# Multi-Channel Modular Type High Performance Temperature Controller
# TMH Series

# USER MANUAL

# For COMMUNICATION

CE c**UL**us KC

TMH Series

# *Preface*

Thank you for purchasing an Autonics product.

Please familiarize yourself with the information contained in the Safety Precautions section before using this product.

This user manual contains information about the product and its proper use, and should be kept in a place where it will be easy to access.

# *User Manual Guide*

- Please familiarize yourself with the information in this manual before using the product.
- This manual provides detailed information on the product's features. It does not offer any guarantee concerning matters beyond the scope of this manual.
- This manual may not be edited or reproduced in either part or whole without permission.
- A user manual is not provided as part of the product package.
  Visit our web site (www.autonics.com) to download a copy.
- The manual's content may vary depending on changes to the product's software and other unforeseen developments within Autonics, and is subject to change without prior notice. Upgrade notice is provided through out homepage.
- We contrived to describe this manual more easily and correctly. However, if there are any corrections or questions, please notify us these on our homepage.

# *Communication Protocol*

TMH Series is accepted to Modbus RTU Protocol.

Users should be aware that it does not support a broadcast command.

# *User Manual Symbols*

| Symbol | Description |
|---|---|
| Note | Supplementary information for a particular feature. |
| Warning | Failure to follow instructions can result in serious injury or death. |
| Caution | Failure to follow instructions can lead to a minor injury or product damage. |
| Ex. | An example of the concerned feature's use. |
| ※1 | Annotation mark. |

# *Safety Considerations*

- Following these safety precautions will ensure the safe and proper use of the product and help prevent accidents, as well as minimizing possible hazards.
- Safety precautions are categorized as Warnings and Cautions, as defined below:

| ⚠ Warning | Warning | Failure to follow the instructions may lead to a serious injury or accident. |
|---|---|---|

| ⚠ Caution | Caution | Failure to follow the instructions may lead to a minor injury or accident. |
|---|---|---|

## ⚠ Warning

- Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)
  Failure to follow this instruction may result in fire, personal injury, or economic loss.
- Install on a device panel to use.
  Failure to follow this instruction may result in fire.
- Do not connect, repair, or inspect the unit while connected to a power source.
  Failure to follow this instruction may result in fire.
- Check 'Connections' before wiring.
  Failure to follow this instruction may result in fire.
- Do not disassemble or modify the unit.
  Failure to follow this instruction may result in fire.

## ⚠ Caution

When connecting the power input and relay output, use AWG 20 (0.50mm$^2$) cable or over and tighten the terminal screw with a tightening torque of 0.74 to 0.90N·m.
When connecting the sensor input and communication cable without dedicated cable, use AWG 28 to 16 cable and tighten the terminal screw with a tightening torque of 0.74 to 0.90 N·m.
Failure to follow this instruction may result in fire or malfunction due to contact failure.

- Use the unit within the rated specifications.
  Failure to follow this instruction may result in fire or product damage.
- Use dry cloth to clean the unit, and do not use water or organic solvent.
  Failure to follow this instruction may result in fire.
- Do not use the unit in the place where flammable/explosive/corrosive gas, humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present.
  Failure to follow this instruction may result in fire or explosion.
- Keep metal chip, dust, and wire residue from flowing into the unit.
  Failure to follow this instruction may result in fire or product damage.

# *Caution during Use*

- Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
- Check the polarity of the terminals before wiring the temperature sensor. For RTD temperature sensor, wire it as 3-wire type, using cables in same thickness and length. For thermocouple (CT) temperature sensor, use the designated compensation wire for extending wire.
- Keep away from high voltage lines or power lines to prevent inductive noise. In case installing power line and input signal line closely, use line filter or varistor at power line and shielded wire at input signal line. Do not use near the equipment which generates strong magnetic force or high frequency noise.
- Do not apply excessive power when connecting or disconnecting the connectors of the product.
- Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
- Do not use the unit for other purpose (e.g. voltmeter, ammeter), but temperature controller.
- When changing the input sensor, turn off the power first before changing.
  After changing the input sensor, modify the value of the corresponding parameter.
- Power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
- Do not overlapping communication line and power line. Use twisted pair wire for communication line and connect ferrite bead at each end of line to reduce the effect of external noise.
- Make a required space around the unit for radiation of heat. For accurate temperature measurement, warm up the unit over 20 min after turning on the power.
- Make sure that power supply voltage reaches to the rated voltage within 2 sec after supplying power.
- Do not wire to terminals which are not used.
- Install DIN rail vertically from the ground.
- This unit may be used in the following environments.
  ①Indoors (in the environment condition rated in 'Specifications')
  ②Altitude max. 2,000m
  ③Pollution degree 2
  ④Installation category II

  **The above specifications are subject to change and some models may be discontinued without notice.**

  **Be sure to follow cautions written in the instruction manual, user manual and the technical descriptions (catalog, homepage).**

# *Table of Contents*

# 1      *Modbus RTU Protocol*

## 1.1      *Read coil status(Func 01–01H)*

Read output(OX reference, Coil) ON/OFF status in the slave device.

### *(1) Query (Master)*

| Slave address | Function | Starting address | | No. of points | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte |

←──────────────── CRC16 ────────────────→

### *(2) Response (Slave)*

| Slave address | Function | Byte count | Data | Data | Data | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | | | | | Low | High |
| 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte |

←──────────────── CRC16 ────────────────→

If read the 10 output status(ON: 1, OFF: 0) within coil 000001(0000 H) to 000010(0009 H) on Slave(Address 17) from Master.

▪ Query (Master)

| Slave address | Function | Starting address | | No. of points | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 11 H | 01 H | 00 H | 00 H | 00 H | 0A H | ## H | ## H |

If the values range from coil 000008(0007 H) to 000001(0000 H) on the Slave are "ON-ON-OFF-OFF-ON-ON-OFF-ON", and the values from 000010(0009 H) to 000009(0008 H) are respectively "OFF-ON".

▪ Response (Slave)

| Slave address | Function | Byte count | Data (000008 to 000001) | Data (000010 to 000009) | Error check(CRC16) | |
|---|---|---|---|---|---|---|
| | | | | | Low | High |
| 11 H | 01 H | 02 H | CD H | 01 H | ## H | ## H |

# 1.2    Read input status(Func 02–02H)

Read Input ON/OFF status(1X reference) in Slave device.

### (1)  Query (Master)

| Slave address | Function | Starting address | | No. of points | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte |

|←——————————— CRC16 ———————————→|

### (2) Response (Slave)

| Slave address | Function | Byte count | Data | Data | Data | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | | | | | Low | High |
| 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte |

|←——————————— CRC16 ———————————→|

If read the 10 input status(ON: 1, OFF: 0) within range 100001(0000 H) to 100010(0009 H) in the Slave from the Master.

- Query (Master)

| Slave address | Function | Starting address | | No. of points | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 11 H | 02 H | 00 H | 00 H | 00 H | 0A H | ## H | ## H |

If the values range 100008(0007 H) to 100001(0000 H) on Slave are "ON-ON-OFF-OFF-ON-ON-OFF-ON", and the values of 100010(0009 H) and 100009(0008 H) are respectively "OFF-ON".

- Response (Slave)

| Slave address | Function | Byte count | Data (100008 to 00001) | Data (100010 to 100009) | Error check(CRC16) | |
|---|---|---|---|---|---|---|
| | | | | | Low | High |
| 11 H | 02 H | 02 H | CD H | 01 H | ## H | ## H |

# 1.3    Read holding registers(Func 03–03H)

Read the Binary data of Holding Registers(4X reference) in Slave device.

### (1) Query (Master)

| Slave address | Function | Starting address | | No. of points | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte |

←————————————————— CRC16 —————————————————→

### (2) Response (Slave)

| Slave address | Function | Byte count | Data | | Data | | Data | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | High | Low | High | Low | High | Low | Low | High |
| 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte |

←————————————————— CRC16 —————————————————→

If read the 2 values from Holding Register 400001(0000 H) to 400002(0001 H), in Slave(Address 17) from the Master.

- Query (Master)

| Slave address | Function | Starting address | | No. of points | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 11 H | 03 H | 00 H | 00 H | 00 H | 02 H | ## H | ## H |

If the value of 400001(0000 H) on Slave is "555(22B H)" and the value of 400002(0001 H) is "100(64 H)".

- Response (Slave)

| Slave address | Function | Byte count | Data | | Data | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|---|
| | | | High | Low | High | Low | Low | High |
| 11 H | 03 H | 04 H | 02 H | 2B H | 00 H | 64 H | ## H | ## H |

# *1.4 Read input registers(Func 04–04H)*

Read the Binary data of Input Registers(3X reference) in Slave device.

## *(1) Query (Master)*

| Slave address | Function | Starting address | | No. of points | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte |

←————————————— CRC16 —————————————→

## *(2) Response (Slave)*

| Slave address | Function | Byte count | Data | Data | Data | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | | | | | Low | High |
| 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte |

←————————————— CRC16 —————————————→

If read the 2 values within the range from Input Register 300001(0000 H) to 300002(0001 H) on Slave(Address 17) from Master.

- Query (Master)

| Slave address | Function | Starting address | | No. of points | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 11 H | 04 H | 00 H | 00 H | 00 H | 02 H | ## H | ## H |

If the values of 300001(0000 H) and 300002(0001 H) on Slave are respectively "10(A H)" and "20(14 H)".

- Response (Slave)

| Slave address | Function | Byte count | Data | | Data | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|---|
| | | | High | Low | High | Low | Low | High |
| 11 H | 04 H | 04 H | 00 H | 0A H | 00 H | 14 H | ## H | ## H |

# 1.5    Force single coil (Func 05–05H)

Turns ON (FF00 H) or OFF (0000 H) of single coil (0X reference) status within slave device.

## (1)  Query (Master)

| Slave address | Function | Starting address | | Preset data | | Error check (CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte |

← ———————————————— CRC16 ————————————————→

## (2) Response (Slave)

| Slave address | Function | Starting address | | Preset data | | Error check (CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte |

← ———————————————— CRC16 ————————————————→

If Coil 000001 (0000 H) turns ON of Slave (Address 17) from Master.

- Query (Master)

| Slave address | Function | Starting address | | Preset data | | Error check (CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 11 H | 05 H | 00 H | 00 H | FFH | 00 H | ## H | ## H |

- Response (Slave)

| Slave address | Function | Starting address | | Preset data | | Error check (CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 11 H | 05 H | 00 H | 00 H | FF H | 00 H | ## H | ## H |

# 1.6    *Preset single registers(Func 06–06H)*

Read the Binary data of single Holding Registers (4X reference) in Slave device.

### (1)  Query (Master)

| Slave address | Function | Register address | | Preset data | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte |

←——————————————————— CRC16 ———————————————————→

### (2) Response (Slave)

| Slave address | Function | Register address | | Preset data | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte |

←——————————————————— CRC16 ———————————————————→

If write "10(A H)" to Holding Register 400001(0000 H) on Slave(Address 17) from Master.

- Query (Master)

| Slave address | Function | Starting address | | Preset data | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 11 H | 06 H | 00 H | 00 H | 00 H | 0A H | ## H | ## H |

- Response (Slave)

| Slave address | Function | Starting address | | Preset data | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 11 H | 06 H | 00 H | 00 H | 00 H | 0A H | ## H | ## H |

# 1.7    Preset multiple registers(Func 16–10H)

Write the Binary data of Holding Registers (4X reference) consecutively in Slave device.

## (1) Query (Master)

| Slave Address | Function | Starting Address | | No. of register | | Byte count | Data | | Data | | Error check (CRC16) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | | High | Low | High | Low | Low | High |
| 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte |

←———————————————— CRC16 ————————————————→

## (2) Response (Slave)

| Slave address | Function | Starting address | | No. of register | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte | 1Byte |

←———————————————— CRC16 ————————————————→

If write "10(A H)" in common to the range of Holding Register 400001(0000 H) to 400002(0001 H) on Slave from Master.

- Query (Master)

| Slave address | Function | Starting Address | | No. of register | | Byte count | Data | | Data | | Error check (CRC16) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | | High | Low | High | Low | Low | High |
| 11 H | 10 H | 00 H | 00 H | 00 H | 02 H | 04 H | 00 H | 0A H | 00 H | 0A H | ## H | ## H |

- Response (Slave)

| Slave address | Function | Starting address | | No. of register | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 11 H | 10 H | 00 H | 00 H | 00 H | 02 H | ## H | ## H |

Please use the Single Register Write function rather than Multi Register Write function if you use the slave(device) connecting with external devices such as PLC, Graphic Panel, except in the case of download that presets the minimum/maximum or basic value of parameter by Input specifications in PC Loader Program

# *1.8 Exception response-error code*

If occurs an error, send a response command and transmit each Exception Code after set(1) the highest-level bit of received command(Function).

| Slave address | Function +80 H | Exception code | Error check(CRC16) | |
|---|---|---|---|---|
| | | | Low | High |
| 1Byte | 1Byte | 1Byte | 1Byte | 1Byte |

←————————— CRC16 —————————→

- ILLEGAL FUNCTION (Exception Code: 01 H): A command that is not supported

- ILLEGAL DATA ADDRESS (Exception Code: 02 H): Starting address of queried data is inconsistent with transmittable address from the device.

- ILLRGAL DATA VALUE (Exception Code: 03 H): Numbers of queried data are inconsistent with the numbers of transmittable (transferable) data from the device.

- SLAVE DEVICE FAILURE (Exception Code: 04 H): Not properly completed the queried command (order).

Read the output status of non-existing coil 001001(03E8 H) [ON: 1, OFF: 0] on Slave(Address 17) from Master.

- Query (Master)

| Slave address | Function | Starting address | | No. of points | | Error check(CRC16) | |
|---|---|---|---|---|---|---|---|
| | | High | Low | High | Low | Low | High |
| 11 H | 01 H | 03 H | E8 H | 00 H | 01 H | ## H | ## H |

- Response (Slave)

| Slave address | Function +80 H | Exception Code | Error check(CRC16) | |
|---|---|---|---|---|
| | | | Low | High |
| 11 H | 81 H | 02 H | ## H | ## H |

# 2      Modbus Mapping Table

## 2.1      TMH2/4 Series [control module]

Parameter address for TMH2 and TMH4 is different.

## 2.1.1      Read coil status (Func 01) /
## Force single coil (Func 05)

| No(Address) | | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | |
| 000001(0000) | 000001(0000) | 01/05 | R/W | CH1 RUN/STOP | CH1 control output RUN/STOP | 0: RUN, 1: STOP | - | 0: RUN | |
| 000002(0001) | 000002(0001) | 01/05 | R/W | CH2 RUN/STOP | CH2 control output RUN/STOP | | | | |
| 000003(0002) | 000003(0002) | 01/05 | R/W | CH3 RUN/STOP | CH3 control output RUN/STOP | | | | |
| 000004(0003) | 000004(0003) | 01/05 | R/W | CH4 RUN/STOP | CH4 control output RUN/STOP | | | | |
| - | 000005(0004) | 01/05 | R/W | CH1 Auto-Tuning Execute | CH1 auto-tuning ON/OFF | 0: OFF, 1: ON | - | 0: OFF | |
| - | 000006(0005) | 01/05 | R/W | CH2 Auto-Tuning Execute | CH2 auto-tuning ON/OFF | | | | |
| - | 000007(0006) | 01/05 | R/W | CH3 Auto-Tuning Execute | CH3 auto-tuning ON/OFF | | | | |
| - | 000008(0007) | 01/05 | R/W | CH4 Auto-Tuning Execute | CH4 auto-tuning ON/OFF | | | | |
| 000009(0008) to 000050(0031) | | 01/05 | R/W | Reserved | | | | | |

## 2.1.2        *Read input status (Func 02)*

| No(Address) | | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | |
| 100001(0000) | 100001(0000) | 02 | R | - | CH1 LED(OUT) | 0: OFF, 1: ON | - | - | |
| 100002(0001) | 100002(0001) | 02 | R | - | CH2 LED(OUT) | | | | |
| - | 100003(0002) | 02 | R | - | CH3 LED (OUT) | | | | |
| - | 100004(0003) | 02 | R | - | CH4 LED (OUT) | | | | |
| 100005(0004) | - | 02 | R | - | AL1 LED | 0: OFF, 1: ON | - | - | |
| 100006(0005) | - | 02 | R | - | AL2 LED | | | | |
| 100007(0006) | - | 02 | R | - | AL3 LED | | | | |
| 100008(0007) | - | 02 | R | - | AL4 LED | | | | |
| 100009(0008) | - | 02 | R | - | DI-1 input | 0: OFF, 1: ON | - | - | |
| 100010(0009) | - | 02 | R | - | DI-2 input | | | | |
| 100011(000A) | 100011(000A) | 02 | R | - | CH1 EVENT 1 status | 0: OFF, 1: ON | - | - | |
| 100012(000B) | 100012(000B) | 02 | R | - | CH1 EVENT 2 status | | | | |
| 100013(000C) | 100013(000C) | 02 | R | - | CH1 EVENT 3 status | | | | |
| 100014(000D) | 100014(000D) | 02 | R | - | CH1 EVENT 4 status | | | | |
| 100015(000E) | 100015(000E) | 02 | R | - | CH2 EVENT 1 status | 0: OFF, 1: ON | - | - | |
| 100016(000F) | 100016(000F) | 02 | R | - | CH2 EVENT 2 status | | | | |
| 100017(0010) | 100017(0010) | 02 | R | - | CH2 EVENT 3 status | | | | |
| 100018(0011) | 100018(0011) | 02 | R | - | CH2 EVENT 4 status | | | | |
| - | 100019(0012) | 02 | R | - | CH3 EVENT 1 status | 0: OFF, 1: ON | - | - | |
| - | 100020(0013) | 02 | R | - | CH3 EVENT 2 status | | | | |
| - | 100021(0014) | 02 | R | - | CH3 EVENT 3 status | | | | |
| - | 100022(0015) | 02 | R | - | CH3 EVENT 4 status | | | | |
| - | 100023(0016) | 02 | R | - | CH4 EVENT 1 status | 0: OFF, 1: ON | - | - | |
| - | 100024(0017) | 02 | R | - | CH4 EVENT 2 status | | | | |
| - | 100025(0018) | 02 | R | - | CH4 EVENT 3 status | | | | |
| - | 100026(0019) | 02 | R | - | CH4 EVENT 4 status | | | | |
| 100009(0008) to 100050(0031) | | 02 | R | Reserved | | | | | |

## 2.1.3 Read input register (Func 04)

| No(Address) | | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | |
| 300001(0000) to 300100(0063) | | 04 | R | Reserved | | | | | |
| 300101(0064) | | 04 | R | - | Product number H | - | - | 0 | |
| 300102(0065) | | 04 | R | - | Product number L | - | - | 0 | |
| 300103(0066) | | 04 | R | - | Hardware version | - | - | 100 | |
| 300104(0067) | | 04 | R | - | Software version | - | - | 100 | |
| 300105(0068) | | 04 | R | - | Model name 1 | - | - | "TM" | Product name |
| 300106(0069) | | 04 | R | - | Model name 2 | - | - | "H□" | Channel |
| 300107(006A) | | 04 | R | - | Model name 3 | - | - | "-□" | Option |
| 300108(006B) | | 04 | R | - | Model name 4 | | - | "□□" | Power voltage/ Control output |
| 300109(006C) | | 04 | R | - | Model name 5 | | - | "□ " | Structure |
| 300110(006D) | | 04 | R | - | Model name 6 | - | - | " " | |
| 300111(006E) | | 04 | R | - | Model name 7 | - | - | " " | |
| 300112(006F) | | 04 | R | - | Model name 8 | - | - | " " | |
| 300113(0070) | | 04 | R | - | Model name 9 | - | - | " " | |
| 300114(0071) | | 04 | R | - | Model name 10 | - | - | " " | |
| 300115(0072) | | 04 | R | Reserved | | | | | |
| 300116(0073) | | 04 | R | Reserved | | | | | |
| 300117(0074) | | 04 | R | Reserved | | | | | |
| 300118(0075) | | 04 | R | - | Coil status Start Address | - | - | 0 | |
| 300119(0076) | | 04 | R | - | Coil status Quantity | - | - | 0 | |
| 300120(0077) | | 04 | R | - | Input status Start Address | - | - | 0 | |
| 300121(0078) | | 04 | R | - | Input status Quantity | - | - | 0 | |
| 300122(0079) | | 04 | R | - | Holding Register Start Address | - | - | 0 | |
| 300123(007A) | | 04 | R | - | Holding Register Quantity | - | - | 0 | |
| 300124(007B) | | 04 | R | - | Input Register Start Address | - | - | 0 | |
| 300125(007C) | | 04 | R | - | Input Register Quantity | - | - | 0 | |
| 300126(007D) | | 04 | R | - | Channel Quantity | - | - | 0 | |
| 300127(007E) to 300200(0027) | | 04 | R | Reserved | | | | | |
| 301001(03E8) | 301001(03E8) | 04 | R | CH1 Present Value | CH1 present value | Sensor input range, 31000: OPEN, 30000: HHHH, -30000: LLLL | ℃/℉, Digit | - | |
| 301002(03E9) | 301002(03E9) | 04 | R | CH2 Present Value | CH2 present value | | | | |
| - | 301003(03EA) | 04 | R | CH3 Present Value | CH3 present value | | | | |
| - | 301004(03EB) | 04 | R | CH4 Present Value | CH4 present value | | | | |
| 301005(03EC) | 301005(03EC) | 04 | R | CH1 Dot | CH1 sensor decimal point | | | | |
| 301006(03ED) | 301006(03ED) | 04 | R | CH2 Dot | CH2 sensor decimal point | 0: 0, 1: 0.0 | - | 0: 0 | |
| - | 301007(03EE) | 04 | R | CH3 Dot | CH3 sensor decimal point | | | | |

| No(Address) | | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | |
| - | 301008(03EF) | 04 | R | CH4 Dot | CH4 sensor decimal point | | | | |
| 301009(03F0) | 301009(03F0) | 04 | R | CH1 Unit | CH1 sensor temp. unit | 0: ℃, 1: ℉ | - | 0: ℃ | |
| 301010(03F1) | 301010(03F1) | 04 | R | CH2 Unit | CH2 sensor temp. unit | | | | |
| - | 301011(03F2) | 04 | R | CH3 Unit | CH3 sensor temp. unit | | | | |
| - | 301012(03F3) | 04 | R | CH4 Unit | CH4 sensor temp. unit | | | | |
| 301013(03F4) | 301013(03F4) | 04 | R | CH1 Set Value | CH1 set value | SV Low Limit to SV High Limit | ℃/℉, Digit | 0 | |
| 301014(03F5) | 301014(03F5) | 04 | R | CH2 Set Value | CH2 set value | | | | |
| - | 301015(03F6) | 04 | R | CH3 Set Value | CH3 set value | | | | |
| - | 301016(03F7) | 04 | R | CH4 Set Value | CH4 set value | | | | |
| 301017(03F8) | 301017(03F8) | 04 | R | CH1 Heating_MV | CH1 heating MV | 0 to 1000 (0.0 to 100.0) | % | - | |
| 301018(03F9) | 301018(03F9) | 04 | R | CH2 Heating_MV | CH2 heating MV | | | | |
| - | 301019(03FA) | 04 | R | CH3 Heating_MV | CH3 heating MV | | | | |
| - | 301020(03FB) | 04 | R | CH4 Heating_MV | CH4 heating MV | | | | |
| 301021(03FC) | 301021(03FC) | 04 | R | CH1 Cooling_MV | CH1 cooling MV | 0 to 1000 (0.0 to 100.0) | % | - | |
| 301022(03FD) | 301022(03FD) | 04 | R | CH2 Cooling_MV | CH2 cooling MV | | | | |
| - | 301023(03FE) | 04 | R | CH3 Cooling_MV | CH3 cooling MV | | | | |
| - | 301024(03FF) | 04 | R | CH4 Cooling_MV | CH4 cooling MV | | | | |
| - | 301025(0400) | 04 | R | - | CH1 LED(OUT1) | 0: OFF, 1: ON | | | Bit 0 |
| | | | | - | CH2 LED(OUT2) | | | | Bit 1 |
| | | | | - | CH3 LED(OUT3) | | | | Bit 2 |
| | | | | - | CH4 LED(OUT4) | | | | Bit 3 |
| | | | | - | - | 0 fixed | - | | Bit 4 |
| | | | | - | - | | | | Bit 5 |
| | | | | - | - | | | | Bit 6 |
| | | | | - | - | | | | Bit 7 |
| | | | | - | - | | | | Bit 8 |
| | | | | - | - | | | | Bit 9 |
| 301025(0400) | - | 04 | R | - | CH1 LED(OUT1) | 0: OFF, 1: ON | | - | Bit 0 |
| | | | | - | CH2 LED(OUT2) | | | | Bit 1 |
| | | | | - | CH3 LED(OUT3), H&C control | | | | Bit 2 |
| | | | | - | CH4 LED(OUT4), H&C control | | | | Bit 3 |
| | | | | - | AL1 LED | 0: OFF, 1: ON | | | Bit 4 |
| | | | | - | AL2 LED | | | | Bit 5 |
| | | | | - | AL3 LED | | | | Bit 6 |
| | | | | - | AL4 LED | | | | Bit 7 |
| | | | | - | DI-1 input | 0: OFF, 1: ON | - | - | Bit 8 |
| | | | | - | DI-2 input | | | | Bit 9 |
| 301026(0401) | 301026(0401) | 04 | R | - | CH1 EVENT1 status | 0: OFF, 1: ON | - | - | |
| | | | | - | CH1 EVENT2 status | | | | |
| | | | | - | CH1 EVENT3 status | | | | |
| | | | | - | CH1 EVENT4 status | | | | |
| | | | | - | CH2 EVENT1 status | 0: OFF, 1: ON | | | |

| No(Address) | | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | |
| | | | | - | CH2 EVENT2 status | | | | |
| | | | | - | CH2 EVENT3 status | | | | |
| | | | | - | CH2 EVENT4 status | | | | |
| | | | | - | CH3 EVENT1 status | | | | |
| | | | | - | CH3 EVENT2 status | 0: OFF, 1: ON | - | - | |
| | | | | - | CH3 EVENT3 status | | | | |
| | | | | - | CH3 EVENT4 status | | | | |
| | | | | - | CH4 EVENT1 status | | | | |
| | | | | - | CH4 EVENT2 status | 0: OFF, 1: ON | - | - | |
| | | | | - | CH4 EVENT3 status | | | | |
| | | | | - | CH4 EVENT4 status | | | | |
| 301027(0402) | 301027(0402) | 04 | R | Unit Address | Comm. address | 1 to 32 | - | 1 | |
| 301028(0403) | 301028(0403) | 04 | R | CT1_Heater Current | CT1 heater current value monitoring | | | | |
| 301029(0404) | 301029(0404) | 04 | R | CT2_Heater Current | CT2 heater current value monitoring | 0 to 500 (0.0 to 50.0) | A | - | |
| 301030(0405) | 301030(0405) | 04 | R | CT3_Heater Current | CT3 heater current value monitoring | | | | |
| 301031(0406) | 301031(0406) | 04 | R | CT4_Heater Current | CT4 heater current value monitoring | | | | |
| 301032(0407) to 301050(0419) | 301032(0407) to 301050(0419) | 04 | R | Reserved | | | | | |

※ Bit data for 301025(0400) address

| Bit F | Bit E | Bit D | Bit C | Bit B | Bit A | Bit 9 | Bit 8 | Bit 9 | Bit 8 | Bit 5 | Bit 4 | Bit 3 | Bit 2 | Bit 1 | Bit 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| - | - | - | - | - | - | DI-2 input | DI-1 input | AL4 LED | AL3 LED | AL2 LED | AL1 LED | CH4 LED | CH3 LED | CH2 LED | CH1 LED |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 or 1 | 0 or 1 | 0 or 1 | 0 or 1 | 0 or 1 | 0 or 1 | 0 or 1 | 0 or 1 | 0 or 1 | 0 or 1 |
| 1 byte | | | | | | | | 1 byte | | | | | | | |

## 2.1.4 Read holding register (Func 03) / Preset single register (Func 06) / Preset multiple registers (Func 16)

### 2.1.4.1 Monitoring group

| No(Address) TMH2 | TMH4 | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| 400001(0000) | | 03/06/16 | R/W | CH1 SV | Temp. set value | SV Low Limit to SV High Limit | ℃/℉, Digit | 0 | |
| 400002(0001) | | 03/06/16 | R/W | CH1 Heating_MV | Heating MV | 0 to 1000 (0.0 to 100.0) | % | - | |
| 400003(0002) | | 03/06/16 | R/W | CH1 Cooling_MV | Cooling MV | 0 to 1000 (0.0 to 100.0) | % | - | |
| 400004(0003) | | 03/06/16 | R/W | CH1 Auto-Manual Control | Auto/Manual control | 0: AUTO, 1: MANUAL | - | 0: AUTO | |
| 400005(0004) to 400050(0031) | | 03/06/16 | R/W | CH1 Reserved | | | | | |
| 401001(03E8) to 401050(0419) | | 03/06/16 | R/W | CH2 Parameter | - Same as above CH1 | | | | |
| 402001(07D0) to 402050(0801) | | 03/06/16 | R/W | CH3 Parameter | - Same as above CH1 | | | | |
| 403001(0BB8) to 403050(0BE9) | | 03/06/16 | R/W | CH4 Parameter | - Same as above CH1 | | | | |

### 2.1.4.2 Operating (control operation) group

| No(Address) TMH2 | TMH4 | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| 400051(0032) | | 03/06/16 | R/W | CH1 RUN_STOP | control output RUN/STOP | 0: RUN, 1: STOP | - | 0: RUN | |
| 400052(0033) | | 03/06/16 | R/W | CH1 Multi SV No | Multi SV No. | 0: SV-0, 1: SV-1, 2: SV-2, 3: SV-3 | - | 0: SV-0 | |
| 400053(0034) | | 03/06/16 | R/W | CH1 SV-0 Setting Value | SV-0 set value | SV Low Limit to SV High Limit | ℃/℉, Digit | 0 | |
| 400054(0035) | | 03/06/16 | R/W | CH1 SV-1 Setting Value | SV-1 set value | | | | |
| 400055(0036) | | 03/06/16 | R/W | CH1 SV-2 Setting Value | SV-2 set value | | | | |
| 400056(0037) | | 03/06/16 | R/W | CH1 SV-3 Setting Value | SV-3 set value | | | | |
| 400057(0038) to 400100(0063) | | 03/06/16 | R/W | CH1 Reserved | | | | | |
| 401051(041A) to 401100(044B) | | 03/06/16 | R/W | CH2 Parameter | - Same as above CH1 | | | | |
| 402051(0802) to 402100(0833) | | 03/06/16 | R/W | CH3 Parameter | - Same as above CH1 | | | | |
| 403051(0BEA) to 403100(0C1B) | | 03/06/16 | R/W | CH4 Parameter | - Same as above CH1 | | | | |

