"		-		45019			*
User address 20 : R/W field	Depends on "User address 20"		-		45020			*
User address 21 : R/W field	Depends on "User address 21"		-		45021			*
User address 22 : R/W field	Depends on "User address 22"		-		45022			*
User address 23 : R/W field	Depends on "User address 23"		-		45023			*
User address 24 : R/W field	Depends on "User address 24"		-		45024			*
User address 25 : R/W field	Depends on "User address 25"		-		45025			*
User address 26 : R/W field	Depends on "User address 26"		-		45026			*
User address 27 : R/W field	Depends on "User address 27"		-		45027			*
User address 28 : R/W field	Depends on "User address 28"		-		45028			*
User address 29 : R/W field	Depends on "User address 29"		-		45029			*
User address 30 : R/W field	Depends on "User address 30"		-		45030			*
User address 31 : R/W field	Depends on "User address 31"		-		45031			*
User address 32 : R/W field	Depends on "User address 32"		-		45032			*

## Configuration Parameters

Contents	Reading out/Writing data setting range	Depends on Input range	Factory-set value	Register No.1 (Ch1)	Register No.2 (Ch2)	Register No.3 (Ch3)	Register No.4 (Ch4)	Entry ban
Control when burnout is detected	0: Stop control 1: Continue control		0 (Stop control)	41407	42407	43407	44407	
LED2 Lamp Configuration	0 to 255		1	40222				*
LED3 Lamp Configuration	0 to 255		12	40223				*
LED4 Lamp Configuration	0 to 255		13	40224				*
LED5 Lamp Configuration	0 to 255		14	40225				*
LED6 Lamp Configuration	0 to 255		15	40226				*
Reset main unit	0: Do nothing 1: Reset main unit		0	40101				*

## Monitor Parameters

### Note

Monitor parameter can be entered to the monitor area only. Do not enter it to the setting area.

Contents	Reading out/Writing data setting range	Depends on Input range	Factory-set value	Register No.1 (Ch1)	Register No.2 (Ch2)	Register No.3 (Ch3)	Register No.4 (Ch4)	Entry ban
SV value	0 to 100% FS	○	-	30905	30906	30907	30908	
Remote mode switch	0: Local 1: Remote		-	30030 31037	30031 32037	30032 33037	30033 34037	
System time	0 to 65535		-	30001				
Measurement value (PV)	-5 to 105% FS		-	30002 31001	30003 32001	30004 33001	30005 34001	
Measurement value (SV)	0 to 100% FS		-	30006 31002	30007 32002	30008 33002	30009 34002	
DV	-105 to 105% FS		-	30010 31003	30011 32003	30012 33003	30013 34003	
Output value (MV1)	-3.0 to 103.0%		-	30014 31004	30016 32004	30018 33004	30020 34004	
Output value (MV2)	-3.0 to 103.0%		-	30015 31005	30017 32005	30019 33005	30021 34005	
Remote SV (RSV)	0.0 to 100.0% FS		-	30022 31045	30023 32045	30024 33045	30025 34045	
RCJtemp	-3276.7 to 3276.7°C		-	30110 31016	30111 32016	30112 33016	30113 34016	
Heater current [A]	0.0 to 50.0A		-	30071 31046	30073 32046	30075 33046	30077 34046	
Heater current [B]	0.0 to 50.0A		-	30072 31047	30074 32047	30076 33047	30078 34047	
Leak current [A]	0.0 to 50.0A		-	30081 31048	30083 32048	30085 33048	30087 34048	

## 5.6 Setting/Monitor Area Entry Numbers (Control module)

Contents	Reading out/Writing data setting range	Depends on Input range	Factory-set value	Register No.1 (Ch1)	Register No.2 (Ch2)	Register No.3 (Ch3)	Register No.4 (Ch4)	Entry ban
Leak current [B]	0.0 to 50.0A		-	30082 31049	30084 32049	30086 33049	30088 34049	
Error source display	0 to FFFF		-	31008	32008	33008	34008	
Alarm 1 to 5 status	0 to 001F		-	31007	32007	33007	34007	
Event input status	0 to FFFF		-	31061	32061	33061	34061	
Remaining time on timer 1	0 to 99min.59sec. / 0 to 99hr. 59min.		-	31011	32011	33011	34011	
Remaining time on timer 2	0 to 99min.59sec. / 0 to 99hr. 59min.		-	31012	32012	33012	34012	
Remaining time on timer 3	0 to 99min.59sec. / 0 to 99hr. 59min.		-	31013	32013	33013	34013	
Remaining time on timer 4	0 to 99min.59sec. / 0 to 99hr. 59min.		-	31014	32014	33014	34014	
Remaining time on timer 5	0 to 99min.59sec. / 0 to 99hr. 59min.		-	31015	32015	33015	34015	
Output value	-3.0 to 103.0%		-	30120	30121	30122	30123	
RS-485 communication permission	0: Read only 1: Read/ Write		-	30062				

# 5.7 Setting/Monitor Area Entry Numbers (Event I/O module)

The table below shows the register numbers of an event I/O module, which are settable to each parameter of "Setting/Monitor area entry St. No." and "Setting/Monitor area entry register No." of a programless communication module.

## Note

Parameters marked "\*" in the "Entry ban" column in the table can not be changed via programless communication modules. Do not set them to each parameter of "Setting/Monitor area entry St. No." and "Setting/Monitor area entry register No."

## Operation Parameters

Contents	Reading out/Writing data setting range	Factory-set value	Register No.	Entry ban
RUN/Standby Switch	0: RUN 1: Standby	0	40021	
DI output unlatch command	0: OFF 1: Unlatch	0	40022	
DO output unlatch command	0: OFF 1: Unlatch	0	40023	

## Digital Input Parameters

Contents	Reading out/Writing data setting range	Factory-set value	Register No.	Entry ban
DI1 input option	Bit 0 : LATCH Bit 1 : NOT Bit 2 : AND Bit 3 : OR	0	40701	
DI1 input logic operation AND	0-00FF	0	40703	
DI1 input logic operation OR	0-00FF	0	40704	
DI2 input option	0-15	0	40705	
DI2 input logic operation AND	0-00FF	0	40707	
DI2 input logic operation OR	0-00FF	0	40708	
DI3 input option	0-15	0	40709	
DI3 input logic operation AND	0-00FF	0	40711	
DI3 input logic operation OR	0-00FF	0	40712	
DI4 input option	0-15	0	40713	
DI4 input logic operation AND	0-00FF	0	40715	
DI4 input logic operation OR	0-00FF	0	40716	
DI5 input option	0-15	0	40717	
DI5 input logic operation AND	0-00FF	0	40719	
DI5 input logic operation OR	0-00FF	0	40720	
DI6 input option	0-15	0	40721	
DI6 input logic operation AND	0-00FF	0	40723	
DI6 input logic operation OR	0-00FF	0	40724	
DI7 input option	0-15	0	40725	
DI7 input logic operation AND	0-00FF	0	40727	
DI7 input logic operation OR	0-00FF	0	40728	
DI8 input option	0-15	0	40729	
DI8 input logic operation AND	0-00FF	0	40731	
DI8 input logic operation OR	0-00FF	0	40732	

## Digital Output Parameters

Contents	Reading out/Writing data setting range	Factory-set value	Register No.	Entry ban
DO1 output type	0: Event output 1: Control output	0	40401	*
DO1 master St. No.	0-255	0	40402	*
DO1 master Ch. No.	1-4	1	40403	*
DO1 BIT position	0-FFFF	1	40404	
DO1 output option	Bit 0 : LATCH Bit 1 : NOT Bit 2 : AND Bit 3 : OR	0	40405	
DO1 output logic operation AND	0-00FF	0	40407	
DO1 output logic operation OR	0-00FF	0	40408	
DO1 scaling base	-100.0 - +100.0	0	40409	
DO1 scaling span	-100.0 - +100.0	1000	40410	
DO1 proportion cycle	1-120	30	40411	
DO1 output limit (lower)	0.0 - 100.0	0	40412	
DO1 output limit (upper)	0.0 - 100.0	1000	40413	
DO1 limit type	0: Lower limit -3%, Upper limit 103% 1: Lower limit, Upper limit 103% 2: Lower limit -3%, Upper limit 3: Lower limit, Upper limit	0	40414	
DO2 output type	0: Event output 1: Control output	0	40415	*
DO2 master St. No.	0-255	0	40416	*
DO2 master Ch. No.	1-4	1	40417	*
DO2 BIT position	0-FFFF	2	40418	
DO2 output option	0-15	0	40419	
DO2 output logic operation AND	0-00FF	0	40421	
DO2 output logic operation OR	0-00FF	0	40422	
DO2 scaling base	-100.0 - +100.0	0	40423	
DO2 scaling span	-100.0 - +100.0	1000	40424	
DO2 proportion cycle	1-120	30	40425	
DO2 output limit (lower)	0.0 - 100.0	0	40426	
DO2 output limit (upper)	0.0 - 100.0	1000	40427	
DO2 limit type	0-3	0	40428	
DO3 output type	0: Event output 1: Control output	0	40429	*
DO3 master St. No.	0-255	0	40430	*
DO3 master Ch. No.	1-4	1	40431	*
DO3 BIT position	0-FFFF	4	40432	

## 5.7 Setting/Monitor Area Entry Numbers (Event I/O module)

Contents	Reading out/Writing data setting range	Factory-set value	Register No.	Entry ban
DO3 output option	0-15	0	40433	
DO3 output logic operation AND	0-00FF	0	40435	
DO3 output logic operation OR	0-00FF	0	40436	
DO3 scaling base	-100.0 - +100.0	0	40437	
DO3 scaling span	-100.0 - +100.0	1000	40438	
DO3 proportion cycle	1-120	30	40439	
DO3 output limit (lower)	0.0 - 100.0	0	40440	
DO3 output limit (upper)	0.0 - 100.0	1000	40441	
DO3 limit type	0-3	0	40442	
DO4 output type	0: Event output 1: Control output	0	40443	*
DO4 master St. No.	0-255	0	40444	*
DO4 master Ch. No.	1-4	1	40445	*
DO4 BIT position	0-FFFF	8	40446	
DO4 output option	0-15	0	40447	
DO4 output logic operation AND	0-00FF	0	40449	
DO4 output logic operation OR	0-00FF	0	40450	
DO4 scaling base	-100.0 - +100.0	0	40451	
DO4 scaling span	-100.0 - +100.0	1000	40452	
DO4 proportion cycle	1-120	30	40453	
DO4 output limit (lower)	0.0 - 100.0	0	40454	
DO4 output limit (upper)	0.0 - 100.0	1000	40455	
DO4 limit type	0-3	0	40456	
DO5 output type	0: Event output 1: Control output	0	40457	*
DO5 master St. No.	0-255	0	40458	*
DO5 master Ch. No.	1-4	1	40459	*
DO5 BIT position	0-FFFF	16	40460	
DO5 output option	0-15	0	40461	
DO5 output logic operation AND	0-00FF	0	40463	
DO5 output logic operation OR	0-00FF	0	40464	
DO5 scaling base	-100.0 - +100.0	0	40465	
DO5 scaling span	-100.0 - +100.0	1000	40466	
DO5 proportion cycle	1-120	30	40467	
DO5 output limit (lower)	0.0 - 100.0	0	40468	
DO5 output limit (upper)	0.0 - 100.0	1000	40469	
DO5 limit type	0-3	0	40470	
DO6 output type	0: Event output 1: Control output	0	40471	*

