

VM7000A
PAPERLESS RECORDER
COMMUNICATION FUNCTION
OPERATION MANUAL

Ohkura

WXPVM70mnA0002E

March, 2014(Rev.5)

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To use this equipment safely

Thank you for purchasing our VM7000A Paperless Recorder.

- Please install it, operate it and prepare it, after this manual is often read, and it understands enough.
There is danger where the accident and the trouble occur when handling is mistaken.
- This specification of Recorder is subject to change without prior notice for product improvement.
- It is prohibited to remodeling this Paperless Recorder without our permission.
It doesn't assume the responsibility about the accident caused by having remodeled it without our permission.
- Please keep this manual if you actually use the Recorder.
- After reading this manual, keep it carefully by the instrument.
- Please consider this manual to be sure to extend to the final user.

Manufacturer : Ohkura Electric Co.,Ltd.

Format : It records in the main body plaque.

Manufacture date : It records in the main body plaque.




Manufacture country : Japan


Note : Windows are registered trademarks of Microsoft Corporation.

[Note]

- It is prohibited to copy this manual without our permission.
- This instruction manual is subject to change without prior notice.

The symbols below are used on this instrument for the cautioning information.

| Symbols used on the instrument | |
|---|---|
|  | This shows “Caution for handling”. This symbol is used on the parts need to reference the instruction manual for saving human body and the instrument. |
|  | This shows “Protective grounding”. Be sure to provide protective grounding prior to operate this instrument. |
|  | This shows “Risk of electric shock”. This symbol is used on the parts, which has a risk of electric shock. |

| Be sure to observe the following warnings/cautions and those provided in the text in order to secure safety in handling the instrument. | |
|--|---|
|  WARNING | |
| General | <ul style="list-style-type: none">• In order to prevent electric shock; be to disconnect this instrument from the main power source when wiring it. |
| Protective Grounding | <ul style="list-style-type: none">• In order to prevent an electric shock; be sure to provide protective grounding prior to turning on this instrument.• Do not cut a protective grounding conductor or disconnect protective grounding. |
| Power Source | <ul style="list-style-type: none">• Make sure that the supply voltage for this instrument conforms to the voltage of the supply source. |
| Working Environment | <ul style="list-style-type: none">• Do not operate this instrument in the environment where it is exposed to a combustible / explosive / corrosive gas or water / steam. |
| Input and Output Wiring | <ul style="list-style-type: none">• Provide input and output wiring after turning off the power. |

CAUTION

Input and Output Wiring

- Do not use empty terminals for other purposes such as relaying, etc.

Reverse-insertion attention

- Please confirm the direction to the insertion of SD card.
When forcibly inserting it in a wrong direction, SD card and the terminal on the main body side might be destroyed.
Please note that the damage of the equipment by the reverse-insertion becomes off the subject of amends.

Inside of Instrument

- Do not replace the main unit or printed circuit boards. When this is neglected, we cannot guarantee functioning of the instrument. Contact our dealer where you purchased the instrument, or our sales representative.

[Note]

Instruction Manual

- Deliver this instruction manual to an end user.
- Prior to handling this instrument, be sure to read this manual.
- If you have any questions on this manual or find any errors or omissions in this manual, contact our sales representative.
- After reading this manual, keep it carefully by the instrument.
- When the manual is lost or stained, contact our sales representative.
- It is prohibited to copy or reproduce this manual without our permission.

Installation

- When installing this instrument, put on a protective gear such as safety shoes, helmet, etc. for your safety.
- Do not put your foot on the installed instrument or get on it, because it is dangerous.

Maintenance

- Only our serviceman or persons authorized are allowed to remove and take the inner module, the main unit and printed circuit boards apart.

Cleaning

- Use dry cloth to clean the surface of this instrument.
- Do not use any organic solvent.
- Cleaning the instrument after turning off the power.

Revisions

- This instruction manual is subject to change without prior notice.

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1. INTRODUCTION

1.1 About the communication protocol

This equipment is equipped with the Modbus protocol.

The Modbus protocol has been described to protocol specifications (PI-MBUS-300 Rev.J) by the communication protocol that Modicon Inc.(AEG Schneider Automation International S.A.S) developed for PLC. Please see this specifications for the specification of the Modbus protocol. In this manual, the function code and the content of data of the Modbus protocol that can be chiefly used with this equipment have been described.

1.2 Outline of Ethernet communication function

The following functions can be used according to the Ethernet communication.

(1) FTP server

The Recorded data preserved on the SD card installed in the recorder can be read with attached Data Viewer software.

(2) Web server

The status of measurements, state of the warning generation, and record start/stop condition etc. of the recorder can be easily confirmed by a browser of the personal computer. (A browser must use Internet Explorer.)

(3) Modbus TCP function

It communicates with equipment such as the Modbus TCP function personal computers and PLC, and measurements and various data can be sent and received.

(4) SNTP clients

The time data is regularly received from the time server by using the network, and the time of the recorder is corrected.

1.3 RS-485(option)

It is possible to communicate by RS-485 (option). The protocol becomes Modbus RTU.

1.4 Preparation

Push the MENU button of the main body of the recorder. Next, touch in order of the **System** and **Comm**. Various set menus concerning the communication are displayed.

Please set it variously referring to the manual of the main body of the recorder.

(Refer item 8.6 of Paperless Recorder Manual for **Comm**.)

1.5 Modbus RTU protocol

| Item | Specification |
|-------------------|--------------------------|
| Transfer mode | RTU |
| Transmission rate | 9600,19200,38400 bit/sec |
| Parity | None/Even/Odd |
| Data length | 8bit |
| Stop bit | 1bit |
| Slave address | 1 to 247(do not set 0) |
| Interface | RS-485 |

1.6 Modbus TCP protocol

It is possible to communicate by Ethernet. The protocol becomes Modbus TCP.

1.7 Addition of new items and map version

The contents of the Modbus map may be changed by upgrade of a recorder.

When a Modbus map is changed, a Modbus map version (address 30025) is also updated apart from the version of a recorder.

The setting item added newly can be used when newer than the version corresponding to it.

(Following table)

| Recorder version | Map version | Contents | Remarks |
|------------------|-------------|---|--|
| Ver1.00~1.13 | 01 | Initial release | A holding register can only be reading. Writing is impossible. |
| Ver1.20~1.21 | 02 | Write-in processing is added to a holding register. | |
| | | Holding register 40104 | Set value preservation |
| | | Holding register 40105 | Addition reset |
| | | Holding register 40111 | SNTP manual calibration |
| | | Holding register 40112~40113 | Parameter save and load |
| Ver1.30 | 03 | Holding register 45561~45569 DI function | "U2" is added. |
| | | Holding register 45901~45906 | "Auto display group" and "Progress time" is added. |
| Ver1.50~ | 04 | Holding register 40284, 41484 | Scale No. |

[Note]

The function added by a new version cannot be used in an old version. When a function performs writing/reading to the newly added address at that time, it may not operate correctly.

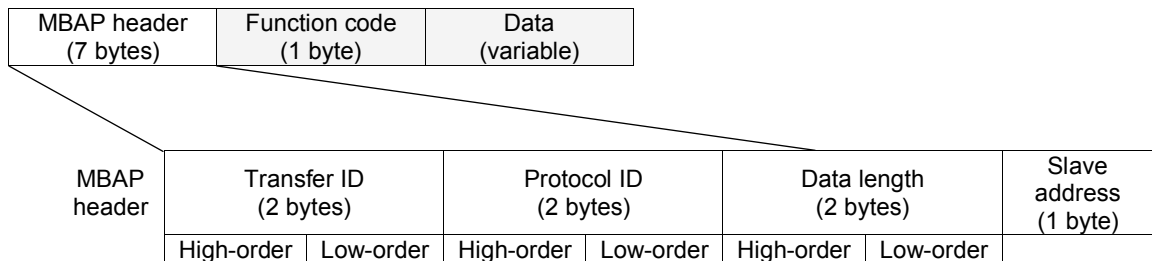
2. READ AND WRITE OF DATA

2.1 Communication Protocol (Modbus TCP or Modbus RTU)

This product supports two types of Modbus protocols: Modbus TCP protocol that works on Ethernet and Modbus RTU that works on RS-485.

Shown below are the differences between these two protocols. The function code and data sections are the same, but there are differences in the header and error check sections.

Modbus TCP



[MBAP header]

| | Function |
|---------------|--|
| Transfer ID | The ID for data recognition. The same ID will return in every response. |
| Protocol ID | Fixed to 0. |
| Data length | The sum of the lengths of the slave address, function code, and data sections. |
| Slave address | Indicates the slave address. (It is used, for example, to convert between Modbus TCP and Modbus RTU.) |

Modbus RTU

| | | | |
|---------------------------|---------------------------|--------------------|------------------|
| Slave address (1 byte) | Function code (1 byte) | Data (variable) | CRC (2 bytes) |
|---------------------------|---------------------------|--------------------|------------------|

2.2 Function code

The function code that can be used with this equipment is as follows.

| Code | Function | Maximum data length | Modbus original function (reference) |
|------|--------------------------------------|---------------------|--------------------------------------|
| 03H | Reading of the setting data | 123 words | Holding register content reading |
| 04H | Reading of content of input register | 123 words | Reading of content of input register |
| 06H | Writing of data | 1 words | Holding register content writing |

2.3 Error Response

In accordance with the communication protocol for the pertinent function code, if an error occurs during command transmission, an error response is returned in the fixed format described in this section.

- Example of slave response (function code = 06H, command error = 10H)

| Component | Data length | | Data |
|-------------------------------------|-------------|-----|------|
| | TCP | RTU | |
| MBAP header (only for Modbus TCP) | 7 | - | - |
| Slave address (only for Modbus RTU) | - | 1 | - |
| Function code + 80H | 1 | 1 | 86H |
| Error code | 1 | 1 | 10H |
| Error check (only for Modbus RTU) | - | 2 | CRC |
| Total number of bytes | 9 | 5 | - |

- Error codes and their occurrence conditions

| Error code | Description | Occurrence condition(s) |
|------------|-----------------------------|---|
| 01H | Invalid function code | An unsupported function code is specified. |
| 02H | Invalid register address | The relative address range exceeds "9999." |
| 03H | Invalid number of registers | <ul style="list-style-type: none"> - The length of the accessed data is "0" or the sum of the relative address and data length exceeds the limit. - It is assumed that two or more function codes, each executable for one area, are involved. - Data longer than 2 words is specified for a one-time write command. - The data length exceeds 123 words. |
| 04H | Device error | The received data is shorter than the predefined data length. |
| 10H | Command error | An attempt at a write over an area exceeding the writable range. |

2.4 Reading of input register area

It is an area only for reading. The starting address of the read data (relative address) and the number of data (Every one word = two bytes) are specified.

Function code: 04H

■ Example of transmitting master(starting address=0032H, data length=2words)

| Component | | Data length | | Data |
|-----------------------------------|-------------------------------------|-------------|-----|---------------|
| | | TCP | RTU | |
| MBAP header (only for Modbus TCP) | | 7 | - | - |
| Slave address | | - | 1 | - |
| Function code | | 1 | 1 | 04H |
| Data | Relative start address (high-order) | 1 | 1 | 00H |
| | Relative start address (low-order) | 1 | 1 | 32H |
| | Read data count (high-order) | 1 | 1 | 00H |
| | Read data count (low-order) | 1 | 1 | 02H |
| Error check | | - | 2 | CRC (16 bits) |
| Total number of bytes | | 12 | 8 | |

■ Example of slave's responding (starting address=0032H, data length =2words)

| Component | | Data length | | Data |
|-----------------------------------|----------------------|-------------|-----|---------------|
| | | TCP | RTU | |
| MBAP header (only for Modbus TCP) | | 7 | - | - |
| Slave address | | - | 1 | - |
| Function code | | 1 | 1 | 04H |
| Data | Number of data bytes | 1 | 1 | 04H |
| | Data 1 (high-order) | 1 | 1 | 00H |
| | Data 1 (low-order) | 1 | 1 | 09H |
| | Data 2 (high-order) | 1 | 1 | 00H |
| | Data 2 (low-order) | 1 | 1 | 0AH |
| Error check | | - | 2 | CRC (16 bits) |
| Total number of bytes | | 13 | 9 | |