## 2.1.4.3        Control operation group

| No(Address) TMH2 / TMH4 | Func | R/W | Parameter | Description | Set range | | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| 400101(0064) | 03/06/16 | R/W | CH1 Auto-Tuning Execute | Auto-tuning ON/OFF | 0: OFF, 1: ON | | - | 0: OFF | |
| 400102(0065) | 03/06/16 | R/W | CH1 Heating_ Proportional Band | Heating, proportional band | Temp. H, Analog: 1 to 999 Temp. L: 1 to 9999 (0.1 to 999.9) | | ℃/℉, %F.S | 10 | |
| 400103(0066) | 03/06/16 | R/W | CH1 Cooling_ Proportional Band | Cooling, proportional band | | | | | |
| 400104(0067) | 03/06/16 | R/W | CH1 Heating_Integral Time | Heating, integral time | 0 to 9999 | | Sec | 0 | |
| 400105(0068) | 03/06/16 | R/W | CH1 Cooling_Integral Time | Cooling, integral time | | | | | |
| 400106(0069) | 03/06/16 | R/W | CH1 Heating_Derivation Time | Heating, derivation time | 0 to 9999 | | Sec | 0 | |
| 400107(006A) | 03/06/16 | R/W | CH1 Cooling_Derivation Time | Cooling, derivation time | | | | | |
| 400108(006B) | 03/06/16 | R/W | CH1 Dead_Overlap band | Heating&Cooling control, dead band | Temp. H, Analog: -999 to 999 Temp. L: -9999 to 9999 (-999.9 to 999.9) | | ℃/℉, %F.S | 0 | |
| 400109(006C) | 03/06/16 | R/W | CH1 Manual Reset | P/PD control, manual reset | 0 to 1000 (0.0 to 100.0) | | % | 500(50.0) | |
| 400110(006D) | 03/06/16 | R/W | CH1 Heating_ON Hysteresis | Heating, hysteresis | Temp. H, Analog: 1 to 100 Temp. L: 1 to 1000 (0.1 to 100.0) | | ℃/℉, Digit | 2 | |
| 400111(006E) | 03/06/16 | R/W | CH1 Heating_OFF Offset | Heating, OFF offset | Temp. H, Analog: 0 to 100 Temp. L: 0 to 1000 (0 to 100.0) | | ℃/℉, Digit | 0 | |
| 400112(006F) | 03/06/16 | R/W | CH1 Cooling_ON Hysteresis | Cooling, hysteresis | Temp. H, Analog: 1 to 100 Temp. L: 1 to 1000 (0.1 to 100.0) | | ℃/℉, Digit | 2 | |
| 400113(0070) | 03/06/16 | R/W | CH1 Cooling_OFF Offset | Cooling, OFF offset | Temp. H, Analog: 0 to 100 Temp. L: 0 to 1000 (0 to 100.0) | | ℃/℉, Digit | 0 | |
| 400114(0071) | 03/06/16 | R/W | CH1 MV Low Limit | MV low-limit set value | Heating, Cooling control | 0.0 to MV High Limit - 0.1 | % | 0 (0.0) | |
| | | | | | H&C control | -100.0 to 0.0 | | -100(-100.0) | |
| 400115(0072) | 03/06/16 | R/W | CH1 MV High Limit | MV high-limit set value | Heating, Cooling control | MV Low Limit + 0.1 to 100.0 | % | 1000(100.0) | |
| | | | | | H&C control | 0 to 100.0 | | 1000(100.0) | |
| 400116(0073) | 03/06/16 | R/W | CH1 MV rate limit | MV change rate limit | 0: OFF, 1 to 1000 (0.1 to 100.0) | | %/SEC | 0: OFF | |
| 400117(0074) | 03/06/16 | R/W | CH1 Ramp_Up Rate | Ramp up rate | 0 to 9999 | | ℃/℉, Digit | 0 | |
| 400118(0075) | 03/06/16 | R/W | CH1 Ramp_Down Rate | Ramp down rate | 0 to 9999 | | ℃/℉, Digit | 0 | |
| 400119(0076) | 03/06/16 | R/W | CH1 Ramp Time Unit | Ramp time unit | 0: SEC, 1: MIN, 2: HOUR | | - | 1: MIN | |
| 400120(0077) | 03/06/16 | R/W | CH1 PV transfer | Auto control, SV selection | 0: OFF, 1: ON | | - | 0: OFF | |
| 400121(0078) | 03/06/16 | R/W | CH1 Soft start time | Soft start time | 0: OFF, 1 to 9999 | | SEC | 0: OFF | |

| No(Address) | | Func | R/W | Parameter | Description | Set range | | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | | |
| 400122(0079) | | 03/06/16 | R/W | CH1 Soft start time unit | Soft start time unit | 0:SEC, 1:MIN, 2:HOUR | | - | 0: SEC | |
| 400123(007A) | | 03/06/16 | R/W | CH1 Soft start MV | Soft start MV | 1 to 1000 (0.1 to 100.0) | | % | 1000(100.0) | |
| 400124(007B) | | 03/06/16 | R/W | CH1 Operating Type | Control output operation mode | 0: HEATING, 1: COOLING, 2: H&C | | - | 0: HEATING | |
| 400125(007C) | | 03/06/16 | R/W | CH1 Control Method | Temperature control method | Heating, Cooling control | 0: PID, 1: ON/OFF | - | 0: PID | |
| | | | | | | H&C control | 0: PID-PID, 1: PID-ON/OFF, 2: ON/OFF-PID, 3: ON/OFF-ON/OFF | - | 0: PID-PID | |
| 400126(007D) | | 03/06/16 | R/W | CH1 Auto-Tuning Type | Auto-tuning mode | 0: TUNE1, 1: TUNE2 | | - | 0: TUNE1 | |
| 400127(007E) | | 03/06/16 | R/W | CH1 Heating_Control Time | Heating, control cycle | 1 to 1200(0.1 to 120.0) 10 to 1200(1.0 to 120.0) | | Sec | RY: 200(20.0), SSR: 20(2.0) | |
| 400128(007F) | | 03/06/16 | R/W | CH1 Cooling_Control Time | Cooling, control cycle | 1 to 1200(0.1 to 120.0) 10 to 1200(1.0 to 120.0) | | Sec | RY: 200(20.0), SSR: 20(2.0) | |
| 400129(0080) | | 03/06/16 | R/W | CH1 Heating_ OUTPUT(SSR_CURR) TYPE | Heating, control output type | 0: SSR, 1: CURRENT | | - | 1: CURRENT | |
| 400130(0081) | | 03/06/16 | R/W | CH1 Heating_ CURRENT OUTPUT RANGE | Heating, current output range | 0: 4-20, 1: 0-20 | | mA | 0: 4-20 | |
| 400131(0082) | | 03/06/16 | R/W | CH1 Cooling_ OUTPUT(SSR_CURR) TYPE | Cooling, control output type | 0: SSR, 1: CURRENT | | - | 1: CURRENT | |
| 400132(0083) | | 03/06/16 | R/W | CH1 Cooling_ CURRENT OUTPUT RANGE | Cooling, current output range | 0: 4-20, 1: 0-20 | | mA | 0: 4-20 | |
| 400133(0084) to 400150(0095) | | 03/06/16 | R/W | CH1 Reserved | | | | | | |
| 401101(044C) to 401150(047D) | | 03/06/16 | R/W | CH2 Parameter    - Same as above CH1 | | | | | | |
| 402101(0834) to 402150(0865) | | 03/06/16 | R/W | CH3 Parameter    - Same as above CH1 | | | | | | |
| 403101(0C1C) to 403150(0C4D) | | 03/06/16 | R/W | CH4 Parameter    - Same as above CH1 | | | | | | |

## 2.1.4.4 Initial setting group

| No(Address) TMH2 / TMH4 | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 400151(0096) | 03/06/16 | R/W | CH1 Input Type | Input type | 0: K(CA).H to 32: 4 to 20mA | - | 0: K(CA).H | |
| 400152(0097) | 03/06/16 | R/W | CH1 Unit | Sensor temp. unit | 0: ℃, 1: ℉ | - | ℃ | |
| 400153(0098) | 03/06/16 | R/W | CH1 Low-limit Input Value | Analog low-limit input value | Min. operational value to High-limit Input Value Settings – F.S. 10% | Digit | 0000 | |
| 400154(0099) | 03/06/16 | R/W | CH1 High-limit Input Value | Analog high-limit input value | Low-limit Input Value Settings + F.S. 10% to Max. operational value | Digit | 1000 | |
| 400155(009A) | 03/06/16 | R/W | CH1 Decimal Point | Scale decimal point | 0: 0, 1: 0.0, 2: 0.00, 3: 0.000 | - | 1: 0.0 | |
| 400156(009B) | 03/06/16 | R/W | CH1 Low-limit Scale Value | Scale low-limit display value | -9999 to 9999 | Digit | 0 | |
| 400157(009C) | 03/06/16 | R/W | CH1 High-limit Scale Value | Scale high-limit display value | -9999 to 9999 | Digit | 1000 | |
| 400158(009D) | 03/06/16 | R/W | CH1 Analog Input Unit | Analog input type unit | 0: ℃, 1: ℉, 2: % | - | 0: ℃ | |
| 400159(009E) | 03/06/16 | R/W | CH1 Input Func | Analog input special function | 0: LINEAR, 1: ROOT, 2: SQUARE | - | 0: LINEAR | |
| 400160(009F) | 03/06/16 | R/W | CH1 Root Low Cut | Root function low cut point | -9999 to 9999 | Digit | 0 | |
| 400161(00A0) | 03/06/16 | R/W | CH1 Input Bias | Input correction | Temp. H, Analog: -999 to 999, Temp. L: -9999 to 9999 (-999.9 to 999.9) | ℃/℉, Digit | 0 | |
| 400162(00A1) | 03/06/16 | R/W | CH1 Input Digital Filter | Input digital filter | 1 to 1200 (0.1 to 120.0) | Sec | 1(0.1) | |
| 400163(00A2) | 03/06/16 | R/W | CH1 SV Low Limit | SV Low Limit set value | Temp.: Sensor input low-limit value to SV High Limit – 1Digit Analog: Low-limit scale value to SV High Limit – 1Digit | ℃/℉, %F.S | -200 | |
| 400164(00A3) | 03/06/16 | R/W | CH1 SV High Limit | SV High Limit set value | Temp.: SV Low Limit + 1Digit to Sensor input high-limit Analog: SV Low Limit + 1Digit to High-limit scale value | ℃/℉, %F.S | 1350 | |
| 400165(00A4) | 03/06/16 | R/W | CH1 RSV Target Address | RSV Master address | 0, 1 to 48 | - | 0 | |
| 400166(00A5) | 03/06/16 | R/W | CH1 RSV Target CH | RSV Master channel | 0: CH1, 1: CH2, 2: CH3, 3: CH4 | - | CH□:CH□ | |
| 400167(00A6) | 03/06/16 | R/W | CH1 RSV Target | RSV Master channel target | 0: OFF, 1: PV, 2: SV | - | 0: OFF | |
| 400168(00A7) | 03/06/16 | R/W | CH1 SV Tracking | SV tracking | 0: OFF, 1: ON | - | 0: OFF | |
| 400169(00A8) | 03/06/16 | R/W | CH1 TUNE2 DV | TUNE2 mode deviation | Temp. H, Analog: -999 to 999, Temp. L: -9999 to 9999 (-999.9 to 999.9) | Digit | 0 | |
| 400170(00A9) to 400200(00C7) | 03/06/16 | R/W | CH1 Reserved | | | | | |
| 401151(047E) to 401200(04AF) | 03/06/16 | R/W | CH2 Parameter - Same as above CH1 | | | | | |
| 402151(0866) to 402200(0897) | 03/06/16 | R/W | CH3 Parameter - Same as above CH1 | | | | | |
| 403151(0C4E) to 403200(0C7F) | 03/06/16 | R/W | CH4 Parameter - Same as above CH1 | | | | | |

## 2.1.4.5 Control setting group

| No(Address) TMH2 / TMH4 | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 400201(00C8) | 03/06/16 | R/W | CH1 Multi SV | Multi SV No. | 0: 1EA, 1: 2EA, 2: 4EA | - | 0: 1EA | |
| 400202(00C9) | 03/06/16 | R/W | CH1 Initial Manual MV | Baseline MV for manual control | 0: AUTO-MV, 1: PRESET-MV | - | 0: AUTO-MV | |
| 400203(00CA) | 03/06/16 | R/W | CH1 Preset Manual MV | Manual control, initial MV | Heating, Cooling control: 0 to 1000 (0.0 to 100.0), Heating&Cooling control: -1000 (-100.0) to 1000 (100.0) | % | 0 | |
| 400204(00CB) | 03/06/16 | R/W | CH1 Sensor Error MV | Sensor error, MV | Heating, Cooling control, PID: 0 to 1000 (0.0 to 100.0), ON/OFF: 0(OFF), 1000(ON), Heating&Cooling control, PID: -1000 to 1000(-100.0 to 100.0), ON/OFF: -1000(cooling ON), 0(OFF), 1000(heating ON) | % | 0 | |
| 400205(00CC) | 03/06/16 | R/W | CH1 Stop MV | STOP, control output | Heating, Cooling control,PID: 0 to 1000 (0.0 to 100.0), ON/OFF: 0(OFF), 1000(ON) Heating&Cooling control,PID: -1000 to 1000 (-100.0 to 100.0), ON/OFF: -1000(cooling ON), 0(OFF), 1000(heating ON) | % | 0 | |
| 400206(00CD) | 03/06/16 | R/W | CH1 Stop Alarm Out | Stop, alarm output | 0: Continue, 1: OFF | - | 0: Continue | |
| 400207(00CE) to 400250(00F9) | 03/06/16 | R/W | CH1 Reserved | | | | | |
| 401201(04B0) to 401250(04E1) | 03/06/16 | R/W | CH2 Parameter - Same as above CH1 | | | | | |
| 402201(0898) to 402250(08C9) | 03/06/16 | R/W | CH3 Parameter - Same as above CH1 | | | | | |
| 403201(0C80) to 403250(0CB1) | 03/06/16 | R/W | CH4 Parameter - Same as above CH1 | | | | | |

## 2.1.4.6 Event setting group

| No(Address) TMH2 / TMH4 | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 400251(00FA) | 03/06/16 | R/W | CH1 Event Mode 1 | CH1 alarm operation mode 1 | 0: OFF, 1: AL-1, 2: AL-2, 3: AL-3, 4: AL-4, 5: AL-5, 6: AL-6, 7: LBA, 8: SBA, 9: HBA | - | 1: AL-1 | |
| 400252(00FB) | 03/06/16 | R/W | CH1 Event Mode 2 | CH1 alarm operation mode 2 | | | | |
| 400253(00FC) | 03/06/16 | R/W | CH1 Event Mode 3 | CH1 alarm operation mode 3 | | | | |
| 400254(00FD) | 03/06/16 | R/W | CH1 Event Mode 4 | CH1 alarm operation mode 4 | | | | |
| 400255(00FE) | 03/06/16 | R/W | CH1 Event Type 1 | CH1 alarm option 1 | 0: AL-A, 1: AL-B, 2: AL-C, 3: AL-D, 4: AL-E, 5: AL-F | - | 0: AL-A | |
| 400256(00FF) | 03/06/16 | R/W | CH1 Event Type 2 | CH1 alarm option 2 | | | | |
| 400257(0100) | 03/06/16 | R/W | CH1 Event Type 3 | CH1 alarm option 3 | | | | |
| 400258(0101) | 03/06/16 | R/W | CH1 Event Type 4 | CH1 alarm option 4 | | | | |
| 400259(0102) | 03/06/16 | R/W | CH1 Event Low 1 | CH1 alarm low-limit set value 1 | Deviation alarm: -F.S to F.S, Absoulte alarm: Within the dedicated input type | - | 1550 | |
| 400260(0103) | 03/06/16 | R/W | CH1 Event High 1 | CH1 alarm high-limit set value 1 | | | | |
| 400261(0104) | 03/06/16 | R/W | CH1 Event Low 2 | CH1 alarm low-limit set value 2 | | | | |

| No(Address) | | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | |
| 400262(0105) | | 03/06/16 | R/W | CH1 Event High 2 | CH1 alarm high-limit set value 2 | | | | |
| 400263(0106) | | 03/06/16 | R/W | CH1 Event Low 3 | CH1 alarm low-limit set value 3 | | | | |
| 400264(0107) | | 03/06/16 | R/W | CH1 Event High 3 | CH1 alarm high-limit set value 3 | | | | |
| 400265(0108) | | 03/06/16 | R/W | CH1 Event Low 4 | CH1 alarm low-limit set value 4 | | | | |
| 400266(0109) | | 03/06/16 | R/W | CH1 Event High 4 | CH1 alarm high-limit set value 4 | | | | |
| 400267(010A) | | 03/06/16 | R/W | CH1 Event Hysteresis 1 | CH1 alarm hysteresis 1 | Temp. H, Analog: 1 to 100, Temp. L: 1 to 1000 (0.1 to 100.0) | °C/°F, Digit | 1 | |
| 400268(010B) | | 03/06/16 | R/W | CH1 Event Hysteresis 2 | CH1 alarm hysteresis 2 | | | | |
| 400269(010C) | | 03/06/16 | R/W | CH1 Event Hysteresis 3 | CH1 alarm hysteresis 3 | | | | |
| 400270(010D) | | 03/06/16 | R/W | CH1 Event Hysteresis 4 | CH1 alarm hysteresis 4 | | | | |
| 400271(010E) | | 03/06/16 | R/W | CH1 Alarm NO/NC | CH1 alarm output contact type | 0: NO, 1: NC | - | 0: NO | |
| 400272(010F) | | 03/06/16 | R/W | CH1 Event ON Delay Time 1 | CH1 alarm ON delay time 1 | 0 to 3600 | Sec | 0 | |
| 400273(0110) | | 03/06/16 | R/W | CH1 Event OFF Delay Time 1 | CH1 alarm OFF delay time 1 | | | | |
| 400274(0111) | | 03/06/16 | R/W | CH1 Event ON Delay Time 2 | CH1 alarm ON delay time 2 | | | | |
| 400275(0112) | | 03/06/16 | R/W | CH1 Event OFF Delay Time 2 | CH1 alarm OFF delay time 2 | | | | |
| 400276(0113) | | 03/06/16 | R/W | CH1 Event ON Delay Time 3 | CH1 alarm ON delay time 3 | | | | |
| 400277(0114) | | 03/06/16 | R/W | CH1 Event OFF Delay Time 3 | CH1 alarm OFF delay time 3 | | | | |
| 400278(0115) | | 03/06/16 | R/W | CH1 Event ON Delay Time 4 | CH1 alarm ON delay time 4 | | | | |
| 400279(0116) | | 03/06/16 | R/W | CH1 Event OFF Delay Time 4 | CH1 alarm OFF delay time 4 | | | | |
| 400280(0117) | | 03/06/16 | R/W | CH1 Alarm Output Taget1 | CH1 alarm output target address 1 | 0, 1: 49 to 16: 64 | - | 0 | |
| 400281(0118) | | 03/06/16 | R/W | CH1 Alarm Output Taget2 | CH1 alarm output target address 2 | | | | |
| 400282(0119) | | 03/06/16 | R/W | CH1 Alarm Output Taget3 | CH1 alarm output target address 3 | | | | |
| 400283(011A) | | 03/06/16 | R/W | CH1 Alarm Output Taget4 | CH1 alarm output target address 4 | | | | |
| 400284(011B) | | 03/06/16 | R/W | CH1 Alarm Output Taget1 CH | CH1 alarm output target channel 1 | 0: Alarm1 to 7: Alarm8 | - | 0: Alarm1 | |
| 400285(011C) | | 03/06/16 | R/W | CH1 Alarm Output Taget2 CH | CH1 alarm output target channel 2 | | | | |
| 400286(011D) | | 03/06/16 | R/W | CH1 Alarm Output Taget3 CH | CH1 alarm output target channel 3 | | | | |
| 400287(011E) | | 03/06/16 | R/W | CH1 Alarm Output Taget4 CH | CH1 alarm output target channel 4 | | | | |
| 400288(011F) | | 03/06/16 | R/W | CH1 LBA Time 1 | CH1 LBA monitoring time 1 | 0 to 9999 | Sec | 0 | |
| 400289(0120) | | 03/06/16 | R/W | CH1 LBA Band 1 | CH1 LBA detection band 1 | Temp. H: 0 to 999, Temp. L: 0 to 9999 (0.0 to | °C/°F, | 2 20(2.0) | |

| No(Address) TMH2 | TMH4 | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 999.9), Analog: 0 to 1000 (0.0 to 100.0) | %F.S | 2(0.2) | |
| 400290(0121) | | 03/06/16 | R/W | CH1 LBA Time 2 | CH1 LBA monitoring time 2 | 0 to 9999 | Sec | 0 | |
| 400291(0122) | | 03/06/16 | R/W | CH1 LBA Band 2 | CH1 LBA detection band 2 | Temp. H: 0 to 999, Temp. L: 0 to 9999 (0.0 to 999.9), Analog: 0 to 1000 (0.0 to 100.0) | °C/°F, %F.S | 2 20(2.0) 2(0.2) | |
| 400292(0123) | | 03/06/16 | R/W | CH1 LBA Time 3 | CH1 LBA monitoring time 3 | 0 to 9999 | Sec | 0 | |
| 400293(0124) | | 03/06/16 | R/W | CH1 LBA Band 3 | CH1 LBA detection band 3 | Temp. H: 0 to 999, Temp. L: 0 to 9999 (0.0 to 999.9), Analog: 0 to 1000 (0.0 to 100.0) | °C/°F, %F.S | 2 20(2.0) 2(0.2) | |
| 400294(0125) | | 03/06/16 | R/W | CH1 LBA Time 4 | CH1 LBA monitoring time 4 | 0 to 9999 | Sec | 0 | |
| 400295(0126) | | 03/06/16 | R/W | CH1 LBA Band 4 | CH1 LBA detection band 4 | Temp. H: 0 to 999, Temp. L: 0 to 9999 (0.0 to 999.9), Analog: 0 to 1000 (0.0 to 100.0) | °C/°F, %F.S | 2 20(2.0) 2(0.2) | |
| 400296(0127) | | 03/06/16 | R/W | CH1 CT Target 1 | CH1 CT address 1 | 0, 1: 65 to 16: 80 | - | 0 | |
| 400297(0128) | | 03/06/16 | R/W | CH1 CT Target 2 | CH1 CT address 2 | | | | |
| 400298(0129) | | 03/06/16 | R/W | CH1 CT Target 3 | CH1 CT address 3 | | | | |
| 400299(012A) | | 03/06/16 | R/W | CH1 CT Target 4 | CH1 CT address 4 | | | | |
| 400300(012B) | | 03/06/16 | R/W | CH1 CT Input 1 | CH1 CT input 1 | 0: CT1 to 7: CT8 | - | CH□:CT□ | |
| 400301(012C) | | 03/06/16 | R/W | CH1 CT Input 2 | CH1 CT input 2 | | | | |
| 400302(012D) | | 03/06/16 | R/W | CH1 CT Input 3 | CH1 CT input 3 | | | | |
| 400303(012E) | | 03/06/16 | R/W | CH1 CT Input 4 | CH1 CT input 4 | | | | |
| 400304(012F) to 400350(015D) | | 03/06/16 | R/W | CH1 Reserved | | | | | |
| 401251(04E2) to 401350(0545) | | 03/06/16 | R/W | CH2 Parameter | - Same as above CH1 | | | | |
| 402251(08CA) to 402350(092D) | | 03/06/16 | R/W | CH3 Parameter | - Same as above CH1 | | | | |
| 403251(0CB2) to 403350(0D15) | | 03/06/16 | R/W | CH4 Parameter | - Same as above CH1 | | | | |

## 2.1.4.7 Option(digital input setting) group

| No(Address) TMH2 | TMH4 | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| 400351(015E) | | 03/06/16 | R/W | CH1 DI Target | CH1 DI target address | 0, 1: 49 to 16: 64 | - | 0 | |
| 400352(015F) | | 03/06/16 | R/W | CH1 Digital Input 1 Func | CH1 DI-1 input terminal | | | | |
| 400353(0160) | | 03/06/16 | R/W | CH1 Digital Input 2 Func | CH1 DI-2 input terminal | | | | |
| 400354(0161) | | 03/06/16 | R/W | CH1 Digital Input 3 Func | CH1 DI-3 input terminal | | | | |
| 400355(0162) | | 03/06/16 | R/W | CH1 Digital Input 4 Func | CH1 DI-4 input terminal | 0: OFF, 1: STOP, 2: AL-RESET, 3: Manual, 4: Multi-SV, 5: Remote SV | - | 0: OFF | |
| 400356(0163) | | 03/06/16 | R/W | CH1 Digital Input 5 Func | CH1 DI-5 input terminal | | | | |
| 400357(0164) | | 03/06/16 | R/W | CH1 Digital Input 6 Func | CH1 DI-6 input terminal | | | | |
| 400358(0165) | | 03/06/16 | R/W | CH1 Digital Input 7 Func | CH1 DI-7 input terminal | | | | |
| 400359(0166) | | 03/06/16 | R/W | CH1 Digital Input 8 Func | CH1 DI-8 input terminal | | | | |
| 400360(0167) to 400400(018F) | | 03/06/16 | R/W | CH1 Reserved | | | | | |
| 401351(0546) to 401400(0577) | | 03/06/16 | R/W | CH2 Parameter - Same as above CH1 | | | | | |
| 402351(092E) to 402400(0959) | | 03/06/16 | R/W | CH3 Parameter - Same as above CH1 | | | | | |
| 403351(0D16) to 403400(0D47) | | 03/06/16 | R/W | CH4 Parameter - Same as above CH1 | | | | | |

## 2.1.4.8 Common(common parameter setting) group

| No(Address) TMH2 | TMH4 | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| 400401(0190) | | 03/06/16 | R/W | Bit Per Second | Communication speed | 0: 4800, 1: 9600, 2: 19200, 3: 38400, 4: 115200 | bps | 1: 9600 | |
| 400402(0191) | | 03/06/16 | R/W | Parity Bit | Communication parity bit | 0: NONE, 1: EVEN, 2: ODD | - | 0: NONE | |
| 400403(0192) | | 03/06/16 | R/W | Stop Bit | Communication stop bit | 0: 1, 1: 2 | bit | 1: 2 | |
| 400404(0193) | | 03/06/16 | R/W | Response Waiting Time | Communication response wait time | 5 to 99 | ms | 20 | |
| 400405(0194) | | 03/06/16 | R/W | Communication Write | Communication writing enable/disable | 0: ENABLE, 1: DISABLE | - | 0: ENABLE | |
| 400406(0195) | | 03/06/16 | R/W | Parameter Initialize | Parameter reset | 0: NO, 1: YES | - | 0: NO | |
| 400407(0196) | | 03/06/16 | R/W | Alarm1 Logic | Alarm1 alarm output logic operation | | | | |
| 400408(0197) | | 03/06/16 | R/W | Alarm2 Logic | Alarm2 alarm output logic operation | 0: OR, 1: AND | - | 0: OR | |
| 400409(0198) | | 03/06/16 | R/W | Alarm3 Logic | Alarm3 alarm output logic operation | | | | |
| 400410(0199) | | 03/06/16 | R/W | Alarm4 Logic | Alarm4 alarm output logic operation | | | | |
| 400411(019A) to 400450(01C1) | | 03/06/16 | R/W | Reserved | | | | | |

## 2.1.5 User parameter group

### (1) User parameter group order assignment

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450001(C350) | | 03/06/16 | R/W | User parameter group > No. 1 parameter assignment | | | | |
| 450002(C351) | | 03/06/16 | R/W | User parameter group > No. 2 parameter assignment | | | | |
| 450003(C352) | | 03/06/16 | R/W | User parameter group > No. 3 parameter assignment | | | | |
| 450004(C353) | | 03/06/16 | R/W | User parameter group > No. 4 parameter assignment | | | | |
| 450005(C354) | | 03/06/16 | R/W | User parameter group > No. 5 parameter assignment | | | | |
| 450006(C355) | | 03/06/16 | R/W | User parameter group > No. 6 parameter assignment | | | | |
| 450007(C356) | | 03/06/16 | R/W | User parameter group > No. 7 parameter assignment | | | | |
| 450008(C357) | | 03/06/16 | R/W | User parameter group > No. 8 parameter assignment | | | | |
| 450009(C358) | | 03/06/16 | R/W | User parameter group > No. 9 parameter assignment | | | | |
| 450010(C359) | | 03/06/16 | R/W | User parameter group > No. 10 parameter assignment | | | | |
| 450011(C35A) | | 03/06/16 | R/W | User parameter group > No. 11 parameter assignment | | | | |
| 450012(C35B) | | 03/06/16 | R/W | User parameter group > No. 12 parameter assignment | The dedicated parameter address | - | 0 | |
| 450013(C35C) | | 03/06/16 | R/W | User parameter group > No. 13 parameter assignment | | | | |
| 450014(C35D) | | 03/06/16 | R/W | User parameter group > No. 14 parameter assignment | | | | |
| 450015(C35E) | | 03/06/16 | R/W | User parameter group > No. 15 parameter assignment | | | | |
| 450016(C35F) | | 03/06/16 | R/W | User parameter group > No. 16 parameter assignment | | | | |
| 450017(C360) | | 03/06/16 | R/W | User parameter group > No. 17 parameter assignment | | | | |
| 450018(C361) | | 03/06/16 | R/W | User parameter group > No. 18 parameter assignment | | | | |
| 450019(C362) | | 03/06/16 | R/W | User parameter group > No. 19 parameter assignment | | | | |
| 450020(C363) | | 03/06/16 | R/W | User parameter group > No. 20 parameter assignment | | | | |
| 450021(C364) | | 03/06/16 | R/W | User parameter group > No. 21 parameter assignment | | | | |
| 450022(C365) | | 03/06/16 | R/W | User parameter group > No. 22 parameter assignment | | | | |
| 450023(C366) | | 03/06/16 | R/W | User parameter group > No. 23 parameter assignment | | | | |
| 450024(C367) | | 03/06/16 | R/W | User parameter group > No. 24 parameter assignment | | | | |

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450025(C368) | | 03/06/16 | R/W | User parameter group > No. 25 parameter assignment | | | | |
| 450026(C369) | | 03/06/16 | R/W | User parameter group > No. 26 parameter assignment | | | | |
| 450027(C36A) | | 03/06/16 | R/W | User parameter group > No. 27 parameter assignment | | | | |
| 450028(C36B) | | 03/06/16 | R/W | User parameter group > No. 28 parameter assignment | | | | |
| 450029(C36C) | | 03/06/16 | R/W | User parameter group > No. 29 parameter assignment | | | | |
| 450030(C36D) | | 03/06/16 | R/W | User parameter group > No. 30 parameter assignment | | | | |

### *(2)  User parameter group assignment*

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450031(C36E) | | 03/06/16 | R/W | User parameter group > No. 1 parameter | | | | |
| 450032(C36F) | | 03/06/16 | R/W | User parameter group > No. 2 parameter | | | | |
| 450033(C370) | | 03/06/16 | R/W | User parameter group > No. 3 parameter | | | | |
| 450034(C371) | | 03/06/16 | R/W | User parameter group > No. 4 parameter | | | | |
| 450035(C372) | | 03/06/16 | R/W | User parameter group > No. 5 parameter | | | | |
| 450036(C373) | | 03/06/16 | R/W | User parameter group > No. 6 parameter | | | | |
| 450037(C374) | | 03/06/16 | R/W | User parameter group > No. 7 parameter | | | | |
| 450038(C375) | | 03/06/16 | R/W | User parameter group > No. 8 parameter | | | | |
| 450039(C376) | | 03/06/16 | R/W | User parameter group > No. 9 parameter | | | | |
| 450040(C377) | | 03/06/16 | R/W | User parameter group > No. 10 parameter | The dedicated parameter set range | - | 0 | |
| 450041(C378) | | 03/06/16 | R/W | User parameter group > No. 11 parameter | | | | |
| 450042(C379) | | 03/06/16 | R/W | User parameter group > No. 12 parameter | | | | |
| 450043(C37A) | | 03/06/16 | R/W | User parameter group > No. 13 parameter | | | | |
| 450044(C37B) | | 03/06/16 | R/W | User parameter group > No. 14 parameter | | | | |
| 450045(C37C) | | 03/06/16 | R/W | User parameter group > No. 15 parameter | | | | |
| 450046(C37D) | | 03/06/16 | R/W | User parameter group > No. 16 parameter | | | | |
| 450047(C37E) | | 03/06/16 | R/W | User parameter group > No. 17 parameter | | | | |
| 450048(C37F) | | 03/06/16 | R/W | User parameter group > No. 18 parameter | | | | |
| 450049(C380) | | 03/06/16 | R/W | User parameter group > No. 19 parameter | | | | |
| 450050(C381) | | 03/06/16 | R/W | User parameter group > No. 20 parameter | | | | |

**Autonics**

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450051(C382) | | 03/06/16 | R/W | User parameter group > No. 21 parameter | | | | |
| 450052(C383) | | 03/06/16 | R/W | User parameter group > No. 22 parameter | | | | |
| 450053(C384) | | 03/06/16 | R/W | User parameter group > No. 23 parameter | | | | |
| 450054(C385) | | 03/06/16 | R/W | User parameter group > No. 24 parameter | | | | |
| 450055(C386) | | 03/06/16 | R/W | User parameter group > No. 25 parameter | | | | |
| 450056(C387) | | 03/06/16 | R/W | User parameter group > No. 26 parameter | | | | |
| 450057(C388) | | 03/06/16 | R/W | User parameter group > No. 27 parameter | | | | |
| 450058(C389) | | 03/06/16 | R/W | User parameter group > No. 28 parameter | | | | |
| 450059(C38A) | | 03/06/16 | R/W | User parameter group > No. 29 parameter | | | | |
| 450060(C38B) | | 03/06/16 | R/W | User parameter group > No. 30 parameter | | | | |