## 5.7 Setting/Monitor Area Entry Numbers (Event I/O module)

Contents	Reading out/Writing data setting range	Factory-set value	Register No.	Entry ban
DO6 master St. No.	0-255	0	40472	*
DO6 master Ch. No.	1-4	1	40473	*
DO6 BIT position	0-FFFF	0	40474	
DO6 output option	0-15	0	40475	
DO6 output logic operation AND	0-00FF	0	40477	
DO6 output logic operation OR	0-00FF	0	40478	
DO6 scaling base	-100.0 - +100.0	0	40479	
DO6 scaling span	-100.0 - +100.0	1000	40480	
DO6 proportion cycle	1-120	30	40481	
DO6 output limit (lower)	0.0 - 100.0	0	40482	
DO6 output limit (upper)	0.0 - 100.0	1000	40483	
DO6 limit type	0-3	0	40484	
DO7 output type	0: Event output 1: Control output	0	40485	*
DO7 master St. No.	0-255	0	40486	*
DO7 master Ch. No.	1-4	1	40487	*
DO7 BIT position	0-FFFF	0	40488	
DO7 output option	0-15	0	40489	
DO7 output logic operation AND	0-00FF	0	40491	
DO7 output logic operation OR	0-00FF	0	40492	
DO7 scaling base	-100.0 - +100.0	0	40493	
DO7 scaling span	-100.0 - +100.0	1000	40494	
DO7 proportion cycle	1-120	30	40495	
DO7 output limit (lower)	0.0 - 100.0	0	40496	
DO7 output limit (upper)	0.0 - 100.0	1000	40497	
DO7 limit type	0-3	0	40498	
DO8 output type	0: Event output 1: Control output	0	40499	*
DO8 master St. No.	0-255	0	40500	*
DO8 master Ch. No.	1-4	1	40501	*
DO8 BIT position	0-FFFF	0	40502	
DO8 output option	0-15	0	40503	
DO8 output logic operation AND	0-00FF	0	40505	
DO8 output logic operation OR	0-00FF	0	40506	
DO8 scaling base	-100.0 - +100.0	0	40507	
DO8 scaling span	-100.0 - +100.0	1000	40508	
DO8 proportion cycle	1-120	1	40509	
DO8 output limit (lower)	0.0 - 100.0	0	40510	

Contents	Reading out/Writing data setting range	Factory-set value	Register No.	Entry ban
DO8 output limit (upper)	0.0 - 100.0	1000	40511	
DO8 limit type	0-3	0	40512	

## Communication Parameters

Contents	Reading out/Writing data setting range	Factory-set value	Register No.	Entry ban
RS-485 parity setting	0: None 1: Odd 2: Even	0	40111	*
RS-485 response interval time	0 to 25 (1digit/20ms)	1	40113	*
RS-485 communication permission	0: Ready only 1: Read/Write	1	40114	*
RS-485 communication speed	0: 9.6kbps 1: 19.2kbps 2: 38.4kbps 3: Forbidden 4: 115.2kbps	1	40115	*
Enhanced communication module (PUMC) connection permission	0: PUMC not connected (RS-485 Enable) 1: PUMC connected (RS-485 Disable)	0	40116	*

## Configuration Parameters

Contents	Reading out/Writing data setting range	Factory-set value	Register No.	Entry ban
FAULT output 1 set value	0: HOLD 1: OFF	0	40260	
Standby output set value	0000-FFFF	0	40268	
Standby mode setting	0: DI=input value DO= Standby output set value 1: DI=All OFF DO=Standby output set value	0	40270	
LED2 Lamp configuration	0-2	1	40222	*

## Monitor Parameters

### Note

Monitor parameter can be entered to the monitor area only. Do not enter it to the setting area.

Contents	Reading out/Writing data setting range	Factory-set value	Register No.	Entry ban
Digital output calculated result monitor	0000 - FFFF	-	31002	
Digital input calculated result monitor	0000 - FFFF	-	31001	
Digital input terminal monitor	0000 - FFFF	-	31003	

## Internal DO Data Area

Contents	Reading out/Writing data setting range	Factory-set value	Register No.	Entry ban
Internal DO data area 1	Event output 1: ON 2: OFF Control output 0.00 to 100.00	0	41001	
Internal DO data area 2		0	41002	
Internal DO data area 3		0	41003	
Internal DO data area 4		0	41004	
Internal DO data area 5		0	41005	
Internal DO data area 6		0	41006	
Internal DO data area 7		0	41007	
Internal DO data area 8		0	41008	
Internal DO data area 9		0	41009	
Internal DO data area 10		0	41010	
Internal DO data area 11		0	41011	
Internal DO data area 12		0	41012	
Internal DO data area 13		0	41013	
Internal DO data area 14		0	41014	
Internal DO data area 15		0	41015	
Internal DO data area 16		0	41016	

# 5.8 Setting/Monitor Area Entry Numbers (Analog module)

The table below shows the register numbers of an analog module, which are settable to each parameter of "Setting/Monitor area entry St. No." and "Setting/Monitor area entry register No." of a programless communication module.

## Note

Parameters marked "\*" in the "Entry ban" column in the table can not be changed via programless communication modules. Do not set them to each parameter of "Setting/Monitor area entry St. No." and "Setting/Monitor area entry register No."

## Operation Parameters

Contents	Readout/Write data setting range	Depends on input range	Factory-set value	Register No. 1 (Ch1)	Register No. 2 (Ch2)	Register No. 3 (Ch3)	Register No. 4 (Ch4)	Entry ban	Aio	Ai	Ao
RUN/Standby SW	0: RUN 1: Standby		0 (RUN)	40017 41004	40018 42004	40019 43004	40020 44004		○	○	○
Internal analog output field	-327.6 to 327.6%		0	40251	40252	40253	40254		○	×	○
Digital output latch release command	0: OFF 1: Release latch		0 (OFF)	41031	42031	43031	44031		○	○	×
ALM1 set value 1	-100 to 100% FS	○	2.5% FS	41033	42033	43033	44033				
ALM1 set value 2	-100 to 100% FS	○	2.5% FS	41034	42034	43034	44034				
ALM2 set value 1	-100 to 100% FS	○	2.5% FS	41041	42041	43041	44041				
ALM2 set value 2	-100 to 100% FS	○	2.5% FS	41042	42042	43042	44042				
ALM3 set value 1	-100 to 100% FS	○	2.5% FS	41049	42049	43049	44049				
ALM3 set value 2	-100 to 100% FS	○	2.5% FS	41050	42050	43050	44050				
ALM4 set value 1	-100 to 100% FS	○	2.5% FS	41057	42057	43057	44057				
ALM4 set value 2	-100 to 100% FS	○	2.5% FS	41058	42058	43058	44058				
ALM5 set value 1	-100 to 100% FS	○	2.5% FS	41065	42065	43065	44065				
ALM5 set value 2	-100 to 100% FS	○	2.5% FS	41066	42066	43066	44066				

## Setup Parameters

Contents	Readout/Write data setting range	Depends on input range	Factory-set value	Register No. 1 (Ch1)	Register No. 2 (Ch2)	Register No. 3 (Ch3)	Register No. 4 (Ch4)	Entry ban	Aio	Ai	Ao
Analog input type	0: JPt100(0 to 150°C) 1: JPt100(-150 to 600°C) 2: Pt100(0 to 150°C) 3: Pt100(-150 to 300°C) 4: Pt100(-150 to 850°C) 5: J(0 to 400°C) 6: J(0 to 800°C) 7: K(0 to 400°C) 8: K(0 to 800°C) 9: K(0 to 1200°C) 10: R(0 to 1600°C) 11: B(0 to 1800°C) 12: S(0 to 1600°C) 13: T(-199 to 400°C) 14: E(-199 to 800°C) 18: N(0 to 1300°C) 19: PL-2(0 to 1300°C) 21: Voltage (0 to 5V) 22: Voltage (1 to 5V) 23: Voltage (0 to 10V) 24: Voltage (2 to 10V)		7 (TC/Pt) 22 (VI)	40151 41029	40152 42029	40153 43029	40154 44029	*	○	○	×
Analog input scale lower	-1999 to 9999		0% FS	41212	42212	43212	44212	*			
Analog input scale upper	-1999 to 9999		100% FS	41213	42213	43213	44213	*			
Decimal place	0: No decimal point 1: One decimal place 2: Two decimal places		0 (TC/Pt) 1 (VI)	41214	42214	43214	44214	*			
Temperature unit	0: Degree C 1: Not selectable		0 (°C)	41215	42215	43215	44215	*			
Analog input shift	-10 to 10% FS	○	0	41216	42216	43216	44216				
Analog input filter	0.0 to 120.0sec		2.0	41220	42220	43220	44220				
Analog input display zero adjustment	-50 to 50% FS	○	0	41221	42221	43221	44221				
Analog input display span adjustment	-50 to 50% FS	○	0	41222	42222	43222	44222				
Cold junction compensation	0: OFF 1: ON		1 (ON)	41223	42223	43223	44223				

## 5.8 Setting/Monitor Area Entry Numbers (Analog module)

Contents	Readout/Write data setting range	Depends on input range	Factory-set value	Register No. 1 (Ch1)	Register No. 2 (Ch2)	Register No. 3 (Ch3)	Register No. 4 (Ch4)	Entry ban	Aio	Ai	Ao
Analog output lower limit	-25.0 to 125.0%		-3.0	41255	42255	43255	44255		○	×	○
Analog output upper limit	-25.0 to 125.0%		103.0	41256	42256	43256	44256				
Standby analog output set value	-3.0 to 103.0%		-3.0	41268	42268	43268	44268				
Standby mode setting	0: ALM=OFF 1: ALM=ON		0	41270	42270	43270	44270		○	○	×
Linkage operation master St. No.	0 to 255		0	41536	42536	43536	44536	*	○	○	○
Linkage operation master Ch. No	1 to 4		Each Ch.	41537	42537	43537	44537	*			

## System Parameters

Contents	Readout/Write data setting range	Depends on input range	Factory-set value	Register No. 1 (Ch1)	Register No. 2 (Ch2)	Register No. 3 (Ch3)	Register No. 4 (Ch4)	Entry ban	Aio	Ai	Ao
Current output range	4: 0 to 20mA 5: 4 to 20mA		5 (4-20mA)	40166 41801	40167 42801	40168 43801	40169 44801		○	×	○
Output type	0: Ai of own station 1: Output 0% 2: Output 0% 3: Output 0% 4: Internal analog output field 5: PV of other St. 6: SV of other St. 7: MV of other St.		3 (output 0%)	40171 41803	40177 42803	40183 43803	40189 44803				
Output master St.	0 to 255 stations		0	40172 41804	40178 42804	40184 43804	40190 44804	*			
Output master Ch.	1 to 4Ch		Each Ch.	40173 41805	40179 42805	40185 43805	40191 44805	*			
Output scaling base	-100.0 to 100.0%		0.0	40175 41807	40181 42807	40187 43807	40193 44807				
Output scaling span	-100.0 to 1000.0		100.0	40174 41806	40180 42806	40186 43806	40192 44806				
Output shutdown	0000 to 1111 bit 0 : Output 1 shutdown bit 1 : Output 2 shutdown bit 2 : Output 3 shutdown bit 3 : Output 4 shutdown		0000	40201							
DI-1 function select	0: No function 1: RUN/Standby SW 2: No function 3: No function 4: No function 5: No function 6: No function 7: No function 8: No function 9: No function 10: No function 11: No function 12: No function 13: No function 14: No function 15: No function 16: No function 17: Latch release (all) 18: Latch release (DO1) 19: Latch release (DO2) 20: Latch release (DO3) 21: Latch release (DO4) 22: Latch release (DO5) 23: No function		0	41013	42013	43013	44013		○	○	○