【Input register area map】 Function code: 04H

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|--------------------|-------|---------|------------------|
| 30001 | 0 | Production number | 1 | ASCII | |
| 30002 | 1 | Production number | 2 | ASCII | |
| 30003 | 2 | Production number | 3 | ASCII | |
| 30004 | 3 | Production number | 4 | ASCII | |
| 30005 | 4 | Production number | 5 | ASCII | |
| 30006 | 5 | Production number | 6 | ASCII | |
| 30007 | 6 | Production number | 7 | ASCII | |
| 30008 | 7 | Production number | 8 | ASCII | |
| 30009 | 8 | Software version | 1 | ASCII | |
| 30010 | 9 | Software version | 2 | ASCII | |
| 30011 | A | Software version | 3 | ASCII | |
| 30012 | B | Software version | 4 | ASCII | |
| 30013 | C | Software version | 5 | ASCII | |
| 30014 | D | Software version | 6 | ASCII | |
| 30015 | E | Software version | 7 | ASCII | |
| 30016 | F | Software version | 8 | ASCII | |
| 30017 | 10 | Software version | 9 | ASCII | |
| 30018 | 11 | Software version | 10 | ASCII | |
| 30019 | 12 | Software version | 11 | ASCII | |
| 30020 | 13 | Software version | 12 | ASCII | |
| 30021 | 14 | Software version | 13 | ASCII | |
| 30022 | 15 | Software version | 14 | ASCII | |
| 30023 | 16 | Software version | 15 | ASCII | |
| 30024 | 17 | Software version | 16 | ASCII | |
| 30025 | 18 | Modbus Map version | 1 | Binary | ※ Refer item 1.7 |
| 30026 | 19 | Reserve | 1 | | |
| 30027 | 1A | Reserve | 2 | | |
| 30028 | 1B | Reserve | 3 | | |
| 30029 | 1C | Reserve | 4 | | |
| 30030 | 1D | Reserve | 5 | | |
| 30031 | 1E | Reserve | 6 | | |
| 30032 | 1F | Reserve | 7 | | |
| 30033 | 20 | Reserve | 8 | | |
| 30034 | 21 | Reserve | 9 | | |
| 30035 | 22 | Reserve | 10 | | |
| 30036 | 23 | MAC address | 1 | | |
| 30037 | 24 | MAC address | 2 | | |
| 30038 | 25 | MAC address | 3 | | |
| 30039 | 26 | Reserve | | | |
| 30040 | 27 | Reserve | | | |
| 30041 | 28 | Reserve | | | |
| 30042 | 29 | Reserve | | | |
| 30043 | 2A | Reserve | | | |
| 30044 | 2B | Reserve | | | |
| 30045 | 2C | Reserve | | | |
| 30046 | 2D | Reserve | | | |
| 30047 | 2E | Reserve | | | |
| 30048 | 2F | Reserve | | | |
| 30049 | 30 | Reserve | | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|------------------------------------|-------|---------|---|
| 30050 | 31 | Reserve | | | |
| 30051 | 32 | Year | | 0~99 | |
| 30052 | 33 | Month | | 1~12 | |
| 30053 | 34 | Day | | 1~31 | |
| 30054 | 35 | Hour | | 0~24 | |
| 30055 | 36 | Minute | | 0~59 | |
| 30056 | 37 | Second | | 0~59 | |
| 30057 | 38 | State of internal memory remainder | | 0~1000 | Unit: % (one digit after the decimal point) |
| 30058 | 39 | SD card connection | | 0~1 | 0:Unconnection 1: Connection |
| 30059 | 3A | SD card remainder capacity | | 0~1000 | Unit: % (one digit after the decimal point) |
| 30060 | 3B | State of record | | 0~1 | 0:Record stop 1: Record start |
| 30061 | 3C | State of subrecord | | 0~1 | 0:Record stop 1: Record start |
| 30062 | 3D | State of battery | | 0~1 | 0:Normality 1: Abnormality |
| 30063 | 3E | Reserve | | | |
| 30064 | 3F | Reserve | | | |
| 30065 | 40 | Reserve | | | |
| 30066 | 41 | Reserve | | | |
| 30067 | 42 | Reserve | | | |
| 30068 | 43 | Reserve | | | |
| 30069 | 44 | Reserve | | | |
| 30070 | 45 | Reserve | | | |
| 30071 | 46 | Reserve | | | |
| 30072 | 47 | Reserve | | | |
| 30073 | 48 | Reserve | | | |
| 30074 | 49 | Reserve | | | |
| 30075 | 4A | Reserve | | | |
| 30076 | 4B | Reserve | | | |
| 30077 | 4C | Reserve | | | |
| 30078 | 4D | Reserve | | | |
| 30079 | 4E | Reserve | | | |
| 30080 | 4F | Reserve | | | |
| 30081 | 50 | Reserve | | | |
| 30082 | 51 | Reserve | | | |
| 30083 | 52 | Reserve | | | |
| 30084 | 53 | Reserve | | | |
| 30085 | 54 | Reserve | | | |
| 30086 | 55 | Reserve | | | |
| 30087 | 56 | Reserve | | | |
| 30088 | 57 | Reserve | | | |
| 30089 | 58 | Reserve | | | |
| 30090 | 59 | Reserve | | | |
| 30091 | 5A | Reserve | | | |
| 30092 | 5B | Reserve | | | |
| 30093 | 5C | Reserve | | | |
| 30094 | 5D | Reserve | | | |
| 30095 | 5E | Reserve | | | |
| 30096 | 5F | Reserve | | | |
| 30097 | 60 | Reserve | | | |
| 30098 | 61 | Reserve | | | |
| 30099 | 62 | Reserve | | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|--------------|-------|--------------|---------|
| 30100 | 63 | Reserve | | | |
| 30101 | 64 | Measurements | CH01 | -32000~32000 | |
| 30102 | 65 | Measurements | CH02 | -32000~32000 | |
| 30103 | 66 | Measurements | CH03 | -32000~32000 | |
| 30104 | 67 | Measurements | CH04 | -32000~32000 | |
| 30105 | 68 | Measurements | CH05 | -32000~32000 | |
| 30106 | 69 | Measurements | CH06 | -32000~32000 | |
| 30107 | 6A | Measurements | CH07 | -32000~32000 | |
| 30108 | 6B | Measurements | CH08 | -32000~32000 | |
| 30109 | 6C | Measurements | CH09 | -32000~32000 | |
| 30110 | 6D | Measurements | CH10 | -32000~32000 | |
| 30111 | 6E | Measurements | CH11 | -32000~32000 | |
| 30112 | 6F | Measurements | CH12 | -32000~32000 | |
| 30113 | 70 | Measurements | CH13 | -32000~32000 | |
| 30114 | 71 | Measurements | CH14 | -32000~32000 | |
| 30115 | 72 | Measurements | CH15 | -32000~32000 | |
| 30116 | 73 | Measurements | CH16 | -32000~32000 | |
| 30117 | 74 | Measurements | CH17 | -32000~32000 | |
| 30118 | 75 | Measurements | CH18 | -32000~32000 | |
| 30119 | 76 | Measurements | CH19 | -32000~32000 | |
| 30120 | 77 | Measurements | CH20 | -32000~32000 | |
| 30121 | 78 | Measurements | CH21 | -32000~32000 | |
| 30122 | 79 | Measurements | CH22 | -32000~32000 | |
| 30123 | 7A | Measurements | CH23 | -32000~32000 | |
| 30124 | 7B | Measurements | CH24 | -32000~32000 | |
| 30125 | 7C | Measurements | CH25 | -32000~32000 | |
| 30126 | 7D | Measurements | CH26 | -32000~32000 | |
| 30127 | 7E | Measurements | CH27 | -32000~32000 | |
| 30128 | 7F | Measurements | CH28 | -32000~32000 | |
| 30129 | 80 | Measurements | CH29 | -32000~32000 | |
| 30130 | 81 | Measurements | CH30 | -32000~32000 | |
| 30131 | 82 | Measurements | CH31 | -32000~32000 | |
| 30132 | 83 | Measurements | CH32 | -32000~32000 | |
| 30133 | 84 | Measurements | CH33 | -32000~32000 | |
| 30134 | 85 | Measurements | CH34 | -32000~32000 | |
| 30135 | 86 | Measurements | CH35 | -32000~32000 | |
| 30136 | 87 | Measurements | CH36 | -32000~32000 | |
| 30137 | 88 | Measurements | CH37 | -32000~32000 | |
| 30138 | 89 | Measurements | CH38 | -32000~32000 | |
| 30139 | 8A | Measurements | CH39 | -32000~32000 | |
| 30140 | 8B | Measurements | CH40 | -32000~32000 | |
| 30141 | 8C | Measurements | CH41 | -32000~32000 | |
| 30142 | 8D | Measurements | CH42 | -32000~32000 | |
| 30143 | 8E | Measurements | CH43 | -32000~32000 | |
| 30144 | 8F | Measurements | CH44 | -32000~32000 | |
| 30145 | 90 | Measurements | CH45 | -32000~32000 | |
| 30146 | 91 | Measurements | CH46 | -32000~32000 | |
| 30147 | 92 | Measurements | CH47 | -32000~32000 | |
| 30148 | 93 | Measurements | CH48 | -32000~32000 | |
| 30149 | 94 | Reserve | | | |
| 30150 | 95 | Reserve | | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|---------|-------|---------|---------|
| 30151 | 96 | Reserve | | | |
| 30152 | 97 | Reserve | | | |
| 30153 | 98 | Reserve | | | |
| 30154 | 99 | Reserve | | | |
| 30155 | 9A | Reserve | | | |
| 30156 | 9B | Reserve | | | |
| 30157 | 9C | Reserve | | | |
| 30158 | 9D | Reserve | | | |
| 30159 | 9E | Reserve | | | |
| 30160 | 9F | Reserve | | | |
| 30161 | A0 | Reserve | | | |
| 30162 | A1 | Reserve | | | |
| 30163 | A2 | Reserve | | | |
| 30164 | A3 | Reserve | | | |
| 30165 | A4 | Reserve | | | |
| 30166 | A5 | Reserve | | | |
| 30167 | A6 | Reserve | | | |
| 30168 | A7 | Reserve | | | |
| 30169 | A8 | Reserve | | | |
| 30170 | A9 | Reserve | | | |
| 30171 | AA | Reserve | | | |
| 30172 | AB | Reserve | | | |
| 30173 | AC | Reserve | | | |
| 30174 | AD | Reserve | | | |
| 30175 | AE | Reserve | | | |
| 30176 | AF | Reserve | | | |
| 30177 | B0 | Reserve | | | |
| 30178 | B1 | Reserve | | | |
| 30179 | B2 | Reserve | | | |
| 30180 | B3 | Reserve | | | |
| 30181 | B4 | Reserve | | | |
| 30182 | B5 | Reserve | | | |
| 30183 | B6 | Reserve | | | |
| 30184 | B7 | Reserve | | | |
| 30185 | B8 | Reserve | | | |
| 30186 | B9 | Reserve | | | |
| 30187 | BA | Reserve | | | |
| 30188 | BB | Reserve | | | |
| 30189 | BC | Reserve | | | |
| 30190 | BD | Reserve | | | |
| 30191 | BE | Reserve | | | |
| 30192 | BF | Reserve | | | |
| 30193 | C0 | Reserve | | | |
| 30194 | C1 | Reserve | | | |
| 30195 | C2 | Reserve | | | |
| 30196 | C3 | Reserve | | | |
| 30197 | C4 | Reserve | | | |
| 30198 | C5 | Reserve | | | |
| 30199 | C6 | Reserve | | | |
| 30200 | C7 | Reserve | | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|------------------|-------|--|---------|
| 30201 | C8 | State of channel | CH01 | Bit watch (Details are the following) | |
| 30202 | C9 | State of channel | CH02 | 00bit: Alarm1 1= generation 0= release | |
| 30203 | CA | State of channel | CH03 | 01bit: Alarm1 1= generation 0= release | |
| 30204 | CB | State of channel | CH04 | 02bit: Alarm1 1= generation 0= release | |
| 30205 | CC | State of channel | CH05 | 03bit: Alarm1 1= generation 0= release | |
| 30206 | CD | State of channel | CH06 | 08bit : H over 1= generation 0= release | |
| 30207 | CE | State of channel | CH07 | 09bit : L over 1= generation 0= release | |
| 30208 | CF | State of channel | CH08 | 10bit : Burnout 1= generation 0= release | |
| 30209 | D0 | State of channel | CH09 | 11bit : Fault 1= generation 0= release | |
| 30210 | D1 | State of channel | CH10 | 12bit : AD abnormal 1= generation 0= release | |
| 30211 | D2 | State of channel | CH11 | | |
| 30212 | D3 | State of channel | CH12 | | |
| 30213 | D4 | State of channel | CH13 | | |
| 30214 | D5 | State of channel | CH14 | | |
| 30215 | D6 | State of channel | CH15 | | |
| 30216 | D7 | State of channel | CH16 | | |
| 30217 | D8 | State of channel | CH17 | | |
| 30218 | D9 | State of channel | CH18 | | |
| 30219 | DA | State of channel | CH19 | | |
| 30220 | DB | State of channel | CH20 | | |
| 30221 | DC | State of channel | CH21 | | |
| 30222 | DD | State of channel | CH22 | | |
| 30223 | DE | State of channel | CH23 | | |
| 30224 | DF | State of channel | CH24 | | |
| 30225 | E0 | State of channel | CH25 | | |
| 30226 | E1 | State of channel | CH26 | | |
| 30227 | E2 | State of channel | CH27 | | |
| 30228 | E3 | State of channel | CH28 | | |
| 30229 | E4 | State of channel | CH29 | | |
| 30230 | E5 | State of channel | CH30 | | |
| 30231 | E6 | State of channel | CH31 | | |
| 30232 | E7 | State of channel | CH32 | | |
| 30233 | E8 | State of channel | CH33 | | |
| 30234 | E9 | State of channel | CH34 | | |
| 30235 | EA | State of channel | CH35 | | |
| 30236 | EB | State of channel | CH36 | | |
| 30237 | EC | State of channel | CH37 | | |
| 30238 | ED | State of channel | CH38 | | |
| 30239 | EE | State of channel | CH39 | | |
| 30240 | EF | State of channel | CH40 | | |
| 30241 | F0 | State of channel | CH41 | | |
| 30242 | F1 | State of channel | CH42 | | |
| 30243 | F2 | State of channel | CH43 | | |
| 30244 | F3 | State of channel | CH44 | | |
| 30245 | F4 | State of channel | CH45 | | |
| 30246 | F5 | State of channel | CH46 | | |
| 30247 | F6 | State of channel | CH47 | | |
| 30248 | F7 | State of channel | CH48 | | |
| 30249 | F8 | Reserve | | | |
| 30250 | F9 | Reserve | | | |
| 30251 | FA | Reserve | | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|---------|-------|---------|---------|
| 30252 | FB | Reserve | | | |
| 30253 | FC | Reserve | | | |
| 30254 | FD | Reserve | | | |
| 30255 | FE | Reserve | | | |
| 30256 | FF | Reserve | | | |
| 30257 | 100 | Reserve | | | |
| 30258 | 101 | Reserve | | | |
| 30259 | 102 | Reserve | | | |
| 30260 | 103 | Reserve | | | |
| 30261 | 104 | Reserve | | | |
| 30262 | 105 | Reserve | | | |
| 30263 | 106 | Reserve | | | |
| 30264 | 107 | Reserve | | | |
| 30265 | 108 | Reserve | | | |
| 30266 | 109 | Reserve | | | |
| 30267 | 10A | Reserve | | | |
| 30268 | 10B | Reserve | | | |
| 30269 | 10C | Reserve | | | |
| 30270 | 10D | Reserve | | | |
| 30271 | 10E | Reserve | | | |
| 30272 | 10F | Reserve | | | |
| 30273 | 110 | Reserve | | | |
| 30274 | 111 | Reserve | | | |
| 30275 | 112 | Reserve | | | |
| 30276 | 113 | Reserve | | | |
| 30277 | 114 | Reserve | | | |
| 30278 | 115 | Reserve | | | |
| 30279 | 116 | Reserve | | | |
| 30280 | 117 | Reserve | | | |
| 30281 | 118 | Reserve | | | |
| 30282 | 119 | Reserve | | | |
| 30283 | 11A | Reserve | | | |
| 30284 | 11B | Reserve | | | |
| 30285 | 11C | Reserve | | | |
| 30286 | 11D | Reserve | | | |
| 30287 | 11E | Reserve | | | |
| 30288 | 11F | Reserve | | | |
| 30289 | 120 | Reserve | | | |
| 30290 | 121 | Reserve | | | |
| 30291 | 122 | Reserve | | | |
| 30292 | 123 | Reserve | | | |
| 30293 | 124 | Reserve | | | |
| 30294 | 125 | Reserve | | | |