## 2.2 TMHA [Option: Analog input/output module]

### 2.2.1 Read input status (Func 02)

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 100001(0000) | 02 | R | - | CH1 LED (transmission output 1) | | | | |
| 100002(0001) | 02 | R | - | CH2 LED (transmission output 2) | 0: OFF, 1: ON | - | - | |
| 100003(0002) | 02 | R | - | CH3 LED (transmission output 3) | | | | |
| 100004(0003) | 02 | R | - | CH4 LED (transmission output 4) | | | | |
| 100005(0004) to 100050(0031) | 02 | R | Reserved | | | | | |

### 2.2.2 Read input register (Func 04)

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 300001(0000) to 300100(0063) | 04 | R | Reserved | | | | | |
| 300101(0064) | 04 | R | - | Product number H | - | - | 0 | |
| 300102(0065) | 04 | R | - | Product number L | - | - | 0 | |
| 300103(0066) | 04 | R | - | Hardware version | - | - | 100 | |
| 300104(0067) | 04 | R | - | Software version | - | - | 100 | |
| 300105(0068) | 04 | R | - | Model name 1 | - | - | "TM" | Product name |
| 300106(0069) | 04 | R | - | Model name 2 | - | - | "HA" | Option |
| 300107(006A) | 04 | R | - | Model name 3 | - | - | "-4" | transmission output |
| 300108(006B) | 04 | R | - | Model name 4 | - | - | "2A" | Power voltage/output |
| 300109(006C) | 04 | R | - | Model name 5 | - | - | "E" | Structure |
| 300110(006D) | 04 | R | - | Model name 6 | - | - | " " | |
| 300111(006E) | 04 | R | - | Model name 7 | - | - | " " | |
| 300112(006F) | 04 | R | - | Model name 8 | - | - | " " | |
| 300113(0070) | 04 | R | - | Model name 9 | - | - | " " | |
| 300114(0071) | 04 | R | - | Model name 10 | - | - | " " | |
| 300115(0072) | 04 | R | Reserved | | | | | |
| 300116(0073) | 04 | R | Reserved | | | | | |
| 300117(0074) | 04 | R | Reserved | | | | | |
| 300118(0075) | 04 | R | - | Coil status Start Address | - | - | 0 | |
| 300119(0076) | 04 | R | - | Coil status Quantity | - | - | 0 | |
| 300120(0077) | 04 | R | - | Input status Start Address | - | - | 0 | |

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 300121(0078) | 04 | R | - | Input status Quantity | - | - | 0 | |
| 300122(0079) | 04 | R | | Holding Register Start Address | - | - | 0 | |
| 300123(007A) | 04 | R | | Holding Register Quantity | - | - | 0 | |
| 300124(007B) | 04 | R | - | Input Register Start Address | - | - | 0 | |
| 300125(007C) | 04 | R | - | Input Register Quantity | - | - | 0 | |
| 300126(007D) | 04 | R | - | Channel Quantity | - | - | 0 | |
| 300127(007E) to 300200(00C7) | 04 | R | Reserved | | | | | |
| 301001(03E8) | 04 | R | CH1 Present Value | CH1 present value | Sensor input range, 31000: OPEN, 30000: HHHH, -30000: LLLL | ℃/℉, Digit | - | |
| 301002(03E9) | 04 | R | CH2 Present Value | CH2 present value | | | | |
| 301003(03EA) | 04 | R | CH3 Present Value | CH3 present value | | | | |
| 301004(03EB) | 04 | R | CH4 Present Value | CH4 present value | | | | |
| 301005(03EC) | 04 | R | CH1 Dot | CH1 sensor decimal point | 0: 0, 1: 0.0 | - | 0: 0 | |
| 301006(03ED) | 04 | R | CH2 Dot | CH2 sensor decimal point | | | | |
| 301007(03EE) | 04 | R | CH3 Dot | CH3 sensor decimal point | | | | |
| 301008(03EF) | 04 | R | CH4 Dot | CH4 sensor decimal point | | | | |
| 301009(03F0) | 04 | R | CH1 Unit | CH1 sensor temp. unit | 0: ℃, 1: ℉ | - | 0: ℃ | |
| 301010(03F1) | 04 | R | CH2 Unit | CH2 sensor temp. unit | | | | |
| 301011(03F2) | 04 | R | CH3 Unit | CH3 sensor temp. unit | | | | |
| 301012(03F3) | 04 | R | CH4 Unit | CH4 sensor temp. unit | | | | |
| 301013(03F4) | 04 | R | CH1 Analog Output Value | CH1 transmission output value | 40 to 200(4.0 to 20.0), 0 to 200 (0.0 to 20.0) | mA | - | |
| 301014(03F5) | 04 | R | CH2 Analog Output Value | CH2 transmission output value | | | | |
| 301015(03F6) | 04 | R | CH3 Analog Output Value | CH3 transmission output value | | | | |
| 301016(03F7) | 04 | R | CH4 Analog Output Value | CH4 transmission output value | | | | |
| 301017(03F8) | 04 | R | - | CH1 LED (OUT1) | 0: OFF, 1: ON | - | - | Bit 0 |
| | | | - | CH2 LED (OUT2) | | | | Bit 1 |
| | | | - | CH3 LED (OUT3) | | | | Bit 2 |
| | | | - | CH4 LED (OUT4) | | | | Bit 3 |
| 301018(03F9) | 04 | R | Unit Address | Comm. address | 33 to 48 | - | 1 | |
| 301019(03FA) to 301050(0419) | 04 | R | Reserved | | | | | |

## 2.2.3 Read holding register (Func 03) / Preset single register (Func 06) / Preset multiple registers (Func 16)

### 2.2.3.1 Initial setting group

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 400001(0000) | 03/06/16 | R/W | CH1 Input Type | Input type | 0: K(CA).H to 32: 4 to 20mA | - | 0: K(CA).H | |
| 400002(0001) | 03/06/16 | R/W | CH1 Unit | Sensor temp. unit | 0: ℃, 1: ℉ | - | ℃ | |
| 400003(0002) | 03/06/16 | R/W | CH1 Low-limit Input Value | Analog low-limit input value | Min. operational value to High-limit Input Value Settings − F.S. 10% | - | 0000 | |
| 400004(0003) | 03/06/16 | R/W | CH1 High-limit Input Value | Analog high-limit input value | Low-limit Input Value Settings + F.S. 10% to Max. operational value | - | 1000 | |
| 400005(0004) | 03/06/16 | R/W | CH1 Decimal Point | Scale decimal point | 0: 0, 1: 0.0, 2: 0.00, 3: 0.000 | - | 1: 0.0 | |
| 400006(0005) | 03/06/16 | R/W | CH1 Low-limit Scale Value | Scale low-limit display value | -9999 to 9999 | Digit | 0 | |
| 400007(0006) | 03/06/16 | R/W | CH1 High-limit Scale Value | Scale high-limit display value | -9999 to 9999 | Digit | 1000 | |
| 400008(0007) | 03/06/16 | R/W | CH1 Analog Input Unit | Analog input type unit | 0: ℃, 1: ℉, 2: % | - | 0: ℃ | |
| 400009(0008) | 03/06/16 | R/W | CH1 Input Func | Analog input special function | 0: LINEAR, 1: ROOT, 2: SQUARE | - | 0: LINEAR | |
| 400010(0009) | 03/06/16 | R/W | CH1 Root Low Cut | Root function low cut point | -9999 to 9999 | Digit | 0 | |
| 400011(000A) | 03/06/16 | R/W | CH1 Input Bias | Input correction | -9999 to 9999 | Digit | 0 | |
| 400012(000B) | 03/06/16 | R/W | CH1 Input Digital Filter | Input digital filter | 1 to 1200 (0.1 to 120.0) | Sec | 1(0.1) | |
| 400013(000C) to 400050(0031) | 03/06/16 | R/W | CH1 Reserved | | | | | |
| 401001(03E8) to 401050(0419) | 03/06/16 | R/W | CH2 Parameter    - Same as above CH1 | | | | | |
| 402001(07D0) to 402050(0801) | 03/06/16 | R/W | CH3 Parameter    - Same as above CH1 | | | | | |
| 403001(0BB8) to 403050(0BE9) | 03/06/16 | R/W | CH4 Parameter    - Same as above CH1 | | | | | |

## 2.2.3.2 Control setting group

| No(Address) | Func | R/W | Parameter | Description | Set range | | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| 400051(0032) | 03/06/16 | R/W | CH1 Analog Output Mode | Analog transmission output | 0: PV, 1: SV, 2: H-MV, 3: C-MV | | - | 0: PV | |
| 400052(0033) | 03/06/16 | R/W | CH1 Analog Output Target | Transmission output target address | 0 to 48 | | - | 0 | |
| 400053(0034) | 03/06/16 | R/W | CH1 Analog Output Target CH | Transmission output target channel | 0: CH1, 1: CH2, 2: CH3, 3: CH4 | | - | CH□:CH□ | |
| 400054(0035) | 03/06/16 | R/W | CH1 Analog Output Range | Current output range | 0: 4-20, 1: 0-20 | | - | 0: 4-20 | |
| 400055(0036) | 03/06/16 | R/W | CH1 Full Scale Low | Transmission output low-limit value | PV | Temp.: Operational range Analog: High/Low-scale range | - | -200 | |
| | | | | | SV | SV Low Limit to SV High Limit | | | |
| | | | | | H-MV, C-MV | 0 to 1000 (0.0 to 100.0) | | | |
| 400056(0037) | 03/06/16 | R/W | CH1 Full Scale High | Transmission output high-limit value | PV | Temp.: Operational range Analog: High/Low-scale range | - | 1350 | |
| | | | | | SV | SV Low Limit to SV High Limit | | | |
| | | | | | H-MV, C-MV | 0 to 1000 (0.0 to 100.0) | | | |
| 400057(0038) to 400100(0063) | 03/06/16 | R/W | CH1 Reserved | | | | | | |
| 401051(041A) to 401100(044B) | 03/06/16 | R/W | CH2 Parameter    - Same as above CH1 | | | | | | |
| 402051(0802) to 402100(0833) | 03/06/16 | R/W | CH3 Parameter    - Same as above CH1 | | | | | | |
| 403051(0BEA) to 403100(0C1B) | 03/06/16 | R/W | CH4 Parameter    - Same as above CH1 | | | | | | |

## 2.2.3.3 Common(common parameter setting) group

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 400101(0064) | 03/06/16 | R/W | Bit Per Second | Communication speed | 0: 4800, 1: 9600, 2: 19200, 3: 38400, 4: 115200 | bps | 1: 9600 | |
| 400102(0065) | 03/06/16 | R/W | Parity Bit | Communication parity bit | 0: NONE, 1: EVEN, 2: ODD | - | 0: NONE | |
| 400103(0066) | 03/06/16 | R/W | Stop Bit | Communication stop bit | 0: 1, 1: 2 | bit | 1: 2 | |
| 400104(0067) | 03/06/16 | R/W | Response Waiting Time | Communication response wait time | 5 to 99 | ms | 20 | |
| 400105(0068) | 03/06/16 | R/W | Communication Write | Communication writing enable/disable | 0: ENABLE, 1: DISABLE | - | 0: ENABLE | |
| 400106(0069) | 03/06/16 | R/W | Parameter Initialize | Parameter reset | 0: NO, 1: YES | - | 0: NO | |
| 400107(006A) to 400150(0095) | 03/06/16 | R/W | Reserved | | | | | |

## *2.2.4* *User parameter group*

### *(1)* *User parameter group order assignment*

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| **TMH2** | **TMH4** | | | | | | | |
| 450001(C350) | | 03/06/16 | R/W | User parameter group > No. 1 parameter assignment | | | | |
| 450002(C351) | | 03/06/16 | R/W | User parameter group > No. 2 parameter assignment | | | | |
| 450003(C352) | | 03/06/16 | R/W | User parameter group > No. 3 parameter assignment | | | | |
| 450004(C353) | | 03/06/16 | R/W | User parameter group > No. 4 parameter assignment | | | | |
| 450005(C354) | | 03/06/16 | R/W | User parameter group > No. 5 parameter assignment | | | | |
| 450006(C355) | | 03/06/16 | R/W | User parameter group > No. 6 parameter assignment | | | | |
| 450007(C356) | | 03/06/16 | R/W | User parameter group > No. 7 parameter assignment | | | | |
| 450008(C357) | | 03/06/16 | R/W | User parameter group > No. 8 parameter assignment | | | | |
| 450009(C358) | | 03/06/16 | R/W | User parameter group > No. 9 parameter assignment | | | | |
| 450010(C359) | | 03/06/16 | R/W | User parameter group > No. 10 parameter assignment | | | | |
| 450011(C35A) | | 03/06/16 | R/W | User parameter group > No. 11 parameter assignment | | | | |
| 450012(C35B) | | 03/06/16 | R/W | User parameter group > No. 12 parameter assignment | The dedicated parameter address | - | 0 | |
| 450013(C35C) | | 03/06/16 | R/W | User parameter group > No. 13 parameter assignment | | | | |
| 450014(C35D) | | 03/06/16 | R/W | User parameter group > No. 14 parameter assignment | | | | |
| 450015(C35E) | | 03/06/16 | R/W | User parameter group > No. 15 parameter assignment | | | | |
| 450016(C35F) | | 03/06/16 | R/W | User parameter group > No. 16 parameter assignment | | | | |
| 450017(C360) | | 03/06/16 | R/W | User parameter group > No. 17 parameter assignment | | | | |
| 450018(C361) | | 03/06/16 | R/W | User parameter group > No. 18 parameter assignment | | | | |
| 450019(C362) | | 03/06/16 | R/W | User parameter group > No. 19 parameter assignment | | | | |
| 450020(C363) | | 03/06/16 | R/W | User parameter group > No. 20 parameter assignment | | | | |
| 450021(C364) | | 03/06/16 | R/W | User parameter group > No. 21 parameter assignment | | | | |
| 450022(C365) | | 03/06/16 | R/W | User parameter group > No. 22 parameter assignment | | | | |
| 450023(C366) | | 03/06/16 | R/W | User parameter group > No. 23 parameter assignment | | | | |
| 450024(C367) | | 03/06/16 | R/W | User parameter group > No. 24 parameter assignment | | | | |

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450025(C368) | | 03/06/16 | R/W | User parameter group > No. 25 parameter assignment | | | | |
| 450026(C369) | | 03/06/16 | R/W | User parameter group > No. 26 parameter assignment | | | | |
| 450027(C36A) | | 03/06/16 | R/W | User parameter group > No. 27 parameter assignment | | | | |
| 450028(C36B) | | 03/06/16 | R/W | User parameter group > No. 28 parameter assignment | | | | |
| 450029(C36C) | | 03/06/16 | R/W | User parameter group > No. 29 parameter assignment | | | | |
| 450030(C36D) | | 03/06/16 | R/W | User parameter group > No. 30 parameter assignment | | | | |

### (2) User parameter group assignment

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450031(C36E) | | 03/06/16 | R/W | User parameter group > No. 1 parameter | | | | |
| 450032(C36F) | | 03/06/16 | R/W | User parameter group > No. 2 parameter | | | | |
| 450033(C370) | | 03/06/16 | R/W | User parameter group > No. 3 parameter | | | | |
| 450034(C371) | | 03/06/16 | R/W | User parameter group > No. 4 parameter | | | | |
| 450035(C372) | | 03/06/16 | R/W | User parameter group > No. 5 parameter | | | | |
| 450036(C373) | | 03/06/16 | R/W | User parameter group > No. 6 parameter | | | | |
| 450037(C374) | | 03/06/16 | R/W | User parameter group > No. 7 parameter | | | | |
| 450038(C375) | | 03/06/16 | R/W | User parameter group > No. 8 parameter | | | | |
| 450039(C376) | | 03/06/16 | R/W | User parameter group > No. 9 parameter | | | | |
| 450040(C377) | | 03/06/16 | R/W | User parameter group > No. 10 parameter | | | | |
| 450041(C378) | | 03/06/16 | R/W | User parameter group > No. 11 parameter | | | | |
| 450042(C379) | | 03/06/16 | R/W | User parameter group > No. 12 parameter | | | | |
| 450043(C37A) | | 03/06/16 | R/W | User parameter group > No. 13 parameter | | | | |
| 450044(C37B) | | 03/06/16 | R/W | User parameter group > No. 14 parameter | | | | |
| 450045(C37C) | | 03/06/16 | R/W | User parameter group > No. 15 parameter | The dedicated parameter set range | - | 0 | |
| 450046(C37D) | | 03/06/16 | R/W | User parameter group > No. 16 parameter | | | | |
| 450047(C37E) | | 03/06/16 | R/W | User parameter group > No. 17 parameter | | | | |
| 450048(C37F) | | 03/06/16 | R/W | User parameter group > No. 18 parameter | | | | |
| 450049(C380) | | 03/06/16 | R/W | User parameter group > No. 19 parameter | | | | |
| 450050(C381) | | 03/06/16 | R/W | User parameter group > No. 20 parameter | | | | |
| 450051(C382) | | 03/06/16 | R/W | User parameter group > No. 21 parameter | | | | |
| 450052(C383) | | 03/06/16 | R/W | User parameter group > No. 22 parameter | | | | |
| 450053(C384) | | 03/06/16 | R/W | User parameter group > No. 23 parameter | | | | |
| 450054(C385) | | 03/06/16 | R/W | User parameter group > No. 24 parameter | | | | |
| 450055(C386) | | 03/06/16 | R/W | User parameter group > No. 25 parameter | | | | |
| 450056(C387) | | 03/06/16 | R/W | User parameter group > No. 26 parameter | | | | |
| 450057(C388) | | 03/06/16 | R/W | User parameter group > No. 27 parameter | | | | |
| 450058(C389) | | 03/06/16 | R/W | User parameter group > No. 28 parameter | | | | |
| 450059(C38A) | | 03/06/16 | R/W | User parameter group > No. 29 parameter | | | | |
| 450060(C38B) | | 03/06/16 | R/W | User parameter group > No. 30 parameter | | | | |

## 2.3 TMHE [Option: Digital input, Alarm output module]

### 2.3.1 Read input status (Func 02)

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 100001(0000) | 02 | R | - | AL1 LED | 0: OFF, 1: ON | - | - | |
| 100002(0001) | 02 | R | - | AL2 LED | | | | |
| 100003(0002) | 02 | R | - | AL3 LED | | | | |
| 100004(0003) | 02 | R | - | AL4 LED | | | | |
| 100005(0004) | 02 | R | - | AL5 LED | | | | |
| 100006(0005) | 02 | R | - | AL6 LED | | | | |
| 100007(0006) | 02 | R | - | AL7 LED | | | | |
| 100008(0007) | 02 | R | - | AL8 LED | | | | |
| 100009(0008) | 02 | R | - | DI-1 input | 0: OFF, 1: ON | - | - | |
| 100010(0009) | 02 | R | - | DI-2 input | | | | |
| 100011(000A) | 02 | R | - | DI-3 input | | | | |
| 100012(000B) | 02 | R | - | DI-4 input | | | | |
| 100013(000C) | 02 | R | - | DI-5 input | | | | |
| 100014(000D) | 02 | R | - | DI-6 input | | | | |
| 100015(000E) | 02 | R | - | DI-7 input | | | | |
| 100016(000F) | 02 | R | - | DI-8 input | | | | |
| 100017(0010) to 100050(0031) | 02 | R | Reserved | | | | | |

## 2.3.2　　Read input register (Func 04)

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 300001(0000) to 300100(0063) | 04 | R | Reserved | | | | | |
| 300101(0064) | 04 | R | - | Product number H | - | - | 0 | |
| 300102(0065) | 04 | R | - | Product number L | - | - | 0 | |
| 300103(0066) | 04 | R | - | Hardware version | - | - | 100 | |
| 300104(0067) | 04 | R | - | Software version | - | - | 100 | |
| 300105(0068) | 04 | R | - | Model name 1 | - | - | "TM" | Product name |
| 300106(0069) | 04 | R | - | Model name 2 | - | - | "HE" | Option |
| 300107(006A) | 04 | R | - | Model name 3 | - | - | "-8" | Input/Output |
| 300108(006B) | 04 | R | - | Model name 4 | - | - | "2R" | Power voltage/output |
| 300109(006C) | 04 | R | - | Model name 5 | - | - | "E" | Structure |
| 300110(006D) | 04 | R | - | Model name 6 | - | - | " " | |
| 300111(006E) | 04 | R | - | Model name 7 | - | - | " " | |
| 300112(006F) | 04 | R | - | Model name 8 | - | - | " " | |
| 300113(0070) | 04 | R | - | Model name 9 | - | - | " " | |
| 300114(0071) | 04 | R | - | Model name 10 | - | - | " " | |
| 300115(0072) | 04 | R | Reserved | | | | | |
| 300116(0073) | 04 | R | Reserved | | | | | |
| 300117(0074) | 04 | R | Reserved | | | | | |
| 300118(0075) | 04 | R | - | Coil status Start Address | - | - | 0 | |
| 300119(0076) | 04 | R | - | Coil status Quantity | - | - | 0 | |
| 300120(0077) | 04 | R | - | Input status Start Address | - | - | 0 | |
| 300121(0078) | 04 | R | - | Input status Quantity | - | - | 0 | |
| 300122(0079) | 04 | R | - | Holding Register Start Address | - | - | 0 | |
| 300123(007A) | 04 | R | - | Holding Register Quantity | - | - | 0 | |
| 300124(007B) | 04 | R | - | Input Register Start Address | - | - | 0 | |
| 300125(007C) | 04 | R | - | Input Register Quantity | - | - | 0 | |
| 300126(007D) | 04 | R | - | Channel Quantity | - | - | 0 | |
| 300127(007E) to 300200(00C7) | 04 | R | Reserved | | | | | |
| 301001(03E8) | 04 | R | - | AL1 LED | 0: OFF, 1: ON | - | - | Bit0 |
| | | | - | AL2 LED | | | | Bit1 |
| | | | - | AL3 LED | | | | Bit2 |
| | | | - | AL4 LED | | | | Bit3 |
| | | | - | AL5 LED | | | | Bit4 |
| | | | - | AL6 LED | | | | Bit5 |
| | | | - | AL7 LED | | | | Bit6 |

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| | | | - | AL8 LED | | | | Bit7 |
| | | | - | DI-1 input | | | | Bit8 |
| | | | - | DI-2 input | | | | Bit9 |
| | | | - | DI-3 input | | | | Bit10 |
| | | | - | DI-4 input | 0: OFF, 1: ON | - | - | Bit11 |
| | | | - | DI-5 input | | | | Bit12 |
| | | | - | DI-6 input | | | | Bit13 |
| | | | - | DI-7 input | | | | Bit14 |
| | | | - | DI-8 input | | | | Bit15 |
| 301002(03E9) | 04 | R | Unit Address | Comm. address | 49 to 64 | - | 49 | - |
| 301003(03EA) to 301050(0419) | 04 | R | Reserved | | | | | |

## 2.3.3　　　Read holding register (Func 03) /
## 　　　　　　Preset single register (Func 06) /
## 　　　　　　Preset multiple registers (Func 16)

### 2.3.3.1　　　Operating(output operation) group

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 400001(0000) | 03/06/16 | R/W | CH1 Alarm Logic | CH1 alarm output logic operation | 0: OR, 1: AND | - | 0: OR | |
| 400002(0001) | 03/06/16 | R/W | CH2 Alarm Logic | CH2 alarm output logic operation | | | | |
| 400003(0002) | 03/06/16 | R/W | CH3 Alarm Logic | CH3 alarm output logic operation | | | | |
| 400004(0003) | 03/06/16 | R/W | CH4 Alarm Logic | CH4 alarm output logic operation | | | | |
| 400005(0004) | 03/06/16 | R/W | CH5 Alarm Logic | CH5 alarm output logic operation | | | | |
| 400006(0005) | 03/06/16 | R/W | CH6 Alarm Logic | CH6 alarm output logic operation | | | | |
| 400007(0006) | 03/06/16 | R/W | CH7 Alarm Logic | CH7 alarm output logic operation | | | | |
| 400008(0007) | 03/06/16 | R/W | CH8 Alarm Logic | CH8 alarm output logic operation | | | | |
| 400009(0008) | 03/06/16 | R/W | CH1 Alarm NO/NC | CH1 alarm output contact type | 0: NO, 1: NC | - | 0: NO | |
| 400010(0009) | 03/06/16 | R/W | CH2 Alarm NO/NC | CH2 alarm output contact type | | | | |
| 400011(000A) | 03/06/16 | R/W | CH3 Alarm NO/NC | CH3 alarm output contact type | | | | |
| 400012(000B) | 03/06/16 | R/W | CH4 Alarm NO/NC | CH4 alarm output contact type | | | | |
| 400013(000C) | 03/06/16 | R/W | CH5 Alarm NO/NC | CH5 alarm output contact type | | | | |
| 400014(000D) | 03/06/16 | R/W | CH6 Alarm NO/NC | CH6 alarm output contact type | | | | |
| 400015(000E) | 03/06/16 | R/W | CH7 Alarm NO/NC | CH7 alarm output contact type | | | | |
| 400016(000F) | 03/06/16 | R/W | CH8 Alarm NO/NC | CH8 alarm output contact type | | | | |
| 400017(0010) to 400050(0031) | 03/06/16 | R/W | Reserved | | | | | |

### 2.3.3.2　　　Common(common parameter setting) group

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 400051(0032) | 03/06/16 | R/W | Bit Per Second | Communication speed | 0: 4800, 1: 9600, 2: 19200, 3: 38400, 4: 115200 | bps | 1: 9600 | |
| 400052(0033) | 03/06/16 | R/W | Parity Bit | Communication parity bit | 0: NONE, 1: EVEN, 2: ODD | - | 0: NONE | |
| 400053(0034) | 03/06/16 | R/W | Stop Bit | Communication stop bit | 0: 1, 1: 2 | bit | 1: 2 | |
| 400054(0035) | 03/06/16 | R/W | Response Waiting Time | Communication response wait time | 5 to 99 | ms | 20 | |
| 400055(0036) | 03/06/16 | R/W | Communication Write | Communication writing enable/disable | 0: ENABLE, 1: DISABLE | - | 0: ENABLE | |
| 400056(0037) | 03/06/16 | R/W | Parameter Initialize | Parameter reset | 0: NO, 1: YES | - | 0: NO | |
| 400057(0038) to 400100(0063) | 03/06/16 | R/W | Reserved | | | | | |

## 2.3.4 User parameter group

### (1) User parameter group order assignment

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450001(C350) | | 03/06/16 | R/W | User parameter group > No. 1 parameter assignment | | | | |
| 450002(C351) | | 03/06/16 | R/W | User parameter group > No. 2 parameter assignment | | | | |
| 450003(C352) | | 03/06/16 | R/W | User parameter group > No. 3 parameter assignment | | | | |
| 450004(C353) | | 03/06/16 | R/W | User parameter group > No. 4 parameter assignment | | | | |
| 450005(C354) | | 03/06/16 | R/W | User parameter group > No. 5 parameter assignment | | | | |
| 450006(C355) | | 03/06/16 | R/W | User parameter group > No. 6 parameter assignment | | | | |
| 450007(C356) | | 03/06/16 | R/W | User parameter group > No. 7 parameter assignment | | | | |
| 450008(C357) | | 03/06/16 | R/W | User parameter group > No. 8 parameter assignment | | | | |
| 450009(C358) | | 03/06/16 | R/W | User parameter group > No. 9 parameter assignment | | | | |
| 450010(C359) | | 03/06/16 | R/W | User parameter group > No. 10 parameter assignment | | | | |
| 450011(C35A) | | 03/06/16 | R/W | User parameter group > No. 11 parameter assignment | | | | |
| 450012(C35B) | | 03/06/16 | R/W | User parameter group > No. 12 parameter assignment | | | | |
| 450013(C35C) | | 03/06/16 | R/W | User parameter group > No. 13 parameter assignment | | | | |
| 450014(C35D) | | 03/06/16 | R/W | User parameter group > No. 14 parameter assignment | The dedicated parameter address | - | 0 | |
| 450015(C35E) | | 03/06/16 | R/W | User parameter group > No. 15 parameter assignment | | | | |
| 450016(C35F) | | 03/06/16 | R/W | User parameter group > No. 16 parameter assignment | | | | |
| 450017(C360) | | 03/06/16 | R/W | User parameter group > No. 17 parameter assignment | | | | |
| 450018(C361) | | 03/06/16 | R/W | User parameter group > No. 18 parameter assignment | | | | |
| 450019(C362) | | 03/06/16 | R/W | User parameter group > No. 19 parameter assignment | | | | |
| 450020(C363) | | 03/06/16 | R/W | User parameter group > No. 20 parameter assignment | | | | |
| 450021(C364) | | 03/06/16 | R/W | User parameter group > No. 21 parameter assignment | | | | |
| 450022(C365) | | 03/06/16 | R/W | User parameter group > No. 22 parameter assignment | | | | |
| 450023(C366) | | 03/06/16 | R/W | User parameter group > No. 23 parameter assignment | | | | |
| 450024(C367) | | 03/06/16 | R/W | User parameter group > No. 24 parameter assignment | | | | |
| 450025(C368) | | 03/06/16 | R/W | User parameter group > No. 25 parameter assignment | | | | |
| 450026(C369) | | 03/06/16 | R/W | User parameter group > No. 26 parameter assignment | | | | |
| 450027(C36A) | | 03/06/16 | R/W | User parameter group > No. 27 parameter assignment | | | | |
| 450028(C36B) | | 03/06/16 | R/W | User parameter group > No. 28 parameter assignment | | | | |

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450029(C36C) | | 03/06/16 | R/W | User parameter group > No. 29 parameter assignment | | | | |
| 450030(C36D) | | 03/06/16 | R/W | User parameter group > No. 30 parameter assignment | | | | |

### (2) User parameter group assignment

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450031(C36E) | | 03/06/16 | R/W | User parameter group > No. 1 parameter | | | | |
| 450032(C36F) | | 03/06/16 | R/W | User parameter group > No. 2 parameter | | | | |
| 450033(C370) | | 03/06/16 | R/W | User parameter group > No. 3 parameter | | | | |
| 450034(C371) | | 03/06/16 | R/W | User parameter group > No. 4 parameter | | | | |
| 450035(C372) | | 03/06/16 | R/W | User parameter group > No. 5 parameter | | | | |
| 450036(C373) | | 03/06/16 | R/W | User parameter group > No. 6 parameter | | | | |
| 450037(C374) | | 03/06/16 | R/W | User parameter group > No. 7 parameter | | | | |
| 450038(C375) | | 03/06/16 | R/W | User parameter group > No. 8 parameter | | | | |
| 450039(C376) | | 03/06/16 | R/W | User parameter group > No. 9 parameter | | | | |
| 450040(C377) | | 03/06/16 | R/W | User parameter group > No. 10 parameter | | | | |
| 450041(C378) | | 03/06/16 | R/W | User parameter group > No. 11 parameter | | | | |
| 450042(C379) | | 03/06/16 | R/W | User parameter group > No. 12 parameter | | | | |
| 450043(C37A) | | 03/06/16 | R/W | User parameter group > No. 13 parameter | The dedicated parameter set range | - | 0 | |
| 450044(C37B) | | 03/06/16 | R/W | User parameter group > No. 14 parameter | | | | |
| 450045(C37C) | | 03/06/16 | R/W | User parameter group > No. 15 parameter | | | | |
| 450046(C37D) | | 03/06/16 | R/W | User parameter group > No. 16 parameter | | | | |
| 450047(C37E) | | 03/06/16 | R/W | User parameter group > No. 17 parameter | | | | |
| 450048(C37F) | | 03/06/16 | R/W | User parameter group > No. 18 parameter | | | | |
| 450049(C380) | | 03/06/16 | R/W | User parameter group > No. 19 parameter | | | | |
| 450050(C381) | | 03/06/16 | R/W | User parameter group > No. 20 parameter | | | | |
| 450051(C382) | | 03/06/16 | R/W | User parameter group > No. 21 parameter | | | | |
| 450052(C383) | | 03/06/16 | R/W | User parameter group > No. 22 parameter | | | | |
| 450053(C384) | | 03/06/16 | R/W | User parameter group > No. 23 parameter | | | | |
| 450054(C385) | | 03/06/16 | R/W | User parameter group > No. 24 parameter | | | | |
| 450055(C386) | | 03/06/16 | R/W | User parameter group > No. 25 parameter | | | | |