## 5.8 Setting/Monitor Area Entry Numbers (Analog module)

Contents	Readout/Write data setting range	Depends on input range	Factory-set value	Register No. 1 (Ch1)	Register No. 2 (Ch2)	Register No. 3 (Ch3)	Register No. 4 (Ch4)	Entry ban	Aio	Ai	Ao
DI-1 function select	24: No function 25: No function 26: Start timer(DO1) 27: Start timer(DO2) 28: Start timer(DO3) 29: Start timer(DO4) 30: Start timer(DO5) 31: No function 32: No function 33: No function 34: No function 35: No function 36: No function 37: No function 38: No function 39: No function 40: No function 41: No function 42: No function 43: No function 44: No function 45: No function 46: No function 47: No function 48: No function 49: Output 1 shutdown 50: Output 2 shutdown 51: Output 3 shutdown 52: Output 4 shutdown		0	41013	42013	43013	44013		○	○	○
DI-2 function select	0 to 52		0	41014	42014	43014	44014				
DI-3 function select	0 to 52		0	41015	42015	43015	44015				
DI-4 function select	0 to 52		0	41016	42016	43016	44016				
DI-5 function select	0 to 52		0	41017	42017	43017	44017				
DI-6 function select	0 to 52		0	41018	42018	43018	44018				
DI-7 function select	0 to 52		0	41019	42019	43019	44019				
DI-8 function select	0 to 52		0	41020	42020	43020	44020				
DI-9 function select	0 to 52		0	41021	42021	43021	44021				
DI-10 function select	0 to 52		0	41022	42022	43022	44022				
DI-11 function select	0 to 52		0	41023	42023	43023	44023				
DI-12 function select	0 to 52		0	41024	42024	43024	44024				
DI-13 function select	0 to 52		0	41025	42025	43025	44025				
DI-14 function select	0 to 52		0	41026	42026	43026	44026				
DI-15 function select	0 to 52		0	41027	42027	43027	44027				
DI-16 function select	0 to 52		0	41028	42028	43028	44028				
DI master St. setting	0 to 255		0	41011	42011	43011	44011	*			

## 5.8 Setting/Monitor Area Entry Numbers (Analog module)

Contents	Readout/Write data setting range	Depends on input range	Factory-set value	Register No. 1 (Ch1)	Register No. 2 (Ch2)	Register No. 3 (Ch3)	Register No. 4 (Ch4)	Entry ban	Aio	Ai	Ao
DO 1 output event type setting	0-102		0	41032	42032	43032	44032	*	○	○	×
DO1 option function setting	0000 to 1111 bit 0 : Alarm latch function bit 1 : Error input alarm function bit 2 : Non-excitation output function bit 3 : Hold reset function		0000	41036	42036	43036	44036				
DO2 output event type setting	0-102		0	41040	42040	43040	44040	*			
DO2 option function setting	0000 to 1111 bit 0 : Alarm latch function bit 1 : Error input alarm function bit 2 : Non-excitation output function bit 3 : Hold reset function		0000	41044	42044	43044	44044				
DO3 output event type setting	0-102		0	41048	42048	43048	44048	*			
DO3 option function setting	0000 to 1111 bit 0 : Alarm latch function bit 1 : Error input alarm function bit 2 : Non-excitation output function bit 3 : Hold reset function		0000	41052	42052	43052	44052				
DO4 output event type setting	0-102		0	41056	42056	43056	44056	*			
DO4 option function setting	0000 to 1111 bit 0 : Alarm latch function bit 1 : Error input alarm function bit 2 : Non-excitation output function bit 3 : Hold reset function		0000	41060	42060	43060	44060				
DO5 output event type setting	0-102		0	41064	42064	43064	44064	*			
DO5 option function setting	0000 to 1111 bit 0 : Alarm latch function bit 1 : Error input alarm function bit 2 : Non-excitation output function bit 3 : Hold reset function		0000	41068	42068	43068	44068				
Mode at startup	0: Auto mode 1: Standby 2: Standby 3: Standby		0 (Auto)	41304	42304	43304	44304	*	○	○	○

## Alarm Parameter

Contents	Readout/Write data setting range	Depends on input range	Factory-set value	Register No. 1 (Ch1)	Register No. 2 (Ch2)	Register No. 3 (Ch3)	Register No. 4 (Ch4)	Entry ban	Aio	Ai	Ao
ALM1 hysteresis	0 to 50% FS	○	0.25% FS	41035	42035	43035	44035		○	○	×
ALM1 delay time	0 to 99 min. 59sec. /0 to 99hr. 59min.		0	41037	42037	43037	44037				
ALM1 delay time units	0: sec. 1: min.		0 (Second)	41038	42038	43038	44038				
ALM2 hysteresis	0 to 50% FS	○	0.25% FS	41043	42043	43043	44043				
ALM2 delay time	0 to 99 min. 59sec. /0 to 99hr. 59min.		0	41045	42045	43045	44045				
ALM2 delay time units	0: sec. 1: min.		0 (Second)	41046	42046	43046	44046				
ALM3 hysteresis	0 to 50% FS	○	0.25% FS	41051	42051	43051	44051				
ALM3 delay time	0 to 99 min. 59sec. /0 to 99hr. 59min.		0	41053	42053	43053	44053				
ALM3 delay time units	0: sec. 1: min.		0 (Second)	41054	42054	43054	44054				
ALM4 hysteresis	0 to 50% FS	○	0.25% FS	41059	42059	43059	44059				
ALM4 delay time	0 to 99 min. 59sec. /0 to 99hr. 59min.		0	41061	42061	43061	44061				
ALM4 delay time units	0: sec. 1: min.		0 (Second)	41062	42062	43062	44062				
ALM5 hysteresis	0 to 50% FS	○	0.25% FS	41067	42067	43067	44067				
ALM5 delay time	0 to 99 min. 59sec. /0 to 99hr. 59min.		0	41069	42069	43069	44069				
ALM5 delay time units	0: sec. 1: min.		0 (Second)	41070	42070	43070	44070				
Object Ch. No. for interchannel ALM1	1 to 4		1	41039	42039	43039	44039				
Object Ch. No. for interchannel ALM2	1 to 4		1	41047	42047	43047	44047				
Object Ch. No. for interchannel ALM3	1 to 4		1	41055	42055	43055	44055				
Object Ch. No. for interchannel ALM4	1 to 4		1	41063	42063	43063	44063				
Object Ch. No. for interchannel ALM5	1 to 4		1	41071	42071	43071	44071				

## Communication Parameters

Contents	Readout/Write data setting range	Depends on input range	Factory-set value	Register No. 1 (Ch1)	Register No. 2 (Ch2)	Register No. 3 (Ch3)	Register No. 4 (Ch4)	Entry ban	Aio	Ai	Ao
RS-485 Parity setting	0: None 1: ODD 2: EVEN		0	40111				*	○	○	○
RS-485 Communication speed	0: 9.6kbps 1: 19.2kbps 2: 38.4kbps 3: Forbidden 4: 115.2kbps		1	40115				*			
RS-485 Communication permission	0: Read only 1: Read/Write		1 (R/W)	40114				*			
RS-485 Response interval time	0-25 (20ms/1digit)		0	40113				*			
Enhanced communication module (PUMC) connection permission	0: PUMC not connected (RS-485 Enable) 1: PUMC connected (RS-485 Disable)		0 (RS-485 Enable)	40116				*			
Master/slave setting in connected modules	0: Master 1: Slave		1 (Slave)	40117				*			
User address 01	30000 to 49999		30002(Ai1)	40301				*			
User address 02	30000 to 49999		30002(Ai1)	40302				*			
User address 03	30000 to 49999		30002(Ai1)	40303				*			
User address 04	30000 to 49999		30002(Ai1)	40304				*			
User address 05	30000 to 49999		30002(Ai1)	40305				*			
User address 06	30000 to 49999		30002(Ai1)	40306				*			
User address 07	30000 to 49999		30002(Ai1)	40307				*			
User address 08	30000 to 49999		30002(Ai1)	40308				*			
User address 09	30000 to 49999		30002(Ai1)	40309				*			
User address 10	30000 to 49999		30002(Ai1)	40310				*			
User address 11	30000 to 49999		30002(Ai1)	40311				*			
User address 12	30000 to 49999		30002(Ai1)	40312				*			
User address 13	30000 to 49999		30002(Ai1)	40313				*			
User address 14	30000 to 49999		30002(Ai1)	40314				*			
User address 15	30000 to 49999		30002(Ai1)	40315				*			
User address 16	30000 to 49999		30002(Ai1)	40316				*			
User address 17	30000 to 49999		30002(Ai1)	40317				*			
User address 18	30000 to 49999		30002(Ai1)	40318				*			
User address 19	30000 to 49999		30002(Ai1)	40319				*			

## 5.8 Setting/Monitor Area Entry Numbers (Analog module)

Contents	Readout/Write data setting range	Depends on input range	Factory-set value	Register No. 1 (Ch1)	Register No. 2 (Ch2)	Register No. 3 (Ch3)	Register No. 4 (Ch4)	Entry ban	Aio	Ai	Ao
User address 20	30000 to 49999		30002(Ai1)	40320				*	○	○	○
User address 21	30000 to 49999		30002(Ai1)	40321				*			
User address 22	30000 to 49999		30002(Ai1)	40322				*			
User address 23	30000 to 49999		30002(Ai1)	40323				*			
User address 24	30000 to 49999		30002(Ai1)	40324				*			
User address 25	30000 to 49999		30002(Ai1)	40325				*			
User address 26	30000 to 49999		30002(Ai1)	40326				*			
User address 27	30000 to 49999		30002(Ai1)	40327				*			
User address 28	30000 to 49999		30002(Ai1)	40328				*			
User address 29	30000 to 49999		30002(Ai1)	40329				*			
User address 30	30000 to 49999		30002(Ai1)	40330				*			
User address 31	30000 to 49999		30002(Ai1)	40331				*			
User address 32	30000 to 49999		30002(Ai1)	40332				*			
User data 01	Depends on "User address 01"		-	45001				*			
User data 02	Depends on "User address 02"		-	45002				*			
User data 03	Depends on "User address 03"		-	45003				*			
User data 04	Depends on "User address 04"		-	45004				*			
User data 05	Depends on "User address 05"		-	45005				*			
User data 06	Depends on "User address 06"		-	45006				*			
User data 07	Depends on "User address 07"		-	45007				*			
User data 08	Depends on "User address 08"		-	45008				*			
User data 09	Depends on "User address 09"		-	45009				*			
User data 10	Depends on "User address 10"		-	45010				*			
User data 11	Depends on "User address 11"		-	45011				*			
User data 12	Depends on "User address 12"		-	45012				*			
User data 13	Depends on "User address 13"		-	45013				*			
User data 14	Depends on "User address 14"		-	45014				*			

## 5.8 Setting/Monitor Area Entry Numbers (Analog module)

Contents	Readout/Write data setting range	Depends on input range	Factory-set value	Register No. 1 (Ch1)	Register No. 2 (Ch2)	Register No. 3 (Ch3)	Register No. 4 (Ch4)	Entry ban	Aio	Ai	Ao
User data 15	Depends on "User address 15"		-	45015				*	○	○	○
User data 16	Depends on "User address 16"		-	45016				*			
User data 17	Depends on "User address 17"		-	45017				*			
User data 18	Depends on "User address 18"		-	45018				*			
User data 19	Depends on "User address 19"		-	45019				*			
User data 20	Depends on "User address 20"		-	45020				*			
User data 21	Depends on "User address 21"		-	45021				*			
User data 22	Depends on "User address 22"		-	45022				*			
User data 23	Depends on "User address 23"		-	45023				*			
User data 24	Depends on "User address 24"		-	45024				*			
User data 25	Depends on "User address 25"		-	45025				*			
User data 26	Depends on "User address 26"		-	45026				*			
User data 27	Depends on "User address 27"		-	45027				*			
User data 28	Depends on "User address 28"		-	45028				*			
User data 29	Depends on "User address 29"		-	45029				*			
User data 30	Depends on "User address 30"		-	45030				*			
User data 31	Depends on "User address 31"		-	45031				*			
User data 32	Depends on "User address 32"		-	45032				*			

## Configuration Parameters

Contents	Readout/Write data setting range	Depends on input range	Factory-set value	Register No. 1 (Ch1)	Register No. 2 (Ch2)	Register No. 3 (Ch3)	Register No. 4 (Ch4)	Entry ban	Aio	Ai	Ao
LED2 lamp allocation	0 to 255		1	40222				*	○	○	○
LED3 lamp allocation	0 to 255		12	40223				*			
LED4 lamp allocation	0 to 255		13	40224				*			
LED5 lamp allocation	0 to 255		14	40225				*			
LED6 lamp allocation	0 to 255		15	40226				*			
Reset main unit	0: Do nothing 1: Reset main unit		0	40101				*			

## Monitor Parameters

### Note

Monitor parameters can enter for the monitor area only. Do not enter the setting area.