| 30295 | 126 | Reserve | | | |
| 30296 | 127 | Reserve | | | |
| 30297 | 128 | Reserve | | | |
| 30298 | 129 | Reserve | | | |
| 30299 | 12A | Reserve | | | |
| 30300 | 12B | Reserve | | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|------------------------|-------|---------|---------|
| 30301 | 12C | Decimal point position | CH01 | 0~4 | |
| 30302 | 12D | Decimal point position | CH02 | 0~4 | |
| 30303 | 12E | Decimal point position | CH03 | 0~4 | |
| 30304 | 12F | Decimal point position | CH04 | 0~4 | |
| 30305 | 130 | Decimal point position | CH05 | 0~4 | |
| 30306 | 131 | Decimal point position | CH06 | 0~4 | |
| 30307 | 132 | Decimal point position | CH07 | 0~4 | |
| 30308 | 133 | Decimal point position | CH08 | 0~4 | |
| 30309 | 134 | Decimal point position | CH09 | 0~4 | |
| 30310 | 135 | Decimal point position | CH10 | 0~4 | |
| 30311 | 136 | Decimal point position | CH11 | 0~4 | |
| 30312 | 137 | Decimal point position | CH12 | 0~4 | |
| 30313 | 138 | Decimal point position | CH13 | 0~4 | |
| 30314 | 139 | Decimal point position | CH14 | 0~4 | |
| 30315 | 13A | Decimal point position | CH15 | 0~4 | |
| 30316 | 13B | Decimal point position | CH16 | 0~4 | |
| 30317 | 13C | Decimal point position | CH17 | 0~4 | |
| 30318 | 13D | Decimal point position | CH18 | 0~4 | |
| 30319 | 13E | Decimal point position | CH19 | 0~4 | |
| 30320 | 13F | Decimal point position | CH20 | 0~4 | |
| 30321 | 140 | Decimal point position | CH21 | 0~4 | |
| 30322 | 141 | Decimal point position | CH22 | 0~4 | |
| 30323 | 142 | Decimal point position | CH23 | 0~4 | |
| 30324 | 143 | Decimal point position | CH24 | 0~4 | |
| 30325 | 144 | Decimal point position | CH25 | 0~4 | |
| 30326 | 145 | Decimal point position | CH26 | 0~4 | |
| 30327 | 146 | Decimal point position | CH27 | 0~4 | |
| 30328 | 147 | Decimal point position | CH28 | 0~4 | |
| 30329 | 148 | Decimal point position | CH29 | 0~4 | |
| 30330 | 149 | Decimal point position | CH30 | 0~4 | |
| 30331 | 14A | Decimal point position | CH31 | 0~4 | |
| 30332 | 14B | Decimal point position | CH32 | 0~4 | |
| 30333 | 14C | Decimal point position | CH33 | 0~4 | |
| 30334 | 14D | Decimal point position | CH34 | 0~4 | |
| 30335 | 14E | Decimal point position | CH35 | 0~4 | |
| 30336 | 14F | Decimal point position | CH36 | 0~4 | |
| 30337 | 150 | Decimal point position | CH37 | 0~4 | |
| 30338 | 151 | Decimal point position | CH38 | 0~4 | |
| 30339 | 152 | Decimal point position | CH39 | 0~4 | |
| 30340 | 153 | Decimal point position | CH40 | 0~4 | |
| 30341 | 154 | Decimal point position | CH41 | 0~4 | |
| 30342 | 155 | Decimal point position | CH42 | 0~4 | |
| 30343 | 156 | Decimal point position | CH43 | 0~4 | |
| 30344 | 157 | Decimal point position | CH44 | 0~4 | |
| 30345 | 158 | Decimal point position | CH45 | 0~4 | |
| 30346 | 159 | Decimal point position | CH46 | 0~4 | |
| 30347 | 15A | Decimal point position | CH47 | 0~4 | |
| 30348 | 15B | Decimal point position | CH48 | 0~4 | |
| 30349 | 15C | Reserve | | | |
| 30350 | 15D | Reserve | | | |
| 30351 | 15E | Reserve | | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|------------|-------|---------|---------|
| 30352 | 15F | Reserve | | | |
| 30353 | 160 | Reserve | | | |
| 30354 | 161 | Reserve | | | |
| 30355 | 162 | Reserve | | | |
| 30356 | 163 | Reserve | | | |
| 30357 | 164 | Reserve | | | |
| 30358 | 165 | Reserve | | | |
| 30359 | 166 | Reserve | | | |
| 30360 | 167 | Reserve | | | |
| 30361 | 168 | Reserve | | | |
| 30362 | 169 | Reserve | | | |
| 30363 | 16A | Reserve | | | |
| 30364 | 16B | Reserve | | | |
| 30365 | 16C | Reserve | | | |
| 30366 | 16D | Reserve | | | |
| 30367 | 16E | Reserve | | | |
| 30368 | 16F | Reserve | | | |
| 30369 | 170 | Reserve | | | |
| 30370 | 171 | Reserve | | | |
| 30371 | 172 | Reserve | | | |
| 30372 | 173 | Reserve | | | |
| 30373 | 174 | Reserve | | | |
| 30374 | 175 | Reserve | | | |
| 30375 | 176 | Reserve | | | |
| 30376 | 177 | Reserve | | | |
| 30377 | 178 | Reserve | | | |
| 30378 | 179 | Reserve | | | |
| 30379 | 17A | Reserve | | | |
| 30380 | 17B | Reserve | | | |
| 30381 | 17C | Reserve | | | |
| 30382 | 17D | Reserve | | | |
| 30383 | 17E | Reserve | | | |
| 30384 | 17F | Reserve | | | |
| 30385 | 180 | Reserve | | | |
| 30386 | 181 | Reserve | | | |
| 30387 | 182 | Reserve | | | |
| 30388 | 183 | Reserve | | | |
| 30389 | 184 | Reserve | | | |
| 30390 | 185 | Reserve | | | |
| 30391 | 186 | Reserve | | | |
| 30392 | 187 | Reserve | | | |
| 30393 | 188 | Reserve | | | |
| 30394 | 189 | Reserve | | | |
| 30395 | 18A | Reserve | | | |
| 30396 | 18B | Reserve | | | |
| 30397 | 18C | Reserve | | | |
| 30398 | 18D | Reserve | | | |
| 30399 | 18E | Reserve | | | |
| 30400 | 18F | Reserve | | | |
| 30401 | 190 | Unit (1/4) | CH01 | | |
| 30402 | 191 | Unit (2/4) | CH01 | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|------------|-------|---------|---------|
| 30403 | 192 | Unit (3/4) | CH01 | | |
| 30404 | 193 | Unit (4/4) | CH01 | | |
| 30405 | 194 | Unit (1/4) | CH02 | | |
| 30406 | 195 | Unit (2/4) | CH02 | | |
| 30407 | 196 | Unit (3/4) | CH02 | | |
| 30408 | 197 | Unit (4/4) | CH02 | | |
| 30409 | 198 | Unit (1/4) | CH03 | | |
| 30410 | 199 | Unit (2/4) | CH03 | | |
| 30411 | 19A | Unit (3/4) | CH03 | | |
| 30412 | 19B | Unit (4/4) | CH03 | | |
| 30413 | 19C | Unit (1/4) | CH04 | | |
| 30414 | 19D | Unit (2/4) | CH04 | | |
| 30415 | 19E | Unit (3/4) | CH04 | | |
| 30416 | 19F | Unit (4/4) | CH04 | | |
| 30417 | 1A0 | Unit (1/4) | CH05 | | |
| 30418 | 1A1 | Unit (2/4) | CH05 | | |
| 30419 | 1A2 | Unit (3/4) | CH05 | | |
| 30420 | 1A3 | Unit (4/4) | CH05 | | |
| 30421 | 1A4 | Unit (1/4) | CH06 | | |
| 30422 | 1A5 | Unit (2/4) | CH06 | | |
| 30423 | 1A6 | Unit (3/4) | CH06 | | |
| 30424 | 1A7 | Unit (4/4) | CH06 | | |
| 30425 | 1A8 | Unit (1/4) | CH07 | | |
| 30426 | 1A9 | Unit (2/4) | CH07 | | |
| 30427 | 1AA | Unit (3/4) | CH07 | | |
| 30428 | 1AB | Unit (4/4) | CH07 | | |
| 30429 | 1AC | Unit (1/4) | CH08 | | |
| 30430 | 1AD | Unit (2/4) | CH08 | | |
| 30431 | 1AE | Unit (3/4) | CH08 | | |
| 30432 | 1AF | Unit (4/4) | CH08 | | |
| 30433 | 1B0 | Unit (1/4) | CH09 | | |
| 30434 | 1B1 | Unit (2/4) | CH09 | | |
| 30435 | 1B2 | Unit (3/4) | CH09 | | |
| 30436 | 1B3 | Unit (4/4) | CH09 | | |
| 30437 | 1B4 | Unit (1/4) | CH10 | | |
| 30438 | 1B5 | Unit (2/4) | CH10 | | |
| 30439 | 1B6 | Unit (3/4) | CH10 | | |
| 30440 | 1B7 | Unit (4/4) | CH10 | | |
| 30441 | 1B8 | Unit (1/4) | CH11 | | |
| 30442 | 1B9 | Unit (2/4) | CH11 | | |
| 30443 | 1BA | Unit (3/4) | CH11 | | |
| 30444 | 1BB | Unit (4/4) | CH11 | | |
| 30445 | 1BC | Unit (1/4) | CH12 | | |
| 30446 | 1BD | Unit (2/4) | CH12 | | |
| 30447 | 1BE | Unit (3/4) | CH12 | | |
| 30448 | 1BF | Unit (4/4) | CH12 | | |
| 30449 | 1C0 | Unit (1/4) | CH13 | | |
| 30450 | 1C1 | Unit (2/4) | CH13 | | |
| 30451 | 1C2 | Unit (3/4) | CH13 | | |
| 30452 | 1C3 | Unit (4/4) | CH13 | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|------------|-------|---------|---------|
| 30453 | 1C4 | Unit (1/4) | CH14 | | |
| 30454 | 1C5 | Unit (2/4) | CH14 | | |
| 30455 | 1C6 | Unit (3/4) | CH14 | | |
| 30456 | 1C7 | Unit (4/4) | CH14 | | |
| 30457 | 1C8 | Unit (1/4) | CH15 | | |
| 30458 | 1C9 | Unit (2/4) | CH15 | | |
| 30459 | 1CA | Unit (3/4) | CH15 | | |
| 30460 | 1CB | Unit (4/4) | CH15 | | |
| 30461 | 1CC | Unit (1/4) | CH16 | | |
| 30462 | 1CD | Unit (2/4) | CH16 | | |
| 30463 | 1CE | Unit (3/4) | CH16 | | |
| 30464 | 1CF | Unit (4/4) | CH16 | | |
| 30465 | 1D0 | Unit (1/4) | CH17 | | |
| 30466 | 1D1 | Unit (2/4) | CH17 | | |
| 30467 | 1D2 | Unit (3/4) | CH17 | | |
| 30468 | 1D3 | Unit (4/4) | CH17 | | |
| 30469 | 1D4 | Unit (1/4) | CH18 | | |
| 30470 | 1D5 | Unit (2/4) | CH18 | | |
| 30471 | 1D6 | Unit (3/4) | CH18 | | |
| 30472 | 1D7 | Unit (4/4) | CH18 | | |
| 30473 | 1D8 | Unit (1/4) | CH19 | | |
| 30474 | 1D9 | Unit (2/4) | CH19 | | |
| 30475 | 1DA | Unit (3/4) | CH19 | | |
| 30476 | 1DB | Unit (4/4) | CH19 | | |
| 30477 | 1DC | Unit (1/4) | CH20 | | |
| 30478 | 1DD | Unit (2/4) | CH20 | | |
| 30479 | 1DE | Unit (3/4) | CH20 | | |
| 30480 | 1DF | Unit (4/4) | CH20 | | |
| 30481 | 1E0 | Unit (1/4) | CH21 | | |
| 30482 | 1E1 | Unit (2/4) | CH21 | | |
| 30483 | 1E2 | Unit(3/4) | CH21 | | |
| 30484 | 1E3 | Unit(4/4) | CH21 | | |
| 30485 | 1E4 | Unit(1/4) | CH22 | | |
| 30486 | 1E5 | Unit(2/4) | CH22 | | |
| 30487 | 1E6 | Unit(3/4) | CH22 | | |
| 30488 | 1E7 | Unit(4/4) | CH22 | | |
| 30489 | 1E8 | Unit(1/4) | CH23 | | |
| 30490 | 1E9 | Unit(2/4) | CH23 | | |
| 30491 | 1EA | Unit(3/4) | CH23 | | |
| 30492 | 1EB | Unit(4/4) | CH23 | | |
| 30493 | 1EC | Unit(1/4) | CH24 | | |
| 30494 | 1ED | Unit(2/4) | CH24 | | |
| 30495 | 1EE | Unit(3/4) | CH24 | | |
| 30496 | 1EF | Unit(4/4) | CH24 | | |
| 30497 | 1F0 | Unit(1/4) | CH25 | | |
| 30498 | 1F1 | Unit(2/4) | CH25 | | |
| 30499 | 1F2 | Unit(3/4) | CH25 | | |
| 30500 | 1F3 | Unit(4/4) | CH25 | | |
| 30501 | 1F4 | Unit(1/4) | CH26 | | |
| 30502 | 1F5 | Unit(2/4) | CH26 | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|-----------|-------|---------|---------|
| 30503 | 1F6 | Unit(3/4) | CH26 | | |
| 30504 | 1F7 | Unit(4/4) | CH26 | | |
| 30505 | 1F8 | Unit(1/4) | CH27 | | |
| 30506 | 1F9 | Unit(2/4) | CH27 | | |
| 30507 | 1FA | Unit(3/4) | CH27 | | |
| 30508 | 1FB | Unit(4/4) | CH27 | | |
| 30509 | 1FC | Unit(1/4) | CH28 | | |
| 30510 | 1FD | Unit(2/4) | CH28 | | |
| 30511 | 1FE | Unit(3/4) | CH28 | | |
| 30512 | 1FF | Unit(4/4) | CH28 | | |
| 30513 | 200 | Unit(1/4) | CH29 | | |
| 30514 | 201 | Unit(2/4) | CH29 | | |
| 30515 | 202 | Unit(3/4) | CH29 | | |
| 30516 | 203 | Unit(4/4) | CH29 | | |
| 30517 | 204 | Unit(1/4) | CH30 | | |
| 30518 | 205 | Unit(2/4) | CH30 | | |
| 30519 | 206 | Unit(3/4) | CH30 | | |
| 30520 | 207 | Unit(4/4) | CH30 | | |
| 30521 | 208 | Unit(1/4) | CH31 | | |
| 30522 | 209 | Unit(2/4) | CH31 | | |
| 30523 | 20A | Unit(3/4) | CH31 | | |
| 30524 | 20B | Unit(4/4) | CH31 | | |
| 30525 | 20C | Unit(1/4) | CH32 | | |
| 30526 | 20D | Unit(2/4) | CH32 | | |
| 30527 | 20E | Unit(3/4) | CH32 | | |
| 30528 | 20F | Unit(4/4) | CH32 | | |
| 30529 | 210 | Unit(1/4) | CH33 | | |
| 30530 | 211 | Unit(2/4) | CH33 | | |
| 30531 | 212 | Unit(3/4) | CH33 | | |
| 30532 | 213 | Unit(4/4) | CH33 | | |
| 30533 | 214 | Unit(1/4) | CH34 | | |
| 30534 | 215 | Unit(2/4) | CH34 | | |
| 30535 | 216 | Unit(3/4) | CH34 | | |
| 30536 | 217 | Unit(4/4) | CH34 | | |
| 30537 | 218 | Unit(1/4) | CH35 | | |
| 30538 | 219 | Unit(2/4) | CH35 | | |
| 30539 | 21A | Unit(3/4) | CH35 | | |
| 30540 | 21B | Unit(4/4) | CH35 | | |
| 30541 | 21C | Unit(1/4) | CH36 | | |
| 30542 | 21D | Unit(2/4) | CH36 | | |
| 30543 | 21E | Unit(3/4) | CH36 | | |
| 30544 | 21F | Unit(4/4) | CH36 | | |
| 30545 | 220 | Unit(1/4) | CH37 | | |
| 30546 | 221 | Unit(2/4) | CH37 | | |
| 30547 | 222 | Unit(3/4) | CH37 | | |
| 30548 | 223 | Unit(4/4) | CH37 | | |
| 30549 | 224 | Unit(1/4) | CH38 | | |
| 30550 | 225 | Unit(2/4) | CH38 | | |
| 30551 | 226 | Unit(3/4) | CH38 | | |
| 30552 | 227 | Unit(4/4) | CH38 | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|-----------|-------|---------|---------|
| 30553 | 228 | Unit(1/4) | CH39 | | |
| 30554 | 229 | Unit(2/4) | CH39 | | |
| 30555 | 22A | Unit(3/4) | CH39 | | |
| 30556 | 22B | Unit(4/4) | CH39 | | |
| 30557 | 22C | Unit(1/4) | CH40 | | |
| 30558 | 22D | Unit(2/4) | CH40 | | |
| 30559 | 22E | Unit(3/4) | CH40 | | |
| 30560 | 22F | Unit(4/4) | CH40 | | |
| 30561 | 230 | Unit(1/4) | CH41 | | |
| 30562 | 231 | Unit(2/4) | CH41 | | |
| 30563 | 232 | Unit(3/4) | CH41 | | |
| 30564 | 233 | Unit(4/4) | CH41 | | |
| 30565 | 234 | Unit(1/4) | CH42 | | |
| 30566 | 235 | Unit(2/4) | CH42 | | |
| 30567 | 236 | Unit(3/4) | CH42 | | |
| 30568 | 237 | Unit(4/4) | CH42 | | |
| 30569 | 238 | Unit(1/4) | CH43 | | |
| 30570 | 239 | Unit(2/4) | CH43 | | |
| 30571 | 23A | Unit(3/4) | CH43 | | |
| 30572 | 23B | Unit(4/4) | CH43 | | |
| 30573 | 23C | Unit(1/4) | CH44 | | |
| 30574 | 23D | Unit(2/4) | CH44 | | |
| 30575 | 23E | Unit(3/4) | CH44 | | |
| 30576 | 23F | Unit(4/4) | CH44 | | |
| 30577 | 240 | Unit(1/4) | CH45 | | |
| 30578 | 241 | Unit(2/4) | CH45 | | |
| 30579 | 242 | Unit(3/4) | CH45 | | |
| 30580 | 243 | Unit(4/4) | CH45 | | |
| 30581 | 244 | Unit(1/4) | CH46 | | |
| 30582 | 245 | Unit(2/4) | CH46 | | |
| 30583 | 246 | Unit(3/4) | CH46 | | |
| 30584 | 247 | Unit(4/4) | CH46 | | |
| 30585 | 248 | Unit(1/4) | CH47 | | |
| 30586 | 249 | Unit(2/4) | CH47 | | |
| 30587 | 24A | Unit(3/4) | CH47 | | |
| 30588 | 24B | Unit(4/4) | CH47 | | |
| 30589 | 24C | Unit(1/4) | CH48 | | |
| 30590 | 24D | Unit(2/4) | CH48 | | |
| 30591 | 24E | Unit(3/4) | CH48 | | |
| 30592 | 24F | Unit(4/4) | CH48 | | |
| 30593 | 250 | Reserve | | | |
| • • • | • • • | • • • | | | |
| 39000 | 2327 | Reserve | | | |