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| **TMH2** | **TMH4** | | | | | | | |
| 450056(C387) | | 03/06/16 | R/W | User parameter group > No. 26 parameter | | | | |
| 450057(C388) | | 03/06/16 | R/W | User parameter group > No. 27 parameter | | | | |
| 450058(C389) | | 03/06/16 | R/W | User parameter group > No. 28 parameter | | | | |
| 450059(C38A) | | 03/06/16 | R/W | User parameter group > No. 29 parameter | | | | |
| 450060(C38B) | | 03/06/16 | R/W | User parameter group > No. 30 parameter | | | | |

# 2.4 TMHCT [Option: CT input module]

## 2.4.1 Read input register (Func 04)

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 300001(0000) to 300100(0063) | 04 | R | Reserved | | | | | |
| 300101(0064) | 04 | R | - | Product number H | - | - | 0 | |
| 300102(0065) | 04 | R | - | Product number L | - | - | 0 | |
| 300103(0066) | 04 | R | - | Hardware version | - | - | 100 | |
| 300104(0067) | 04 | R | - | Software version | - | - | 100 | |
| 300105(0068) | 04 | R | - | Model name 1 | - | - | "TM" | Product name |
| 300106(0069) | 04 | R | - | Model name 2 | - | - | "HC" | Option |
| 300107(006A) | 04 | R | - | Model name 3 | - | - | "T-" | Option |
| 300108(006B) | 04 | R | - | Model name 4 | - | - | "82" | Input/Power voltage |
| 300109(006C) | 04 | R | - | Model name 5 | - | - | "NE " | Output/Structure |
| 300110(006D) | 04 | R | - | Model name 6 | - | - | " " | |
| 300111(006E) | 04 | R | - | Model name 7 | - | - | " " | |
| 300112(006F) | 04 | R | - | Model name 8 | - | - | " " | |
| 300113(0070) | 04 | R | - | Model name 9 | - | - | " " | |
| 300114(0071) | 04 | R | - | Model name 10 | - | - | " " | |
| 300115(0072) | 04 | R | Reserved | | | | | |
| 300116(0073) | 04 | R | Reserved | | | | | |
| 300117(0074) | 04 | R | Reserved | | | | | |
| 300118(0075) | 04 | R | - | Coil status Start Address | - | - | 0 | |
| 300119(0076) | 04 | R | - | Coil status Quantity | - | - | 0 | |
| 300120(0077) | 04 | R | - | Input status Start Address | - | - | 0 | |
| 300121(0078) | 04 | R | - | Input status Quantity | - | - | 0 | |
| 300122(0079) | 04 | R | - | Holding Register Start Address | - | - | 0 | |
| 300123(007A) | 04 | R | - | Holding Register Quantity | - | - | 0 | |
| 300124(007B) | 04 | R | - | Input Register Start Address | - | - | 0 | |
| 300125(007C) | 04 | R | - | Input Register Quantity | - | - | 0 | |
| 300126(007D) | 04 | R | - | Channel Quantity | - | - | 0 | |
| 300127(007E) to 300200(00C7) | 04 | R | Reserved | | | | | |
| 301001(03E8) | 04 | R | CT1 Heater Current | CT1 input value monitoring | 0.0 to 50.0 | A | - | |
| 301002(03E9) | 04 | R | CT2 Heater Current | CT2 input value monitoring | | | | |
| 301003(03EA) | 04 | R | CT3 Heater Current | CT3 input value monitoring | | | | |
| 301004(03EB) | 04 | R | CT4 Heater Current | CT4 input value monitoring | | | | |

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 301005(03EC) | 04 | R | CT5 Heater Current | CT5 input value monitoring | | | | |
| 301006(03ED) | 04 | R | CT6 Heater Current | CT6 input value monitoring | | | | |
| 301007(03EE) | 04 | R | CT7 Heater Current | CT7 input value monitoring | | | | |
| 301008(03EF) | 04 | R | CT8 Heater Current | CT8 input value monitoring | | | | |
| 301009(03F0) | 04 | R | Unit Address | Comm. address | 65 to 80 | - | 65 | |
| 301009(03F0) to 301050(0419) | 04 | R | Reserved | | | | | |

## 2.4.2 Read holding register (Func 03) / Preset single register (Func 06) / Preset multiple registers (Func 16)

### 2.4.2.1 Common(common parameter setting) group

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 400001(0000) | 03/06/16 | R/W | Bit Per Second | Communication speed | 0: 4800, 1: 9600, 2: 19200, 3: 38400, 4: 115200 | bps | 1: 9600 | |
| 400002(0001) | 03/06/16 | R/W | Parity Bit | Communication parity bit | 0: NONE, 1: EVEN, 2: ODD | - | 0: NONE | |
| 400003(0002) | 03/06/16 | R/W | Stop Bit | Communication stop bit | 0: 1, 1: 2 | bit | 1: 2 | |
| 400004(0003) | 03/06/16 | R/W | Response Waiting Time | Communication response wait time | 5 to 99 | ms | 20 | |
| 400005(0004) | 03/06/16 | R/W | Communication Write | Communication writing enable/disable | 0: ENABLE, 1: DISABLE | - | 0: ENABLE | |
| 400006(0005) | 03/06/16 | R/W | Parameter Initialize | Parameter reset | 0: NO, 1: YES | - | 0: NO | |
| 400007(0006) | 03/06/16 | R/W | CT Input Value Indication Lamp1 | CT input value indicator 1 | 0: CT1, 1: CT2, 2: CT3, 3: CT4, 4: CT5, 5: CT6, 6: CT7, 7: CT8 | - | 0: CT1 | |
| 400008(0007) | 03/06/16 | R/W | CT Input Value Indication Lamp2 | CT input value indicator 2 | | - | 1: CT2 | |
| 400009(0008) to 400050(0031) | 03/06/16 | R/W | Reserved | | | | | |

## 2.4.3    User parameter group

### (1)    User parameter group order assignment

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| **TMH2** | **TMH4** | | | | | | | |
| 450001(C350) | | 03/06/16 | R/W | User parameter group > No. 1 parameter assignment | | | | |
| 450002(C351) | | 03/06/16 | R/W | User parameter group > No. 2 parameter assignment | | | | |
| 450003(C352) | | 03/06/16 | R/W | User parameter group > No. 3 parameter assignment | | | | |
| 450004(C353) | | 03/06/16 | R/W | User parameter group > No. 4 parameter assignment | | | | |
| 450005(C354) | | 03/06/16 | R/W | User parameter group > No. 5 parameter assignment | | | | |
| 450006(C355) | | 03/06/16 | R/W | User parameter group > No. 6 parameter assignment | | | | |
| 450007(C356) | | 03/06/16 | R/W | User parameter group > No. 7 parameter assignment | | | | |
| 450008(C357) | | 03/06/16 | R/W | User parameter group > No. 8 parameter assignment | | | | |
| 450009(C358) | | 03/06/16 | R/W | User parameter group > No. 9 parameter assignment | | | | |
| 450010(C359) | | 03/06/16 | R/W | User parameter group > No. 10 parameter assignment | | | | |
| 450011(C35A) | | 03/06/16 | R/W | User parameter group > No. 11 parameter assignment | | | | |
| 450012(C35B) | | 03/06/16 | R/W | User parameter group > No. 12 parameter assignment | The dedicated parameter address | - | 0 | |
| 450013(C35C) | | 03/06/16 | R/W | User parameter group > No. 13 parameter assignment | | | | |
| 450014(C35D) | | 03/06/16 | R/W | User parameter group > No. 14 parameter assignment | | | | |
| 450015(C35E) | | 03/06/16 | R/W | User parameter group > No. 15 parameter assignment | | | | |
| 450016(C35F) | | 03/06/16 | R/W | User parameter group > No. 16 parameter assignment | | | | |
| 450017(C360) | | 03/06/16 | R/W | User parameter group > No. 17 parameter assignment | | | | |
| 450018(C361) | | 03/06/16 | R/W | User parameter group > No. 18 parameter assignment | | | | |
| 450019(C362) | | 03/06/16 | R/W | User parameter group > No. 19 parameter assignment | | | | |
| 450020(C363) | | 03/06/16 | R/W | User parameter group > No. 20 parameter assignment | | | | |
| 450021(C364) | | 03/06/16 | R/W | User parameter group > No. 21 parameter assignment | | | | |
| 450022(C365) | | 03/06/16 | R/W | User parameter group > No. 22 parameter assignment | | | | |
| 450023(C366) | | 03/06/16 | R/W | User parameter group > No. 23 parameter assignment | | | | |
| 450024(C367) | | 03/06/16 | R/W | User parameter group > No. 24 parameter assignment | | | | |

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450025(C368) | | 03/06/16 | R/W | User parameter group > No. 25 parameter assignment | | | | |
| 450026(C369) | | 03/06/16 | R/W | User parameter group > No. 26 parameter assignment | | | | |
| 450027(C36A) | | 03/06/16 | R/W | User parameter group > No. 27 parameter assignment | | | | |
| 450028(C36B) | | 03/06/16 | R/W | User parameter group > No. 28 parameter assignment | | | | |
| 450029(C36C) | | 03/06/16 | R/W | User parameter group > No. 29 parameter assignment | | | | |
| 450030(C36D) | | 03/06/16 | R/W | User parameter group > No. 30 parameter assignment | | | | |

## *(2)  User parameter group assignment*

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450031(C36E) | | 03/06/16 | R/W | User parameter group > No. 1 parameter | | | | |
| 450032(C36F) | | 03/06/16 | R/W | User parameter group > No. 2 parameter | | | | |
| 450033(C370) | | 03/06/16 | R/W | User parameter group > No. 3 parameter | | | | |
| 450034(C371) | | 03/06/16 | R/W | User parameter group > No. 4 parameter | | | | |
| 450035(C372) | | 03/06/16 | R/W | User parameter group > No. 5 parameter | | | | |
| 450036(C373) | | 03/06/16 | R/W | User parameter group > No. 6 parameter | | | | |
| 450037(C374) | | 03/06/16 | R/W | User parameter group > No. 7 parameter | | | | |
| 450038(C375) | | 03/06/16 | R/W | User parameter group > No. 8 parameter | | | | |
| 450039(C376) | | 03/06/16 | R/W | User parameter group > No. 9 parameter | | | | |
| 450040(C377) | | 03/06/16 | R/W | User parameter group > No. 10 parameter | The dedicated parameter set range | - | 0 | |
| 450041(C378) | | 03/06/16 | R/W | User parameter group > No. 11 parameter | | | | |
| 450042(C379) | | 03/06/16 | R/W | User parameter group > No. 12 parameter | | | | |
| 450043(C37A) | | 03/06/16 | R/W | User parameter group > No. 13 parameter | | | | |
| 450044(C37B) | | 03/06/16 | R/W | User parameter group > No. 14 parameter | | | | |
| 450045(C37C) | | 03/06/16 | R/W | User parameter group > No. 15 parameter | | | | |
| 450046(C37D) | | 03/06/16 | R/W | User parameter group > No. 16 parameter | | | | |
| 450047(C37E) | | 03/06/16 | R/W | User parameter group > No. 17 parameter | | | | |
| 450048(C37F) | | 03/06/16 | R/W | User parameter group > No. 18 parameter | | | | |
| 450049(C380) | | 03/06/16 | R/W | User parameter group > No. 19 parameter | | | | |
| 450050(C381) | | 03/06/16 | R/W | User parameter group > No. 20 parameter | | | | |

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450051(C382) | | 03/06/16 | R/W | User parameter group > No. 21 parameter | | | | |
| 450052(C383) | | 03/06/16 | R/W | User parameter group > No. 22 parameter | | | | |
| 450053(C384) | | 03/06/16 | R/W | User parameter group > No. 23 parameter | | | | |
| 450054(C385) | | 03/06/16 | R/W | User parameter group > No. 24 parameter | | | | |
| 450055(C386) | | 03/06/16 | R/W | User parameter group > No. 25 parameter | | | | |
| 450056(C387) | | 03/06/16 | R/W | User parameter group > No. 26 parameter | | | | |
| 450057(C388) | | 03/06/16 | R/W | User parameter group > No. 27 parameter | | | | |
| 450058(C389) | | 03/06/16 | R/W | User parameter group > No. 28 parameter | | | | |
| 450059(C38A) | | 03/06/16 | R/W | User parameter group > No. 29 parameter | | | | |
| 450060(C38B) | | 03/06/16 | R/W | User parameter group > No. 30 parameter | | | | |

# 2.5 TMHC [Option: RS422/RS485 communication output]

## 2.5.1 TMHC + expansion (control/option) modules connecting, address mapping table by module

| Type | Func01/Func05 (000000) | | Func02 (100000) | | Func04 (300000) | | Func03/Func06/Func16 (400000) | | |
|---|---|---|---|---|---|---|---|---|---|
| TMH4/2 | Start address | 000001 | Start address | 100001 | Start address | 300201(by model) | Start address | | 401001 |
| | Address assignment | 150 | Address assignment | 450 | Address assignment | 450 | Channel assignment | | 30(group assignment)*10+200(channel reserve)=500 |
| | | | | | Start address | 310001(check value) | Module assignment | | 500*4CH=2000 |
| | | | | | Address assignment | 500 | Total assignment | | 2000*16 = 32,000 |
| | | | | | | | User group | Start address | 450001 |
| | | | | | | | | Module assignment | 60 |
| | | | | | | | | Total assignment | 60*16=960 |
| TMHA | - | | Start address | 100451 | Start address | 300651(by model) | Start address | | 433001 |
| | | | Address assignment | 100 | Address assignment | 450 | Channel assignment | | 30(group assignment)* +60(channel Reserve)=150 |
| | | | | | Start address | 310501(check value) | Module assignment | | 150*4CH=600 |
| | | | | | Address assignment | 300 | Total assignment | | 600*16=9,600 |
| | | | | | | | User group | Start address | 450961 |
| | | | | | | | | Module assignment | 60 |
| | | | | | | | | Total assignment | 60*16=960 |
| TMHE | - | | Start address | 100551 | Start address | 301101(by model) | Start address | | 442601 |
| | | | Address assignment | 300 | Address assignment | 450 | Module assignment | | 30(group assignment)*2 =60 |
| | | | | | Start address | 310801(check value) | Total assignment | | 60*16=960 |
| | | | | | Address assignment | 50 | User group | Start address | 451921 |
| | | | | | | | | Module assignment | 60 |
| | | | | | | | | Total assignment | 60*16=960 |
| TMHCT | - | | - | | Start address | 301551(by model) | Start address | | 443561 |
| | | | | | Address assignment | 450 | Module assignment | | 30 |

| Type | Func01/Func05 (000000) | Func02 (100000) | Func04 (300000) | | Func03/Func06/Func16 (400000) | | |
|---|---|---|---|---|---|---|---|
| | | | Start address | 310851(check value) | Total assignment | 30*16=480 | |
| | | | Address assignment | 150 | User group | Start address | 452881 |
| | | | | | | Module assignment | 60 |
| | | | | | | Total assignment | 60*16=960 |
| TMHC | - | - | Start address | 300001(check value) | Start address | 400101(set communication 1) | |
| | | | Address assignment | 100 | Address assignment | 100 | |
| | | | Start address | 300101(by model) | Start address | 400201(set communication 2) | |
| | | | Address assignment | 100 | Address assignment | 100 | |
| | | | | | User group | TMH4/2 | 450001 to 450960 |
| | | | | | | TMHA | 450961 to 451920 |
| | | | | | | TMHE | 451921 to 452880 |
| | | | | | | TMHCT | 452881 to 453840 |

## 2.5.2 Read input register (Func 04)

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 300001(0000) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 01 connection check | | | | |
| 300002(0001) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 02 connection check | | | | |
| 300003(0002) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 03 connection check | | | | |
| 300004(0003) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 04 connection check | | | | |
| 300005(0004) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 05 connection check | | | | |
| 300006(0005) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 06 connection check | | | | |
| 300007(0006) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 07 connection check | | | | |
| 300008(0007) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 08 connection check | | | | |
| 300009(0008) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 09 connection check | | | | |
| 300010(0009) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 10 connection check | | | | |
| 300011(000A) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 11 connection check | | | | |
| 300012(000B) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 12 connection check | | | | |
| 300013(000C) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 13 connection check | | | | |
| 300014(000D) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 14 connection check | Not connect: 0, Connect: 1 | - | 0 | |
| 300015(000E) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 15 connection check | | | | |
| 300016(000F) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 16 connection check | | | | |
| 300017(0010) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 17 connection check | | | | |
| 300018(0011) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 18 connection check | | | | |
| 300019(0012) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 19 connection check | | | | |
| 300020(0013) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 20 connection check | | | | |
| 300021(0014) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 21 connection check | | | | |
| 300022(0015) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 22 connection check | | | | |
| 300023(0016) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 23 connection check | | | | |
| 300024(0017) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 24 connection check | | | | |
| 300025(0018) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 25 connection check | | | | |
| 300026(0019) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 26 connection check | | | | |
| 300027(001A) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 27 connection check | | | | |

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 300028(001B) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 28 connection check | | | | |
| 300029(001C) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 29 connection check | | | | |
| 300030(001D) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 30 connection check | | | | |
| 300031(001E) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 31 connection check | | | | |
| 300032(001F) | 04 | R | TMH4/2 Connected confirmation | TMH4/2 address 32 connection check | | | | |
| 300033(0020) | 04 | R | TMHA Connected confirmation | TMHA address 33 connection check | | | | |
| 300034(0021) | 04 | R | TMHA Connected confirmation | TMHA address 34 connection check | | | | |
| 300035(0022) | 04 | R | TMHA Connected confirmation | TMHA address 35 connection check | | | | |
| 300036(0023) | 04 | R | TMHA Connected confirmation | TMHA address 36 connection check | | | | |
| 300037(0024) | 04 | R | TMHA Connected confirmation | TMHA address 37 connection check | | | | |
| 300038(0025) | 04 | R | TMHA Connected confirmation | TMHA address 38 connection check | | | | |
| 300039(0026) | 04 | R | TMHA Connected confirmation | TMHA address 39 connection check | | | | |
| 300040(0027) | 04 | R | TMHA Connected confirmation | TMHA address 40 connection check | Not connect: 0, Connect: 1 | - | 0 | |
| 300041(0028) | 04 | R | TMHA Connected confirmation | TMHA address 41 connection check | | | | |
| 300042(0029) | 04 | R | TMHA Connected confirmation | TMHA address 42 connection check | | | | |
| 300043(002A) | 04 | R | TMHA Connected confirmation | TMHA address 43 connection check | | | | |
| 300044(002B) | 04 | R | TMHA Connected confirmation | TMHA address 44 connection check | | | | |
| 300045(002C) | 04 | R | TMHA Connected confirmation | TMHA address 45 connection check | | | | |
| 300046(002D) | 04 | R | TMHA Connected confirmation | TMHA address 46 connection check | | | | |
| 300047(002E) | 04 | R | TMHA Connected confirmation | TMHA address 47 connection check | | | | |
| 300048(002F) | 04 | R | TMHA Connected confirmation | TMHA address 48 connection check | | | | |
| 300049(0030) | 04 | R | TMHE Connected confirmation | TMHE address 49 connection check | | | | |
| 300050(0031) | 04 | R | TMHE Connected confirmation | TMHE address 50 connection check | | | | |
| 300051(0032) | 04 | R | TMHE Connected confirmation | TMHE address 51 connection check | | | | |
| 300052(0033) | 04 | R | TMHE Connected confirmation | TMHE address 52 connection check | Not connect: 0, Connect: 1 | - | 0 | |
| 300053(0034) | 04 | R | TMHE Connected confirmation | TMHE address 53 connection check | | | | |
| 300054(0035) | 04 | R | TMHE Connected confirmation | TMHE address 54 connection check | | | | |
| 300055(0036) | 04 | R | TMHE Connected confirmation | TMHE address 55 connection check | | | | |

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 300056(0037) | 04 | R | TMHE Connected confirmation | TMHE address 56 connection check | | | | |
| 300057(0038) | 04 | R | TMHE Connected confirmation | TMHE address 57 connection check | | | | |
| 300058(0039) | 04 | R | TMHE Connected confirmation | TMHE address 58 connection check | | | | |
| 300059(003A) | 04 | R | TMHE Connected confirmation | TMHE address 59 connection check | | | | |
| 300060(003B) | 04 | R | TMHE Connected confirmation | TMHE address 60 connection check | | | | |
| 300061(003C) | 04 | R | TMHE Connected confirmation | TMHE address 61 connection check | | | | |
| 300062(003D) | 04 | R | TMHE Connected confirmation | TMHE address 62 connection check | | | | |
| 300063(003E) | 04 | R | TMHE Connected confirmation | TMHE address 63 connection check | | | | |
| 300064(003F) | 04 | R | TMHE Connected confirmation | TMHE address 64 connection check | | | | |
| 300065(0040) | 04 | R | TMHCT Connected confirmation | TMHCT address 65 connection check | | | | |
| 300066(0041) | 04 | R | TMHCT Connected confirmation | TMHCT address 66 connection check | | | | |
| 300067(0042) | 04 | R | TMHCT Connected confirmation | TMHCT address 67 connection check | | | | |
| 300068(0043) | 04 | R | TMHCT Connected confirmation | TMHCT address 68 connection check | | | | |
| 300069(0044) | 04 | R | TMHCT Connected confirmation | TMHCT address 69 connection check | | | | |
| 300070(0045) | 04 | R | TMHCT Connected confirmation | TMHCT address 70 connection check | | | | |
| 300071(0046) | 04 | R | TMHCT Connected confirmation | TMHCT address 71 connection check | | | | |
| 300072(0047) | 04 | R | TMHCT Connected confirmation | TMHCT address 72 connection check | Not connect: 0, Connect: 1 | - | 0 | |
| 300073(0048) | 04 | R | TMHCT Connected confirmation | TMHCT address 73 connection check | | | | |
| 300074(0049) | 04 | R | TMHCT Connected confirmation | TMHCT address 74 connection check | | | | |
| 300075(004A) | 04 | R | TMHCT Connected confirmation | TMHCT address 75 connection check | | | | |
| 300076(004B) | 04 | R | TMHCT Connected confirmation | TMHCT address 76 connection check | | | | |
| 300077(004C) | 04 | R | TMHCT Connected confirmation | TMHCT address 77 connection check | | | | |
| 300078(004D) | 04 | R | TMHCT Connected confirmation | TMHCT address 78 connection check | | | | |
| 300079(004E) | 04 | R | TMHCT Connected confirmation | TMHCT address 79 connection check | | | | |
| 300080(0050) | 04 | R | TMHCT Connected confirmation | TMHCT address 80 connection check | | | | |
| 300081(0051) | 04 | R | Connected Modules Number | Number of connected modules check | 0 to 31 | - | 0 | |
| 300082(0052) | 04 | R | Unit Address | Comm. address | 01 to 31 | - | 01 | |
| 300089(0053) to 300100(0063) | 04 | R | Reserved | | | | | |

## 2.5.3 Read input register (Func 04)

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 300101(0064) | 04 | R | - | Product number H | - | - | 0 | |
| 300102(0065) | 04 | R | - | Product number L | - | - | 0 | |
| 300103(0066) | 04 | R | - | Hardware version | - | - | 100 | |
| 300104(0067) | 04 | R | - | Software version | - | - | 100 | |
| 300105(0068) | 04 | R | - | Model name 1 | - | - | "TM" | Product name |
| 300106(0069) | 04 | R | - | Model name 2 | - | - | "HC" | Option |
| 300107(006A) | 04 | R | - | Model name 3 | - | - | "-2" | Comm. output |
| 300108(006B) | 04 | R | - | Model name 4 | - | - | "2S" | Power voltage/ Comm. method |
| 300109(006C) | 04 | R | - | Model name 5 | - | - | "E " | Structure |
| 300110(006D) | 04 | R | - | Model name 6 | - | - | " " | |
| 300111(006E) | 04 | R | - | Model name 7 | - | - | " " | |
| 300112(006F) | 04 | R | - | Model name 8 | - | - | " " | |
| 300113(0070) | 04 | R | - | Model name 9 | - | - | " " | |
| 300114(0071) | 04 | R | - | Model name 10 | - | - | " " | |
| 300115(0072) | 04 | R | Reserved | | | | | | |
| 300116(0073) | 04 | R | Reserved | | | | | | |
| 300117(0074) | 04 | R | Reserved | | | | | | |
| 300118(0075) | 04 | R | - | Coil status Start Address | - | - | 0 | |
| 300119(0076) | 04 | R | - | Coil status Quantity | - | - | 0 | |
| 300120(0077) | 04 | R | - | Input status Start Address | - | - | 0 | |
| 300121(0078) | 04 | R | - | Input status Quantity | - | - | 0 | |
| 300122(0079) | 04 | R | - | Holding Register Start Address | - | - | 0 | |
| 300123(007A) | 04 | R | - | Holding Register Quantity | - | - | 0 | |
| 300124(007B) | 04 | R | - | Input Register Start Address | - | - | 0 | |
| 300125(007C) | 04 | R | - | Input Register Quantity | - | - | 0 | |
| 300126(007D) | 04 | R | - | Channel Quantity | - | - | 0 | |
| 300127(007E) to 300200(00C7) | 04 | R | Reserved | | | | | | |

## 2.5.4 Read holding register (Func 03) / Preset single register (Func 06) / Preset multiple registers (Func 16)

### 2.5.4.1 Communication setting group 1

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 400101(0064) | 03/06/16 | R/W | Bit Per Second | Communication speed | 0: 4800, 1: 9600, 2: 19200, 3: 38400, 4: 115200 | bps | 1: 9600 | |
| 400102(0065) | 03/06/16 | R/W | Parity Bit | Communication parity bit | 0: NONE, 1: EVEN, 2: ODD | - | 0: NONE | |
| 400103(0066) | 03/06/16 | R/W | Stop Bit | Communication stop bit | 0: 1, 1: 2 | bit | 1: 2 | |
| 400104(0067) | 03/06/16 | R/W | Response Waiting Time1 | Communication response wait time | 5 to 99 | ms | 20 | |
| 400105(0068) | 03/06/16 | R/W | Communication Write2 | Communication writing enable/disable | 0: ENABLE, 1: DISABLE | - | 0: ENABLE | |
| 400106(0069) | 03/06/16 | R/W | Parameter Initialize | Parameter reset | 0: NO, 1: YES | - | 0: NO | |
| 400107(006A) to 400200(00C7) | 03/06/16 | R/W | Reserved | | | | | |

### 2.5.4.2 Communication setting group 2

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 400201(00C8) | 03/06/16 | R/W | Bit Per Second | Communication speed | 0: 4800, 1: 9600, 2: 19200, 3: 38400, 4: 115200 | bps | 1: 9600 | |
| 400202(00C9) | 03/06/16 | R/W | Parity Bit | Communication parity bit | 0: NONE, 1: EVEN, 2: ODD | - | 0: NONE | |
| 400203(00CA) | 03/06/16 | R/W | Stop Bit | Communication stop bit | 0: 1, 1: 2 | bit | 1: 2 | |
| 400204(00CB) | 03/06/16 | R/W | Response Waiting Time2 | Communication response wait time | 5 to 99 | ms | 20 | |
| 400205(00CC) | 03/06/16 | R/W | Communication Write2 | Communication writing enable/disable | 0: ENABLE, 1: DISABLE | - | 0: ENABLE | |
| 400206(00CD) | 03/06/16 | R/W | Parameter Initialize | Parameter reset | 0: NO, 1: YES | - | 0: NO | |
| 400207(00CE) to 400300(012B) | 03/06/16 | R/W | Reserved | | | | | |

## 2.5.5 TMH4/2

### 2.5.5.1 Read coil status (Func 01) / Force single coil (Func 05)

| No(Address) TMH2 | TMH4 | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| 000001(0000) | 000001(0000) | 01/05 | R/W | CH1 RUN/STOP | CH1 control output RUN/STOP | 0: RUN, 1: STOP | - | 0: RUN | |
| 000002(0001) | 000002(0001) | 01/05 | R/W | CH2 RUN/STOP | CH2 control output RUN/STOP | | | | |
| - | 000003(0002) | 01/05 | R/W | CH3 RUN/STOP | CH3 control output RUN/STOP | | | | |
| - | 000004(0003) | 01/05 | R/W | CH4 RUN/STOP | CH4 control output RUN/STOP | | | | |
| 000005(0004) to 000008(0007) | | 01/05 | R/W | 02 address parameter – Same as above 01 address | | | | | |
| 000009(0008) to 000012(000B) | | 01/05 | R/W | 03 address parameter – Same as above 01 address | | | | | |
| 000013(000C) to 000016(000F) | | 01/05 | R/W | 04 address parameter – Same as above 01 address | | | | | |
| 000017(0010) to 000020(0013) | | 01/05 | R/W | 05 address parameter – Same as above 01 address | | | | | |
| 000021(0014) to 000024(0017) | | 01/05 | R/W | 06 address parameter – Same as above 01 address | | | | | |
| 000025(0018) to 000028(001B) | | 01/05 | R/W | 07 address parameter – Same as above 01 address | | | | | |
| 000029(001C) to 000032(001F) | | 01/05 | R/W | 08 address parameter – Same as above 01 address | | | | | |
| 000033(0020) to 000036(0023) | | 01/05 | R/W | 09 address parameter – Same as above 01 address | | | | | |
| 000037(0024) to 000040(0027) | | 01/05 | R/W | 10 address parameter – Same as above 01 address | | | | | |
| 000041(0028) to 000044(002B) | | 01/05 | R/W | 11 address parameter – Same as above 01 address | | | | | |
| 000045(002C) to 000048(002F) | | 01/05 | R/W | 12 address parameter – Same as above 01 address | | | | | |
| 000049(0030) to 000052(0033) | | 01/05 | R/W | 13 address parameter – Same as above 01 address | | | | | |
| 000053(0034) to 000056(0037) | | 01/05 | R/W | 14 address parameter – Same as above 01 address | | | | | |
| 000057(0038) to 000060(003B) | | 01/05 | R/W | 15 address parameter – Same as above 01 address | | | | | |
| 000061(003C) to 000064(003F) | | 01/05 | R/W | 16 address parameter – Same as above 01 address | | | | | |
| 000065(0040) | 000065(0040) | 01/05 | R/W | CH1 Auto-Tuning Execute | CH1 auto-tuning ON/OFF | 0: OFF, 1: ON | - | 0: OFF | |
| 000066(0041) | 000066(0041) | 01/05 | R/W | CH2 Auto-Tuning Execute | CH2 auto-tuning ON/OFF | | | | |
| - | 000067(0042) | 01/05 | R/W | CH3 Auto-Tuning Execute | CH3 auto-tuning ON/OFF | | | | |
| - | 000068(0043) | 01/05 | R/W | CH4 Auto-Tuning Execute | CH4 auto-tuning ON/OFF | | | | |
| 000069(0044) to 000072(0047) | | 01/05 | R/W | 02 address parameter – Same as above 01 address | | | | | |
| 000073(0048) to 000076(004B) | | 01/05 | R/W | 03 address parameter – Same as above 01 address | | | | | |
| 000077(004C) to 000080(004F) | | 01/05 | R/W | 04 address parameter – Same as above 01 address | | | | | |
| 000081(0050) to 000084(0053) | | 01/05 | R/W | 05 address parameter – Same as above 01 address | | | | | |
| 000085(0054) to 000088(0057) | | 01/05 | R/W | 06 address parameter – Same as above 01 address | | | | | |
| 000089(0058) to 000092(005B) | | 01/05 | R/W | 07 address parameter – Same as above 01 address | | | | | |
| 000093(005C) to 000096(005F) | | 01/05 | R/W | 08 address parameter – Same as above 01 address | | | | | |
| 000097(0060) to 000100(0063) | | 01/05 | R/W | 09 address parameter – Same as above 01 address | | | | | |
| 000101(0064) to 000104(0067) | | 01/05 | R/W | 10 address parameter – Same as above 01 address | | | | | |
| 000105(0068) to 000108(006B) | | 01/05 | R/W | 11 address parameter – Same as above 01 address | | | | | |
| 000109(006C) to 000112(006F) | | 01/05 | R/W | 12 address parameter – Same as above 01 address | | | | | |
| 000113(0070) to 000116(0073) | | 01/05 | R/W | 13 address parameter – Same as above 01 address | | | | | |

| No(Address) | | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | |
| 000117(0074) to 000120(0077) | | 01/05 | R/W | 14 address parameter – Same as above 01 address | | | | | |
| 000121(0078) to 000124(007B) | | 02 | R | 15 address parameter – Same as above 01 address | | | | | |
| 000125(007C) to 000128(007F) | | 02 | R | 16 address parameter – Same as above 01 address | | | | | |
| 000129(0080) to 000150(0095) | | 02 | R | Reserved | | | | | |