Contents	Readout/Write data setting range	Depends on input range	Factory-set value	Register No. 1 (Ch1)	Register No. 2 (Ch2)	Register No. 3 (Ch3)	Register No. 4 (Ch4)	Entry ban	Aio	Ai	Ao			
System time	0 to 65535		-	30001					○	○	×			
Input value (Analog input)	-5 to 105% FS		-	30002 31001	30003 32001	30004 33001	30005 34001							
RCJtemp	-3276.7 to 3276.7°C		-	30110 31016	30111 32016	30112 33016	30113 34016							
Error source display	0 to FFFF		-	31008	32008	33008	34008							
Alarm 1-5 status	0 to 001F		-	31007	32007	33007	34007							
Event input status	0 to FFFF		-	31061	32061	33061	34061							
Remaining time on timer 1	0 to 99 min. 59 sec. /0 to 99hr. 59 min.		-	31011	32011	33011	34011							
Remaining time on timer 2	0 to 99 min. 59 sec. /0 to 99hr. 59 min.		-	31012	32012	33012	34012							
Remaining time on timer 3	0 to 99 min. 59 sec. /0 to 99hr. 59 min.		-	31013	32013	33013	34013							
Remaining time on timer 4	0 to 99 min. 59 sec. /0 to 99hr. 59 min.		-	31014	32014	33014	34014							
Remaining time on timer 5	0 to 99 min. 59 sec. /0 to 99hr. 59 min.		-	31015	32015	33015	34015							
Output value (Analog output)	-3.0 to 103.0%		-	30120	30121	30122	30123					○	×	○
RS-485 Communication permission	0: Read only 1: Read/Write		-	30062								○	○	○



# 6

## Loader Communications

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# 6.1 Loader Communication Functions

The equipment equipped with communication functions via the loader interface, which enables data exchange to such devices as PC.

The communication system composed of the one to one communication between a master (such as, personal computer) and a slave (the equipment).

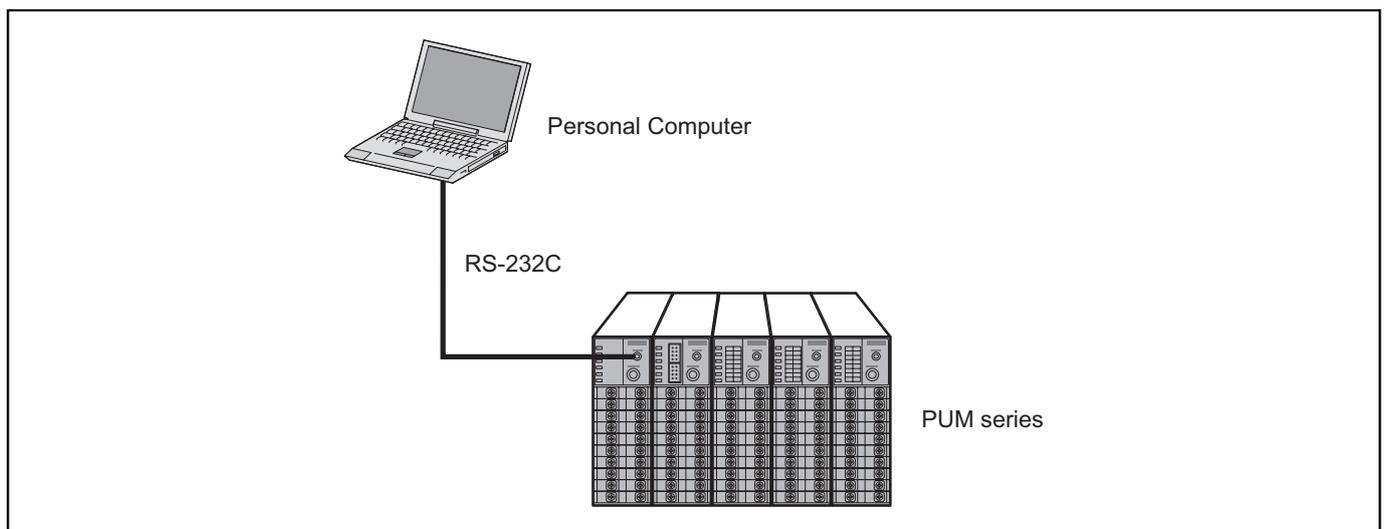
## Note

- The system constructed with the equipment as slaves do not respond to messages issued by the master with broadcast queries are where the station number is "0".
- Communications with a loader interface should not be performed during production operation.
- The equipment can not perform communication to a programless communication module with it connected to a loader port on the control module.

The sending/receiving data format should be same to perform communication between a master and a slave. The communication data format by the MODBUS protocol is explained in this manual.

When performing the loader communication, connect an optional loader connecting cable (RS-232C, Type: PUMZ\*L01) to the front face loader communication port of the main unit in order to perform RS-232 communication to the personal computer.

## Connection with PC



# 6.2 Loader Communication Specifications

## Loader interface

Item	Specifications	
Electrical specifications	EIA RS232C	
Transmission method	3-wire system, half duplex serial	
Synchronous method	Asynchronous	
Connection mode	1 : 1	
Station number	128	
Communication speed	19.2kbps (fixed)	
Data format	Data length	8 bits
	Stop bit	1 bits
	Parity	None (fixed)
Transmission code	HEX value (MODBUS RTU mode)	
Error detection	CRC-16	
Insulation	No insulation with the internal circuit	

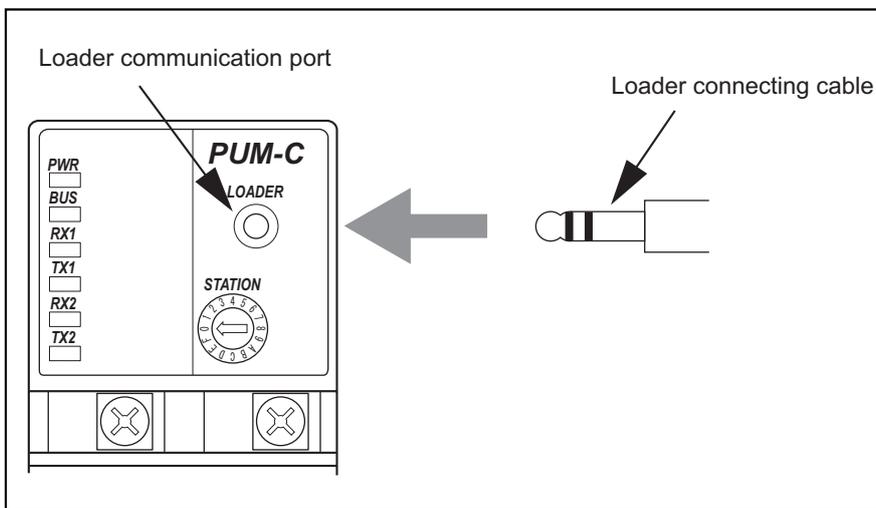
# 6.3 Loader Connection

## Warning



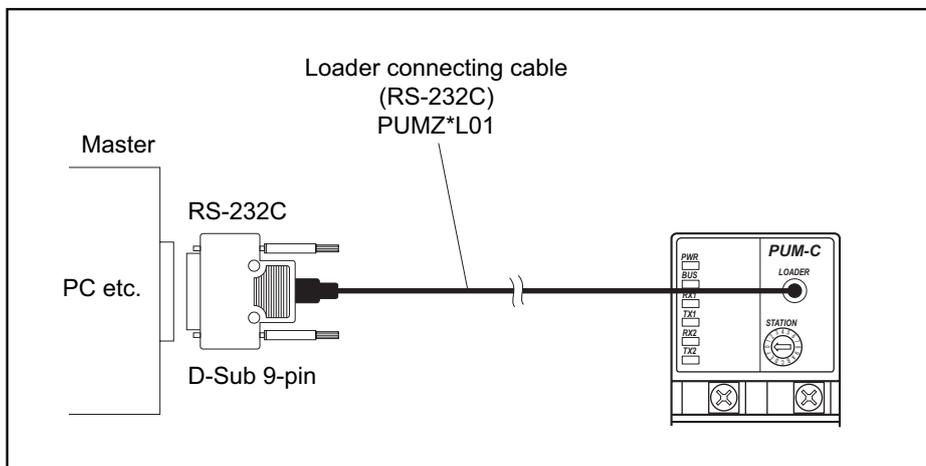
DO NOT TURN THE POWER ON UNTIL ALL OF THE WIRING IS COMPLETED.  
THERE IS A RISK OF ELECTRICAL SHOCK OR DAMAGE.

## Communication terminal



## Connection with a loader communication port

- Use an optional loader connecting cable (RS-232C).



# 6.4 Setting Loader Communication Parameters

In order to perform communication between the master and the equipment properly, the setting below is necessary.

- All communication conditions settings for both of the master and the equipment should be the same.