2.5 Read and write of holding register area

It is an area for reading and writing. The starting address of the read data (relative address) and the number of data (Every one word = two bytes) are specified.

Refer item 2.4 "Setting range and special setting" for item of "※".

Function code (Reading): 03H

■ Example of transmitting master(starting address=00C8H, data length=2words)

| Component | | Data length | | Data |
|-----------------------------------|-------------------------------------|-------------|-----|---------------|
| | | TCP | RTU | |
| MBAP header (only for Modbus TCP) | | 7 | - | - |
| Slave address | | - | 1 | - |
| Function code | | 1 | 1 | 03H |
| Data | Relative start address (high-order) | 1 | 1 | 00H |
| | Relative start address (low-order) | 1 | 1 | C8H |
| | Read data count (high-order) | 1 | 1 | 00H |
| | Read data count (low-order) | 1 | 1 | 02H |
| Error check | | - | 2 | CRC (16 bits) |
| Total number of bytes | | 12 | 8 | |

■ Example of slave's responding (starting address=0032H, data length =2words)

| Component | | Data length | | Data |
|-----------------------------------|----------------------|-------------|-----|---------------|
| | | TCP | RTU | |
| MBAP header (only for Modbus TCP) | | 7 | - | - |
| Slave address | | - | 1 | - |
| Function code | | 1 | 1 | 03H |
| Data | Number of data bytes | 1 | 1 | 04H |
| | Data 1 (high-order) | 1 | 1 | 00H |
| | Data 1 (low-order) | 1 | 1 | 05H |
| | Data 2 (high-order) | 1 | 1 | 00H |
| | Data 2 (low-order) | 1 | 1 | 00H |
| Error check | | - | 2 | CRC (16 bits) |
| Total number of bytes | | 13 | 9 | |

Function code (Writing): 06H

■ Example of transmitting master(starting address=00C8H, data =5)

| Component | Data length | | Data |
|-----------------------------------|-------------------------------------|-----|---------------|
| | TCP | RTU | |
| MBAP header (only for Modbus TCP) | 7 | - | - |
| Slave address | - | 1 | - |
| Function code | 1 | 1 | 06H |
| Data | Relative start address (high-order) | 1 | 00H |
| | Relative start address (low-order) | 1 | C8H |
| | Write data (high-order) | 1 | 00H |
| | Write data (low-order) | 1 | 05H |
| Error check | - | 2 | CRC (16 bits) |
| Total number of bytes | 12 | 8 | |

■ Example of slave's responding (starting address=00C8H, data =5)

| Component | Data length | | Data |
|-----------------------------------|-------------------------------------|-----|---------------|
| | TCP | RTU | |
| MBAP header (only for Modbus TCP) | 7 | - | - |
| Slave address | - | 1 | - |
| Function code | 1 | 1 | 06H |
| Data | Relative start address (high-order) | 1 | 00H |
| | Relative start address (low-order) | 1 | C8H |
| | Write data (high-order) | 1 | 00H |
| | Write data (low-order) | 1 | 05H |
| Error check | - | 2 | CRC (16 bits) |
| Total number of bytes | 12 | 8 | 8 |