## 2.5.5.2 Read input status (Func 02)

| No(Address) | | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | |
| 100001(0000) | 100001(0000) | 02 | R | - | CH1 LED(OUT) | 0: OFF, 1: ON | - | - | |
| 100002(0001) | 100002(0001) | 02 | R | - | CH2 LED(OUT) | | | | |
| - | 100003(0002) | 02 | R | - | CH3 LED (OUT) | | | | |
| - | 100004(0003) | 02 | R | - | CH4 LED (OUT) | | | | |
| 100005(0004) | - | 02 | R | - | AL1 LED | 0: OFF, 1: ON | - | - | |
| 100006(0005) | - | 02 | R | - | AL2 LED | | | | |
| 100007(0006) | - | 02 | R | - | AL3 LED | | | | |
| 100008(0007) | - | 02 | R | - | AL4 LED | | | | |
| 100009(0008) | - | 02 | R | - | DI-1 input | 0: OFF, 1: ON | - | - | |
| 100010(0009) | - | 02 | R | - | DI-2 input | | | | |
| 100011(000A) | 100011(000A) | 02 | R | - | CH1 EVENT 1 status | 0: OFF, 1: ON | - | - | |
| 100012(000B) | 100012(000B) | 02 | R | - | CH1 EVENT 2 status | | | | |
| 100013(000C) | 100013(000C) | 02 | R | - | CH1 EVENT 3 status | | | | |
| 100014(000D) | 100014(000D) | 02 | R | - | CH1 EVENT 4 status | | | | |
| 100015(000E) | 100015(000E) | 02 | R | - | CH2 EVENT 1 status | 0: OFF, 1: ON | - | - | |
| 100016(000F) | 100016(000F) | 02 | R | - | CH2 EVENT 2 status | | | | |
| 100017(0010) | 100017(0010) | 02 | R | - | CH2 EVENT 3 status | | | | |
| 100018(0011) | 100018(0011) | 02 | R | - | CH2 EVENT 4 status | | | | |
| - | 100019(0012) | 02 | R | - | CH3 EVENT 1 status | 0: OFF, 1: ON | - | - | |
| - | 100020(0013) | 02 | R | - | CH3 EVENT 2 status | | | | |
| - | 100021(0014) | 02 | R | - | CH3 EVENT 3 status | | | | |
| - | 100022(0015) | 02 | R | - | CH3 EVENT 4 status | | | | |
| - | 100023(0016) | 02 | R | - | CH4 EVENT 1 status | 0: OFF, 1: ON | - | - | |
| - | 100024(0017) | 02 | R | - | CH4 EVENT 2 status | | | | |
| - | 100025(0018) | 02 | R | - | CH4 EVENT 3 status | | | | |
| - | 100026(0019) | 02 | R | - | CH4 EVENT 4 status | | | | |
| 100027(001A) to 100052(0033) | | 02 | R | 02 address parameter – Same as above 01 address | | | | | |
| 100053(0034) to 100078(004D) | | 02 | R | 03 address parameter – Same as above 01 address | | | | | |
| 100079(004E) to 100104 (0067) | | 02 | R | 04 address parameter – Same as above 01 address | | | | | |
| 100105(0068) to 100130(0081) | | 02 | R | 05 address parameter – Same as above 01 address | | | | | |
| 100131(0082) to 100156(009B) | | 02 | R | 06 address parameter – Same as above 01 address | | | | | |
| 100157(009C) to 100182(00B5) | | 02 | R | 07 address parameter – Same as above 01 address | | | | | |
| 100183(00B6) to 100208(00CF) | | 02 | R | 08 address parameter – Same as above 01 address | | | | | |
| 100209(00D0) to 100234(00E9) | | 02 | R | 09 address parameter – Same as above 01 address | | | | | |

| No(Address) | | Func | R/W | Parameter Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 100235(00EA) to 100260(0103) | | 02 | R | 10 address parameter – Same as above 01 address | | | | |
| 100261(0104) to 100286(011D) | | 02 | R | 11 address parameter – Same as above 01 address | | | | |
| 100287(011E) to 100312(0137) | | 02 | R | 12 address parameter – Same as above 01 address | | | | |
| 100313(0138) to 100338(0151) | | 02 | R | 13 address parameter – Same as above 01 address | | | | |
| 100339(0152) to 100364(016B) | | 02 | R | 14 address parameter – Same as above 01 address | | | | |
| 100365(016C) to 100390(0185) | | 02 | R | 15 address parameter – Same as above 01 address | | | | |
| 100391(0186) to 100416(019F) | | 02 | R | 16 address parameter – Same as above 01 address | | | | |
| 100417(01A0) to 100450(01C1) | | 02 | R | Reserved | | | | |

## 2.5.5.3 Read input register (Func 04)

| No(Address) TMH2 | TMH4 | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| 300201(00C8) | | 04 | R | - | Product number H | - | - | 0 | |
| 300202(00C9) | | 04 | R | - | Product number L | - | - | 0 | |
| 300203(00CA) | | 04 | R | - | Hardware version | - | - | 100 | |
| 300204(00CB) | | 04 | R | - | Software version | - | - | 100 | |
| 300205(00CC) | | 04 | R | - | Model name 1 | - | - | "TM" | Product name |
| 300206(00CD) | | 04 | R | - | Model name 2 | - | - | "H□" | Channel |
| 300207(00CE) | | 04 | R | - | Model name 3 | - | - | "-□" | Option |
| 300208(00CF) | | 04 | R | - | Model name 4 | | | "□□" | Power voltage/Control output |
| 300209(00D0) | | 04 | R | - | Model name 5 | - | - | "□ " | Structure |
| 300210(00D1) | | 04 | R | - | Model name 6 | - | - | " " | |
| 300211(00D2) | | 04 | R | - | Model name 7 | - | - | " " | |
| 300212(00D3) | | 04 | R | - | Model name 8 | - | - | " " | |
| 300213(00D4) | | 04 | R | - | Model name 9 | - | - | " " | |
| 300214(00D5) | | 04 | R | - | Model name 10 | - | - | " " | |
| 300215(00D6) | | 04 | R | Reserved | | | | | |
| 300216(00D7) | | 04 | R | Reserved | | | | | |
| 300217(00D8) | | 04 | R | Reserved | | | | | |
| 300218(00D9) | | 04 | R | - | Coil status Start Address | - | - | 0 | |
| 300219(00DA) | | 04 | R | - | Coil status Quantity | - | - | 0 | |
| 300220(00DB) | | 04 | R | - | Input status Start Address | - | - | 0 | |
| 300221(00DC) | | 04 | R | - | Input status Quantity | - | - | 0 | |
| 300222(00DD) | | 04 | R | - | Holding Register Start Address | - | - | 0 | |
| 300223(00DE) | | 04 | R | - | Holding Register Quantity | - | - | 0 | |
| 300224(00DF) | | 04 | R | - | Input Register Start Address | - | - | 0 | |
| 300225(00E0) | | 04 | R | - | Input Register Quantity | - | - | 0 | |
| 300226(00E1) | | 04 | R | - | Channel Quantity | - | - | 0 | |
| 300227(00E2) to 300252(00FB) | | 04 | R | 02 address parameter – Same as above 01 address | | | | | |
| 300253(00FC) to 300278(0115) | | 04 | R | 03 address parameter – Same as above 01 address | | | | | |
| 300279(0116) to 300304(012F) | | 04 | R | 04 address parameter – Same as above 01 address | | | | | |
| 300305(0130) to 300330(0149) | | 04 | R | 05 address parameter – Same as above 01 address | | | | | |
| 300331(014A) to 300356(0163) | | 04 | R | 06 address parameter – Same as above 01 address | | | | | |
| 300357(0164) to 300382(017D) | | 04 | R | 07 address parameter – Same as above 01 address | | | | | |
| 300383(017E) to 300408(0197) | | 04 | R | 08 address parameter – Same as above 01 address | | | | | |
| 300409(0198) to 300434(01B1) | | 04 | R | 09 address parameter – Same as above 01 address | | | | | |
| 300435(01B2) to 300460(01CB) | | 04 | R | 10 address parameter – Same as above 01 address | | | | | |
| 300461(01CC) to 300486(01E5) | | 04 | R | 11 address parameter – Same as above 01 address | | | | | |
| 300487(01E6) to 300512(01FF) | | 04 | R | 12 address parameter – Same as above 01 address | | | | | |
| 300513(0200) to 300538(0219) | | 04 | R | 13 address parameter – Same as above 01 address | | | | | |

| No(Address) TMH2 | TMH4 | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| 300539(021A) to 300564(0233) | | 04 | R | 14 address parameter – Same as above 01 address | | | | | |
| 300565(0234) to 300590(024D) | | 04 | R | 15 address parameter – Same as above 01 address | | | | | |
| 300591(024E) to 300616(0267) | | 04 | R | 16 address parameter – Same as above 01 address | | | | | |
| 300617(0268) to 300650(0289) | | 04 | R | Reserved | | | | | |
| 310001(2710) | 310001(2710) | 04 | R | CH1 Present Value | CH1 present value | Sensor input range, 31000: OPEN, 30000: HHHH, -30000: LLLL | °C/°F, Digit | - | |
| 310002(2711) | 310002(2711) | 04 | R | CH2 Present Value | CH2 present value | | | | |
| - | 310003(2712) | 04 | R | CH3 Present Value | CH3 present value | | | | |
| - | 310004(2713) | 04 | R | CH4 Present Value | CH4 present value | | | | |
| 310005(2714) to 310008(2717) | | 04 | R | 02 address parameter – Same as above 01 address | | | | | |
| 310009(2718) to 310012(271B) | | 04 | R | 03 address parameter – Same as above 01 address | | | | | |
| 310013(271C) to 310016(271F) | | 04 | R | 04 address parameter – Same as above 01 address | | | | | |
| 310017(2720) to 310020(2723) | | 04 | R | 05 address parameter – Same as above 01 address | | | | | |
| 310021(2724) to 310024(2727) | | 04 | R | 06 address parameter – Same as above 01 address | | | | | |
| 310025(2728) to 310028(272B) | | 04 | R | 07 address parameter – Same as above 01 address | | | | | |
| 310029(272C) to 310032(272F) | | 04 | R | 08 address parameter – Same as above 01 address | | | | | |
| 310033(2730) to 310036(2733) | | 04 | R | 09 address parameter – Same as above 01 address | | | | | |
| 310037(2734) to 310040(2737) | | 04 | R | 10 address parameter – Same as above 01 address | | | | | |
| 310041(2738) to 310044(273B) | | 04 | R | 11 address parameter – Same as above 01 address | | | | | |
| 310045(273C) to 310048(273F) | | 04 | R | 12 address parameter – Same as above 01 address | | | | | |
| 310049(2740) to 310052(2743) | | 04 | R | 13 address parameter – Same as above 01 address | | | | | |
| 310053(2744) to 310056(2747) | | 04 | R | 14 address parameter – Same as above 01 address | | | | | |
| 310057(2748) to 310060(274B) | | 04 | R | 15 address parameter – Same as above 01 address | | | | | |
| 310061(274C) to 310064(274F) | | 04 | R | 16 address parameter – Same as above 01 address | | | | | |
| 310065(2750) | 310065(2750) | 04 | R | CH1 Dot | CH1 sensor decimal point | 0: 0, 1: 0.0 | - | 0: 0 | |
| 310066(2751) | 310066(2751) | 04 | R | CH2 Dot | CH2 sensor decimal point | | | | |
| - | 310067(2752) | 04 | R | CH3 Dot | CH3 sensor decimal point | | | | |
| - | 310068(2753) | 04 | R | CH4 Dot | CH4 sensor decimal point | | | | |
| 310069(2754) to 310072(2757) | | 04 | R | 02 address parameter – Same as above 01 address | | | | | |
| 310073(2758) to 310076(275B) | | 04 | R | 03 address parameter – Same as above 01 address | | | | | |
| 310077(275C) to 310080(275F) | | 04 | R | 04 address parameter – Same as above 01 address | | | | | |
| 310081(2760) to 310084(2763) | | 04 | R | 05 address parameter – Same as above 01 address | | | | | |
| 310085(2764) to 310088(2767) | | 04 | R | 06 address parameter – Same as above 01 address | | | | | |
| 310089(2768) to 310092(276B) | | 04 | R | 07 address parameter – Same as above 01 address | | | | | |
| 310093(276C) to 310096(276F) | | 04 | R | 08 address parameter – Same as above 01 address | | | | | |
| 310097(2770) to 310100(2773) | | 04 | R | 09 address parameter – Same as above 01 address | | | | | |
| 310101(2774) to 310104(2777) | | 04 | R | 10 address parameter – Same as above 01 address | | | | | |
| 310105(2778) to 310108(277B) | | 04 | R | 11 address parameter – Same as above 01 address | | | | | |
| 310109(277C) to 310112(277F) | | 04 | R | 12 address parameter – Same as above 01 address | | | | | |
| 310113(2780) to 310116(2783) | | 04 | R | 13 address parameter – Same as above 01 address | | | | | |
| 310117(2784) to 310120(2787) | | 04 | R | 14 address parameter – Same as above 01 address | | | | | |
| 310121(2788) to 310124(278B) | | 04 | R | 15 address parameter – Same as above 01 address | | | | | |

| No(Address) | | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | |
| 310125(278C) to 310128(278F) | | 04 | R | 16 address parameter – Same as above 01 address | | | | | |
| 310129(2790) | 310129(2790) | 04 | R | CH1 Unit | CH1 sensor temp. unit | 0: ℃, 1: ℉ | - | 0: ℃ | |
| 310130(2791) | 310130(2791) | 04 | R | CH2 Unit | CH2 sensor temp. unit | | | | |
| - | 310131(2792) | 04 | R | CH3 Unit | CH3 sensor temp. unit | | | | |
| - | 310132(2793) | 04 | R | CH4 Unit | CH4 sensor temp. unit | | | | |
| 310133(2794) to 310136(2797) | | 04 | R | 02 address parameter – Same as above 01 address | | | | | |
| 310137(2798) to 310140(279B) | | 04 | R | 03 address parameter – Same as above 01 address | | | | | |
| 310141(279C) to 310144(279F) | | 04 | R | 04 address parameter – Same as above 01 address | | | | | |
| 310145(27A0) to 310148(27A3) | | 04 | R | 05 address parameter – Same as above 01 address | | | | | |
| 310149(27A4) to 310152(27A7) | | 04 | R | 06 address parameter – Same as above 01 address | | | | | |
| 310153(27A8) to 310156(27AB) | | 04 | R | 07 address parameter – Same as above 01 address | | | | | |
| 310157(27AC) to 310160(27AF) | | 04 | R | 08 address parameter – Same as above 01 address | | | | | |
| 310161(27B0) to 310164(27B3) | | 04 | R | 09 address parameter – Same as above 01 address | | | | | |
| 310165(27B4) to 310168(27B7) | | 04 | R | 10 address parameter – Same as above 01 address | | | | | |
| 310169(27B8) to 310172(27BB) | | 04 | R | 11 address parameter – Same as above 01 address | | | | | |
| 310173(27BC) to 310176(27BF) | | 04 | R | 12 address parameter – Same as above 01 address | | | | | |
| 310177(27C0) to 310180(27C3) | | 04 | R | 13 address parameter – Same as above 01 address | | | | | |
| 310181(27C4) to 310184(27C7) | | 04 | R | 14 address parameter – Same as above 01 address | | | | | |
| 310185(27C8) to 310188(27CB) | | 04 | R | 15 address parameter – Same as above 01 address | | | | | |
| 310189(27CC) to 310192(27CF) | | 04 | R | 16 address parameter – Same as above 01 address | | | | | |
| 310193(27D0) | 310193(27D0) | 04 | R | CH1 Set Value | CH1 set value | SV Low Limit to SV High Limit | ℃/℉, Digit | 0 | |
| 310194(27D1) | 310194(27D1) | 04 | R | CH2 Set Value | CH2 set value | | | | |
| - | 310195(27D2) | 04 | R | CH3 Set Value | CH3 set value | | | | |
| - | 310196(27D3) | 04 | R | CH4 Set Value | CH4 set value | | | | |
| 310197(27D4) to 310200(27D7) | | 04 | R | 02 address parameter – Same as above 01 address | | | | | |
| 310201(27D8) to 310204(27DB) | | 04 | R | 03 address parameter – Same as above 01 address | | | | | |
| 310205(27DC) to 310208(27DF) | | 04 | R | 04 address parameter – Same as above 01 address | | | | | |
| 310209(27E0) to 310212(27E3) | | 04 | R | 05 address parameter – Same as above 01 address | | | | | |
| 310213(27E4) to 310216(27E7) | | 04 | R | 06 address parameter – Same as above 01 address | | | | | |
| 310217(27E8) to 310220(27EB) | | 04 | R | 07 address parameter – Same as above 01 address | | | | | |
| 310221(27EC) to 310224(27EF) | | 04 | R | 08 address parameter – Same as above 01 address | | | | | |
| 310225(27F0) to 310228(27F3) | | 04 | R | 09 address parameter – Same as above 01 address | | | | | |
| 310229(27F4) to 310232(27F7) | | 04 | R | 10 address parameter – Same as above 01 address | | | | | |
| 310233(27F8) to 310236(27FB) | | 04 | R | 11 address parameter – Same as above 01 address | | | | | |
| 310237(27FC) to 310240(27FF) | | 04 | R | 12 address parameter – Same as above 01 address | | | | | |
| 310241(2800) to 310244(2803) | | 04 | R | 13 address parameter – Same as above 01 address | | | | | |
| 310245(2804) to 310248(2807) | | 04 | R | 14 address parameter – Same as above 01 address | | | | | |
| 310249(2808) to 310252(280B) | | 04 | R | 15 address parameter – Same as above 01 address | | | | | |
| 310253(280C) to 310256(280F) | | 04 | R | 16 address parameter – Same as above 01 address | | | | | |
| 310257(2810) | 310257(2810) | 04 | R | CH1 Heating_MV | CH1 heating MV | 0 to 1000 (0.0 to 100.0) | % | - | |
| 310258(2811) | 310258(2811) | 04 | R | CH2 Heating_MV | CH2 heating MV | | | | |
| - | 310259(2812) | 04 | R | CH3 Heating_MV | CH3 heating MV | | | | |
| - | 310260(2813) | 04 | R | CH4 Heating_MV | CH4 heating MV | | | | |
| 310261(2814) to 310264(2817) | | 04 | R | 02 address parameter – Same as above 01 address | | | | | |

| No(Address) TMH2 | No(Address) TMH4 | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| 310265(2818) to 310268(281B) | | 04 | R | 03 address parameter – Same as above 01 address | | | | | |
| 310269(281C) to 310272(281F) | | 04 | R | 04 address parameter – Same as above 01 address | | | | | |
| 310273(2820) to 310276(2823) | | 04 | R | 05 address parameter – Same as above 01 address | | | | | |
| 310277(2824) to 310280(2827) | | 04 | R | 06 address parameter – Same as above 01 address | | | | | |
| 310281(2828) to 310284(282B) | | 04 | R | 07 address parameter – Same as above 01 address | | | | | |
| 310285(282C) to 310288(282F) | | 04 | R | 08 address parameter – Same as above 01 address | | | | | |
| 310289(2830) to 310292(2833) | | 04 | R | 09 address parameter – Same as above 01 address | | | | | |
| 310293(2834) to 310296(2837) | | 04 | R | 10 address parameter – Same as above 01 address | | | | | |
| 310297(2838) to 310300(283B) | | 04 | R | 11 address parameter – Same as above 01 address | | | | | |
| 310301(283C) to 310304(283F) | | 04 | R | 12 address parameter – Same as above 01 address | | | | | |
| 310305(2840) to 310308(2843) | | 04 | R | 13 address parameter – Same as above 01 address | | | | | |
| 310309(2844) to 310312(2847) | | 04 | R | 14 address parameter – Same as above 01 address | | | | | |
| 310313(2848) to 310316(284B) | | 04 | R | 15 address parameter – Same as above 01 address | | | | | |
| 310317(284C) to 310320(284F) | | 04 | R | 16 address parameter – Same as above 01 address | | | | | |
| 310321(2850) | 310321(2850) | 04 | R | CH1 Cooling_MV | CH1 cooling MV | 0 to 1000 (0.0 to 100.0) | % | - | - |
| 310322(2851) | 310322(2851) | 04 | R | CH1 Cooling_MV | CH2 cooling MV | | | | |
| - | 310323(2852) | 04 | R | CH1 Cooling_MV | CH3 cooling MV | | | | |
| - | 310324(2853) | 04 | R | CH1 Cooling_MV | CH4 cooling MV | | | | |
| 310325(2854) to 310328(2857) | | 04 | R | 02 address parameter – Same as above 01 address | | | | | |
| 310329(2858) to 310332(285B) | | 04 | R | 03 address parameter – Same as above 01 address | | | | | |
| 310333(285C) to 310336(285F) | | 04 | R | 04 address parameter – Same as above 01 address | | | | | |
| 310337(2860) to 310340(2863) | | 04 | R | 05 address parameter – Same as above 01 address | | | | | |
| 310341(2864) to 310344(2867) | | 04 | R | 06 address parameter – Same as above 01 address | | | | | |
| 310345(2868) to 310348(286B) | | 04 | R | 07 address parameter – Same as above 01 address | | | | | |
| 310349(286C) to 310352(286F) | | 04 | R | 08 address parameter – Same as above 01 address | | | | | |
| 310353(2870) to 310356(2873) | | 04 | R | 09 address parameter – Same as above 01 address | | | | | |
| 310357(2874) to 310360(2877) | | 04 | R | 10 address parameter – Same as above 01 address | | | | | |
| 310361(2878) to 310364(287B) | | 04 | R | 11 address parameter – Same as above 01 address | | | | | |
| 310365(287C) to 310368(287F) | | 04 | R | 12 address parameter – Same as above 01 address | | | | | |
| 310369(2880) to 310372(2883) | | 04 | R | 13 address parameter – Same as above 01 address | | | | | |
| 310373(2884) to 310376(2887) | | 04 | R | 14 address parameter – Same as above 01 address | | | | | |
| 310377(2888) to 310380(288B) | | 04 | R | 15 address parameter – Same as above 01 address | | | | | |
| 310381(288C) to 310384(288F) | | 04 | R | 16 address parameter – Same as above 01 address | | | | | |
| - | 310385(2890) | 04 | R | - | CH1 LED(OUT1) | 0: OFF, 1: ON | - | - | Bit 0 |
| | | | | - | CH2 LED(OUT2) | | | | Bit 1 |
| | | | | - | CH3 LED(OUT3) | | | | Bit 2 |
| | | | | - | CH4 LED(OUT4) | | | | Bit 3 |
| | | | | - | - | 0 fixed | | | Bit 4 |
| | | | | - | - | | | | Bit 5 |
| | | | | - | - | | | | Bit 6 |
| | | | | - | - | | | | Bit 7 |
| | | | | - | - | | | | Bit 8 |
| | | | | - | - | | | | Bit 9 |
| 310385(2890) | - | 04 | R | - | CH1 LED(OUT1) | 0: OFF, 1: ON | - | - | Bit 0 |

| No(Address) TMH2 | TMH4 | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | | | - | CH2 LED(OUT2) | | | | Bit 1 |
| | | | | - | CH3 LED(OUT3), H&C control | | | | Bit 2 |
| | | | | - | CH4 LED(OUT4), H&C control | | | | Bit 3 |
| | | | | - | AL1 LED | | | | Bit 4 |
| | | | | - | AL2 LED | 0: OFF, 1: ON | | - | Bit 5 |
| | | | | - | AL3 LED | | | | Bit 6 |
| | | | | - | AL4 LED | | | | Bit 7 |
| | | | | - | DI-1 input | 0: OFF, 1: ON | | - | Bit 8 |
| | | | | - | DI-2 input | | | | Bit 9 |
| 310386(2891) | 310386(2891) | 04 | R | - | CH1 EVENT1 status | 0: OFF, 1: ON | - | - | |
| | | | | - | CH1 EVENT2 status | | | | |
| | | | | - | CH1 EVENT3 status | | | | |
| | | | | - | CH1 EVENT4 status | | | | |
| | | | | - | CH2 EVENT1 status | 0: OFF, 1: ON | - | - | |
| | | | | - | CH2 EVENT2 status | | | | |
| | | | | - | CH2 EVENT3 status | | | | |
| | | | | - | CH2 EVENT4 status | | | | |
| | | | | - | CH3 EVENT1 status | 0: OFF, 1: ON | - | - | |
| | | | | - | CH3 EVENT2 status | | | | |
| | | | | - | CH3 EVENT3 status | | | | |
| | | | | - | CH3 EVENT4 status | | | | |
| | | | | - | CH4 EVENT1 status | 0: OFF, 1: ON | - | - | |
| | | | | - | CH4 EVENT2 status | | | | |
| | | | | - | CH4 EVENT3 status | | | | |
| | | | | - | CH4 EVENT4 status | | | | |
| 310387(2892) | | 04 | R | Unit Address | Comm. address | 1 to 16 | - | 1 | |
| 310388(2893) to 310390(2895) | | 02 | R | 02 address parameter – Same as above 01 address | | | | | |
| 310391(2896) to 310393(2898) | | 02 | R | 03 address parameter – Same as above 01 address | | | | | |
| 310394(2899) to 310396(289B) | | 02 | R | 04 address parameter – Same as above 01 address | | | | | |
| 310397(289C) to 310399(289E) | | 02 | R | 05 address parameter – Same as above 01 address | | | | | |
| 310400(289F) to 310402(28A1) | | 02 | R | 06 address parameter – Same as above 01 address | | | | | |
| 310403(28A2) to 310405(28A4) | | 02 | R | 07 address parameter – Same as above 01 address | | | | | |
| 310406(28A5) to 310408(28A7) | | 04 | R | 08 address parameter – Same as above 01 address | | | | | |
| 310409(28A8) to 310411(28AA) | | 04 | R | 09 address parameter – Same as above 01 address | | | | | |
| 310412(28AB) to 310414(28AD) | | 04 | R | 10 address parameter – Same as above 01 address | | | | | |
| 310415(28AE) to 310417(28B0) | | 04 | R | 11 address parameter – Same as above 01 address | | | | | |
| 310418(28B1) to 310420(28B3) | | 04 | R | 12 address parameter – Same as above 01 address | | | | | |
| 310421(28B4) to 310423(28B6) | | 04 | R | 13 address parameter – Same as above 01 address | | | | | |
| 310424(28B7) to 310426(28B9) | | 04 | R | 14 address parameter – Same as above 01 address | | | | | |
| 310427(28BA) to 310429(28BC) | | 04 | R | 15 address parameter – Same as above 01 address | | | | | |
| 310430(28BD) to 310432(28BF) | | 04 | R | 16 address parameter – Same as above 01 address | | | | | |
| 310433(28C0) | 310433(28C0) | 04 | R | CT1_Heater Current | CT1 heater current value monitoring | 0 to 500 (0.0 to 50.0) | A | - | |

### 2.5.5.4 Read holding register (Func 03) / Preset single register (Func 06) / Preset multiple registers (Func 16)

| No(Address) TMH2 | TMH4 | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| 401001(03E8) | | 03/06/16 | R/W | CH1 SV | Temp. set value | SV Low Limit to SV High Limit | ℃/℉, Digit | 0 | Monitoring group |
| 401002(03E9) | | 03/06/16 | R/W | CH1 Heating_MV | Heating MV | 0 to 1000 (0.0 to 100.0) | % | - | |
| 401003(03EA) | | 03/06/16 | R/W | CH1 Cooling_MV | Cooling MV | 0 to 1000 (0.0 to 100.0) | % | - | |
| 401004(03EB) | | 03/06/16 | R/W | CH1 Auto-Manual Control | Auto/Manual control | 0: AUTO, 1: MANUAL | - | 0: AUTO | |
| 401005(03EC) to 401030(0405) | | 03/06/16 | R/W | Reserved | | | | | |
| 401031(0406) | | 03/06/16 | R/W | CH1 RUN_STOP | Control output RUN/STOP | 0: RUN, 1: STOP | - | 0:RUN | Operating (Control Operation) group |
| 401032(0407) | | 03/06/16 | R/W | CH1 Multi SV No | Multi SV No. | 0: SV-0, 1: SV-1 2: SV-2, 3: SV-3 | - | 0:SV-0 | |
| 401033(0408) | | 03/06/16 | R/W | CH1 SV-0 Setting Value | SV-0 set value | SV Low Limit to SV High Limit | ℃/℉, Digit | 0 | |
| 401034(0409) | | 03/06/16 | R/W | CH1 SV-1 Setting Value | SV-1 set value | | | | |
| 401035(040A) | | 03/06/16 | R/W | CH1 SV-2 Setting Value | SV-2 set value | | | | |
| 401036(040B) | | 03/06/16 | R/W | CH1 SV-3 Setting Value | SV-3 set value | | | | |
| 401037(040C) to 401060(0423) | | 03/06/16 | R/W | Reserved | | | | | |
| 401061(0424) | | 03/06/16 | R/W | CH1 Auto-Tuning Execute | Auto-tuning ON/OFF | 0: OFF, 1: ON | - | 0: OFF | Control Operation group |
| 401062(0425) | | 03/06/16 | R/W | CH1 Heating_Proportional Band | Heating, proportional band | Temp. H, Analog: 1 to 999 Temp. L: 1 to 9999 (0.1 to 999.9) | ℃/℉, %F.S | 10 | |
| 401063(0426) | | 03/06/16 | R/W | CH1 Cooling_Proportional Band | Cooling, proportional band | | | | |
| 401064(0427) | | 03/06/16 | R/W | CH1 Heating_Integral Time | Heating, integral time | 0 to 9999 | Sec | 0 | |
| 401065(0428) | | 03/06/16 | R/W | CH1 Cooling_Integral Time | Cooling, integral time | | | | |
| 401066(0429) | | 03/06/16 | R/W | CH1 Heating_Derivation Time | Heating, derivation time | 0 to 9999 | Sec | 0 | |
| 401067(042A) | | 03/06/16 | R/W | CH1 Cooling_Derivation Time | Cooling, derivation time | | | | |
| 401068(042B) | | 03/06/16 | R/W | CH1 Dead_Overlap band | Heating&Cooling control, dead band | Temp. H, Analog: -999 to 999 Temp. L: -9999 to 9999 (-999.9 to 999.9) | ℃/℉, %F.S | 0 | |