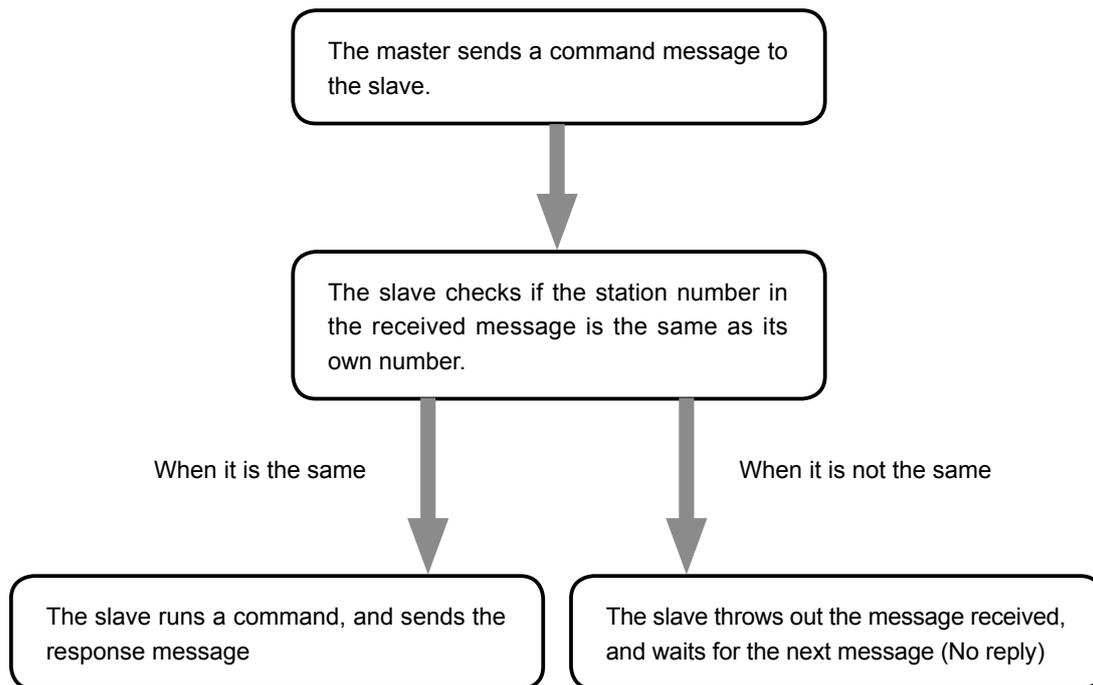
## Setting items for loader interface (The equipment)

Items	Setting range	Factory-set value	Remarks column
Station No.	128	128	The value is fixed regardless of the setting of St. No. configuration SW.
Communication speed setting	19.2kbps (Fixed)	—	Not changeable
Data length	8 bits	—	Not changeable
Parity	None	—	Not changeable

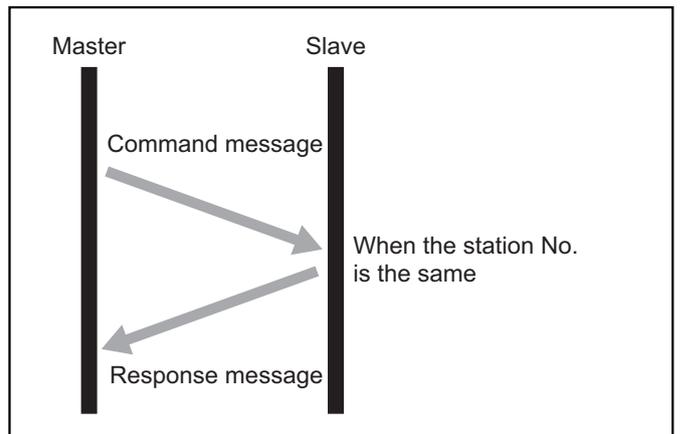
# 6.5 MODBUS Communication Protocol

The communication system with MODBUS protocol always performs communication by using the procedure that “the master sends a command message first, and the applicable slave sends a response message back”.

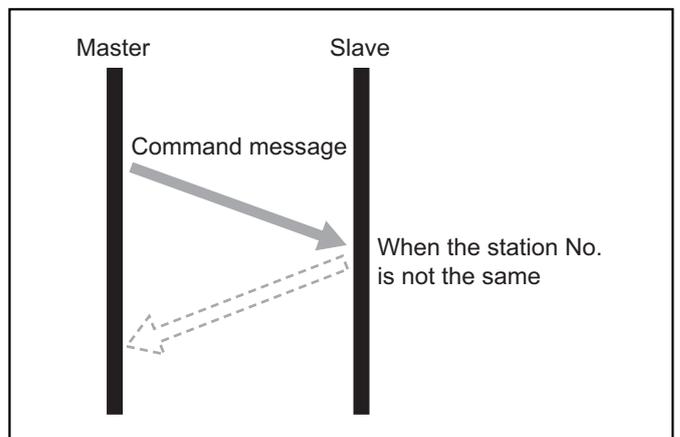
Communication procedure is shown in the flow chart below.



When the station number in the command message received is the same as its own number.



When the station number in the command message received is not the same as its own number.



## Message composition

Command messages are composed of four parts; a station number, a function code, a data part, and an error check code, and sent them in the order above.

Field Name	Number of Bytes
Station No.	1 byte
Function code	1 byte
Data part	2 to 64 bytes
Error check code (CRC-16)	2 bytes

### Station No.

This is the number allocated to a slave. It is fixed to "128".

### Function code

This code specifies the function for the slave to perform.

### Data part

These data is required to run the function code. The composition of the data part varies according to function codes. Coil number or register number is allocated to the data in the temperature controller, and specify those numbers to read out/write through communications.

The coil number or the register number in messages uses relative addresses.

The relative address is calculated using the formula below.

$$\text{Relative address} = (\text{The last 4 digits of a coil No. / register No.}) - 1$$

Ex.) When a function code specifies a register number "40003"

$$\begin{aligned} \text{Relative address} &= (\text{The last 4 digits of 40003}) - 1 \\ &= 0002 \end{aligned}$$

is used in the message.

### Error check code

This code is for detecting the message error (changes in the bits) during the signal transmission process. MODBUS protocol mode (RTU mode) uses CRC-16 (Cyclic Redundancy Check).

## Slave response

- **Normal slave response**

A slave creates and replies the response message to each command message. The slave response message uses the same format as the command message. Contents inside the data part vary according to function codes.

- **Irregular slave response**

If there are problems (such as specification of a nonexistent function code) with the contents of command messages other than transmission error, a slave creates and sends back an error response message without running the command.

The composition of an error response message is as follows. The function code uses the value that the function code of the command message plus 80H.

Field Name	Number of Bytes
Station No.	1 byte
Function Code + 80H	1 byte
Error Code	1 byte
Error Check Code (CRC-16)	2 bytes

The error codes are shown below.

Error Code	Contents	Explanation
01H	Function code failure	A nonexistent function code was specified. Check the function code.
02H	Address failure for coil/register	The specified relative address for the coil No. /the register No. cannot be used by the specified function code.
03H	Coil/register/limit failure	The specified number of words is too many and specifies the range that does not contain the coil No./register No. The specified data is specified beyond the limit.
06H	Busy state	Data is been writing in the register. Retrying communication after more than 100- sec interval.

- **No slave response**

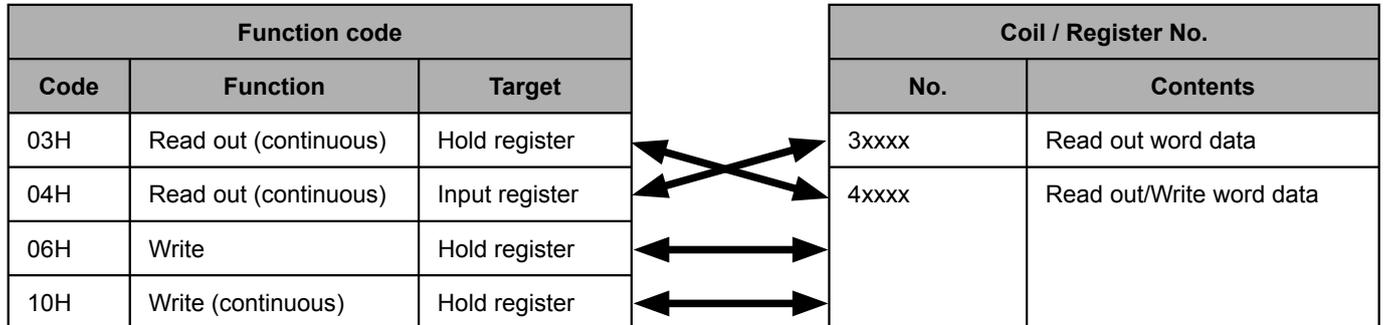
In the following cases, a slave ignores the command message, and send the response message back neither.

- In the case that the station number specified by the command message is not the same as the station number specified for a slave.
- In the case that the error check code does not correspond or the transmission error (such as parity error) is detected.
- In the case that the interval between the message composing data is 24 bit time or more.

## Function code

With MODBUS protocol, the different coil number/register number is allocated depends on the function code, and each function code is only available for a certain coil number/register number.

The diagram below is shown the correspondence between the function code and the coil number/register number.



The message length on the each function is shown below.

Code	Contents	Number of allocatable data	Command message		Response message	
			Minimum	Maximum	Minimum	Maximum
03H	Read word data	125 words*	8 bytes	8 bytes	7 bytes	69 bytes
04H	Read out word data (Read out only)	125 words*	8 bytes	8 bytes	7 bytes	69 bytes
06H	Write word data	1 word	8 bytes	8 bytes	8 bytes	8 bytes
10H	Write series of word data	123 words*	11 bytes	73 bytes	8 bytes	8 bytes

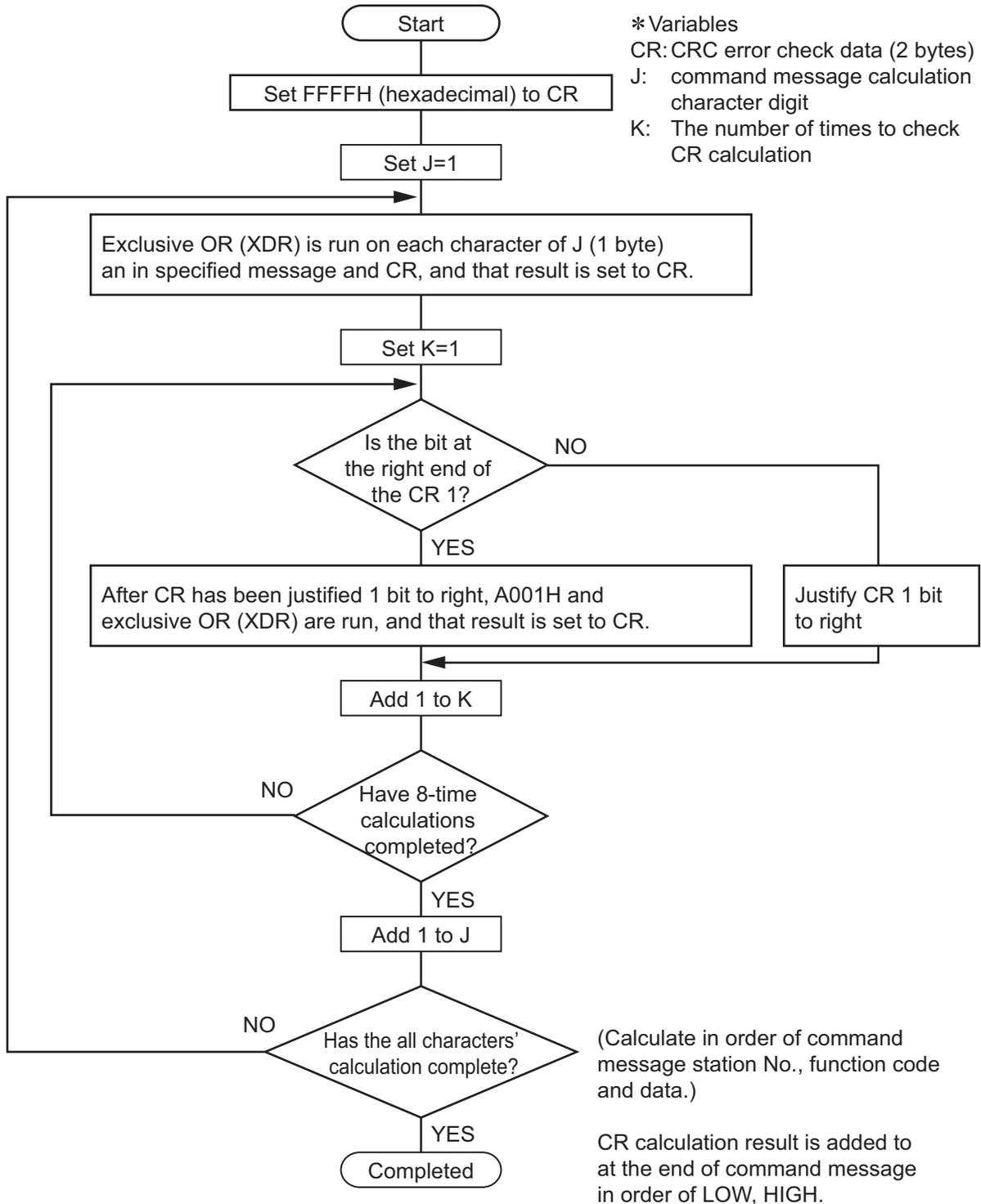
\*: "Number of allocatable data" above is limited by the number of data that the equipment allocates for the coil/address number. (Excluding the function code 06H)

## Error Check Code (CRC-16) Calculation

CRC-16 is 2-byte (16-bit) error check code. The calculating range is the starting position of the message (station number) to the end of the data part.