【Holding register area map】 Function code: 03H, 06H

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|------------------------------|-------|--------------|---------|
| | | Communication channel | | | |
| 40001 | 0 | 1-value of input | 0-01 | -32000~32000 | |
| 40002 | 1 | 2-value of input | 0-02 | -32000~32000 | |
| 40003 | 2 | 3-value of input | 0-03 | -32000~32000 | |
| 40004 | 3 | 4-value of input | 0-04 | -32000~32000 | |
| 40005 | 4 | 5-value of input | 0-05 | -32000~32000 | |
| 40006 | 5 | 6-value of input | 0-06 | -32000~32000 | |
| 40007 | 6 | 7-value of input | 0-07 | -32000~32000 | |
| 40008 | 7 | 8-value of input | 0-08 | -32000~32000 | |
| 40009 | 8 | 9-value of input | 0-09 | -32000~32000 | |
| 40010 | 9 | 10-value of input | 0-10 | -32000~32000 | |
| 40011 | A | 11-value of input | 0-11 | -32000~32000 | |
| 40012 | B | 12-value of input | 0-12 | -32000~32000 | |
| 40013 | C | 13-value of input | 0-13 | -32000~32000 | |
| 40014 | D | 13-value of input | 0-14 | -32000~32000 | |
| 40015 | E | 15-value of input | 0-15 | -32000~32000 | |
| 40016 | F | 16-value of input | 0-16 | -32000~32000 | |
| 40017 | 10 | 17-value of input | 0-17 | -32000~32000 | |
| 40018 | 11 | 18-value of input | 0-18 | -32000~32000 | |
| 40019 | 12 | 19-value of input | 0-19 | -32000~32000 | |
| 40020 | 13 | 20-value of input | 0-20 | -32000~32000 | |
| 40021 | 14 | 21-value of input | 0-21 | -32000~32000 | |
| 40022 | 15 | 22-value of input | 0-22 | -32000~32000 | |
| 40023 | 16 | 23-value of input | 0-23 | -32000~32000 | |
| 40024 | 17 | 24-value of input | 0-24 | -32000~32000 | |
| 40025 | 18 | 25-value of input | 0-25 | -32000~32000 | |
| 40026 | 19 | 26-value of input | 0-26 | -32000~32000 | |
| 40027 | 1A | 27-value of input | 0-27 | -32000~32000 | |
| 40028 | 1B | 28-value of input | 0-28 | -32000~32000 | |
| 40029 | 1C | 29-value of input | 0-29 | -32000~32000 | |
| 40030 | 1D | 30-value of input | 0-30 | -32000~32000 | |
| 40031 | 1E | 31-value of input | 0-31 | -32000~32000 | |
| 40032 | 1F | 32-value of input | 0-32 | -32000~32000 | |
| 40033 | 20 | 33-value of input | 0-33 | -32000~32000 | |
| 40034 | 21 | 34-value of input | 0-34 | -32000~32000 | |
| 40035 | 22 | 35-value of input | 0-35 | -32000~32000 | |
| 40036 | 23 | 36-value of input | 0-36 | -32000~32000 | |
| | | Communication channel | | | |
| 40037 | 24 | 1-position of decimal point | 0-01 | 0~4 | |
| 40038 | 25 | 2-position of decimal point | 0-02 | 0~4 | |
| 40039 | 26 | 3-position of decimal point | 0-03 | 0~4 | |
| 40040 | 27 | 4-position of decimal point | 0-04 | 0~4 | |
| 40041 | 28 | 5-position of decimal point | 0-05 | 0~4 | |
| 40042 | 29 | 6-position of decimal point | 0-06 | 0~4 | |
| 40043 | 2A | 7-position of decimal point | 0-07 | 0~4 | |
| 40044 | 2B | 8-position of decimal point | 0-08 | 0~4 | |
| 40045 | 2C | 9-position of decimal point | 0-09 | 0~4 | |
| 40046 | 2D | 10-position of decimal point | 0-10 | 0~4 | |
| 40047 | 2E | 11-position of decimal point | 0-11 | 0~4 | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|------------------------------|-------|---------|---------|
| 40048 | 2F | 12-position of decimal point | 0-12 | 0~4 | |
| 40049 | 30 | 13-position of decimal point | 0-13 | 0~4 | |
| 40050 | 31 | 14-position of decimal point | 0-14 | 0~4 | |
| 40051 | 32 | 15-position of decimal point | 0-15 | 0~4 | |
| 40052 | 33 | 16-position of decimal point | 0-16 | 0~4 | |
| 40053 | 34 | 17-position of decimal point | 0-17 | 0~4 | |
| 40054 | 35 | 18-position of decimal point | 0-18 | 0~4 | |
| 40055 | 36 | 19-position of decimal point | 0-19 | 0~4 | |
| 40056 | 37 | 20-position of decimal point | 0-20 | 0~4 | |
| 40057 | 38 | 21-position of decimal point | 0-21 | 0~4 | |
| 40058 | 39 | 22-position of decimal point | 0-22 | 0~4 | |
| 40059 | 3A | 23-position of decimal point | 0-23 | 0~4 | |
| 40060 | 3B | 24-position of decimal point | 0-24 | 0~4 | |
| 40061 | 3C | 25-position of decimal point | 0-25 | 0~4 | |
| 40062 | 3D | 26-position of decimal point | 0-26 | 0~4 | |
| 40063 | 3E | 27-position of decimal point | 0-27 | 0~4 | |
| 40064 | 3F | 28-position of decimal point | 0-28 | 0~4 | |
| 40065 | 40 | 29-position of decimal point | 0-29 | 0~4 | |
| 40066 | 41 | 30-position of decimal point | 0-30 | 0~4 | |
| 40067 | 42 | 31-position of decimal point | 0-31 | 0~4 | |
| 40068 | 43 | 32-position of decimal point | 0-32 | 0~4 | |
| 40069 | 44 | 33-position of decimal point | 0-33 | 0~4 | |
| 40070 | 45 | 34-position of decimal point | 0-34 | 0~4 | |
| 40071 | 46 | 35-position of decimal point | 0-35 | 0~4 | |
| 40072 | 47 | 36-position of decimal point | 0-36 | 0~4 | |
| 40073 | 48 | Reserve | | | |
| 40074 | 49 | Reserve | | | |
| 40075 | 4A | Reserve | | | |
| 40076 | 4B | Reserve | | | |
| 40077 | 4C | Reserve | | | |
| 40078 | 4D | Reserve | | | |
| 40079 | 4E | Reserve | | | |
| 40080 | 4F | Reserve | | | |
| 40081 | 50 | Reserve | | | |
| 40082 | 51 | Reserve | | | |
| 40083 | 52 | Reserve | | | |
| 40084 | 53 | Reserve | | | |
| 40085 | 54 | Reserve | | | |
| 40086 | 55 | Reserve | | | |
| 40087 | 56 | Reserve | | | |
| 40088 | 57 | Reserve | | | |
| 40089 | 58 | Reserve | | | |
| 40090 | 59 | Reserve | | | |
| 40091 | 5A | Reserve | | | |
| 40092 | 5B | Reserve | | | |
| 40093 | 5C | Reserve | | | |
| 40094 | 5D | Reserve | | | |
| 40095 | 5E | Reserve | | | |
| 40096 | 5F | Reserve | | | |
| 40097 | 60 | Reserve | | | |
| 40098 | 61 | Reserve | | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|---------------------------|-------|-----------------------------|--|
| 40099 | 62 | Reserve | | | |
| 40100 | 63 | Reserve | | | |
| 40101 | 64 | Record start/stop | | AA01 : start AA00 : stop | Invalid except the left "DI" is selected when invalid. |
| 40102 | 65 | Sub record start/stop | | AA01 : Start AA00 : Stop | Invalid except the left When assigned to the Func key. |
| 40103 | 66 | LCD ON/OFF | | AA01 : ON | Invalid except the left According to the recorder set. |
| 40104 | 67 | Set value preservation | | AA01 : preservation | Invalid except the left |
| 40105 | 68 | Addition reset | | AA01 : Reset | ※It supports after the map version 02. |
| 40106 | 69 | Reserve | | | (Refer item 1.7) |
| 40107 | 6A | Reserve | | | |
| 40108 | 6B | Reserve | | | |
| 40109 | 6C | Reserve | | | |
| 40110 | 6D | Reserve | | | |
| 40111 | 6E | SNTP manual calibration | | AA01 : Calibration | ※9 Refer item 2.4 |
| 40112 | 6F | Pram save (Recorder → SD) | | AA01 : Save | ※10 Refer item 2.4 |
| 40113 | 70 | Pram load (SD → Recorder) | | AA01 : Load | ※11 Refer item 2.4 |
| 40114 | 71 | Reserve | | | ※About an address 40104, 40105, |
| 40115 | 72 | Reserve | | | 40111~40113, |
| 40116 | 73 | Reserve | | | it supports after the map version 02. |
| 40117 | 74 | Reserve | | | |
| 40118 | 75 | Reserve | | | |
| 40119 | 76 | Reserve | | | |
| 40120 | 77 | Reserve | | | |
| 40121 | 78 | Reserve | | | |
| 40122 | 79 | Reserve | | | |
| 40123 | 7A | Reserve | | | |
| 40124 | 7B | Reserve | | | |
| 40125 | 7C | Reserve | | | |
| 40126 | 7D | Reserve | | | |
| 40127 | 7E | Reserve | | | |
| 40128 | 7F | Reserve | | | |
| 40129 | 80 | Reserve | | | |
| 40130 | 81 | Reserve | | | |
| 40131 | 82 | Reserve | | | |
| 40132 | 83 | Reserve | | | |
| 40133 | 84 | Reserve | | | |
| 40134 | 85 | Reserve | | | |
| 40135 | 86 | Reserve | | | |
| 40136 | 87 | Reserve | | | |
| 40137 | 88 | Reserve | | | |
| 40138 | 89 | Reserve | | | |
| 40139 | 8A | Reserve | | | |
| 40140 | 8B | Reserve | | | |
| 40141 | 8C | Reserve | | | |
| 40142 | 8D | Reserve | | | |
| 40143 | 8E | Reserve | | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|---------|-------|---------|---------|
| 40144 | 8F | Reserve | | | |
| 40145 | 90 | Reserve | | | |
| 40146 | 91 | Reserve | | | |
| 40147 | 92 | Reserve | | | |
| 40148 | 93 | Reserve | | | |
| 40149 | 94 | Reserve | | | |
| 40150 | 95 | Reserve | | | |
| 40151 | 96 | Reserve | | | |
| 40152 | 97 | Reserve | | | |
| 40153 | 98 | Reserve | | | |
| 40154 | 99 | Reserve | | | |
| 40155 | 9A | Reserve | | | |
| 40156 | 9B | Reserve | | | |
| 40157 | 9C | Reserve | | | |
| 40158 | 9D | Reserve | | | |
| 40159 | 9E | Reserve | | | |
| 40160 | 9F | Reserve | | | |
| 40161 | A0 | Reserve | | | |
| 40162 | A1 | Reserve | | | |
| 40163 | A2 | Reserve | | | |
| 40164 | A3 | Reserve | | | |
| 40165 | A4 | Reserve | | | |
| 40166 | A5 | Reserve | | | |
| 40167 | A6 | Reserve | | | |
| 40168 | A7 | Reserve | | | |
| 40169 | A8 | Reserve | | | |
| 40170 | A9 | Reserve | | | |
| 40171 | AA | Reserve | | | |
| 40172 | AB | Reserve | | | |
| 40173 | AC | Reserve | | | |
| 40174 | AD | Reserve | | | |
| 40175 | AE | Reserve | | | |
| 40176 | AF | Reserve | | | |
| 40177 | B0 | Reserve | | | |
| 40178 | B1 | Reserve | | | |
| 40179 | B2 | Reserve | | | |
| 40180 | B3 | Reserve | | | |
| 40181 | B4 | Reserve | | | |
| 40182 | B5 | Reserve | | | |
| 40183 | B6 | Reserve | | | |
| 40184 | B7 | Reserve | | | |
| 40185 | B8 | Reserve | | | |
| 40186 | B9 | Reserve | | | |
| 40187 | BA | Reserve | | | |
| 40188 | BB | Reserve | | | |
| 40189 | BC | Reserve | | | |
| 40190 | BD | Reserve | | | |
| 40191 | BE | Reserve | | | |
| 40192 | BF | Reserve | | | |
| 40193 | C0 | Reserve | | | |
| 40194 | C1 | Reserve | | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|------------------------|-------|------------------|-----------------------------------|
| 40195 | C2 | Reserve | | | |
| 40196 | C3 | Reserve | | | |
| 40197 | C4 | Reserve | | | |
| 40198 | C5 | Reserve | | | |
| 40199 | C6 | Reserve | | | |
| 40200 | C7 | Reserve | | | |
| 40201 | C8 | Input type | CH01 | 0~33 | Input channel ※1 Refer item 2.4 |
| 40202 | C9 | Burnout | | 0~1 | 0:OFF 1:ON |
| 40203 | CA | RJC | | 0~2 | 0:OFF 1:Internal 2:Assignment CH |
| 40204 | CB | RJC channel | | 0~47 | 0:CH01 47:CH48 |
| 40205 | CC | Measurement range (L) | | Depends on range | ※1 Refer item 2.4 |
| 40206 | CD | Measurement range (H) | | Depends on range | ※1 Refer item 2.4 |
| 40207 | CE | Scaling | | 0~2 | 0:OFF 1:ON 2:Square root ON |
| 40208 | CF | Scaling range (L) | | -32000~32000 | |
| 40209 | D0 | Scaling range (H) | | -32000~32000 | |
| 40210 | D1 | Decimal point position | | 0~4 | Decimal point when the Scaling ON |
| 40211 | D2 | Unit (1/4) | | ASCII | Unit when the Scaling ON |
| 40212 | D3 | Unit (2/4) | | ASCII | |
| 40213 | D4 | Unit (3/4) | | ASCII | |
| 40214 | D5 | Unit (4/4) | | ASCII | |
| 40215 | D6 | Tag (1/4) | | ASCII | |
| 40216 | D7 | Tag (2/4) | | ASCII | |
| 40217 | D8 | Tag (3/4) | | ASCII | |
| 40218 | D9 | Tag (4/4) | | ASCII | |
| 40219 | DA | Description (01/26) | | ASCII | |
| 40220 | DB | Description (02/26) | | ASCII | |
| 40221 | DC | Description (03/26) | | ASCII | |
| 40222 | DD | Description (04/26) | | ASCII | |
| 40223 | DE | Description (05/26) | | ASCII | |
| 40224 | DF | Description (06/26) | | ASCII | |
| 40225 | E0 | Description (07/26) | | ASCII | |
| 40226 | E1 | Description (08/26) | | ASCII | |
| 40227 | E2 | Description (09/26) | | ASCII | |
| 40228 | E3 | Description (10/26) | | ASCII | |
| 40229 | E4 | Description (11/26) | | ASCII | |
| 40230 | E5 | Description (12/26) | | ASCII | |
| 40231 | E6 | Description (13/26) | | ASCII | |
| 40232 | E7 | Description (14/26) | | ASCII | |
| 40233 | E8 | Description (15/26) | | ASCII | |
| 40234 | E9 | Description (16/26) | | ASCII | |
| 40235 | EA | Description (17/26) | | ASCII | |
| 40236 | EB | Description (18/26) | | ASCII | |
| 40237 | EC | Description (19/26) | | ASCII | |
| 40238 | ED | Description (20/26) | | ASCII | |
| 40239 | EE | Description (21/26) | | ASCII | |
| 40240 | EF | Description (22/26) | | ASCII | |
| 40241 | F0 | Description (23/26) | | ASCII | |
| 40242 | F1 | Description (24/26) | | ASCII | |
| 40243 | F2 | Description (25/26) | | ASCII | |
| 40244 | F3 | Description (26/26) | | ASCII | |
| 40245 | F4 | Display Color | | 0~15 | ※2 Refer item 2.4 |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|---------------------------|-------|--------------|--|
| 40246 | F5 | Scale generation | CH01 | 0 | Now unused The position is the decimal point changeable. |
| 40247 | F6 | Scaling range (L) | | -32000~32000 | |
| 40248 | F7 | Scaling range (H) | | -32000~32000 | The position is the decimal point changeable. |
| 40249 | F8 | Scaling file (01/16) | | ASCII | Now unused |
| 40250 | F9 | Scaling file name (02/16) | | ASCII | |
| 40251 | FA | Scaling file name (03/16) | | ASCII | |
| 40252 | FB | Scaling file name (04/16) | | ASCII | |
| 40253 | FC | Scaling file name (05/16) | | ASCII | |
| 40254 | FD | Scaling file name (06/16) | | ASCII | |
| 40255 | FE | Scaling file name (07/16) | | ASCII | |
| 40256 | FF | Scaling file name (08/16) | | ASCII | |
| 40257 | 100 | Scaling file name (09/16) | | ASCII | |
| 40258 | 101 | Scaling file name (10/16) | | ASCII | |
| 40259 | 102 | Scaling file name (11/16) | | ASCII | |
| 40260 | 103 | Scaling file name (12/16) | | ASCII | |
| 40261 | 104 | Scaling file name (13/16) | | ASCII | |
| 40262 | 105 | Scaling file name (14/16) | | ASCII | |
| 40263 | 106 | Scaling file name (15/16) | | ASCII | |
| 40264 | 107 | Scaling file name (16/16) | | ASCII | |
| 40265 | 108 | Partition | | 0~20 | |
| 40266 | 109 | Alarm1 action | | 0~3 | 0:OFF 1:HI 2:LOW 3:Fault 0:Common 1~6:Relay 7~12:Transistor 16:OFF |
| 40267 | 10A | Alarm1 DO No. | | 0~16 | 7~12:Transistor 16:OFF The position is the decimal point changeable. |
| 40268 | 10B | Alarm1 set value | | -32000~32000 | |
| 40269 | 10C | Alarm2 action | | 0~3 | |
| 40270 | 10D | Alarm2 DO No. | | 0~16 | |
| 40271 | 10E | Alarm2 set value | | -32000~32000 | |
| 40272 | 10F | Alarm3 action | | 0~3 | |
| 40273 | 110 | Alarm3 DO No. | | 0~16 | |
| 40274 | 111 | Alarm3 set value | | -32000~32000 | |
| 40275 | 112 | Alarm4 action | | 0~3 | |
| 40276 | 113 | Alarm4 DO No. | | 0~16 | |
| 40277 | 114 | Alarm4 set value | | -32000~32000 | |
| 40278 | 115 | Hysteresis | | 0~1000(%) | One digit at decimal point position fixation. |
| 40279 | 116 | Delay | | 0~3600(sec) | Zero digit at decimal point position fixation. |
| 40280 | 117 | Input filter | | 0~99(sec) | |
| 40281 | 118 | Record type | | 0~3 | 0:OFF 1:Max/Min 2:Average 3:Instant value |
| 40282 | 119 | Offset | | -32000~32000 | The position is the decimal point changeable. |
| 40283 | 11A | Gain | | -32000~32000 | Two digit at decimal point position fixation |
| 40284 | 11B | Scale No. | | 0~2 | 0:Scale No.1 1:Scale No.2 2:Scale No.3 |
| 40285 | 11C | Reserve | | | |
| 40286 | 11D | Reserve | | | |
| 40287 | 11E | Reserve | | | |
| 40288 | 11F | Reserve | | | |
| 40289 | 120 | Reserve | | | |
| 40290 | 121 | Reserve | | | |
| 40291 | 122 | Reserve | | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|----------------------------|-------|---------------|-----------------------------|
| 40292 | 123 | Reserve | | | |
| 40293 | 124 | Reserve | | | |
| 40294 | 125 | Reserve | | | |
| 40295 | 126 | Reserve | | | |
| 40296 | 127 | Reserve | | | |
| 40297 | 128 | Reserve | | | |
| 40298 | 129 | Reserve | | | |
| 40299 | 12A | Reserve | | | |
| 40300 | 12B | Reserve | | | |
| 40301 | 12C | Input type | CH02 | Input channel | The same composition as CH1 |
| 40401 | 190 | Input type | CH03 | Input channel | |
| 40501 | 1F4 | Input type | CH04 | Input channel | |
| 40601 | 258 | Input type | CH05 | Input channel | |
| 40701 | 2BC | Input type | CH06 | Input channel | |
| 40801 | 320 | Input type | CH07 | Input channel | |
| 40901 | 384 | Input type | CH08 | Input channel | |
| 41001 | 3E8 | Input type | CH09 | Input channel | |
| 41101 | 44C | Input type | CH10 | Input channel | |
| 41201 | 4B0 | Input type | CH11 | Input channel | |
| 41301 | 514 | Input type | CH12 | Input channel | |
| 41401 | 578 | Input type (Input CH only) | CH13 | Calc. channel | |
| 41402 | 579 | Reserve | | | |
| 41403 | 57A | Reserve | | | |
| 41404 | 57B | Reserve | | | |
| 41405 | 57C | Reserve | | | |
| 41406 | 57D | Reserve | | | |
| 41407 | 57E | Reserve | | | |
| 41408 | 57F | Reserve | | | |
| 41409 | 580 | Reserve | | | |
| 41410 | 581 | Decimal point position | | 0~4 | |
| 41411 | 582 | Unit (1/4) | | ASCII | |
| 41412 | 583 | Unit (2/4) | | ASCII | |
| 41413 | 584 | Unit (3/4) | | ASCII | |
| 41414 | 585 | Unit (4/4) | | ASCII | |
| 41415 | 586 | Tag (1/4) | | ASCII | |
| 41416 | 587 | Tag (2/4) | | ASCII | |
| 41417 | 588 | Tag (3/4) | | ASCII | |
| 41418 | 589 | Tag (4/4) | | ASCII | |
| 41419 | 58A | Description (01/26) | | ASCII | |
| 41420 | 58B | Description (02/26) | | ASCII | |
| 41421 | 58C | Description (03/26) | | ASCII | |
| 41422 | 58D | Description (04/26) | | ASCII | |
| 41423 | 58E | Description (05/26) | | ASCII | |
| 41424 | 58F | Description (06/26) | CH13 | ASCII | |
| 41425 | 590 | Description (07/26) | | ASCII | |
| 41426 | 591 | Description (08/26) | | ASCII | |
| 41427 | 592 | Description (09/26) | | ASCII | |
| 41428 | 593 | Description (10/26) | | ASCII | |
| 41429 | 594 | Description (11/26) | | ASCII | |
| 41430 | 595 | Description (12/26) | | ASCII | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|---------------------------|-------|--------------|---|
| 41431 | 596 | Description (13/26) | | ASCII | |
| 41432 | 597 | Description (14/26) | | ASCII | |
| 41433 | 598 | Description (15/26) | | ASCII | |
| 41434 | 599 | Description (16/26) | | ASCII | |
| 41435 | 59A | Description (17/26) | | ASCII | |
| 41436 | 59B | Description (18/26) | | ASCII | |
| 41437 | 59C | Description (19/26) | | ASCII | |
| 41438 | 59D | Description (20/26) | | ASCII | |
| 41439 | 59E | Description (21/26) | | ASCII | |
| 41440 | 59F | Description (22/26) | | ASCII | |
| 41441 | 5A0 | Description (23/26) | | ASCII | |
| 41442 | 5A1 | Description (24/26) | | ASCII | |
| 41443 | 5A2 | Description (25/26) | | ASCII | |
| 41444 | 5A3 | Description (26/26) | | ASCII | |
| 41445 | 5A4 | Display Color | | 0~15 | ※2 Refer item 2.4 |
| 41446 | 5A5 | Scale generation | | 0 | Now unused |
| 41447 | 5A6 | Scaling range (L) | | -32000~32000 | The position is the decimal point changeable. |