| No(Address) | | Func | R/W | Parameter | Description | Set range | | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | | |
| 401069(042C) | | 03/06/16 | R/W | CH1 Manual Reset | P/PD control, manual reset | 0 to 1000 (0.0 to 100.0) | | % | 500(50.0) | |
| 401070(042D) | | 03/06/16 | R/W | CH1 Heating_ON Hysteresis | Heating, hysteresis | Temp. H, Analog: 1 to 100 Temp. L: 1 to 1000 (0.1 to 100.0) | | ℃/℉, Digit | 2 | |
| 401071(042E) | | 03/06/16 | R/W | CH1 Heating_OFF Offset | Heating, OFF offset | Temp. H, Analog: 0 to 100 Temp. L: 0 to 1000 (0 to 100.0) | | ℃/℉, Digit | 0 | |
| 401072(042F) | | 03/06/16 | R/W | CH1 Cooling_ON Hysteresis | Cooling, hysteresis | Temp. H, Analog: 1 to 100 Temp. L: 1 to 1000 (0.1 to 100.0) | | ℃/℉, Digit | 2 | |
| 401073(0430) | | 03/06/16 | R/W | CH1 Cooling_OFF Offset | Cooling, OFF offset | Temp. H, Analog: 0 to 100 Temp. L: 0 to 1000 (0 to 100.0) | | ℃/℉, Digit | 0 | |
| 401074(0431) | | 03/06/16 | R/W | CH1 MV Low Limit | MV low-limit set value | Heating, Cooling control | 0.0 to MV High Limit - 0.1 | % | 0 (0.0) | Control Operation group |
| | | | | | | H&C control | -100.0 to 0.0 | | -100(-100.0) | |
| 400475(01DA) | | 03/06/16 | R/W | CH1 MV High Limit | MV high-limit set value | Heating, Cooling control | MV Low Limit + 0.1 to 100.0 | % | 1000(100.0) | |
| | | | | | | H&C control | 0 to 100.0 | | 1000(100.0) | |
| 401076(0433) | | 03/06/16 | R/W | CH1 MV rate limit | MV change rate limit | 0: OFF, 1 to 1000 (0.1 to 100.0) | | %/SEC | 0: OFF | |
| 401077(0434) | | 03/06/16 | R/W | CH1 Ramp_Up Rate | Ramp up rate | 0 to 9999 | | ℃/℉, Digit | 0 | |
| 401078(0435) | | 03/06/16 | R/W | CH1 Ramp_Down Rate | Ramp down rate | 0 to 9999 | | ℃/℉, Digit | 0 | |
| 401079(0436) | | 03/06/16 | R/W | CH1 Ramp Time Unit | Ramp time unit | 0: SEC, 1: MIN, 2: HOUR | | - | 1: MIN | |
| 401080(0437) | | 03/06/16 | R/W | CH1 PV transfer | Auto control, SV selection | 0: OFF, 1: ON | | - | 0: OFF | |
| 401081(0438) | | 03/06/16 | R/W | CH1 Soft start time | Soft start time | 0: OFF, 1 to 9999 | | SEC | 0: OFF | |
| 401082(0439) | | 03/06/16 | R/W | CH1 Soft start time unit | Soft start time unit | 0:SEC, 1:MIN, 2:HOUR | | - | 0: SEC | |
| 401083(043A) | | 03/06/16 | R/W | CH1 Soft start MV | Soft start MV | 1 to 1000 (0.1 to 100.0) | | % | 1000(100.0) | |
| 401084(043B) | | 03/06/16 | R/W | CH1 Operating Type | Control output operation mode | 0: HEATING, 1: COOLING, 2: H&C | | - | 0: HEATING | |
| 401085(043C) | | 03/06/16 | R/W | CH1 Control Method | Temperature control method | Heating, Cooling control | 0: PID, 1: ON/OFF | - | 0: PID | |
| | | | | | | H&C control | 0: PID-PID, 1: PID-ON/OFF, 2: ON/OFF-PID, | - | 0: PID-PID | |

| No(Address) | | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | |
| | | | | | | 3: ON/OFF-ON/OFF | | | |
| 401086(043D) | | 03/06/16 | R/W | CH1 Auto-Tuning Type | Auto-tuning mode | 0: TUNE1, 1: TUNE2 | - | 0: TUNE1 | |
| 401087(043E) | | 03/06/16 | R/W | CH1 Heating_Control Time | Heating, control cycle | 1 to 1200(0.1 to 120.0) 10 to 1200(1.0 to 120.0) | Sec | RY: 200(20.0), SSR: 20(2.0) | |
| 401088(043F) | | 03/06/16 | R/W | CH1 Cooling_Control Time | Cooling, control cycle | | | | |
| 401089(0440) | | 03/06/16 | R/W | CH1 Heating_OUTPUT(SSR_CURR) TYPE | Heating, control output type | 0: SSR, 1: CURRENT | - | 1: CURRENT | |
| 401090(0441) | | 03/06/16 | R/W | CH1 Heating_CURRENT OUTPUT RANGE | Heating, current output range | 0: 4-20, 1: 0-20 | mA | 0: 4-20 | |
| 401091(0442) | | 03/06/16 | R/W | CH1 Cooling_OUTPUT(SSR_CURR) TYPE | Cooling, control output type | 0: SSR, 1: CURRENT | - | 1: CURRENT | |
| 401092(0443) | | 03/06/16 | R/W | CH1 Cooling_CURRENT OUTPUT RANGE | Cooling, current output range | 0: 4-20, 1: 0-20 | mA | 0: 4-20 | |
| 401093(0444) to 401120(045F) | | 03/06/16 | R/W | Reserved | | | | | |
| 401121(0460) | | 03/06/16 | R/W | CH1 Input Type | Input type | 0: K(CA).H to 32: 4 to 20mA | - | 0: K(CA).H | Initial Setting group |
| 401122(0461) | | 03/06/16 | R/W | CH1 Unit | Sensor temp. unit | 0: ℃, 1: ℉ | - | ℃ | |
| 401123(0462) | | 03/06/16 | R/W | CH1 Low-limit Input Value | Analog low-limit input value | Min. operational value to High-limit Input Value Settings – F.S. 10% | - | 0 | |
| 401124(0463) | | 03/06/16 | R/W | CH1 High-limit Input Value | Analog high-limit input value | Low-limit Input Value Settings + F.S. 10% to Max. operational value | - | 1000 | |
| 401125(0464) | | 03/06/16 | R/W | CH1 Decimal Point | Scale decimal point | 0: 0, 1: 0.0, 2: 0.00, 3: 0.000 | - | 1:00.0 | |
| 401126(0465) | | 03/06/16 | R/W | CH1 Low-limit Scale Value | Scale low-limit display value | -9999 to 9999 | Digit | 0 | |
| 401127(0466) | | 03/06/16 | R/W | CH1 High-limit Scale Value | Scale high-limit display value | -9999 to 9999 | Digit | 1000 | |
| 401128(0467) | | 03/06/16 | R/W | CH1 Analog Input Unit | Analog input type unit | 0: ℃, 1: ℉, 2: % | - | 0: ℃ | |
| 401129(0468) | | 03/06/16 | R/W | CH1 Input Func | Analog input special function | 0: LINEAR, 1: ROOT, 2: SQUARE | - | 0: LINEAR | |
| 401130(0469) | | 03/06/16 | R/W | CH1 Root Low Cut | Root function low cut point | -9999 to 9999 | Digit | 0 | |
| 401131(046A) | | 03/06/16 | R/W | CH1 Input Bias | Input correction | -9999 to 9999 | Digit | 0 | |

| No(Address) TMH2 | TMH4 | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| 401132(046B) | | 03/06/16 | R/W | CH1 Input Digital Filter | Input digital filter | 1 to 1200 (0.1 to 120.0) | Sec | 1(0.1) | |
| 401133(046C) | | 03/06/16 | R/W | CH1 SV Low Limit | SV Low Limit set value | Temp.: Sensor input low-limit value to SV High Limit − 1Digit Analog: Low-limit scale to SV High Limit − 1Digit | ℃/℉, % F.S | -200 | |
| 401134(046D) | | 03/06/16 | R/W | CH1 SV High Limit | SV High Limit set value | Temp.: SV Low Limit + 1Digit to Sensor input high-limit Analog: SV Low Limit + 1Digit to High-limit scale value | ℃/℉, % F.S | 1350 | |
| 401135(046E) | | 03/06/16 | R/W | CH1 RSV Target Address | RSV Master address | 0, 1 to 48 | - | 0 | |
| 401136(046F) | | 03/06/16 | R/W | CH1 RSV Target CH | RSV Master channel | 0: CH1, 1: CH2, 2: CH3, 3: CH4 | - | CH□:CH□ | |
| 401137(0470) | | 03/06/16 | R/W | CH1 RSV Target | RSV Master channel target | 0: OFF, 1: PV, 2: SV | - | 0: OFF | |
| 401138(0471) | | 03/06/16 | R/W | CH1 SV Tracking | SV tracking | 0: OFF, 1: ON | - | 0: OFF | |
| 401139(0472) | | 03/06/16 | R/W | CH1 TUNE2 DV | TUNE2 mode deviation | -9999 to 9999 | Digit | 0 | |
| 401140(0473) to 401150(047D) | | 03/06/16 | R/W | Reserved | | | | | |
| 401151(047E) | | 03/06/16 | R/W | CH1 Multi SV | Multi SV No. | 0: 1EA, 1: 2EA, 2: 4EA | - | 0: 1EA | Control Setting group |
| 401152(047F) | | 03/06/16 | R/W | CH1 Initial Manual MV | Baseline MV for manual control | 0: AUTO-MV, 1: PRESET-MV | - | 0: AUTO-MV | |
| 401153(0480) | | 03/06/16 | R/W | CH1 Preset Manual MV | Manual control, initial MV | Heating, Cooling control: 0 to 1000 (0.0 to 100.0), Heating&Cooling control: -1000(-100.0) to 1000(100.0) | % | 0 | |
| 401154(0481) | | 03/06/16 | R/W | CH1 Sensor Error MV | Sensor error, MV | Heating, Cooling control, PID: 0 to 1000 (0.0 to 100.0), ON/OFF: 0(OFF), 1000(ON), Heating&Cooling control, PID: -1000 to 1000(-100.0 to 100.0), ON/OFF: -1000(cooling ON), 0(OFF), 1000(heating ON) | % | 0 | |
| 401155(0482) | | 03/06/16 | R/W | CH1 Stop MV | STOP, control output | Heating, Cooling control, PID: 0 to 1000 (0.0 to 100.0), ON/OFF: 0(OFF), 1000(ON) Heating&Cooling control, PID: -1000 to 1000(-100.0 to 100.0), ON/OFF: -1000(cooling ON), 0(OFF), 1000(heating ON) | % | 0 | |
| 401156(0483) | | 03/06/16 | R/W | CH1 Stop Alarm Out | Stop, alarm output | 0: Continue, 1: OFF | - | 0: Continue | |

| No(Address) | | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | |
| 401156(0483) to 401180(049B) | | 03/06/16 | R/W | Reserved | | | | | |
| 401181(049C) | | 03/06/16 | R/W | CH1 Event Mode 1 | CH1 alarm operation mode 1 | 0: OFF, 1: AL-1, 2: AL-2, 3: AL-3, 4: AL-4, 5: AL-5, 6: AL-6, 7: LBA, 8: SBA, 9: HBA | - | 0: AL-1 | |
| 401182(049D) | | 03/06/16 | R/W | CH1 Event Mode 2 | CH1 alarm operation mode 2 | | | | |
| 401183(049E) | | 03/06/16 | R/W | CH1 Event Mode 3 | CH1 alarm operation mode 3 | | | | |
| 401184(049F) | | 03/06/16 | R/W | CH1 Event Mode 4 | CH1 alarm operation mode 4 | | | | |
| 401185(04A0) | | 03/06/16 | R/W | CH1 Event Type 1 | CH1 alarm option 1 | 0: AL-A, 1: AL-B, 2: AL-C, 3: AL-D, 4: AL-E, 5: AL-F | - | 0: AL-A | |
| 401186(04A1) | | 03/06/16 | R/W | CH1 Event Type 2 | CH1 alarm option 2 | | | | |
| 401187(04A2) | | 03/06/16 | R/W | CH1 Event Type 3 | CH1 alarm option 3 | | | | |
| 401188(04A3) | | 03/06/16 | R/W | CH1 Event Type 4 | CH1 alarm option 4 | | | | |
| 401189(04A4) | | 03/06/16 | R/W | CH1 Event Low 1 | CH1 alarm low-limit set value 1 | Deviation alarm: -F.S to F.S, Absoulte alarm: Within the dedicated input type | - | 1550 | Alarm Setting group |
| 401190(04A5) | | 03/06/16 | R/W | CH1 Event High 1 | CH1 alarm high-limit set value 1 | | | | |
| 401191(04A6) | | 03/06/16 | R/W | CH1 Event Low 2 | CH1 alarm low-limit set value 2 | | | | |
| 401192(04A7) | | 03/06/16 | R/W | CH1 Event High 2 | CH1 alarm high-limit set value 2 | | | | |
| 401193(04A8) | | 03/06/16 | R/W | CH1 Event Low 3 | CH1 alarm low-limit set value 3 | | | | |
| 401194(04A9) | | 03/06/16 | R/W | CH1 Event High 3 | CH1 alarm high-limit set value 3 | | | | |
| 401195(04AA) | | 03/06/16 | R/W | CH1 Event Low 4 | CH1 alarm low-limit set value 4 | | | | |
| 401196(04AB) | | 03/06/16 | R/W | CH1 Event High 4 | CH1 alarm high-limit set value 4 | | | | |
| 401197(04AC) | | 03/06/16 | R/W | CH1 Event Hysteresis 1 | CH1 alarm hysteresis 1 | Temp. H, Analog: 1 to 100, Temp. L: 1 to 1000 (0.1 to 100.0) | ℃/℉, Digit | 1 | Alarm Setting group |
| 401198(04AD) | | 03/06/16 | R/W | CH1 Event Hysteresis 2 | CH1 alarm hysteresis 2 | | | | |
| 401199(04AE) | | 03/06/16 | R/W | CH1 Event Hysteresis 3 | CH1 alarm hysteresis 3 | | | | |
| 401200(04AF) | | 03/06/16 | R/W | CH1 Event Hysteresis 4 | CH1 alarm hysteresis 4 | | | | |
| 401201(04B0) | | 03/06/16 | R/W | CH1 Alarm NO/NC | CH1 alarm output contact type | 0: NO, 1: NC | - | 0: NO | |

| No(Address) | | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | |
| 401202(04B1) | | 03/06/16 | R/W | CH1 Event ON Delay Time 1 | CH1 alarm ON delay time 1 | 0 to 3600 | Sec | 0 | |
| 401203(04B2) | | 03/06/16 | R/W | CH1 Event OFF Delay Time 1 | CH1 alarm OFF delay time 1 | | | | |
| 401204(04B3) | | 03/06/16 | R/W | CH1 Event ON Delay Time 2 | CH1 alarm ON delay time 2 | | | | |
| 401205(04B4) | | 03/06/16 | R/W | CH1 Event OFF Delay Time 2 | CH1 alarm OFF delay time 2 | | | | |
| 401206(04B5) | | 03/06/16 | R/W | CH1 Event ON Delay Time 3 | CH1 alarm ON delay time 3 | | | | |
| 401207(04B6) | | 03/06/16 | R/W | CH1 Event OFF Delay Time 3 | CH1 alarm OFF delay time 3 | | | | |
| 401208(04B7) | | 03/06/16 | R/W | CH1 Event ON Delay Time 4 | CH1 alarm ON delay time 4 | | | | |
| 401209(04B8) | | 03/06/16 | R/W | CH1 Event OFF Delay Time 4 | CH1 alarm OFF delay time 4 | | | | |
| 401210(04B9) | | 03/06/16 | R/W | CH1 Alarm Output Taget1 | CH1 alarm output target address1 | 0, 1: 49 to 16: 64 | - | 0 | |
| 401211(04BA) | | 03/06/16 | R/W | CH1 Alarm Output Taget2 | CH1 alarm output target address2 | | | | |
| 401212(04BB) | | 03/06/16 | R/W | CH1 Alarm Output Taget3 | CH1 alarm output target address3 | | | | |
| 401213(04BC) | | 03/06/16 | R/W | CH1 Alarm Output Taget4 | CH1 alarm output target address4 | | | | |
| 401214(04BD) | | 03/06/16 | R/W | CH1 Alarm Output Taget1 CH | CH1 alarm output target channel1 | 0: Alarm1 to 7: Alarm8 | - | 0: Alarm1 | |
| 401215(04BE) | | 03/06/16 | R/W | CH1 Alarm Output Taget2 CH | CH1 alarm output target channel2 | | | | |
| 401216(04BF) | | 03/06/16 | R/W | CH1 Alarm Output Taget3 CH | CH1 alarm output target channel3 | | | | |
| 401217(04C0) | | 03/06/16 | R/W | CH1 Alarm Output Taget4 CH | CH1 alarm output target channel4 | | | | |
| 401218(04C1) | | 03/06/16 | R/W | CH1 LBA Time 1 | CH1 LBA monitoring time 1 | 0 to 9999 | Sec | 0 | |
| 401219(04C2) | | 03/06/16 | R/W | CH1 LBA Band 1 | CH1 LBA detection band 1 | Temp. H: 0 to 999, Temp. L: 0 to 9999 (0.0 to 999.9), Analog: 0 to 1000 (0.0 to 100.0) | ℃/℉, %F.S | 2 | |
| 401220(04C3) | | 03/06/16 | R/W | CH1 LBA Time 2 | CH1 LBA monitoring time 2 | 0 to 9999 | Sec | 0 | |
| 401221(04C4) | | 03/06/16 | R/W | CH1 LBA Band 2 | CH1 LBA detection band 2 | Temp. H: 0 to 999, Temp. L: 0 to 9999 (0.0 to 999.9), Analog: 0 to 1000 (0.0 to 100.0) | ℃/℉, %F.S | 2 | |

| No(Address) | | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | |
| 401222(04C5) | | 03/06/16 | R/W | CH1 LBA Time 3 | CH1 LBA monitoring time 3 | 0 to 9999 | Sec | 0 | |
| 401223(04C6) | | 03/06/16 | R/W | CH1 LBA Band 3 | CH1 LBA detection band 3 | Temp. H: 0 to 999, Temp. L: 0 to 9999 (0.0 to 999.9), Analog: 0 to 1000 (0.0 to 100.0) | ℃/℉, %F.S | 2 | |
| 401224(04C7) | | 03/06/16 | R/W | CH1 LBA Time 4 | CH1 LBA monitoring time 4 | 0 to 9999 | Sec | 0 | |
| 401225(04C8) | | 03/06/16 | R/W | CH1 LBA Band 4 | CH1 LBA 1 detection band 4 | Temp. H: 0 to 999, Temp. L: 0 to 9999 (0.0 to 999.9), Analog: 0 to 1000 (0.0 to 100.0) | ℃/℉, %F.S | 2 | |
| 401226(04C9) | | 03/06/16 | R/W | CH1 CT Target 1 | CH1 CT address 1 | 0, 1: 65 to 16: 80 | - | 0 | |
| 401227(04CA) | | 03/06/16 | R/W | CH1 CT Target 2 | CH1 CT address 2 | | | | |
| 401228(04CB) | | 03/06/16 | R/W | CH1 CT Target 3 | CH1 CT address 3 | | | | |
| 401229(04CC) | | 03/06/16 | R/W | CH1 CT Target 4 | CH1 CT address 4 | | | | |
| 401230(04CD) | | 03/06/16 | R/W | CH1 CT Input 1 | CH1 CT input 1 | 0: CT1 to 7: CT8 | - | CH□:CT □ | |
| 401231(04CE) | | 03/06/16 | R/W | CH1 CT Input 2 | CH1 CT input 2 | | | | |
| 401232(04CF) | | 03/06/16 | R/W | CH1 CT Input 3 | CH1 CT input 3 | | | | |
| 401233(04D0) | | 03/06/16 | R/W | CH1 CT Input 4 | CH1 CT input 4 | | | | |
| 401234(04D1) to 401240(04D7) | | 03/06/16 | R/W | Reserved | | | | | |
| 401241(04D8) | | 03/06/16 | R/W | CH1 DI Target | CH1 DI target address | 0, 1: 49 to 16: 60 | - | 0 | Option (Digital Input Setting) group |
| 401242(04D9) | | 03/06/16 | R/W | CH1 Digital Input 1 Func | CH1 DI-1 input terminal | 0: OFF, 1: STOP, 2: AL-RESET, 3: Manual, 4: Multi-SV, 5: Remote SV | - | 0: OFF | |
| 401243(04DA) | | 03/06/16 | R/W | CH1 Digital Input 2 Func | CH1 DI-2 input terminal | | | | |
| 401244(04DB) | | 03/06/16 | R/W | CH1 Digital Input 3 Func | CH1 DI-3 input terminal | | | | |
| 401245(04DC) | | 03/06/16 | R/W | CH1 Digital Input 4 Func | CH1 DI-4 input terminal | | | | |
| 401246(04DD) | | 03/06/16 | R/W | CH1 Digital Input 5 Func | CH1 DI-5 input terminal | | | | |
| 401247(04DE) | | 03/06/16 | R/W | CH1 Digital Input 6 Func | CH1 DI-6 input terminal | | | | |
| 401248(04DF) | | 03/06/16 | R/W | CH1 Digital Input 7 Func | CH1 DI-7 input terminal | | | | |
| 401249(04E0) | | 03/06/16 | R/W | CH1 Digital Input 8 Func | CH1 DI-8 input terminal | | | | |
| 401250(04E0) to 401270(04F5) | | 03/06/16 | R/W | Reserved | | | | | |

| No(Address) | | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | | |
| 401271(04F6) | | 03/06/16 | R/W | Bit Per Second | Communication speed | 0: 4800, 1: 9600, 2: 19200, 3: 38400, 4: 115200 | bps | 1: 9600 | Common (common parameter setting) group |
| 401272(04F7) | | 03/06/16 | R/W | Parity Bit | Communication parity bit | 0: NONE, 1: EVEN, 2: ODD | - | 0: NONE | |
| 401273(04F8) | | 03/06/16 | R/W | Stop Bit | Communication stop bit | 0: 1, 1: 2 | bit | 1:02 | |
| 401274(04F9) | | 03/06/16 | R/W | Response Waiting Time | Communication response wait time | 5 to 99 | ms | 20 | |
| 401275(04FA) | | 03/06/16 | R/W | Communication Write | Communication writing enable/disable | 0: ENABLE, 1: DISABLE | - | 0: ENABLE | |
| 401276(04FB) | | 03/06/16 | R/W | Parameter Initialize | Parameter reset | 0: NO, 1: YES | - | 0: NO | |
| 401277(04FC) | | 03/06/16 | R/W | Alarm1 Logic | Alarm1 alarm output logic operation | 0: OR, 1: AND | - | 0: OR | |
| 401278(04FD) | | 03/06/16 | R/W | Alarm2 Logic | Alarm2 alarm output logic operation | | | | |
| 401279(04FE) | | 03/06/16 | R/W | Alarm3 Logic | Alarm3 alarm output logic operation | | | | |
| 401280(04FF) | | 03/06/16 | R/W | Alarm4 Logic | Alarm4 alarm output logic operation | | | | |
| 401281(0500) to 401500(05DB) | | 03/06/16 | R/W | Reserved | | | | | |
| 401501(05DC) to 402000(07CF) | | 03/06/16 | R/W | CH2 Parameter – Same as above CH1 | | | | | |
| 402001(07D0) to 402500(09C3) | | 03/06/16 | R/W | CH3 Parameter – Same as above CH1 | | | | | |
| 402501(09C4) to 403000(0BB7) | | 03/06/16 | R/W | CH4 Parameter – Same as above CH1 | | | | | |

※ When address 02 to 16 setting, parameter address assignment

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 403001(0BB8) to 405000(1387) | 03/06/16 | R/W | 02 address parameter – Same as above 01 address | | | | | |
| 405001(1388) to 407000(1B57) | 03/06/16 | R/W | 03 address parameter – Same as above 01 address | | | | | |
| 407001(1B58) to 409000(2327) | 03/06/16 | R/W | 04 address parameter – Same as above 01 address | | | | | |
| 409001(2328) to 411000(2AF7) | 03/06/16 | R/W | 05 address parameter – Same as above 01 address | | | | | |
| 411001(2AF8) to 413000(32C7) | 03/06/16 | R/W | 06 address parameter – Same as above 01 address | | | | | |
| 413001(32C8) to 415000(3A97) | 03/06/16 | R/W | 07 address parameter – Same as above 01 address | | | | | |
| 415001(3A98) to 417000(4267) | 03/06/16 | R/W | 08 address parameter – Same as above 01 address | | | | | |
| 417001(4268) to 419000(4A37) | 03/06/16 | R/W | 09 address parameter – Same as above 01 address | | | | | |
| 419001(4A38) to 421000(5207) | 03/06/16 | R/W | 10 address parameter – Same as above 01 address | | | | | |
| 421001(5208) to 423000(59D7) | 03/06/16 | R/W | 11 address parameter – Same as above 01 address | | | | | |

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 423001(59D8) to 425000(61A7) | 03/06/16 | R/W | 12 address parameter – Same as above 01 address | | | | | |
| 425001(61A8) to 427000(6977) | 03/06/16 | R/W | 13 address parameter – Same as above 01 address | | | | | |
| 427001(6978) to 429000(7147) | 03/06/16 | R/W | 14 address parameter – Same as above 01 address | | | | | |
| 429001(7148) to 431000(7917) | 03/06/16 | R/W | 15 address parameter – Same as above 01 address | | | | | |
| 431001(7918) to 433000(80E7) | 03/06/16 | R/W | 16 address parameter – Same as above 01 address | | | | | |

## 2.5.6 TMHA

### 2.5.6.1 Read input status (Func 02)

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 100451(01C2) | 02 | R | - | CH1 LED(transmission output1) | 0: OFF, 1: ON | - | - | |
| 100452(01C3) | 02 | R | - | CH2 LED(transmission output2) | | | | |
| 100453(01C4) | 02 | R | - | CH3 LED(transmission output3) | | | | |
| 100454(01C5) | 02 | R | - | CH4 LED(transmission output4) | | | | |
| 100455(01C6) to 100458(01C9) | 02 | R | 34 address parameter – Same as above 33 address | | | | | |
| 100459(01CA) to 100462(01CD) | 02 | R | 35 address parameter – Same as above 33 address | | | | | |
| 100463(01CE) to 100466(01D1) | 02 | R | 36 address parameter – Same as above 33 address | | | | | |
| 100467(01D2) to 100470(01D5) | 02 | R | 37 address parameter – Same as above 33 address | | | | | |
| 100471(01D6) to 100474(01D9) | 02 | R | 38 address parameter – Same as above 33 address | | | | | |
| 100475(01DA) to 100478(01DD) | 02 | R | 39 address parameter – Same as above 33 address | | | | | |
| 100479(01DE) to 100482(01E1) | 02 | R | 40 address parameter – Same as above 33 address | | | | | |
| 100483(01E2) to 100486(01E5) | 02 | R | 41 address parameter – Same as above 33 address | | | | | |
| 100487(01E6) to 100490(01E9) | 02 | R | 42 address parameter – Same as above 33 address | | | | | |
| 100491(01EA) to 100494(01ED) | 02 | R | 43 address parameter – Same as above 33 address | | | | | |
| 100495(01EE) to 100498(01F1) | 02 | R | 44 address parameter – Same as above 33 address | | | | | |
| 100499(01F2) to 100502(01F5) | 02 | R | 45 address parameter – Same as above 33 address | | | | | |
| 100503(01F6) to 100506(01F9) | 02 | R | 46 address parameter – Same as above 33 address | | | | | |
| 100507(01FA) to 100510(01FD) | 02 | R | 47 address parameter – Same as above 33 address | | | | | |
| 100511(01FE) to 100514(0201) | 02 | R | 48 address parameter – Same as above 33 address | | | | | |
| 100515(0202) to 100550(0225) | 02 | R | Reserved | | | | | |

### 2.5.6.2        *Read input register (Func 04)*

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 300651(028A) | 04 | R | - | Product number H | - | - | 0 | |
| 300652(028B) | 04 | R | - | Product number L | - | - | 0 | |
| 300653(028C) | 04 | R | - | Hardware version | - | - | 100 | |
| 300654(028D) | 04 | R | - | Software version | - | - | 100 | |
| 300655(028E) | 04 | R | - | Model name 1 | - | - | "TM" | Product name |
| 300656(028F) | 04 | R | - | Model name 2 | - | - | "HA" | Option |
| 300657(0290) | 04 | R | - | Model name 3 | | - | "-4" | transmission output |
| 300658(0291) | 04 | R | - | Model name 4 | - | - | "2A" | Power voltage/output |
| 300659(0292) | 04 | R | - | Model name 5 | - | - | "E" | Structure |
| 300660(0293) | 04 | R | - | Model name 6 | - | - | "  " | |
| 300661(0294) | 04 | R | - | Model name 7 | - | - | "  " | |
| 300662(0295) | 04 | R | - | Model name 8 | - | - | "  " | |
| 300663(0296) | 04 | R | - | Model name 9 | - | - | "  " | |
| 300664(0297) | 04 | R | - | Model name 10 | - | - | "  " | |
| 300665(0298) | 04 | R | Reserved | | | | | |
| 300666(0299) | 04 | R | Reserved | | | | | |
| 300667(029A) | 04 | R | Reserved | | | | | |
| 300668(029B) | 04 | R | - | Coil status Start Address | - | - | 0 | |
| 300669(029C) | 04 | R | - | Coil status Quantity | - | - | 0 | |
| 300670(029D) | 04 | R | - | Input status Start Address | - | - | 0 | |
| 300671(029E) | 04 | R | - | Input status Quantity | - | - | 0 | |
| 300672(029F) | 04 | R | - | Holding Register Start Address | - | - | 0 | |
| 300673(02A0) | 04 | R | - | Holding Register Quantity | - | - | 0 | |
| 300674(02A1) | 04 | R | - | Input Register Start Address | - | - | 0 | |
| 300675(02A2) | 04 | R | - | Input Register Quantity | - | - | 0 | |
| 300676(02A3) | 04 | R | - | Channel Quantity | - | - | 0 | |
| 300677(02A4) to 300702(02BD) | 04 | R | 34 address parameter – Same as above 33 address | | | | | |
| 300703(02BE) to 300728(02D7) | 04 | R | 35 address parameter – Same as above 33 address | | | | | |
| 300729(02D8) to 300754(02F1) | 04 | R | 36 address parameter – Same as above 33 address | | | | | |
| 300755(02F2) to 300780(030B) | 04 | R | 37 address parameter – Same as above 33 address | | | | | |
| 300781(030C) to 300806(0325) | 04 | R | 38 address parameter – Same as above 33 address | | | | | |
| 300807(0326) to 300832(033F) | 04 | R | 39 address parameter – Same as above 33 address | | | | | |
| 300833(0340) to 300858(0359) | 04 | R | 40 address parameter – Same as above 33 address | | | | | |
| 300859(035A) to 300884(0373) | 04 | R | 41 address parameter – Same as above 33 address | | | | | |
| 300885(0374) to 300910(038D) | 04 | R | 42 address parameter – Same as above 33 address | | | | | |
| 300911(038E) to 300936(03A7) | 04 | R | 43 address parameter – Same as above 33 address | | | | | |
| 300937(03A8) to 300962(03C1) | 04 | R | 44 address parameter – Same as above 33 address | | | | | |

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 300963(03C2) to 300988(03DB) | 04 | R | 45 address parameter – Same as above 33 address | | | | | |
| 300989(03DC) to 301014(03F5) | 04 | R | 46 address parameter – Same as above 33 address | | | | | |
| 301015(03F6) to 301040(040F) | 04 | R | 47 address parameter – Same as above 33 address | | | | | |
| 301041(0410) to 301066(0429) | 04 | R | 48 address parameter – Same as above 33 address | | | | | |
| 301067(042A) to 301100(044B) | 04 | R | Reserved | | | | | |
| 310501(2904) | 04 | R | CH1 Present Value | CH1 present value | Sensor input range, 31000: OPEN, 30000: HHHH, -30000: LLLL | °C/°F, Digit | - | |
| 310502(2905) | 04 | R | CH2 Present Value | CH2 present value | | | | |
| 310503(2906) | 04 | R | CH3 Present Value | CH3 present value | | | | |
| 310504(2907) | 04 | R | CH4 Present Value | CH4 present value | | | | |
| 310505(2908) to 310508(290B) | 04 | R | 34 address parameter – Same as above 33 address | | | | | |
| 310509(290C) to 310512(290F) | 04 | R | 35 address parameter – Same as above 33 address | | | | | |
| 310513(2910) to 310516(2913) | 04 | R | 36 address parameter – Same as above 33 address | | | | | |
| 310517(2914) to 310520(2917) | 04 | R | 37 address parameter – Same as above 33 address | | | | | |
| 310521(2918) to 310524(291B) | 04 | R | 38 address parameter – Same as above 33 address | | | | | |
| 310525(291C) to 310528(291F) | 04 | R | 39 address parameter – Same as above 33 address | | | | | |
| 310529(2920) to 310532(2923) | 04 | R | 40 address parameter – Same as above 33 address | | | | | |
| 310533(2924) to 310536(2927) | 04 | R | 41 address parameter – Same as above 33 address | | | | | |
| 310537(2928) to 310540(292B) | 04 | R | 42 address parameter – Same as above 33 address | | | | | |
| 310541(292C) to 310544(292F) | 04 | R | 43 address parameter – Same as above 33 address | | | | | |
| 310545(2930) to 310548(2933) | 04 | R | 44 address parameter – Same as above 33 address | | | | | |
| 310549(2934) to 310552(2937) | 04 | R | 45 address parameter – Same as above 33 address | | | | | |
| 310553(2938) to 310556(293B) | 04 | R | 46 address parameter – Same as above 33 address | | | | | |
| 310557(293C) to 310560(293F) | 04 | R | 47 address parameter – Same as above 33 address | | | | | |
| 310561(2940) to 310564(2943) | 04 | R | 48 address parameter – Same as above 33 address | | | | | |
| 310565(2944) | 04 | R | CH1 Dot | CH1 sensor decimal point | 0: 0, 1: 0.0 | - | 0: 0 | |
| 310566(2945) | 04 | R | CH2 Dot | CH2 sensor decimal point | | | | |
| 310567(2946) | 04 | R | CH3 Dot | CH3 sensor decimal point | | | | |
| 310568(2947) | 04 | R | CH4 Dot | CH4 sensor decimal point | | | | |
| 310569(2948) to 310572(294B) | 04 | R | 34 address parameter – Same as above 33 address | | | | | |
| 310573(294C) to 310576(294F) | 04 | R | 35 address parameter – Same as above 33 address | | | | | |
| 310577(2950) to 310580(2953) | 04 | R | 36 address parameter – Same as above 33 address | | | | | |
| 310581(2954) to 310584(2957) | 04 | R | 37 address parameter – Same as above 33 address | | | | | |
| 310585(2958) to 310588(295B) | 04 | R | 38 address parameter – Same as above 33 address | | | | | |
| 310589(295C) to 310592(295F) | 04 | R | 39 address parameter – Same as above 33 address | | | | | |
| 310593(2960) to 310596(2963) | 04 | R | 40 address parameter – Same as above 33 address | | | | | |
| 310597(2964) to 310600(2967) | 04 | R | 41 address parameter – Same as above 33 address | | | | | |
| 310601(2968) to 310604(296B) | 04 | R | 42 address parameter – Same as above 33 address | | | | | |
| 310605(296C) to 310608(296F) | 04 | R | 43 address parameter – Same as above 33 address | | | | | |
| 310609(2970) to 310612(2973) | 04 | R | 44 address parameter – Same as above 33 address | | | | | |
| 310613(2974) to 310616(2977) | 04 | R | 45 address parameter – Same as above 33 address | | | | | |