A slave calculates the CRC of the message received, and does not send the response message back, if the result is not the same as the CRC code received.

The flow for CRC-16 calculation is as below.



---

## Transmission control procedure

---

### Master communication method

Master should start communication following the rules below.

1. Provide more than 48-bit time blank state before sending the command message.
2. The interval between the sent messages should be less than 24 bit times.
3. The master will be in the receiving standby mode within 24 bit time after sending the command message.
4. Provide blank state more than 48 bit time prior to sending the next message after receiving the response message. (the same as the 1st rule)
5. For safety, create the framework where the master checks the response message, and if there is no response or errors occur, retry at least 3 times.

#### Note

The definition above is the minimum required value. For safety, creating the master side program with providing margins 2 to 3 times as large is recommended. For a concrete example, creating the blank state (the 1<sup>st</sup> rule above) more than 10ms, the interval between bytes (the 2<sup>nd</sup> rule above) and switching from sending to receiving (the 3<sup>rd</sup> rule) within 1ms for 19.2kbps is recommended.

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### Frame detection

There are 2 states with the circuit as below.

- Blank state (no data on the circuit)
- Communication state (data running on the circuit)

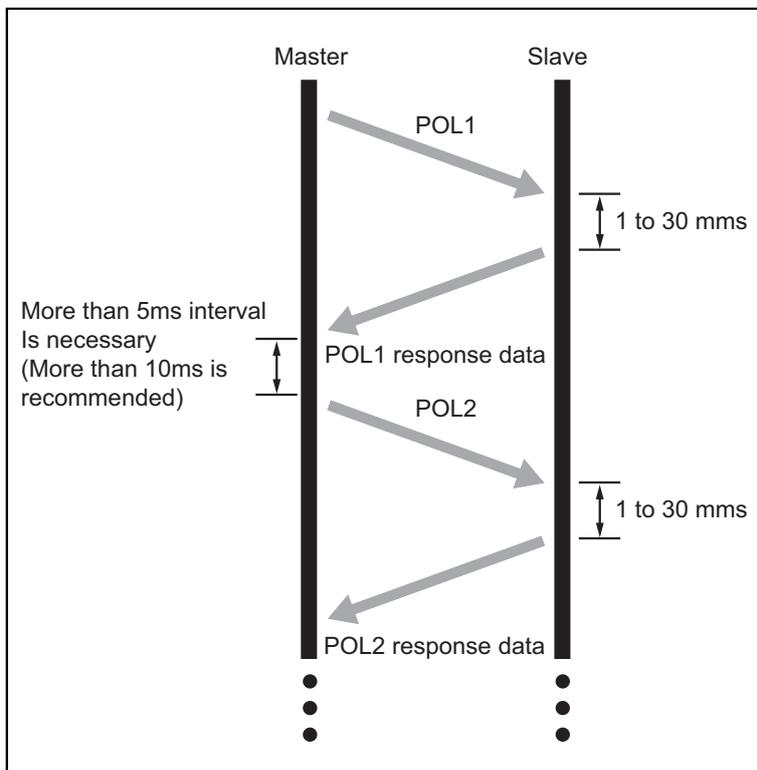
The equipment connected on the circuit is in the receiving state first and monitors the circuit. When the blank state more than 24 bit time appears, it detects the end of the previous frame and will be in the receiving standby mode within the next 24 bit time. When data appears on the circuit, it begins receiving and when the blank state more than 24 bit appears again, it detects the end of the frame. In other words, the data appears on the circuit during appearance of the first blank state more than 24 bit time to the next blank state more than 24 bit time is loaded as one frame (a bundle of data). Therefore, one frame should be sent following the rules below.

- Provide the blank state more than 48 bit time before sending the command message.
- The interval between bytes of the message sent should be less than 24 bit time.

### The equipment response

The equipment, after detected the frame (detection of the blank state more than 24 bit time), runs that frame as the command message. In the case the frame message is for the own station, the equipment send the response message back; it takes about 1 to 30 ms for this operation. (How long it takes is depends on the contents of the command message.) Therefore, the master, after sending the command message, should follow the rules shown below

- After sending the command message, the master will be in the receiving standby mode within 24 bit time.



# 6.6 Command and Transmission Frame Details

## Reading Data

### Reading Word Data (Function Code: 03H)

The unit reads word data continuously for the specified number of words from the first number to start reading from.

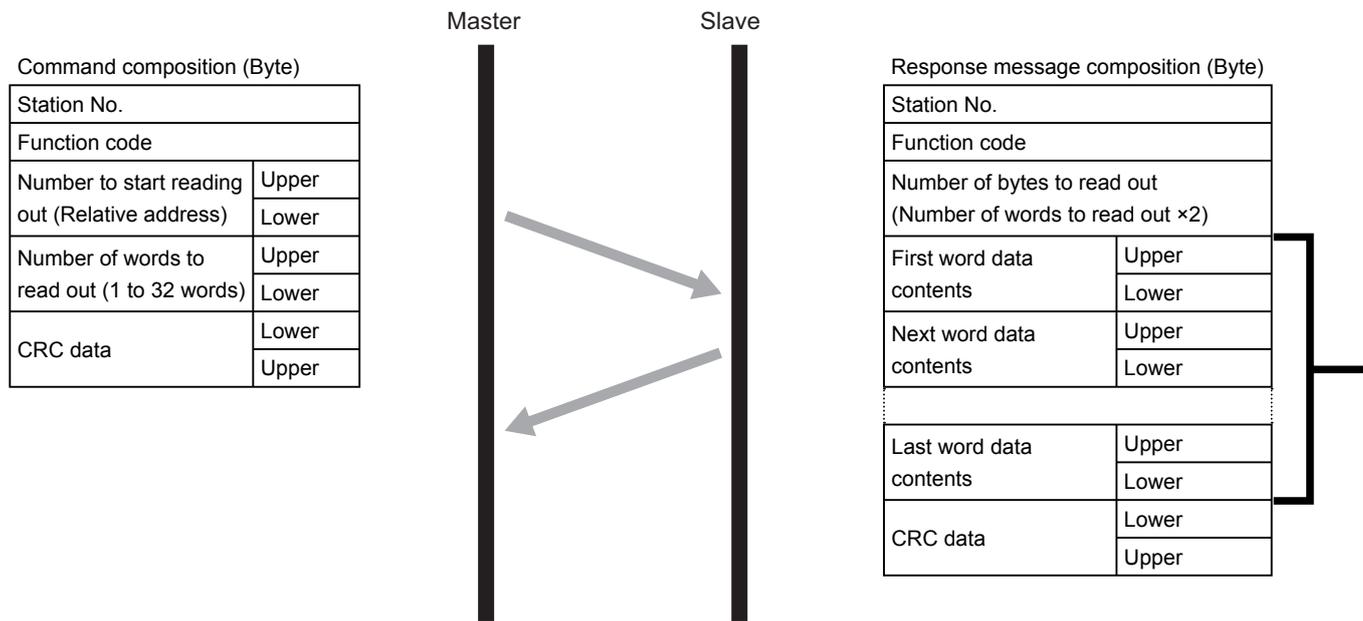
The slave forwards the read word data from the upper number of bytes to the lower number.

#### Note

- When reading out word data continuously, specification beyond the range of the relative address will result in no response.
- Do not write data to the number not listed on the MODBUS register numbers. (It might cause the equipment's abnormal operation.)

Function code	03H
Number of readable words in one message	125

• Message composition



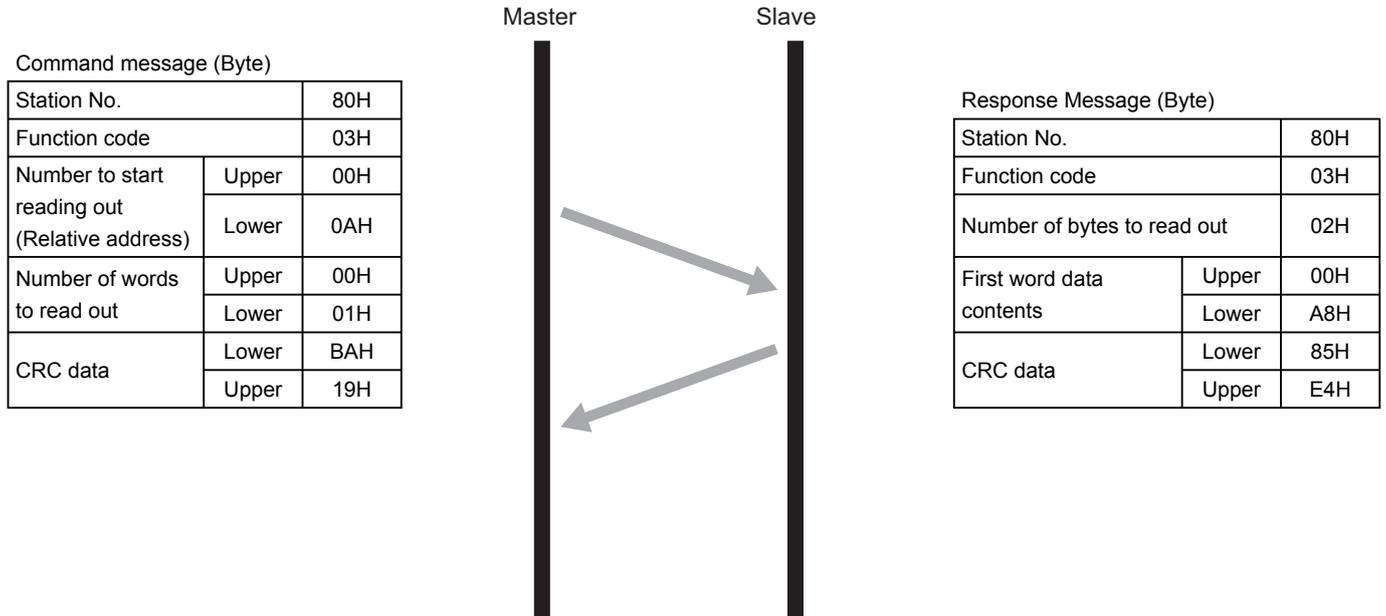
The meaning of read out word

MSB	LSB
First word data contents upper byte	
First word data contents lower byte	
Next word data contents upper byte	
Next word data contents lower byte	
.....	
Last word data contents upper byte	
Last word data contents lower byte	

- **Example of message transmission**

When reading out the set value of “Device Type of Setting Area” from a programless communication module, the message composition is as follows.