| 41448 | 5A7 | Scaling range (H) | | -32000~32000 | The position is the decimal point changeable. |
| 41449 | 5A8 | Scaling file name (01/16) | | ASCII | Now unused |
| 41450 | 5A9 | Scaling file name (02/16) | | ASCII | |
| 41451 | 5AA | Scaling file name (03/16) | | ASCII | |
| 41452 | 5AB | Scaling file name (04/16) | | ASCII | |
| 41453 | 5AC | Scaling file name (05/16) | | ASCII | |
| 41454 | 5AD | Scaling file name (06/16) | | ASCII | |
| 41455 | 5AE | Scaling file name (07/16) | | ASCII | |
| 41456 | 5AF | Scaling file name (08/16) | | ASCII | |
| 41457 | 5B0 | Scaling file name (09/16) | | ASCII | |
| 41458 | 5B1 | Scaling file name (10/16) | | ASCII | |
| 41459 | 5B2 | Scaling file name (11/16) | | ASCII | |
| 41460 | 5B3 | Scaling file name (12/16) | | ASCII | |
| 41461 | 5B4 | Scaling file name (13/16) | | ASCII | |
| 41462 | 5B5 | Scaling file name (14/16) | | ASCII | |
| 41463 | 5B6 | Scaling file name (15/16) | | ASCII | |
| 41464 | 5B7 | Scaling file name (16/16) | | ASCII | |
| 41465 | 5B8 | Partition | | 0~20 | |
| 41466 | 5B9 | Alarm1 action | | 0~3 | 0:OFF 1:HI 2:LOW 3:Fault 0:Common 1~6:Relay |
| 41467 | 5BA | Alarm1 DO No. | | 0~16 | 7~12:Transistor 16:OFF The position is the decimal point changeable. |
| 41468 | 5BB | Alarm1 set value | | -32000~32000 | |
| 41469 | 5BC | Alarm2 action | | 0~3 | |
| 41470 | 5BD | Alarm2 DO No. | | 0~16 | |
| 41471 | 5BE | Alarm2 set value | | -32000~32000 | |
| 41472 | 5BF | Alarm3 action | CH13 | 0~3 | |
| 41473 | 5C0 | Alarm3 DO No. | | 0~16 | |
| 41474 | 5C1 | Alarm3 set value | | -32000~32000 | |
| 41475 | 5C2 | Alarm4 action | | 0~3 | |
| 41476 | 5C3 | Alarm4 DO No. | | 0~16 | |
| 41477 | 5C4 | Alarm4 set value | | -32000~32000 | |
| 41478 | 5C5 | Hysteresis | | 0~1000(%) | One digit at decimal point position fixation. |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|---------------------------|-------|--------------|---|
| 41479 | 5C6 | Delay | | 0~3600(sec) | Zero digit at decimal point position fixation. 0:OFF 1:Max/Min 2:Average 3:Instant value The position is the decimal point changeable. Two digit at decimal point position fixation 0:Scale No.1 1:Scale No.2 2:Scale No.3 |
| 41480 | 5C7 | Input filter | | 0~99(sec) | |
| 41481 | 5C8 | Record type | | 0~3 | |
| 41482 | 5C9 | Offset | | -32000~32000 | |
| 41483 | 5CA | Gain | | -32000~32000 | |
| 41484 | 5CB | Scale No. | | 0~2 | |
| 41485 | 5CC | Reserve | | | |
| 41486 | 5CD | Reserve | | | |
| 41487 | 5CE | Reserve | | | |
| 41488 | 5CF | Reserve | | | |
| 41489 | 5D0 | Reserve | | | |
| 41490 | 5D1 | Reserve | | | |
| 41491 | 5D2 | Reserve | | | |
| 41492 | 5D3 | Reserve | | | |
| 41493 | 5D4 | Reserve | | | |
| 41494 | 5D5 | Reserve | | | |
| 41495 | 5D6 | Reserve | | | |
| 41496 | 5D7 | Reserve | | | |
| 41497 | 5D8 | Reserve | | | |
| 41498 | 5D9 | Reserve | | | |
| 41499 | 5DA | Reserve | | | |
| 41500 | 5DB | Reserve | | | |
| 41501 | 5DC | Input type(Input CH only) | CH14 | | The same composition as CH13 |
| 41601 | 640 | Input type(Input CH only) | CH15 | | |
| 41701 | 6A4 | Input type(Input CH only) | CH16 | | |
| 41801 | 708 | Input type(Input CH only) | CH17 | | |
| 41901 | 76C | Input type(Input CH only) | CH18 | | |
| 42001 | 7D0 | Input type(Input CH only) | CH19 | | |
| 42101 | 834 | Input type(Input CH only) | CH20 | | |
| 42201 | 898 | Input type(Input CH only) | CH21 | | |
| 42301 | 8FC | Input type(Input CH only) | CH22 | | |
| 42401 | 960 | Input type(Input CH only) | CH23 | | |
| 42501 | 9C4 | Input type(Input CH only) | CH24 | | |
| 42601 | A28 | Input type(Input CH only) | CH25 | | |
| 42701 | A8C | Input type(Input CH only) | CH26 | | |
| 42801 | AF0 | Input type(Input CH only) | CH27 | | |
| 42901 | B54 | Input type(Input CH only) | CH28 | | |
| 43001 | BB8 | Input type(Input CH only) | CH29 | | |
| 43101 | C1C | Input type(Input CH only) | CH30 | | |
| 43201 | C80 | Input type(Input CH only) | CH31 | | |
| 43301 | CE4 | Input type(Input CH only) | CH32 | | |
| 43401 | D48 | Input type(Input CH only) | CH33 | | |
| 43501 | DAC | Input type(Input CH only) | CH34 | | |
| 43601 | E10 | Input type(Input CH only) | CH35 | | |
| 43701 | E74 | Input type(Input CH only) | CH36 | | |
| 43801 | ED8 | Input type(Input CH only) | CH37 | | |
| 43901 | F3C | Input type(Input CH only) | CH38 | | |
| 44001 | FA0 | Input type(Input CH only) | CH39 | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|---------------------------|----------|---------|---|
| 44101 | 1004 | Input type(Input CH only) | CH40 | | The same composition as CH13 |
| 44201 | 1068 | Input type(Input CH only) | CH41 | | |
| 44301 | 10CC | Input type(Input CH only) | CH42 | | |
| 44401 | 1130 | Input type(Input CH only) | CH43 | | |
| 44501 | 1194 | Input type(Input CH only) | CH44 | | |
| 44601 | 11F8 | Input type(Input CH only) | CH45 | | |
| 44701 | 125C | Input type(Input CH only) | CH46 | | |
| 44801 | 12C0 | Input type(Input CH only) | CH47 | | |
| 44901 | 1324 | Input type(Input CH only) | CH48 | | |
| 45001 | 1388 | Display name (1/12) | Group01 | ASCII | Group setting 0:Channel No. 1:TAG 0:OFF 1:ON ※Group1,7(Sub) is always ON. 0:OFF 1:ON 0:OFF 1:ON 0:OFF 1:ON 0:OFF 1:ON 0:OFF 1:ON 0:OFF ※3 Refer item 2.4 |
| 45002 | 1389 | Display name (2/12) | | ASCII | |
| 45003 | 138A | Display name (3/12) | | ASCII | |
| 45004 | 138B | Display name (4/12) | | ASCII | |
| 45005 | 138C | Display name (5/12) | | ASCII | |
| 45006 | 138D | Display name (6/12) | | ASCII | |
| 45007 | 138E | Display name (7/12) | | ASCII | |
| 45008 | 138F | Display name (8/12) | | ASCII | |
| 45009 | 1390 | Display name (9/12) | | ASCII | |
| 45010 | 1391 | Display name (10/12) | | ASCII | |
| 45011 | 1392 | Display name (11/12) | | ASCII | |
| 45012 | 1393 | Display name (12/12) | | ASCII | |
| 45013 | 1394 | Tag disp set | | 0~1 | |
| 45014 | 1395 | Display ON/OFF | | 0~1 | |
| 45015 | 1396 | Horizontal trend ON/OFF | | 0~1 | |
| 45016 | 1397 | Vertical trend ON/OFF | | 0~1 | |
| 45017 | 1398 | Bar graph ON/OFF | | 0~1 | |
| 45018 | 1399 | Digital display ON/OFF | | 0~1 | |
| 45019 | 139A | Display channel (01/12) | | 0~48 | |
| 45020 | 139B | Display channel (02/12) | | | |
| 45021 | 139C | Display channel (03/12) | | | |
| 45022 | 139D | Display channel (04/12) | | | |
| 45023 | 139E | Display channel 05/12) | | | |
| 45024 | 139F | Display channel (06/12) | | | |
| 45025 | 13A0 | Display channel (07/12) | | | |
| 45026 | 13A1 | Display channel (08/12) | | | |
| 45027 | 13A2 | Display channel (09/12) | | | |
| 45028 | 13A3 | Display channel (10/12) | | | |
| 45029 | 13A4 | Display channel (11/12) | | | |
| 45030 | 13A5 | Display channel (12/12) | | | |
| 45031 | 13A6 | Display name (1/12) | Group02 | | The same composition as Group1 |
| 45061 | 13C4 | Display name (1/12) | Group03 | | |
| 45091 | 13E2 | Display name (1/12) | Group04 | | |
| 45121 | 1400 | Display name (1/12) | Group05 | | |
| 45151 | 141E | Display name (1/12) | Group06 | | The same composition as Group1 |
| 45181 | 143C | Display name (1/12) | SubGroup | | |
| 45211 | 145A | Record Cycle—Main | | 2~18 | Record setting ※4 Refer item 2.4 ※5 Refer item 2.4 0:OFF 1:ON ※4 Refer item 2.4 0:OFF 1:ON |
| 45212 | 145B | File record cycle—Main | | 1~5 | |
| 45213 | 145C | File superscription | | 0~1 | |
| 45214 | 145D | Record Cycle—Sub | | 1~18 | |
| 45215 | 145E | Pre-record. —Sub | | 0~1 | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|-----------------------------|-------|---------------------------|---|
| 45216 | 145F | Record timing—Sub | | 0~4 | ※6 Refer item 2.4 When “Record timing-sub” DI select 0:OFF 1:ON local time 0:OFF 1:ON 0:OFF 1:ON 0:OFF 1:ON 0:OFF 1:ON 0:OFF 1:ON 0:OFF 1:ON 0:OFF 1:ON 0:OFF 1:ON |
| 45217 | 1460 | DI No. | | 1~9 | |
| 45218 | 1461 | Reserve | | | |
| 45219 | 1462 | Reserve | | | |
| 45220 | 1463 | Schedule record ON/OFF | | 0~1 | |
| 45221 | 1464 | Start time—Hour | | 0~23 | |
| 45222 | 1465 | Start time—Minute | | 0~59 | |
| 45223 | 1466 | Start time—Second | | 0~59 | |
| 45224 | 1467 | End time—Hour | | 0~23 | |
| 45225 | 1468 | End time—Minute | | 0~59 | |
| 45226 | 1469 | End time—Second | | 0~59 | |
| 45227 | 146A | A day of the week—Sunday | | 0~1 | |
| 45228 | 146B | A day of the week—Monday | | 0~1 | |
| 45229 | 146C | A day of the week—Tuesday | | 0~1 | |
| 45230 | 146D | A day of the week—Wednesday | | 0~1 | |
| 45231 | 146E | A day of the week—Thursday | | 0~1 | |
| 45232 | 146F | A day of the week—Friday | | 0~1 | |
| 45233 | 1470 | A day of the week—Saturday | | 0~1 | |
| 45234 | 1471 | Reserve | | | |
| 45241 | 1478 | Message timing | Mes01 | 0~5 | Message setting 0:OFF 1:Func key 2:Alarm occurred 3:Alarm cleared 4:DI ON 5:DI OFF Timing = DI select 0:DI1 8:DI9 Timing = Alarm 0:CH01 47:CH48 Timing = Alarm 0:Alarm1 3:Alarm4 |
| 45242 | 1479 | DI No./channel No. | | DI No.:0~8 CH No.:0~47 | |
| 45243 | 147A | Alarm No. | | 0~3 | |
| 45244 | 147B | Message (1/8) | | ASCII | |
| 45245 | 147C | Message (2/8) | | ASCII | |
| 45246 | 147D | Message (3/8) | | ASCII | |
| 45247 | 147E | Message (4/8) | | ASCII | |
| 45248 | 147F | Message (5/8) | | ASCII | |
| 45249 | 1480 | Message (6/8) | | ASCII | |
| 45250 | 1481 | Message (7/8) | | ASCII | |
| 45251 | 1482 | Message (8/8) | | ASCII | |
| 45252 | 1483 | Reserve | | | |
| 45253 | 1484 | Reserve | | | |
| 45254 | 1485 | Reserve | | | |
| 45255 | 1486 | Reserve | | | |
| 45256 | 1487 | Reserve | | | |
| 45257 | 1488 | Message timing | Mes02 | 0~5 | The same composition as Mes01 |
| 45273 | 1498 | Message timing | Mes03 | 0~5 | |
| 45289 | 14A8 | Message timing | Mes04 | 0~5 | |
| 45305 | 14B8 | Message timing | Mes05 | 0~5 | |
| 45321 | 14C8 | Message timing | Mes06 | 0~5 | |
| 45337 | 14D8 | Message timing | Mes07 | 0~5 | |
| 45353 | 14E8 | Message timing | Mes08 | 0~5 | |
| 45369 | 14F8 | Message timing | Mes09 | 0~5 | |
| 45385 | 1508 | Message timing | Mes10 | 0~5 | |
| 45401 | 1518 | Message timing | Mes11 | 0~5 | |
| 45417 | 1528 | Message timing | Mes12 | 0~5 | |
| 45433 | 1538 | Message timing | Mes13 | 0~5 | |
| 45449 | 1548 | Message timing | Mes14 | 0~5 | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|-----------------|-------|---------|--|
| 45465 | 1558 | Message timing | Mes15 | 0~5 | The same composition as Mes01 |
| 45481 | 1568 | Message timing | Mes16 | 0~5 | |
| 45497 | 1578 | Message timing | Mes17 | 0~5 | |
| 45513 | 1588 | Message timing | Mes18 | 0~5 | |
| 45529 | 1598 | Message timing | Mes19 | 0~5 | |
| 45545 | 15A8 | Message timing | Mes20 | 0~5 | |
| 45561 | 15B8 | DI function | DI01 | 0~4 | 0:OFF 1:Record ON/OFF 2:LCD ON/OFF 3:U1 4:U2 ※4: About an “U2”, it supports after the map version 03. (Refer item 1.7) |
| 45562 | 15B9 | DI function | DI02 | 0~4 | |
| 45563 | 15BA | DI function | DI03 | 0~4 | |
| 45564 | 15BB | DI function | DI04 | 0~4 | |
| 45565 | 15BC | DI function | DI05 | 0~4 | |
| 45566 | 15BD | DI function | DI06 | 0~4 | |
| 45567 | 15BE | DI function | DI07 | 0~4 | |
| 45568 | 15BF | DI function | DI08 | 0~4 | |
| 45569 | 15C0 | DI function | DI09 | 0~4 | |
| 45570 | 15C1 | Reserve | | | |
| 45571 | 15C2 | Reserve | | | |
| 45572 | 15C3 | Reserve | | | |
| 45573 | 15C4 | Reserve | | | |
| 45574 | 15C5 | Reserve | | | |
| 45575 | 15C6 | Reserve | | | |
| 45576 | 15C7 | Reserve | | | |
| 45577 | 15C8 | Reserve | | | |
| 45578 | 15C9 | Reserve | | | |
| 45579 | 15CA | Reserve | | | |
| 45580 | 15CB | Reserve | | | |
| 45581 | 15CC | User Unit(1/4) | 1 | ASCII | Read Only |
| 45582 | 15CD | User Unit (2/4) | | ASCII | |
| 45583 | 15CE | User Unit(3/4) | | ASCII | |
| 45584 | 15CF | User Unit(4/4) | | ASCII | |
| 45585 | 15D0 | User Unit(1/4) | 2 | ASCII | |
| 45589 | 15D4 | User Unit(1/4) | 3 | ASCII | |
| 45593 | 15D8 | User Unit(1/4) | 4 | ASCII | |
| 45597 | 15DC | User Unit(1/4) | 5 | ASCII | |
| 45601 | 15E0 | User Unit(1/4) | 6 | ASCII | |
| 45605 | 15E4 | User Unit(1/4) | 7 | ASCII | |
| 45609 | 15E8 | User Unit(1/4) | 8 | ASCII | |
| 45613 | 15EC | User Unit(1/4) | 9 | ASCII | |
| 45617 | 15F0 | User Unit(1/4) | 10 | ASCII | |
| 45621 | 15F4 | User Unit(1/4) | 11 | ASCII | |
| 45625 | 15F8 | User Unit(1/4) | 12 | ASCII | |
| 45629 | 15FC | User Unit(1/4) | 13 | ASCII | |
| 45633 | 1600 | User Unit(1/4) | 14 | ASCII | |
| 45637 | 1604 | User Unit(1/4) | 15 | ASCII | |
| 45641 | 1608 | User Unit(1/4) | 16 | ASCII | |
| 45645 | 160C | User Unit(1/4) | 17 | ASCII | |
| 45649 | 1610 | User Unit(1/4) | 18 | ASCII | |
| 45653 | 1614 | User Unit(1/4) | 19 | ASCII | |
| 45657 | 1618 | User Unit(1/4) | 20 | ASCII | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|---|-------|-----------------------------|---|
| 45661 | 161C | Reserve | | | |
| - | - | | | | |
| 45901 | 170C | Auto display group | | 0~1 | 0:OFF 1:ON |
| 45902 | 170D | Change cycle | | 0~4 | 0:5 sec 1:10 sec 2:15 sec 3:30 sec 4:60 sec |
| 45903 | 170E | Progress time | | 0~1 | 0:OFF 1:ON |
| 45904 | 170F | Condition | | 0~2 | 0:Record 1:Alarm 2:DI |
| 45905 | 1710 | DI No. / CH No. | | DI No. :0~8 CH No. :0~48 | Condition=DI 0:DI1 8:DI9 Condition=Alarm 0:All 1:CH01 48:CH48 |
| 45906 | 1711 | Alarm No. | | 0~4 | Condition=Alarm 0:All 1:Alarm1 4:Alarm4 |
| 45907 | 1712 | Reserve | | | ※About an address 45901~45906, it supports after the map version 03. |
| ... | ... | ... | | | |
| 46000 | 176F | Reserve | | | |
| 46001 | 1770 | IP address (01/03) | | ASCII | System ※7 Refer item 2.4 |
| 46002 | 1771 | IP address (02/03) | | ASCII | |
| 46003 | 1772 | IP address (03/03) | | | Reserve treatment |
| 46004 | 1773 | Subnet mask (01/03) | | ASCII | ※7 Refer item 2.4 |
| 46005 | 1774 | Subnet mask (02/03) | | ASCII | |
| 46006 | 1775 | Subnet mask (03/03) | | | Reserve treatment |
| 46007 | 1776 | Default gateway (01/03) | | ASCII | ※7 Refer item 2.4 |
| 46008 | 1777 | Default gateway (02/03) | | ASCII | |
| 46009 | 1778 | Default gateway (03/03) | | | Reserve treatment |
| 46010 | 1779 | DNS server address (01/03) | | ASCII | ※7 Refer item 2.4 |
| 46011 | 177A | DNS server address (02/03) | | ASCII | |
| 46012 | 177B | DNS server address (03/03) | | | Reserve treatment |
| 46013 | 177C | Keep alive ON/OFF | | 0~1 | 0:OFF 1:OFF |
| 46014 | 177D | Keep alive Cycle | | 1~240(min) | |
| 46015 | 177E | Reserve | | | |
| 46016 | 177F | | | | |
| 46017 | 1780 | | | | |
| 46018 | 1781 | | | | |
| 46019 | 1782 | | | | |
| 46020 | 1783 | | | | |
| 46021 | 1784 | SNTP ON/OFF | | 0~1 | 0:OFF 1:ON |
| 46022 | 1785 | Proofreading cycle at time Operation when SNTP power supply is turned on ON/OFF | | 1~200(hour) | |
| 46023 | 1786 | | | 0~1 | 0:OFF 1:ON |
| 46024 | 1787 | Time zone | | 0~30 | ※8 Refer item 2.4 |
| 46025 | 1788 | SNTP server address (01/16) | | ASCII | |
| 46026 | 1789 | SNTP server address (02/16) | | ASCII | |
| 46027 | 178A | SNTP server address (03/16) | | ASCII | |
| 46028 | 178B | SNTP server address (04/16) | | ASCII | |
| 46029 | 178C | SNTP server address (05/16) | | ASCII | |
| 46030 | 178D | SNTP server address (06/16) | | ASCII | |
| 46031 | 178E | SNTP server address (07/16) | | ASCII | |
| 46032 | 178F | SNTP server address (08/16) | | ASCII | |
| 46033 | 1790 | SNTP server address (09/16) | | ASCII | |
| 46034 | 1791 | SNTP server address (10/16) | | ASCII | |
| 46035 | 1792 | SNTP server address (11/16) | | ASCII | |
| 46036 | 1793 | SNTP server address (12/16) | | ASCII | |
| 46037 | 1794 | SNTP server address (13/16) | | ASCII | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks |
|---------|------------------------|-----------------------------|---------|----------------------------------|-----------|
| 46038 | 1795 | SNTP server address (14/16) | | ASCII | |
| 46039 | 1796 | SNTP server address (15/16) | | ASCII | |
| 46040 | 1797 | SNTP server address (16/16) | | ASCII | |
| 46041 | 1798 | FTP user(01/16) | User01 | ASCII | Read only |
| 46042 | 1799 | FTP user(02/16) | | ASCII | |
| 46043 | 179A | FTP user (03/16) | | ASCII | |
| 46044 | 179B | FTP user (04/16) | | ASCII | |
| 46045 | 179C | FTP user (05/16) | | ASCII | |
| 46046 | 179D | FTP user (06/16) | | ASCII | |
| 46047 | 179E | FTP user (07/16) | | ASCII | |
| 46048 | 179F | FTP user (08/16) | | ASCII | |
| 46049 | 17A0 | FTP user (09/16) | | ASCII | |
| 46050 | 17A1 | FTP user (10/16) | | ASCII | |
| 46051 | 17A2 | FTP user (11/16) | | ASCII | |
| 46052 | 17A3 | FTP user (12/16) | | ASCII | |
| 46053 | 17A4 | FTP user (13/16) | | ASCII | |
| 46054 | 17A5 | FTP user (14/16) | | ASCII | |
| 46055 | 17A6 | FTP user (15/16) | | ASCII | |
| 46056 | 17A7 | FTP user (16/16) | | ASCII | |
| 46057 | 17A8 | Password (01/16) | | ASCII | Read only |
| 46058 | 17A9 | Password (02/16) | | ASCII | |
| 46059 | 17AA | Password (03/16) | | ASCII | |
| 46060 | 17AB | Password (04/16) | | ASCII | |
| 46061 | 17AC | Password (05/16) | | ASCII | |
| 46062 | 17AD | Password (06/16) | | ASCII | |
| 46063 | 17AE | Password (07/16) | | ASCII | |
| 46064 | 17AF | Password (08/16) | | ASCII | |
| 46065 | 17B0 | Password (09/16) | | ASCII | |
| 46066 | 17B1 | Password (10/16) | | ASCII | |
| 46067 | 17B2 | Password (11/16) | | ASCII | |
| 46068 | 17B3 | Password (12/16) | | ASCII | |
| 46069 | 17B4 | Password (13/16) | ASCII | | |
| 46070 | 17B5 | Password (14/16) | ASCII | | |
| 46071 | 17B6 | Password (15/16) | ASCII | | |
| 46072 | 17B7 | Password (16/16) | ASCII | | |
| 46073 | 17B8 | Level | 0~1 | Read only 0:Administrator 1:User | |
| 46074 | 17B9 | Reserve | | | |
| 46075 | 17BA | Reserve | | | |
| 46076 | 17BB | Reserve | | | |
| 46077 | 17BC | Reserve | | | |
| 46078 | 17BD | Reserve | | | |
| 46079 | 17BE | Reserve | | | |
| 46080 | 17BF | Reserve | | | |
| 46081 | 17C0 | FTP user | User 02 | The same composition as User01 | |
| 46121 | 17E8 | FTP user | User 03 | | |
| 46161 | 1810 | FTP user | User 04 | | |
| 46201 | 1838 | FTP user | User 05 | | |
| 46241 | 1860 | FTP user | User 06 | | |
| 46281 | 1888 | FTP user | User 07 | | |
| 46321 | 18B0 | FTP user | User 08 | | |
| 46361 | 18D8 | FTP user | User 09 | | |