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 310617(2978) to 310620(297B) | 04 | R | 46 address parameter – Same as above 33 address | | | | | |
| 310621(297C) to 310624(297F) | 04 | R | 47 address parameter – Same as above 33 address | | | | | |
| 310625(2980) to 310628(2983) | 04 | R | 48 address parameter – Same as above 33 address | | | | | |
| 310629(2984) | 04 | R | CH1 Unit | Sensor temp. unit | 0: ℃, 1: ℉ | - | 0: ℃ | |
| 310630(2985) | 04 | R | CH2 Unit | Sensor temp. unit | | | | |
| 310631(2986) | 04 | R | CH3 Unit | Sensor temp. unit | | | | |
| 310632(2987) | 04 | R | CH4 Unit | Sensor temp. unit | | | | |
| 310633(2988) to 310636(298B) | 04 | R | 34 address parameter – Same as above 33 address | | | | | |
| 310637(298C) to 310640(298F) | 04 | R | 35 address parameter – Same as above 33 address | | | | | |
| 310641(2990) to 310644(2993) | 04 | R | 36 address parameter – Same as above 33 address | | | | | |
| 310645(2994) to 310648(2997) | 04 | R | 37 address parameter – Same as above 33 address | | | | | |
| 310649(2998) to 310652(299B) | 04 | R | 38 address parameter – Same as above 33 address | | | | | |
| 310653(299C) to 310656(299F) | 04 | R | 39 address parameter – Same as above 33 address | | | | | |
| 310657(29A0) to 310660(29A3) | 04 | R | 40 address parameter – Same as above 33 address | | | | | |
| 310661(29A4) to 310664(29A7) | 04 | R | 41 address parameter – Same as above 33 address | | | | | |
| 310665(29A8) to 310668(29AB) | 04 | R | 42 address parameter – Same as above 33 address | | | | | |
| 310669(29AC) to 310672(29AF) | 04 | R | 43 address parameter – Same as above 33 address | | | | | |
| 310673(29B0) to 310676(29B3) | 04 | R | 44 address parameter – Same as above 33 address | | | | | |
| 310677(29B4) to 310680(29B7) | 04 | R | 45 address parameter – Same as above 33 address | | | | | |
| 310681(29B8) to 310684(29BB) | 04 | R | 46 address parameter – Same as above 33 address | | | | | |
| 310685(29BC) to 310688(29BF) | 04 | R | 47 address parameter – Same as above 33 address | | | | | |
| 310689(29C0) to 310692(29C3) | 04 | R | 48 address parameter – Same as above 33 address | | | | | |
| 310693(29C4) | 04 | R | CH1 Analog Output Value | CH1 transmission output value | 40 to 200(4.0 to 20.0) | mA | - | |
| 310694(29C5) | 04 | R | CH2 Analog Output Value | CH2 transmission output value | | | | |
| 310695(29C6) | 04 | R | CH3 Analog Output Value | CH3 transmission output value | | | | |
| 310696(29C7) | 04 | R | CH4 Analog Output Value | CH4 transmission output value | | | | |
| 310697(29C8) to 310700(29CB) | 04 | R | 34 address parameter – Same as above 33 address | | | | | |
| 310701(29CC) to 310704(29CF) | 04 | R | 35 address parameter – Same as above 33 address | | | | | |
| 310705(29D0) to 310708(29D3) | 04 | R | 36 address parameter – Same as above 33 address | | | | | |
| 310709(29D4) to 310712(29D7) | 04 | R | 37 address parameter – Same as above 33 address | | | | | |
| 310713(29D8) to 310716(29DB) | 04 | R | 38 address parameter – Same as above 33 address | | | | | |
| 310717(29DC) to 310720(29DF) | 04 | R | 39 address parameter – Same as above 33 address | | | | | |
| 310721(29E0) to 310724(29E3) | 04 | R | 40 address parameter – Same as above 33 address | | | | | |
| 310725(29E4) to 310728(29E7) | 04 | R | 41 address parameter – Same as above 33 address | | | | | |
| 310729(29E8) to 310732(29EB) | 04 | R | 42 address parameter – Same as above 33 address | | | | | |
| 310733(29EC) to 310736(29EF) | 04 | R | 43 address parameter – Same as above 33 address | | | | | |
| 310737(29F0) to 310740(29F3) | 04 | R | 44 address parameter – Same as above 33 address | | | | | |
| 310741(29F4) to 310744(29F7) | 04 | R | 45 address parameter – Same as above 33 address | | | | | |
| 310745(29F8) to 310748(29FB) | 04 | R | 46 address parameter – Same as above 33 address | | | | | |
| 310749(29FC) to 310752(29FF) | 04 | R | 47 address parameter – Same as above 33 address | | | | | |

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 310753(2A00) to 310756(2A03) | 04 | R | 48 address parameter – Same as above 33 address | | | | | |
| 310757(2A04) | 04 | R | - | CH1 LED(OUT1) | 0: OFF, 1: ON | - | - | Bit 0 |
| | 04 | R | - | CH2 LED(OUT2) | | | | Bit 1 |
| | 04 | R | - | CH3 LED(OUT3) | | | | Bit 2 |
| | 04 | R | - | CH4 LED(OUT4) | | | | Bit 3 |
| 310758(2A05) | 04 | R | 34 address parameter – Same as above 33 address | | | | | |
| 310759(2A06) | 04 | R | 35 address parameter – Same as above 33 address | | | | | |
| 310760(2A07) | 04 | R | 36 address parameter – Same as above 33 address | | | | | |
| 310761(2A08) | 04 | R | 37 address parameter – Same as above 33 address | | | | | |
| 310762(2A09) | 04 | R | 38 address parameter – Same as above 33 address | | | | | |
| 310763(2A0A) | 04 | R | 39 address parameter – Same as above 33 address | | | | | |
| 310764(2A0B) | 04 | R | 40 address parameter – Same as above 33 address | | | | | |
| 310765(2A0C) | 04 | R | 41 address parameter – Same as above 33 address | | | | | |
| 310766(2A0D) | 04 | R | 42 address parameter – Same as above 33 address | | | | | |
| 310767(2A0E) | 04 | R | 43 address parameter – Same as above 33 address | | | | | |
| 310768(2A0F) | 04 | R | 44 address parameter – Same as above 33 address | | | | | |
| 310769(2A10) | 04 | R | 45 address parameter – Same as above 33 address | | | | | |
| 310770(2A11) | 04 | R | 46 address parameter – Same as above 33 address | | | | | |
| 310771(2A12) | 04 | R | 47 address parameter – Same as above 33 address | | | | | |
| 310772(2A13) | 04 | R | 48 address parameter – Same as above 33 address | | | | | |
| 310773(2A14) | 04 | R | Unit Address | Comm. address | 33 to 48 | - | 1 | |
| 310774(2A15) | 04 | R | 34 address parameter – Same as above 33 address | | | | | |
| 310775(2A15) | 04 | R | 35 address parameter – Same as above 33 address | | | | | |
| 310776(2A17) | 04 | R | 36 address parameter – Same as above 33 address | | | | | |
| 310777(2A18) | 04 | R | 37 address parameter – Same as above 33 address | | | | | |
| 310778(2A19) | 04 | R | 38 address parameter – Same as above 33 address | | | | | |
| 310779(2A1A) | 04 | R | 39 address parameter – Same as above 33 address | | | | | |
| 310780(2A1B) | 04 | R | 40 address parameter – Same as above 33 address | | | | | |
| 310781(2A1C) | 04 | R | 41 address parameter – Same as above 33 address | | | | | |
| 310782(2A1D) | 04 | R | 42 address parameter – Same as above 33 address | | | | | |
| 310783(2A1E) | 04 | R | 43 address parameter – Same as above 33 address | | | | | |
| 310784(2A1F) | 04 | R | 44 address parameter – Same as above 33 address | | | | | |
| 310785(2A20) | 04 | R | 45 address parameter – Same as above 33 address | | | | | |
| 310786(2A21) | 04 | R | 46 address parameter – Same as above 33 address | | | | | |
| 310787(2A22) | 04 | R | 47 address parameter – Same as above 33 address | | | | | |
| 310788(2A23) | 04 | R | 48 address parameter – Same as above 33 address | | | | | |
| 310789(2A24) to 310800(2A2F) | 04 | R | Reserved | | | | | |

### 2.5.6.3 Read holding register (Func 03) / Preset single register (Func 06) / Preset multiple registers (Func 16)

| No(Address) | Func | R/W | Parameter | Description | Set range | | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| 433001(80E8) | 03/06/16 | R/W | CH1 Input Type | Input type | 0: K(CA).H to 32: 4 to 20mA | | - | 0: K(CA).H | Initial Setting group |
| 433002(80E9) | 03/06/16 | R/W | CH1 Unit | sensor temp. unit | 0: ℃, 1: ℉ | | - | ℃ | |
| 433003(80EA) | 03/06/16 | R/W | CH1 Low-limit Input Value | Analog low-limit input value | Min. operational value to High-limit Input Value Settings − F.S. 10% | | - | 0000 | |
| 433004(80EB) | 03/06/16 | R/W | CH1 High-limit Input Value | Analog high-limit input value | Low-limit Input Value Settings + F.S. 10% to Max. operational value | | - | 1000 | |
| 433005(80EC) | 03/06/16 | R/W | CH1 Decimal Point | Scale decimal point | 0: 0, 1: 0.0, 2: 0.00, 3: 0.000 | | - | 1: 0.0 | |
| 433006(80ED) | 03/06/16 | R/W | CH1 Low-limit Scale Value | Scale low-limit display value | -9999 to 9999 | | Digit | 0 | |
| 433007(80EE) | 03/06/16 | R/W | CH1 High-limit Scale Value | Scale high-limit display value | -9999 to 9999 | | Digit | 1000 | |
| 433008(80EF) | 03/06/16 | R/W | CH1 Analog Input Unit | Analog input type unit | 0: ℃, 1: ℉, 2: % | | - | 0: ℃ | |
| 433009(80F0) | 03/06/16 | R/W | CH1 Input Func | Analog input special function | 0: LINEAR, 1: ROOT, 2: SQUARE | | - | 0: LINEAR | |
| 433010(80F1) | 03/06/16 | R/W | CH1 Root Low Cut | Root function low cut point | -9999 to 9999 | | Digit | 0 | |
| 433011(80F2) | 03/06/16 | R/W | CH1 Input Bias | Input correction | -9999 to 9999 | | Digit | 0 | |
| 433012(80F3) | 03/06/16 | R/W | CH1 Input Digital Filter | Input digital filter | 1 to 1200 (0.1 to 120.0) | | Sec | 1(0.1) | |
| 433013(80F4) to 433030(8105) | 03/06/16 | R/W | Reserved | | | | | | |
| 433031(8106) | 03/06/16 | R/W | CH1 Analog Output Mode | Analog transmission output | 0: PV, 1: SV, 2: H-MV, 3: C-MV | | - | 0: PV | Control Setting group |
| 433032(8107) | 03/06/16 | R/W | CH1 Analog Output Target | Transmission output target address | 0 to 48 | | - | 0 | |
| 433033(8108) | 03/06/16 | R/W | CH1 Analog Output Target CH | Transmission output target channel | 0: CH1, 1: CH2, 2: CH3, 3: CH4 | | - | CH□:CH□ | |
| 433034(8109) | 03/06/16 | R/W | CH1 Analog Output Range | Current output range | 0: 4-20, 1: 0-20 | | - | 0: 4-20 | |
| 433035(810A) | 03/06/16 | R/W | CH1 Full Scale Low | Transmission output low-limit value | PV | - | -200 | 1350 | |
| | | | | | SV | SV Low Limit to SV High Limit | | | |
| | | | | | H-MV, C-MV | 0 to 1000 (0.0 to 100.0) | | | |
| 433036(810B) | 03/06/16 | R/W | CH1 Full Scale High | Transmission output high-limit value | PV | - | 1350 | -200 | |
| | | | | | SV | SV Low Limit to SV High Limit | | | |
| | | | | | H-MV, C-MV | 0 to 1000 (0.0 to 100.0) | | | |
| 433037(810C) to 433060(8123) | 03/06/16 | R/W | Reserved | | | | | | |
| 433061(8124) | 03/06/16 | R/W | Bit Per Second | Communication speed | 0: 4800, 1: 9600, 2: 19200, 3: 38400, 4: 115200 | | bps | 1: 9600 | Option Setting(Co |

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 433062(8125) | 03/06/16 | R/W | Parity Bit | Communication parity bit | 0: NONE, 1: EVEN, 2: ODD | - | 0: NONE | mmunication Setting) group |
| 433063(8126) | 03/06/16 | R/W | Stop Bit | Communication stop bit | 0: 1, 1: 2 | bit | 1: 2 | |
| 433064(8127) | 03/06/16 | R/W | Response Waiting Time | Communication response wait time | 5 to 99 | ms | 20 | |
| 433065(8128) | 03/06/16 | R/W | Communication Write | Communication writing enable/disable | 0: ENABLE, 1: DISABLE | - | 0: ENABLE | |
| 433066(8129) | 03/06/16 | R/W | Parameter Initialize | Parameter reset | 0: NO, 1: YES | - | 0: NO | |
| 433067(812A) to 433150(817D) | 03/06/16 | R/W | Reserved | | | | | |
| 433151(817E) to 433300(8213) | 03/06/16 | R/W | CH2 Parameter – Same as above CH1 | | | | | |
| 433301(8214) to 433450(82A9) | 03/06/16 | R/W | CH3 Parameter – Same as above CH1 | | | | | |
| 433451(82AA) to 433600(833F) | 03/06/16 | R/W | CH4 Parameter – Same as above CH1 | | | | | |

※ When address 34 to 48 setting, parameter address assignment

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 433601(8240) to 434200(8597) | 03/06/16 | R/W | 34 address parameter – Same as above 33 address | | | | | |
| 434201(8598) to 434800(87EF) | 03/06/16 | R/W | 35 address parameter – Same as above 33 address | | | | | |
| 434801(87F0) to 435400(8A47) | 03/06/16 | R/W | 36 address parameter – Same as above 33 address | | | | | |
| 435401(8A48) to 436000(8C9F) | 03/06/16 | R/W | 37 address parameter – Same as above 33 address | | | | | |
| 436001(8CA0) to 436600(8EF7) | 03/06/16 | R/W | 38 address parameter – Same as above 33 address | | | | | |
| 436601(8EF8) to 437200(914F) | 03/06/16 | R/W | 39 address parameter – Same as above 33 address | | | | | |
| 437201(9150) to 437800(93A7) | 03/06/16 | R/W | 40 address parameter – Same as above 33 address | | | | | |
| 437801(93A8) to 438400(95FF) | 03/06/16 | R/W | 41 address parameter – Same as above 33 address | | | | | |
| 438401(9600) to 439000(9857) | 03/06/16 | R/W | 42 address parameter – Same as above 33 address | | | | | |
| 439001(9858) to 439600(9AAF) | 03/06/16 | R/W | 43 address parameter – Same as above 33 address | | | | | |
| 439601(9AB0) to 440200(9D07) | 03/06/16 | R/W | 44 address parameter – Same as above 33 address | | | | | |
| 440201(9D08) to 440800(9F5F) | 03/06/16 | R/W | 45 address parameter – Same as above 33 address | | | | | |
| 440801(9F60) to 441400(A1B7) | 03/06/16 | R/W | 46 address parameter – Same as above 33 address | | | | | |
| 441401(A1B8) to 442000(A40F) | 03/06/16 | R/W | 47 address parameter – Same as above 33 address | | | | | |
| 442001(A410) to 442600(A667) | 03/06/16 | R/W | 48 address parameter – Same as above 33 address | | | | | |

## 2.5.7 TMHE

### 2.5.7.1 Read input status (Func 02)

| No(Address) | Func | R/W | Parameter | Description | Set range | | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|---|
| 100551(0226) | 02 | R | - | AL1 LED | 0: OFF, 1: ON | | - | - | |
| 100552(0227) | 02 | R | - | AL2 LED | | | | | |
| 100553(0228) | 02 | R | - | AL3 LED | | | | | |
| 100554(0229) | 02 | R | - | AL4 LED | | | | | |
| 100555(022A) | 02 | R | - | AL5 LED | | | | | |
| 100556(022B) | 02 | R | - | AL6 LED | | | | | |
| 100557(022C) | 02 | R | - | AL7 LED | | | | | |
| 100558(022D) | 02 | R | - | AL8 LED | | | | | |
| 100559(022E) | 02 | R | - | DI-1 input | 0: OFF, 1: ON | | - | - | |
| 100560(022F) | 02 | R | - | DI-2 input | | | | | |
| 100561(0230) | 02 | R | - | DI-3 input | | | | | |
| 100562(0231) | 02 | R | - | DI-4 input | | | | | |
| 100563(0232) | 02 | R | - | DI-5 input | | | | | |
| 100564(0233) | 02 | R | - | DI-6 input | | | | | |
| 100565(0234) | 02 | R | - | DI-7 input | | | | | |
| 100566(0235) | 02 | R | - | DI-8 input | | | | | |
| 100567(0236) to 100582(0245) | 02 | R | 50 address parameter – Same as above 49 address |
| 100583(0246) to 100598(0255) | 02 | R | 51 address parameter – Same as above 49 address |
| 100599(0256) to 100614(0265) | 02 | R | 52 address parameter – Same as above 49 address |
| 100615(0266) to 100630(0275) | 02 | R | 53 address parameter – Same as above 49 address |
| 100631(0276) to 100646(0285) | 02 | R | 54 address parameter – Same as above 49 address |
| 100647(0286) to 100662(0295) | 02 | R | 55 address parameter – Same as above 49 address |
| 100663(0296) to 100678(02A5) | 02 | R | 56 address parameter – Same as above 49 address |
| 100679(02A6) to 100694(02B5) | 02 | R | 57 address parameter – Same as above 49 address |
| 100695(02B6) to 100710(02C5) | 02 | R | 58 address parameter – Same as above 49 address |
| 100711(02C6) to 100726(02D5) | 02 | R | 59 address parameter – Same as above 49 address |
| 100727(02D6) to 100742(02E5) | 02 | R | 60 address parameter – Same as above 49 address |
| 100743(02E6) to 100758(02F5) | 02 | R | 61 address parameter – Same as above 49 address |
| 100759(02F6) to 100774(0305) | 02 | R | 62 address parameter – Same as above 49 address |
| 100775(0306) to 100790(0315) | 02 | R | 63 address parameter – Same as above 49 address |
| 100791(0316) to 100806(0325) | 02 | R | 64 address parameter – Same as above 49 address |
| 100807(0326) to 100850(0351) | 02 | R | Reserved |

## 2.5.7.2 Read input register (Func 04)

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 301101(044C) | 04 | R | - | Product number H | - | - | 0 | |
| 301102(044D) | 04 | R | - | Product number L | - | - | 0 | |
| 301103(044E) | 04 | R | - | Hardware version | - | - | 100 | |
| 301104(044F) | 04 | R | - | Software version | - | - | 100 | |
| 301105(0450) | 04 | R | - | Model name 1 | - | - | "TM" | Product name |
| 301106(0451) | 04 | R | - | Model name 2 | - | - | "HE" | Option |
| 301107(0452) | 04 | R | - | Model name 3 | - | - | "-8" | Input/Output |
| 301108(0453) | 04 | R | - | Model name 4 | - | - | "2R" | Power voltage/Output |
| 301109(0454) | 04 | R | - | Model name 5 | - | - | "E" | Structure |
| 301110(0455) | 04 | R | - | Model name 6 | - | - | " " | |
| 301111(0456) | 04 | R | - | Model name 7 | - | - | " " | |
| 301112(0457) | 04 | R | - | Model name 8 | - | - | " " | |
| 301113(0458) | 04 | R | - | Model name 9 | - | - | " " | |
| 301114(0459) | 04 | R | - | Model name 10 | - | - | " " | |
| 301115(045A) | 04 | R | Reserved | | | | | |
| 301116(045B) | 04 | R | Reserved | | | | | |
| 301117(045C) | 04 | R | Reserved | | | | | |
| 301118(045D) | 04 | R | - | Coil status Start Address | - | - | 0 | |
| 301119(045E) | 04 | R | - | Coil status Quantity | - | - | 0 | |
| 301120(045F) | 04 | R | - | Input status Start Address | - | - | 0 | |
| 301121(0460) | 04 | R | - | Input status Quantity | - | - | 0 | |
| 301122(0461) | 04 | R | - | Holding Register Start Address | - | - | 0 | |
| 301123(0462) | 04 | R | - | Holding Register Quantity | - | - | 0 | |
| 301124(0463) | 04 | R | - | Input Register Start Address | - | - | 0 | |
| 301125(0464) | 04 | R | - | Input Register Quantity | - | - | 0 | |
| 301126(0465) | 04 | R | - | Channel Quantity | - | - | 0 | |
| 301127(0466) to 301152(047F) | 04 | R | 50 address parameter – Same as above 49 address | | | | | |
| 301153(0480) to 301178(0499) | 04 | R | 51 address parameter – Same as above 49 address | | | | | |
| 301179(049A) to 301204(04B3) | 04 | R | 52 address parameter – Same as above 49 address | | | | | |
| 301205(04B4) to 301230(04CD) | 04 | R | 53 address parameter – Same as above 49 address | | | | | |
| 301231(04CE) to 301256(04E7) | 04 | R | 54 address parameter – Same as above 49 address | | | | | |
| 301257(04E8) to 301282(0501) | 04 | R | 55 address parameter – Same as above 49 address | | | | | |
| 301283(0502) to 301308(051B) | 04 | R | 56 address parameter – Same as above 49 address | | | | | |
| 301309(051C) to 301334(0535) | 04 | R | 57 address parameter – Same as above 49 address | | | | | |
| 301335(0536) to 301360(054F) | 04 | R | 58 address parameter – Same as above 49 address | | | | | |
| 301361(0550) to 301386(0569) | 04 | R | 59 address parameter – Same as above 49 address | | | | | |
| 301387(056A) to 301412(0583) | 04 | R | 60 address parameter – Same as above 49 address | | | | | |

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 301413(0584) to 301438(059D) | 04 | R | 61 address parameter – Same as above 49 address | | | | | |
| 301439(059E) to 301464(05B7) | 04 | R | 62 address parameter – Same as above 49 address | | | | | |
| 301465(05B8) to 301490(05D1) | 04 | R | 63 address parameter – Same as above 49 address | | | | | |
| 301491(05D2) to 301516(05EB) | 04 | R | 64 address parameter – Same as above 49 address | | | | | |
| 301517(05EC) to 301550(060D) | 04 | R | Reserved | | | | | |
| 310801(2A30) | 04 | R | - | AL1 LED | 0: OFF, 1: ON | - | - | Bit0 |
| | | | - | AL2 LED | | | | Bit1 |
| | | | - | AL3 LED | | | | Bit2 |
| | | | - | AL4 LED | | | | Bit3 |
| | | | - | AL5 LED | | | | Bit4 |
| | | | - | AL6 LED | | | | Bit5 |
| | | | - | AL7 LED | | | | Bit6 |
| | | | - | AL8 LED | | | | Bit7 |
| | | | - | DI-1 input | 0: OFF, 1: ON | - | - | Bit8 |
| | | | - | DI-2 input | 0: OFF, 1: ON | | | Bit9 |
| | | | - | DI-3 input | 0: OFF, 1: ON | | | Bit10 |
| | | | - | DI-4 input | 0: OFF, 1: ON | | | Bit11 |
| | | | - | DI-5 input | 0: OFF, 1: ON | | | Bit12 |
| | | | - | DI-6 input | 0: OFF, 1: ON | | | Bit13 |
| | | | - | DI-7 input | 0: OFF, 1: ON | | | Bit14 |
| | | | - | DI-8 input | 0: OFF, 1: ON | | | Bit15 |
| 310802(2A31) | 04 | R | 50 address parameter – Same as above 49 address | | | | | |
| 310803(2A32) | 04 | R | 51 address parameter – Same as above 49 address | | | | | |
| 310804(2A33) | 04 | R | 52 address parameter – Same as above 49 address | | | | | |
| 310805(2A34) | 04 | R | 53 address parameter – Same as above 49 address | | | | | |
| 310806(2A35) | 04 | R | 54 address parameter – Same as above 49 address | | | | | |
| 310807(2A36) | 04 | R | 55 address parameter – Same as above 49 address | | | | | |
| 310808(2A37) | 04 | R | 56 address parameter – Same as above 49 address | | | | | |
| 310809(2A38) | 04 | R | 57 address parameter – Same as above 49 address | | | | | |
| 310810(2A39) | 04 | R | 58 address parameter – Same as above 49 address | | | | | |
| 310811(2A3A) | 04 | R | 59 address parameter – Same as above 49 address | | | | | |
| 310812(2A3B) | 04 | R | 60 address parameter – Same as above 49 address | | | | | |
| 310813(2A3C) | 04 | R | 61 address parameter – Same as above 49 address | | | | | |
| 310814(2A3D) | 04 | R | 62 address parameter – Same as above 49 address | | | | | |
| 310815(2A3E) | 04 | R | 63 address parameter – Same as above 49 address | | | | | |
| 310816(2A3F) | 04 | R | 64 address parameter – Same as above 49 address | | | | | |
| 310817(2A40) | 04 | R | Unit Address | Comm. address | 49 to 64 | - | 49 | - |
| 310818(2A41) | 04 | R | 50 address parameter – Same as above 49 address | | | | | |
| 310819(2A42) | 04 | R | 51 address parameter – Same as above 49 address | | | | | |
| 310820(2A43) | 04 | R | 52 address parameter – Same as above 49 address | | | | | |
| 310821(2A44) | 04 | R | 53 address parameter – Same as above 49 address | | | | | |
| 310822(2A45) | 04 | R | 54 address parameter – Same as above 49 address | | | | | |
| 310823(2A46) | 04 | R | 55 address parameter – Same as above 49 address | | | | | |
| 310824(2A47) | 04 | R | 56 address parameter – Same as above 49 address | | | | | |

**Autonics**

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 310825(2A48) | 04 | R | 57 address parameter – Same as above 49 address | | | | | |
| 310826(2A49) | 04 | R | 58 address parameter – Same as above 49 address | | | | | |
| 310827(2A4A) | 04 | R | 59 address parameter – Same as above 49 address | | | | | |
| 310828(2A4B) | 04 | R | 60 address parameter – Same as above 49 address | | | | | |
| 310829(2A4C) | 04 | R | 61 address parameter – Same as above 49 address | | | | | |
| 310830(2A4D) | 04 | R | 62 address parameter – Same as above 49 address | | | | | |
| 310831(2A4E) | 04 | R | 63 address parameter – Same as above 49 address | | | | | |
| 310832(2A4F) | 04 | R | 64 address parameter – Same as above 49 address | | | | | |
| 310833(2A50) to 310850(2A61) | 04 | R | Reserved | | | | | |

## 2.5.7.3 Read holding register (Func 03) / Preset single register (Func 06) / Preset multiple registers (Func 16)

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 442601(A668) | 03/06/16 | R/W | CH1 Alarm Logic | CH1 alarm output logic operation | 0: OR, 1: AND | - | 0: OR | Operating (Output Operation) group |
| 442602(A669) | 03/06/16 | R/W | CH2 Alarm Logic | CH2 alarm output logic operation | | | | |
| 442603(A66A) | 03/06/16 | R/W | CH3 Alarm Logic | CH3 alarm output logic operation | | | | |
| 442604(A66B) | 03/06/16 | R/W | CH4 Alarm Logic | CH4 alarm output logic operation | | | | |
| 442605(A66C) | 03/06/16 | R/W | CH5 Alarm Logic | CH5 alarm output logic operation | | | | |
| 442606(A66D) | 03/06/16 | R/W | CH6 Alarm Logic | CH6 alarm output logic operation | | | | |
| 442607(A66E) | 03/06/16 | R/W | CH7 Alarm Logic | CH7 alarm output logic operation | | | | |
| 442608(A66F) | 03/06/16 | R/W | CH8 Alarm Logic | CH8 alarm output logic operation | | | | |
| 442609(A670) | 03/06/16 | R/W | CH1 Alarm NO/NC | CH1 alarm output contact type | 0: NO, 1: NC | - | 0: NO | |
| 442610(A671) | 03/06/16 | R/W | CH2 Alarm NO/NC | CH2 alarm output contact type | | | | |
| 442611(A672) | 03/06/16 | R/W | CH3 Alarm NO/NC | CH3 alarm output contact type | | | | |
| 442612(A673) | 03/06/16 | R/W | CH4 Alarm NO/NC | CH4 alarm output contact type | | | | |
| 442613(A674) | 03/06/16 | R/W | CH5 Alarm NO/NC | CH5 alarm output contact type | | | | |
| 442614(A675) | 03/06/16 | R/W | CH6 Alarm NO/NC | CH6 alarm output contact type | | | | |
| 442615(A676) | 03/06/16 | R/W | CH7 Alarm NO/NC | CH7 alarm output contact type | | | | |
| 442616(A677) | 03/06/16 | R/W | CH8 Alarm NO/NC | CH8 alarm output contact type | | | | |
| 442617(A678) to 442630(A685) | 03/06/16 | R/W | Reserved | | | | | |
| 442631(A686) | 03/06/16 | R/W | Bit Per Second | Communication speed | 0: 4800, 1: 9600, 2: 19200, 3: 38400, 4: 115200 | bps | 1: 9600 | Option Setting (Communication Setting) group |
| 442632(A687) | 03/06/16 | R/W | Parity Bit | Communication parity bit | 0: NONE, 1: EVEN, 2: ODD | - | 0: NONE | |
| 442633(A688) | 03/06/16 | R/W | Stop Bit | Communication stop bit | 0: 1, 1: 2 | bit | 1: 2 | |

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 442634(A689) | 03/06/16 | R/W | Response Waiting Time | Communication response wait time | 5 to 99 | ms | 20 | |
| 442635(A68A) | 03/06/16 | R/W | Communication Write | Communication writing enable/disable | 0: ENABLE, 1: DISABLE | - | 0: ENABLE | |
| 442636(A68B) | 03/06/16 | R/W | Parameter Initialize | Parameter reset | 0: NO, 1: YES | - | 0: NO | |
| 442637(A68C) to 442660(A6A3) | 03/06/16 | R/W | Reserved | | | | | |