- “Device type of the setting area” relative address: 000Ah



**The meaning of read out data**

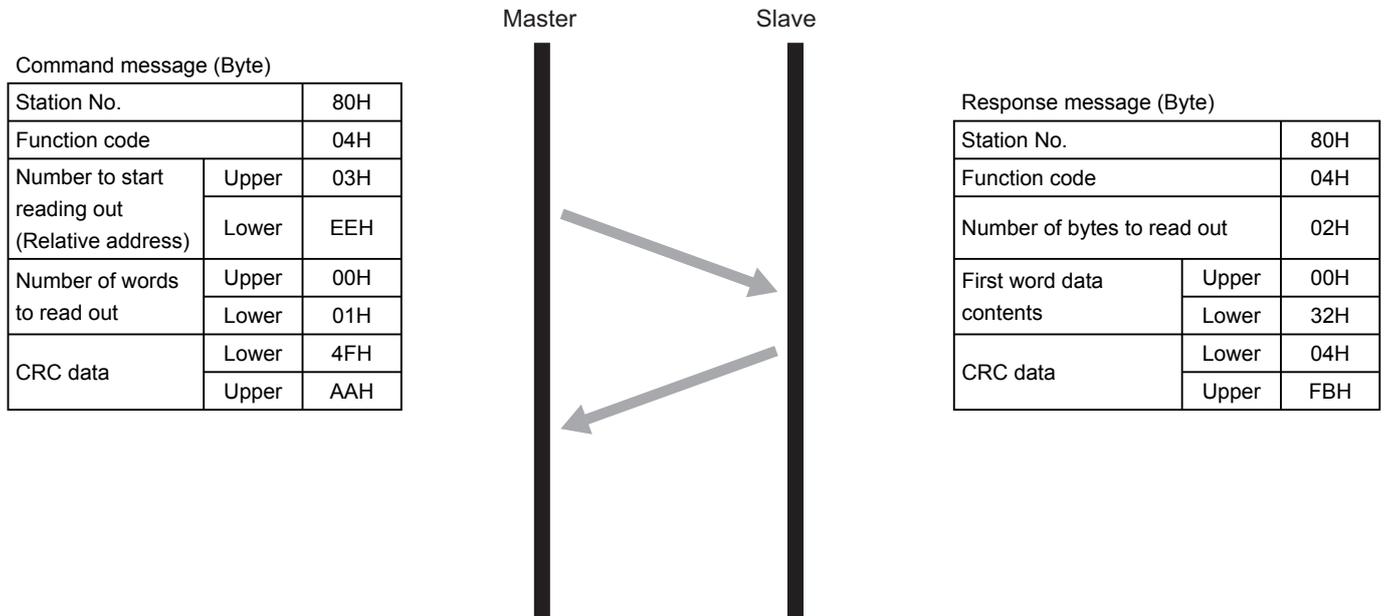
Device type of the setting area= 00A8h (Data register)



- **Example of message transmission**

When reading out “PLC inter-cycle time monitor” from the programless communication module, the message composition is as follows.

- “PLC inter-cycle time monitor” relative address: 03EEh



**The meaning of read out data**

PLC inter-cycle time monitor = 50ms

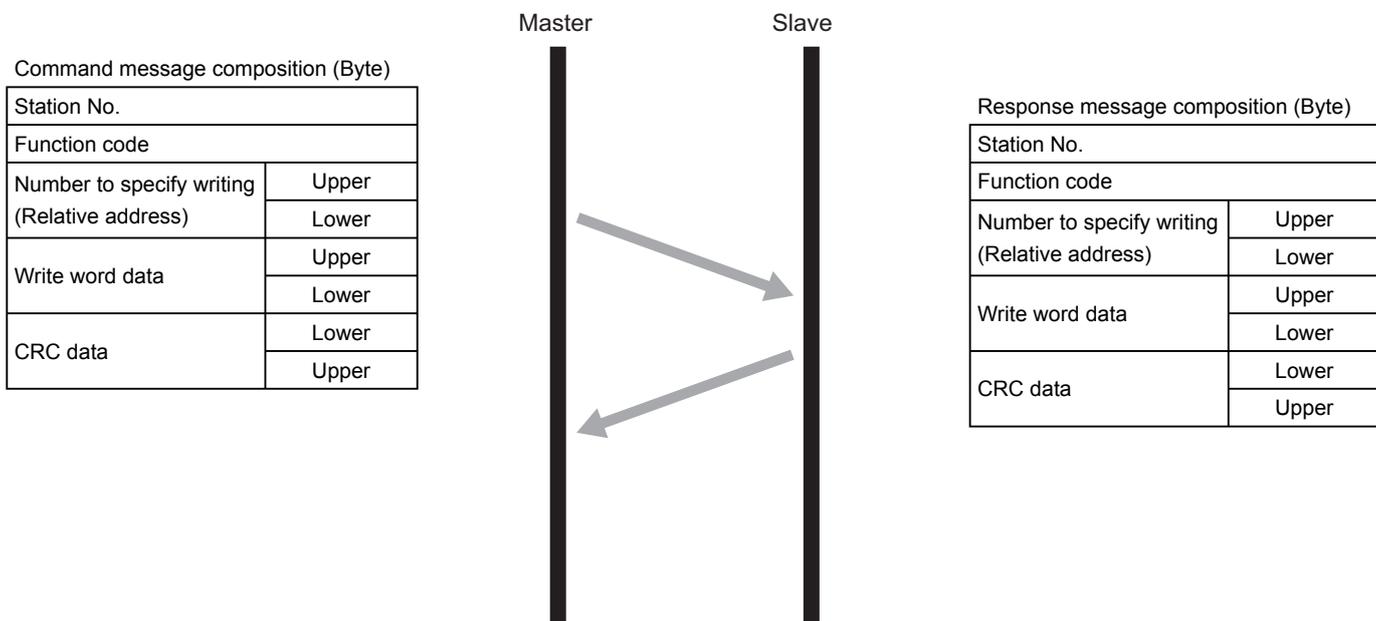
## Writing Data

### Writing word Data (1 word, function code: 06H)

This writes the specified data to the specified number for word data. The master sends the data to be written from the upper number of bytes to the lower number.

Function code	06H
Max. number of readable words in one message	1

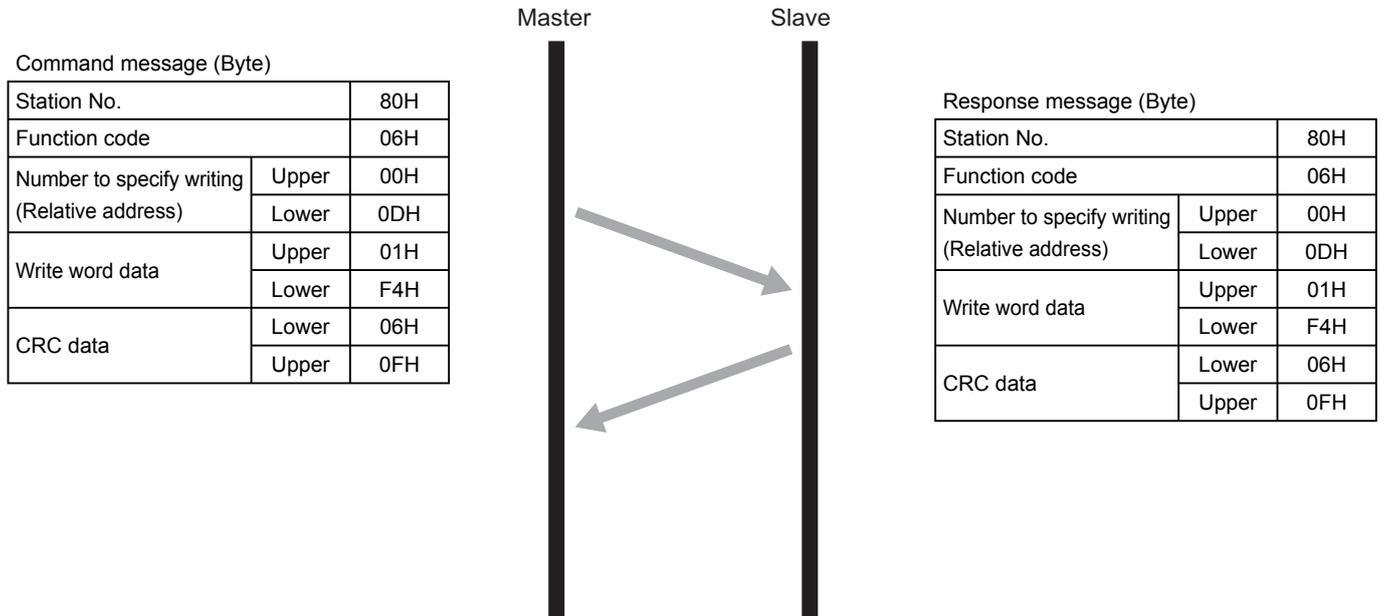
• **Message composition**



• **Example of message transmission**

This example shows when setting “Setting Area Device Size” for the programless communication module to 500 (01F4h).

- “Setting Area Device Size” relative address: 000Dh



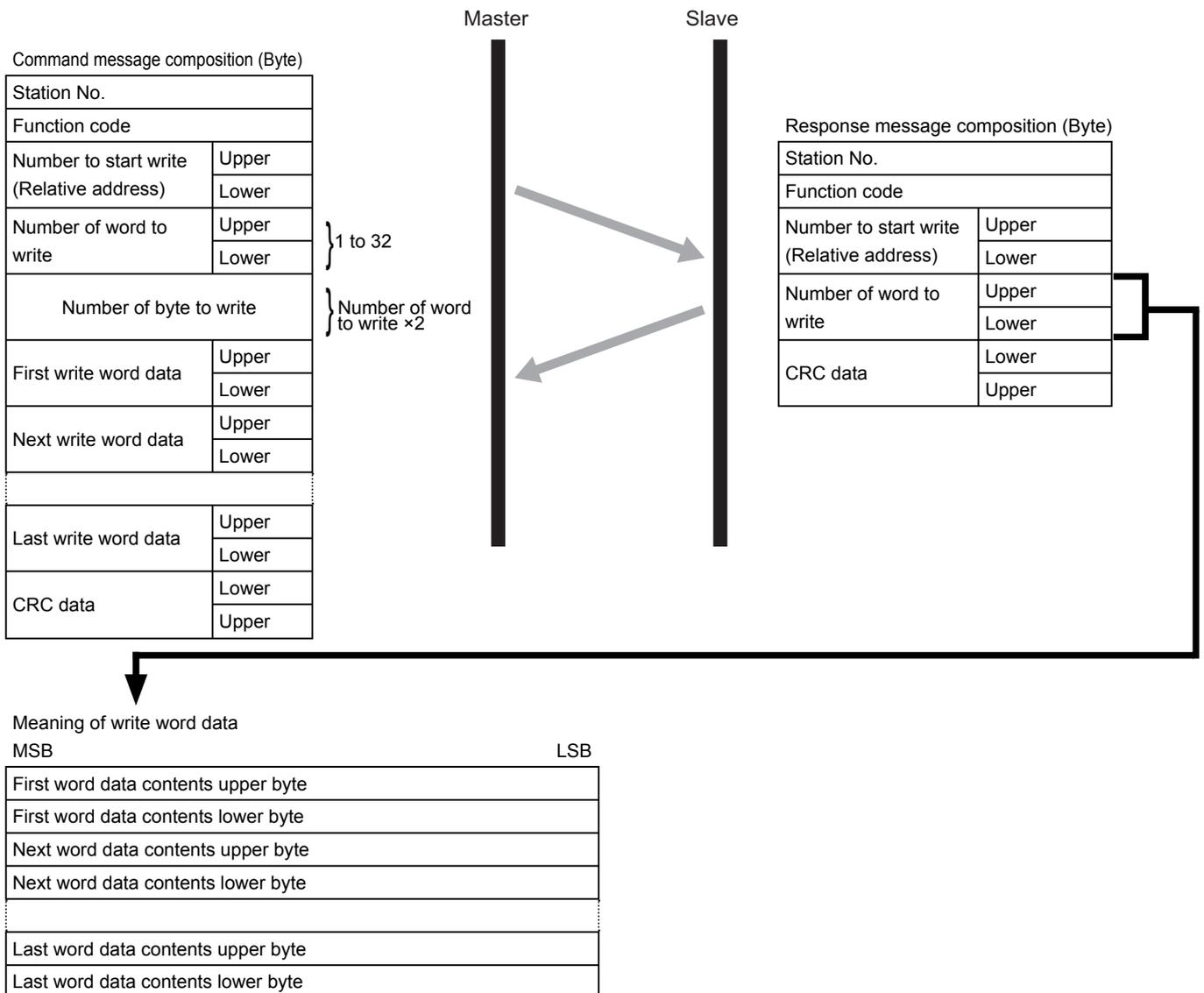
**Write series of words (Function code: 10H)**

Write how long it takes to write words and the series of word information beginning from the start writing number.