| Address | Relative address (HEX) | Item | Array | Content | Remarks | |
|---------|------------------------|-----------------------|---------|-------------|---|-----------------------|
| 46401 | 1900 | FTP user | User 10 | | The same composition as User01 | |
| 46441 | 1928 | FTP user | User 11 | | | |
| 46481 | 1950 | FTP user | User 12 | | | |
| 46521 | 1978 | FTP user | User 13 | | | |
| 46561 | 19A0 | FTP user | User 14 | | | |
| 46601 | 19C8 | FTP user | User 15 | | | |
| 46641 | 19F0 | FTP user | User 16 | | | |
| 46681 | 1A18 | FTP user | User 17 | | | |
| 46721 | 1A40 | FTP user | User 18 | | | |
| 46761 | 1A68 | FTP user | User 19 | | | |
| 46801 | 1A90 | FTP user | User 20 | | | |
| 46841 | 1AB8 | Modbus Ope. mode | | 0~1 | Modbus 0:Modbus TCP(Ethernet) 1:Modbus RTU(RS-485) 0 is not connected | |
| 46842 | 1AB9 | Station No | | 0~247 | | |
| 46843 | 1ABA | ModbusTCP Timeout | | 1~240 (min) | | |
| 46844 | 1ABB | Reserve | | | | |
| 46845 | 1ABC | Reserve | | | | |
| 46846 | 1ABD | Reserve | | | | |
| 46847 | 1ABE | RS-485 Parity | | 0~2 | | 0:Even, 1:Odd, 2:None |
| 46848 | 1ABF | Reserve | | | | |
| 46849 | 1AC0 | Reserve | | | | |
| 46850 | 1AC1 | Reserve | | | | |
| 46851 | 1AC2 | LCD Off time | | 0~60 (min) | Other setting 0:OFF 1:Change display 2:Capture 3:Message 4:Addition reset 0:Binary 1:Binary+CSV 0:Normal 1:Advanced 0:OFF 1:ON ※It supports after the map version 02. (Refer item 1.7) | |
| 46852 | 1AC3 | LCD active brightness | | 2~5 | | |
| 46853 | 1AC4 | LCD sleep brightness | | 0~4 | | |
| 46854 | 1AC5 | Func key setting | | 0~4 | | |
| 46855 | 1AC6 | File format | | 0~1 | | |
| 46856 | 1AC7 | Operation mode | | 0~1 | | |
| 46857 | 1AC8 | | | | | |
| 46858 | 1AC9 | | | | | |
| 46859 | 1ACA | | | | | |
| 46860 | 1ACB | Alarm Recovery | | 0~1 | | |
| 46861 | 1ACC | Jump menu(01/08) | | | Read only | |
| 46862 | 1ACD | Jump menu (02/08) | | | | |
| 46863 | 1ACE | Jump menu (03/08) | | | | |
| 46864 | 1ACF | Jump menu (04/08) | | | | |
| 46865 | 1AD0 | Jump menu (05/08) | | | | |
| 46866 | 1AD1 | Jump menu (06/08) | | | | |
| 46867 | 1AD2 | Jump menu (07/08) | | | | |
| 46868 | 1AD3 | Jump menu (08/08) | | | | |
| 46869 | 1AD4 | Reserve | | | | |
| • • • | • • • | • • • | | | | |
| 49964 | 26EB | Reserve | | | | |

2.6 Other setting range

The setting range for each item in the case of the holding register writing is explained.