※ When address 50 to 64 setting, parameter address assignment

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 442661(A6A4) to 442720(A6DF) | 03/06/16 | R/W | 50 address parameter – Same as above 49 address | | | | | |
| 442721(A6E0) to 442780(A71B) | 03/06/16 | R/W | 51 address parameter – Same as above 49 address | | | | | |
| 442781(A71C) to 442840(A757) | 03/06/16 | R/W | 52 address parameter – Same as above 49 address | | | | | |
| 442841(A758) to 442900(A793) | 03/06/16 | R/W | 53 address parameter – Same as above 49 address | | | | | |
| 442901(A794) to 442960(A7CF) | 03/06/16 | R/W | 54 address parameter – Same as above 49 address | | | | | |
| 442961(A794) to 443020(A80B) | 03/06/16 | R/W | 55 address parameter – Same as above 49 address | | | | | |
| 443021(A80C) to 443080(A847) | 03/06/16 | R/W | 56 address parameter – Same as above 49 address | | | | | |
| 443081(A848) to 443140(A883) | 03/06/16 | R/W | 57 address parameter – Same as above 49 address | | | | | |
| 443141(A884) to 443200(A8BF) | 03/06/16 | R/W | 58 address parameter – Same as above 49 address | | | | | |
| 443201(A8C0) to 443260(A8FB) | 03/06/16 | R/W | 59 address parameter – Same as above 49 address | | | | | |
| 443261(A8FC) to 443320(A937) | 03/06/16 | R/W | 60 address parameter – Same as above 49 address | | | | | |
| 443321(A938) to 443380(A973) | 03/06/16 | R/W | 61 address parameter – Same as above 49 address | | | | | |
| 443381(A974) to 443440(A9AF) | 03/06/16 | R/W | 62 address parameter – Same as above 49 address | | | | | |
| 443441(A9B0) to 443500(A9EB) | 03/06/16 | R/W | 63 address parameter – Same as above 49 address | | | | | |
| 443501(A9EC) to 443560(AA27) | 03/06/16 | R/W | 64 address parameter – Same as above 49 address | | | | | |

## 2.5.8 TMHCT

### 2.5.8.1 Read input register (Func 04)

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 301551(060E) | 04 | R | - | Product number H | - | - | 0 | |
| 301552(060F) | 04 | R | - | Product number L | - | - | 0 | |
| 301553(0610) | 04 | R | - | Hardware version | - | - | 100 | |
| 301554(0611) | 04 | R | - | Software version | - | - | 100 | |
| 301555(0612) | 04 | R | - | Model name 1 | - | - | "TM" | Product name |
| 301556(0613) | 04 | R | - | Model name 2 | - | - | "HC" | Option |
| 301557(0614) | 04 | R | - | Model name 3 | - | - | "T-" | Option |
| 301558(0615) | 04 | R | - | Model name 4 | - | - | "82" | Input/Power voltage |
| 301559(0616) | 04 | R | - | Model name 5 | - | - | "NE " | Output/Structure |
| 301560(0617) | 04 | R | - | Model name 6 | - | - | " " | |
| 301561(0618) | 04 | R | - | Model name 7 | - | - | " " | |
| 301562(0619) | 04 | R | - | Model name 8 | - | - | " " | |
| 301563(061A) | 04 | R | - | Model name 9 | - | - | " " | |
| 301564(061B) | 04 | R | - | Model name 10 | - | - | " " | |
| 301565(061C) | 04 | R | Reserved | | | | | | |
| 301566(061D) | 04 | R | Reserved | | | | | | |
| 301567(061E) | 04 | R | Reserved | | | | | | |
| 301568(061F) | 04 | R | - | Coil status Start Address | - | - | 0 | |
| 301569(0620) | 04 | R | - | Coil status Quantity | - | - | 0 | |
| 301570(0621) | 04 | R | - | Input status Start Address | - | - | 0 | |
| 301571(0622) | 04 | R | - | Input status Quantity | - | - | 0 | |
| 301572(0623) | 04 | R | - | Holding Register Start Address | - | - | 0 | |
| 301573(0624) | 04 | R | - | Holding Register Quantity | - | - | 0 | |
| 301574(0625) | 04 | R | - | Input Register Start Address | - | - | 0 | |
| 301575(0626) | 04 | R | - | Input Register Quantity | - | - | 0 | |
| 301576(0627) | 04 | R | - | Channel Quantity | - | - | 0 | |
| 301577(0628) to 301602(0641) | 04 | R | 66 address parameter – Same as above 65 address | | | | | | |
| 301603(0642) to 301628(065B) | 04 | R | 67 address parameter – Same as above 65 address | | | | | | |
| 301629(065C) to 301654(0675) | 04 | R | 68 address parameter – Same as above 65 address | | | | | | |
| 301655(0676) to 301680(068F) | 04 | R | 69 address parameter – Same as above 65 address | | | | | | |
| 301681(0690) to 301706(06A9) | 04 | R | 70 address parameter – Same as above 65 address | | | | | | |
| 301707(06AA) to 301732(06C3) | 04 | R | 71 address parameter – Same as above 65 address | | | | | | |
| 301733(06C4) to | 04 | R | 72 address parameter – Same as above 65 address | | | | | | |

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 301758(06DD) | | | | | | | | |
| 301759(06DE) to 301784(06F7) | 04 | R | 73 address parameter – Same as above 65 address | | | | | |
| 301785(06F8) to 301810(0711) | 04 | R | 74 address parameter – Same as above 65 address | | | | | |
| 301811(0712) to 301836(072B) | 04 | R | 75 address parameter – Same as above 65 address | | | | | |
| 301837(072C) to 301862(0745) | 04 | R | 76 address parameter – Same as above 65 address | | | | | |
| 301863(0746) to 301888(075F) | 04 | R | 77 address parameter – Same as above 65 address | | | | | |
| 301889(0760) to 301914(0779) | 04 | R | 78 address parameter – Same as above 65 address | | | | | |
| 301915(077A) to 301940(0793) | 04 | R | 79 address parameter – Same as above 65 address | | | | | |
| 301941(0794) to 301966(07AD) | 04 | R | 80 address parameter – Same as above 65 address | | | | | |
| 301967(07AE) to 302000(07CF) | 04 | R | Reserved | | | | | |
| 310851(2A62) | 04 | R | CT1 Heater Current | CT1 input value monitoring | 0.0 to 50.0 | A | - | |
| 310852(2A63) | 04 | R | CT2 Heater Current | CT2 input value monitoring | | | | |
| 310853(2A64) | 04 | R | CT3 Heater Current | CT3 input value monitoring | | | | |
| 310854(2A65) | 04 | R | CT4 Heater Current | CT4 input value monitoring | | | | |
| 310855(2A66) | 04 | R | CT5 Heater Current | CT5 input value monitoring | | | | |
| 310856(2A67) | 04 | R | CT6 Heater Current | CT6 input value monitoring | | | | |
| 310857(2A68) | 04 | R | CT7 Heater Current | CT7 input value monitoring | | | | |
| 310858(2A69) | 04 | R | CT8 Heater Current | CT8 input value monitoring | | | | |
| 310859(2A6A) to 310866(2A71) | | | 66 address parameter – Same as above 65 address | | | | | |
| 310867(2A72) to 310874(2A79) | | | 67 address parameter – Same as above 65 address | | | | | |
| 310875(2A7A) to 310882(2A81) | | | 68 address parameter – Same as above 65 address | | | | | |
| 310883(2A82) to 310890(2A89) | | | 69 address parameter – Same as above 65 address | | | | | |
| 310891(2A8A) to 310898(2A91) | | | 70 address parameter – Same as above 65 address | | | | | |
| 310899(2A92) to 310906(2A99) | | | 71 address parameter – Same as above 65 address | | | | | |
| 310907(2A9A) to 310914(2AA1) | | | 72 address parameter – Same as above 65 address | | | | | |
| 310915(2AA2) to 310922(2AA9) | | | 73 address parameter – Same as above 65 address | | | | | |
| 310923(2AAA) to 310930(2AB1) | | | 74 address parameter – Same as above 65 address | | | | | |
| 310931(2AB2) to 310938(2AB9) | | | 75 address parameter – Same as above 65 address | | | | | |
| 310939(2ABA) to | | | 76 address parameter – Same as above 65 address | | | | | |

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 310946(2AC1) | | | | | | | | |
| 310947(2AC2) to 310954(2AC9) | | | 77 address parameter – Same as above 65 address | | | | | |
| 310955(2ACA) to 310962(2AD1) | | | 78 address parameter – Same as above 65 address | | | | | |
| 310963(2AD2) to 310970(2AD9) | | | 79 address parameter – Same as above 65 address | | | | | |
| 310971(2ADA) to 310978(2AE1) | | | 80 address parameter – Same as above 65 address | | | | | |
| 310979(2AE2) | 04 | R | Unit Address | Comm. address | 65 to 80 | - | 65 | |
| 310980(2AE3) | 04 | R | 66 address parameter – Same as above 65 address | | | | | |
| 310981(2AE4) | 04 | R | 67 address parameter – Same as above 65 address | | | | | |
| 310982(2AE5) | 04 | R | 68 address parameter – Same as above 65 address | | | | | |
| 310983(2AE6) | 04 | R | 69 address parameter – Same as above 65 address | | | | | |
| 310984(2AE7) | 04 | R | 70 address parameter – Same as above 65 address | | | | | |
| 310985(2AE8) | 04 | R | 71 address parameter – Same as above 65 address | | | | | |
| 310986(2AE9) | 04 | R | 72 address parameter – Same as above 65 address | | | | | |
| 310987(2AEA) | 04 | R | 73 address parameter – Same as above 65 address | | | | | |
| 310988(2AEB) | 04 | R | 74 address parameter – Same as above 65 address | | | | | |
| 310989(2AEC) | 04 | R | 75 address parameter – Same as above 65 address | | | | | |
| 310990(2AED) | 04 | R | 76 address parameter – Same as above 65 address | | | | | |
| 310991(2AEE) | 04 | R | 77 address parameter – Same as above 65 address | | | | | |
| 310992(2AEF) | 04 | R | 78 address parameter – Same as above 65 address | | | | | |
| 310993(2AF0) | 04 | R | 79 address parameter – Same as above 65 address | | | | | |
| 310994(2AF1) | 04 | R | 80 address parameter – Same as above 65 address | | | | | |
| 310995(2AF2) to 311000(2AF7) | 04 | R | Reserved | | | | | |

### 2.5.8.2 Read holding register (Func 03) / Preset single register (Func 06) / Preset multiple registers (Func 16)

#### (1) Common(common parameter setting) group

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 443561(AA28) | 03/06/16 | R/W | Bit Per Second | Communication speed | 0: 4800, 1: 9600, 2: 19200, 3: 38400, 4: 115200 | bps | 1: 9600 | |
| 443562(AA29) | 03/06/16 | R/W | Parity Bit | Communication parity bit | 0: NONE, 1: EVEN, 2: ODD | - | 0: NONE | |
| 443563(AA2A) | 03/06/16 | R/W | Stop Bit | Communication stop bit | 0: 1, 1: 2 | bit | 1: 2 | |
| 443564(AA2B) | 03/06/16 | R/W | Response Waiting Time | Communication response wait time | 5 to 99 | ms | 20 | |
| 443565(AA2C) | 03/06/16 | R/W | Communication Write | Communication writing enable/disable | 0: ENABLE, 1: DISABLE | - | 0: ENABLE | |
| 443566(AA2D) | 03/06/16 | R/W | Parameter Initialize | Parameter reset | 0: NO, 1: YES | - | 0: NO | |
| 443567(AA2E) | 03/06/16 | R/W | CT Input Value Indication Lamp1 | CT input value indicator 1 | 0: CT1, 1: CT2, 2: CT3, 3: CT4, 4: CT5, 5: CT6, 6: CT7, 7: CT8 | - | 0: CT1 | |
| 443568(AA2F) | 03/06/16 | R/W | CT Input Value Indication Lamp2 | CT input value indicator 2 | | | 1: CT2 | |
| 443569(AA30) to 443590(AA45) | 03/06/16 | R/W | Reserved | | | | | |

※ When address 66 to 80 setting, parameter address assignment

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 443591(AA46) to 443620(AA63) | 03/06/16 | R/W | 66 address parameter – Same as above 65 address | | | | | |
| 443621(AA64) to 443650(AA81) | 03/06/16 | R/W | 67 address parameter – Same as above 65 address | | | | | |
| 443651(AA82) to 443680(AA9F) | 03/06/16 | R/W | 68 address parameter – Same as above 65 address | | | | | |
| 443681(AAA0) to 443710(AABD) | 03/06/16 | R/W | 69 address parameter – Same as above 65 address | | | | | |
| 443711(AABE) to 443740(AADB) | 03/06/16 | R/W | 70 address parameter – Same as above 65 address | | | | | |
| 443741(AADC) to 443770(AAF9) | 03/06/16 | R/W | 71 address parameter – Same as above 65 address | | | | | |
| 443771(AAFA) to 443800(AB17) | 03/06/16 | R/W | 72 address parameter – Same as above 65 address | | | | | |
| 443801(AB18) to 443830(AB35) | 03/06/16 | R/W | 73 address parameter – Same as above 65 address | | | | | |
| 443831(AB36) to 443860(AB53) | 03/06/16 | R/W | 74 address parameter – Same as above 65 address | | | | | |
| 443861(AB54) to 443890(AB71) | 03/06/16 | R/W | 75 address parameter – Same as above 65 address | | | | | |
| 443891(AB72) to 443920(AB8F) | 03/06/16 | R/W | 76 address parameter – Same as above 65 address | | | | | |
| 443921(AB90) to 443950(ABAD) | 03/06/16 | R/W | 77 address parameter – Same as above 65 address | | | | | |
| 443951(ABAE) to 443980(ABCB) | 03/06/16 | R/W | 78 address parameter – Same as above 65 address | | | | | |
| 443981(ABCC) to 444010(ABE9) | 03/06/16 | R/W | 79 address parameter – Same as above 65 address | | | | | |
| 444011(ABEA) to 444040(AC07) | 03/06/16 | R/W | 80 address parameter – Same as above 65 address | | | | | |

## 2.5.9        *User parameter group*

The parameters of TMH2/4/A/E/CT module which are connected with TMHC are setable as within user parameter group. Depending on the module type, the deidcated user parameter group address is different.

Within the assigned user parameter group by module/address, enter the desired parameter module address.

Enter the parameter address except $10^5$ digit number.
(E.g.: TMH4 SV set value address is 400001. Enter as 40001.)
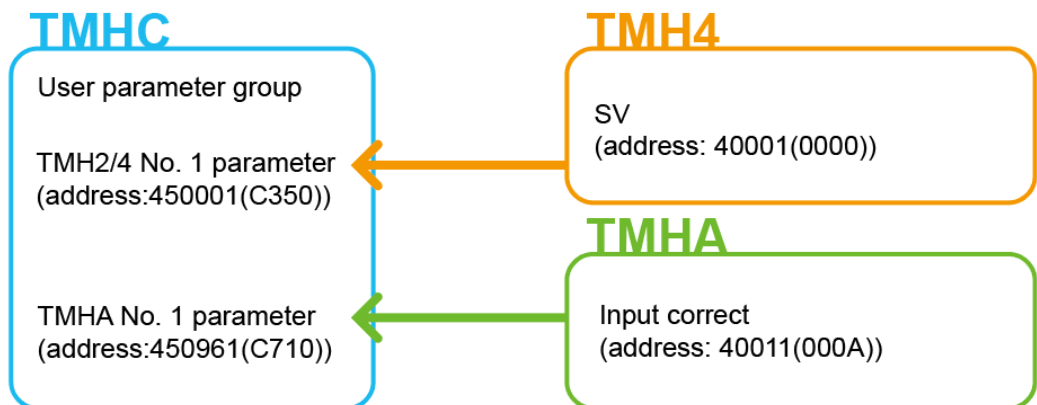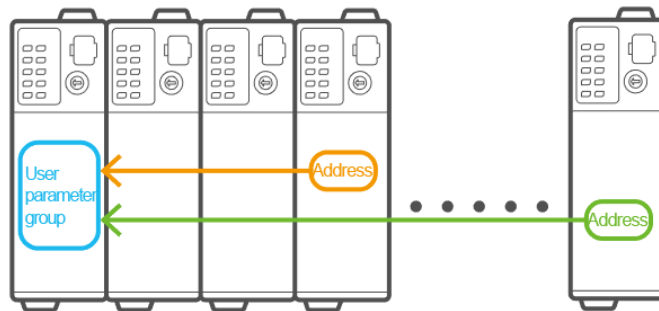
## (1) User parameter group order assignment

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450001(C350) | | 03/06/16 | R/W | User parameter group > No. 1 parameter assignment | The dedicated parameter address | - | 0 | |
| 450002(C351) | | 03/06/16 | R/W | User parameter group > No. 2 parameter assignment | | | | |
| 450003(C352) | | 03/06/16 | R/W | User parameter group > No. 3 parameter assignment | | | | |
| 450004(C353) | | 03/06/16 | R/W | User parameter group > No. 4 parameter assignment | | | | |
| 450005(C354) | | 03/06/16 | R/W | User parameter group > No. 5 parameter assignment | | | | |
| 450006(C355) | | 03/06/16 | R/W | User parameter group > No. 6 parameter assignment | | | | |
| 450007(C356) | | 03/06/16 | R/W | User parameter group > No. 7 parameter assignment | | | | |
| 450008(C357) | | 03/06/16 | R/W | User parameter group > No. 8 parameter assignment | | | | |
| 450009(C358) | | 03/06/16 | R/W | User parameter group > No. 9 parameter assignment | | | | |
| 450010(C359) | | 03/06/16 | R/W | User parameter group > No. 10 parameter assignment | | | | |
| 450011(C35A) | | 03/06/16 | R/W | User parameter group > No. 11 parameter assignment | | | | |
| 450012(C35B) | | 03/06/16 | R/W | User parameter group > No. 12 parameter assignment | | | | |
| 450013(C35C) | | 03/06/16 | R/W | User parameter group > No. 13 parameter assignment | | | | |
| 450014(C35D) | | 03/06/16 | R/W | User parameter group > No. 14 parameter assignment | | | | |
| 450015(C35E) | | 03/06/16 | R/W | User parameter group > No. 15 parameter assignment | | | | |
| 450016(C35F) | | 03/06/16 | R/W | User parameter group > No. 16 parameter assignment | | | | |
| 450017(C360) | | 03/06/16 | R/W | User parameter group > No. 17 parameter assignment | | | | |
| 450018(C361) | | 03/06/16 | R/W | User parameter group > No. 18 parameter assignment | | | | |
| 450019(C362) | | 03/06/16 | R/W | User parameter group > No. 19 parameter assignment | | | | |
| 450020(C363) | | 03/06/16 | R/W | User parameter group > No. 20 parameter assignment | | | | |
| 450021(C364) | | 03/06/16 | R/W | User parameter group > No. 21 parameter assignment | | | | |
| 450022(C365) | | 03/06/16 | R/W | User parameter group > No. 22 parameter assignment | | | | |
| 450023(C366) | | 03/06/16 | R/W | User parameter group > No. 23 parameter assignment | | | | |
| 450024(C367) | | 03/06/16 | R/W | User parameter group > No. 24 parameter assignment | | | | |
| 450025(C368) | | 03/06/16 | R/W | User parameter group > No. 25 parameter assignment | | | | |

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450026(C369) | | 03/06/16 | R/W | User parameter group > No. 26 parameter assignment | | | | |
| 450027(C36A) | | 03/06/16 | R/W | User parameter group > No. 27 parameter assignment | | | | |
| 450028(C36B) | | 03/06/16 | R/W | User parameter group > No. 28 parameter assignment | | | | |
| 450029(C36C) | | 03/06/16 | R/W | User parameter group > No. 29 parameter assignment | | | | |
| 450030(C36D) | | 03/06/16 | R/W | User parameter group > No. 30 parameter assignment | | | | |

### (2)  User parameter group assignment

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450031(C36E) | | 03/06/16 | R/W | User parameter group > No. 1 parameter | | | | |
| 450032(C36F) | | 03/06/16 | R/W | User parameter group > No. 2 parameter | | | | |
| 450033(C370) | | 03/06/16 | R/W | User parameter group > No. 3 parameter | | | | |
| 450034(C371) | | 03/06/16 | R/W | User parameter group > No. 4 parameter | | | | |
| 450035(C372) | | 03/06/16 | R/W | User parameter group > No. 5 parameter | | | | |
| 450036(C373) | | 03/06/16 | R/W | User parameter group > No. 6 parameter | | | | |
| 450037(C374) | | 03/06/16 | R/W | User parameter group > No. 7 parameter | | | | |
| 450038(C375) | | 03/06/16 | R/W | User parameter group > No. 8 parameter | | | | |
| 450039(C376) | | 03/06/16 | R/W | User parameter group > No. 9 parameter | | | | |
| 450040(C377) | | 03/06/16 | R/W | User parameter group > No. 10 parameter | The dedicated parameter set range | - | 0 | |
| 450041(C378) | | 03/06/16 | R/W | User parameter group > No. 11 parameter | | | | |
| 450042(C379) | | 03/06/16 | R/W | User parameter group > No. 12 parameter | | | | |
| 450043(C37A) | | 03/06/16 | R/W | User parameter group > No. 13 parameter | | | | |
| 450044(C37B) | | 03/06/16 | R/W | User parameter group > No. 14 parameter | | | | |
| 450045(C37C) | | 03/06/16 | R/W | User parameter group > No. 15 parameter | | | | |
| 450046(C37D) | | 03/06/16 | R/W | User parameter group > No. 16 parameter | | | | |
| 450047(C37E) | | 03/06/16 | R/W | User parameter group > No. 17 parameter | | | | |
| 450048(C37F) | | 03/06/16 | R/W | User parameter group > No. 18 parameter | | | | |
| 450049(C380) | | 03/06/16 | R/W | User parameter group > No. 19 parameter | | | | |
| 450050(C381) | | 03/06/16 | R/W | User parameter group > No. 20 parameter | | | | |

| No(Address) | | Func | R/W | Parameter | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| TMH2 | TMH4 | | | | | | | |
| 450051(C382) | | 03/06/16 | R/W | User parameter group > No. 21 parameter | | | | |
| 450052(C383) | | 03/06/16 | R/W | User parameter group > No. 22 parameter | | | | |
| 450053(C384) | | 03/06/16 | R/W | User parameter group > No. 23 parameter | | | | |
| 450054(C385) | | 03/06/16 | R/W | User parameter group > No. 24 parameter | | | | |
| 450055(C386) | | 03/06/16 | R/W | User parameter group > No. 25 parameter | | | | |
| 450056(C387) | | 03/06/16 | R/W | User parameter group > No. 26 parameter | | | | |
| 450057(C388) | | 03/06/16 | R/W | User parameter group > No. 27 parameter | | | | |
| 450058(C389) | | 03/06/16 | R/W | User parameter group > No. 28 parameter | | | | |
| 450059(C38A) | | 03/06/16 | R/W | User parameter group > No. 29 parameter | | | | |
| 450060(C38B) | | 03/06/16 | R/W | User parameter group > No. 30 parameter | | | | |

※ When TMH2/4 control module address 02 to 16 setting, parameter address assignment

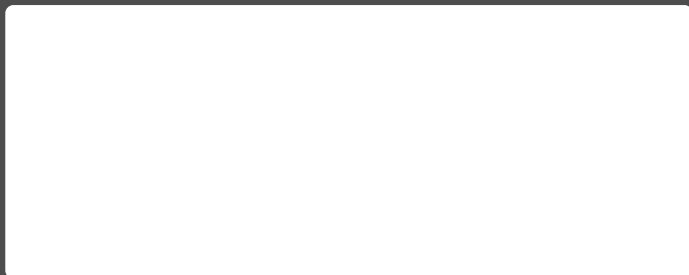| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 450061(C38C) to 450120(C3C7) | 03/06/16 | R/W | 02 address parameter – Same as above 01 address | | | | | |
| 450121(C3C8) to 450180(C403) | 03/06/16 | R/W | 03 address parameter – Same as above 01 address | | | | | |
| 450181(C404) to 450240(C43F) | 03/06/16 | R/W | 04 address parameter – Same as above 01 address | | | | | |
| 450241(C440) to 450300(C47B) | 03/06/16 | R/W | 05 address parameter – Same as above 01 address | | | | | |
| 450301(C47C) to 450360(C4B7) | 03/06/16 | R/W | 06 address parameter – Same as above 01 address | | | | | |
| 450361(C4B8) to 450420(C4F3) | 03/06/16 | R/W | 07 address parameter – Same as above 01 address | | | | | |
| 450421(C4F4) to 450480(C52F) | 03/06/16 | R/W | 08 address parameter – Same as above 01 address | | | | | |
| 450481(C530) to 450540(C56B) | 03/06/16 | R/W | 09 address parameter – Same as above 01 address | | | | | |
| 450541(C56C) to 450600(C5A7) | 03/06/16 | R/W | 10 address parameter – Same as above 01 address | | | | | |
| 450601(C5A8) to 450660(C5E3) | 03/06/16 | R/W | 11 address parameter – Same as above 01 address | | | | | |
| 450661(C5E4) to 450720(C61F) | 03/06/16 | R/W | 12 address parameter – Same as above 01 address | | | | | |
| 450721(C620) to 450780(C65B) | 03/06/16 | R/W | 13 address parameter – Same as above 01 address | | | | | |
| 450781(C65C) to 450840(C697) | 03/06/16 | R/W | 14 address parameter – Same as above 01 address | | | | | |
| 450841(C698) to 450900(C6D3) | 03/06/16 | R/W | 15 address parameter – Same as above 01 address | | | | | |
| 450901(C6D4) to 450960(C70F) | 03/06/16 | R/W | 16 address parameter – Same as above 01 address | | | | | |

※ When TMHA option module address 33 to 48 setting, parameter address assignment

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 450961(C710) to 451020(C74B) | 03/06/16 | R/W | 33 address parameter – Same as above 01 address | | | | | |
| 451021(C74C) to 451080(C787) | 03/06/16 | R/W | 34 address parameter – Same as above 01 address | | | | | |
| 451081(C788) to 451140(C7C3) | 03/06/16 | R/W | 35 address parameter – Same as above 01 address | | | | | |
| 451141(C7C4) to 451200(C7FF) | 03/06/16 | R/W | 36 address parameter – Same as above 01 address | | | | | |
| 451201(C800) to 451260(C83B) | 03/06/16 | R/W | 37 address parameter – Same as above 01 address | | | | | |
| 451261(C83C) to 451320(C877) | 03/06/16 | R/W | 38 address parameter – Same as above 01 address | | | | | |
| 451321(C878) to 451380(C8B3) | 03/06/16 | R/W | 39 address parameter – Same as above 01 address | | | | | |
| 451381(C8B4) to 451440(C8EF) | 03/06/16 | R/W | 40 address parameter – Same as above 01 address | | | | | |
| 451441(C8F0) to 451500(C92B) | 03/06/16 | R/W | 41 address parameter – Same as above 01 address | | | | | |
| 451501(C92C) to 451560(C967) | 03/06/16 | R/W | 42 address parameter – Same as above 01 address | | | | | |
| 451561(C968) to 451620(C9A3) | 03/06/16 | R/W | 43 address parameter – Same as above 01 address | | | | | |
| 451621(C9A4) to 451680(C9DF) | 03/06/16 | R/W | 44 address parameter – Same as above 01 address | | | | | |
| 451681(C9E0) to 451740(CA1B) | 03/06/16 | R/W | 45 address parameter – Same as above 01 address | | | | | |
| 451741(CA1C) to 451800(CA57) | 03/06/16 | R/W | 46 address parameter – Same as above 01 address | | | | | |
| 451801(CA58) to 451860(CA93) | 03/06/16 | R/W | 47 address parameter – Same as above 01 address | | | | | |
| 451861(CA94) to 451920(CACF) | 03/06/16 | R/W | 48 address parameter – Same as above 01 address | | | | | |

※ When TMHE option module address 49 to 64 setting, parameter address assignment

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 451921(CAD0) to 451980(CB0B) | 03/06/16 | R/W | 49 address parameter – Same as above 01 address | | | | | |
| 451981(CB0C) to 452040(CB47) | 03/06/16 | R/W | 50 address parameter – Same as above 01 address | | | | | |
| 452041(CB48) to 452100(CB83) | 03/06/16 | R/W | 51 address parameter – Same as above 01 address | | | | | |
| 452101(CB84) to 452160(CBBF) | 03/06/16 | R/W | 52 address parameter – Same as above 01 address | | | | | |
| 452161(CBC0) to 452220(CBFB) | 03/06/16 | R/W | 53 address parameter – Same as above 01 address | | | | | |
| 452221(CBFC) to 452280(CC37) | 03/06/16 | R/W | 54 address parameter – Same as above 01 address | | | | | |
| 452281(CC38) to 452340(CC73) | 03/06/16 | R/W | 55 address parameter – Same as above 01 address | | | | | |
| 452341(CC74) to 452400(CCAF) | 03/06/16 | R/W | 56 address parameter – Same as above 01 address | | | | | |
| 452401(CCB0) to 452460(CCEB) | 03/06/16 | R/W | 57 address parameter – Same as above 01 address | | | | | |
| 452461(CCEC) to 452520(CD27) | 03/06/16 | R/W | 58 address parameter – Same as above 01 address | | | | | |
| 452521(CD28) to 452580(CD63) | 03/06/16 | R/W | 59 address parameter – Same as above 01 address | | | | | |
| 452581(CD64) to 452640(CD9F) | 03/06/16 | R/W | 60 address parameter – Same as above 01 address | | | | | |
| 452641(CDA0) to 452700(CDDB) | 03/06/16 | R/W | 61 address parameter – Same as above 01 address | | | | | |
| 452701(CDDC) to 452760(CE17) | 03/06/16 | R/W | 62 address parameter – Same as above 01 address | | | | | |
| 452761(CE18) to 452820(CE53) | 03/06/16 | R/W | 63 address parameter – Same as above 01 address | | | | | |
| 452821(CE54) to 452880(CE8F) | 03/06/16 | R/W | 64 address parameter – Same as above 01 address | | | | | |

2 Modbus Mapping Table

※ When TMHCT option module address 66 to 80 setting, parameter address assignment

| No(Address) | Func | R/W | Parameter | Description | Set range | Unit | Default | Note |
|---|---|---|---|---|---|---|---|---|
| 452881(CE90) to 452940(CECB) | 03/06/16 | R/W | 65 address parameter – Same as above 01 address | | | | | |
| 452941(CECC) to 453000(CF07) | 03/06/16 | R/W | 66 address parameter – Same as above 01 address | | | | | |
| 453001(CF08) to 453060(CF43) | 03/06/16 | R/W | 67 address parameter – Same as above 01 address | | | | | |
| 453061(CF44) to 453120(CF7F) | 03/06/16 | R/W | 68 address parameter – Same as above 01 address | | | | | |
| 453121(CF80) to 453180(CFBB) | 03/06/16 | R/W | 69 address parameter – Same as above 01 address | | | | | |
| 453181(CFBC) to 453240(CFF7) | 03/06/16 | R/W | 70 address parameter – Same as above 01 address | | | | | |
| 453241(CFF8) to 453300(D033) | 03/06/16 | R/W | 71 address parameter – Same as above 01 address | | | | | |
| 453301(D034) to 453360(D06F) | 03/06/16 | R/W | 72 address parameter – Same as above 01 address | | | | | |
| 453361(D070) to 453420(D0AB) | 03/06/16 | R/W | 73 address parameter – Same as above 01 address | | | | | |
| 453421(D0AC) to 453480(D0E7) | 03/06/16 | R/W | 74 address parameter – Same as above 01 address | | | | | |
| 453481(D0E8) to 453540(D123) | 03/06/16 | R/W | 75 address parameter – Same as above 01 address | | | | | |
| 453541(D124) to 453600(D15F) | 03/06/16 | R/W | 76 address parameter – Same as above 01 address | | | | | |
| 453601(D160) to 453660(D19B) | 03/06/16 | R/W | 77 address parameter – Same as above 01 address | | | | | |
| 453661(D19C) to 453720(D1D7) | 03/06/16 | R/W | 78 address parameter – Same as above 01 address | | | | | |
| 453721(D1D8) to 453780(D213) | 03/06/16 | R/W | 79 address parameter – Same as above 01 address | | | | | |
| 453781(D214) to 453840(D24F) | 03/06/16 | R/W | 80 address parameter – Same as above 01 address | | | | | |

© Copyright Reserved Autonics Co., Ltd.