The master sent the writing word data in order of the upper, the lower.

Function code	10H
Max. number of readable words in one message	123

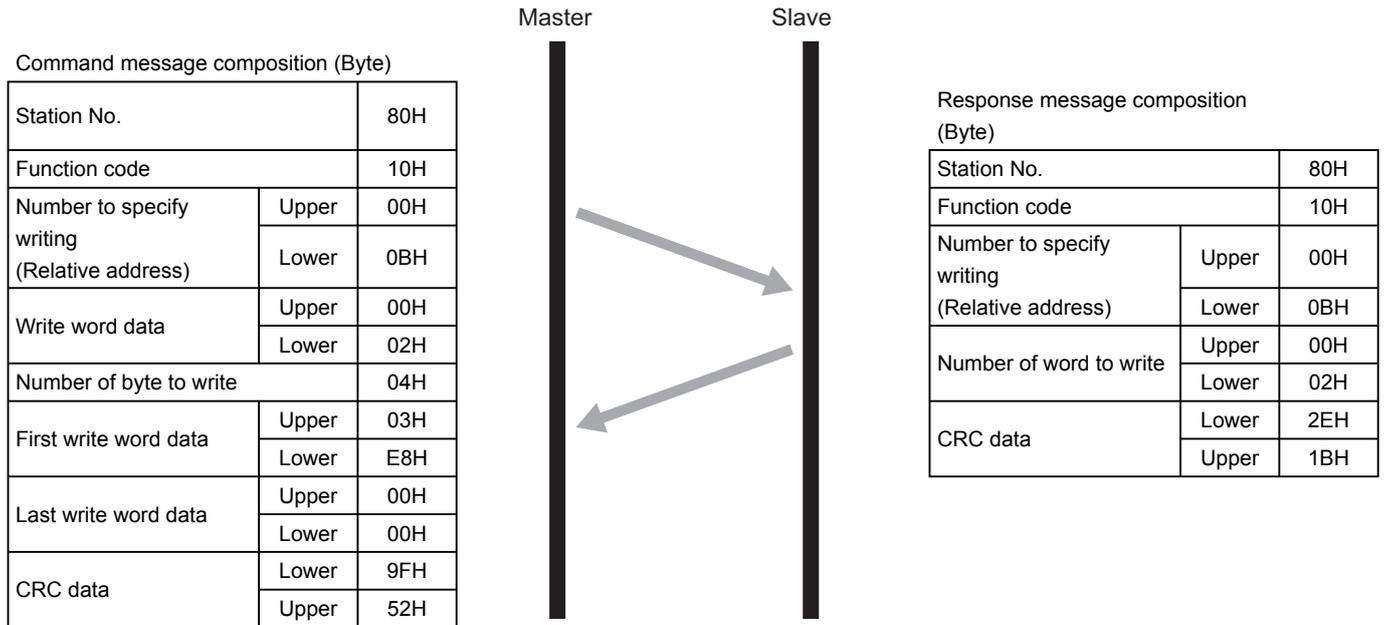
• **Message composition**



• **Example of message transmission**

This example shows when setting 1000 (03E8h) to "Setting Area Start Address (Lower, Upper)" of the programless communication module.

- Setting area start address (Lower) = 1000 (=03EBh)
- Setting area start address (Upper) = 0 (=0000h)
- "Setting area start address (Lower)" relative address: 000Ch





# 7

## Trouble Shooting

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# 7.1 Error Procedure

## Troubles during operation

If troubles occur during operation, check the type of your module, its connection and parameter setting for any abnormalities. Refer to the user's manual for MELSEC-Q/A/AnS/FX series about PLC.

The dialog below shows the typical troubles and the solutions on their problems.

Troubles	Causes	Solutions
PWR indicator: No light (even if turning the power ON)	No power supply with the main unit	Check the power supply wiring is installed
	Supply voltage is out of the allowable range	Use the power supply conforming to the main unit specifications
	Main unit failure	Replace the module.
PWR indicator: RED light	The power of PLC is OFF	Turn on PLC
	Connection failure	Check the RS-232C/RS-422/RS-485 connection between the DIP SW 1 (selection of RS-232C/RS-422/RS-485) of programless communication module and the communication unit of PLC
		Check the signal conductor between the programless communication module and the PLC
	Connecting cable failure	Check the connection of the connecting cable
		Check the connecting cable break
		Check the signal conductor wiring of the connecting cable
St. No. setting error of PLC communication unit	Set "0" to the St. No. of PLC	
Communication setting of communication speed/communication data length is mismatch with PLC	Check PLC communication speed setting <input type="text" value="5-11"/> / PLC transmission setting <input type="text" value="5-12"/> of the programless communication module matches the communication setting of PLC	

## 7.1 Error procedure

Troubles	Causes	Solutions
PWR indicator: RED light	Response monitoring time of a programless communication module is short (Timeout occurs between PLC and a programless communication module)	Set longer PLC response monitoring time <input type="text" value="5-15"/> of a programless communication module
	Capacity of the file register has not been set for the PLC parameter setting by using the file register (R or ZR) for the device type in the Setting/Monitor area of a programless communication module	The file register capacity setting is necessary by the PLC parameter setting. Set the file register capacity and check the operation
	MELSEC-A series being used and the check of RS-232C CD terminal is enable	Make the CD terminal disable by ladder program
	MELSEC-FX series being used and type 2 is set for MC protocol of the programless communication module's parameter or "0" is set for MC protocol frame type	Set type 4 for MC protocol and "1" for MC protocol frame type with PUM parameter loader, and then restart
	St. Nos of a programless communication module are duplicated, even during 1:N connection	Set St. Nos of the programless communication module not to be duplicated
PWR indicator: RED blinking (0.4-sec inter-cycle)	The parameter value registered for the programless communication module is invalid value	Check the error code of Setting error <input type="text" value="5-18"/> , write the correct parameter set value on the PUM parameter loader, and then restart
	SW setting is invalid value	Check the error code of Setting error <input type="text" value="5-18"/> , modify it to the correct setting, and then restart
	The combination of parameter's content and the SW setting set to the programless communication module is not correct.	Check the error code of Setting error <input type="text" value="5-18"/> , modify it to the correct SW setting/modify it to the correct set value on PUM parameter loader, and then restart
PWR indicator: RED blinking (irregular)	Response monitoring time of a programless communication module is short (Timeout sometimes occurs between PLC and a programless communication module)	Set longer PLC response monitoring time of a programless communication module, or increase Number of retry times <input type="text" value="5-15"/>
Data in the all modules can not be readout (Even if set the Reading demand flag and Parameter setting demand flag for PLC setting area, data cannot be readout)	Programless communication is in a rest state (Command setting response flag "EEEEh" or "FFFFh")	Demand the communication restoration by using the Command setting demand flag in the PLC setting area
	Inter-module connection failure	Check the inter-module connection
	The unit failure	Replace the module

Troubles	Causes	Solutions
Only certain connected modules cannot be read out data	The applicable module is accessing to non-supported MODBUS address	Check the MODBUS address supported by the applicable module
	Access beyond the applicable module device number (Device size over)	Modify the parameter setting within the applicable device size
	Incorrect St. No. setting of the applicable module	Set the applicable module station number correctly
	The unit failure	Replace the applicable module
Wrong data value read out to PLC device	PWR indicator shows the red light: Short PLC response monitoring time	Set longer PLC response monitoring time, or increase Number of retry times  5-15
	Duplication of PLC device memory	Modify the setting no to duplicate the device types and the start address of the Setting/Monitor area  5-5, 5-8
	Device memory is overwritten on the PLC sequence program	Check the device used on the PLC sequence program, modify the setting not to overwrite the device memory (Check the duplicating part using the device list for use etc. by PLC GX Developer)
	Duplication of the monitor area device memory setting of PLC with 1:N connection	Make the monitor area device memory setting of each programless communication module not to be duplicated
Monitor area response flag (in the 8000hs): Abnormal response status	Invalid value was written to the control/event module	Check and modify the value set to the data field for the setting area
PWR indicator: GREEN blinking during 1:N connection (0.1-sec inter-cycle)	The power of PLC is OFF	Turn on PLC
	Connection failure	Check the RS-232C/RS-422/RS-485 connection between the DIP SW 1, SW2 (selection of RS-232C/RS-422/RS-485) of programless communication module and the PLC
		Check the signal conductor between the programless communication module and the PLC
	Connecting cable failure	Check the signal conductor state between a programless communication module and PLC, and also check the connecting cable break
Check if the signal conductor between a programless communication module and PLC is correct		

## 7.1 Error procedure

Troubles	Causes	Solutions
PWR indicator: GREEN blinking during 1:N connection (0.1-sec inter-cycle)	PLC communication speed and PLC communication data length is mismatch	Check PLC communication speed setting/ PLC data length setting of the programless communication module matches the communication setting of PLC
	The master station (St. No. "0") for 1:N connection is not connected	Connect the programless communication module which St. No. is "0"
Only some programless communication modules which are connected during 1:N connection cannot perform a programless communication	There are some programless communication modules that settings below differ <ul style="list-style-type: none"> <li>• PLC communication speed</li> <li>• PLC communication data length</li> <li>• MC protocol</li> <li>• PLC communication inter-cycle time</li> <li>• PLC response monitoring time</li> <li>• Connection method</li> <li>• No. of connected units</li> <li>• MC protocol frame type</li> </ul>	Correct the set value with PUM parameter loader and restart
Written value to PLC device is sent to several programless communication modules	With 1:N connection, the setting area device memory setting of PLC is duplicated	Make the setting area device memory setting of each programless communication module not to be duplicated
The value of Inter-PLC communication execution time monitor came to be extremely big during 1:N connection	Other connected programless communication modules were in the communication error state (ex. break)	Restore the programless communication module that is in the communication error state, and restart

## Troubles during connecting the loader

The diagram below shows the list of the cases frequently occurs and their solution.

Refer the parameter loader for PUM user's manual as well.

Troubles	Causes	Solutions
No connection to the PUM parameter loader is possible	Connection error to the parameter loader for PUM	Check the connection status of the parameter loader connecting cable for PUM. Check if there is any connecting cable break. Check if the assembly of the parameter loader connecting cable for PUM correct.
	Communication conditions mismatch	Check such as communication speed set value, parity set value.
	Wrong host	Check that the parameter loader connecting cable for PUM is connected to the loader port of the programless communication module.
Parameter change is not possible	Attempting the parameter input value writes the value out of the setting range	Modify and write the input value within the setting range.



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