※1 Input type, Measurement range

| Data No. | Input type | | Measurement range ※ |
|----------|---------------------------------|-------------------|---------------------|
| 0 | DC voltage | ±10mV | (-10.00 to 10.00) |
| 1 | | 0-20mv | (0.00 to 20.00) |
| 2 | | 0-50mV | (0.00 to 50.00) |
| 3 | | ±0.2V | (-0.200 to 0.200) |
| 4 | | ±1V | (-1.000 to 1.000) |
| 5 | | ±10V | (-10.00 to 10.00) |
| 6 | | 0-5V | (-0.000 to 5.000) |
| 7 | DC current | 4-20mA | (4.00 to 20.00) |
| 8 | TC (Unit:°C) (Au-Fe is K) | B | (0.0 to 1820.0) |
| 9 | | R1 | (0.0 to 1760.0) |
| 10 | | R2 | (0.0 to 1200.0) |
| 11 | | S | (0.0 to 1760.0) |
| 12 | | K1 | (-200.0 to 1370.0) |
| 13 | | K2 | (-200.0 to 600.0) |
| 14 | | K3 | (-200.0 to 300.0) |
| 15 | | E1 | (-200.0 to 800.0) |
| 16 | | E2 | (-200.0 to 300.0) |
| 17 | | E3 | (-200.0 to 150.0) |
| 18 | | J1 | (-200.0 to 1100.0) |
| 19 | | J2 | (-200.0 to 400.0) |
| 20 | | J3 | (-200.0 to 200.0) |
| 21 | | T1 | (-200.0 to 400.0) |
| 22 | | T2 | (-200.0 to 400.0) |
| 23 | | C | (0.0 to 2320.0) |
| 24 | | Au-Fe | (1.0 to 300.0) |
| 25 | | N | (0.0 to 1300.0) |
| 26 | | PR40-20 | (0.0 to 1880.0) |
| 27 | | PL2 | (0.0 to 1390.0) |
| 28 | | U | (-200.0 to 400.0) |
| 29 | L | (-200.0 to 900.0) | |
| 30 | RTD (Unit:°C) | Pt100-1 | (-200.0 to 650.0) |
| 31 | | Pt100-2 | (-200.0 to 200.0) |
| 32 | | JPt100-1 | (-200.0 to 630.0) |
| 33 | | JPt100-2 | (-200.0 to 200.0) |

※ It depends for a measurement range on an "Input type". Moreover, the measurement range is the value without the decimal point. ($\pm 10.00\text{mV} \rightarrow -1000 \sim 1000$)

※2 Display color

| Data No. | Display color |
|----------|---------------|
| 0 | Red |
| 1 | Green |
| 2 | Blue |
| 3 | Purple |
| 4 | Yellow |
| 5 | Aqua |
| 6 | Maroon |
| 7 | Lime |

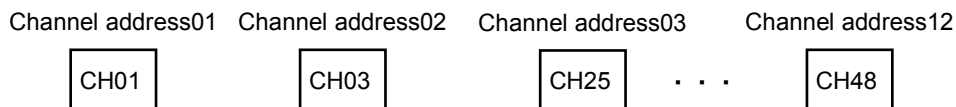
| Data No. | Display color |
|----------|---------------|
| 8 | Navy |
| 9 | Fuchsia |
| 10 | Teal |
| 11 | Olive |
| 12 | Gray |
| 13 | Khaki |
| 14 | Brown |
| 15 | Orange |

※3 Display channel

The setting range of display channels(01/12)~(12/12)(Following “Channel address” : Relative address 139A~13A5(Group01)) are “0~48”.

“Data No.1~48” is equivalent to “CH01~CH48”. 0 is "display OFF" indicates.

One “CH No.” can be set up to one “Channel address”.

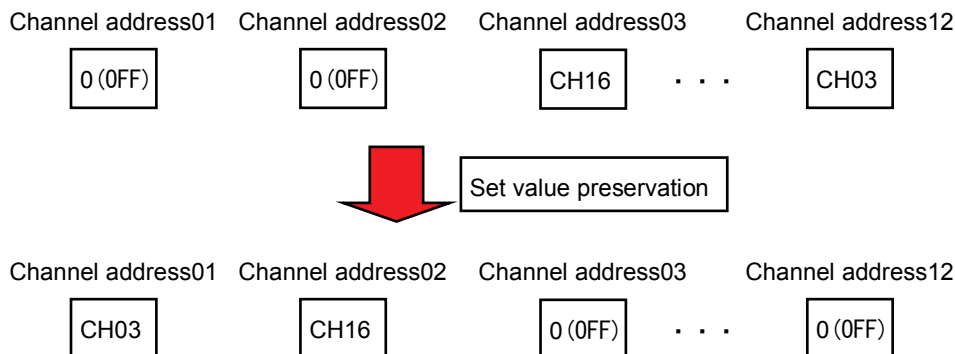


The CH No., "Channel address 01" does not need to register in order from.

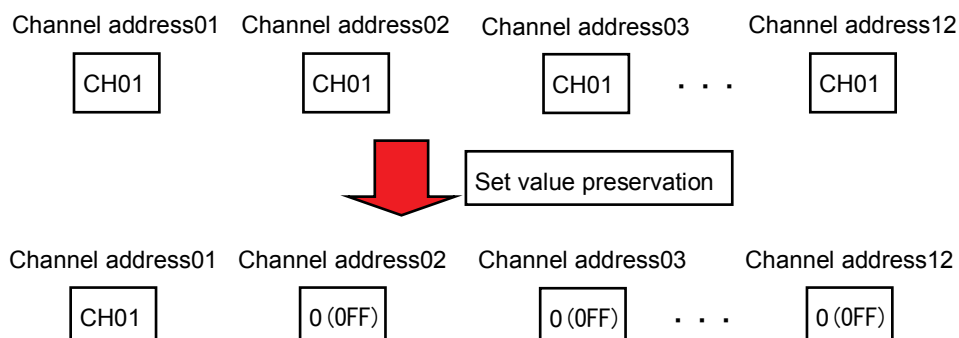
Earlier data is overwritten when data are written in the "Channel address" to which "Channel No." is set.

Moreover, when a channel is set up and "Set value preservation (Relative address 0067→AA01)" is executed, channel settings are aligned in ascending order.

(Refer item 2.3 for “Set value preservation”.)



The same “CH No., each “Channel address” when set to, “CH No.” is only one set.



※4 Record cycle

| Data No. | Record cycle |
|----------|-------------------------|
| 1 | 100ms (Sub record only) |
| 2 | 1sec |
| 3 | 2sec |
| 4 | 3sec |
| 5 | 5sec |
| 6 | 10sec |
| 7 | 15sec |
| 8 | 20sec |
| 9 | 30sec |
| 10 | 1min |
| 11 | 2min |
| 12 | 3min |
| 13 | 5min |
| 14 | 10min |
| 15 | 15min |
| 16 | 20min |
| 17 | 30min |
| 18 | 60min |

※5 File record cycle

The "File record cycle" depends on the "Record cycle".

| Data No. | File record cycle | Record cycle |
|----------|--|--------------|
| 1 | 1 hour | 100ms~5sec |
| 2 | 1 hour, 1 day | 10sec~1min |
| 3 | 1 hour, 1 day, 1 week | 2min~3min |
| 4 | 1 hour, 1 day, 1 week, 1 month | 5min~30min |
| 5 | 1 hour, 1 day, 1 week, 1 month, 1 year | 60min |

※6 Sub record timing

System Settings "Device / Other" ⇒ "FUNC key" is "OFF" only when you can choose "1:Func key".
(Refer item 7.20 or 8.15 of Paperless Recorder Manual (WXPVM70mnA0001E) for details.)

| Data No. | Sub record timing |
|----------|-------------------|
| 0 | OFF |
| 1 | Func key |
| 2 | Alarm |
| 3 | DI |
| 4 | Sync. |

※7 IP Address, Subnet Mask, Default GW, DNS address

"IP Address (01/03)" and "IP address (02/03)" is a pair. ("IP Address (03/03)" is not used.)

Ex) IP Address set "192.168.0.1".

192. 168. 0. 1

【IP Address (01/03)】 【IP Address (02/03)】

Enter the IP address by HEX.

192(DEC) = C0(HEX)、168(DEC) = A8(HEX) ⇒ 【IP Address(01/03)】 : C0A8
0(DEC) = 00(HEX)、1(DEC) = 01(HEX) ⇒ 【IP Address(02/03)】 : 0001

※8 Time zone (UTC)

| Data No. | Time zone (UTC) |
|----------|-----------------|
| 0 | -12:00 |
| 1 | -11:00 |
| 2 | -10:00 |
| 3 | -09:00 |
| 4 | -08:00 |
| 5 | -07:00 |
| 6 | -06:00 |
| 7 | -05:00 |
| 8 | -04:00 |
| 9 | -03:00 |
| 10 | -02:00 |
| 11 | -01:00 |
| 12 | +00:00 |
| 13 | +01:00 |
| 14 | +02:00 |
| 15 | +03:00 |

| Data No. | Time zone (UTC) |
|----------|-----------------|
| 16 | +04:00 |
| 17 | +05:00 |
| 18 | +06:00 |
| 19 | +07:00 |
| 20 | +08:00 |
| 21 | +09:00 |
| 22 | +10:00 |
| 23 | +11:00 |
| 24 | +12:00 |
| 25 | +13:00 |
| 26 | +14:00 |
| 27 | +04:30 |
| 28 | +05:45 |
| 29 | +05:30 |
| 30 | +09:30 |

※9 SNTP manual calibration

Time is calibrated by SNTP function. (Only record stop)

The result of SNTP manual calibration can get by reading the same address "006E." (Status response value)

- The check on a Modbus protocol

①Data receive only "0000H" or "AA01H". (The other command becomes a command error.)

②When data is "0000H", "0000H" is set as a status response value.

(Manual calibration is not started.)

③Calibrate when data is "AA01H", and the following conditions are satisfied.

- The last status response value = 0000H
- "SNTP function" of System is "ON".
- Main record is not started.

Manual calibration is started. A status response value becomes "5500H".

※ Setting of SNTP uses what is beforehand set up by the recorder.

(Refer item 8.8 of Paperless Recorder Manual for SNTP function.)

- The status response after a SNTP manual calibration reception.

A status response is as follows. (A communication state continues for a maximum of 30 seconds.)

5500H = Now communicating

5501H = Calibration success

5510H = Link down

5511H = DNS error

5512H = Address error

5513H = Time out

0000H = SNTP reception preparation completion (When 0000H is received.)

※ In order to check completion of action, please wait until a status response becomes except for "5500H" or "0000H".

※10 Parameter save (Recorder → SD)

The current parameter and system state is saved to an SD card.

The result of save of parameter can get by reading the same address "006F". (Status response value)
(A file name is "modprm.dps" fixation. Keep the file of a same name from existing on an SD card.)

Moreover, it becomes an error if a file already exists. Please save after deleting a file previously.)

● The check on a Modbus protocol

①Data receive only "0000H" or "AA01H". (The other command becomes a command error.)

②When data is "0000H", "0000H" is set as a status response value.(Save of parameter is not started.)

③Save the parameter when data is "AA01H", and the following conditions are satisfied.

- The last status response value of parameter read = 0000H
- The last status response value of parameter write = 0000H
- The SD card is inserted.

Save of parameter is started. A status response value becomes "5500H".

● The status response after a save of parameter.

A status response is as follows.

5500H = Now writing

5501H = Writing success

5510H = A file already exists.

5511H = File writing error

0000H = "Write of parameter" preparation completion

※ In order to check completion of action, please wait until a status response becomes except for "5500H" or "0000H".

※11 Parameter load (SD → Recorder)

A parameter file (DPS file) is written to recorder from a host computer by FTP, and it is read with a recorder.(A file name is "modprm.dps" fixation.)

The result of read of parameter can get by reading the same address "0070." (Status response value)

● The check on a Modbus protocol

①Data receive only "0000H" or "AA01H". (The other command becomes a command error.)

②When data is "0000H", "0000H" is set as a status response value.(Read of parameter is not started.)

③Read of parameter when data is "AA01H", and the following conditions are satisfied.

- The last status response value of parameter read = 0000H
- The last status response value of parameter write = 0000H
- The SD card is inserted.
- Main record is not started.

Read of parameter is started. A status response value becomes "5500H".

● The status response after a read of parameter.

A status response is as follows.

5500H = Now reading

5501H = Reading success

5510H = A file already exists.

5511H = File reading error

0000H = "Read of parameter" preparation completion

※ In order to check completion of action, please wait until a status response becomes except for "5500H" or "0000H".